Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100041.D
Lims ID: 280-168718-B-1-B
Client ID: X3-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 02:07:47 ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-1-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:11:51

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1		7.558			ND	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.504	8.505	-0.001	34330	0.2728	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.231	9.244	-0.014	10810	0.0372	
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1	10.817	10.851	-0.034	757	0.003589	7M
	18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1		11.624			ND	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated
U - Marked Undetected

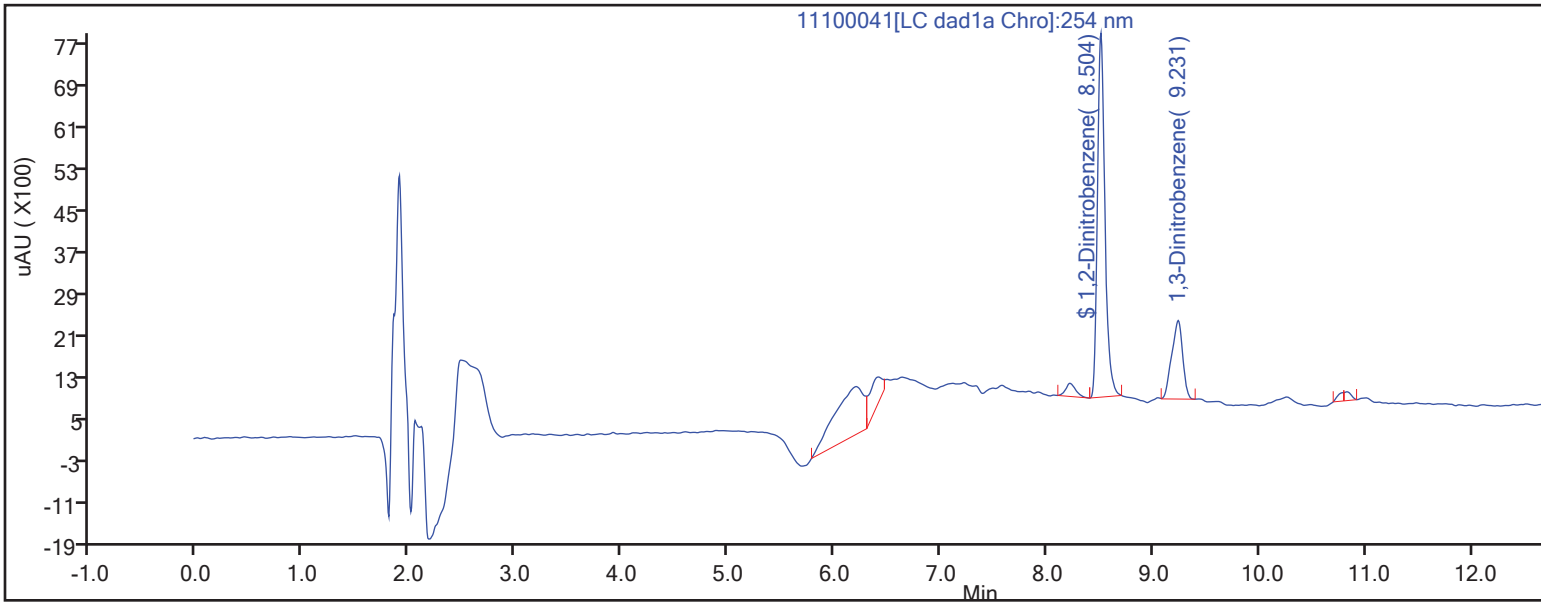
Report Date: 11-Nov-2022 12:25:51 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

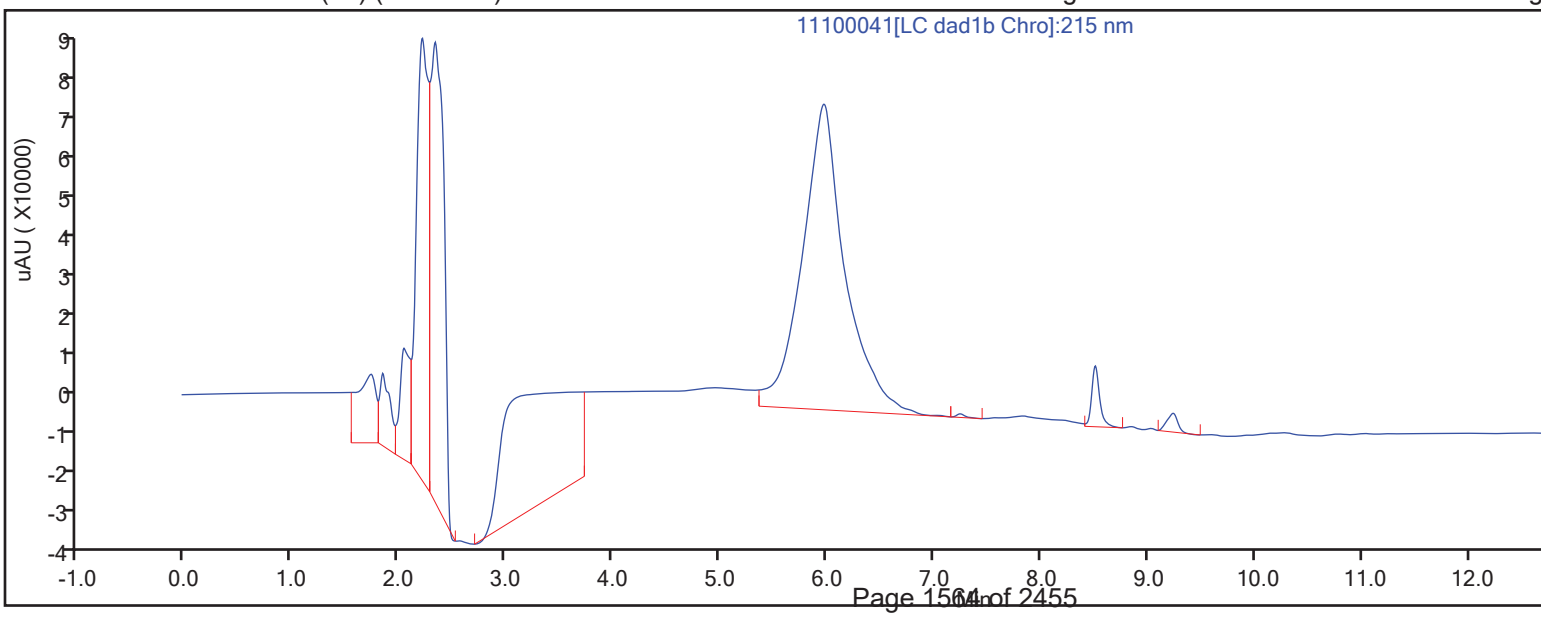
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100041.d

Injection Date:	11-Nov-2022 02:07:47	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-1-B	Lab Sample ID:	280-168718-1	Worklist Smp#:
Client ID:	X3-SS-C01-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100041.D
Lims ID: 280-168718-B-1-B
Client ID: X3-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 02:07:47 ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-1-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:11:51

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2728	109.12

Manual Integration/User Assign Peak Report

Eurofins Denver

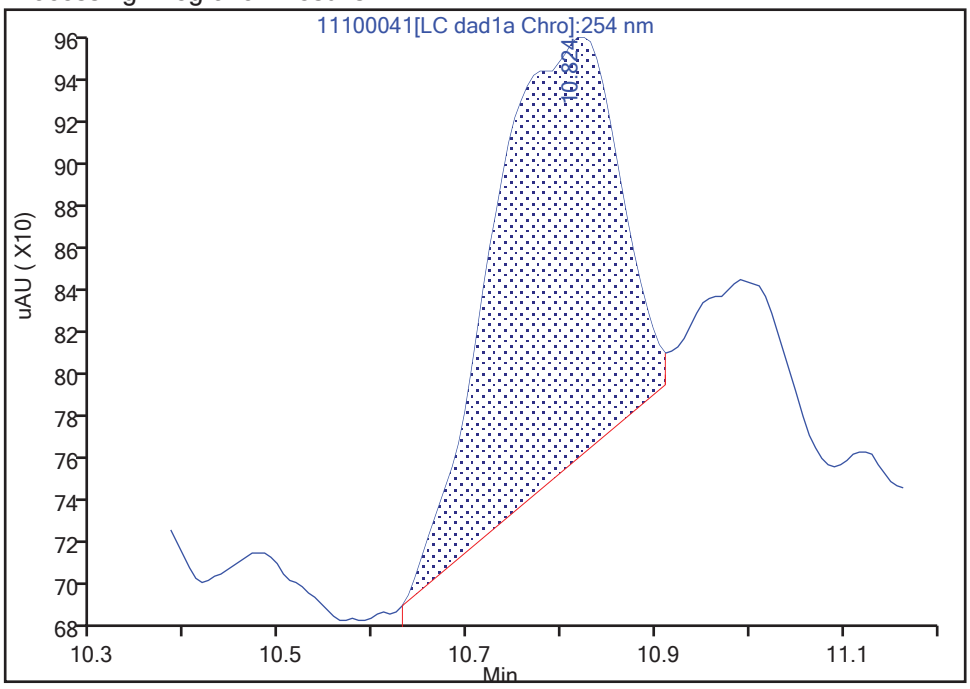
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100041.d				
Injection Date:	11-Nov-2022 02:07:47	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-1-B	Lab Sample ID:	280-168718-1		
Client ID:	X3-SS-C01-0006				
Operator ID:	JZ	ALS Bottle#:	41	Worklist Smp#:	41
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

17 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

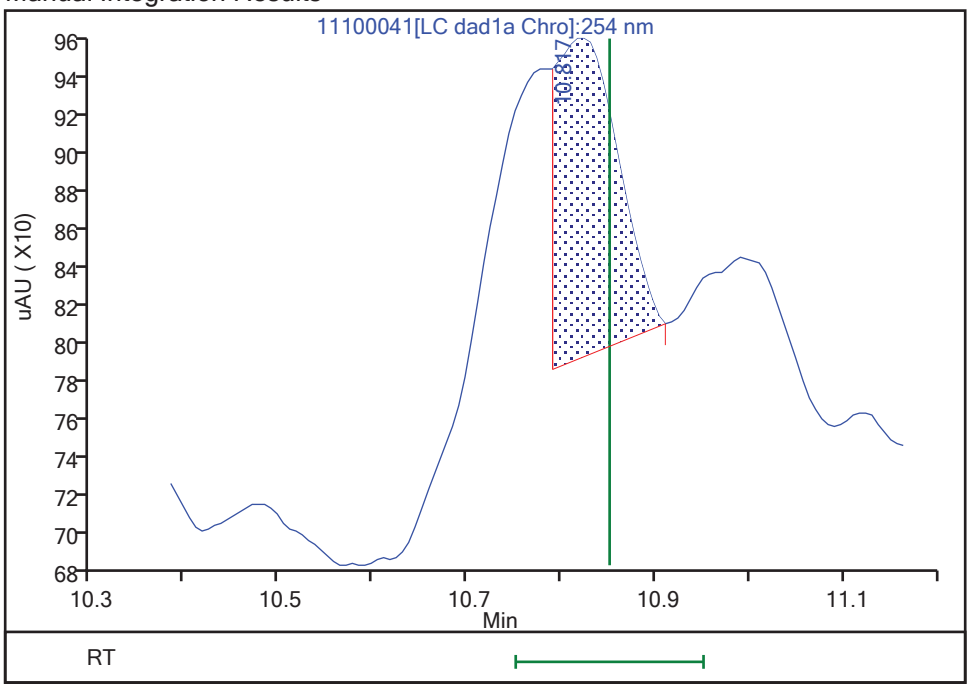
Processing Integration Results

RT: 10.82
Area: 1947
Amount: 0.009231
Amount Units: ug/mL



Manual Integration Results

RT: 10.82
Area: 757
Amount: 0.003589
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:11:46
Audit Action: Split an Integrated Peak Audit Reason: Baseline

User Disabled Compound Report

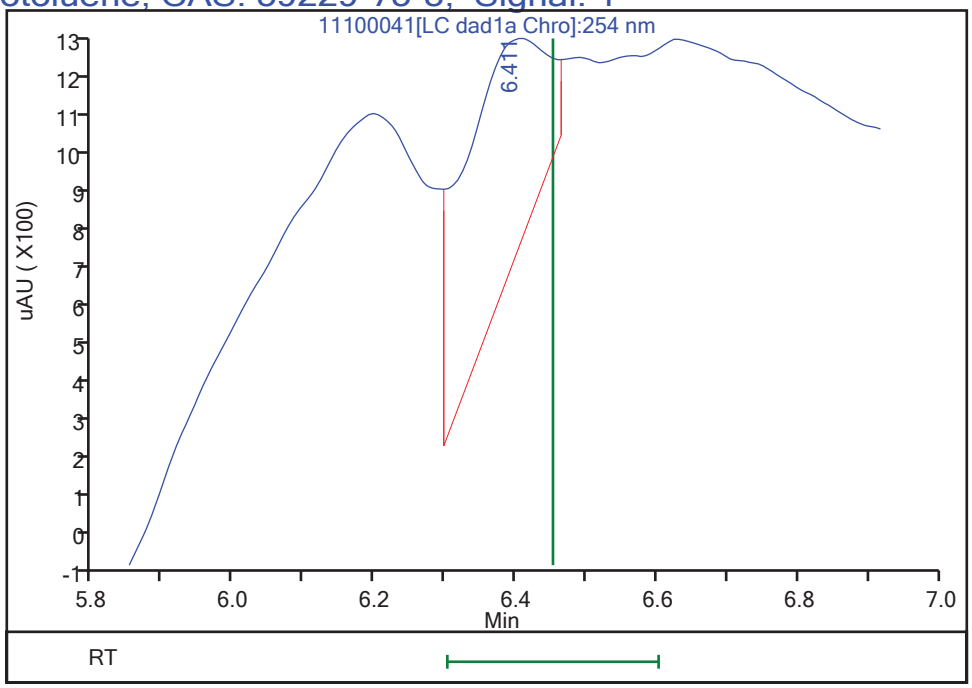
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100041.d
Injection Date: 11-Nov-2022 02:07:47 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-1-B Lab Sample ID: 280-168718-1
Client ID: X3-SS-C01-0006
Operator ID: JZ ALS Bottle#: 41 Worklist Smp#: 41
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.41
Response: 4881
Amount: 0.022724



Reviewer: LV5D, 11-Nov-2022 12:11:51
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C01-0006 | Lab Sample ID: 280-168718-1

Matrix: Solid | Lab File ID: 11110012.D

Analysis Method: 8330B | Date Collected: 11/01/2022 12:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3153(g) | Date Analyzed: 11/11/2022 17:36

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	96		78-119

Report Date: 12-Nov-2022 11:05:46 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110012.D
Lims ID: 280-168718-B-1-B
Client ID: X3-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 17:36:23 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-1-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 18:56:20

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1		6.657			ND	
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1		8.757			ND	
	9 Nitrobenzene	1		11.684			ND	7
$	10 1,2-Dinitrobenzene	1	12.813	12.837	-0.024	61224	0.2406	
	11 3,5-Dinitroaniline	1		14.797			ND	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	U
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1		20.230			ND	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1		24.684			ND	
	25 PETN	2		25.697			ND	

QC Flag Legend

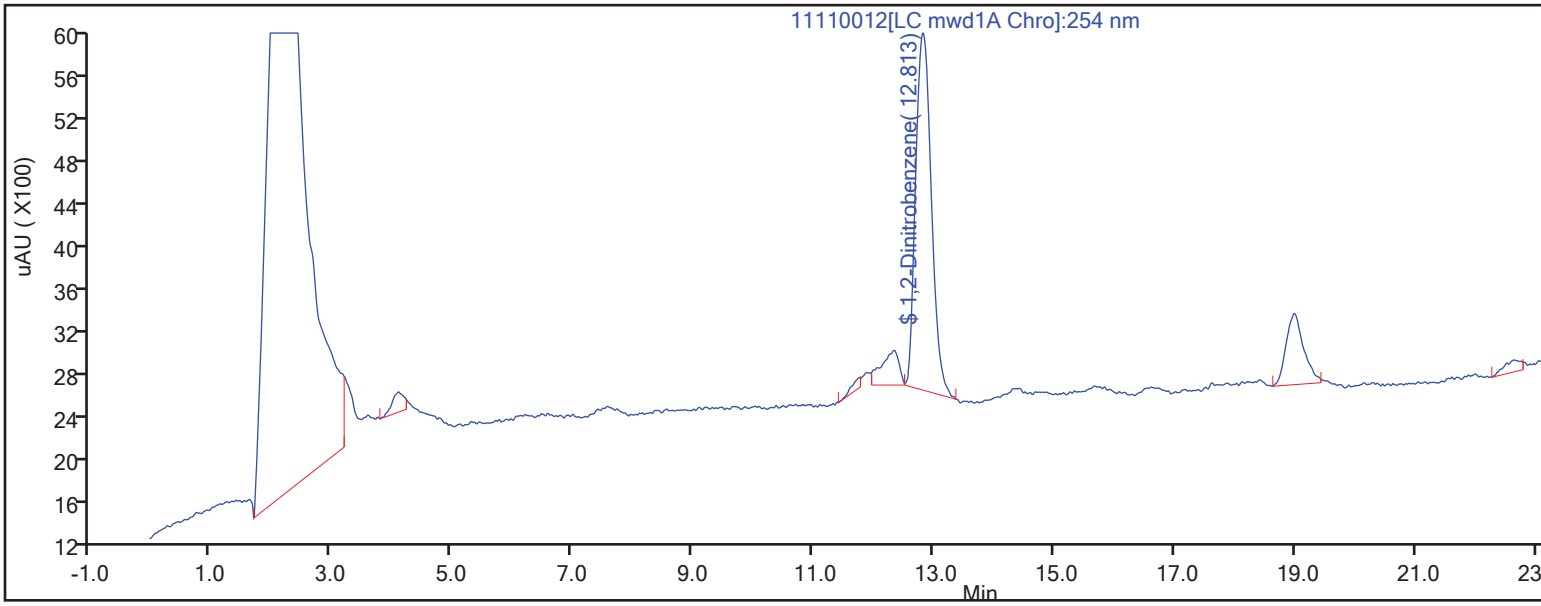
Processing Flags
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:46 Chrom Revision: 2.3 08-Nov-2022 12:31:00

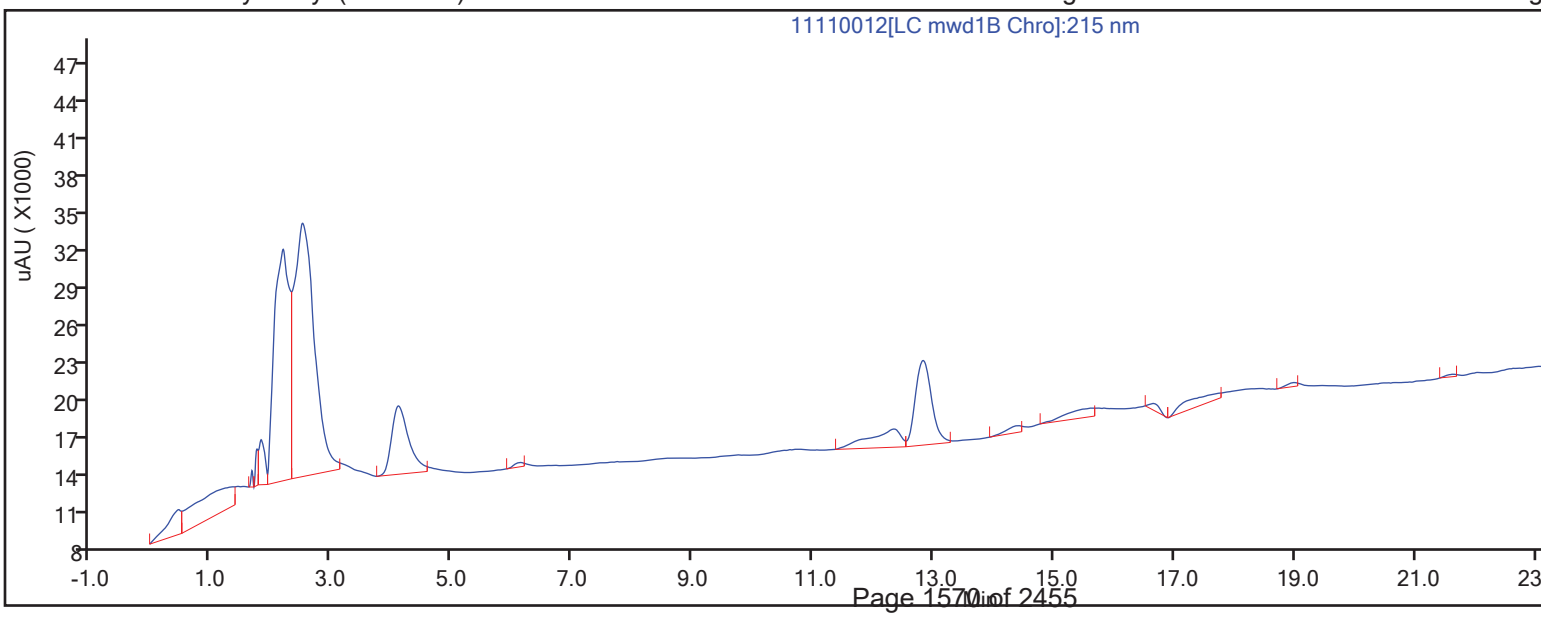
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110012.D			
Injection Date:	11-Nov-2022 17:36:23	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-1-B	Lab Sample ID:	280-168718-1	Worklist Smp#:
Client ID:	X3-SS-C01-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110012.D
Lims ID: 280-168718-B-1-B
Client ID: X3-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 17:36:23 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-1-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 18:56:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2406	96.22

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11012201 | Lab Sample ID: 280-168718-2

Matrix: Solid | Lab File ID: 11100042.D

Analysis Method: 8330B | Date Collected: 11/01/2022 12:45

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.4116(g) | Date Analyzed: 11/11/2022 02:30

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	38	U	96	38	13
118-96-7	2,4,6-Trinitrotoluene	67	U M	96	67	29
618-87-1	3,5-Dinitroaniline	19	U	96	19	8.6
121-14-2	2,4-Dinitrotoluene	38	U	96	38	14
606-20-2	2,6-Dinitrotoluene	38	U	96	38	18
35572-78-2	2-Amino-4,6-dinitrotoluene	67	U	96	67	32
88-72-2	2-Nitrotoluene	96	U	190	96	45
99-08-1	3-Nitrotoluene	140	U	190	140	61
19406-51-0	4-Amino-2,6-dinitrotoluene	67	U	96	67	29
99-99-0	4-Nitrotoluene	96	U	190	96	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	670	U	1900	670	210
2691-41-0	HMX	67	U	96	67	22
78-11-5	PETN	960	U	1900	960	470
88-89-1	Picric acid	96	U	96	96	54
121-82-4	RDX	96	U	190	96	41
479-45-8	Tetryl	96	U	190	96	42
6629-29-4	2,4-diamino-6-nitrotoluene	960	U	1900	960	500
59229-75-3	2,6-diamino-4-nitrotoluene	960	U M	1900	960	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100042.D
Lims ID: 280-168718-A-2-B
Client ID: FD-11012201
Sample Type: Client
Inject. Date: 11-Nov-2022 02:30:45 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-2-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:12:01

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1		7.558			ND	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.502	8.505	-0.003	35233	0.2800	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.229	9.244	-0.016	9998	0.0344	
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1		10.851			ND	U
	18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1		11.624			ND	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

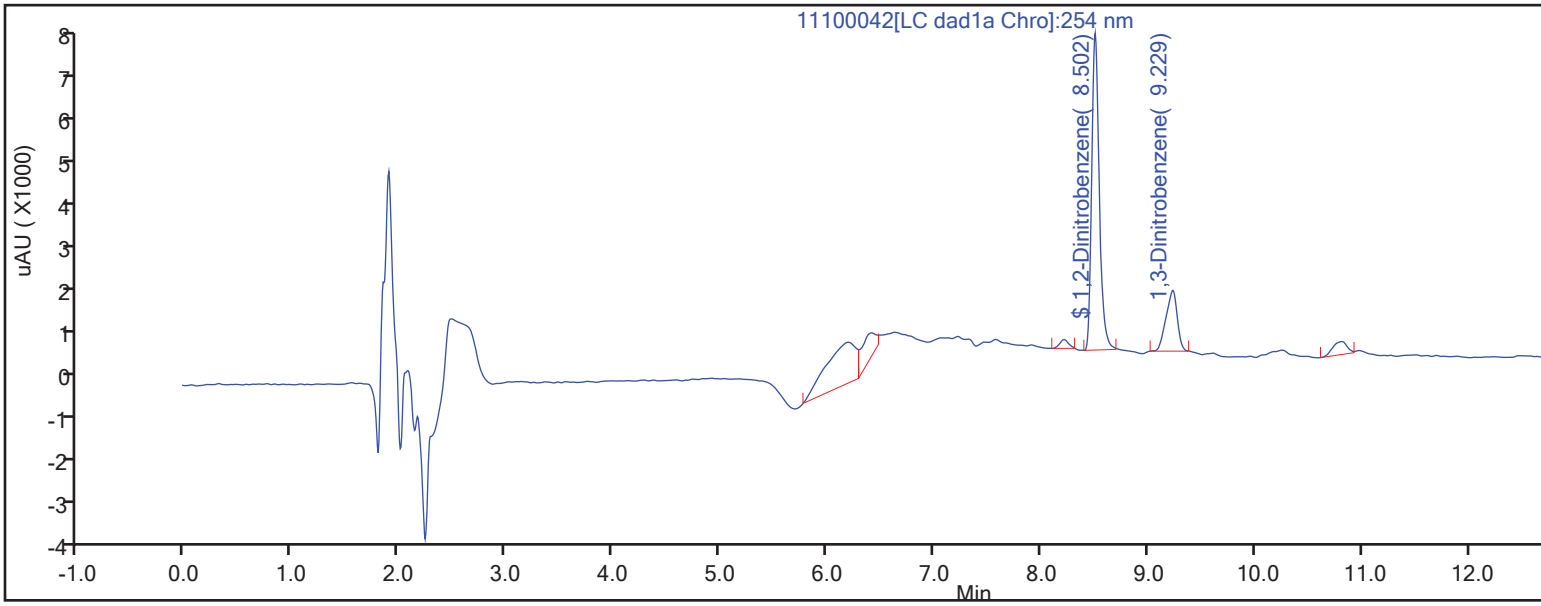
Report Date: 11-Nov-2022 12:25:50 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

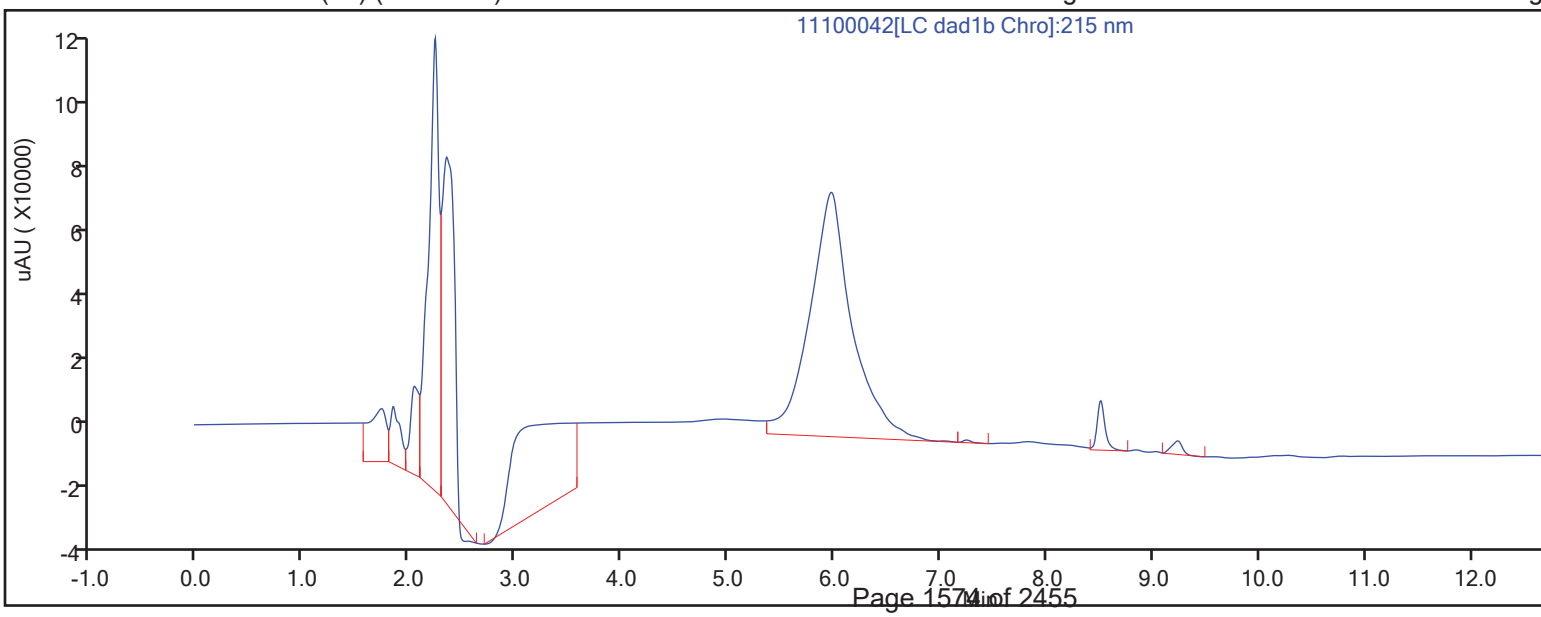
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100042.d

Injection Date:	11-Nov-2022 02:30:45	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-2-B	Lab Sample ID:	280-168718-2	Worklist Smp#:
Client ID:	FD-11012201			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100042.D
Lims ID: 280-168718-A-2-B
Client ID: FD-11012201
Sample Type: Client
Inject. Date: 11-Nov-2022 02:30:45 ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-2-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:12:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2800	111.99

User Disabled Compound Report

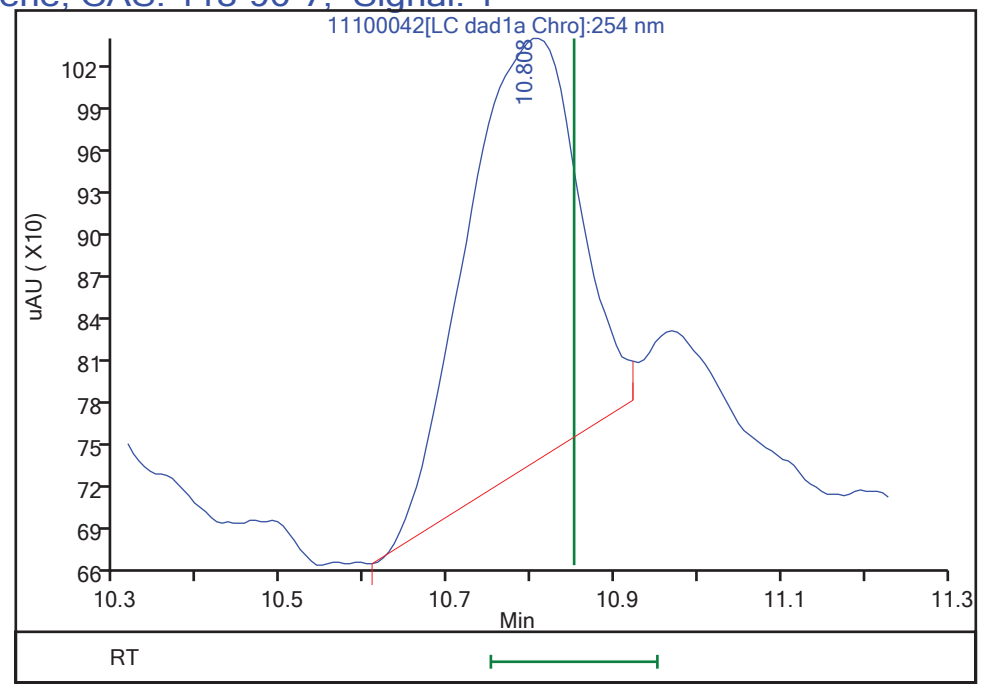
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100042.d
Injection Date: 11-Nov-2022 02:30:45 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-2-B Lab Sample ID: 280-168718-2
Client ID: FD-11012201
Operator ID: JZ ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

17 2,4,6-Trinitrotoluene, CAS: 118-96-7, Signal: 1

RT: 10.81
Response: 2775
Amount: 0.013157



Reviewer: LV5D, 11-Nov-2022 12:12:01
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

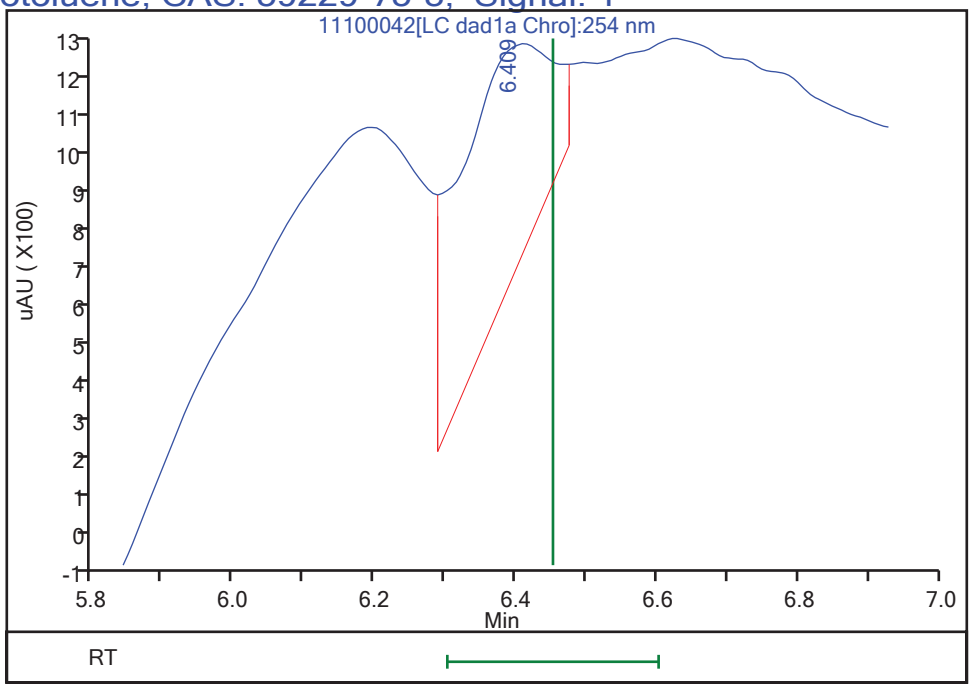
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100042.d
Injection Date: 11-Nov-2022 02:30:45 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-2-B Lab Sample ID: 280-168718-2
Client ID: FD-11012201
Operator ID: JZ ALS Bottle#: 42 Worklist Smp#: 42
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.41
Response: 5698
Amount: 0.026527



Reviewer: LV5D, 11-Nov-2022 12:12:01
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11012201 | Lab Sample ID: 280-168718-2

Matrix: Solid | Lab File ID: 11110013.D

Analysis Method: 8330B | Date Collected: 11/01/2022 12:45

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.4116(g) | Date Analyzed: 11/11/2022 18:11

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	38	U	96	38	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110013.D
Lims ID: 280-168718-A-2-B
Client ID: FD-11012201
Sample Type: Client
Inject. Date: 11-Nov-2022 18:11:19 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-2-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 19:33:02

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1		6.657			ND	
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1		8.757			ND	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.798	12.837	-0.039	65902	0.2589	
	11 3,5-Dinitroaniline	1		14.797			ND	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	U
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1		20.230			ND	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1		24.684			ND	
	25 PETN	2		25.697			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

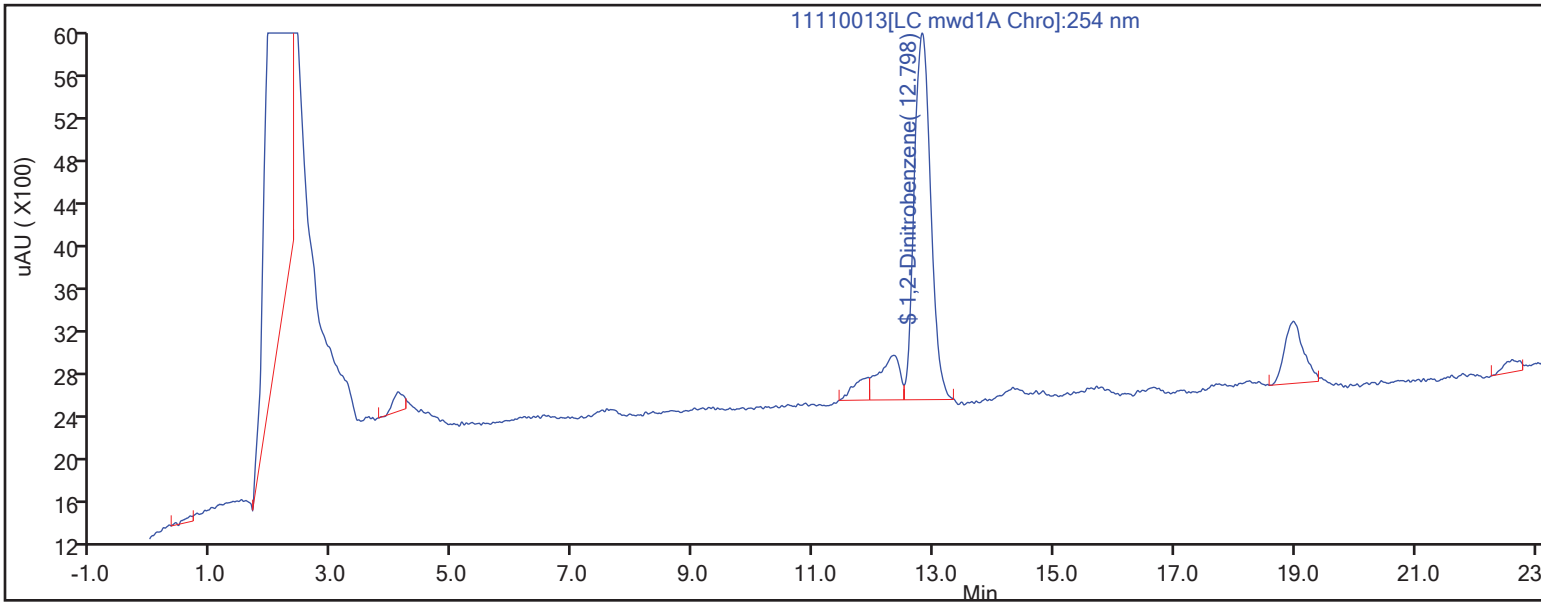
Report Date: 12-Nov-2022 11:05:47 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

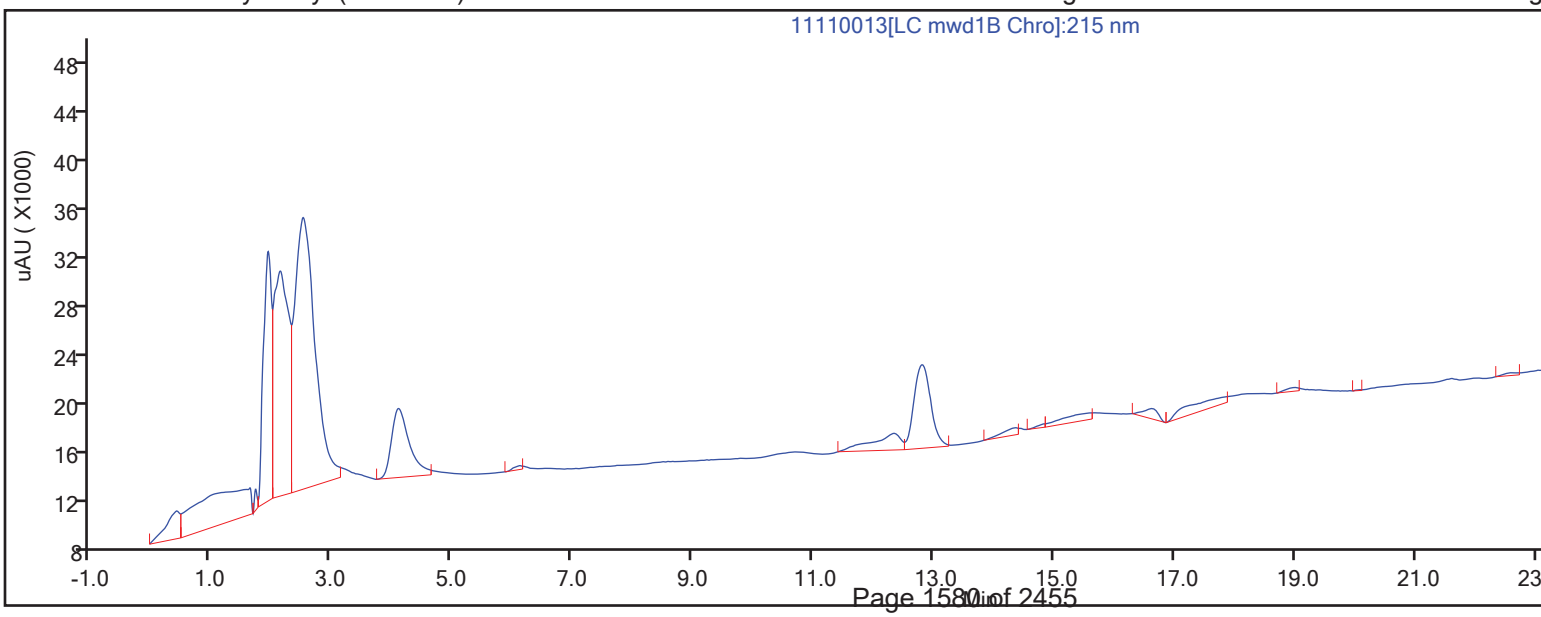
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110013.D

Injection Date:	11-Nov-2022 18:11:19	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-2-B	Lab Sample ID:	280-168718-2	Worklist Smp#:
Client ID:	FD-11012201			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110013.D				
Lims ID:	280-168718-A-2-B				
Client ID:	FD-11012201				
Sample Type:	Client				
Inject. Date:	11-Nov-2022 18:11:19	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-A-2-B				
Operator ID:	JZ	Instrument ID:	CHHPLC_X5		
Method:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Nov-2022 11:05:43	Calib Date:	19-Aug-2022 00:34:57		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC mwd1A, 254 nm		
Process Host:	CTX1610				

First Level Reviewer: LV5D Date: 11-Nov-2022 19:33:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2589	103.58

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C02-0006 | Lab Sample ID: 280-168718-3

Matrix: Solid | Lab File ID: 11100043.D

Analysis Method: 8330B | Date Collected: 11/01/2022 13:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.008(g) | Date Analyzed: 11/11/2022 02:53

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	40	U	100	40	14
118-96-7	2,4,6-Trinitrotoluene	70	U M	100	70	31
618-87-1	3,5-Dinitroaniline	20	U	100	20	9.0
121-14-2	2,4-Dinitrotoluene	40	U	100	40	15
35572-78-2	2-Amino-4,6-dinitrotoluene	70	U	100	70	33
88-72-2	2-Nitrotoluene	100	U	200	100	47
99-08-1	3-Nitrotoluene	150	U	200	150	64
19406-51-0	4-Amino-2,6-dinitrotoluene	70	U	100	70	30
99-99-0	4-Nitrotoluene	100	U	200	100	36
98-95-3	Nitrobenzene	200	U	300	200	85
55-63-0	Nitroglycerin	700	U	2000	700	210
2691-41-0	HMX	70	U	100	70	23
78-11-5	PETN	1000	U	2000	1000	490
88-89-1	Picric acid	100	U M	100	100	56
479-45-8	Tetryl	100	U	200	100	44
6629-29-4	2,4-diamino-6-nitrotoluene	1000	U	2000	1000	520
59229-75-3	2,6-diamino-4-nitrotoluene	1000	U M	2000	1000	330

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	110		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100043.D
Lims ID: 280-168718-B-3-B
Client ID: X3-SS-C02-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 02:53:41 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-3-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:12:37

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1	7.573	7.558	0.015	1607	0.0149	M
	9 2,4,6-Trinitrophenol	1		7.878			ND	U
$	10 1,2-Dinitrobenzene	1	8.499	8.505	-0.006	34569	0.2747	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.232	9.244	-0.012	39531	0.1361	M
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1		10.851			ND	U
	18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
	20 2,6-Dinitrotoluene	1	11.466	11.458	0.008	1308	0.009199	M
	21 2,4-Dinitrotoluene	1		11.624			ND	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

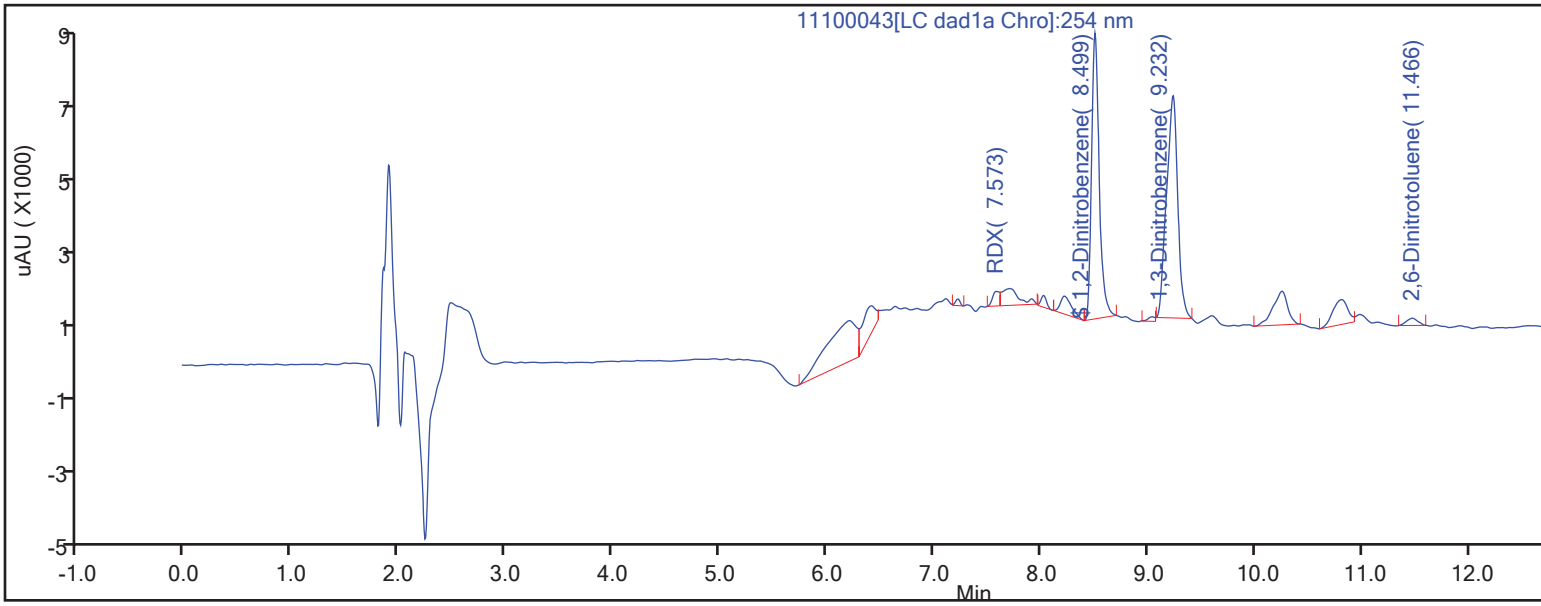
Report Date: 11-Nov-2022 12:25:50 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

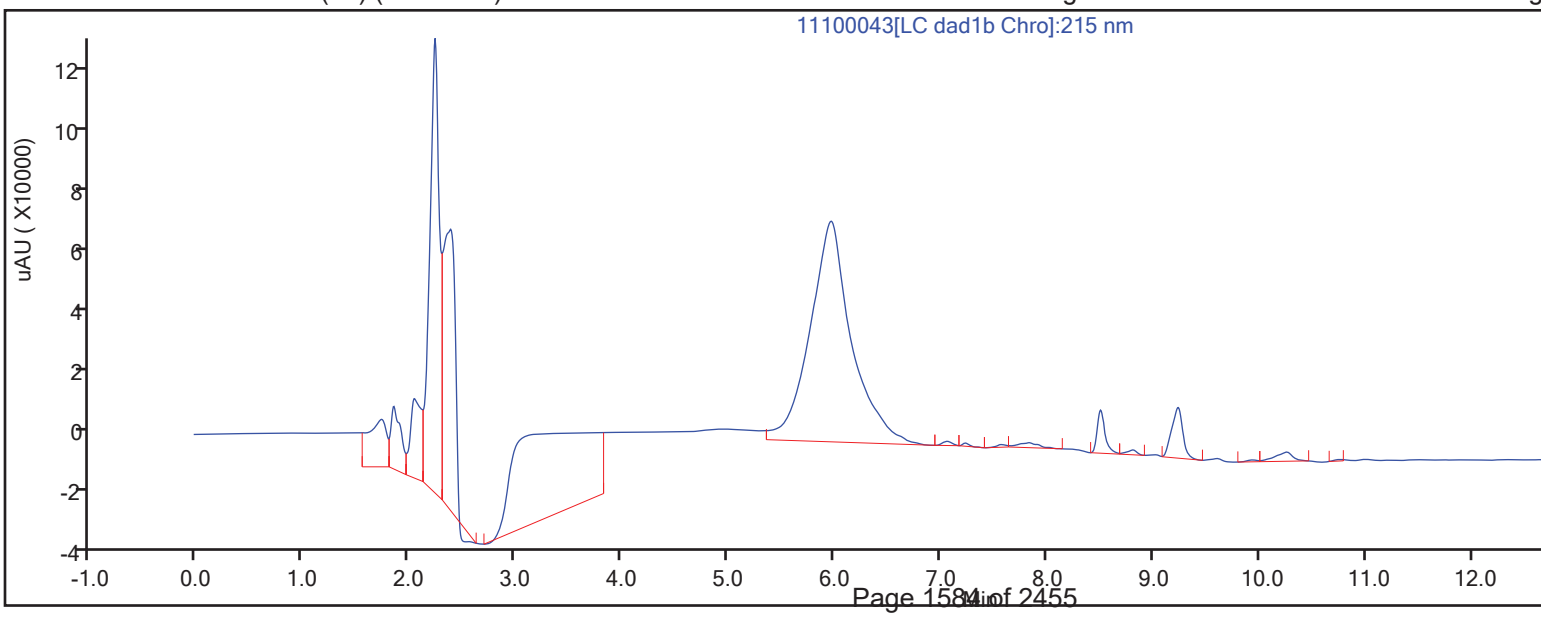
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100043.d

Injection Date:	11-Nov-2022 02:53:41	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3	Worklist Smp#:
Client ID:	X3-SS-C02-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100043.D
Lims ID: 280-168718-B-3-B
Client ID: X3-SS-C02-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 02:53:41 ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-3-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:12:37

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2747	109.88

Manual Integration/User Assign Peak Report

Eurofins Denver

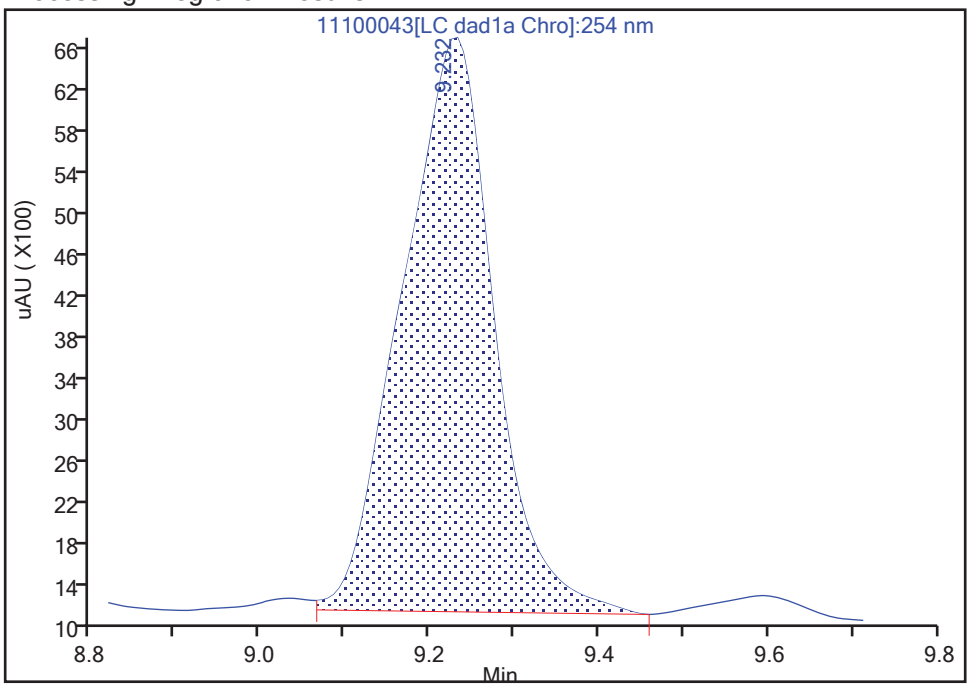
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100043.d				
Injection Date:	11-Nov-2022 02:53:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3		
Client ID:	X3-SS-C02-0006				
Operator ID:	JZ	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

12 1,3-Dinitrobenzene, CAS: 99-65-0

Signal: 1

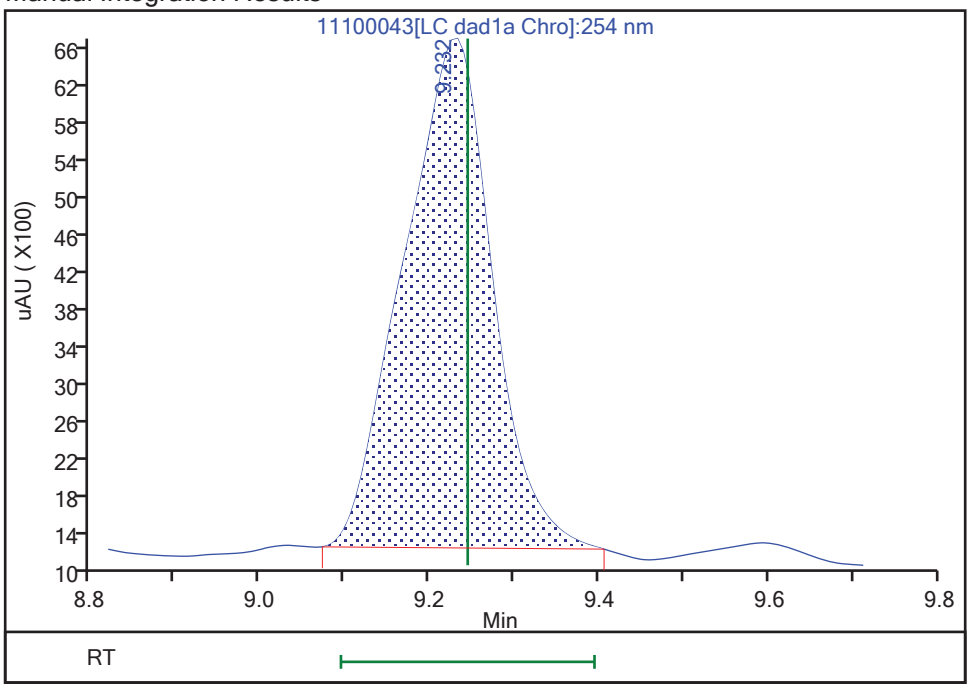
Processing Integration Results

RT: 9.23
Area: 41756
Amount: 0.143718
Amount Units: ug/mL



Manual Integration Results

RT: 9.23
Area: 39531
Amount: 0.136060
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:12:26

Audit Action: Manually Integrated Audit Reason: Baseline

User Disabled Compound Report

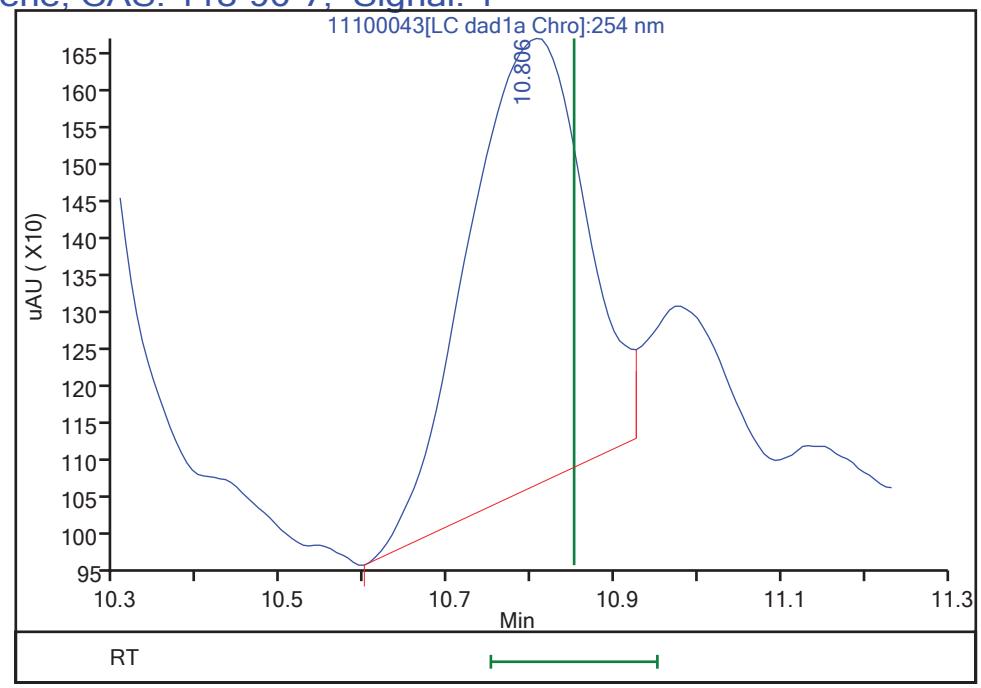
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100043.d
Injection Date: 11-Nov-2022 02:53:41 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-3-B Lab Sample ID: 280-168718-3
Client ID: X3-SS-C02-0006
Operator ID: JZ ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

17 2,4,6-Trinitrotoluene, CAS: 118-96-7, Signal: 1

RT: 10.81
Response: 5983
Amount: 0.028367



Reviewer: LV5D, 11-Nov-2022 12:12:37
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Denver

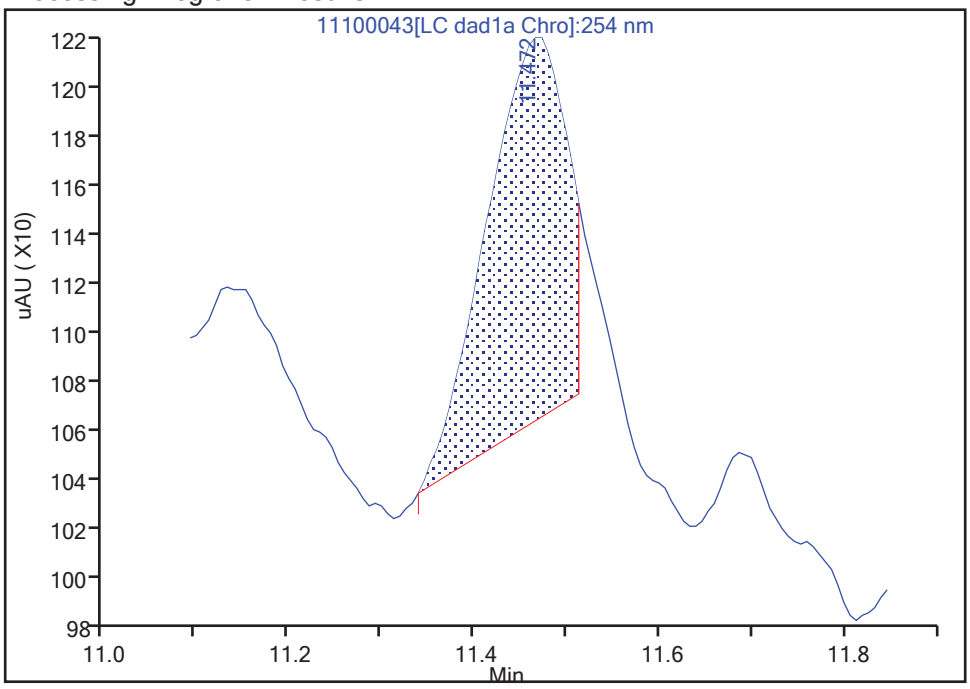
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100043.d				
Injection Date:	11-Nov-2022 02:53:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3		
Client ID:	X3-SS-C02-0006				
Operator ID:	JZ	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

20 2,6-Dinitrotoluene, CAS: 606-20-2

Signal: 1

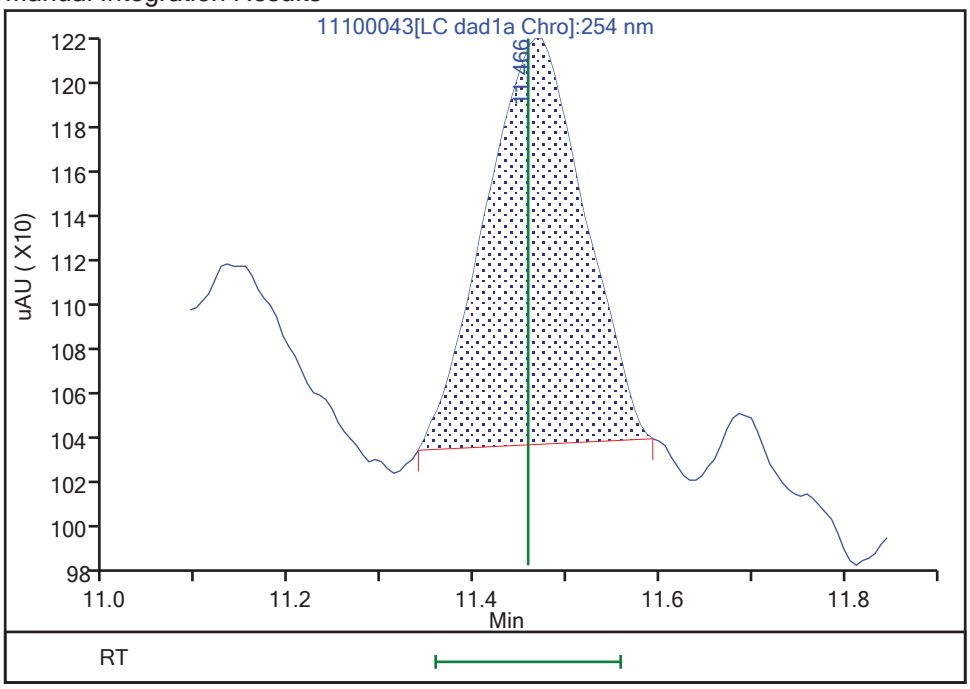
Processing Integration Results

RT: 11.47
Area: 897
Amount: 0.006309
Amount Units: ug/mL



Manual Integration Results

RT: 11.47
Area: 1308
Amount: 0.009199
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:12:21
Audit Action: Manually Integrated Audit Reason: Baseline

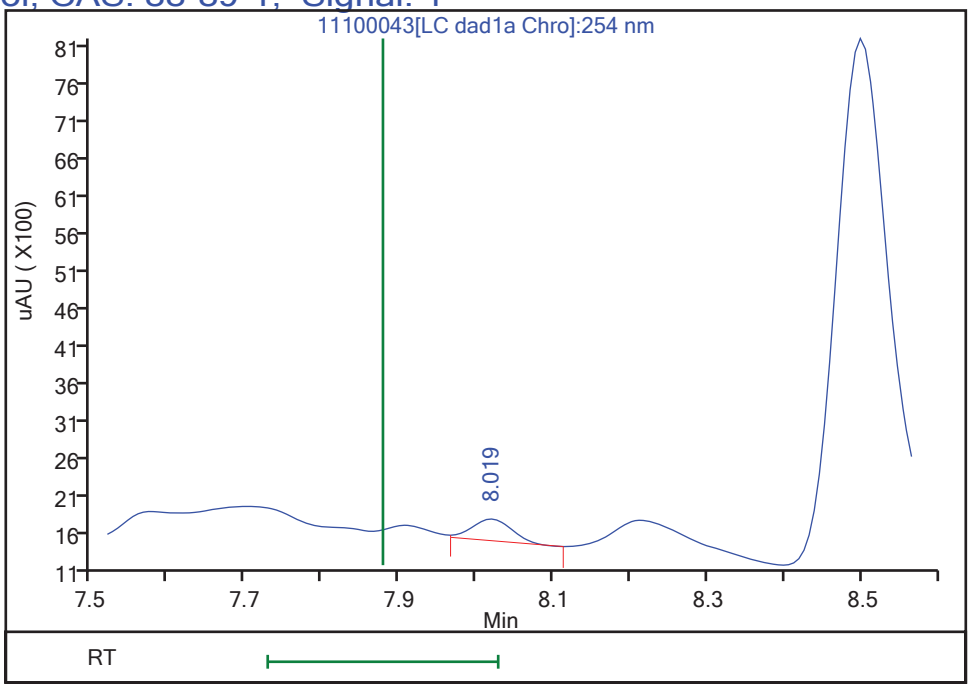
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100043.d				
Injection Date:	11-Nov-2022 02:53:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3		
Client ID:	X3-SS-C02-0006				
Operator ID:	JZ	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

9 2,4,6-Trinitrophenol, CAS: 88-89-1, Signal: 1

RT: 8.02
Response: 1050
Amount: 0.013553



Reviewer: LV5D, 11-Nov-2022 12:12:37
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Denver

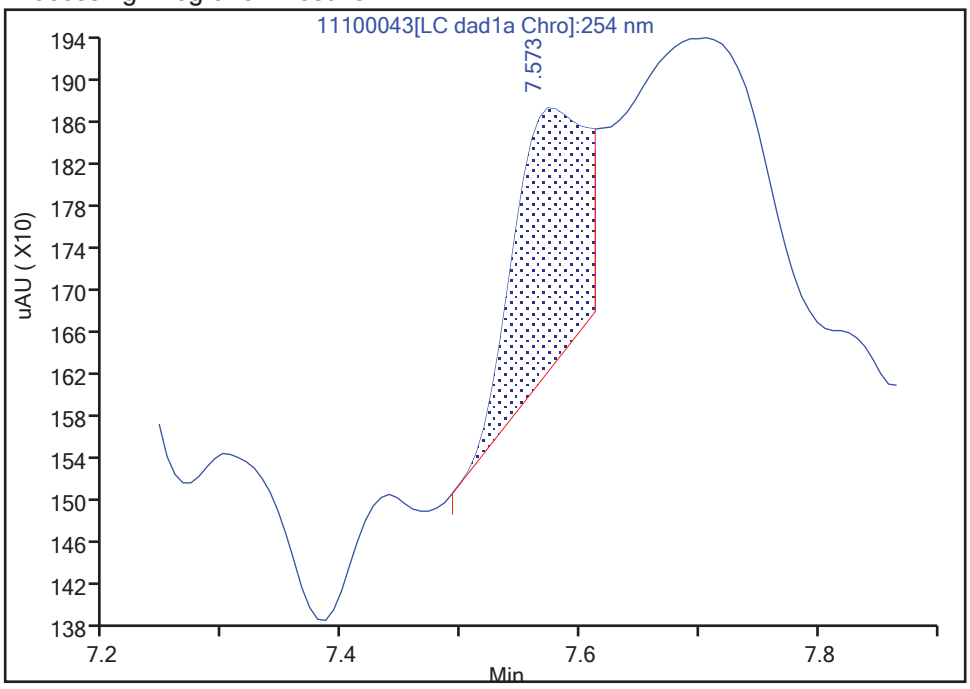
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100043.d				
Injection Date:	11-Nov-2022 02:53:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3		
Client ID:	X3-SS-C02-0006				
Operator ID:	JZ	ALS Bottle#:	43	Worklist Smp#:	43
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

8 RDX, CAS: 121-82-4

Signal: 1

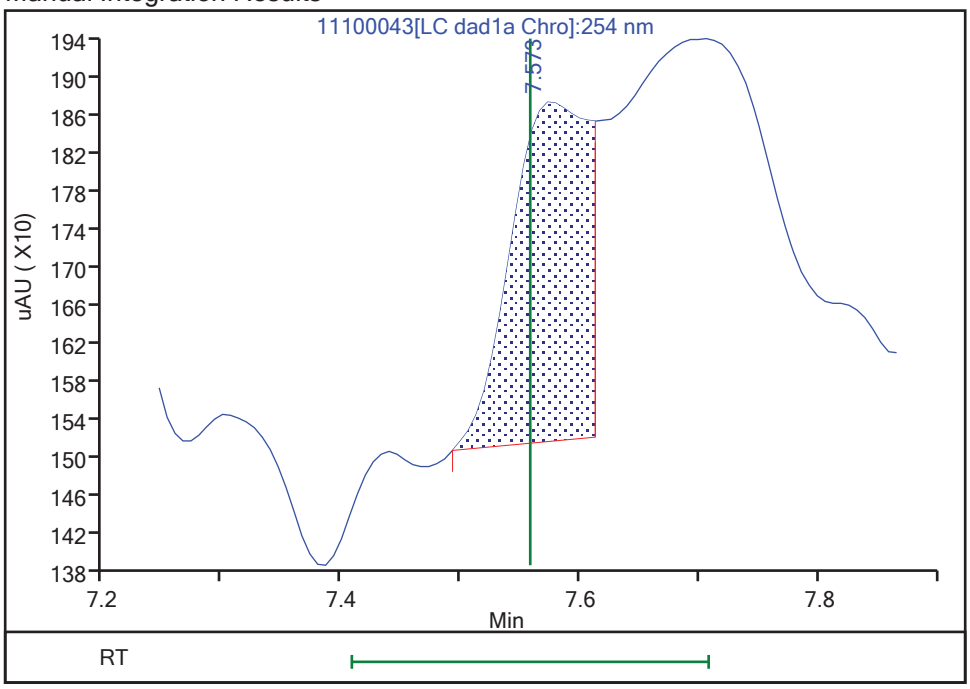
Processing Integration Results

RT: 7.57
Area: 1034
Amount: 0.009607
Amount Units: ug/mL



Manual Integration Results

RT: 7.57
Area: 1607
Amount: 0.014931
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:12:35
Audit Action: Split an Integrated Peak Audit Reason: Baseline

User Disabled Compound Report

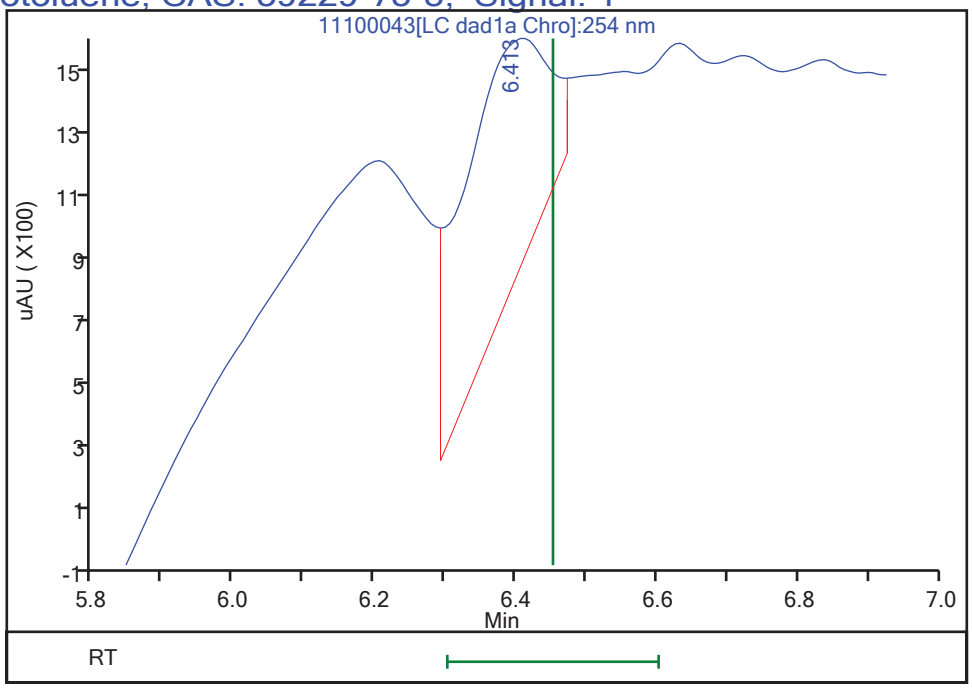
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100043.d
Injection Date: 11-Nov-2022 02:53:41 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-3-B Lab Sample ID: 280-168718-3
Client ID: X3-SS-C02-0006
Operator ID: JZ ALS Bottle#: 43 Worklist Smp#: 43
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.41
Response: 6460
Amount: 0.030075



Reviewer: LV5D, 11-Nov-2022 12:12:37
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C02-0006 | Lab Sample ID: 280-168718-3

Matrix: Solid | Lab File ID: 11110014.D

Analysis Method: 8330B | Date Collected: 11/01/2022 13:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.008(g) | Date Analyzed: 11/11/2022 18:46

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	40	U	100	40	17
606-20-2	2,6-Dinitrotoluene	40	U	100	40	19
121-82-4	RDX	100	U	200	100	43

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	106		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110014.D
Lims ID: 280-168718-B-3-B
Client ID: X3-SS-C02-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 18:46:12 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-3-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 19:33:20

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	U
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1		6.657			ND	
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1		8.757			ND	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.785	12.837	-0.052	67325	0.2645	
	11 3,5-Dinitroaniline	1	14.731	14.797	-0.066	6960	0.0167	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	U
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	U
	17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1		20.230			ND	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1		24.684			ND	
	25 PETN	2		25.697			ND	

QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

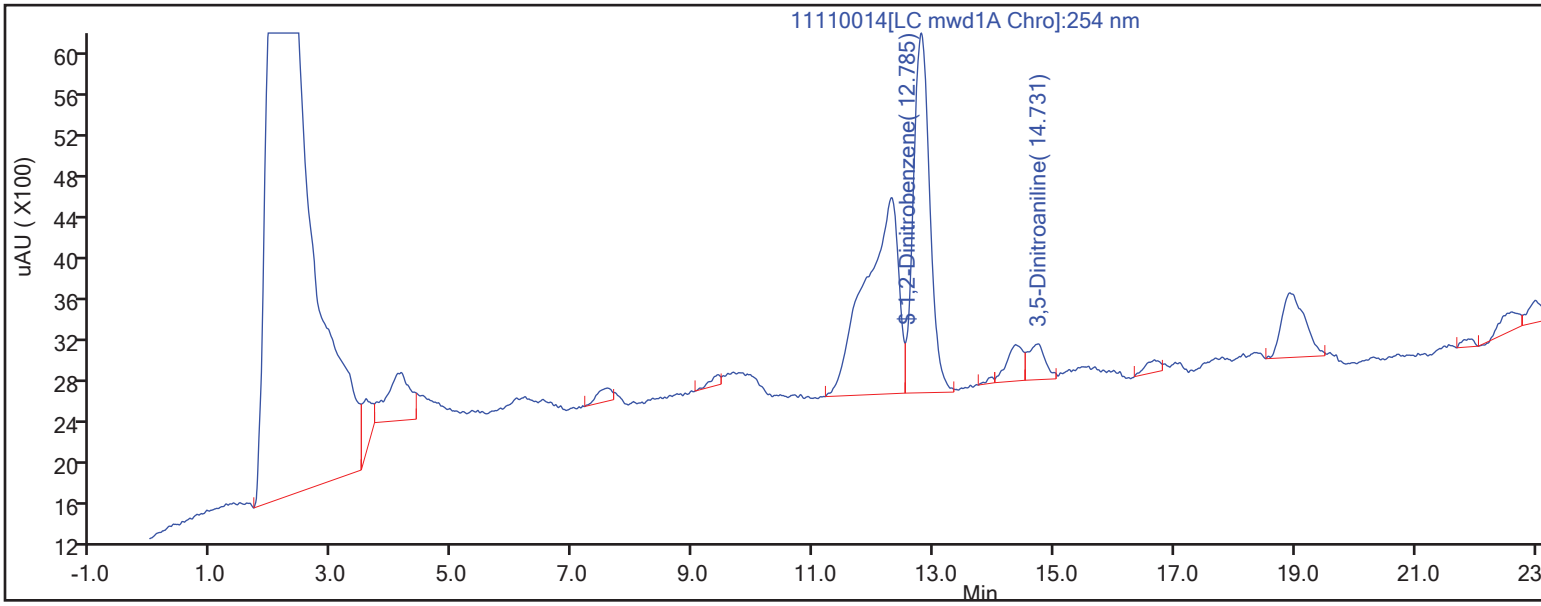
Report Date: 12-Nov-2022 11:05:47 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

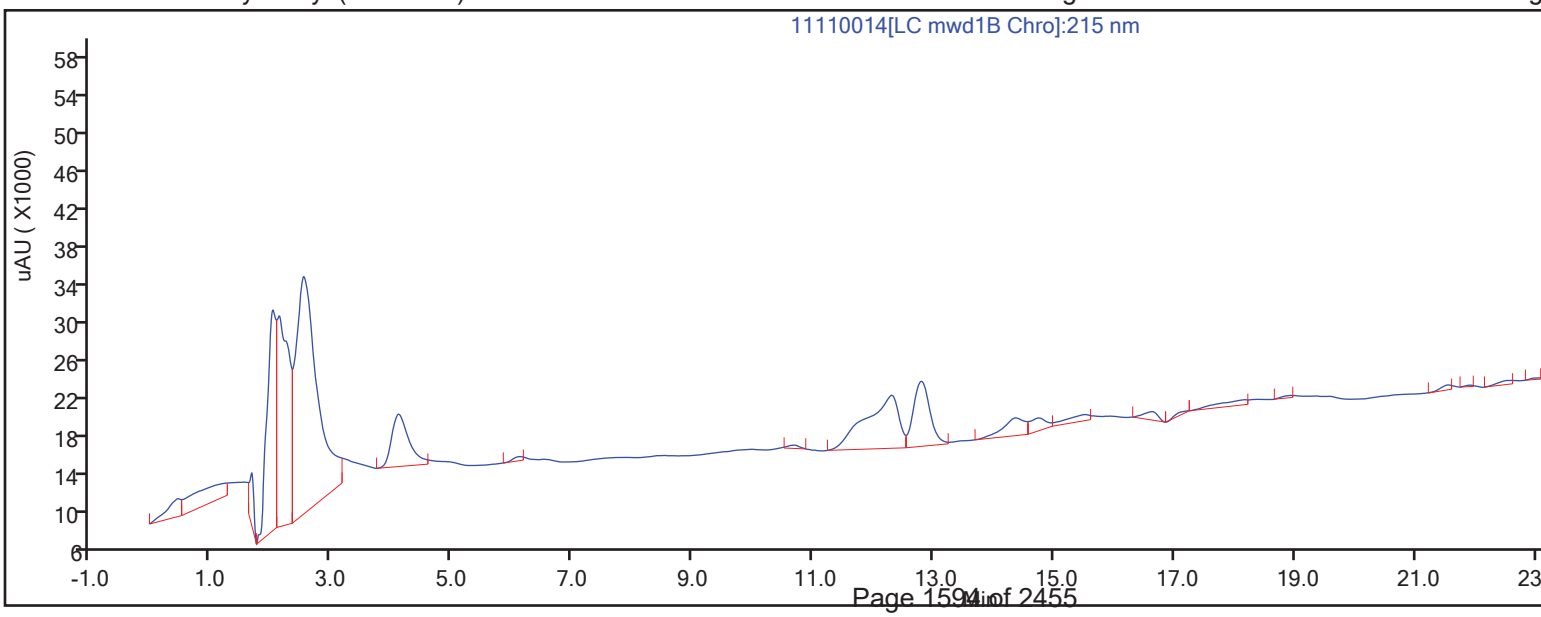
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110014.D

Injection Date:	11-Nov-2022 18:46:12	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3	Worklist Smp#:
Client ID:	X3-SS-C02-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110014.D
Lims ID: 280-168718-B-3-B
Client ID: X3-SS-C02-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 18:46:12 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-3-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 19:33:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2645	105.81

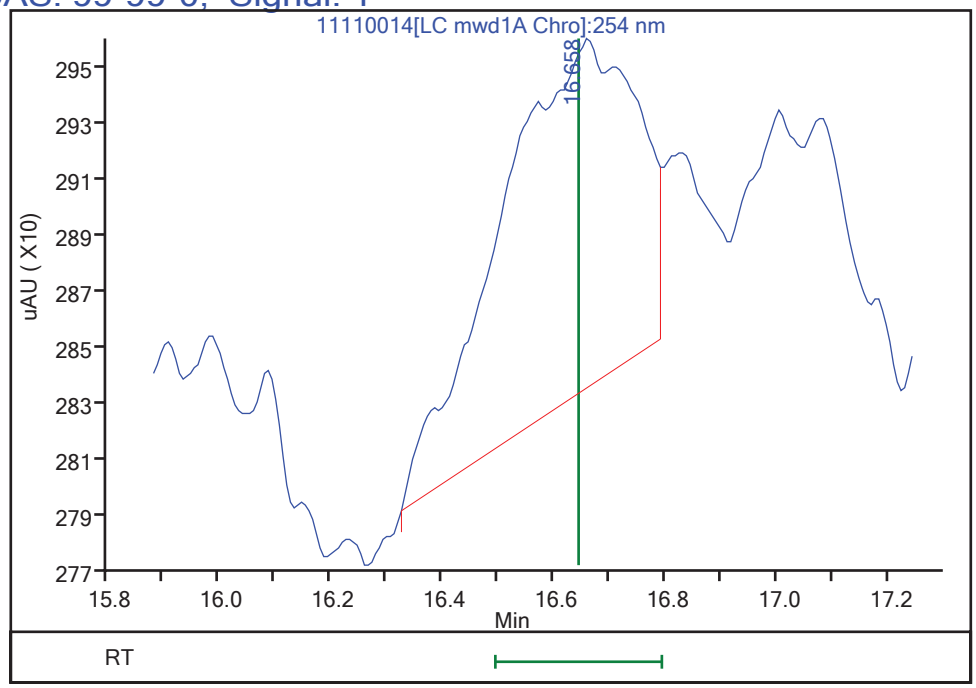
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110014.D				
Injection Date:	11-Nov-2022 18:46:12	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3		
Client ID:	X3-SS-C02-0006				
Operator ID:	JZ	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

16 p-Nitrotoluene, CAS: 99-99-0, Signal: 1

RT: 16.66
Response: 2148
Amount: 0.009560



Reviewer: LV5D, 11-Nov-2022 19:33:20
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

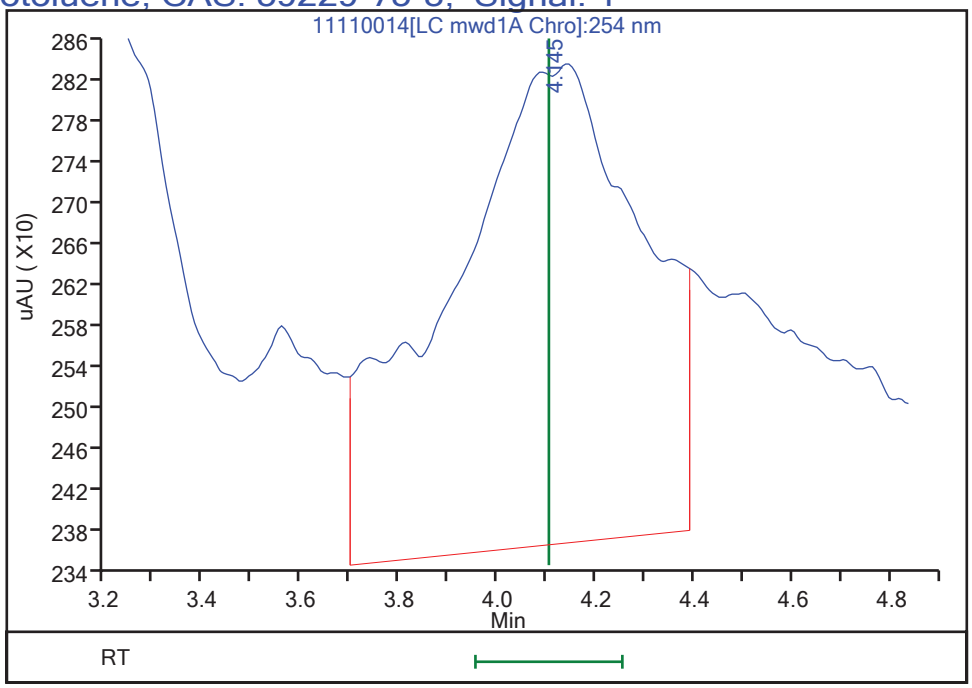
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110014.D				
Injection Date:	11-Nov-2022 18:46:12	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-3-B	Lab Sample ID:	280-168718-3		
Client ID:	X3-SS-C02-0006				
Operator ID:	JZ	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

1 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 4.14
Response: 13034
Amount: 0.032068



Reviewer: LV5D, 11-Nov-2022 19:33:20
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C04-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: 11100044.D

Analysis Method: 8330B | Date Collected: 11/01/2022 15:25

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.1405(g) | Date Analyzed: 11/11/2022 03:16

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	99	39	14
618-87-1	3,5-Dinitroaniline	20	U	99	20	8.9
121-14-2	2,4-Dinitrotoluene	39	U	99	39	14
606-20-2	2,6-Dinitrotoluene	39	U	99	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	69	U	99	69	32
88-72-2	2-Nitrotoluene	99	U	200	99	47
99-08-1	3-Nitrotoluene	150	U	200	150	63
19406-51-0	4-Amino-2,6-dinitrotoluene	69	U	99	69	29
99-99-0	4-Nitrotoluene	99	U	200	99	36
98-95-3	Nitrobenzene	200	U	300	200	84
55-63-0	Nitroglycerin	690	U M	2000	690	210
2691-41-0	HMX	69	U	99	69	22
78-11-5	PETN	990	U	2000	990	490
88-89-1	Picric acid	99	U	99	99	56
479-45-8	Tetryl	99	U	200	99	43
6629-29-4	2,4-diamino-6-nitrotoluene	990	U	2000	990	510
59229-75-3	2,6-diamino-4-nitrotoluene	990	U M	2000	990	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	111		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100044.D
Lims ID: 280-168718-B-5-B
Client ID: X3-SS-C04-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 03:16:39 ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-5-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:13:08

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1	7.564	7.558	0.006	1772	0.0165	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.504	8.505	-0.001	34980	0.2780	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.230	9.244	-0.014	21812	0.0751	
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	U
	17 2,4,6-Trinitrotoluene	1	10.817	10.851	-0.034	12890	0.0611	M
	18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1		11.624			ND	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

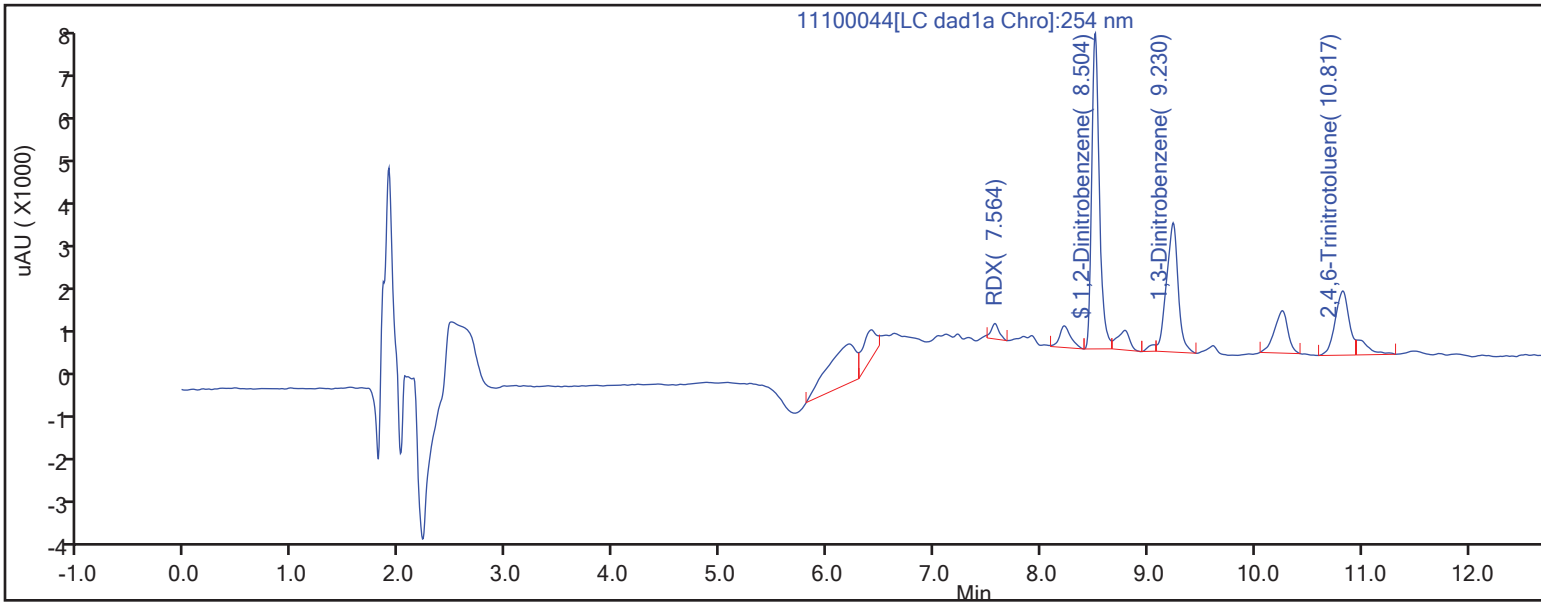
Report Date: 11-Nov-2022 12:25:49 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

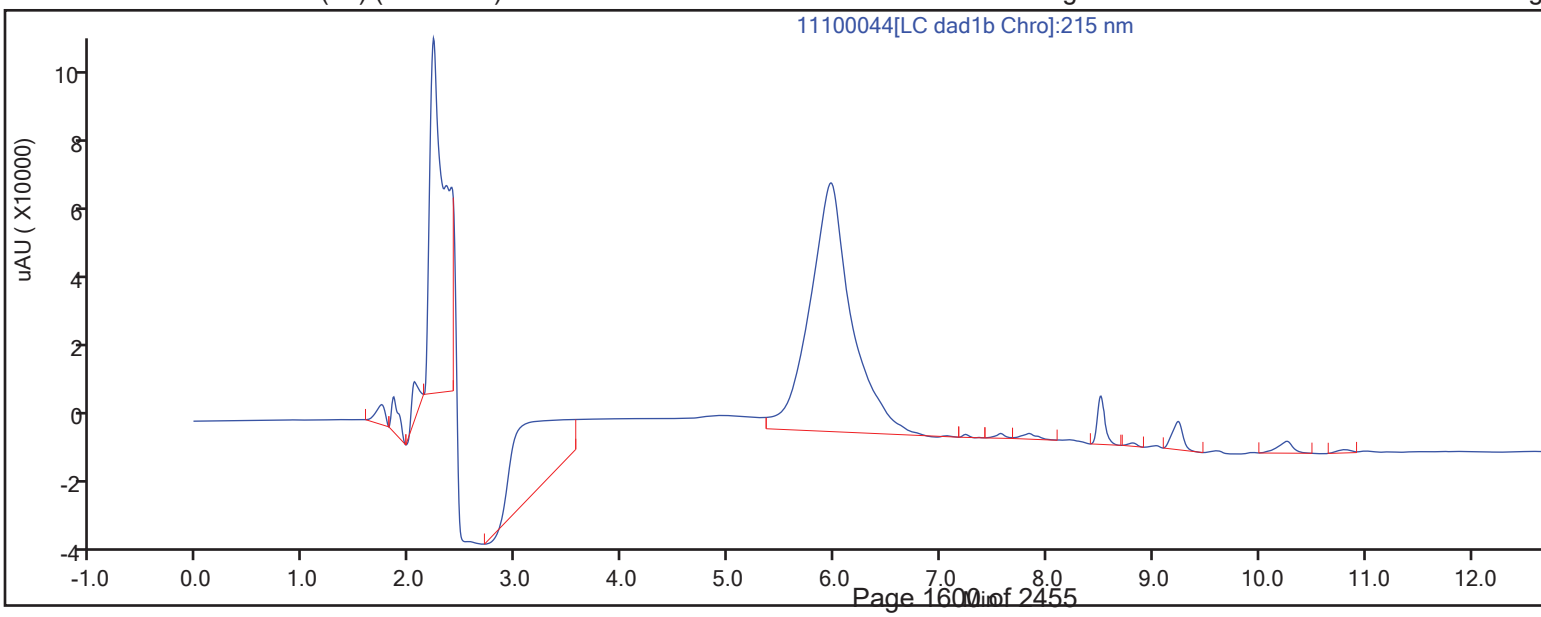
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100044.d

Injection Date:	11-Nov-2022 03:16:39	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-5-B	Lab Sample ID:	280-168718-5	Worklist Smp#:
Client ID:	X3-SS-C04-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100044.D				
Lims ID:	280-168718-B-5-B				
Client ID:	X3-SS-C04-0006				
Sample Type:	Client				
Inject. Date:	11-Nov-2022 03:16:39	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-5-B				
Operator ID:	JZ	Instrument ID:	CHHPLC_X3		
Method:	\\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	11-Nov-2022 12:25:46	Calib Date:	17-Aug-2022 22:14:06		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX1677				

First Level Reviewer: LV5D Date: 11-Nov-2022 12:13:08

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2780	111.19

Eurofins Denver

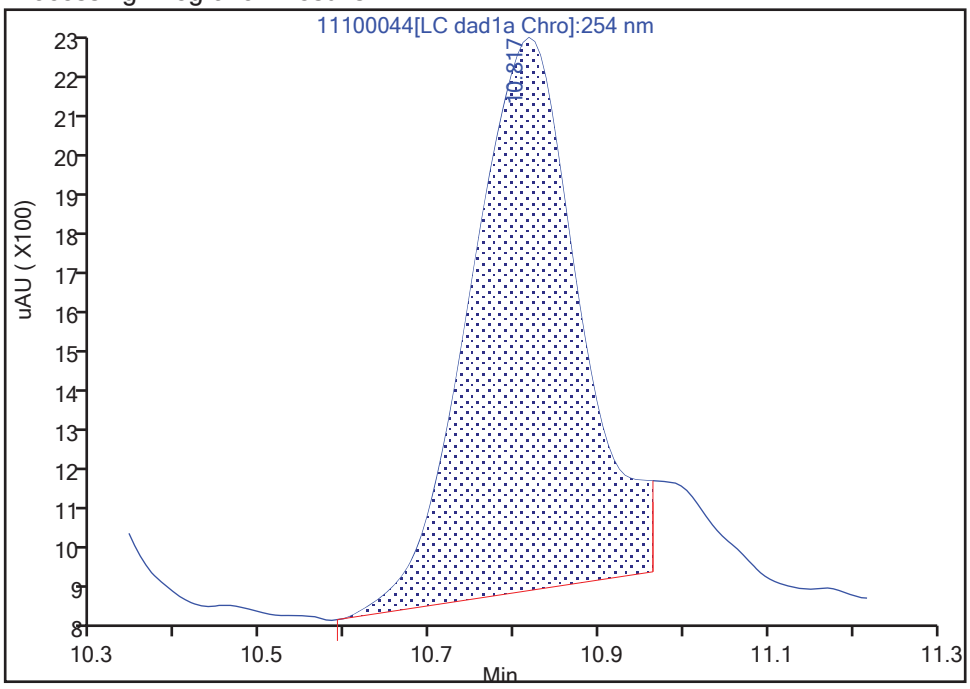
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100044.d				
Injection Date:	11-Nov-2022 03:16:39	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-5-B	Lab Sample ID:	280-168718-5		
Client ID:	X3-SS-C04-0006				
Operator ID:	JZ	ALS Bottle#:	44	Worklist Smp#:	44
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

17 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

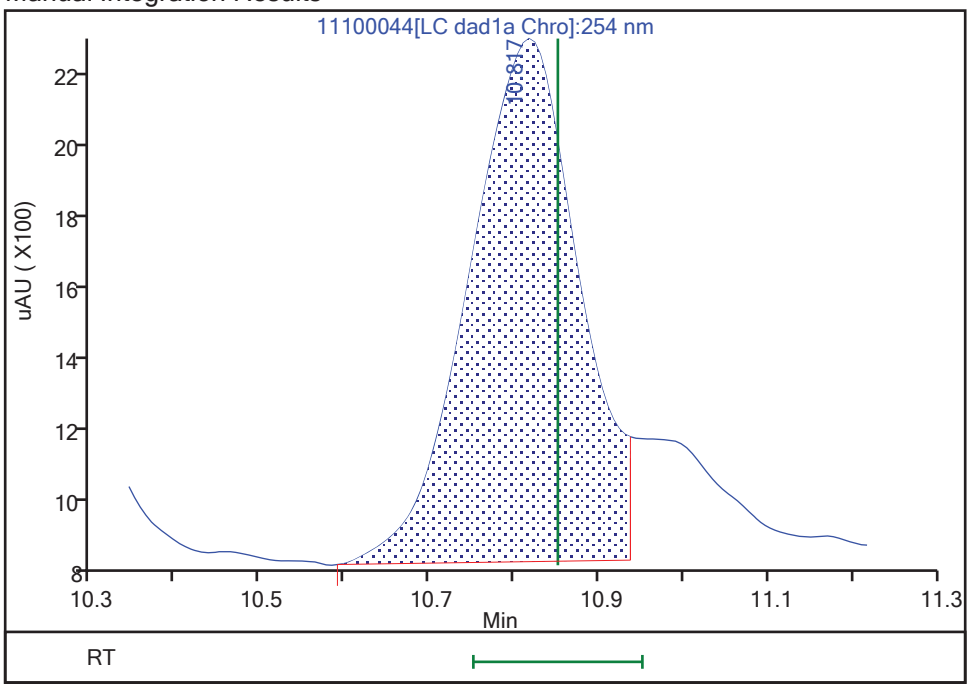
Processing Integration Results

RT: 10.82
Area: 12244
Amount: 0.058052
Amount Units: ug/mL



Manual Integration Results

RT: 10.82
Area: 12890
Amount: 0.061114
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:13:00
Audit Action: Split an Integrated Peak Audit Reason: Baseline

User Disabled Compound Report

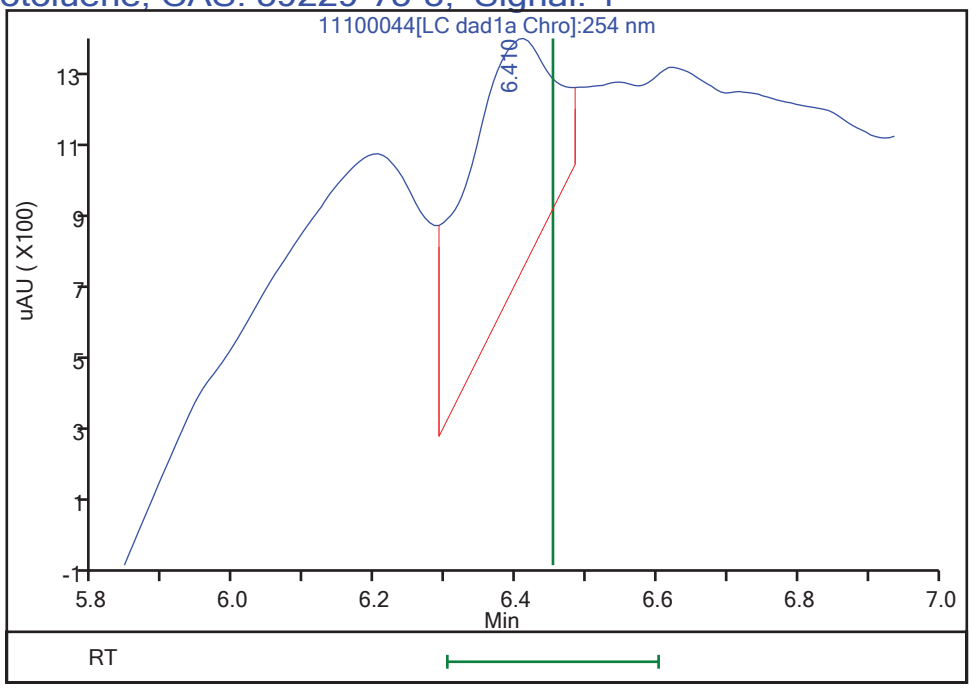
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100044.d
Injection Date: 11-Nov-2022 03:16:39 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-5-B Lab Sample ID: 280-168718-5
Client ID: X3-SS-C04-0006
Operator ID: JZ ALS Bottle#: 44 Worklist Smp#: 44
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.41
Response: 6142
Amount: 0.028594



Reviewer: LV5D, 11-Nov-2022 12:13:08
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C04-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: 11110015.D

Analysis Method: 8330B | Date Collected: 11/01/2022 15:25

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.1405(g) | Date Analyzed: 11/11/2022 19:21

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	99	39	16
118-96-7	2,4,6-Trinitrotoluene	69	U	99	69	30
121-82-4	RDX	99	U	200	99	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110015.D
Lims ID: 280-168718-B-5-B
Client ID: X3-SS-C04-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 19:21:05 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-5-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 20:39:09

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1		6.657			ND	
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1		8.757			ND	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.774	12.837	-0.063	65661	0.2580	
	11 3,5-Dinitroaniline	1		14.797			ND	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	U
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1		20.230			ND	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1		24.684			ND	
	25 PETN	2		25.697			ND	

QC Flag Legend

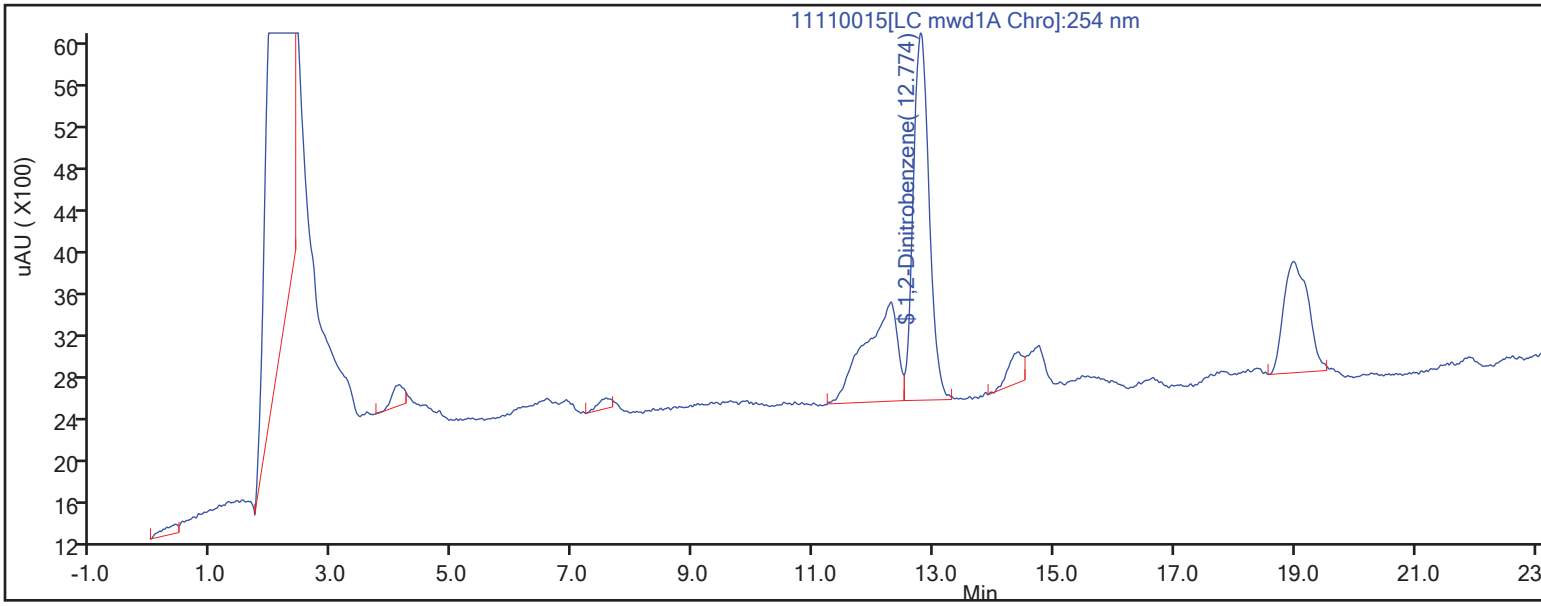
Processing Flags
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:48 Chrom Revision: 2.3 08-Nov-2022 12:31:00

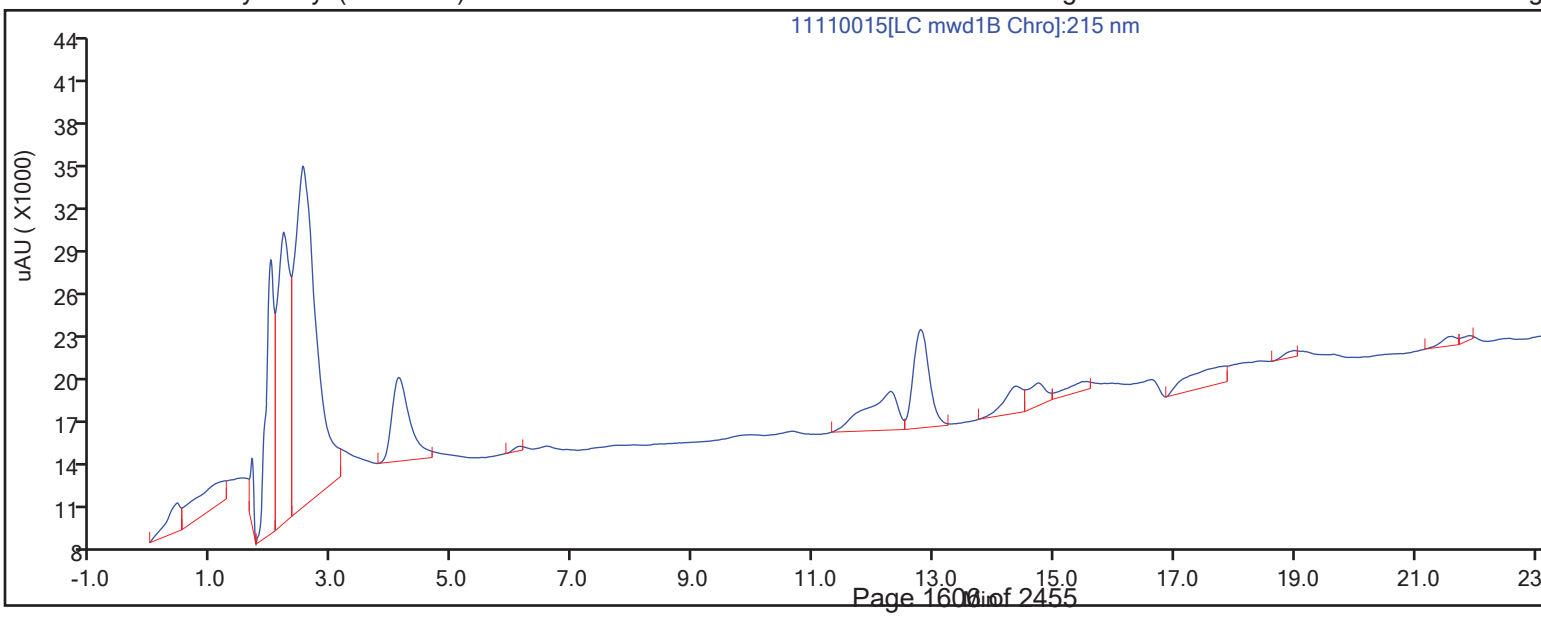
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110015.D			
Injection Date:	11-Nov-2022 19:21:05	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-5-B	Lab Sample ID:	280-168718-5	Worklist Smp#:
Client ID:	X3-SS-C04-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110015.D				
Lims ID:	280-168718-B-5-B				
Client ID:	X3-SS-C04-0006				
Sample Type:	Client				
Inject. Date:	11-Nov-2022 19:21:05	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-5-B				
Operator ID:	JZ	Instrument ID:	CHHPLC_X5		
Method:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Nov-2022 11:05:43	Calib Date:	19-Aug-2022 00:34:57		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC mwd1A, 254 nm		
Process Host:	CTX1610				

First Level Reviewer: LV5D Date: 11-Nov-2022 20:39:09

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2580	103.20

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: RB-11012201 | Lab Sample ID: 280-168718-6

Matrix: Water | Lab File ID: 11090038.D

Analysis Method: 8330B | Date Collected: 11/01/2022 15:45

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 498.9(mL) | Date Analyzed: 11/10/2022 01:58

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.20	U	0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	0.10	U	0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	0.10	U	0.11	0.10	0.045
618-87-1	3,5-Dinitroaniline	0.30	U	0.40	0.30	0.13
121-14-2	2,4-Dinitrotoluene	0.080	U	0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	0.080	U	0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	0.10	U	0.11	0.10	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.21	0.20	0.086
99-08-1	3-Nitrotoluene	0.40	U	0.40	0.40	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.15	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	0.41	0.40	0.10
98-95-3	Nitrobenzene	0.20	U	0.21	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	2.1	2.0	0.92
2691-41-0	HMX	0.20	U	0.21	0.20	0.088
78-11-5	PETN	1.0	U	1.1	1.0	0.45
88-89-1	Picric acid	0.12	U	0.40	0.12	0.044
121-82-4	RDX	0.20	U	0.21	0.20	0.052
479-45-8	Tetryl	0.10	U	0.11	0.10	0.032
6629-29-4	2,4-diamino-6-nitrotoluene	0.90	U	1.0	0.90	0.43
59229-75-3	2,6-diamino-4-nitrotoluene	0.90	U M	1.0	0.90	0.22

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	101	M	83-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090038.D
Lims ID: 280-168718-B-6-A
Client ID: RB-11012201
Sample Type: Client
Inject. Date: 10-Nov-2022 01:58:38 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-6-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:37 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 10-Nov-2022 12:01:20

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1		6.456			ND	U
4 HMX	1		6.569			ND	
5 2,4-diamino-6-nitrotoluene	1		6.636			ND	
8 RDX	1		7.556			ND	
9 2,4,6-Trinitrophenol	1		7.883			ND	
$ 10 1,2-Dinitrobenzene	1	8.500	8.509	-0.009	25426	0.2020	M
11 1,3,5-Trinitrobenzene	1		8.629			ND	
12 1,3-Dinitrobenzene	1		9.249			ND	
13 Nitrobenzene	1		9.636			ND	
14 3,5-Dinitroaniline	1		9.829			ND	
15 Tetryl	1		9.943			ND	
16 Nitroglycerin	2		10.396			ND	
17 2,4,6-Trinitrotoluene	1		10.849			ND	
18 4-Amino-2,6-dinitrotoluene	1		11.023			ND	
19 2-Amino-4,6-dinitrotoluene	1		11.269			ND	
20 2,6-Dinitrotoluene	1		11.449			ND	
21 2,4-Dinitrotoluene	1		11.616			ND	
22 o-Nitrotoluene	1		12.469			ND	
23 p-Nitrotoluene	1		12.889			ND	
24 m-Nitrotoluene	1		13.456			ND	
25 PETN	2		14.489			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

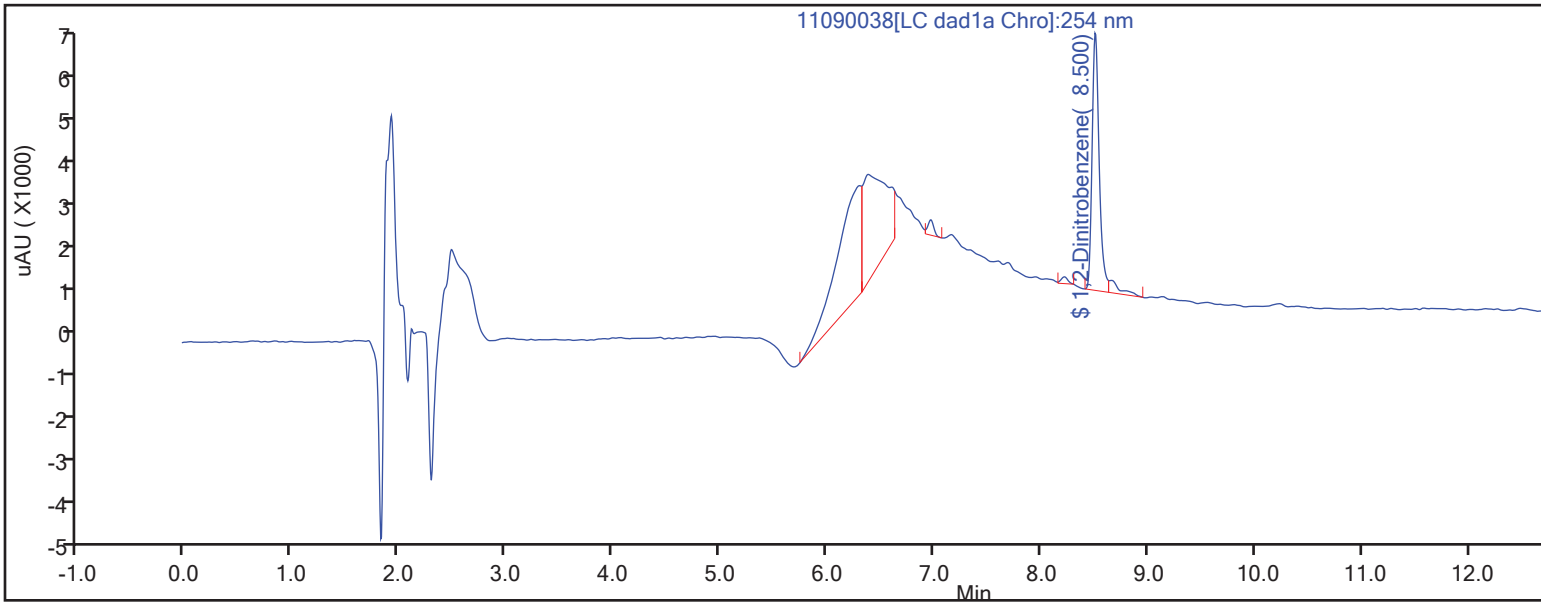
Report Date: 10-Nov-2022 12:05:40 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

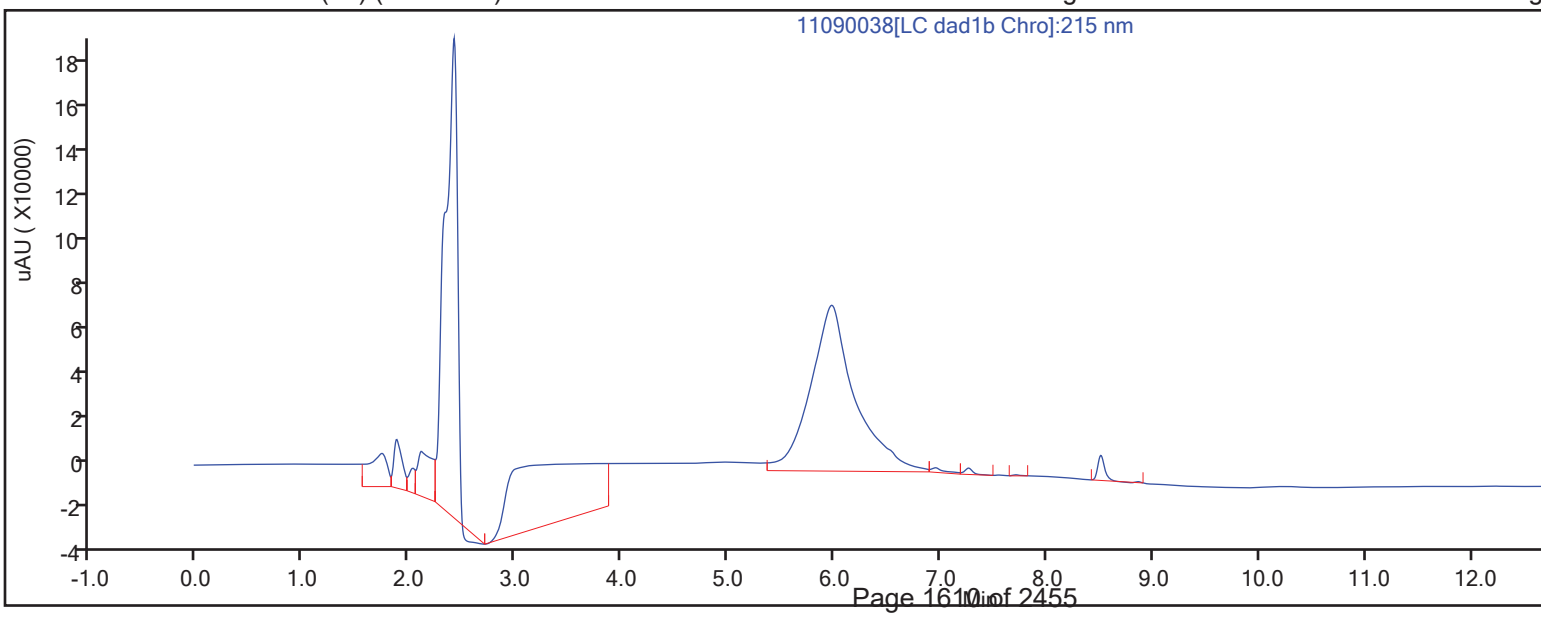
Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090038.d

Injection Date:	10-Nov-2022 01:58:38	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-6-A	Lab Sample ID:	280-168718-6	Worklist Smp#:
Client ID:	RB-11012201			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090038.D
Lims ID: 280-168718-B-6-A
Client ID: RB-11012201
Sample Type: Client
Inject. Date: 10-Nov-2022 01:58:38 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-6-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:37 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 10-Nov-2022 12:01:20

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2000	0.2020	101.02

Manual Integration/User Assign Peak Report

Eurofins Denver

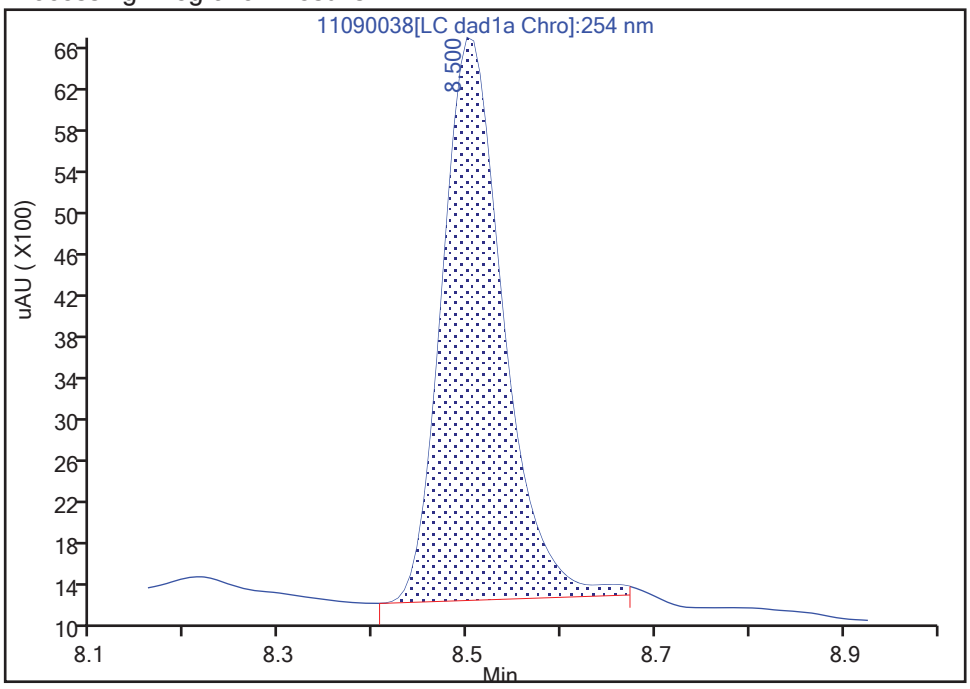
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090038.d				
Injection Date:	10-Nov-2022 01:58:38	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-6-A	Lab Sample ID:	280-168718-6		
Client ID:	RB-11012201				
Operator ID:	JZ	ALS Bottle#:	38	Worklist Smp#:	38
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

$ 10 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

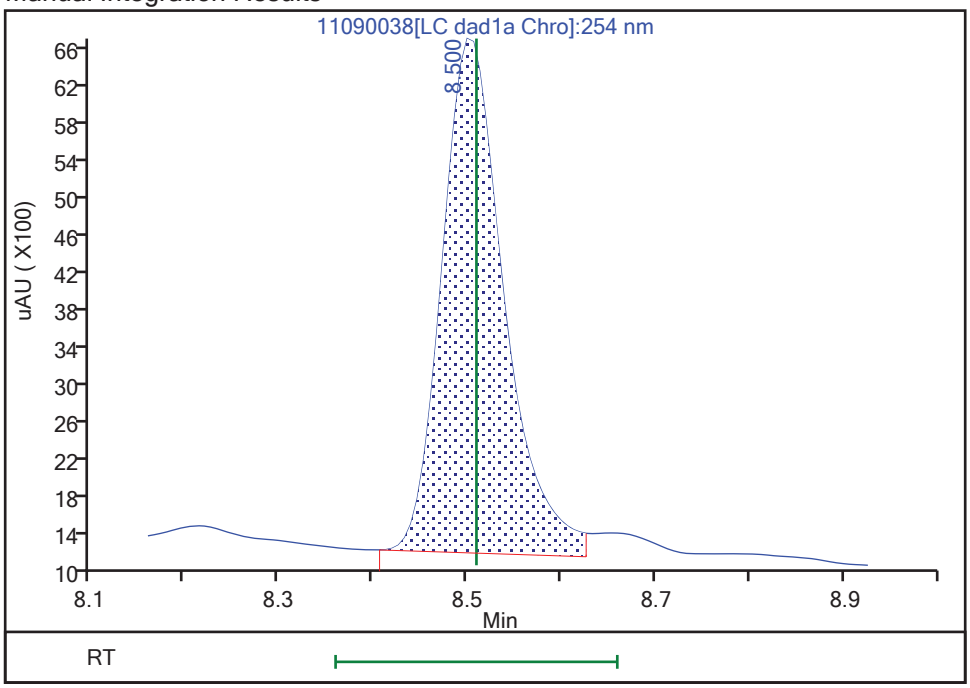
Processing Integration Results

RT: 8.50
Area: 24785
Amount: 0.196951
Amount Units: ug/mL



Manual Integration Results

RT: 8.50
Area: 25426
Amount: 0.202044
Amount Units: ug/mL



Reviewer: LV5D, 10-Nov-2022 12:01:19

Audit Action: Split an Integrated Peak Audit Reason: Baseline

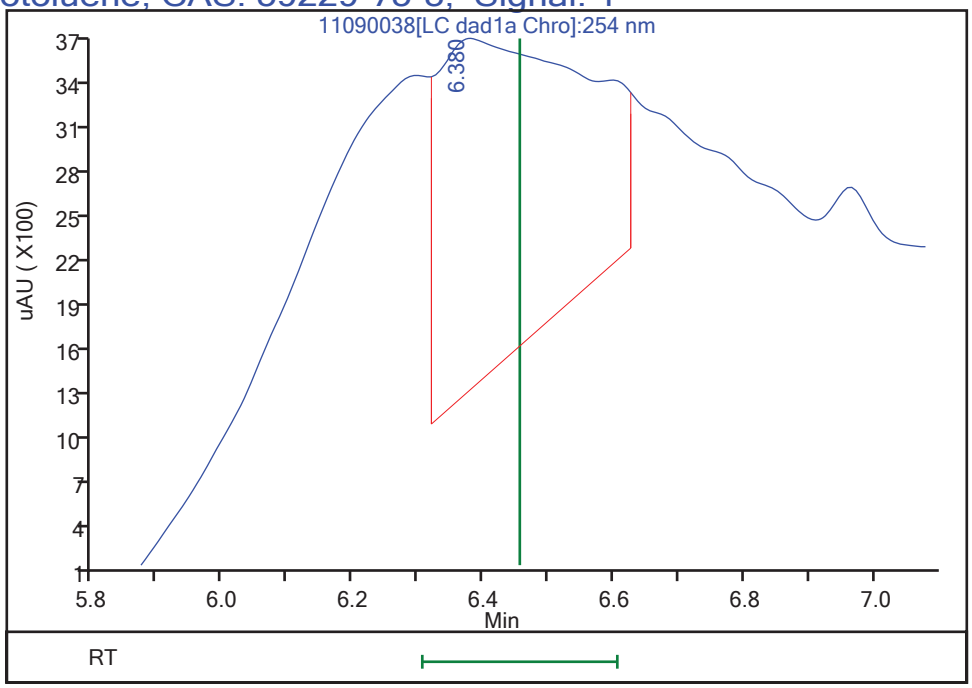
User Disabled Compound Report

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090038.d
Injection Date: 10-Nov-2022 01:58:38 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-6-A Lab Sample ID: 280-168718-6
Client ID: RB-11012201
Operator ID: JZ ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.38
Response: 32966
Amount: 0.153475



Reviewer: LV5D, 10-Nov-2022 12:01:20
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 | Lab Sample ID: 280-168718-7

Matrix: Solid | Lab File ID: 11100045.D

Analysis Method: 8330B | Date Collected: 11/02/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3204(g) | Date Analyzed: 11/11/2022 03:39

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	97	39	13
118-96-7	2,4,6-Trinitrotoluene	510		97	68	30
618-87-1	3,5-Dinitroaniline	87	J	97	19	8.7
121-14-2	2,4-Dinitrotoluene	110		97	39	14
606-20-2	2,6-Dinitrotoluene	39	U	97	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	180		97	68	32
88-72-2	2-Nitrotoluene	97	U	190	97	46
99-08-1	3-Nitrotoluene	150	U	190	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	190		97	68	29
99-99-0	4-Nitrotoluene	97	U	190	97	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	68	U	97	68	22
78-11-5	PETN	970	U	1900	970	480
88-89-1	Picric acid	97	U	97	97	55
121-82-4	RDX	97	U	190	97	42
479-45-8	Tetryl	97	U	190	97	43
6629-29-4	2,4-diamino-6-nitrotoluene	970	U	1900	970	500
59229-75-3	2,6-diamino-4-nitrotoluene	970	U M	1900	970	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	117		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100045.D
Lims ID: 280-168718-A-7-B
Client ID: X3-SS-C05-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 03:39:40 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-7-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:14:00

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1		7.558			ND	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.493	8.505	-0.012	36673	0.2914	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.227	9.244	-0.018	8206	0.0282	
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1	9.813	9.832	-0.019	4772	0.0225	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1	10.833	10.851	-0.018	27919	0.1324	
	18 4-Amino-2,6-dinitrotoluene	1	11.000	11.024	-0.024	7169	0.0495	
	19 2-Amino-4,6-dinitrotoluene	1	11.253	11.271	-0.018	9156	0.0469	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1	11.600	11.624	-0.024	8379	0.0289	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

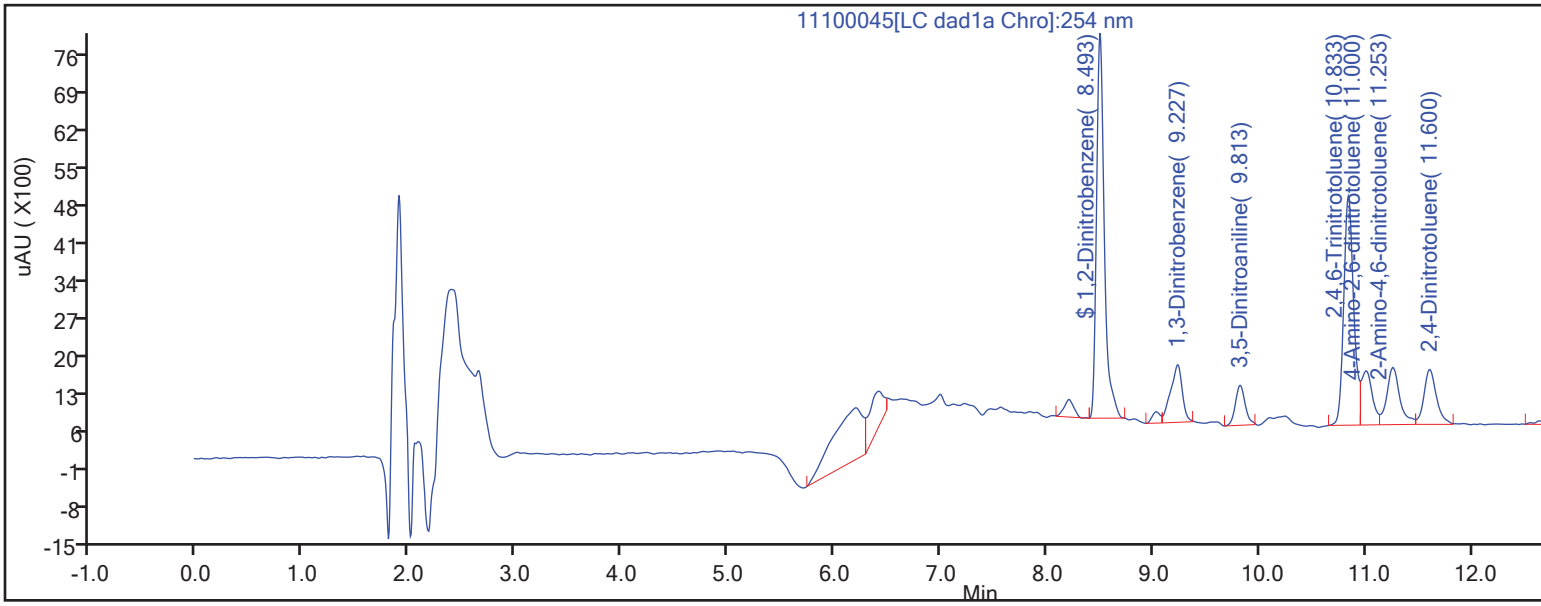
Processing Flags
Review Flags
U - Marked Undetected

Report Date: 11-Nov-2022 12:25:48 Chrom Revision: 2.3 08-Nov-2022 12:31:00

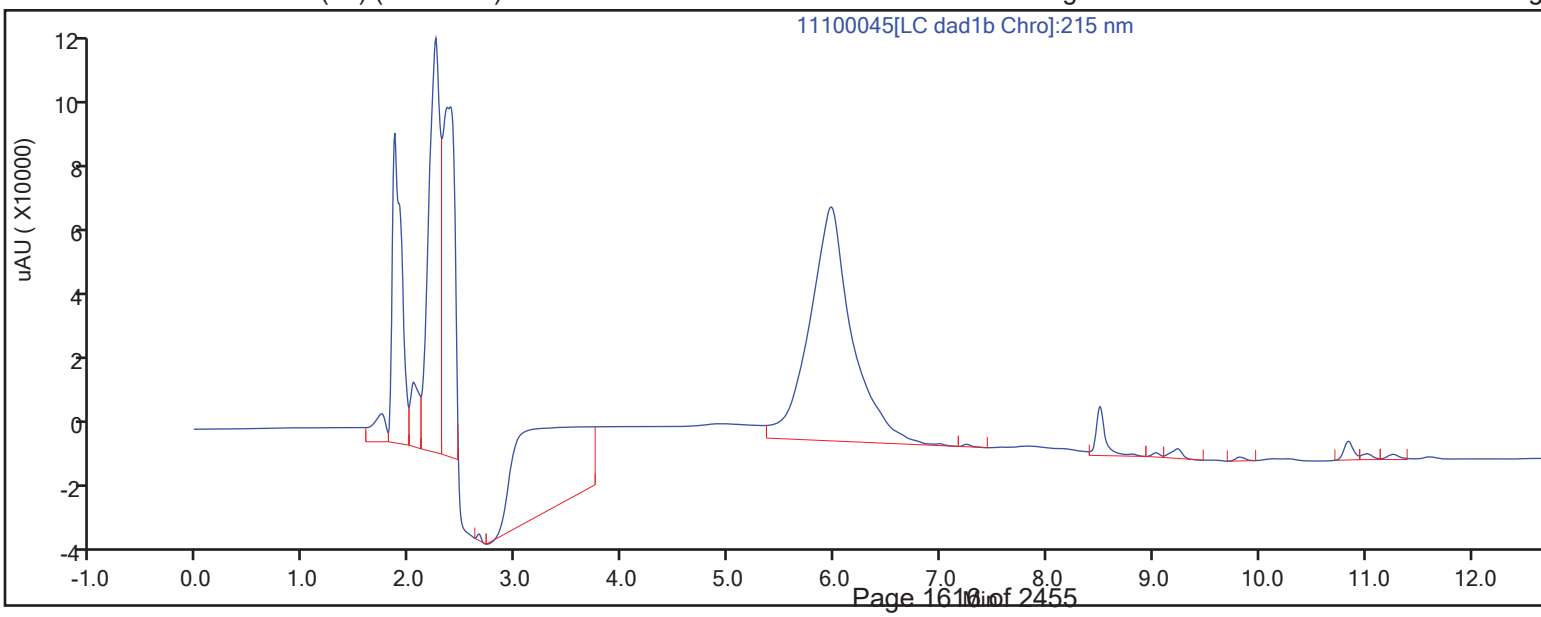
Eurofins Denver

Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100045.d			
Injection Date:	11-Nov-2022 03:39:40	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-7-B	Lab Sample ID:	280-168718-7	Worklist Smp#:
Client ID:	X3-SS-C05-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100045.D
Lims ID: 280-168718-A-7-B
Client ID: X3-SS-C05-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 03:39:40 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-7-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:14:00

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2914	116.57

User Disabled Compound Report

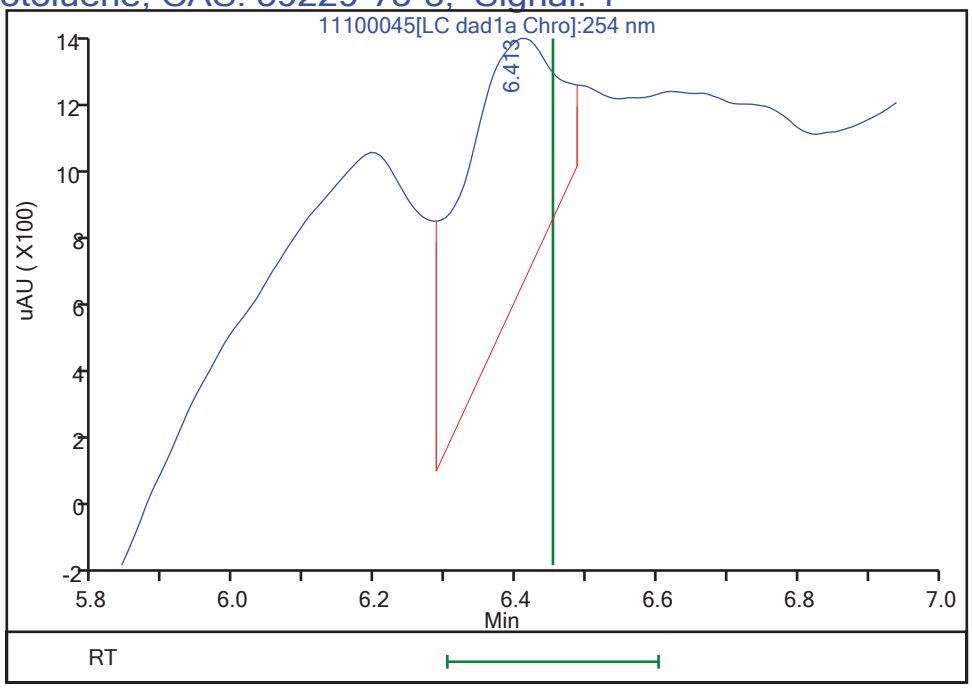
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100045.d
Injection Date: 11-Nov-2022 03:39:40 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-7-B Lab Sample ID: 280-168718-7
Client ID: X3-SS-C05-0006
Operator ID: JZ ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.41
Response: 6966
Amount: 0.032431



Reviewer: LV5D, 11-Nov-2022 12:16:06
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 | Lab Sample ID: 280-168718-7

Matrix: Solid | Lab File ID: 11110016.D

Analysis Method: 8330B | Date Collected: 11/02/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3204(g) | Date Analyzed: 11/11/2022 19:56

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	105		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110016.D
Lims ID: 280-168718-A-7-B
Client ID: X3-SS-C05-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 19:56:01 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-7-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 20:39:49

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	U
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1		6.657			ND	
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1		8.757			ND	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.791	12.837	-0.046	66716	0.2621	
	11 3,5-Dinitroaniline	1	14.784	14.797	-0.013	8368	0.0201	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	
	14 o-Nitrotoluene	1		16.344			ND	MU
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1	17.224	17.250	-0.026	12082	0.0496	M
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1	18.171	18.230	-0.059	20432	0.0700	M
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1	20.171	20.230	-0.059	14720	0.0274	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1	24.598	24.684	-0.086	62320	0.1645	
	25 PETN	2		25.697			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

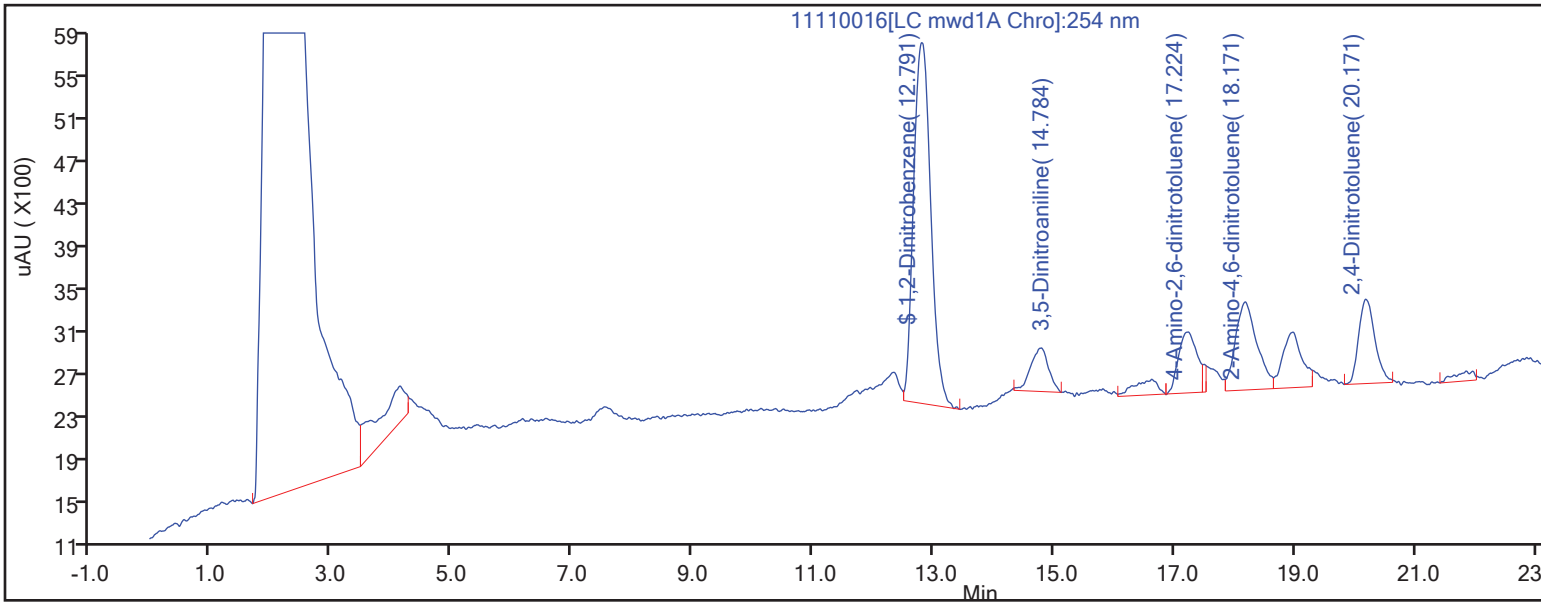
Report Date: 12-Nov-2022 11:05:48 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

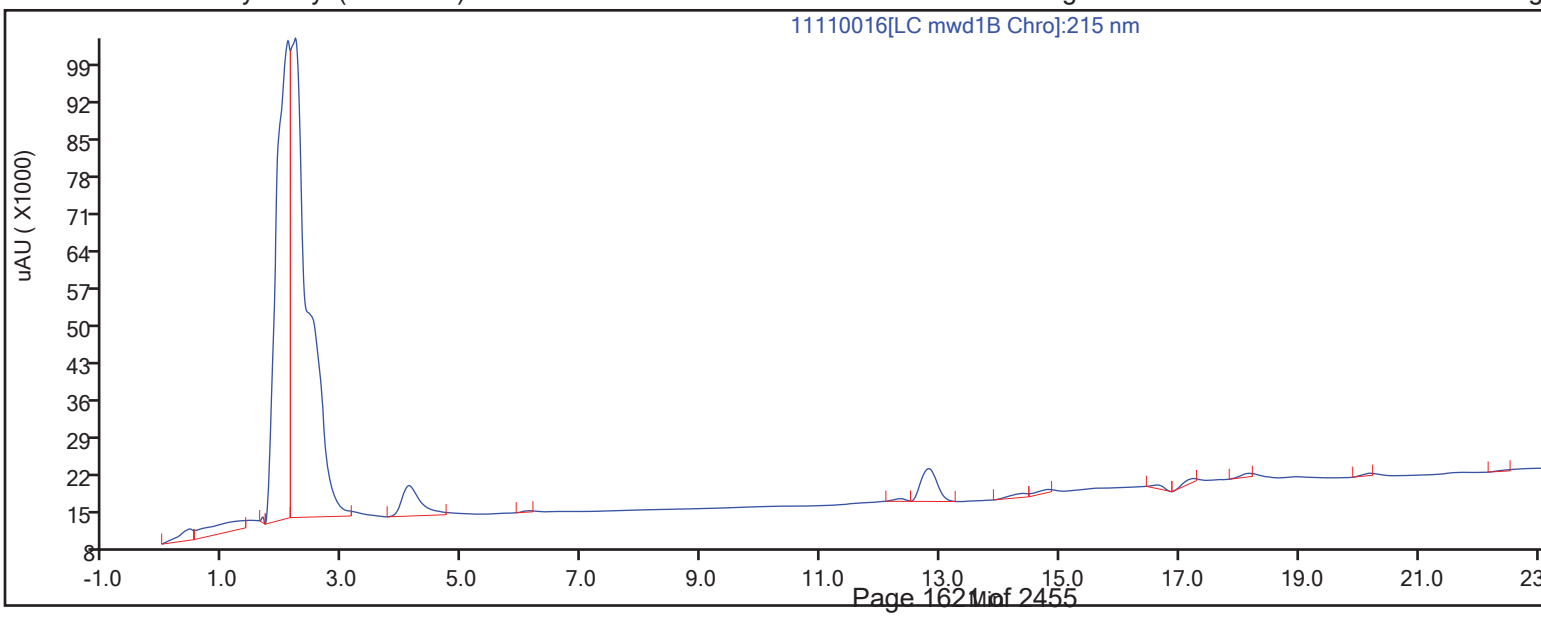
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110016.D

Injection Date:	11-Nov-2022 19:56:01	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-7-B	Lab Sample ID:	280-168718-7	Worklist Smp#:
Client ID:	X3-SS-C05-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110016.D
Lims ID: 280-168718-A-7-B
Client ID: X3-SS-C05-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 19:56:01 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-7-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 20:39:49

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2621	104.86

Manual Integration/User Assign Peak Report

Eurofins Denver

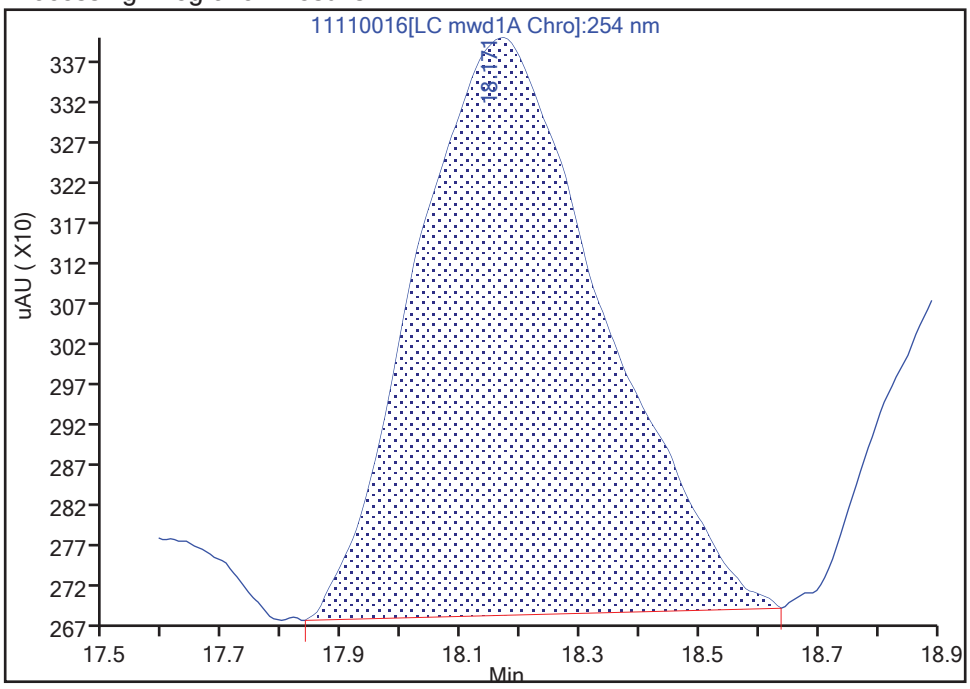
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110016.D				
Injection Date:	11-Nov-2022 19:56:01	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-7-B	Lab Sample ID:	280-168718-7		
Client ID:	X3-SS-C05-0006				
Operator ID:	JZ	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

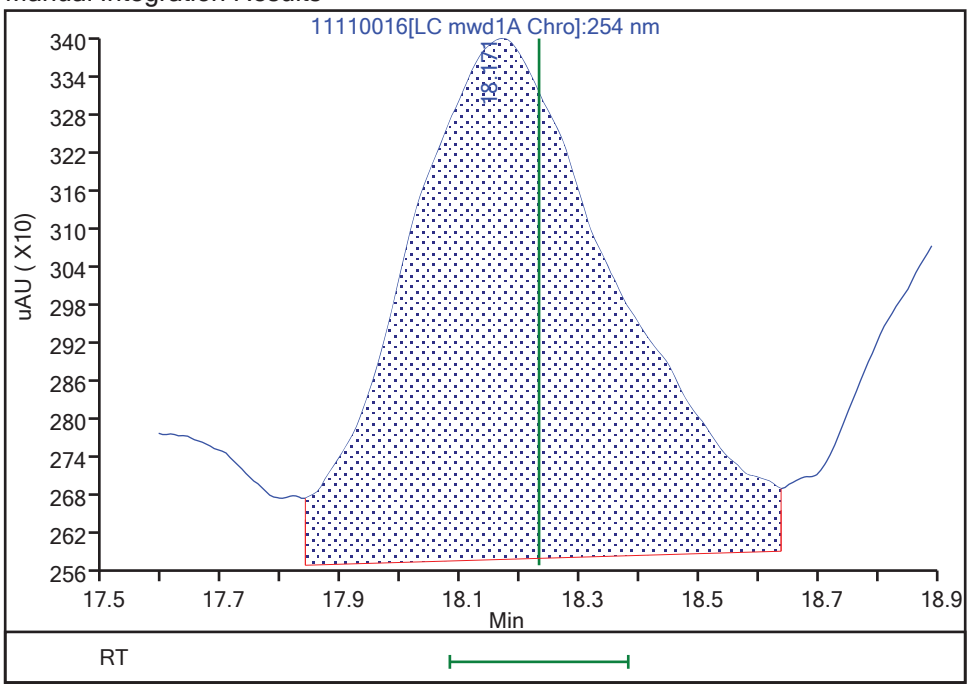
Processing Integration Results

RT: 18.17
Area: 15560
Amount: 0.053327
Amount Units: ug/ml



Manual Integration Results

RT: 18.17
Area: 20432
Amount: 0.070025
Amount Units: ug/ml



Reviewer: LV5D, 11-Nov-2022 20:39:33

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

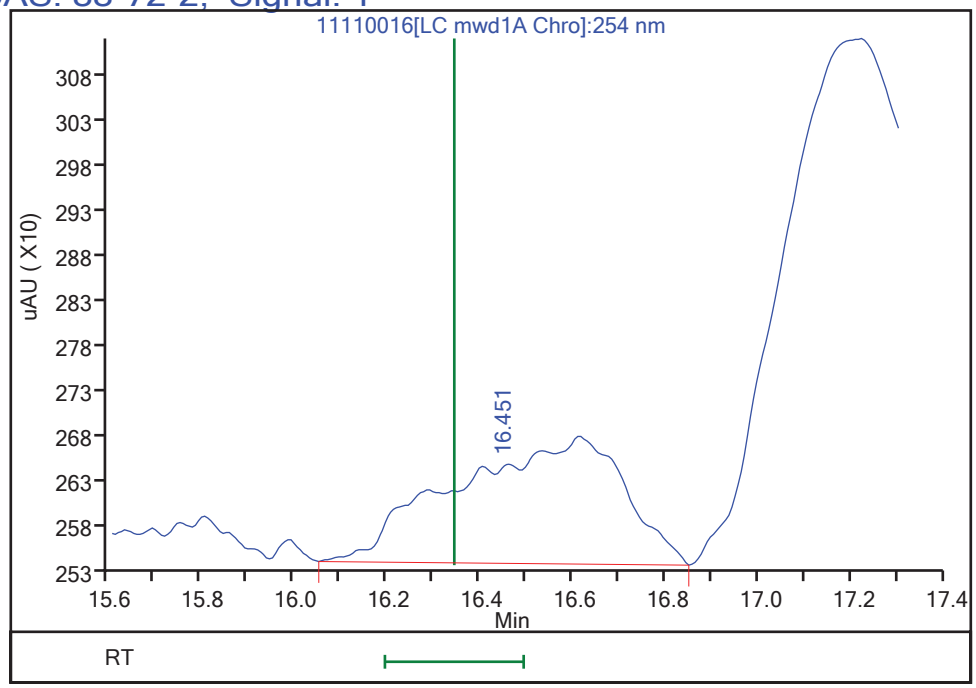
User Disabled Compound Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110016.D
Injection Date: 11-Nov-2022 19:56:01 Instrument ID: CHHPLC_X5
Lims ID: 280-168718-A-7-B Lab Sample ID: 280-168718-7
Client ID: X3-SS-C05-0006
Operator ID: JZ ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

14 o-Nitrotoluene, CAS: 88-72-2, Signal: 1

RT: 16.45
Response: 3520
Amount: 0.016214



Reviewer: LV5D, 11-Nov-2022 20:39:49
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

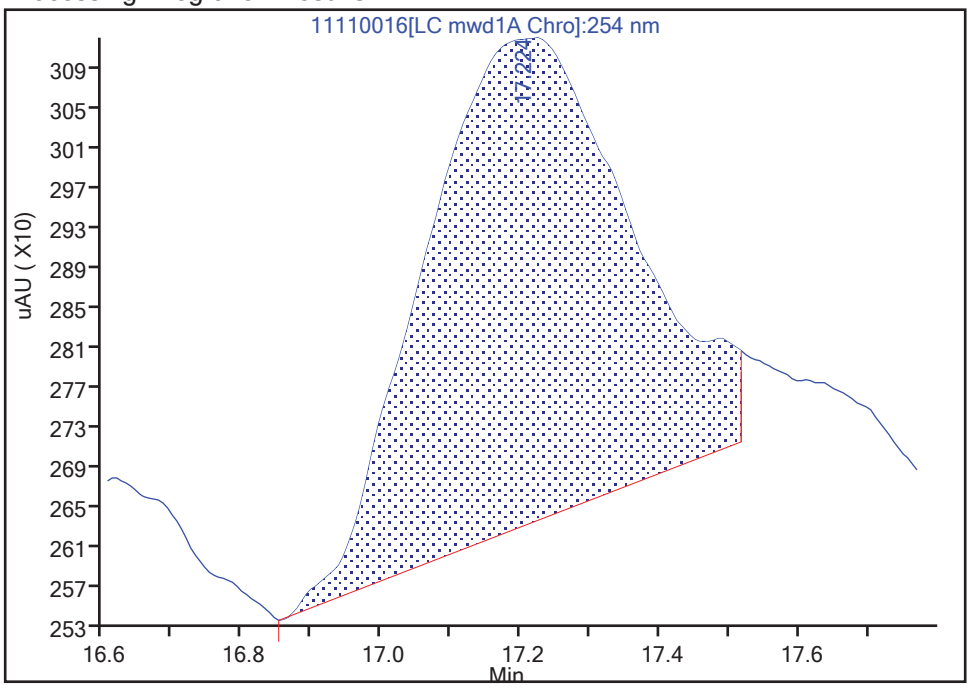
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110016.D				
Injection Date:	11-Nov-2022 19:56:01	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-7-B	Lab Sample ID:	280-168718-7		
Client ID:	X3-SS-C05-0006				
Operator ID:	JZ	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

17 4-Amino-2,6-dinitrotoluene, CAS: 19406-51-0

Signal: 1

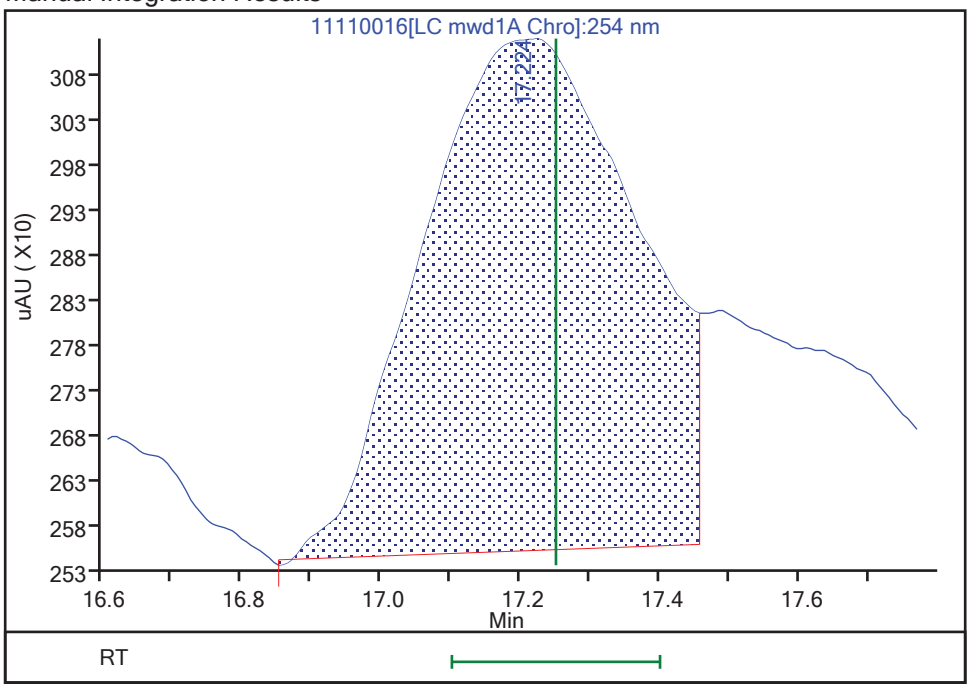
Processing Integration Results

RT: 17.22
Area: 10048
Amount: 0.041262
Amount Units: ug/ml



Manual Integration Results

RT: 17.22
Area: 12082
Amount: 0.049614
Amount Units: ug/ml



Reviewer: LV5D, 11-Nov-2022 20:39:38

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

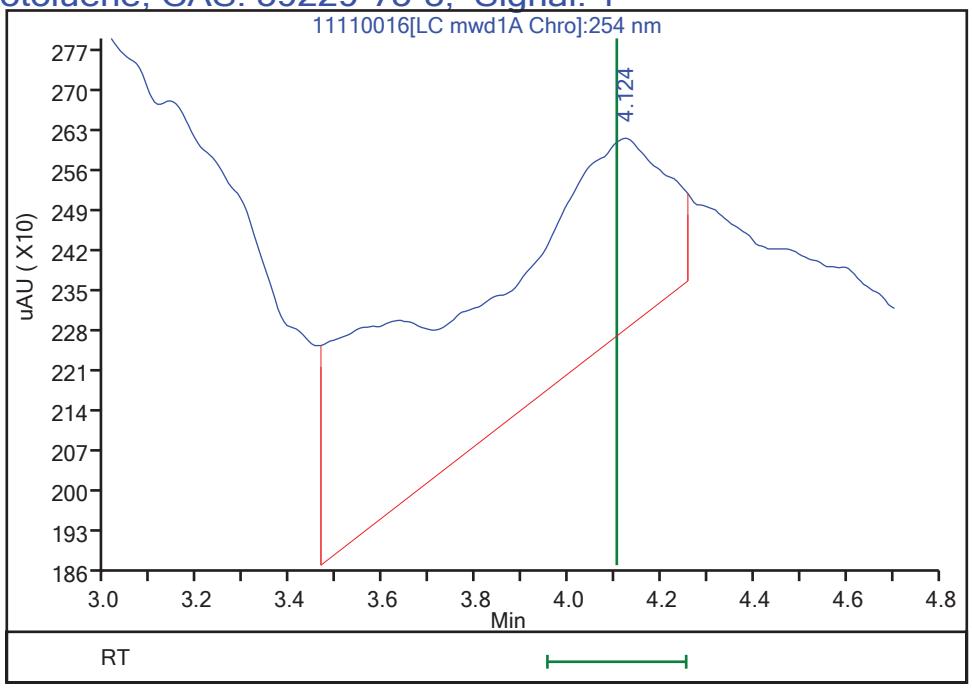
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110016.D				
Injection Date:	11-Nov-2022 19:56:01	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-7-B	Lab Sample ID:	280-168718-7		
Client ID:	X3-SS-C05-0006				
Operator ID:	JZ	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

1 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 4.12
Response: 13607
Amount: 0.033478



Reviewer: LV5D, 11-Nov-2022 20:39:49
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 | Lab Sample ID: 280-168718-8

Matrix: Solid | Lab File ID: 11100046.D

Analysis Method: 8330B | Date Collected: 11/02/2022 05:30

Extraction Method: 8330B | Date Extracted: 11/05/2022 17:19

Sample wt/vol: 10.2709(g) | Date Analyzed: 11/11/2022 04:02

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb9uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 953042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
55-39-4	1,3,9-Trinitrobenzene	35	U	57	35	13
118-56-7	2,4,6-Trinitrotoluene	240		57	68	30
618-87-1	3,9-Dinitroaniline	58		57	15	8.8
121-14-2	2,4-Dinitrotoluene	43	J	57	35	14
606-20-2	2,6-Dinitrotoluene	35	U	57	35	15
39972-78-2	2-Amino-4,6-dinitrotoluene	210		57	68	32
88-72-2	2-Nitrotoluene	57	U	150	57	46
55-08-1	3-Nitrotoluene	190	U	150	190	62
15406-91-0	4-Amino-2,6-dinitrotoluene	200		57	68	25
55-55-0	4-Nitrotoluene	57	U	150	57	36
58-59-3	Nitrobenzene	150	U	250	150	83
99-63-0	Nitroglycerin	680	U	1500	680	210
2651-41-0	HMX	68	U	57	68	22
78-11-9	PETN	570	U	1500	570	480
88-85-1	Picric acid	57	U	57	57	99
121-82-4	RDX	57	U	150	57	42
475-49-8	Tetryl	57	U	150	57	43
6625-25-4	2,4-diamino-6-nitrotoluene	570	U	1500	570	900
95225-79-3	2,6-diamino-4-nitrotoluene	570	U M	1500	570	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
928-25-0	1,2-Dinitrobenzene	107	M	78-115

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100046.D
Lims ID: 280-168718-A-8-B
Client ID: FD-11022201
Sample Type: Client
Inject. Date: 11-Nov-2022 04:02:38 ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-8-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:16:35

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1		7.558			ND	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.496	8.505	-0.009	33751	0.2682	M
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.229	9.244	-0.015	3187	0.0110	
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1	9.816	9.832	-0.016	5399	0.0252	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1	10.836	10.851	-0.015	13120	0.0622	
	18 4-Amino-2,6-dinitrotoluene	1	11.009	11.024	-0.015	7348	0.0507	
	19 2-Amino-4,6-dinitrotoluene	1	11.256	11.271	-0.015	10588	0.0542	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1	11.602	11.624	-0.022	3211	0.0111	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

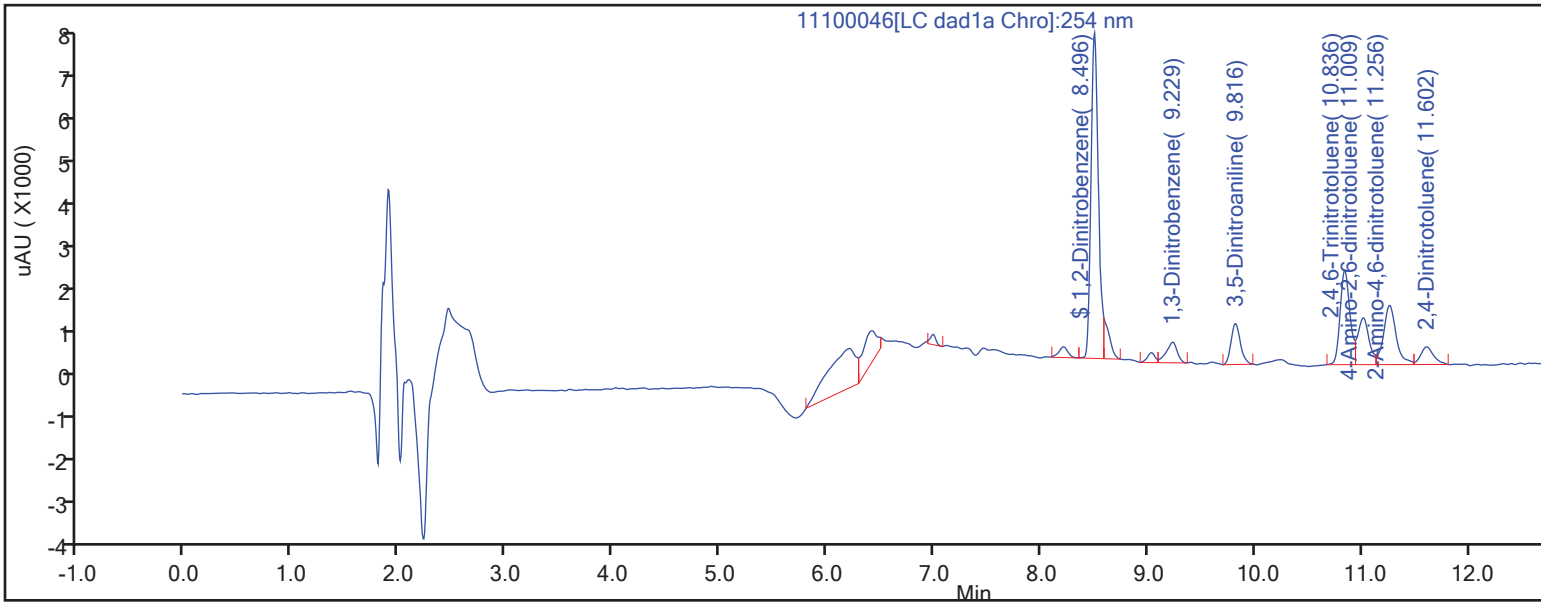
Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 11-Nov-2022 12:25:47 Chrom Revision: 2.3 08-Nov-2022 12:31:00

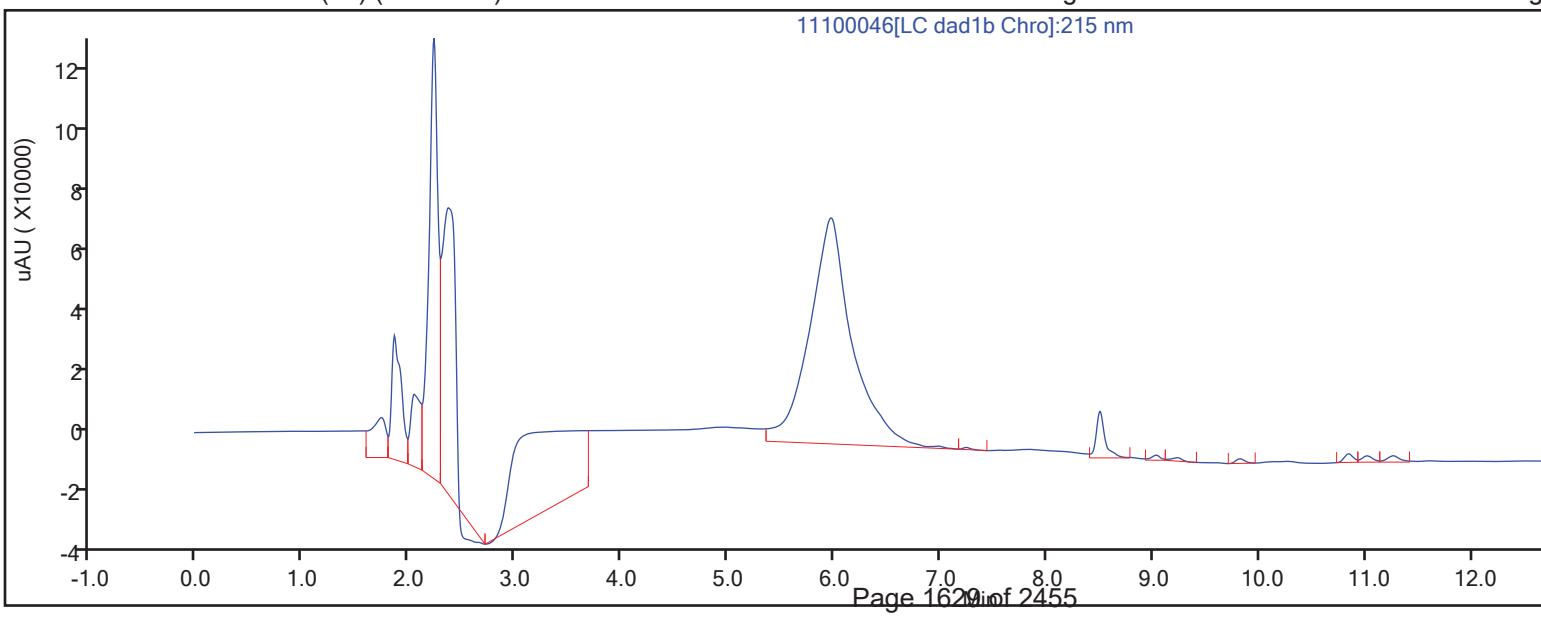
Eurofins Denver

Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100046.d			
Injection Date:	11-Nov-2022 04:02:38	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-8-B	Lab Sample ID:	280-168718-8	Worklist Smp#:
Client ID:	FD-11022201			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100046.D
Lims ID: 280-168718-A-8-B
Client ID: FD-11022201
Sample Type: Client
Inject. Date: 11-Nov-2022 04:02:38 ALS Bottle#: 46 Worklist Smp#: 46
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-8-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:16:35

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2682	107.28

Manual Integration/User Assign Peak Report

Eurofins Denver

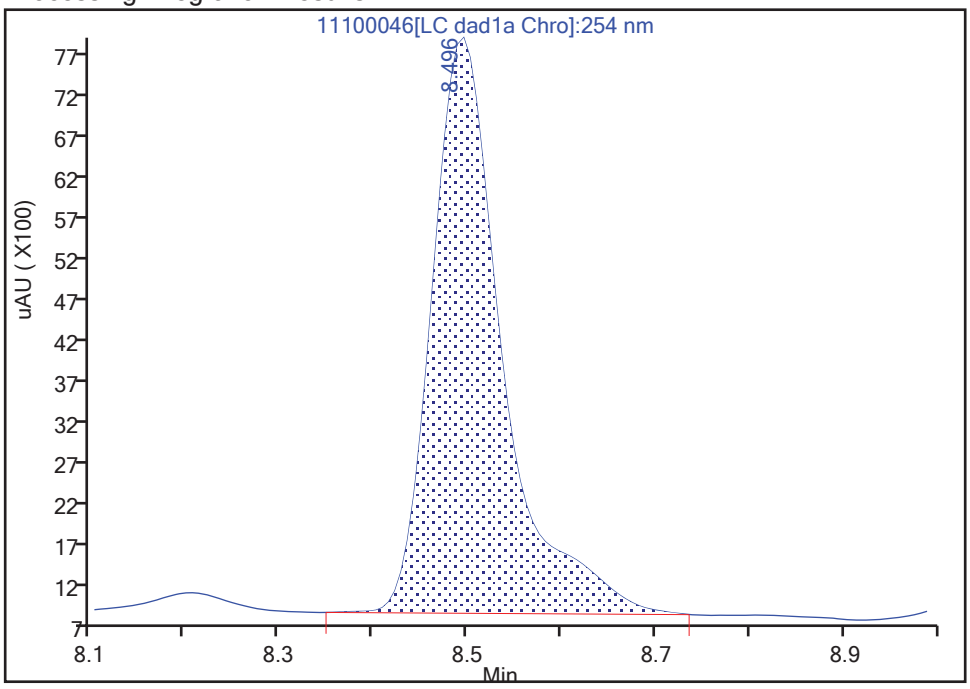
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100046.d				
Injection Date:	11-Nov-2022 04:02:38	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-8-B	Lab Sample ID:	280-168718-8		
Client ID:	FD-11022201				
Operator ID:	JZ	ALS Bottle#:	46	Worklist Smp#:	46
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

$ 10 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

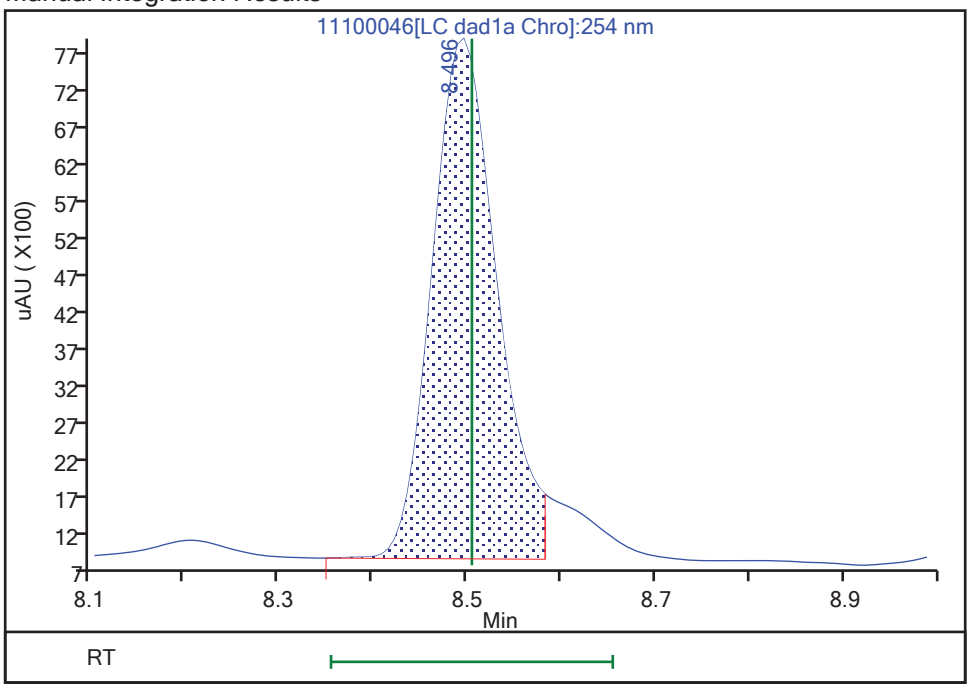
Processing Integration Results

RT: 8.50
Area: 36848
Amount: 0.292808
Amount Units: ug/mL



Manual Integration Results

RT: 8.50
Area: 33751
Amount: 0.268198
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:16:23
Audit Action: Split an Integrated Peak Audit Reason: Baseline

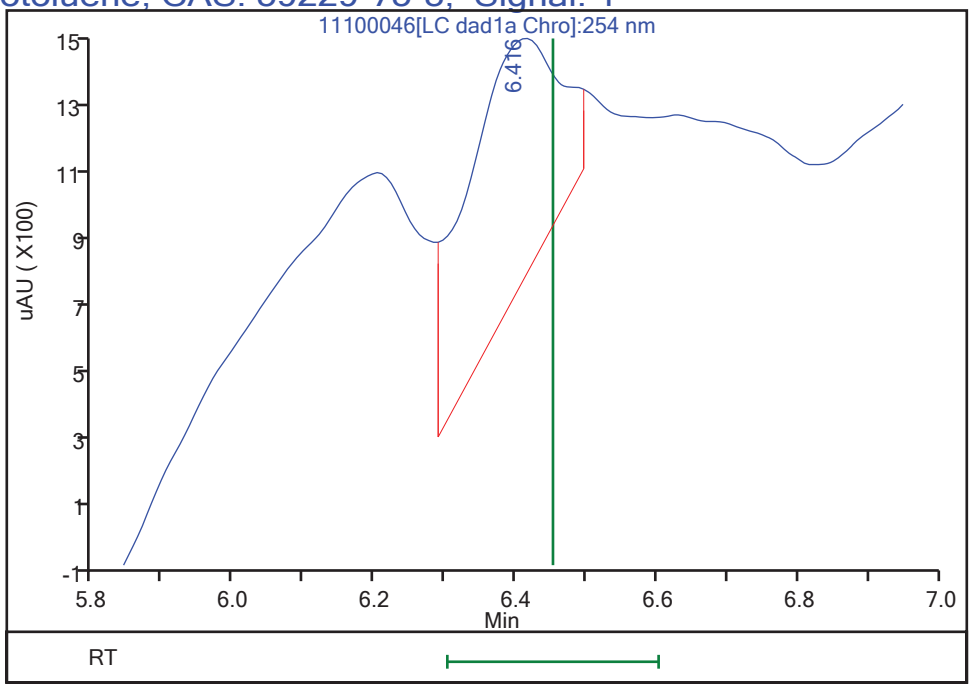
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100046.d				
Injection Date:	11-Nov-2022 04:02:38	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-8-B	Lab Sample ID:	280-168718-8		
Client ID:	FD-11022201				
Operator ID:	JZ	ALS Bottle#:	46	Worklist Smp#:	46
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.42
Response: 6819
Amount: 0.031746



Reviewer: LV5D, 11-Nov-2022 12:16:35
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 | Lab Sample ID: 280-168718-8

Matrix: Solid | Lab File ID: 11110017.D

Analysis Method: 8330B | Date Collected: 11/02/2022 09:30

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2705(g) | Date Analyzed: 11/11/2022 20:30

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110017.D
Lims ID: 280-168718-A-8-B
Client ID: FD-11022201
Sample Type: Client
Inject. Date: 11-Nov-2022 20:30:58 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-8-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:27

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1		6.657			ND	
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1		8.757			ND	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.800	12.837	-0.037	65296	0.2566	
	11 3,5-Dinitroaniline	1	14.773	14.797	-0.024	12500	0.0302	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1	17.193	17.250	-0.057	12941	0.0531	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1	18.146	18.230	-0.084	19956	0.0684	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1	20.186	20.230	-0.044	5160	0.009620	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1	24.646	24.684	-0.038	29308	0.0774	
	25 PETN	2		25.697			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

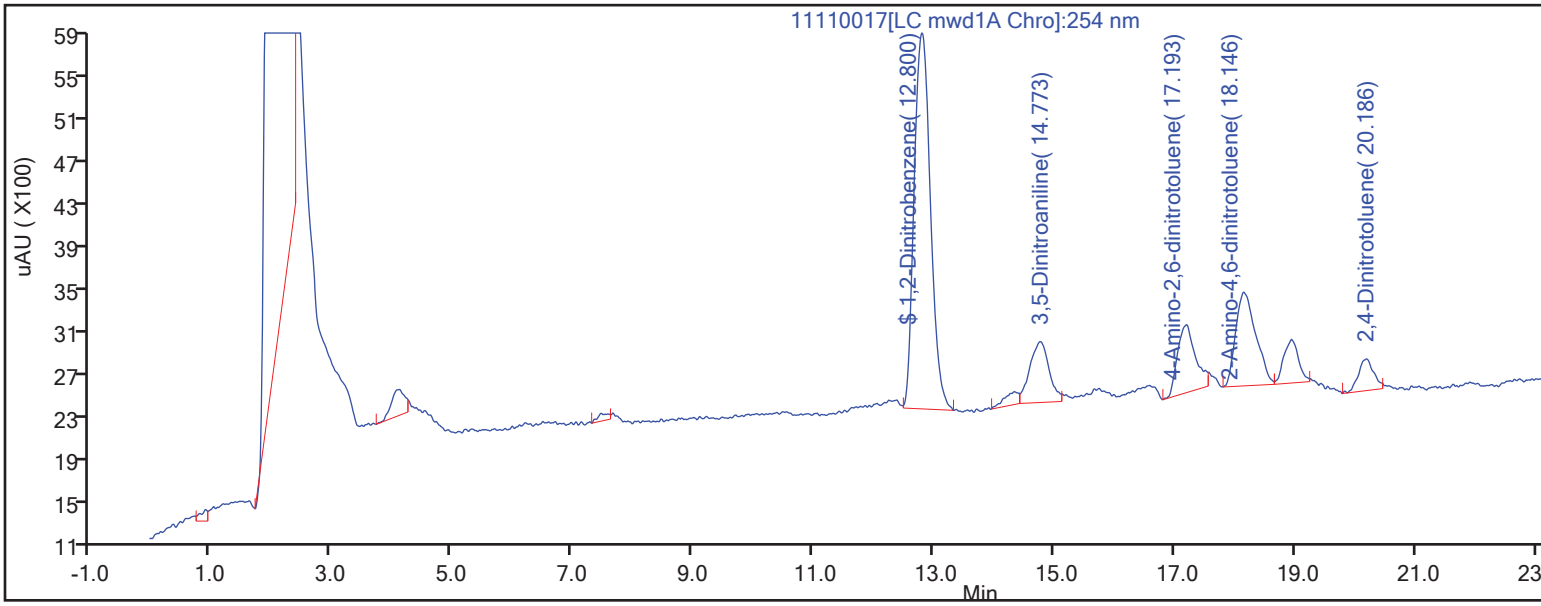
Report Date: 12-Nov-2022 11:05:49 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

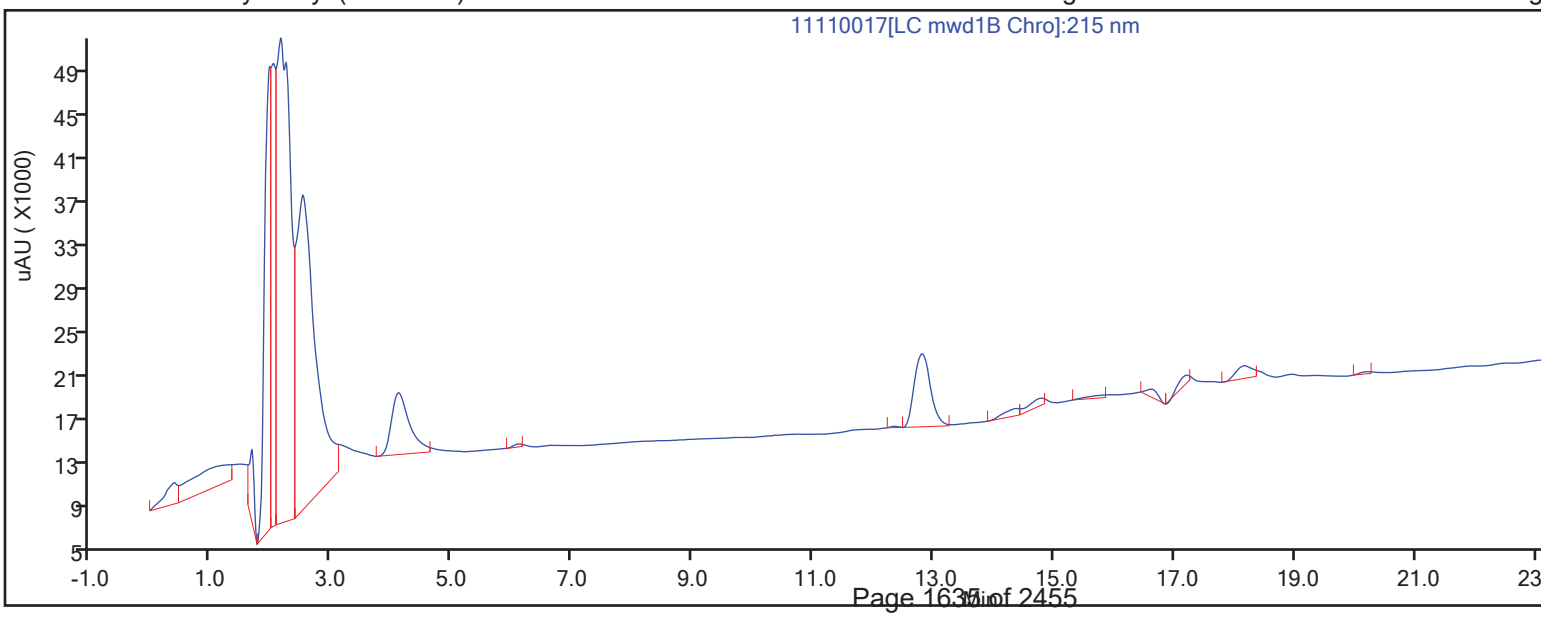
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110017.D

Injection Date:	11-Nov-2022 20:30:58	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-8-B	Lab Sample ID:	280-168718-8	Worklist Smp#:
Client ID:	FD-11022201			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110017.D
Lims ID: 280-168718-A-8-B
Client ID: FD-11022201
Sample Type: Client
Inject. Date: 11-Nov-2022 20:30:58 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-8-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:27

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2566	102.62

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: 11100045.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:19

Extraction Method: 8330B | Date Extracted: 11/05/2022 17:19

Sample wt/vol: 10.1344(g) | Date Analyzed: 11/11/2022 09:11

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb9uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 953042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
55-39-4	1,3,9-Trinitrobenzene	35	U M J1	55	35	14
118-56-7	2,4,6-Trinitrotoluene	65	U	55	65	30
618-87-1	3,9-Dinitroaniline	20	U	55	20	8.5
121-14-2	2,4-Dinitrotoluene	35	U	55	35	19
606-20-2	2,6-Dinitrotoluene	35	U	55	35	15
39972-78-2	2-Amino-4,6-dinitrotoluene	65	U	55	65	32
88-72-2	2-Nitrotoluene	55	U	200	55	47
55-08-1	3-Nitrotoluene	190	U	200	190	63
15406-91-0	4-Amino-2,6-dinitrotoluene	65	U M	55	65	30
55-55-0	4-Nitrotoluene	55	U	200	55	36
58-59-3	Nitrobenzene	200	U	300	200	84
99-63-0	Nitroglycerin	650	U	2000	650	210
2651-41-0	HMX	65	U	55	65	22
78-11-9	PETN	550	U	2000	550	450
88-85-1	Picric acid	55	U J1	55	55	96
121-82-4	RDX	55	U	200	55	42
475-49-8	Tetryl	55	U	200	55	43
6625-25-4	2,4-diamino-6-nitrotoluene	550	U J1	2000	550	910
95225-79-3	2,6-diamino-4-nitrotoluene	550	U M J1	2000	550	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
928-25-0	1,2-Dinitrobenzene	114		78-115

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100049.D
Lims ID: 280-168718-B-9-F
Client ID: X3-SS-CO6-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 05:11:33 ALS Bottle#: 49 Worklist Smp#: 49
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-F
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:17:05

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	1 Triamine Trinitrobenzene	1		2.447			ND	
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	3 TNX	1		6.463			ND	
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	6 DNX	1		6.776			ND	
	7 MNX	1		7.196			ND	
	8 RDX	1		7.558			ND	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.493	8.505	-0.012	35941	0.2856	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	U
	12 1,3-Dinitrobenzene	1	9.226	9.244	-0.018	16879	0.0581	
	13 Nitrobenzene	1		9.638			ND	7
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1		10.851			ND	
	18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	U
	19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1		11.624			ND	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	7
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	
	26 Ammonium Picrate	1		0.000			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Review Flags
U - Marked Undetected

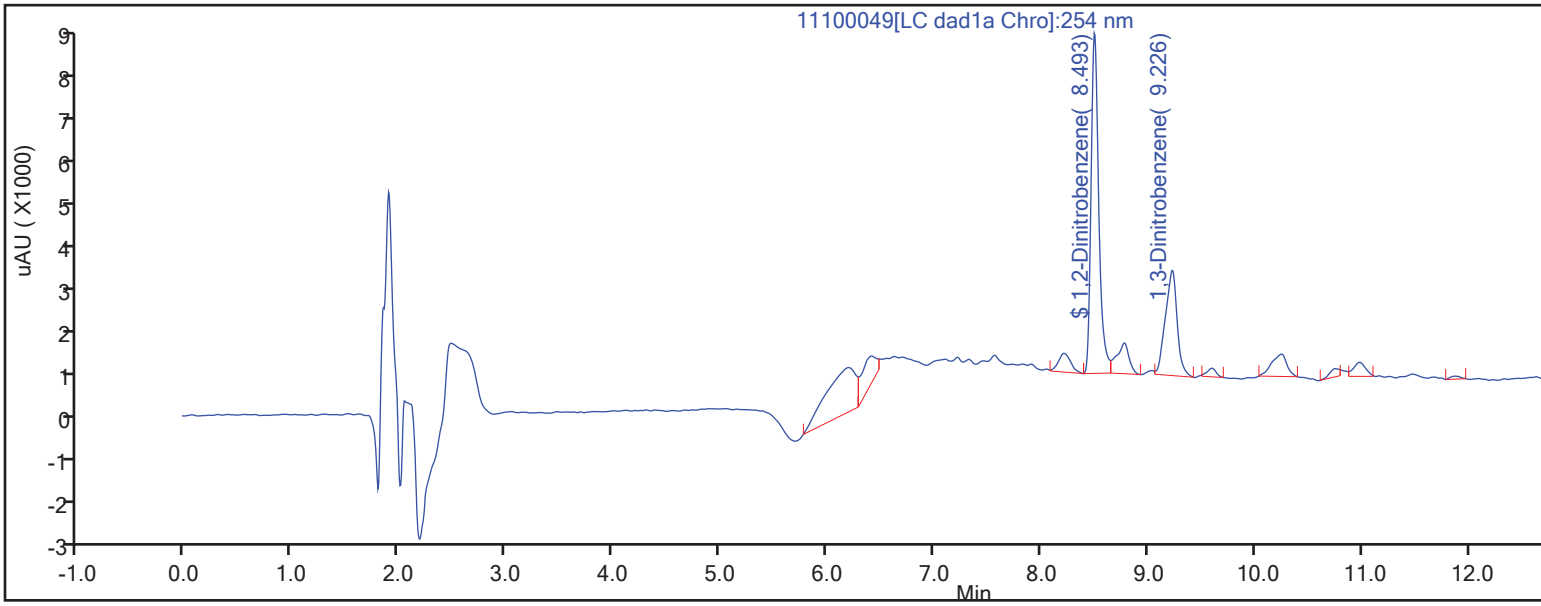
Report Date: 11-Nov-2022 12:25:45 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

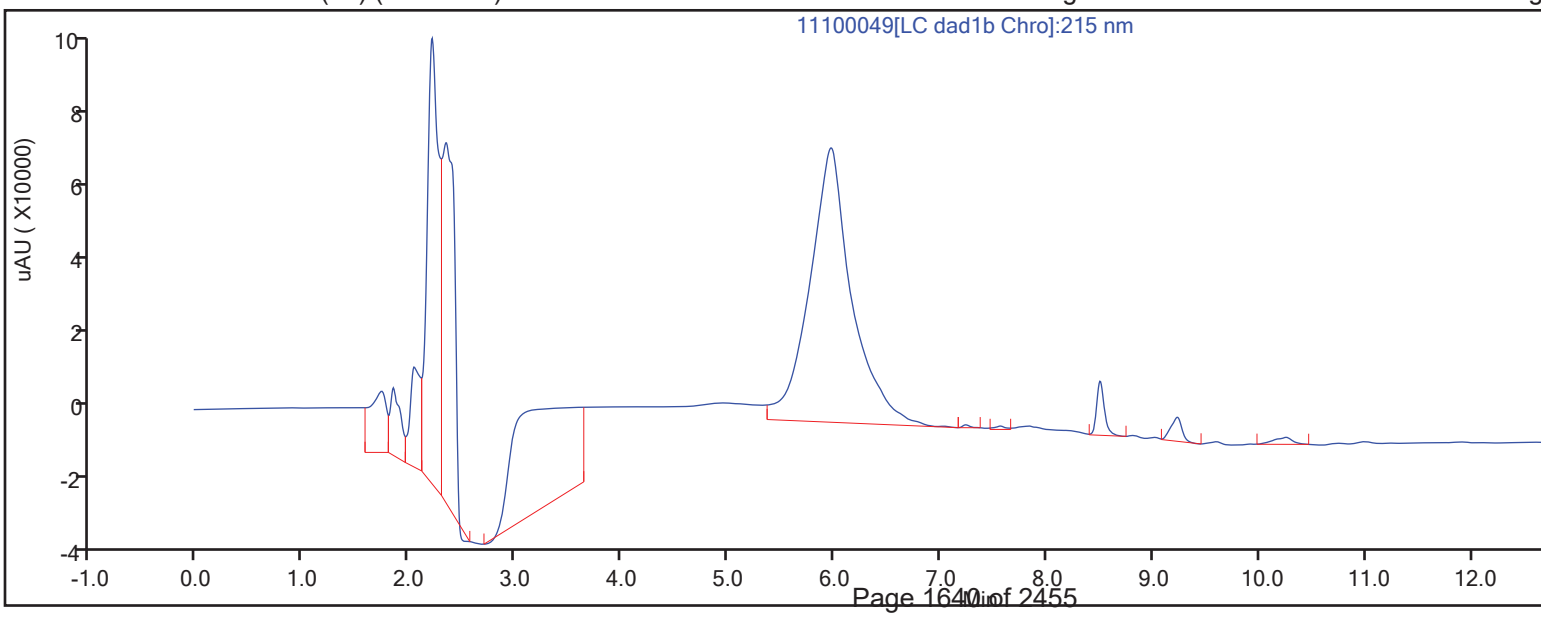
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100049.d

Injection Date:	11-Nov-2022 05:11:33	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-9-F	Lab Sample ID:	280-168718-9	Worklist Smp#:
Client ID:	X3-SS-CO6-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100049.D
Lims ID: 280-168718-B-9-F
Client ID: X3-SS-CO6-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 05:11:33 ALS Bottle#: 49 Worklist Smp#: 49
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-F
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:17:05

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2856	114.24

User Disabled Compound Report

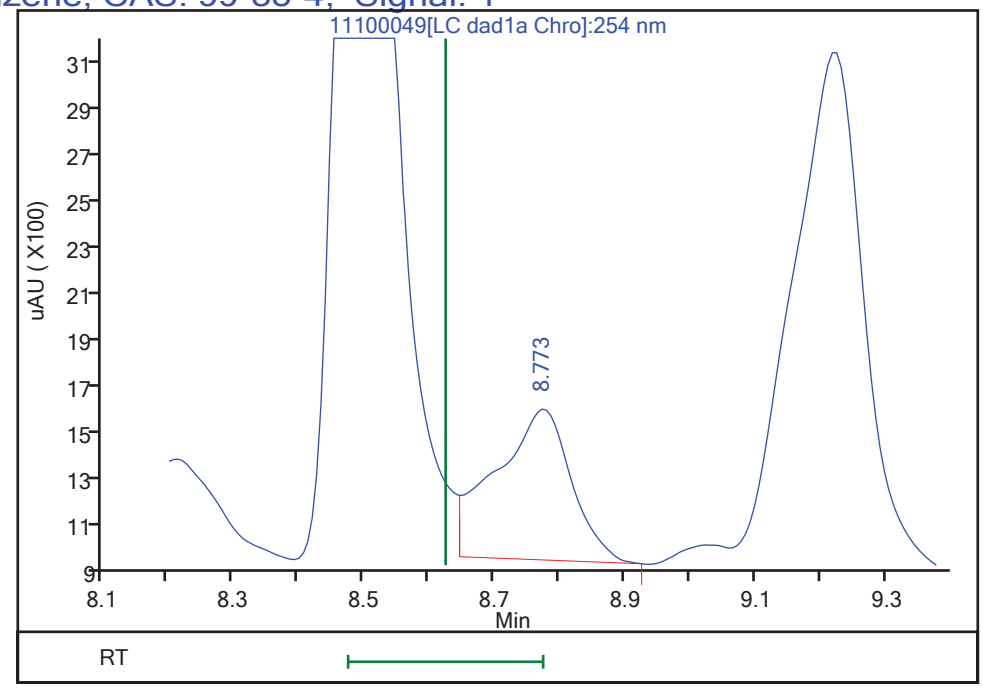
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100049.d
Injection Date: 11-Nov-2022 05:11:33 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-9-F Lab Sample ID: 280-168718-9
Client ID: X3-SS-CO6-0006
Operator ID: JZ ALS Bottle#: 49 Worklist Smp#: 49
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

11 1,3,5-Trinitrobenzene, CAS: 99-35-4, Signal: 1

RT: 8.77
Response: 5198
Amount: 0.024330



Reviewer: LV5D, 11-Nov-2022 12:17:05
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

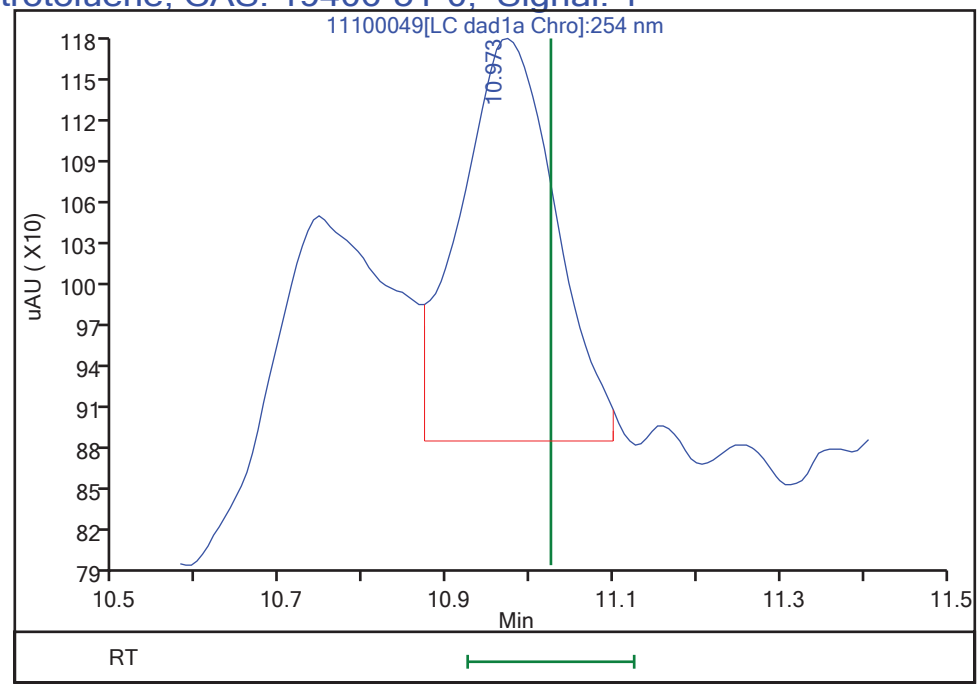
User Disabled Compound Report

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100049.d
Injection Date: 11-Nov-2022 05:11:33 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-9-F Lab Sample ID: 280-168718-9
Client ID: X3-SS-CO6-0006
Operator ID: JZ ALS Bottle#: 49 Worklist Smp#: 49
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

18 4-Amino-2,6-dinitrotoluene, CAS: 19406-51-0, Signal: 1

RT: 10.97
Response: 2343
Amount: 0.016180



Reviewer: LV5D, 11-Nov-2022 12:17:05
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

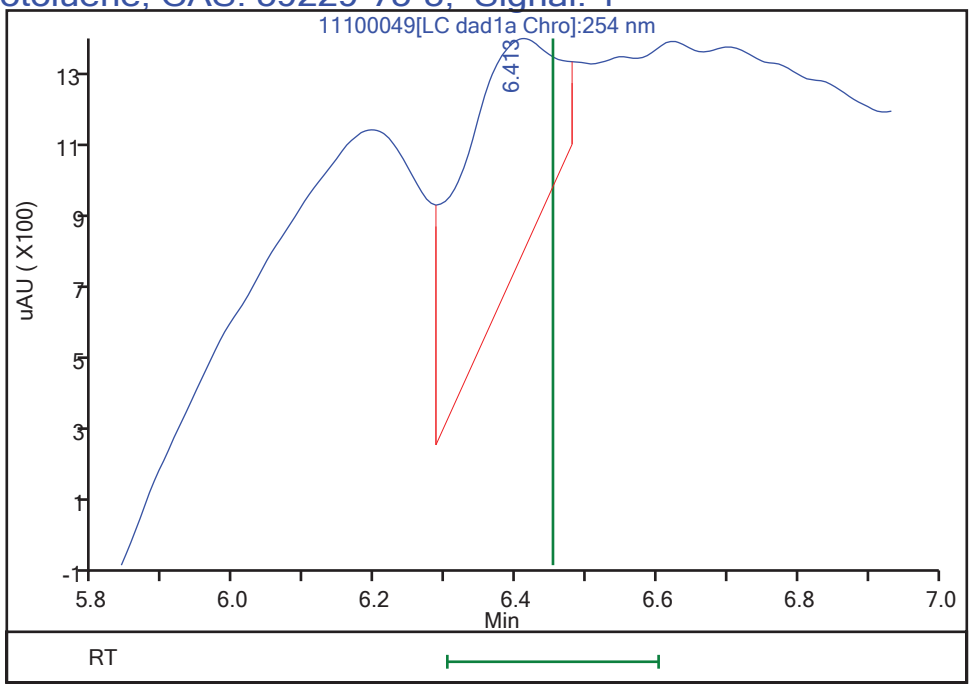
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100049.d				
Injection Date:	11-Nov-2022 05:11:33	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-9-F	Lab Sample ID:	280-168718-9		
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	49	Worklist Smp#:	49
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.41
Response: 6092
Amount: 0.028362



Reviewer: LV5D, 11-Nov-2022 12:17:05
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 | Lab Sample ID: 280-168718-9

Matrix: Solid | Lab File ID: 11110019.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.1344(g) | Date Analyzed: 11/11/2022 21:40

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	99	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	106		78-119

Report Date: 12-Nov-2022 11:05:50 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110019.D
Lims ID: 280-168718-B-9-F
Client ID: X3-SS-CO6-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 21:40:49 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-F
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:47

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1	2,6-diamino-4-nitrotoluene	1		4.104			ND	7
2	2,4-diamino-6-nitrotoluene	1		4.617			ND	
3	TNX	1		5.040			ND	
4	DNX	1		5.853			ND	
5	HMX	1		6.657			ND	
6	MNX	1		7.373			ND	7
7	2,4,6-Trinitrophenol	1		7.904			ND	
8	RDX	1		8.757			ND	
9	Nitrobenzene	1		11.684			ND	
$ 10	1,2-Dinitrobenzene	1	12.817	12.837	-0.020	67327	0.2645	
11	3,5-Dinitroaniline	1		14.797			ND	
12	1,3-Dinitrobenzene	1		15.177			ND	
13	Nitroglycerin	2		15.497			ND	U
14	o-Nitrotoluene	1		16.344			ND	
16	p-Nitrotoluene	1		16.644			ND	
15	Triamine Trinitrobenzene	1		16.839			ND	
17	4-Amino-2,6-dinitrotoluene	1		17.250			ND	
18	m-Nitrotoluene	1		17.610			ND	
19	2-Amino-4,6-dinitrotoluene	1		18.230			ND	
20	1,3,5-Trinitrobenzene	1		18.437			ND	
21	2,6-Dinitrotoluene	1		19.724			ND	
22	2,4-Dinitrotoluene	1		20.230			ND	
23	Tetryl	1		23.884			ND	
24	2,4,6-Trinitrotoluene	1		24.684			ND	
25	PETN	2		25.697			ND	
26	Ammonium Picrate	1		0.000			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Review Flags
U - Marked Undetected

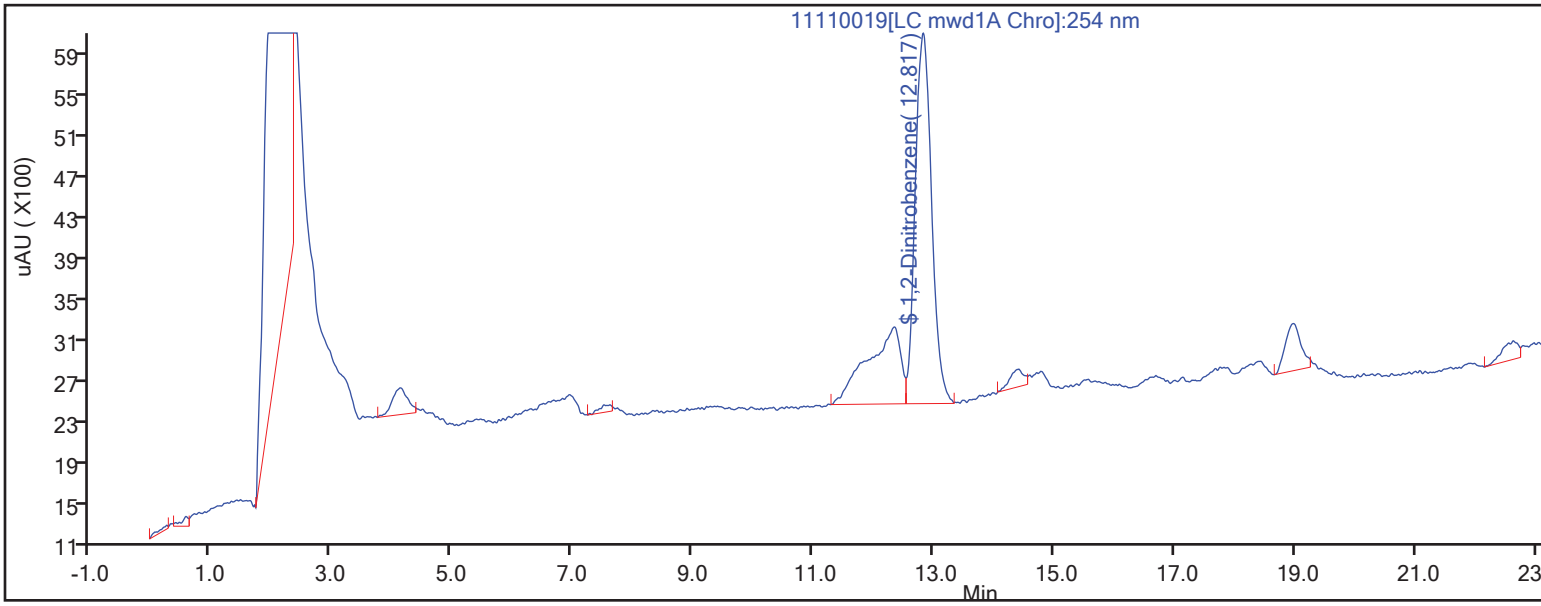
Report Date: 12-Nov-2022 11:05:50 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

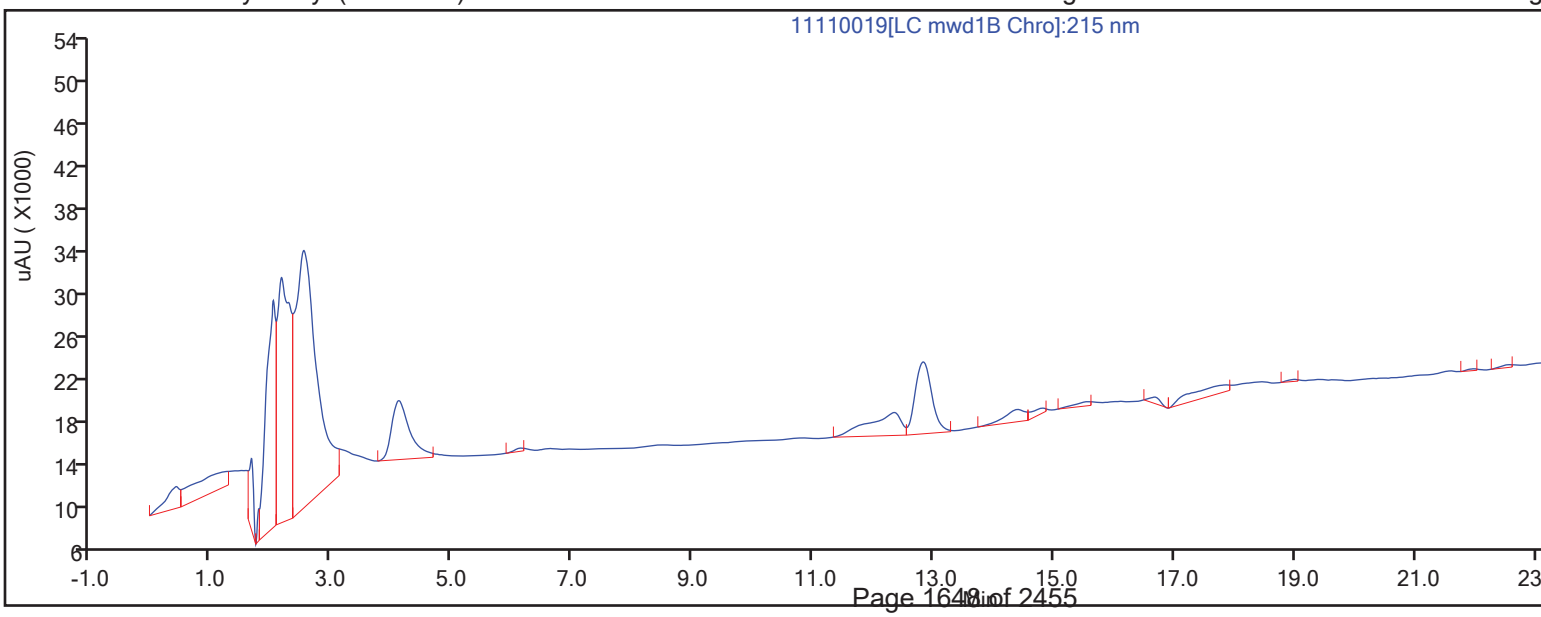
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110019.D

Injection Date:	11-Nov-2022 21:40:49	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-9-F	Lab Sample ID:	280-168718-9	Worklist Smp#:
Client ID:	X3-SS-CO6-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110019.D				
Lims ID:	280-168718-B-9-F				
Client ID:	X3-SS-CO6-0006				
Sample Type:	Client				
Inject. Date:	11-Nov-2022 21:40:49	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-9-F				
Operator ID:	JZ	Instrument ID:	CHHPLC_X5		
Method:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Nov-2022 11:05:49	Calib Date:	19-Aug-2022 00:34:57		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC mwd1A, 254 nm		
Process Host:	CTX1610				

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:47

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2645	105.82

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-SS-C01-0006 | Lab Sample ID: 280-168718-10

Matrix: Solid | Lab File ID: 11100056.D

Analysis Method: 8330B | Date Collected: 11/02/2022 11:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2551(g) | Date Analyzed: 11/11/2022 07:52

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	98	39	13
99-65-0	1,3-Dinitrobenzene	39	U	98	39	16
118-96-7	2,4,6-Trinitrotoluene	68	U	98	68	30
618-87-1	3,5-Dinitroaniline	20	U	98	20	8.8
121-14-2	2,4-Dinitrotoluene	39	U	98	39	14
606-20-2	2,6-Dinitrotoluene	39	U	98	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	98	68	32
88-72-2	2-Nitrotoluene	98	U	200	98	46
99-08-1	3-Nitrotoluene	150	U	200	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	98	68	29
99-99-0	4-Nitrotoluene	98	U	200	98	36
98-95-3	Nitrobenzene	200	U	290	200	83
55-63-0	Nitroglycerin	680	U	2000	680	210
2691-41-0	HMX	68	U	98	68	22
78-11-5	PETN	980	U	2000	980	480
88-89-1	Picric acid	98	U M	98	98	55
121-82-4	RDX	98	U	200	98	42
479-45-8	Tetryl	98	U	200	98	43
6629-29-4	2,4-diamino-6-nitrotoluene	980	U	2000	980	500
59229-75-3	2,6-diamino-4-nitrotoluene	980	U M	2000	980	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	110		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100056.D
Lims ID: 280-168718-B-10-B
Client ID: X7-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 07:52:39 ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-10-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:33

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
4 HMX	1		6.571			ND	
5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
8 RDX	1		7.558			ND	
9 2,4,6-Trinitrophenol	1		7.878			ND	U
$ 10 1,2-Dinitrobenzene	1	8.488	8.505	-0.017	34710	0.2758	
11 1,3,5-Trinitrobenzene	1		8.625			ND	
12 1,3-Dinitrobenzene	1		9.244			ND	
13 Nitrobenzene	1		9.638			ND	
14 3,5-Dinitroaniline	1		9.832			ND	
15 Tetryl	1		9.944			ND	
16 Nitroglycerin	2		10.404			ND	
17 2,4,6-Trinitrotoluene	1		10.851			ND	7
18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
20 2,6-Dinitrotoluene	1		11.458			ND	
21 2,4-Dinitrotoluene	1		11.624			ND	
22 o-Nitrotoluene	1		12.478			ND	
23 p-Nitrotoluene	1		12.898			ND	
24 m-Nitrotoluene	1		13.464			ND	
25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

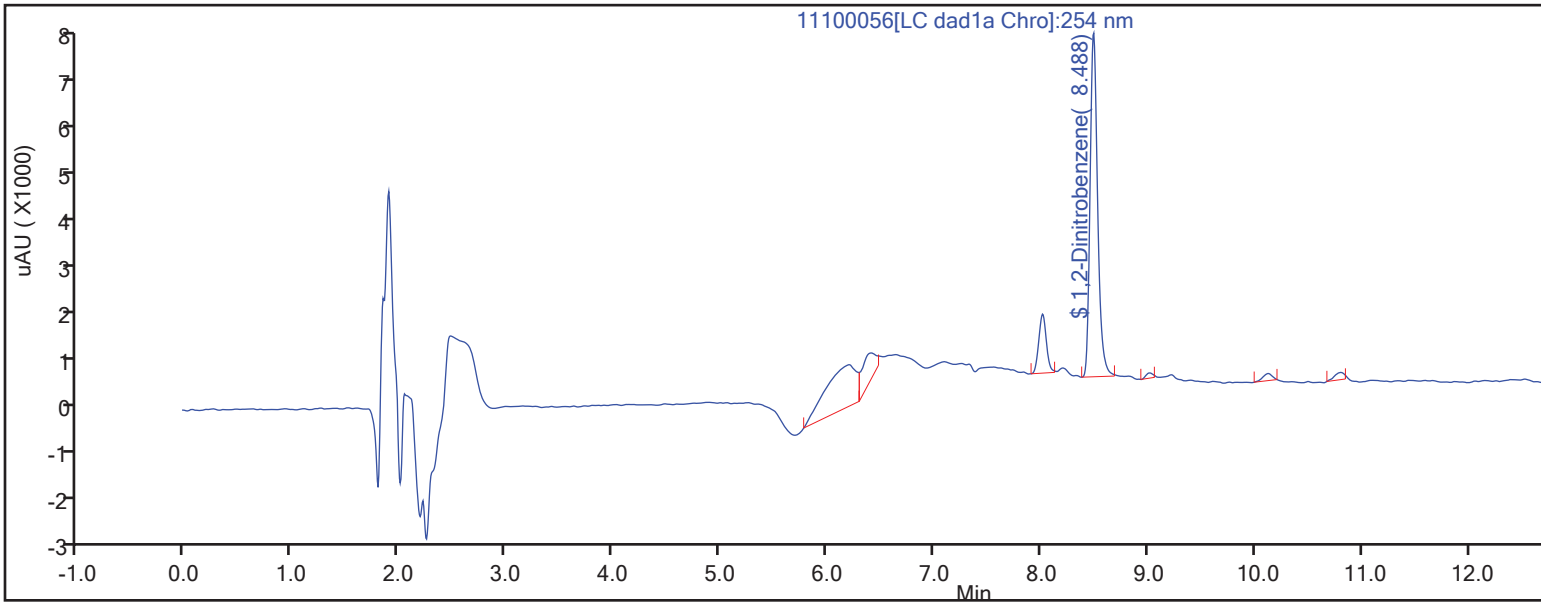
Report Date: 11-Nov-2022 12:25:36 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

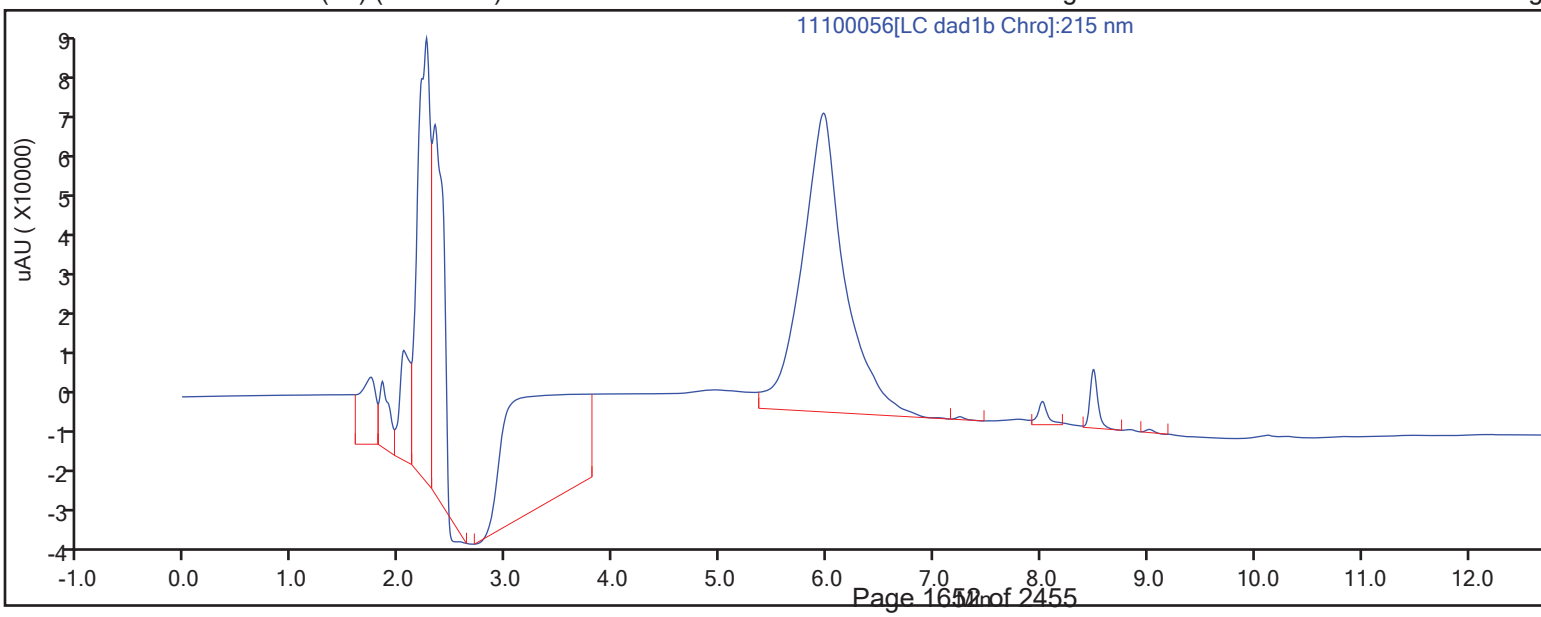
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100056.d

Injection Date:	11-Nov-2022 07:52:39	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-10-B	Lab Sample ID:	280-168718-10	Worklist Smp#:
Client ID:	X7-SS-C01-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100056.D
Lims ID: 280-168718-B-10-B
Client ID: X7-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 07:52:39 ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-10-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:33

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2758	110.33

User Disabled Compound Report

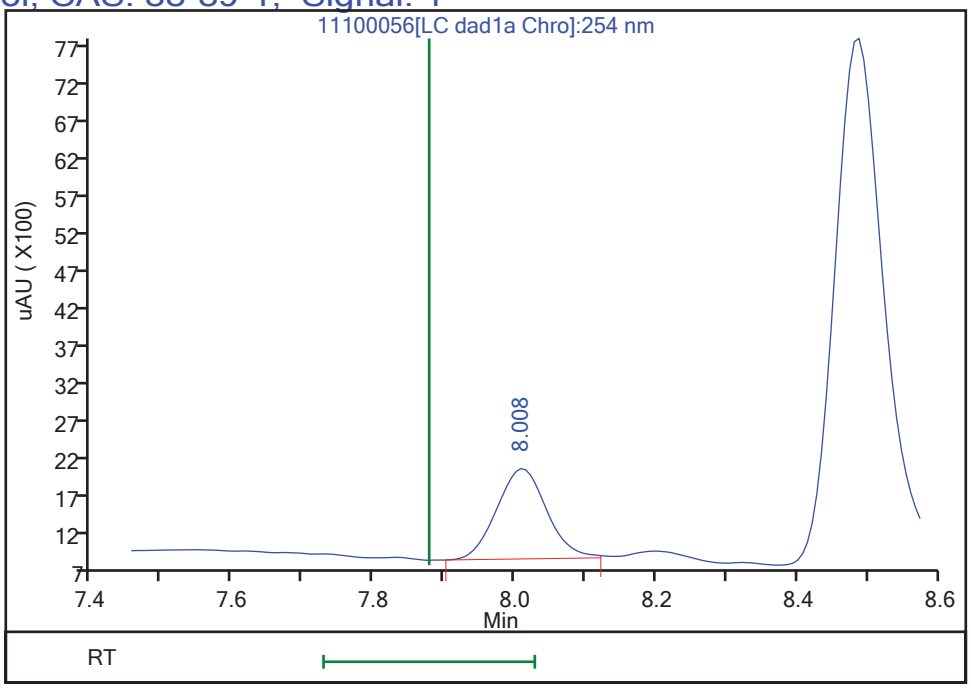
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100056.d
Injection Date: 11-Nov-2022 07:52:39 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-10-B Lab Sample ID: 280-168718-10
Client ID: X7-SS-C01-0006
Operator ID: JZ ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

9 2,4,6-Trinitrophenol, CAS: 88-89-1, Signal: 1

RT: 8.01
Response: 5959
Amount: 0.076919



Reviewer: LV5D, 11-Nov-2022 12:20:33
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

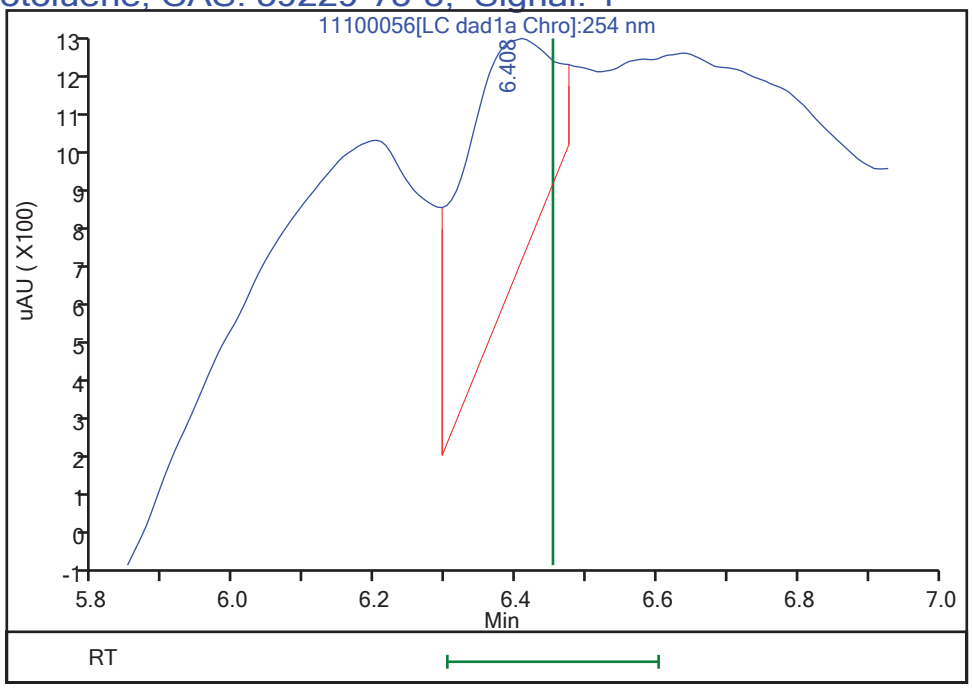
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100056.d
Injection Date: 11-Nov-2022 07:52:39 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-10-B Lab Sample ID: 280-168718-10
Client ID: X7-SS-C01-0006
Operator ID: JZ ALS Bottle#: 56 Worklist Smp#: 56
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.41
Response: 5397
Amount: 0.025126



Reviewer: LV5D, 11-Nov-2022 12:20:33
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7B-SS-C01-0006 | Lab Sample ID: 280-168718-11

Matrix: Solid | Lab File ID: 11100057.D

Analysis Method: 8330B | Date Collected: 11/02/2022 11:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2857(g) | Date Analyzed: 11/11/2022 08:15

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	97	39	13
618-87-1	3,5-Dinitroaniline	19	U	97	19	8.8
121-14-2	2,4-Dinitrotoluene	39	U	97	39	14
606-20-2	2,6-Dinitrotoluene	39	U M	97	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	97	68	32
88-72-2	2-Nitrotoluene	97	U M	190	97	46
99-08-1	3-Nitrotoluene	150	U	190	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	97	68	29
99-99-0	4-Nitrotoluene	97	U	190	97	35
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	68	U	97	68	22
78-11-5	PETN	970	U	1900	970	480
88-89-1	Picric acid	97	U	97	97	55
121-82-4	RDX	97	U	190	97	42
479-45-8	Tetryl	97	U	190	97	43
6629-29-4	2,4-diamino-6-nitrotoluene	970	U	1900	970	500
59229-75-3	2,6-diamino-4-nitrotoluene	970	U M	1900	970	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100057.D
Lims ID: 280-168718-A-11-B
Client ID: X7B-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 08:15:41 ALS Bottle#: 57 Worklist Smp#: 57
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-11-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:21:02

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1		7.558			ND	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.497	8.505	-0.008	35266	0.2802	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.217	9.244	-0.027	3313	0.0114	
	13 Nitrobenzene	1	9.630	9.638	-0.008	2737	0.0142	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1	10.823	10.851	-0.028	1964	0.009312	M
	18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
	20 2,6-Dinitrotoluene	1		11.458			ND	MU
	21 2,4-Dinitrotoluene	1		11.624			ND	
	22 o-Nitrotoluene	1		12.478			ND	U
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

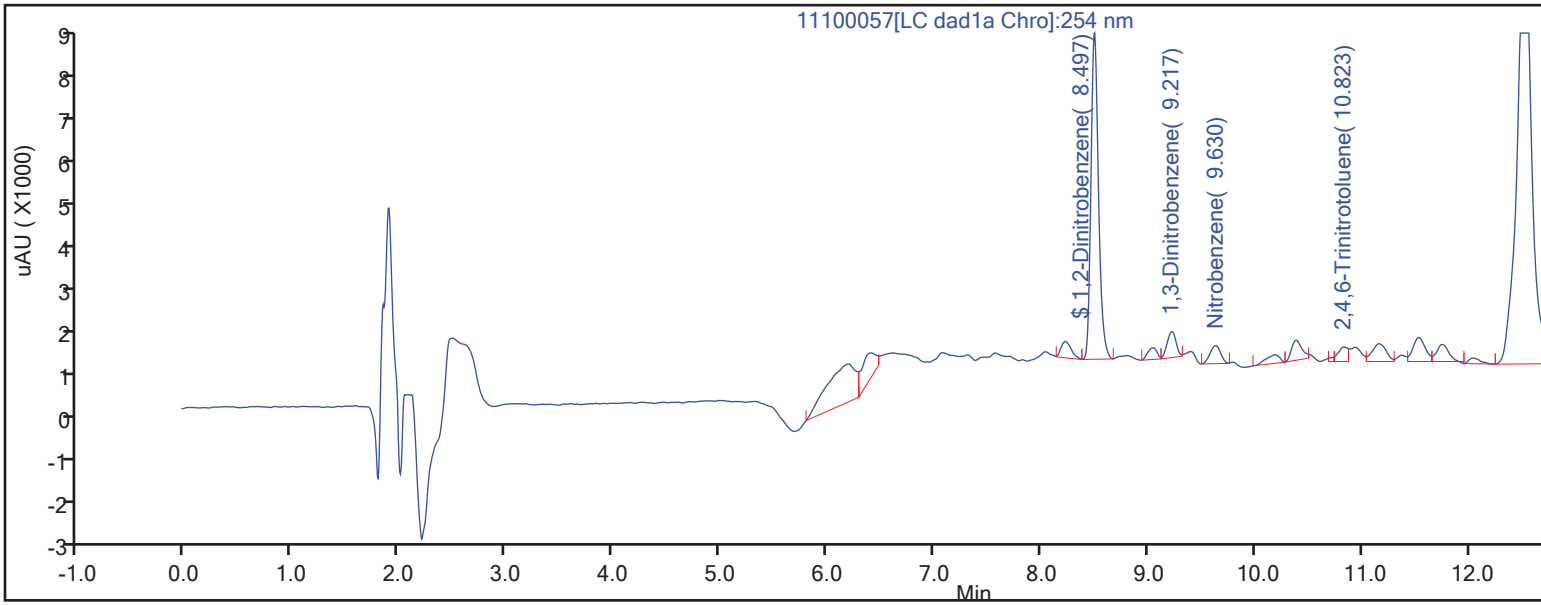
Report Date: 11-Nov-2022 12:25:35 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

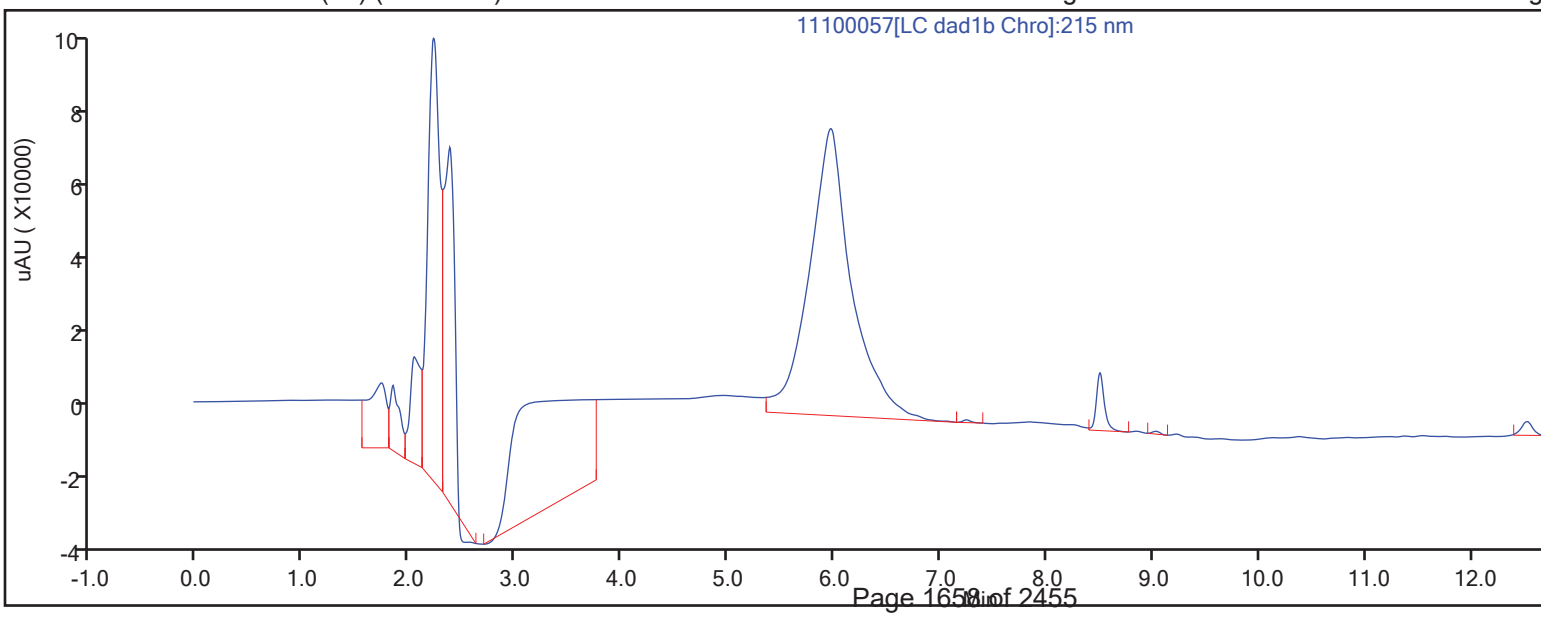
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100057.d

Injection Date:	11-Nov-2022 08:15:41	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-11-B	Lab Sample ID:	280-168718-11	Worklist Smp#:
Client ID:	X7B-SS-C01-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100057.D
Lims ID: 280-168718-A-11-B
Client ID: X7B-SS-C01-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 08:15:41 ALS Bottle#: 57 Worklist Smp#: 57
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-11-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:21:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2802	112.09

Manual Integration/User Assign Peak Report

Eurofins Denver

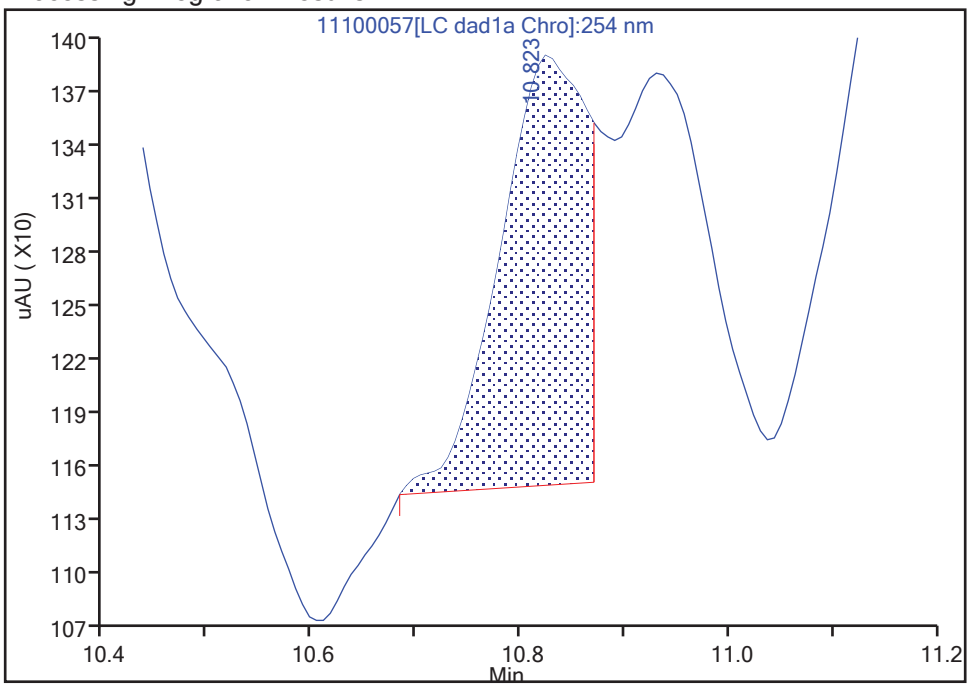
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100057.d				
Injection Date:	11-Nov-2022 08:15:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-11-B	Lab Sample ID:	280-168718-11		
Client ID:	X7B-SS-C01-0006				
Operator ID:	JZ	ALS Bottle#:	57	Worklist Smp#:	57
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

17 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

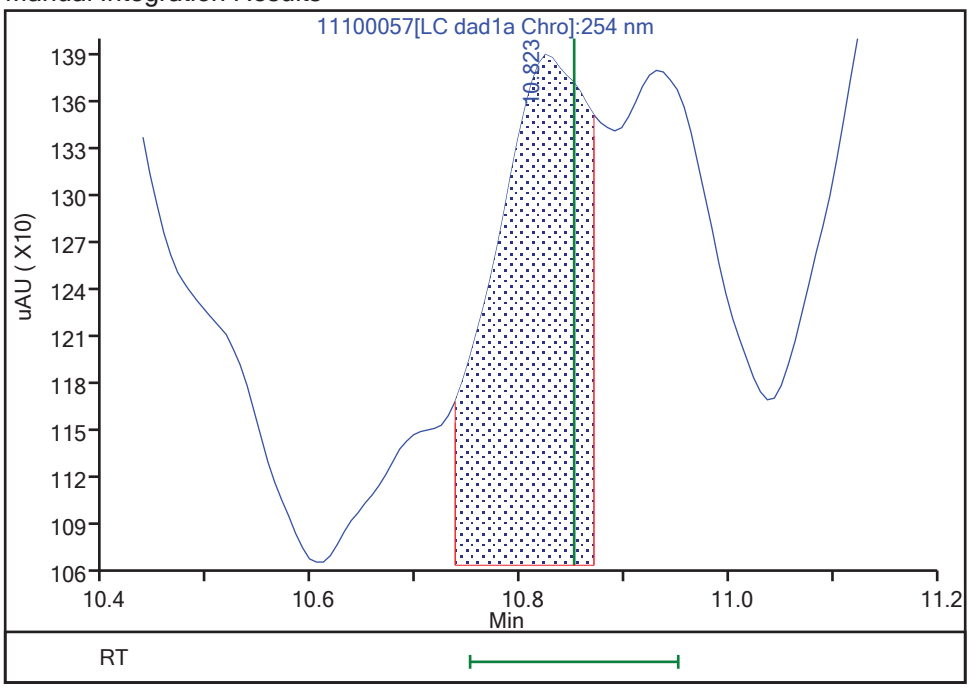
Processing Integration Results

RT: 10.82
Area: 1381
Amount: 0.006548
Amount Units: ug/mL



Manual Integration Results

RT: 10.82
Area: 1964
Amount: 0.009312
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:21:01

Audit Action: Split an Integrated Peak Audit Reason: Baseline

User Disabled Compound Report

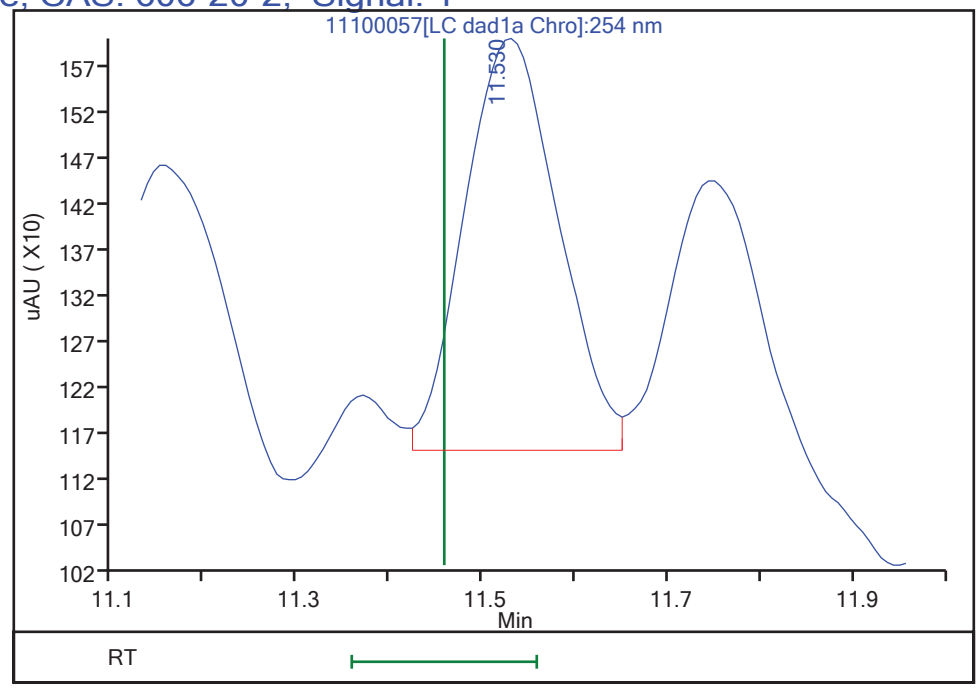
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100057.d
Injection Date: 11-Nov-2022 08:15:41 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-11-B Lab Sample ID: 280-168718-11
Client ID: X7B-SS-C01-0006
Operator ID: JZ ALS Bottle#: 57 Worklist Smp#: 57
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

20 2,6-Dinitrotoluene, CAS: 606-20-2, Signal: 1

RT: 11.53
Response: 3149
Amount: 0.022147



Reviewer: LV5D, 11-Nov-2022 12:21:02
Audit Action: Assigned New Baseline Audit Reason: Baseline

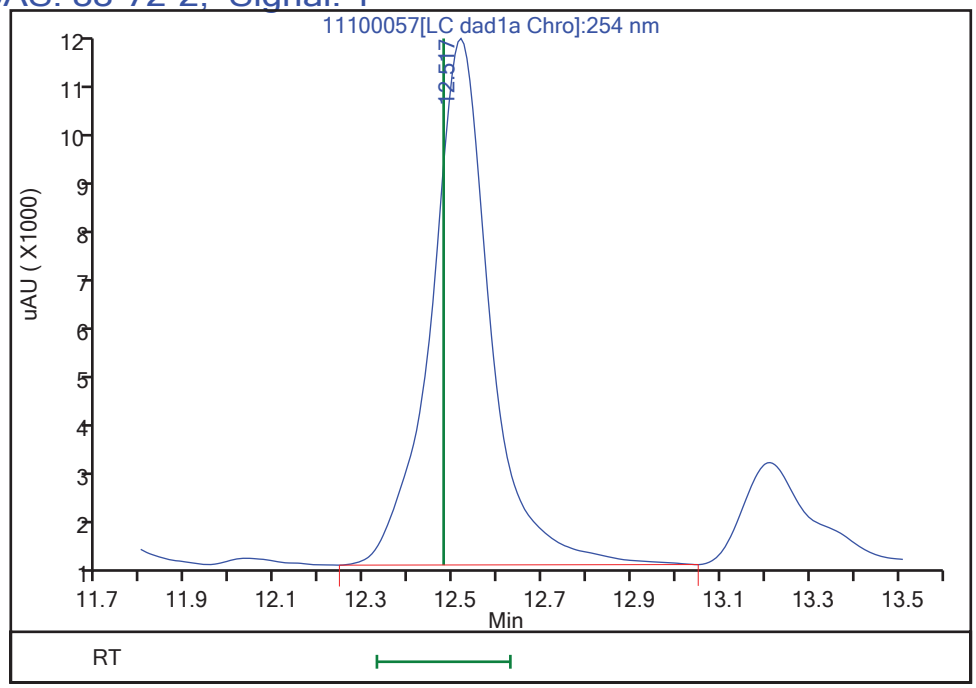
User Disabled Compound Report

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100057.d
Injection Date: 11-Nov-2022 08:15:41 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-11-B Lab Sample ID: 280-168718-11
Client ID: X7B-SS-C01-0006
Operator ID: JZ ALS Bottle#: 57 Worklist Smp#: 57
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

22 o-Nitrotoluene, CAS: 88-72-2, Signal: 1

RT: 12.52
Response: 94387
Amount: 0.756740



Reviewer: LV5D, 11-Nov-2022 12:21:02
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

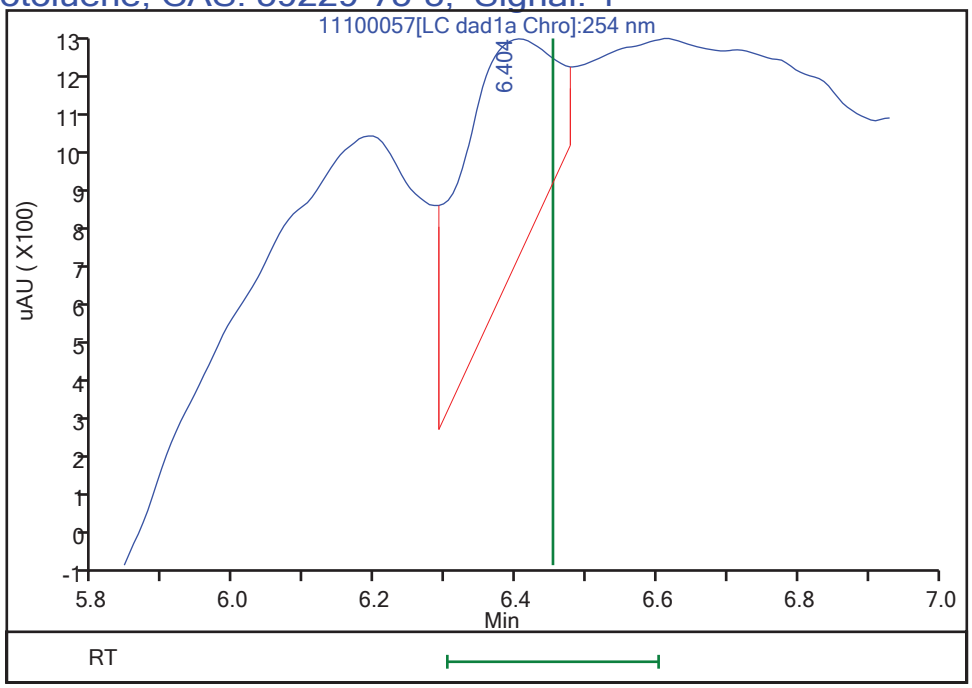
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100057.d				
Injection Date:	11-Nov-2022 08:15:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-11-B	Lab Sample ID:	280-168718-11		
Client ID:	X7B-SS-C01-0006				
Operator ID:	JZ	ALS Bottle#:	57	Worklist Smp#:	57
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.40
Response: 5518
Amount: 0.025689



Reviewer: LV5D, 11-Nov-2022 12:21:02
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7B-SS-C01-0006 | Lab Sample ID: 280-168718-11

Matrix: Solid | Lab File ID: 11110024.D

Analysis Method: 8330B | Date Collected: 11/02/2022 11:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2857(g) | Date Analyzed: 11/12/2022 00:35

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16
118-96-7	2,4,6-Trinitrotoluene	68	U	97	68	30
98-95-3	Nitrobenzene	190	U	290	190	83

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110024.D
Lims ID: 280-168718-A-11-B
Client ID: X7B-SS-C01-0006
Sample Type: Client
Inject. Date: 12-Nov-2022 00:35:23 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-11-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:02:57

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
5 HMX	1		6.657			ND	
7 2,4,6-Trinitrophenol	1		7.904			ND	
8 RDX	1		8.757			ND	
9 Nitrobenzene	1		11.684			ND	
$ 10 1,2-Dinitrobenzene	1	12.808	12.837	-0.029	66410	0.2609	
11 3,5-Dinitroaniline	1		14.797			ND	
12 1,3-Dinitrobenzene	1		15.177			ND	
13 Nitroglycerin	2		15.497			ND	U
14 o-Nitrotoluene	1	16.362	16.344	0.018	2563	0.0118	M
16 p-Nitrotoluene	1		16.644			ND	
17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
18 m-Nitrotoluene	1		17.610			ND	U
19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
20 1,3,5-Trinitrobenzene	1		18.437			ND	
21 2,6-Dinitrotoluene	1		19.724			ND	
22 2,4-Dinitrotoluene	1	20.195	20.230	-0.035	7008	0.0131	
23 Tetryl	1		23.884			ND	U
24 2,4,6-Trinitrotoluene	1		24.684			ND	
25 PETN	2		25.697			ND	U

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated
U - Marked Undetected

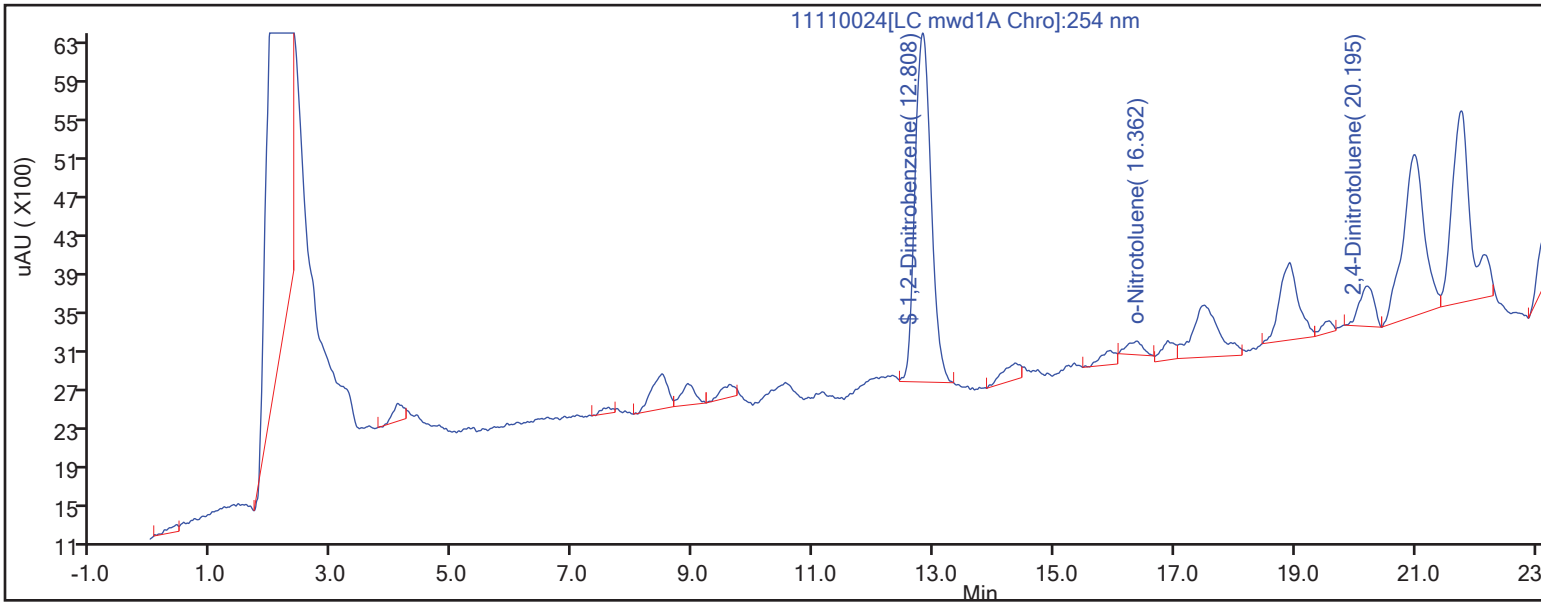
Report Date: 12-Nov-2022 11:05:53 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

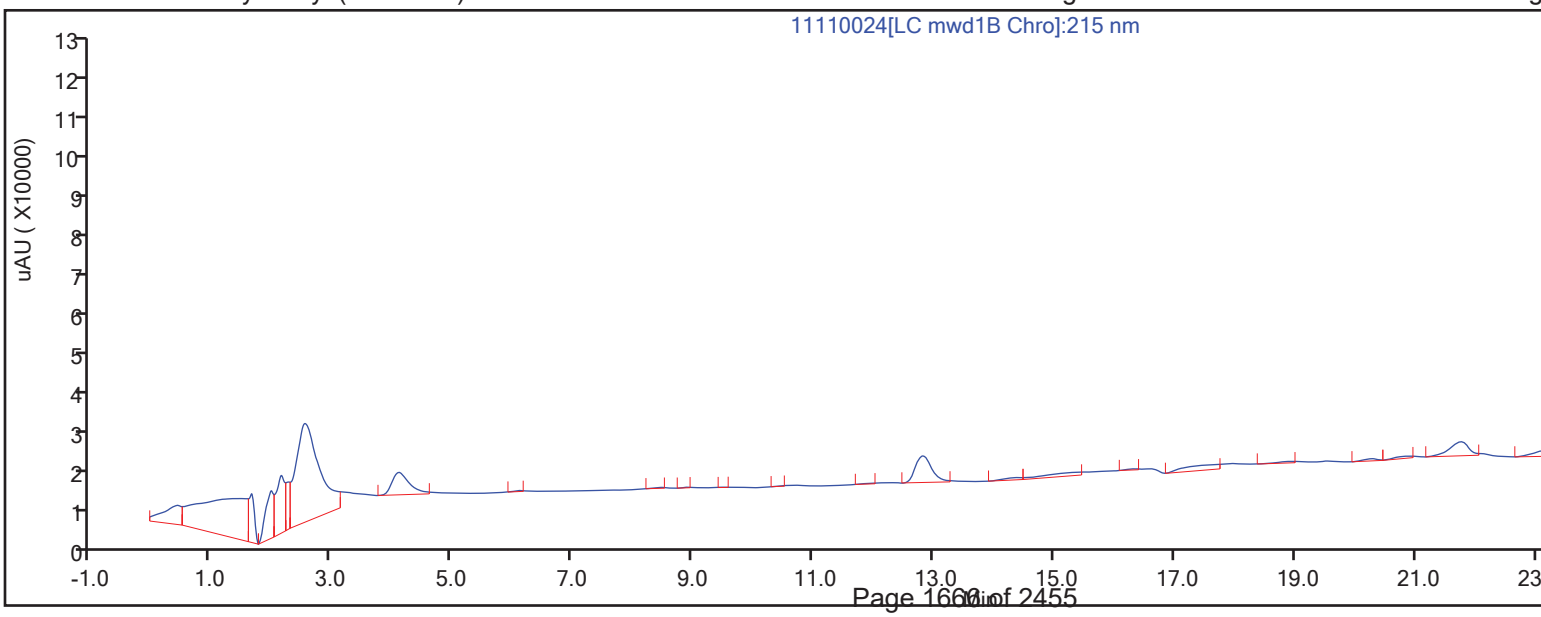
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110024.D

Injection Date:	12-Nov-2022 00:35:23	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-11-B	Lab Sample ID:	280-168718-11	Worklist Smp#:
Client ID:	X7B-SS-C01-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 12-Nov-2022 11:05:53 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110024.D
Lims ID: 280-168718-A-11-B
Client ID: X7B-SS-C01-0006
Sample Type: Client
Inject. Date: 12-Nov-2022 00:35:23 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-11-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:02:57

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2609	104.37

Manual Integration/User Assign Peak Report

Eurofins Denver

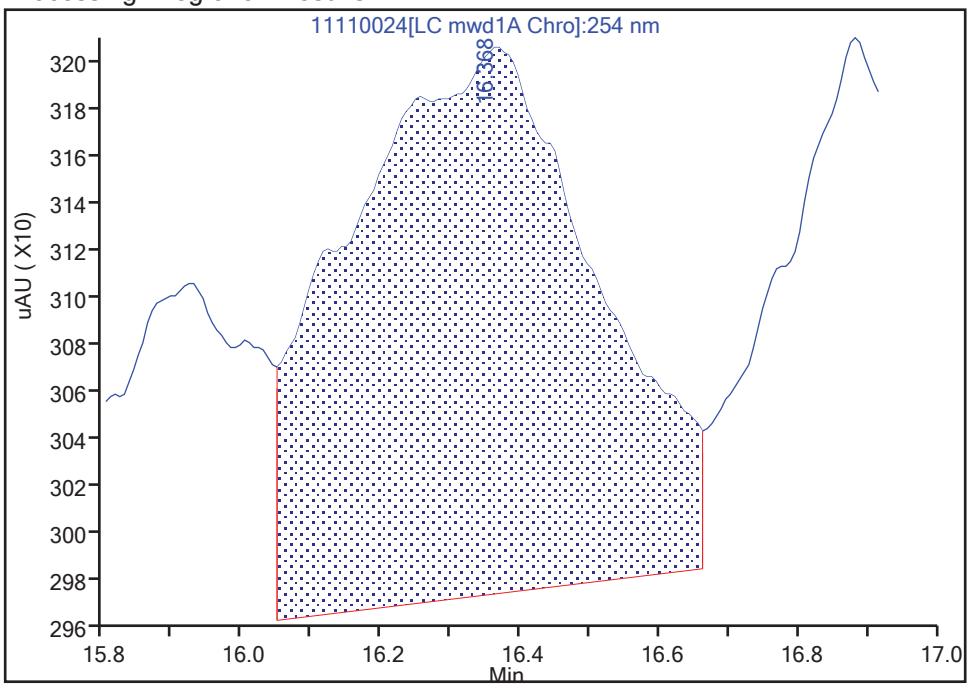
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110024.D				
Injection Date:	12-Nov-2022 00:35:23	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-11-B	Lab Sample ID:	280-168718-11		
Client ID:	X7B-SS-C01-0006				
Operator ID:	JZ	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

14 o-Nitrotoluene, CAS: 88-72-2

Signal: 1

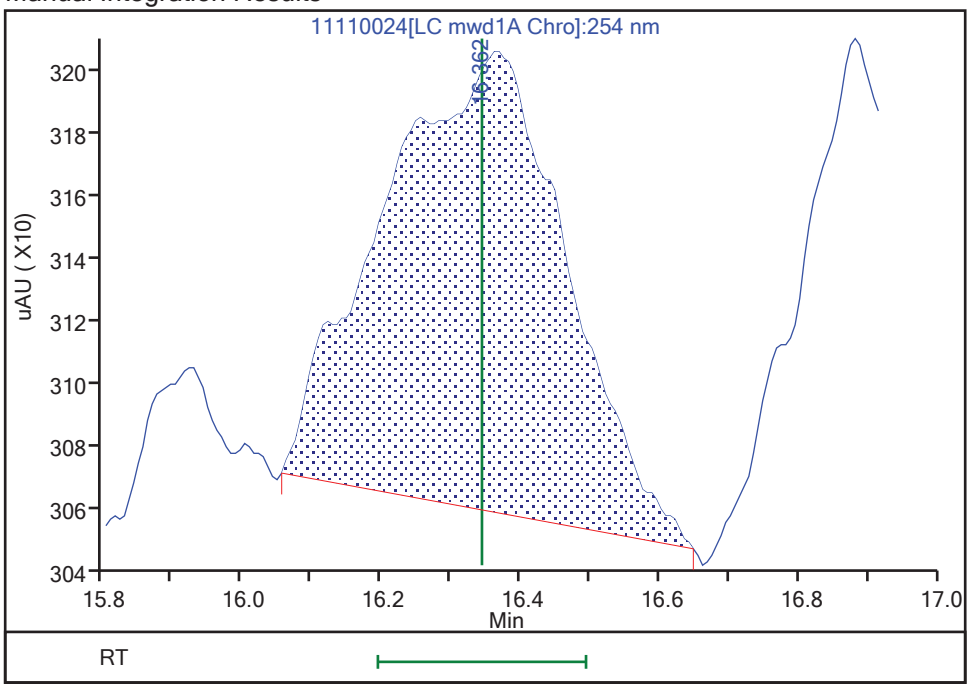
Processing Integration Results

RT: 16.37
Area: 5611
Amount: 0.025845
Amount Units: ug/ml



Manual Integration Results

RT: 16.36
Area: 2563
Amount: 0.011806
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:02:55

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

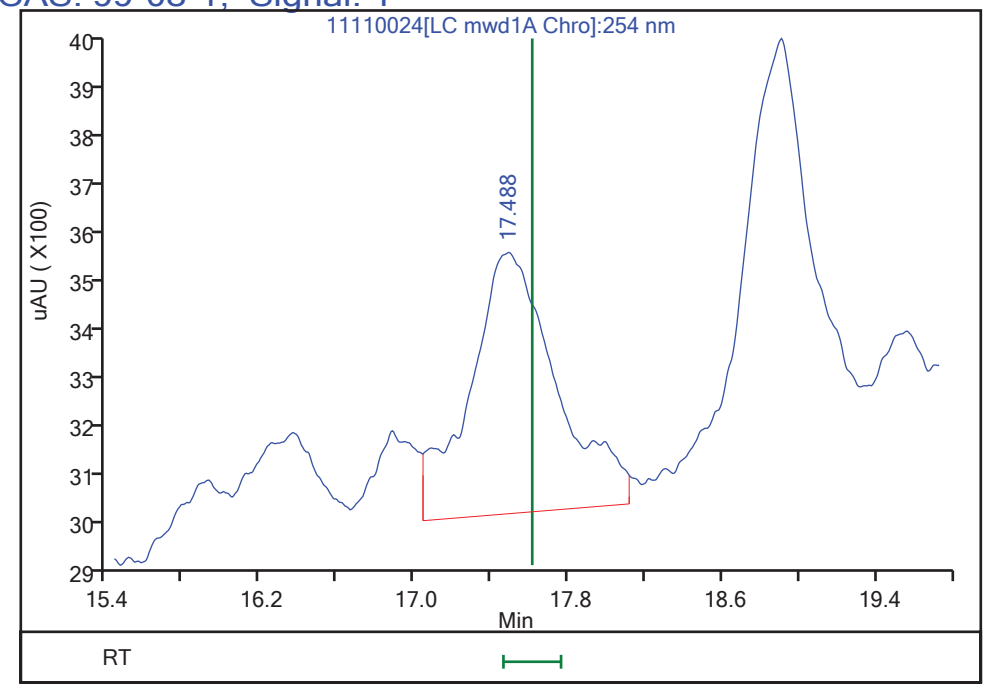
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110024.D				
Injection Date:	12-Nov-2022 00:35:23	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-11-B	Lab Sample ID:	280-168718-11		
Client ID:	X7B-SS-C01-0006				
Operator ID:	JZ	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

18 m-Nitrotoluene, CAS: 99-08-1, Signal: 1

RT: 17.49
Response: 16568
Amount: 0.061014



Reviewer: LV5D, 12-Nov-2022 11:02:57
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

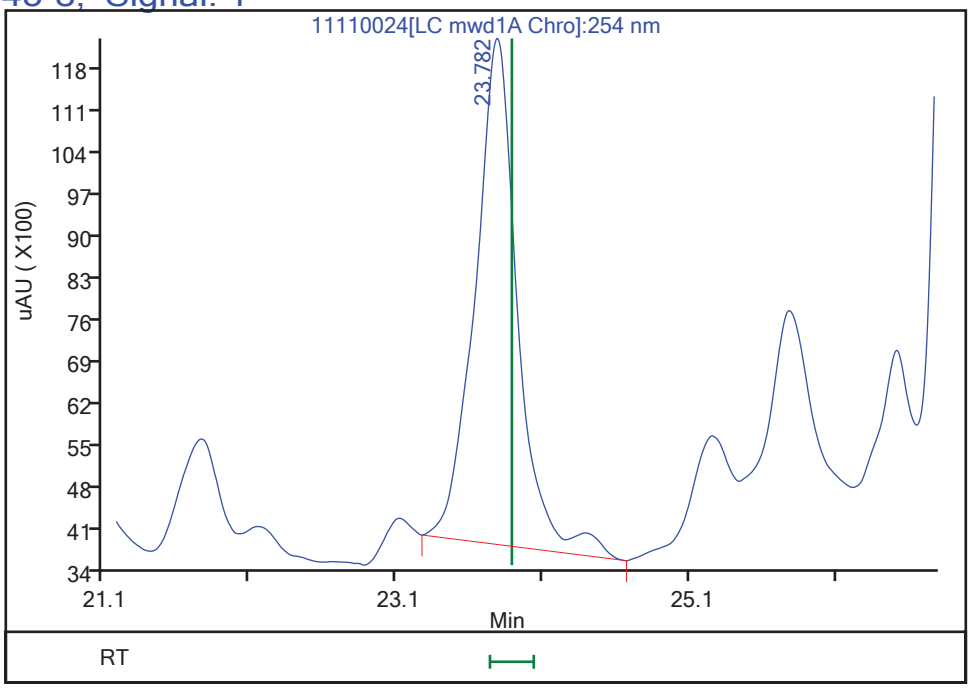
User Disabled Compound Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110024.D
Injection Date: 12-Nov-2022 00:35:23 Instrument ID: CHHPLC_X5
Lims ID: 280-168718-A-11-B Lab Sample ID: 280-168718-11
Client ID: X7B-SS-C01-0006
Operator ID: JZ ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

23 Tetryl, CAS: 479-45-8, Signal: 1

RT: 23.78
Response: 171297
Amount: 0.559679



Reviewer: LV5D, 12-Nov-2022 11:02:57
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 | Lab Sample ID: 280-168718-12

Matrix: Solid | Lab File ID: 11100058.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/11/2022 08:38

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	37	U	92	37	13
99-65-0	1,3-Dinitrobenzene	37	U	92	37	15
118-96-7	2,4,6-Trinitrotoluene	64	U	92	64	28
618-87-1	3,5-Dinitroaniline	18	U	92	18	8.3
121-14-2	2,4-Dinitrotoluene	37	U	92	37	14
606-20-2	2,6-Dinitrotoluene	37	U	92	37	18
35572-78-2	2-Amino-4,6-dinitrotoluene	64	U	92	64	30
88-72-2	2-Nitrotoluene	92	U	180	92	43
99-08-1	3-Nitrotoluene	140	U	180	140	59
19406-51-0	4-Amino-2,6-dinitrotoluene	64	U	92	64	28
99-99-0	4-Nitrotoluene	92	U	180	92	34
98-95-3	Nitrobenzene	180	U	280	180	78
55-63-0	Nitroglycerin	640	U	1800	640	200
2691-41-0	HMX	1600	M	92	64	21
78-11-5	PETN	920	U	1800	920	450
88-89-1	Picric acid	92	U	92	92	52
479-45-8	Tetryl	92	U	180	92	40
6629-29-4	2,4-diamino-6-nitrotoluene	920	U	1800	920	480
59229-75-3	2,6-diamino-4-nitrotoluene	920	U M	1800	920	300

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100058.D
Lims ID: 280-168718-B-12-B
Client ID: X7-TP-C01-5460
Sample Type: Client
Inject. Date: 11-Nov-2022 08:38:41 ALS Bottle#: 58 Worklist Smp#: 58
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-12-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:21:29

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.427	6.452	-0.025	1175	0.005470	7M
4 HMX	1	6.554	6.571	-0.017	38177	0.4292	M
5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
8 RDX	1	7.540	7.558	-0.018	1148736	10.7	E
9 2,4,6-Trinitrophenol	1		7.878			ND	
$ 10 1,2-Dinitrobenzene	1	8.494	8.505	-0.011	35104	0.2789	
11 1,3,5-Trinitrobenzene	1		8.625			ND	
12 1,3-Dinitrobenzene	1		9.244			ND	
13 Nitrobenzene	1		9.638			ND	
14 3,5-Dinitroaniline	1		9.832			ND	
15 Tetryl	1		9.944			ND	
16 Nitroglycerin	2		10.404			ND	
17 2,4,6-Trinitrotoluene	1		10.851			ND	
18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
20 2,6-Dinitrotoluene	1		11.458			ND	
21 2,4-Dinitrotoluene	1		11.624			ND	
22 o-Nitrotoluene	1		12.478			ND	
23 p-Nitrotoluene	1		12.898			ND	
24 m-Nitrotoluene	1		13.464			ND	
25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated

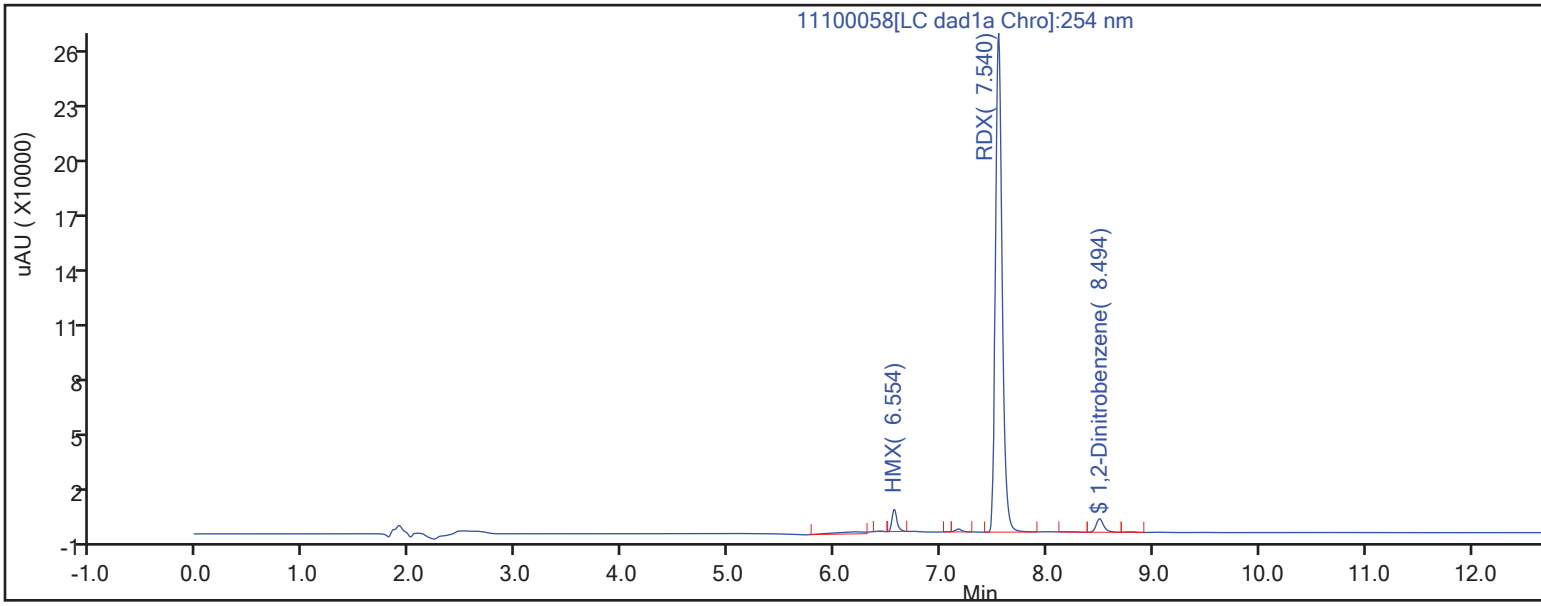
Report Date: 11-Nov-2022 12:25:33 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

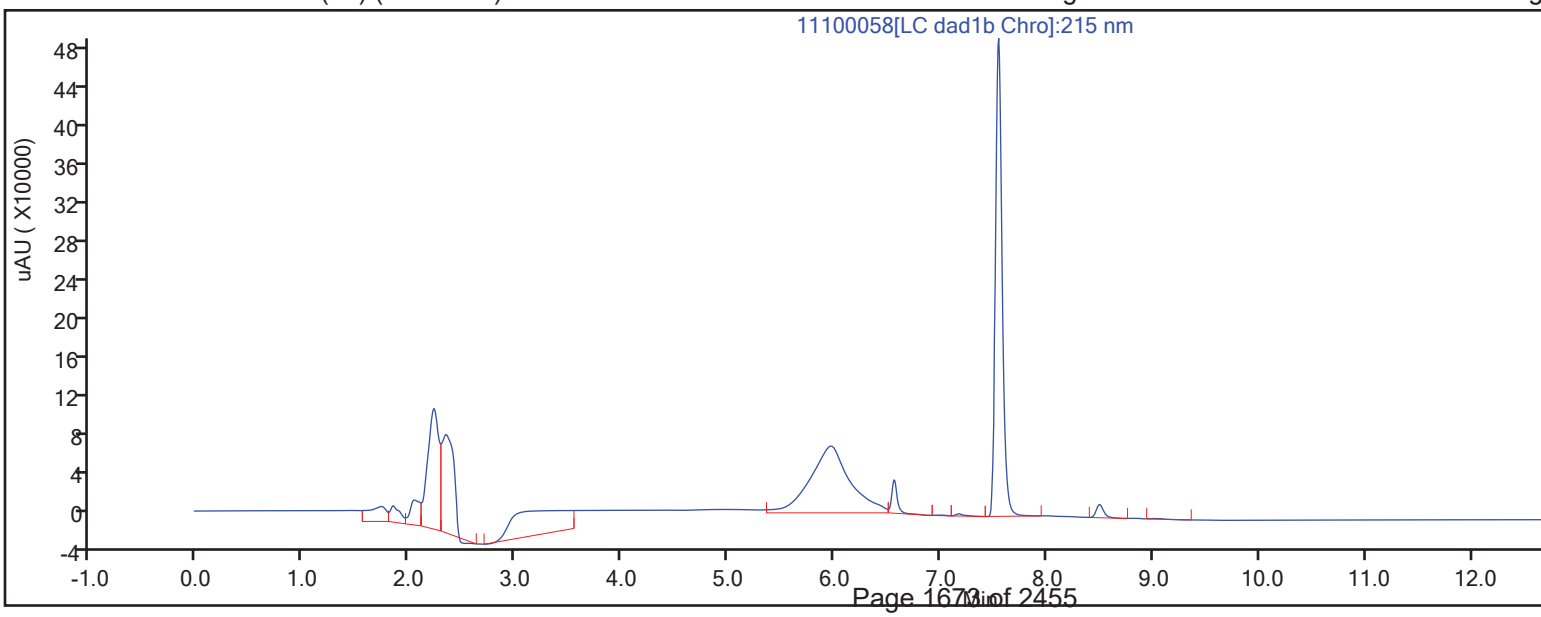
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100058.d

Injection Date:	11-Nov-2022 08:38:41	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-12-B	Lab Sample ID:	280-168718-12	Worklist Smp#:
Client ID:	X7-TP-C01-5460			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100058.D
Lims ID: 280-168718-B-12-B
Client ID: X7-TP-C01-5460
Sample Type: Client
Inject. Date: 11-Nov-2022 08:38:41 ALS Bottle#: 58 Worklist Smp#: 58
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-12-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:21:29

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2789	111.58

Manual Integration/User Assign Peak Report

Eurofins Denver

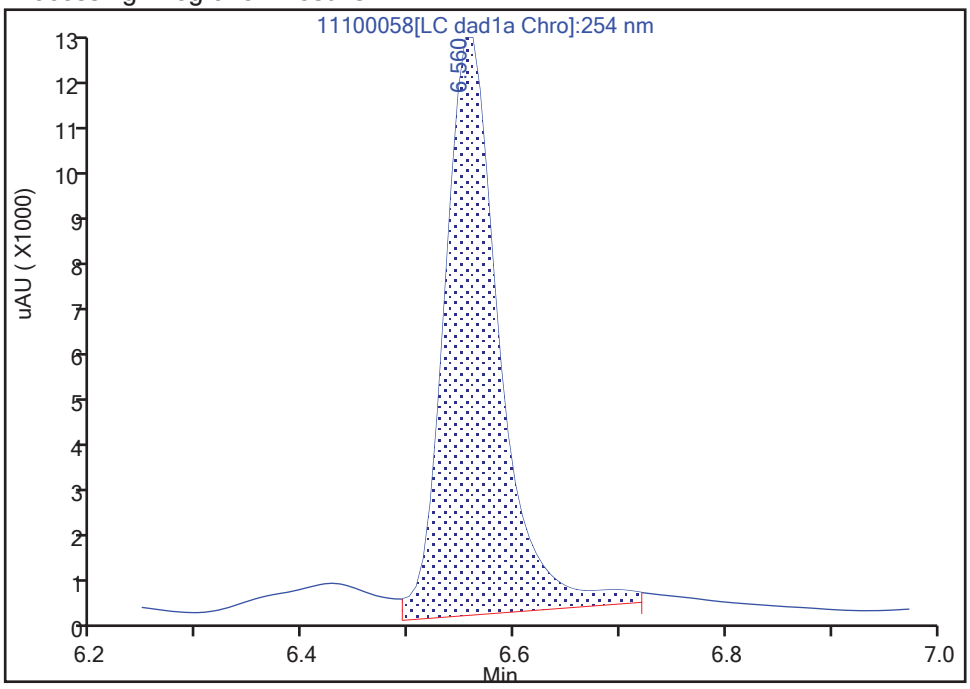
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100058.d				
Injection Date:	11-Nov-2022 08:38:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-12-B	Lab Sample ID:	280-168718-12		
Client ID:	X7-TP-C01-5460				
Operator ID:	JZ	ALS Bottle#:	58	Worklist Smp#:	58
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

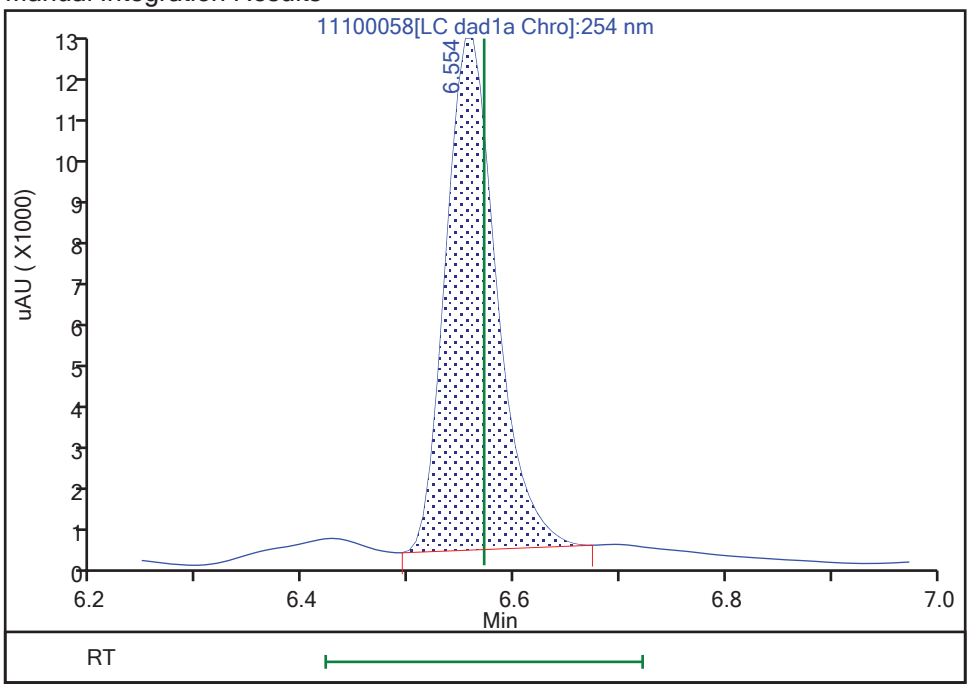
Processing Integration Results

RT: 6.56
Area: 43003
Amount: 0.483408
Amount Units: ug/mL



Manual Integration Results

RT: 6.55
Area: 38177
Amount: 0.429158
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:21:22
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

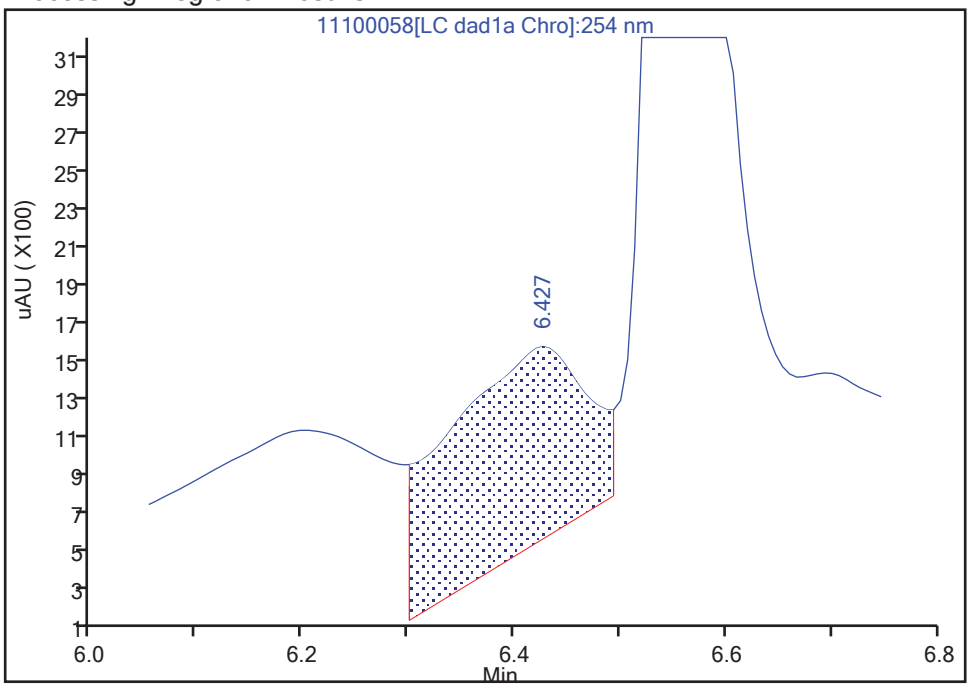
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100058.d				
Injection Date:	11-Nov-2022 08:38:41	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-12-B	Lab Sample ID:	280-168718-12		
Client ID:	X7-TP-C01-5460				
Operator ID:	JZ	ALS Bottle#:	58	Worklist Smp#:	58
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

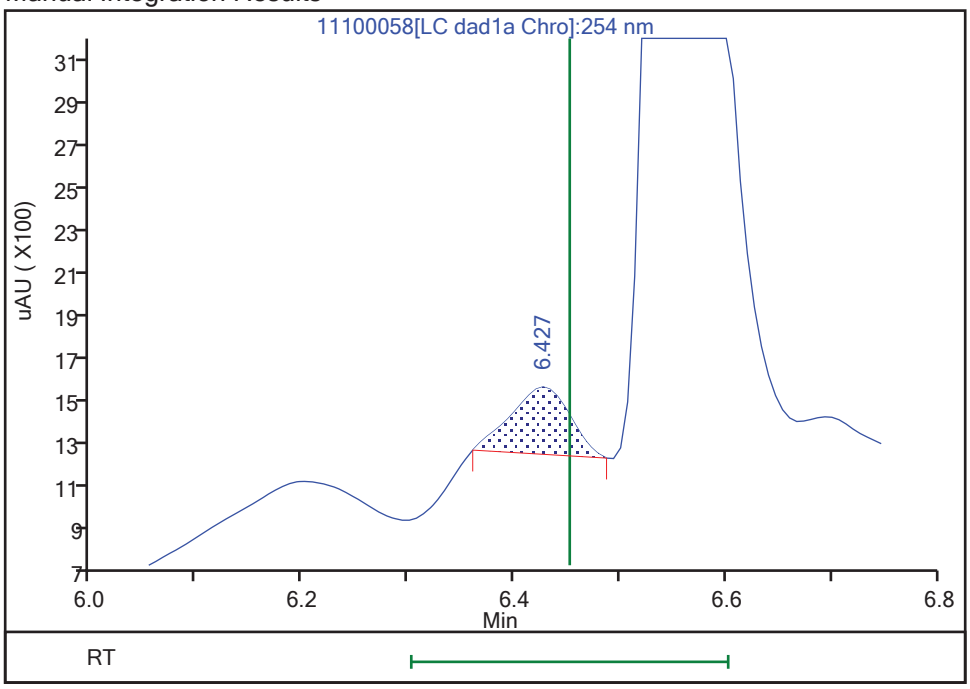
Processing Integration Results

RT: 6.43
Area: 9535
Amount: 0.044391
Amount Units: ug/mL



Manual Integration Results

RT: 6.43
Area: 1175
Amount: 0.005470
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:21:17
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 | Lab Sample ID: 280-168718-12

Matrix: Solid | Lab File ID: 11110025.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/12/2022 01:10

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	108		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110025.D
Lims ID: 280-168718-B-12-B
Client ID: X7-TP-C01-5460
Sample Type: Client
Inject. Date: 12-Nov-2022 01:10:16 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-12-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:03

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1	2,6-diamino-4-nitrotoluene	1		4.104			ND	7
2	2,4-diamino-6-nitrotoluene	1		4.617			ND	
5	HMX	1	6.602	6.657	-0.055	72998	0.4218	
7	2,4,6-Trinitrophenol	1		7.904			ND	
8	RDX	1	8.696	8.757	-0.061	2220523	11.0	E
9	Nitrobenzene	1		11.684			ND	
$ 10	1,2-Dinitrobenzene	1	12.795	12.837	-0.042	68905	0.2707	
11	3,5-Dinitroaniline	1		14.797			ND	
12	1,3-Dinitrobenzene	1		15.177			ND	
13	Nitroglycerin	2		15.497			ND	U
14	o-Nitrotoluene	1		16.344			ND	
16	p-Nitrotoluene	1		16.644			ND	
17	4-Amino-2,6-dinitrotoluene	1		17.250			ND	
18	m-Nitrotoluene	1		17.610			ND	
19	2-Amino-4,6-dinitrotoluene	1		18.230			ND	
20	1,3,5-Trinitrobenzene	1		18.437			ND	
21	2,6-Dinitrotoluene	1		19.724			ND	
22	2,4-Dinitrotoluene	1		20.230			ND	
23	Tetryl	1		23.884			ND	
24	2,4,6-Trinitrotoluene	1		24.684			ND	
25	PETN	2		25.697			ND	

QC Flag Legend

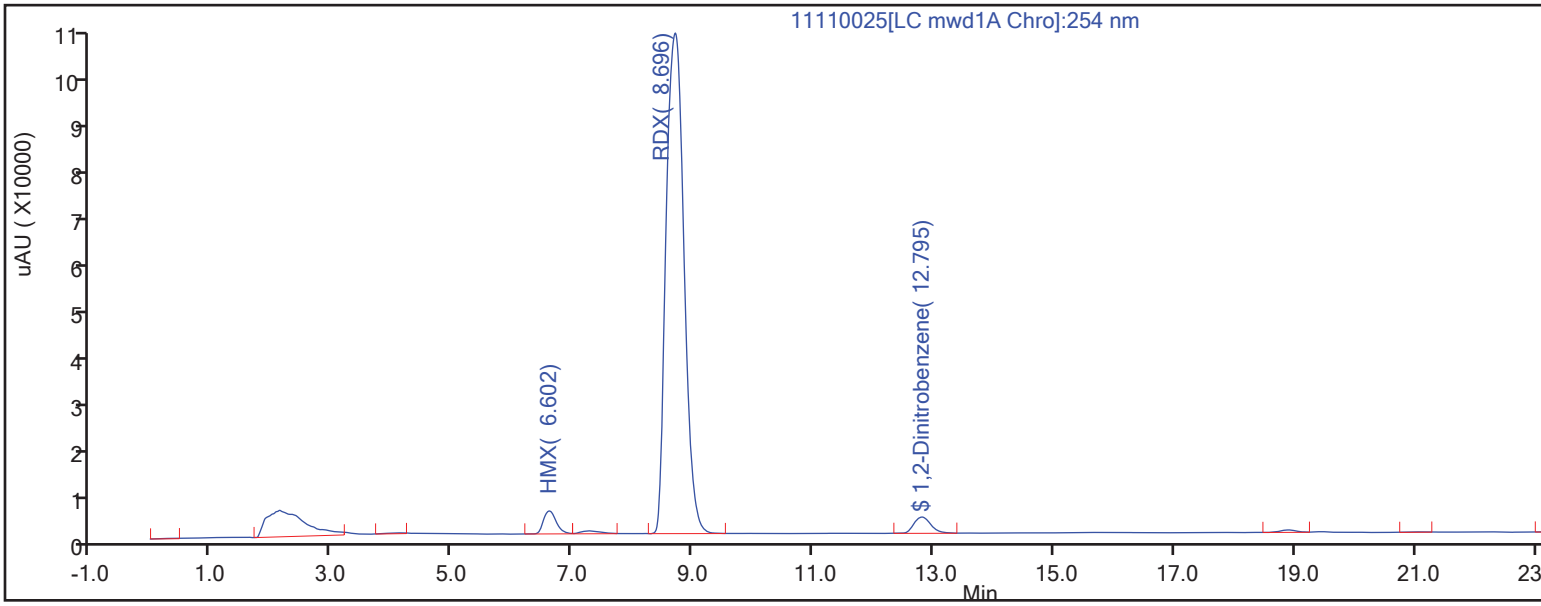
Processing Flags
E - Exceeded Maximum Amount
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:53 Chrom Revision: 2.3 08-Nov-2022 12:31:00

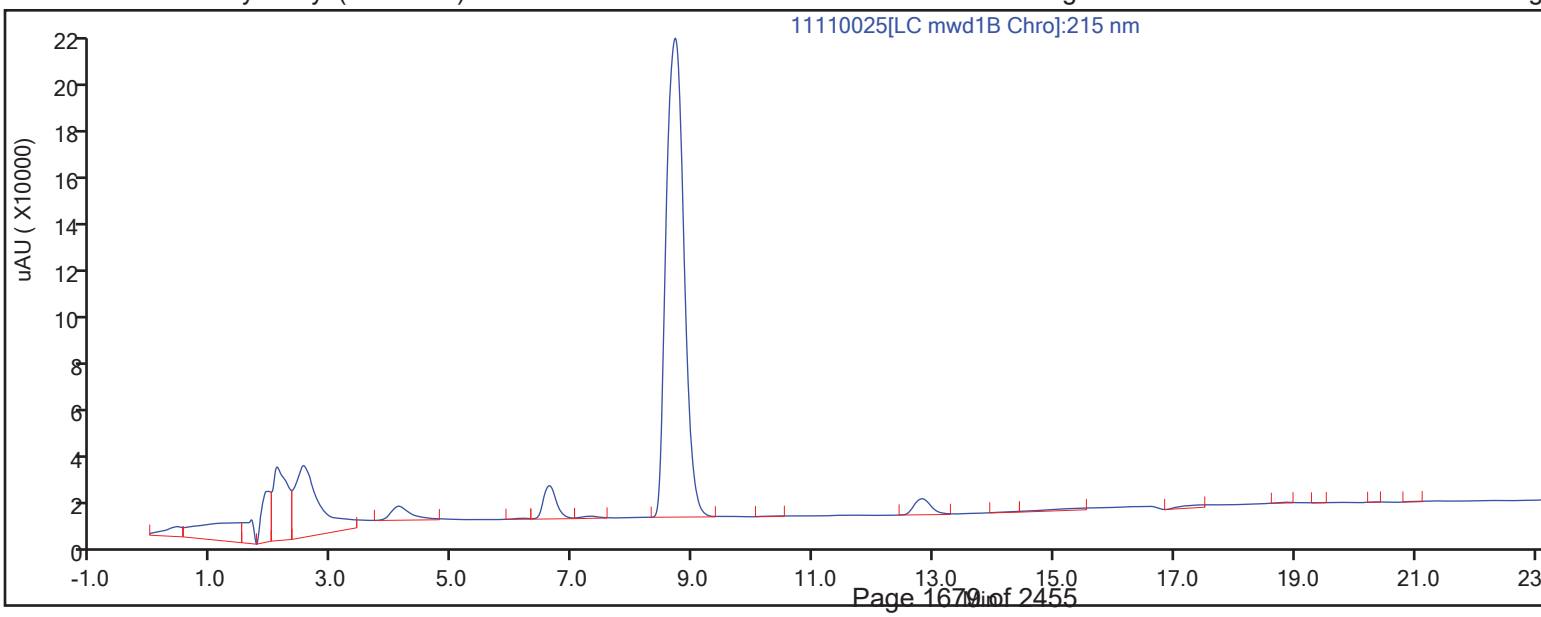
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110025.D			
Injection Date:	12-Nov-2022 01:10:16	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-12-B	Lab Sample ID:	280-168718-12	Worklist Smp#:
Client ID:	X7-TP-C01-5460			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110025.D
Lims ID: 280-168718-B-12-B
Client ID: X7-TP-C01-5460
Sample Type: Client
Inject. Date: 12-Nov-2022 01:10:16 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-12-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:03

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2707	108.30

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 DL | Lab Sample ID: 280-168718-12 DL

Matrix: Solid | Lab File ID: 11110011.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/11/2022 16:10

Con. Extract Vol.: 40(mL) | Dilution Factor: 10

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-82-4	RDX	38000	D	1800	920	400

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	97	D	78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110011.D
Lims ID: 280-168718-B-12-B DL
Client ID: X7-TP-C01-5460
Sample Type: Client
Inject. Date: 11-Nov-2022 16:10:24 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 10.0000
Sample Info: 280-168718-B-12-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:56 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:27:01

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	7
	4 HMX	1	6.568	6.563	0.005	3710	0.0417	M
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1	7.554	7.549	0.005	112132	1.04	
	9 2,4,6-Trinitrophenol	1		7.876			ND	
$	10 1,2-Dinitrobenzene	1	8.501	8.496	0.005	3048	0.0242	
	11 1,3,5-Trinitrobenzene	1		8.616			ND	
	12 1,3-Dinitrobenzene	1		9.236			ND	
	13 Nitrobenzene	1		9.622			ND	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.936			ND	
	16 Nitroglycerin	2		10.382			ND	
	17 2,4,6-Trinitrotoluene	1		10.829			ND	
	18 4-Amino-2,6-dinitrotoluene	1		11.009			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.256			ND	
	20 2,6-Dinitrotoluene	1		11.436			ND	
	21 2,4-Dinitrotoluene	1		11.602			ND	
	22 o-Nitrotoluene	1		12.449			ND	
	23 p-Nitrotoluene	1		12.862			ND	
	24 m-Nitrotoluene	1		13.429			ND	
	25 PETN	2		14.462			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated

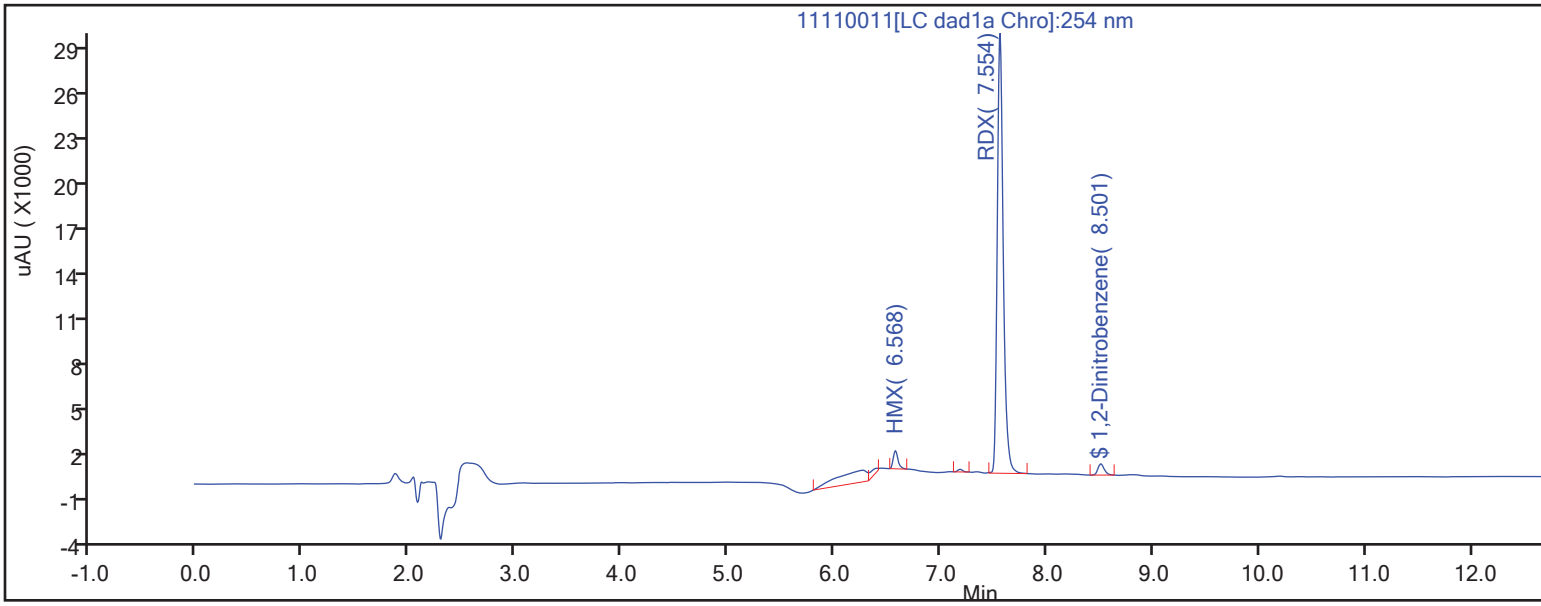
Report Date: 12-Nov-2022 10:55:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

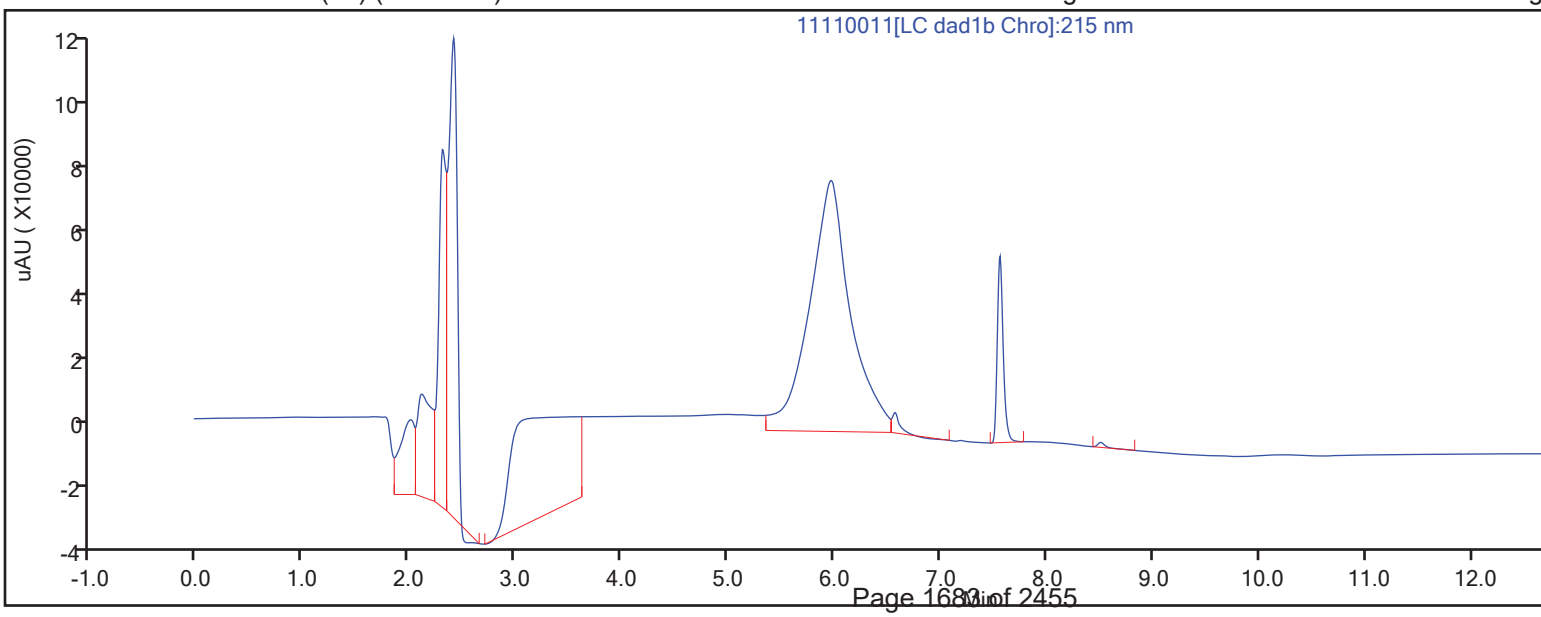
Data File: \\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110011.d

Injection Date:	11-Nov-2022 16:10:24	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-12-B DL	Lab Sample ID:	280-168718-12	Worklist Smp#:
Client ID:	X7-TP-C01-5460			
Injection Vol:	100.0 ul	Dil. Factor:	10.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 12-Nov-2022 10:55:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110011.D
Lims ID: 280-168718-B-12-B DL
Client ID: X7-TP-C01-5460
Sample Type: Client
Inject. Date: 11-Nov-2022 16:10:24 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 10.0000
Sample Info: 280-168718-B-12-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:56 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:27:01

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.0242	9.69

Manual Integration/User Assign Peak Report

Eurofins Denver

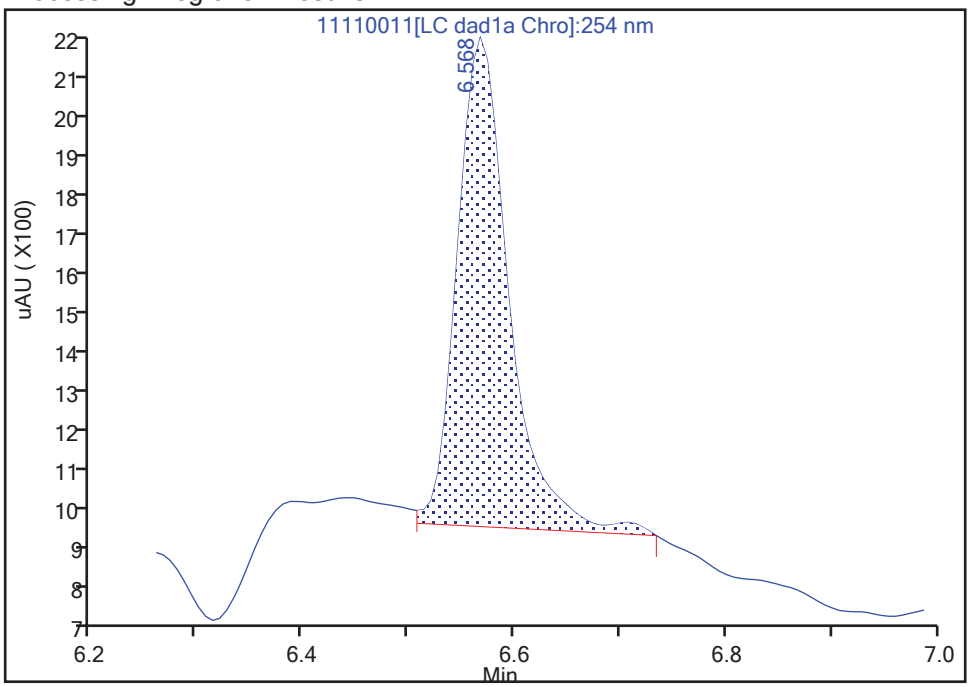
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110011.d				
Injection Date:	11-Nov-2022 16:10:24	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-12-B DL	Lab Sample ID:	280-168718-12		
Client ID:	X7-TP-C01-5460				
Operator ID:	JZ	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	100.0 ul	Dil. Factor:	10.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

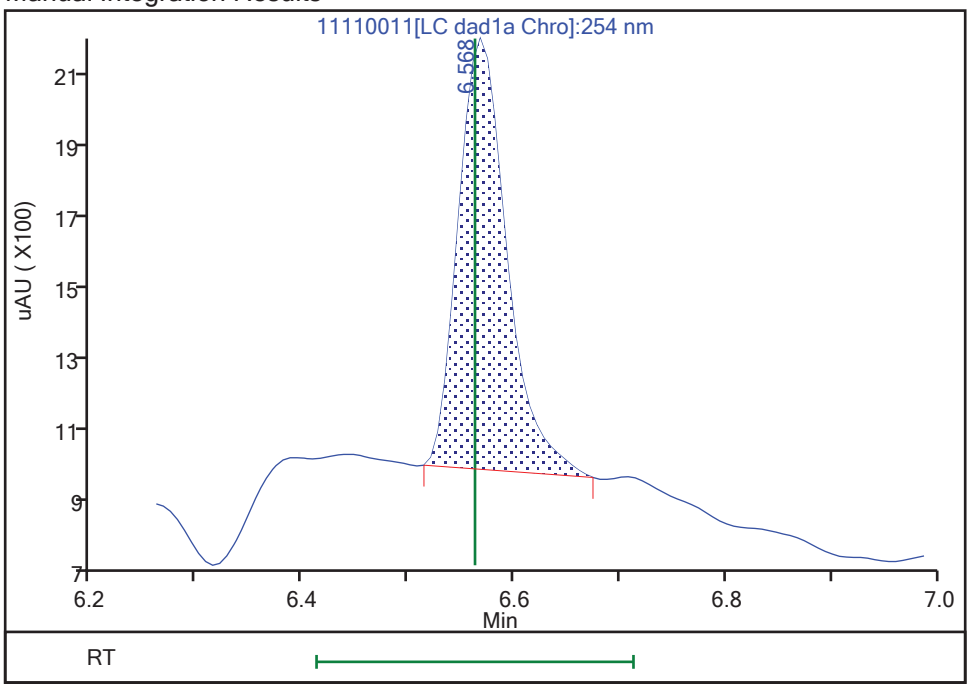
Processing Integration Results

RT: 6.57
Area: 4064
Amount: 0.045684
Amount Units: ug/mL



Manual Integration Results

RT: 6.57
Area: 3710
Amount: 0.041705
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 16:39:52
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 DL | Lab Sample ID: 280-168718-12 DL

Matrix: Solid | Lab File ID: 11110032.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/12/2022 05:14

Con. Extract Vol.: 40(mL) | Dilution Factor: 10

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	100	*D*	78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110032.D
Lims ID: 280-168718-B-12-B DL
Client ID: X7-TP-C01-5460
Sample Type: Client
Inject. Date: 12-Nov-2022 05:14:45 ALS Bottle#: 32 Worklist Smp#: 32
Injection Vol: 100.0 ul Dil. Factor: 10.0000
Sample Info: 280-168718-B-12-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:04:40

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1	2,6-diamino-4-nitrotoluene	1		4.104			ND	7
2	2,4-diamino-6-nitrotoluene	1		4.617			ND	
5	HMX	1	6.654	6.657	-0.003	7428	0.0429	
7	2,4,6-Trinitrophenol	1		7.904			ND	
8	RDX	1	8.754	8.757	-0.003	215023	1.07	
9	Nitrobenzene	1		11.684			ND	
$ 10	1,2-Dinitrobenzene	1	12.827	12.837	-0.010	6387	0.0251	
11	3,5-Dinitroaniline	1		14.797			ND	
12	1,3-Dinitrobenzene	1		15.177			ND	
13	Nitroglycerin	2		15.497			ND	
14	o-Nitrotoluene	1		16.344			ND	
16	p-Nitrotoluene	1		16.644			ND	
17	4-Amino-2,6-dinitrotoluene	1		17.250			ND	
18	m-Nitrotoluene	1		17.610			ND	
19	2-Amino-4,6-dinitrotoluene	1		18.230			ND	
20	1,3,5-Trinitrobenzene	1		18.437			ND	
21	2,6-Dinitrotoluene	1		19.724			ND	
22	2,4-Dinitrotoluene	1		20.230			ND	
23	Tetryl	1		23.884			ND	
24	2,4,6-Trinitrotoluene	1		24.684			ND	
25	PETN	2		25.697			ND	

QC Flag Legend

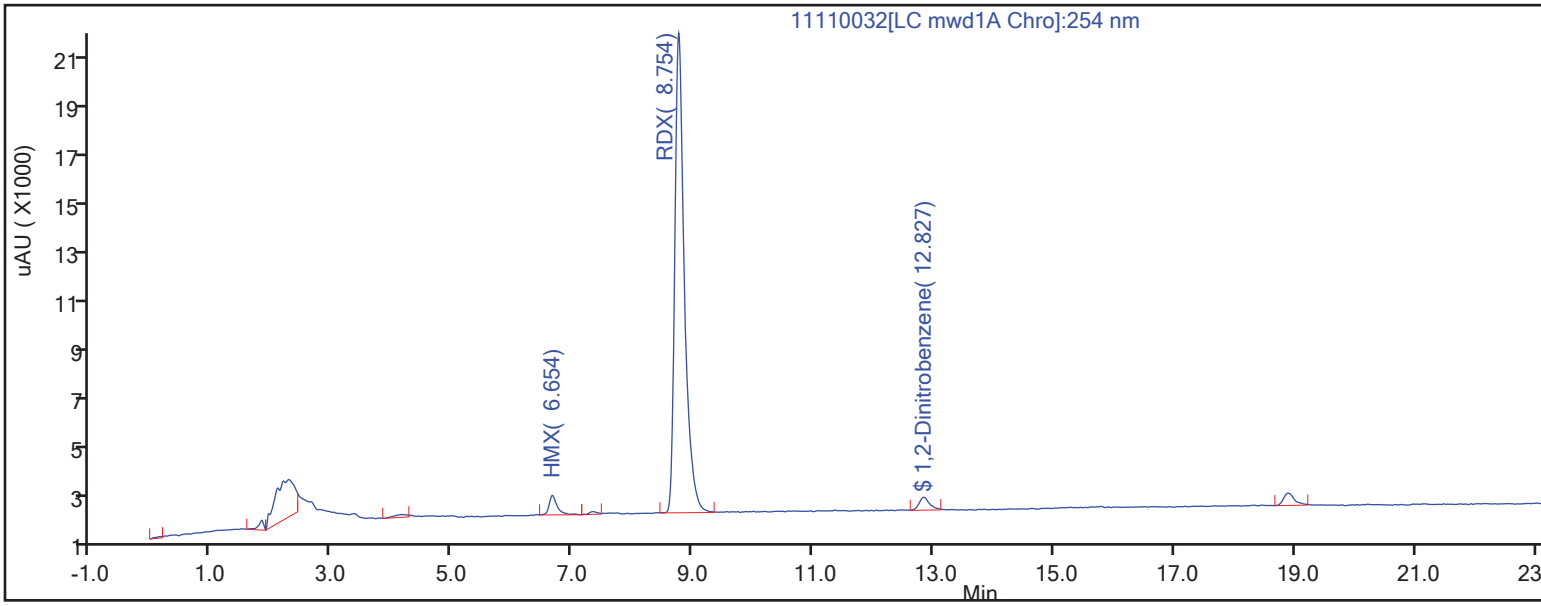
Processing Flags
7 - Failed Limit of Detection

Report Date: 12-Nov-2022 11:05:57 Chrom Revision: 2.3 08-Nov-2022 12:31:00

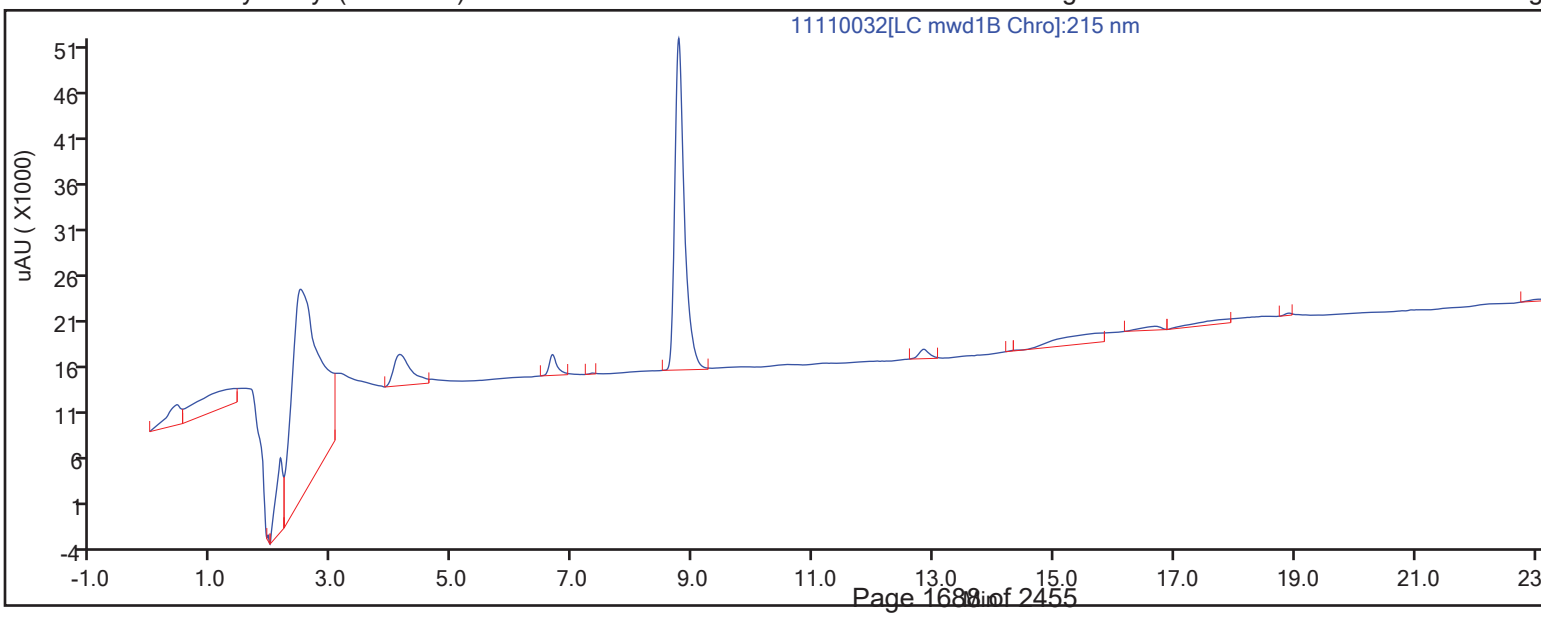
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110032.D			
Injection Date:	12-Nov-2022 05:14:45	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-12-B DL	Lab Sample ID:		Worklist Smp#:
Client ID:	X7-TP-C01-5460			
Injection Vol:	100.0 ul	Dil. Factor:	10.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 12-Nov-2022 11:05:57 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110032.D				
Lims ID:	280-168718-B-12-B DL				
Client ID:	X7-TP-C01-5460				
Sample Type:	Client				
Inject. Date:	12-Nov-2022 05:14:45	ALS Bottle#:	32	Worklist Smp#:	32
Injection Vol:	100.0 ul	Dil. Factor:	10.0000		
Sample Info:	280-168718-B-12-B				
Operator ID:	JZ	Instrument ID:	CHHPLC_X5		
Method:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Nov-2022 11:05:55	Calib Date:	19-Aug-2022 00:34:57		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC mwd1A, 254 nm		
Process Host:	CTX1610				

First Level Reviewer: LV5D Date: 12-Nov-2022 11:04:40

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.0251	10.04

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 | Lab Sample ID: 280-168718-13

Matrix: Solid | Lab File ID: 11100061.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/11/2022 09:47

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U M	98	39	14
99-65-0	1,3-Dinitrobenzene	39	U	98	39	16
118-96-7	2,4,6-Trinitrotoluene	69	U	98	69	30
618-87-1	3,5-Dinitroaniline	20	U	98	20	8.8
121-14-2	2,4-Dinitrotoluene	39	U	98	39	14
606-20-2	2,6-Dinitrotoluene	39	U	98	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	69	U	98	69	32
88-72-2	2-Nitrotoluene	98	U	200	98	46
99-08-1	3-Nitrotoluene	150	U	200	150	63
19406-51-0	4-Amino-2,6-dinitrotoluene	69	U	98	69	29
99-99-0	4-Nitrotoluene	98	U	200	98	36
98-95-3	Nitrobenzene	200	U	290	200	83
55-63-0	Nitroglycerin	690	U	2000	690	210
2691-41-0	HMX	4200	M	98	69	22
78-11-5	PETN	980	U	2000	980	480
88-89-1	Picric acid	98	U M	98	98	55
479-45-8	Tetryl	98	U	200	98	43
6629-29-4	2,4-diamino-6-nitrotoluene	980	U M	2000	980	510
59229-75-3	2,6-diamino-4-nitrotoluene	980	U M	2000	980	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	113		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100061.D
Lims ID: 280-168718-A-13-B
Client ID: X7-TP-C02-3648
Sample Type: Client
Inject. Date: 11-Nov-2022 09:47:47 ALS Bottle#: 61 Worklist Smp#: 61
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-13-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:22:40

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.427	6.452	-0.025	2813	0.0131	7M
4 HMX	1	6.560	6.571	-0.011	96232	1.08	M
5 2,4-diamino-6-nitrotoluene	1		6.632			ND	MU
8 RDX	1	7.540	7.558	-0.018	1945963	18.1	E
9 2,4,6-Trinitrophenol	1		7.878			ND	U
$ 10 1,2-Dinitrobenzene	1	8.487	8.505	-0.018	35677	0.2835	
11 1,3,5-Trinitrobenzene	1		8.625			ND	U
12 1,3-Dinitrobenzene	1		9.244			ND	
13 Nitrobenzene	1		9.638			ND	
14 3,5-Dinitroaniline	1		9.832			ND	
15 Tetryl	1		9.944			ND	
16 Nitroglycerin	2		10.404			ND	
17 2,4,6-Trinitrotoluene	1		10.851			ND	7
18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
20 2,6-Dinitrotoluene	1		11.458			ND	
21 2,4-Dinitrotoluene	1		11.624			ND	
22 o-Nitrotoluene	1		12.478			ND	
23 p-Nitrotoluene	1		12.898			ND	
24 m-Nitrotoluene	1		13.464			ND	
25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
7 - Failed Limit of Detection

Review Flags
M - Manually Integrated
U - Marked Undetected

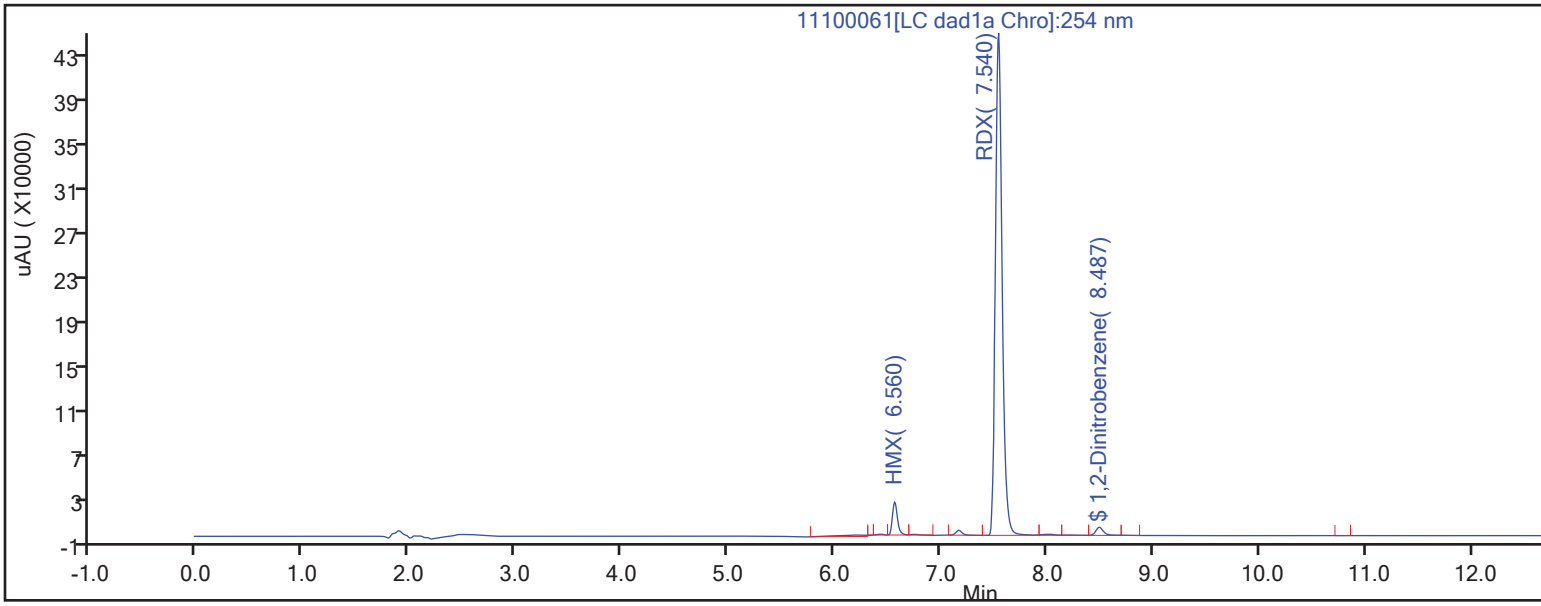
Report Date: 11-Nov-2022 12:25:29 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

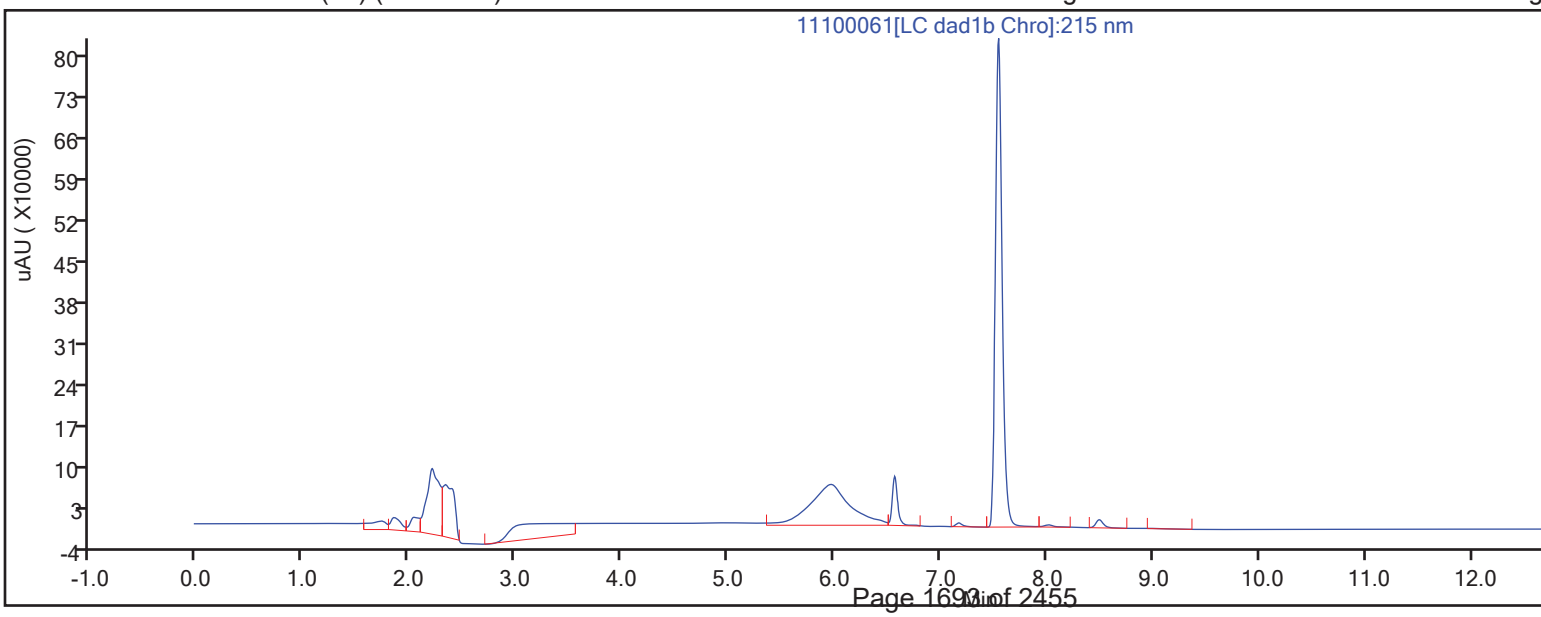
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100061.d

Injection Date:	11-Nov-2022 09:47:47	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-13-B	Lab Sample ID:	280-168718-13	Worklist Smp#:
Client ID:	X7-TP-C02-3648			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 11-Nov-2022 12:25:29 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100061.D
Lims ID: 280-168718-A-13-B
Client ID: X7-TP-C02-3648
Sample Type: Client
Inject. Date: 11-Nov-2022 09:47:47 ALS Bottle#: 61 Worklist Smp#: 61
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-13-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:22:40

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2835	113.40

User Disabled Compound Report

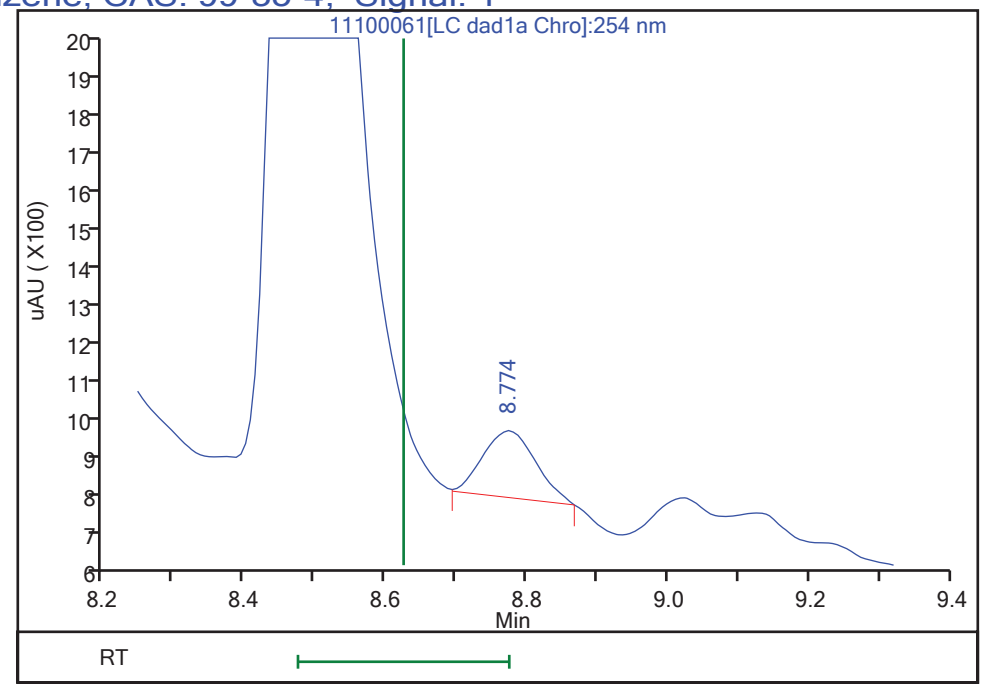
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100061.d
Injection Date: 11-Nov-2022 09:47:47 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-13-B Lab Sample ID: 280-168718-13
Client ID: X7-TP-C02-3648
Operator ID: JZ ALS Bottle#: 61 Worklist Smp#: 61
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

11 1,3,5-Trinitrobenzene, CAS: 99-35-4, Signal: 1

RT: 8.77
Response: 885
Amount: 0.004142



Reviewer: LV5D, 11-Nov-2022 12:22:40
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Denver

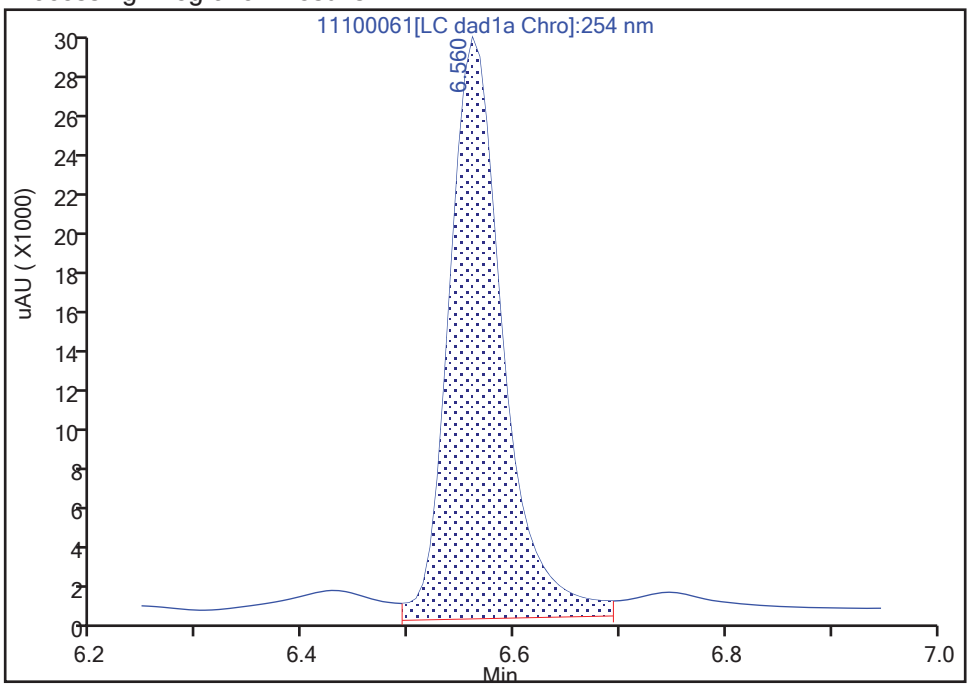
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100061.d				
Injection Date:	11-Nov-2022 09:47:47	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-13-B	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	JZ	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

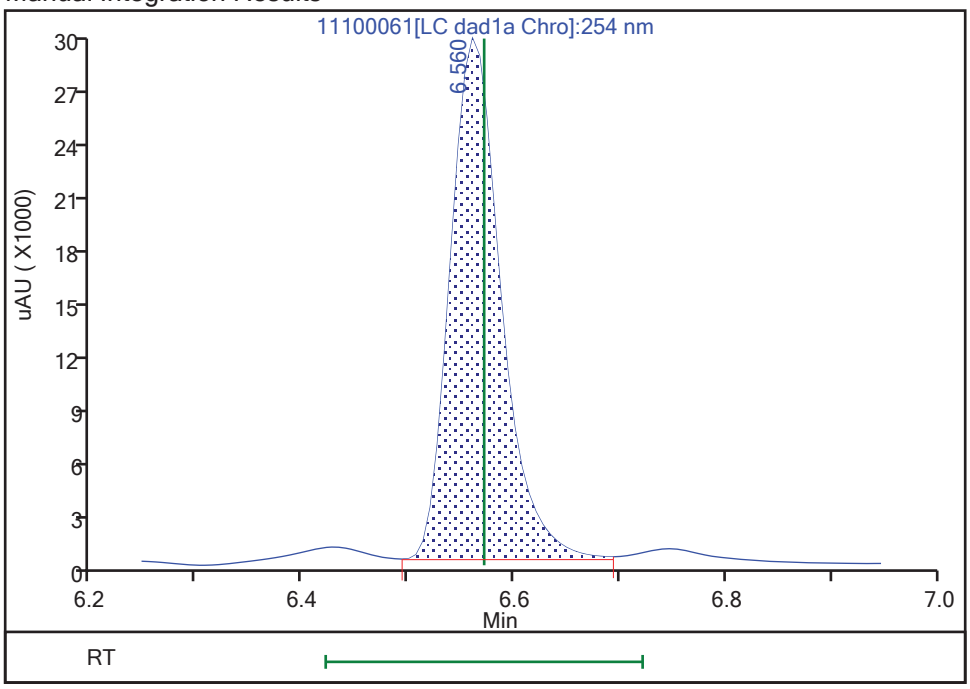
Processing Integration Results

RT: 6.56
Area: 104788
Amount: 1.177949
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 96232
Amount: 1.081769
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:22:19
Audit Action: Assigned New Baseline Audit Reason: Baseline

User Disabled Compound Report

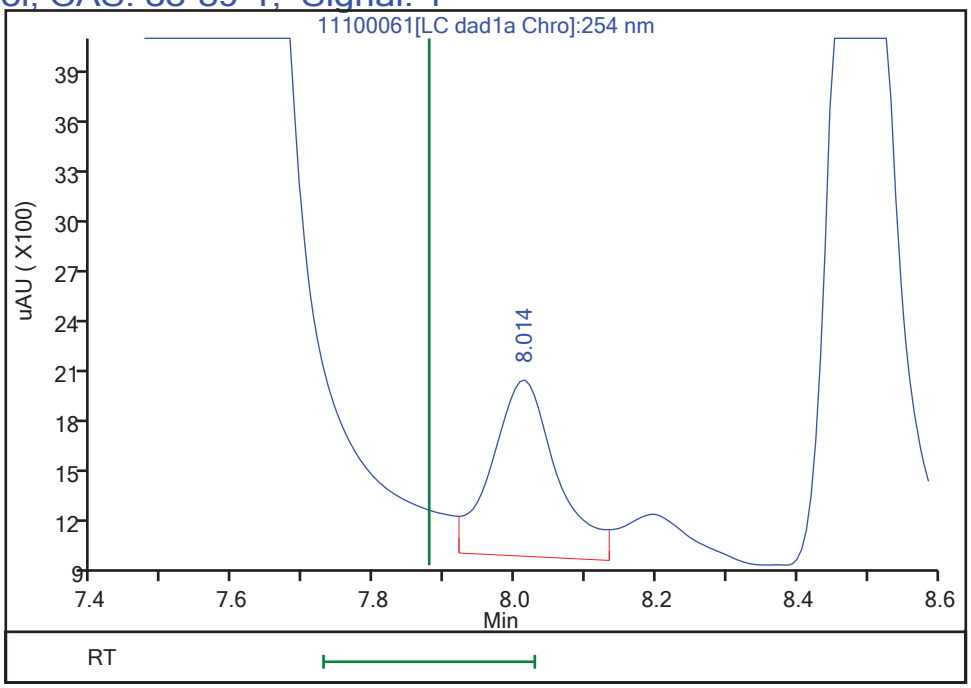
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100061.d
Injection Date: 11-Nov-2022 09:47:47 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-13-B Lab Sample ID: 280-168718-13
Client ID: X7-TP-C02-3648
Operator ID: JZ ALS Bottle#: 61 Worklist Smp#: 61
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

9 2,4,6-Trinitrophenol, CAS: 88-89-1, Signal: 1

RT: 8.01
Response: 6689
Amount: 0.086341



Reviewer: LV5D, 11-Nov-2022 12:22:40
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

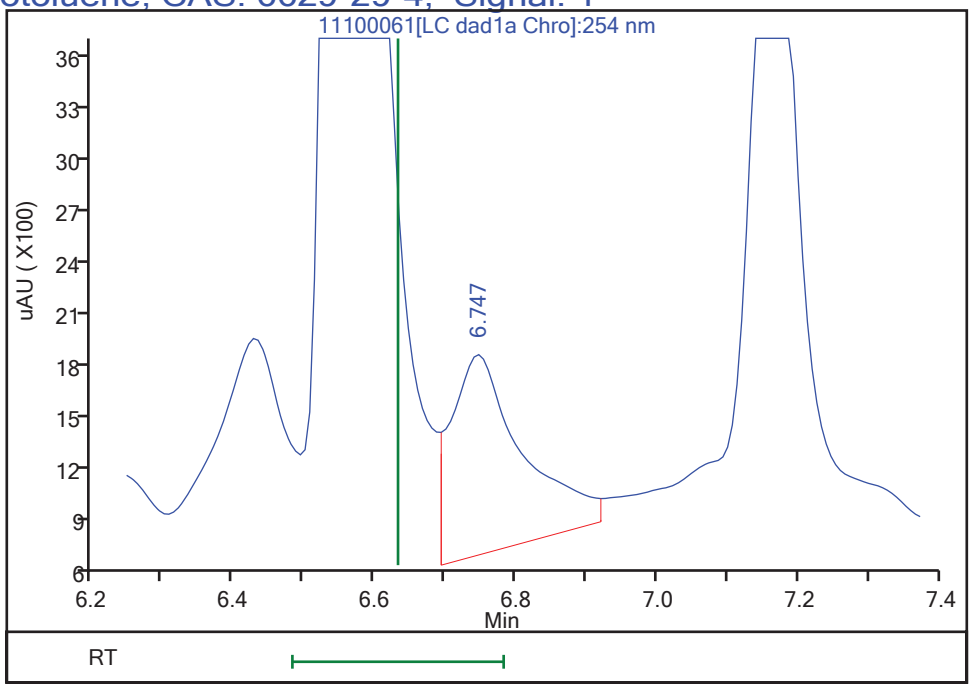
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100061.d
Injection Date: 11-Nov-2022 09:47:47 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-13-B Lab Sample ID: 280-168718-13
Client ID: X7-TP-C02-3648
Operator ID: JZ ALS Bottle#: 61 Worklist Smp#: 61
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4, Signal: 1

RT: 6.75
Response: 7977
Amount: 0.059568



Reviewer: LV5D, 11-Nov-2022 12:22:40
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

Manual Integration/User Assign Peak Report

Eurofins Denver

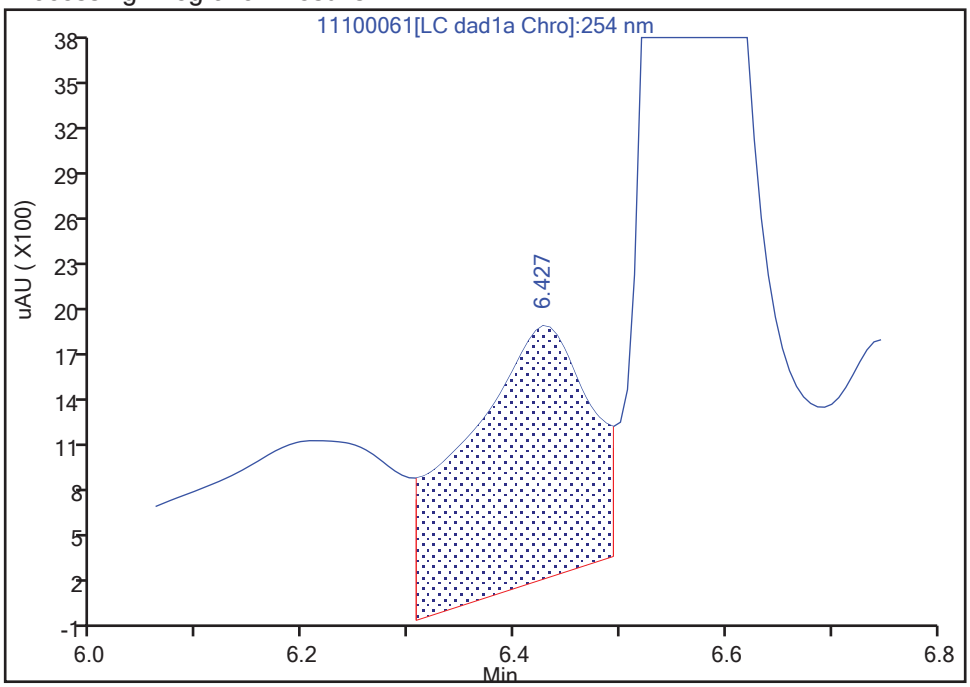
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100061.d				
Injection Date:	11-Nov-2022 09:47:47	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-13-B	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	JZ	ALS Bottle#:	61	Worklist Smp#:	61
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

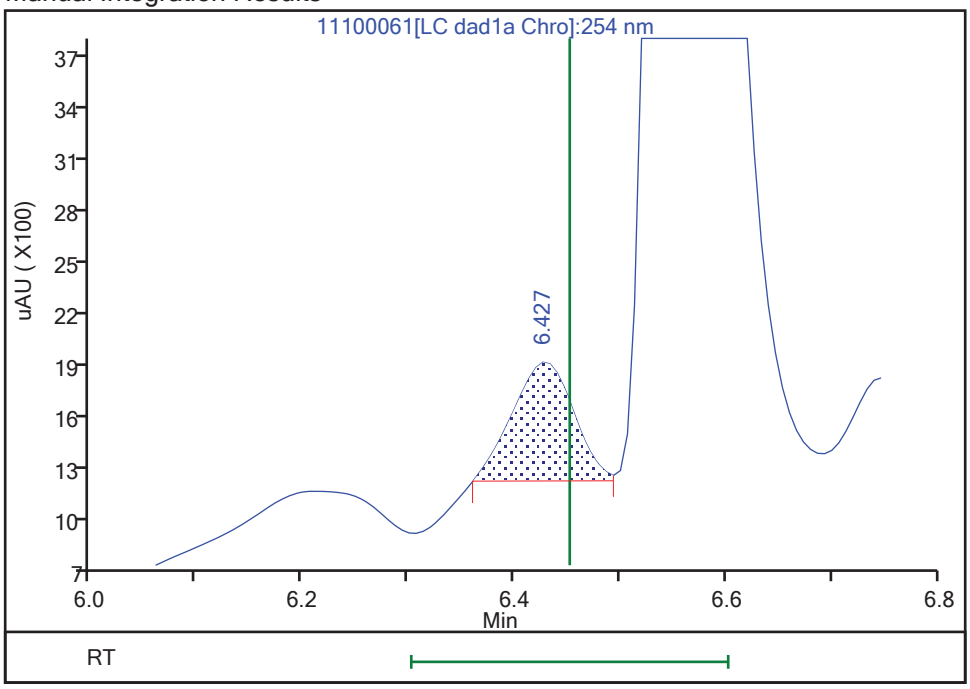
Processing Integration Results

RT: 6.43
Area: 13805
Amount: 0.064270
Amount Units: ug/mL



Manual Integration Results

RT: 6.43
Area: 2813
Amount: 0.013096
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:22:22

Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 | Lab Sample ID: 280-168718-13

Matrix: Solid | Lab File ID: 11110026.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/12/2022 01:45

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	108		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110026.D
Lims ID: 280-168718-A-13-B
Client ID: X7-TP-C02-3648
Sample Type: Client
Inject. Date: 12-Nov-2022 01:45:12 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-13-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:16

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	U
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1	6.589	6.657	-0.068	178433	1.03	
	7 2,4,6-Trinitrophenol	1		7.904			ND	U
	8 RDX	1	8.683	8.757	-0.074	3724700	18.5	E
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.769	12.837	-0.068	68979	0.2710	
	11 3,5-Dinitroaniline	1		14.797			ND	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1		20.230			ND	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1		24.684			ND	7
	25 PETN	2		25.697			ND	

QC Flag Legend

Processing Flags
- E - Exceeded Maximum Amount
- 7 - Failed Limit of Detection

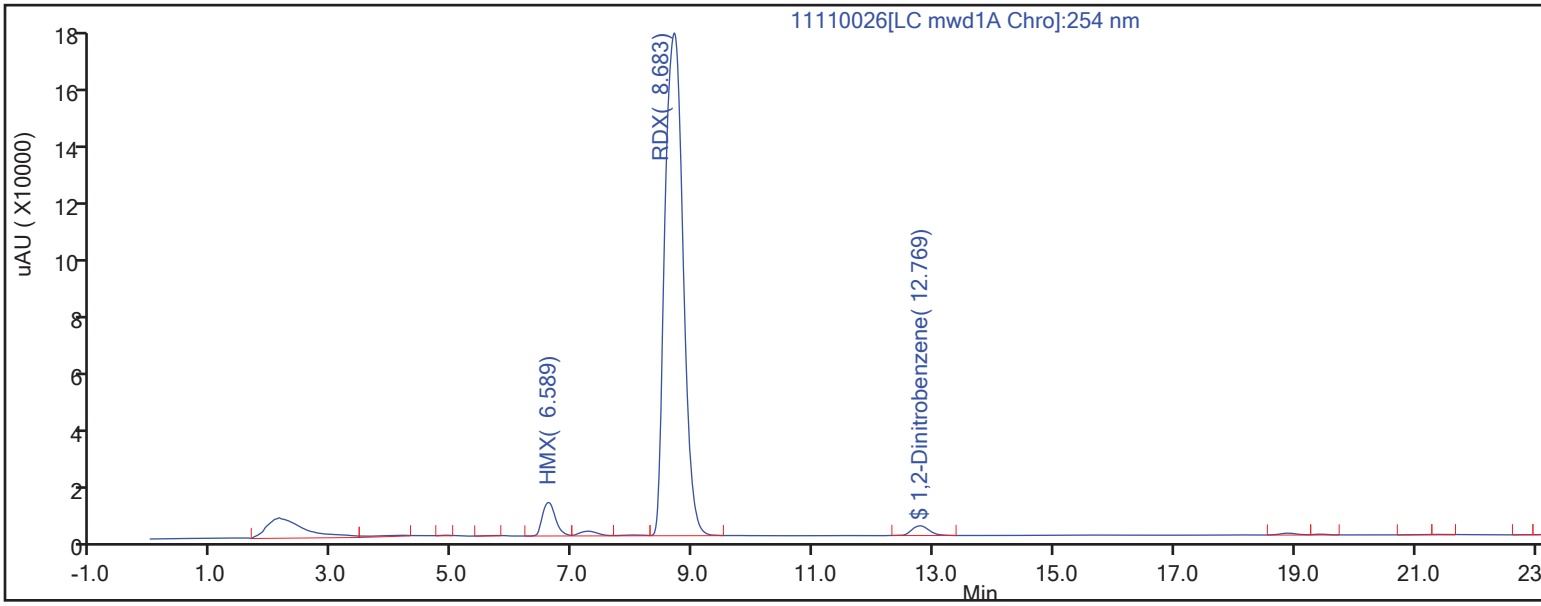
Review Flags
- U - Marked Undetected

Report Date: 12-Nov-2022 11:05:54 Chrom Revision: 2.3 08-Nov-2022 12:31:00

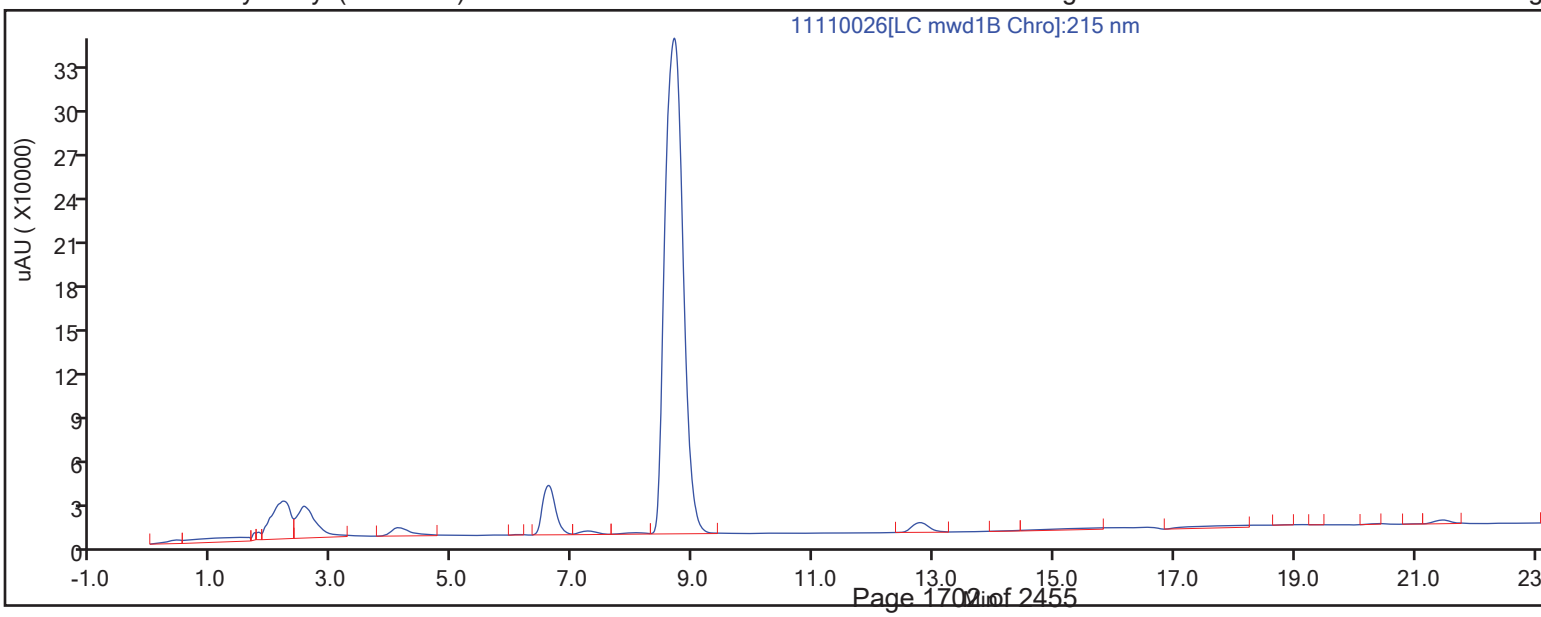
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110026.D			
Injection Date:	12-Nov-2022 01:45:12	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-13-B	Lab Sample ID:	280-168718-13	Worklist Smp#:
Client ID:	X7-TP-C02-3648			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110026.D
Lims ID: 280-168718-A-13-B
Client ID: X7-TP-C02-3648
Sample Type: Client
Inject. Date: 12-Nov-2022 01:45:12 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-13-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:16

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2710	108.41

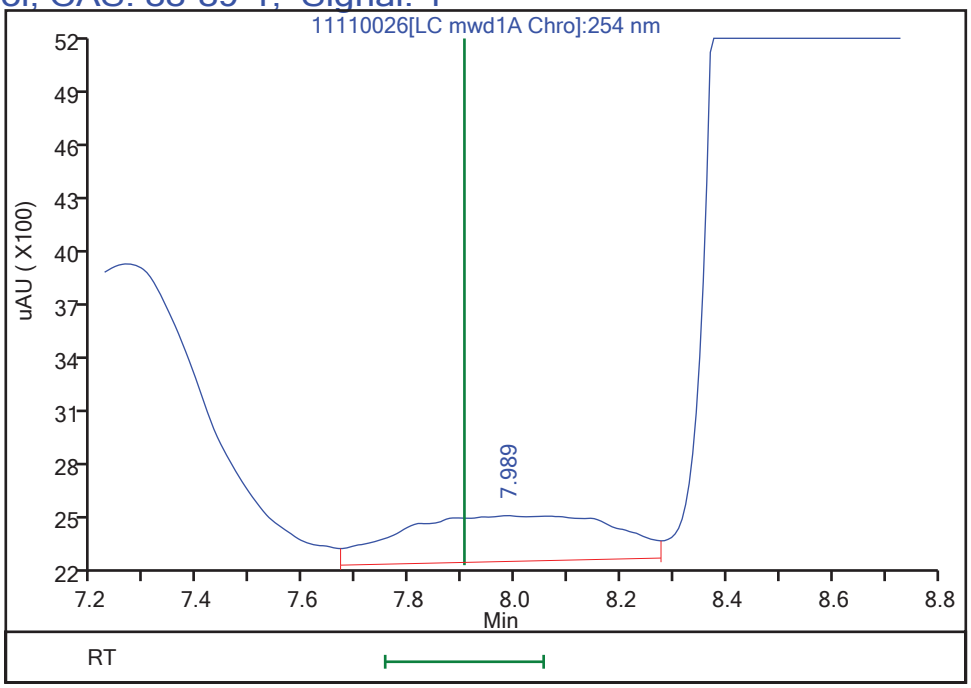
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110026.D				
Injection Date:	12-Nov-2022 01:45:12	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-13-B	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	JZ	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

7 2,4,6-Trinitrophenol, CAS: 88-89-1, Signal: 1

RT: 7.99
Response: 7000
Amount: 0.047162



Reviewer: LV5D, 12-Nov-2022 11:03:16
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

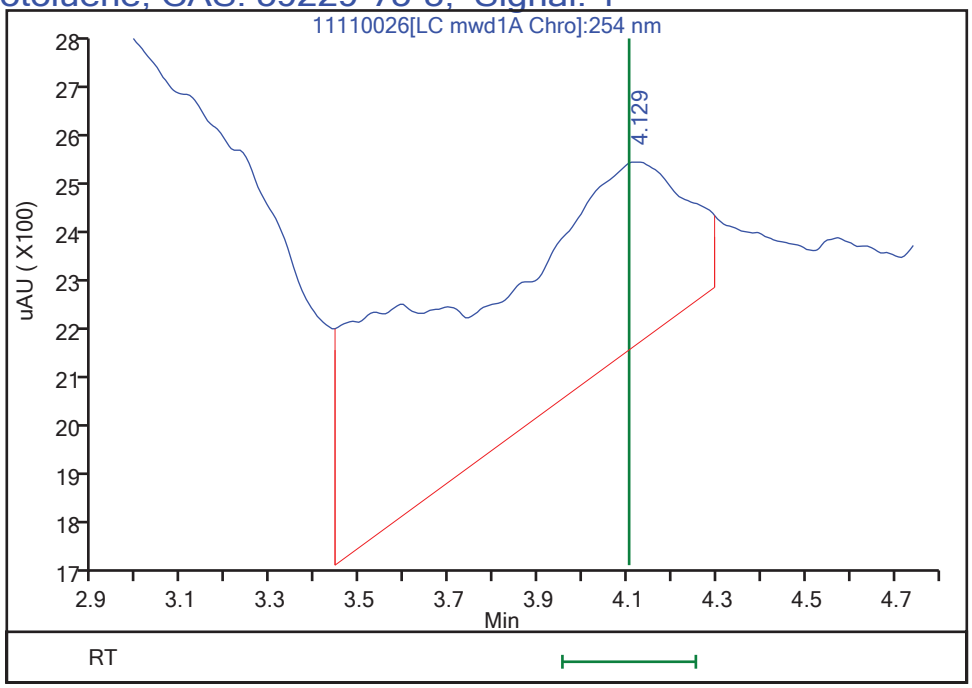
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110026.D				
Injection Date:	12-Nov-2022 01:45:12	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-13-B	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	JZ	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

1 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 4.13
Response: 17304
Amount: 0.042574



Reviewer: LV5D, 12-Nov-2022 11:03:16
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 DL | Lab Sample ID: 280-168718-13 DL

Matrix: Solid | Lab File ID: 11110012.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/11/2022 16:33

Con. Extract Vol.: 40(mL) | Dilution Factor: 20

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-82-4	RDX	65000	D M	3900	2000	840

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	91	D	78-119

Report Date: 12-Nov-2022 10:55:57 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110012.D
Lims ID: 280-168718-A-13-B DL
Client ID: X7-TP-C02-3648
Sample Type: Client
Inject. Date: 11-Nov-2022 16:33:22 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 20.0000
Sample Info: 280-168718-A-13-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:56 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:27:19

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1	6.562	6.563	-0.001	4391	0.0494	M
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1	7.548	7.549	-0.001	89909	0.8354	M
	9 2,4,6-Trinitrophenol	1		7.876			ND	
$	10 1,2-Dinitrobenzene	1	8.495	8.496	-0.001	1436	0.0114	
	11 1,3,5-Trinitrobenzene	1		8.616			ND	
	12 1,3-Dinitrobenzene	1		9.236			ND	
	13 Nitrobenzene	1		9.622			ND	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.936			ND	
	16 Nitroglycerin	2		10.382			ND	
	17 2,4,6-Trinitrotoluene	1		10.829			ND	
	18 4-Amino-2,6-dinitrotoluene	1		11.009			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.256			ND	
	20 2,6-Dinitrotoluene	1		11.436			ND	
	21 2,4-Dinitrotoluene	1		11.602			ND	
	22 o-Nitrotoluene	1		12.449			ND	
	23 p-Nitrotoluene	1		12.862			ND	
	24 m-Nitrotoluene	1		13.429			ND	
	25 PETN	2		14.462			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

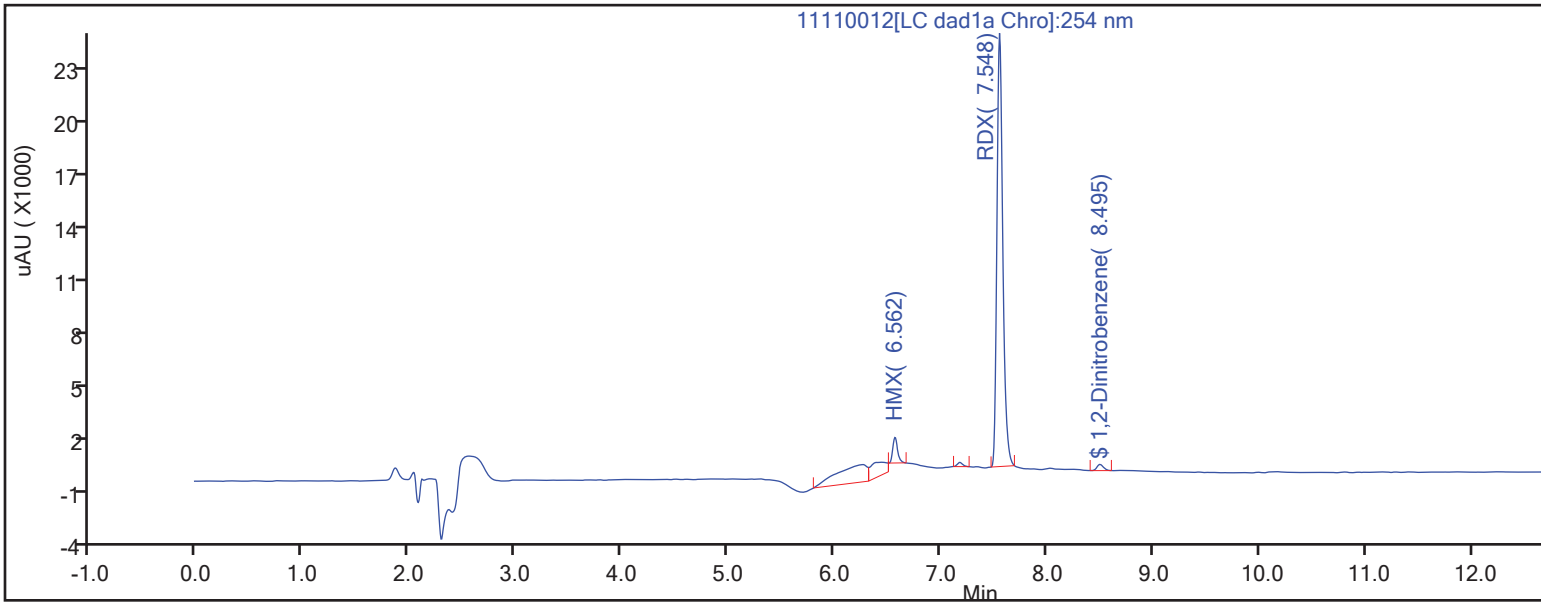
Report Date: 12-Nov-2022 10:55:57 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

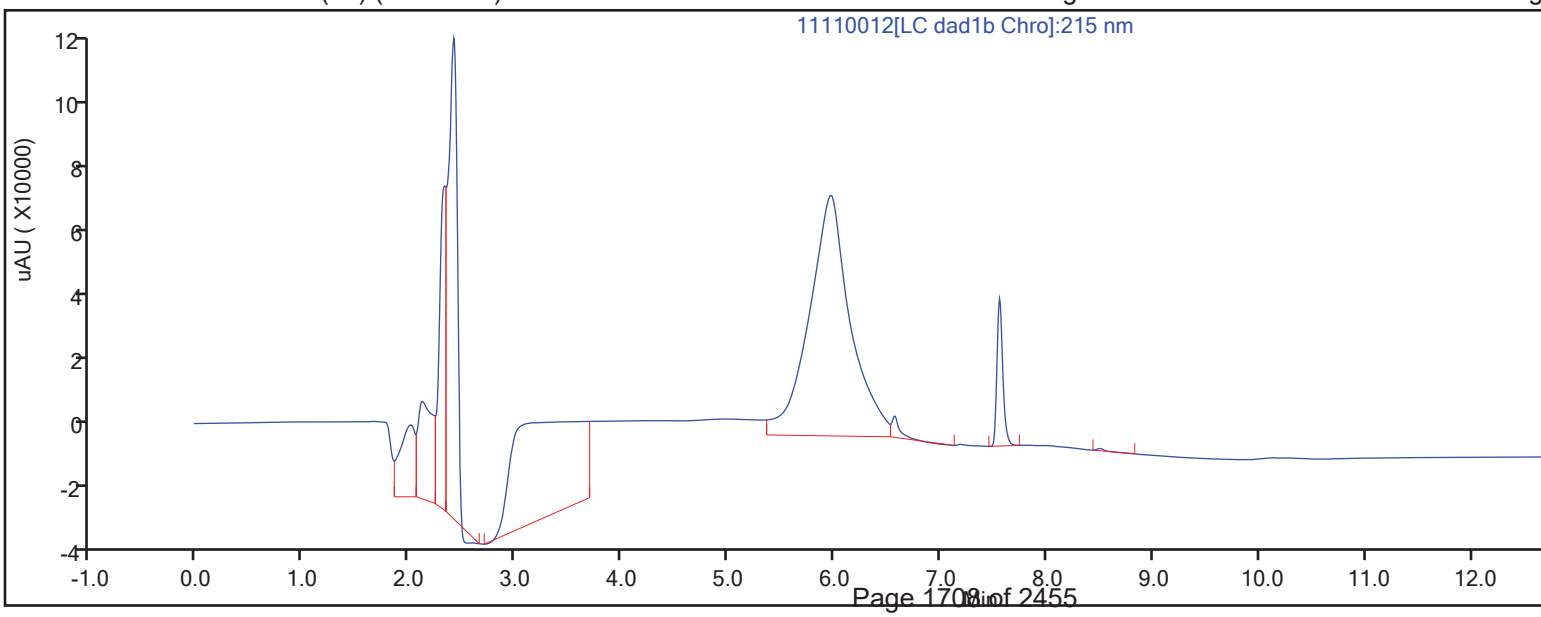
Data File: \\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110012.d

Injection Date:	11-Nov-2022 16:33:22	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-13-B DL	Lab Sample ID:	280-168718-13	Worklist Smp#:
Client ID:	X7-TP-C02-3648			
Injection Vol:	100.0 ul	Dil. Factor:	20.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 12-Nov-2022 10:55:57 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110012.D
Lims ID: 280-168718-A-13-B DL
Client ID: X7-TP-C02-3648
Sample Type: Client
Inject. Date: 11-Nov-2022 16:33:22 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 20.0000
Sample Info: 280-168718-A-13-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:56 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:27:19

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.0114	4.56

Manual Integration/User Assign Peak Report

Eurofins Denver

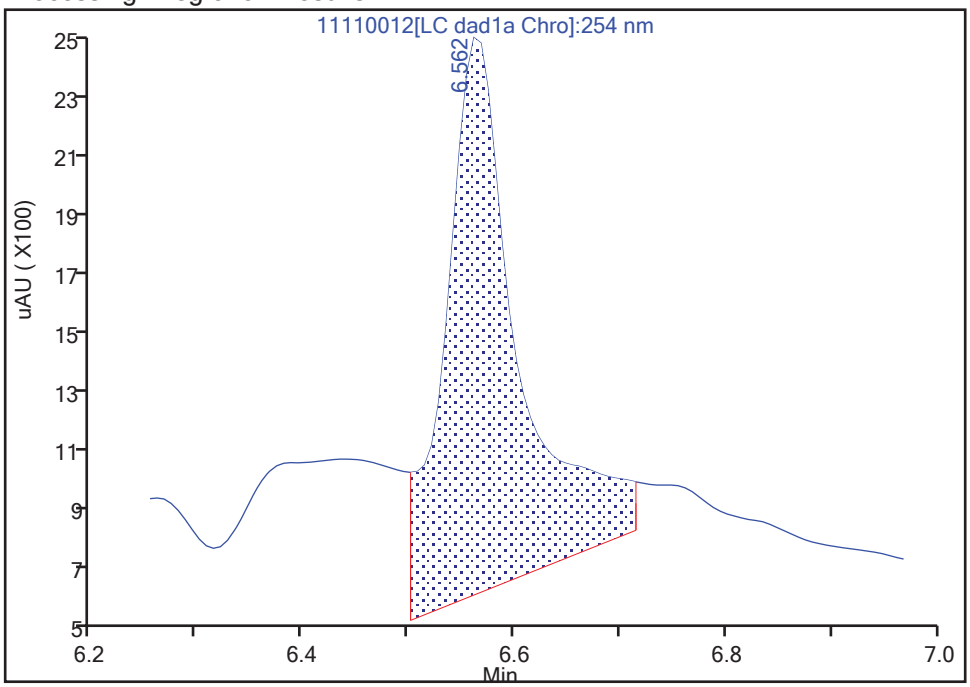
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110012.d				
Injection Date:	11-Nov-2022 16:33:22	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-13-B DL	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	JZ	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	100.0 ul	Dil. Factor:	20.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

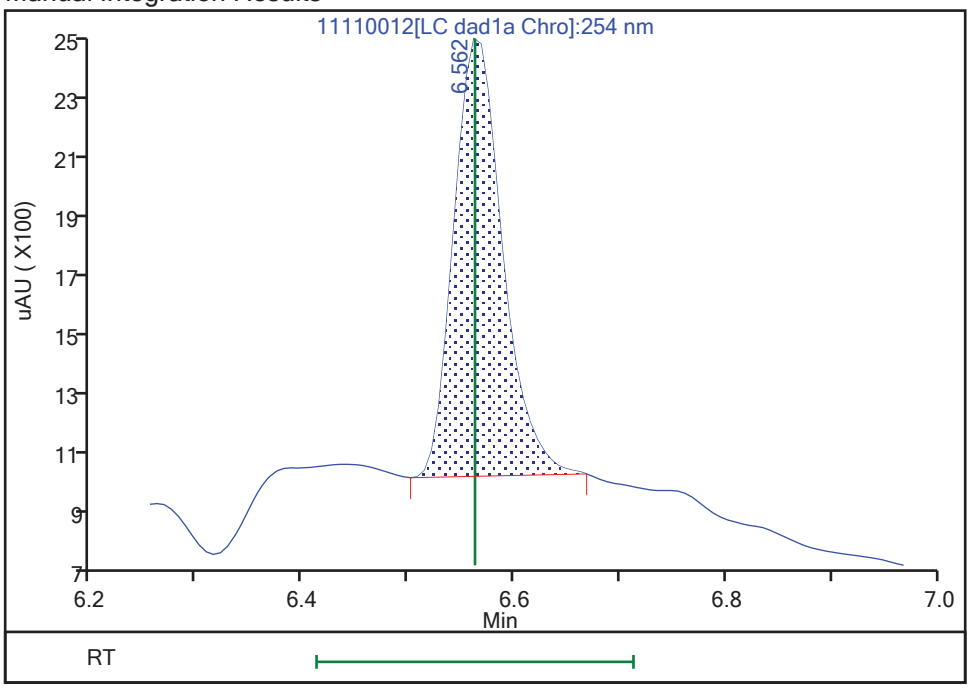
Processing Integration Results

RT: 6.56
Area: 8582
Amount: 0.096473
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 4391
Amount: 0.049360
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 17:27:12
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

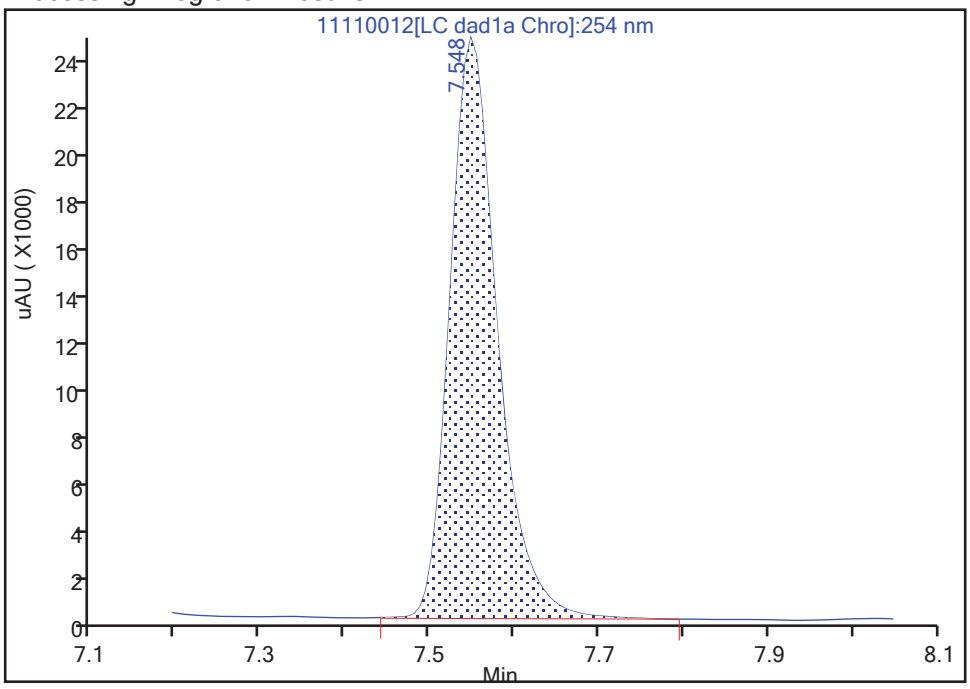
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110012.d				
Injection Date:	11-Nov-2022 16:33:22	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-13-B DL	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	JZ	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	100.0 ul	Dil. Factor:	20.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

8 RDX, CAS: 121-82-4

Signal: 1

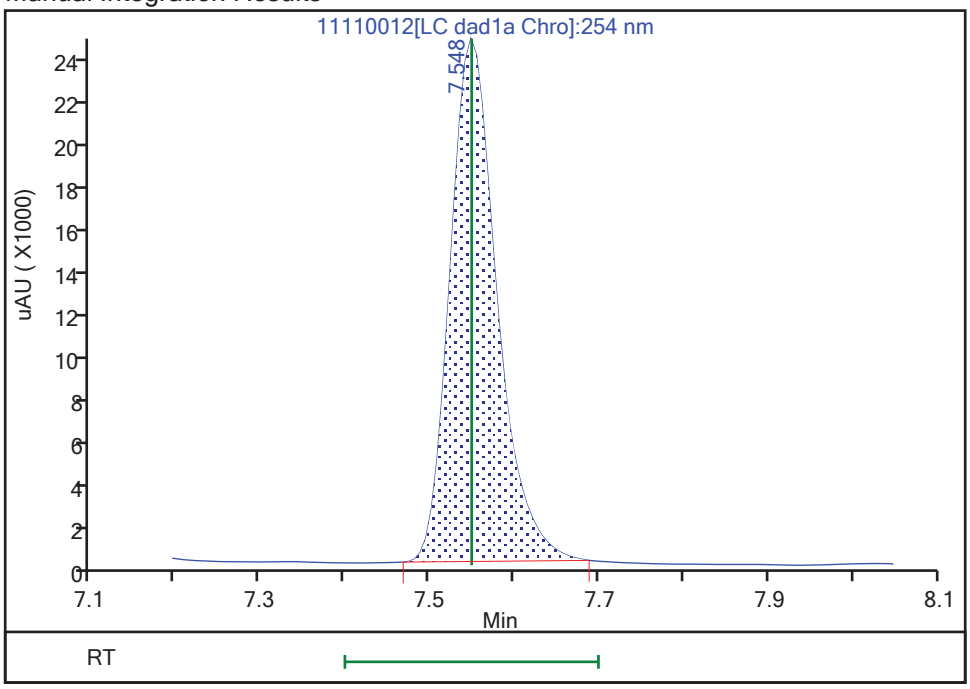
Processing Integration Results

RT: 7.55
Area: 91731
Amount: 0.852314
Amount Units: ug/mL



Manual Integration Results

RT: 7.55
Area: 89909
Amount: 0.835385
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 17:27:15

Audit Action: Manually Integrated Audit Reason: Baseline

User Disabled Compound Report

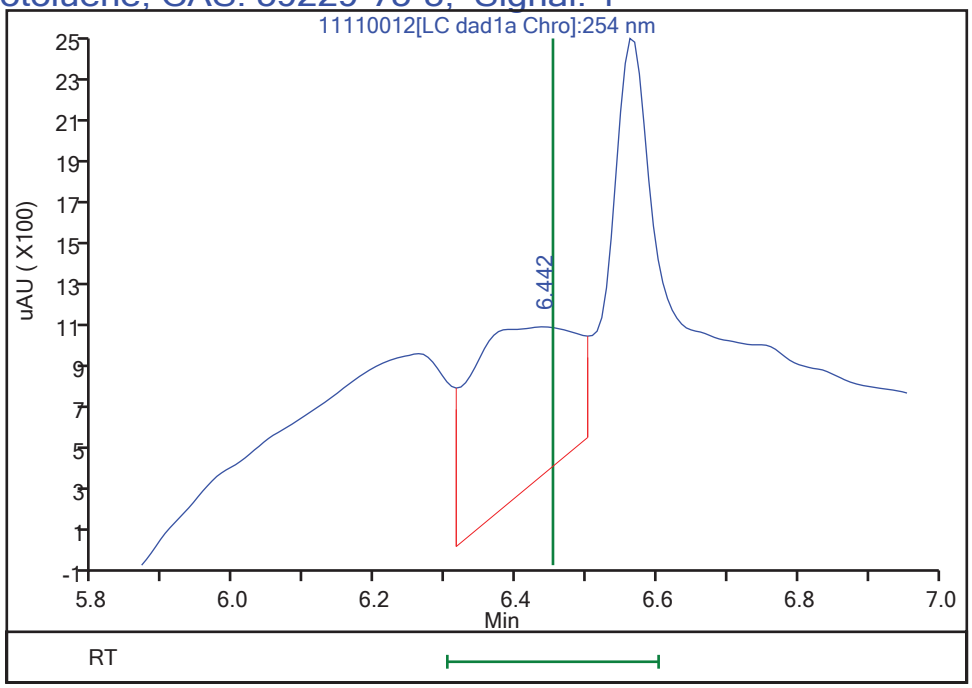
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110012.d

Injection Date:	11-Nov-2022 16:33:22	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-13-B DL	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	JZ	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	100.0 ul	Dil. Factor:	20.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.44
Response: 7861
Amount: 0.036597



Reviewer: LV5D, 11-Nov-2022 17:27:19

Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 DL | Lab Sample ID: 280-168718-13 DL

Matrix: Solid | Lab File ID: 11110033.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/12/2022 05:49

Con. Extract Vol.: 40(mL) | Dilution Factor: 20

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	86	*D*	78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110033.D
Lims ID: 280-168718-A-13-B DL
Client ID: X7-TP-C02-3648
Sample Type: Client
Inject. Date: 12-Nov-2022 05:49:42 ALS Bottle#: 33 Worklist Smp#: 33
Injection Vol: 100.0 ul Dil. Factor: 20.0000
Sample Info: 280-168718-A-13-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:04:45

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1	6.651	6.657	-0.006	8834	0.0510	
	7 2,4,6-Trinitrophenol	1		7.904			ND	7
	8 RDX	1	8.744	8.757	-0.013	175457	0.8704	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.824	12.837	-0.013	2725	0.0107	
	11 3,5-Dinitroaniline	1		14.797			ND	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	U
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1		20.230			ND	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1		24.684			ND	
	25 PETN	2		25.697			ND	

QC Flag Legend

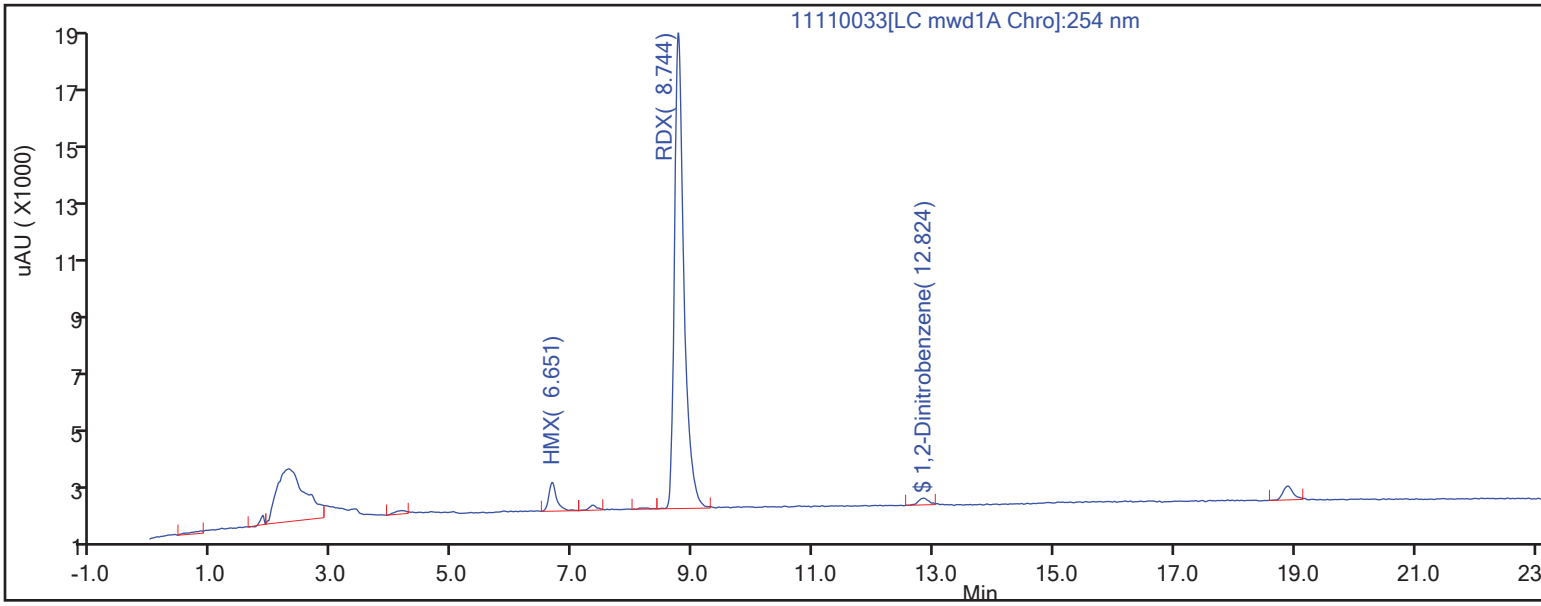
Processing Flags
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

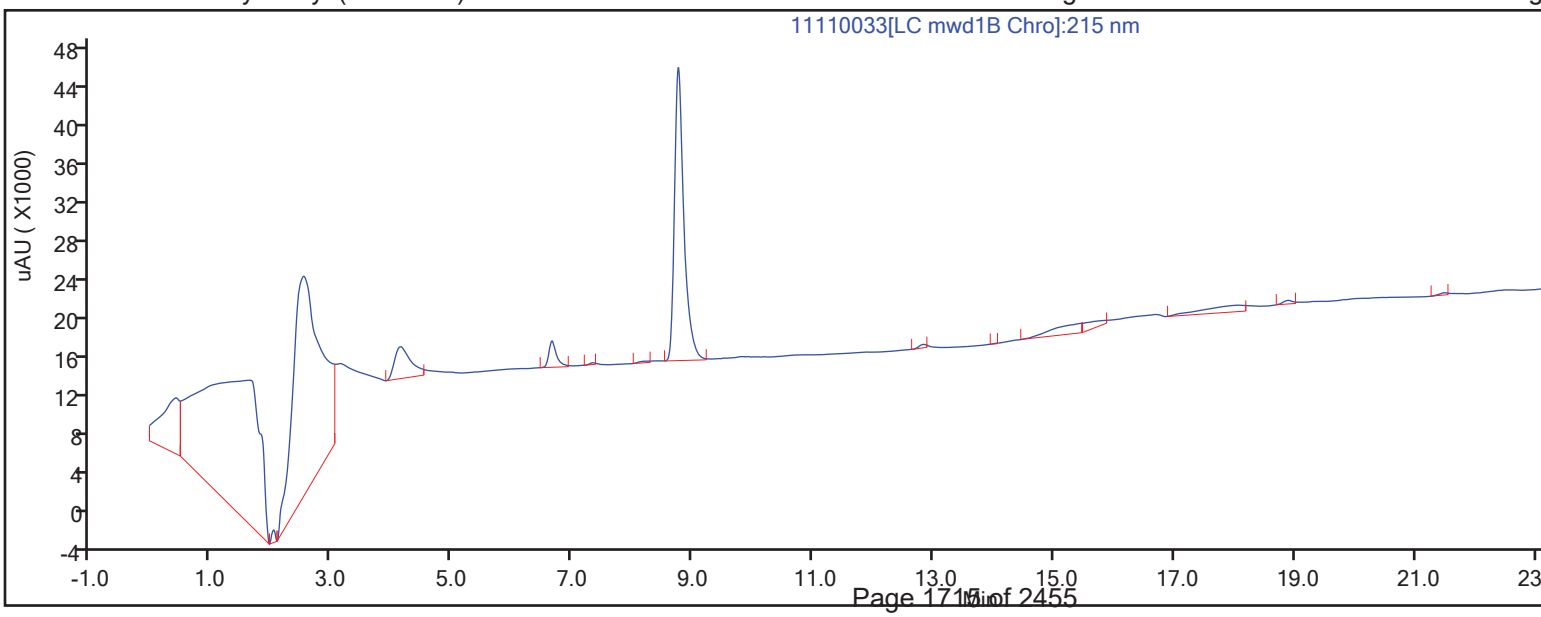
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110033.D			
Injection Date:	12-Nov-2022 05:49:42	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-13-B DL	Lab Sample ID:		Worklist Smp#:
Client ID:	X7-TP-C02-3648			
Injection Vol:	100.0 ul	Dil. Factor:	20.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 12-Nov-2022 11:05:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110033.D				
Lims ID:	280-168718-A-13-B DL				
Client ID:	X7-TP-C02-3648				
Sample Type:	Client				
Inject. Date:	12-Nov-2022 05:49:42	ALS Bottle#:	33	Worklist Smp#:	33
Injection Vol:	100.0 ul	Dil. Factor:	20.0000		
Sample Info:	280-168718-A-13-B				
Operator ID:	JZ	Instrument ID:	CHHPLC_X5		
Method:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Nov-2022 11:05:55	Calib Date:	19-Aug-2022 00:34:57		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC mwd1A, 254 nm		
Process Host:	CTX1610				

First Level Reviewer: LV5D Date: 12-Nov-2022 11:04:45

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.0107	4.28

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 | Lab Sample ID: 280-168718-14

Matrix: Solid | Lab File ID: 11100062.D

Analysis Method: 8330B | Date Collected: 11/02/2022 16:40

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.305(g) | Date Analyzed: 11/11/2022 10:10

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	97	39	13
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16
118-96-7	2,4,6-Trinitrotoluene	68	U	97	68	30
618-87-1	3,5-Dinitroaniline	19	U	97	19	8.7
121-14-2	2,4-Dinitrotoluene	39	U	97	39	14
606-20-2	2,6-Dinitrotoluene	39	U	97	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	97	68	32
88-72-2	2-Nitrotoluene	97	U	190	97	46
99-08-1	3-Nitrotoluene	150	U	190	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	97	68	29
99-99-0	4-Nitrotoluene	97	U	190	97	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	170	M	97	68	22
78-11-5	PETN	970	U	1900	970	480
88-89-1	Picric acid	97	U	97	97	55
121-82-4	RDX	4800		190	97	42
479-45-8	Tetryl	97	U	190	97	43
6629-29-4	2,4-diamino-6-nitrotoluene	970	U	1900	970	500
59229-75-3	2,6-diamino-4-nitrotoluene	970	U M	1900	970	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

Report Date: 11-Nov-2022 12:25:28 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100062.D
Lims ID: 280-168718-B-14-B
Client ID: X7-TP-C03-4248
Sample Type: Client
Inject. Date: 11-Nov-2022 10:10:49 ALS Bottle#: 62 Worklist Smp#: 62
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-14-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:22:55

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
4 HMX	1	6.555	6.571	-0.016	4009	0.0451	M
5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
8 RDX	1	7.542	7.558	-0.016	132876	1.23	
9 2,4,6-Trinitrophenol	1		7.878			ND	
$ 10 1,2-Dinitrobenzene	1	8.488	8.505	-0.017	35175	0.2795	
11 1,3,5-Trinitrobenzene	1		8.625			ND	
12 1,3-Dinitrobenzene	1		9.244			ND	
13 Nitrobenzene	1		9.638			ND	
14 3,5-Dinitroaniline	1		9.832			ND	
15 Tetryl	1		9.944			ND	
16 Nitroglycerin	2		10.404			ND	
17 2,4,6-Trinitrotoluene	1		10.851			ND	
18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
20 2,6-Dinitrotoluene	1		11.458			ND	
21 2,4-Dinitrotoluene	1		11.624			ND	
22 o-Nitrotoluene	1		12.478			ND	
23 p-Nitrotoluene	1		12.898			ND	
24 m-Nitrotoluene	1		13.464			ND	
25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

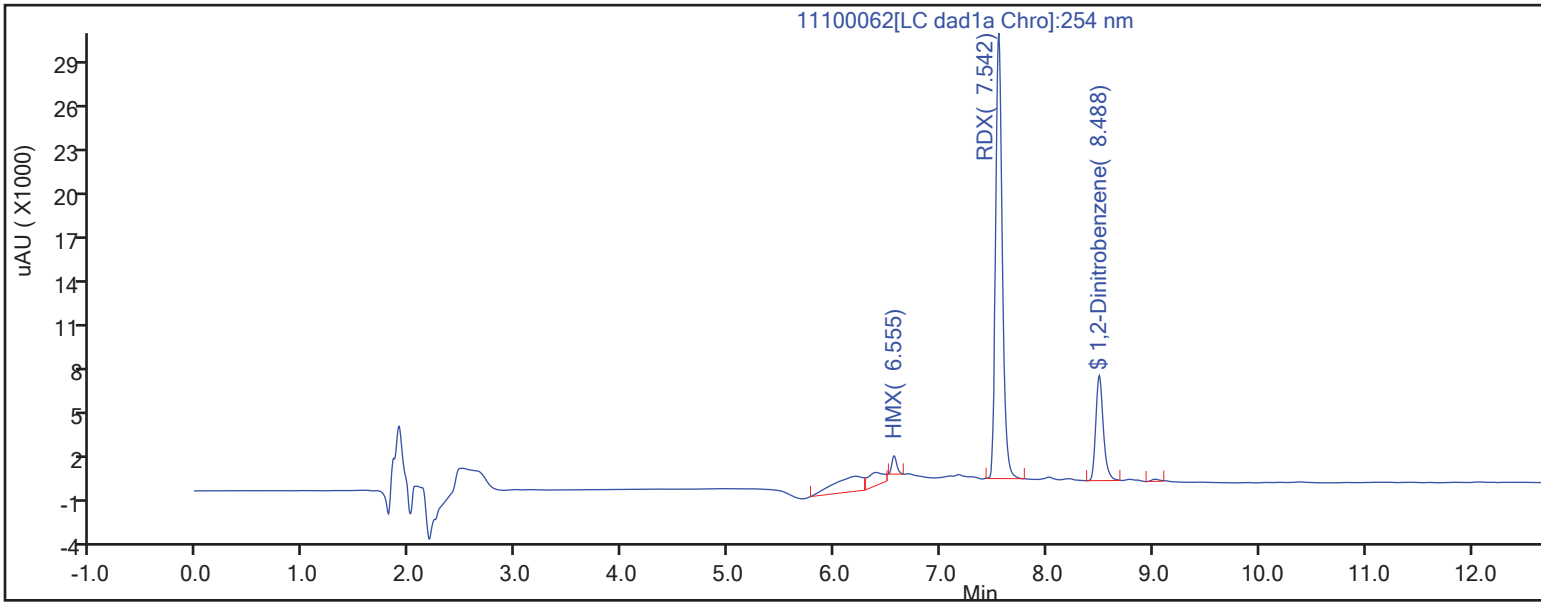
Report Date: 11-Nov-2022 12:25:28 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

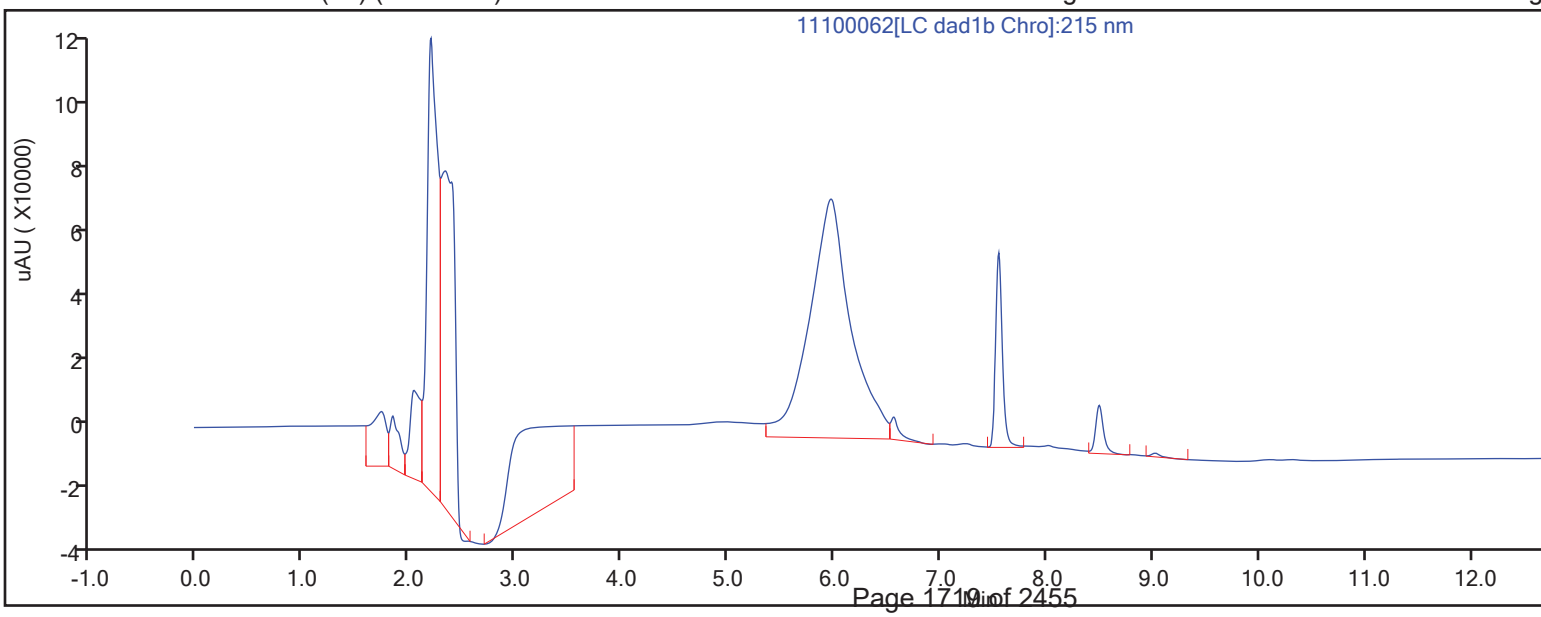
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100062.d

Injection Date:	11-Nov-2022 10:10:49	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-14-B	Lab Sample ID:	280-168718-14	Worklist Smp#:
Client ID:	X7-TP-C03-4248			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100062.D
Lims ID: 280-168718-B-14-B
Client ID: X7-TP-C03-4248
Sample Type: Client
Inject. Date: 11-Nov-2022 10:10:49 ALS Bottle#: 62 Worklist Smp#: 62
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-14-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:22:55

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2795	111.81

Manual Integration/User Assign Peak Report

Eurofins Denver

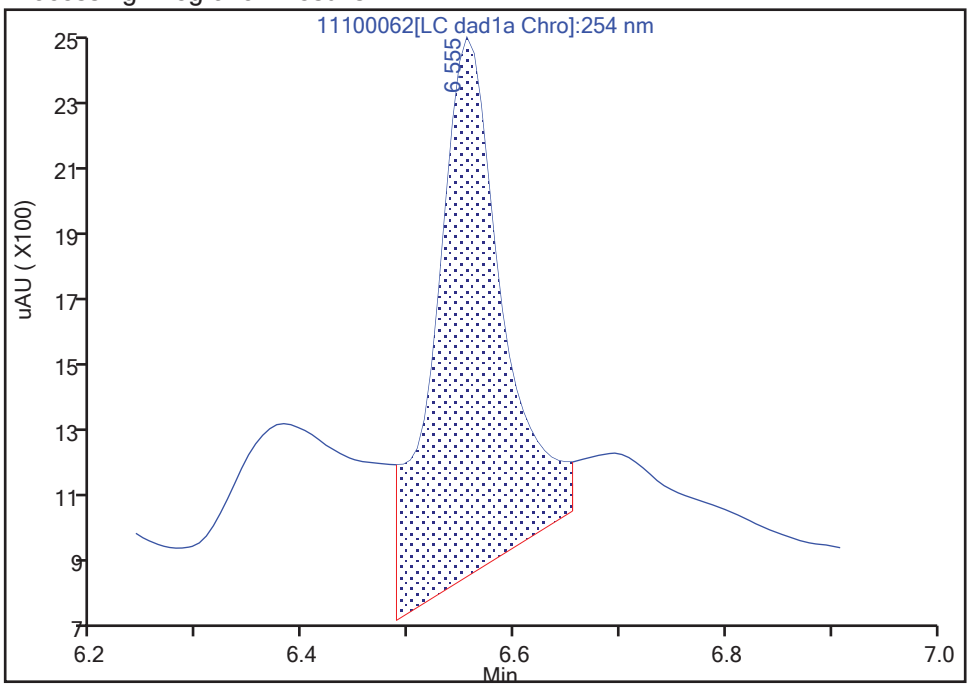
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100062.d				
Injection Date:	11-Nov-2022 10:10:49	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-14-B	Lab Sample ID:	280-168718-14		
Client ID:	X7-TP-C03-4248				
Operator ID:	JZ	ALS Bottle#:	62	Worklist Smp#:	62
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

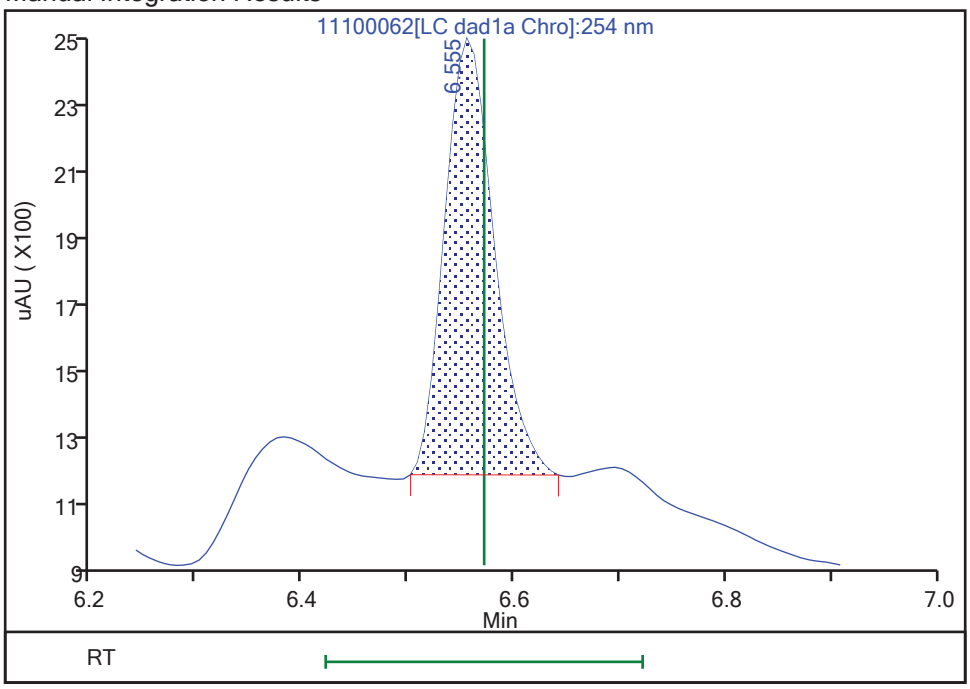
Processing Integration Results

RT: 6.55
Area: 7069
Amount: 0.079464
Amount Units: ug/mL



Manual Integration Results

RT: 6.55
Area: 4009
Amount: 0.045066
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:22:51
Audit Action: Manually Integrated Audit Reason: Baseline

User Disabled Compound Report

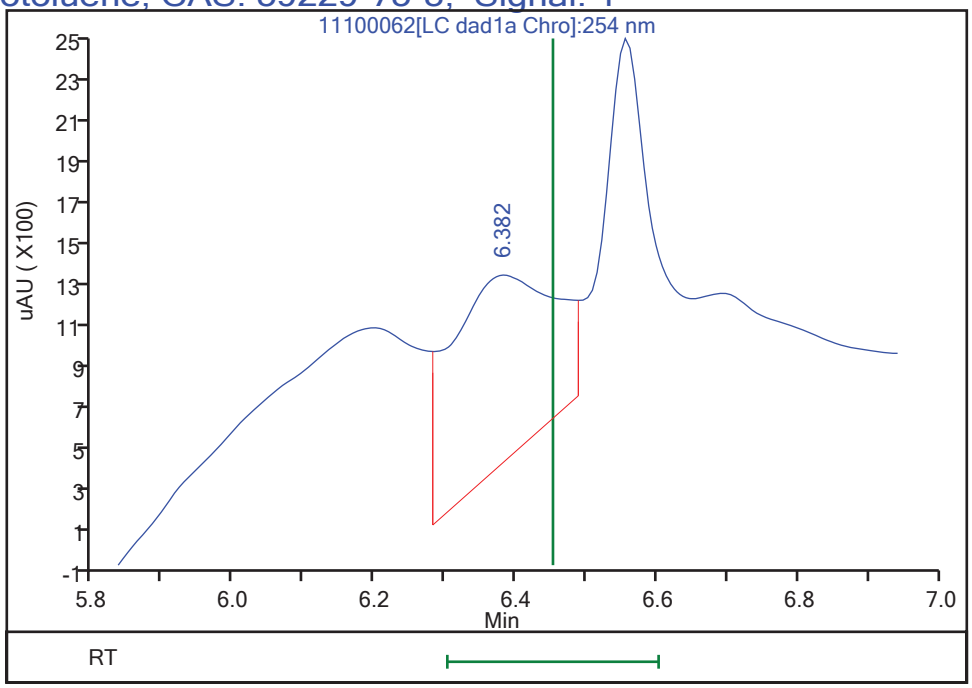
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100062.d
Injection Date: 11-Nov-2022 10:10:49 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-14-B Lab Sample ID: 280-168718-14
Client ID: X7-TP-C03-4248
Operator ID: JZ ALS Bottle#: 62 Worklist Smp#: 62
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.38
Response: 9314
Amount: 0.043362



Reviewer: LV5D, 11-Nov-2022 12:22:55
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 | Lab Sample ID: 280-168718-14

Matrix: Solid | Lab File ID: 11110027.D

Analysis Method: 8330B | Date Collected: 11/02/2022 16:40

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.305(g) | Date Analyzed: 11/12/2022 02:20

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	109		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110027.D
Lims ID: 280-168718-B-14-B
Client ID: X7-TP-C03-4248
Sample Type: Client
Inject. Date: 12-Nov-2022 02:20:05 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-14-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:21

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1	2,6-diamino-4-nitrotoluene	1		4.104			ND	7
2	2,4-diamino-6-nitrotoluene	1		4.617			ND	7
5	HMX	1	6.635	6.657	-0.022	8195	0.0474	
7	2,4,6-Trinitrophenol	1		7.904			ND	
8	RDX	1	8.728	8.757	-0.029	255376	1.27	
9	Nitrobenzene	1		11.684			ND	
$ 10	1,2-Dinitrobenzene	1	12.808	12.837	-0.029	69161	0.2717	
11	3,5-Dinitroaniline	1		14.797			ND	
12	1,3-Dinitrobenzene	1		15.177			ND	
13	Nitroglycerin	2		15.497			ND	
14	o-Nitrotoluene	1		16.344			ND	
16	p-Nitrotoluene	1		16.644			ND	
17	4-Amino-2,6-dinitrotoluene	1		17.250			ND	
18	m-Nitrotoluene	1		17.610			ND	
19	2-Amino-4,6-dinitrotoluene	1		18.230			ND	
20	1,3,5-Trinitrobenzene	1		18.437			ND	
21	2,6-Dinitrotoluene	1		19.724			ND	
22	2,4-Dinitrotoluene	1		20.230			ND	
23	Tetryl	1		23.884			ND	
24	2,4,6-Trinitrotoluene	1		24.684			ND	
25	PETN	2		25.697			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

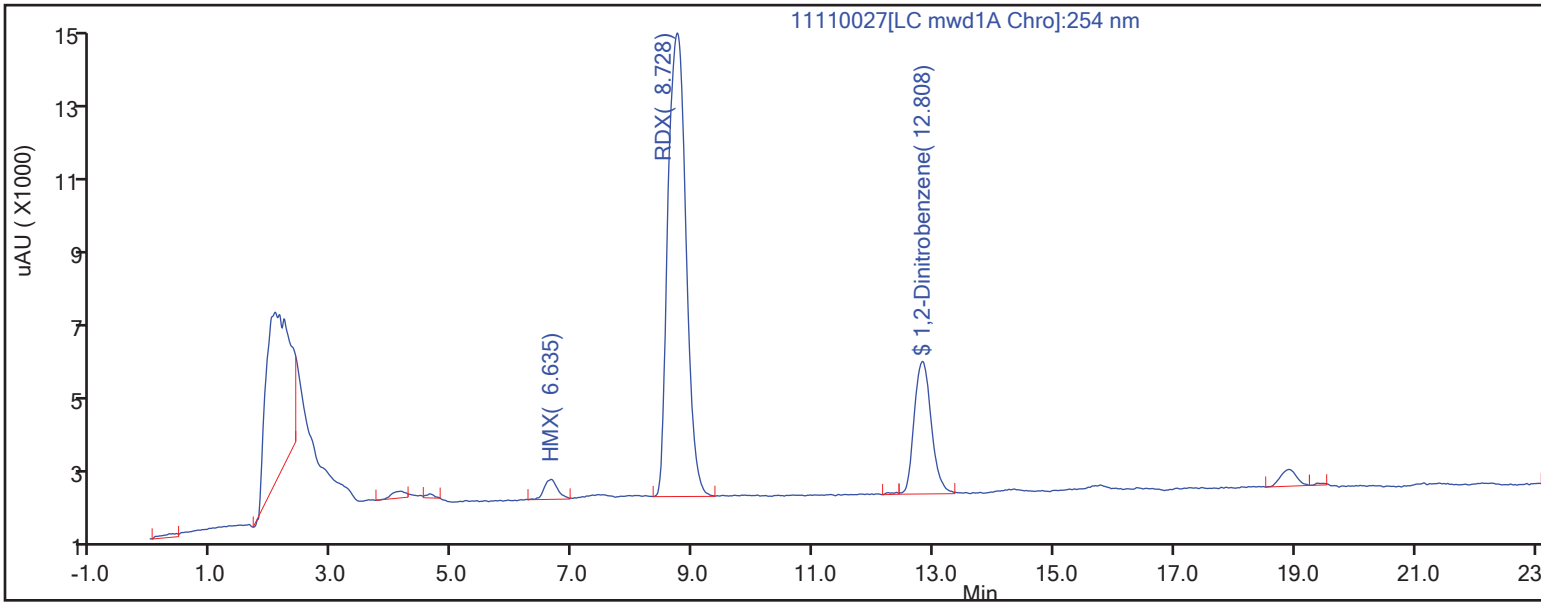
Report Date: 12-Nov-2022 11:05:54 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

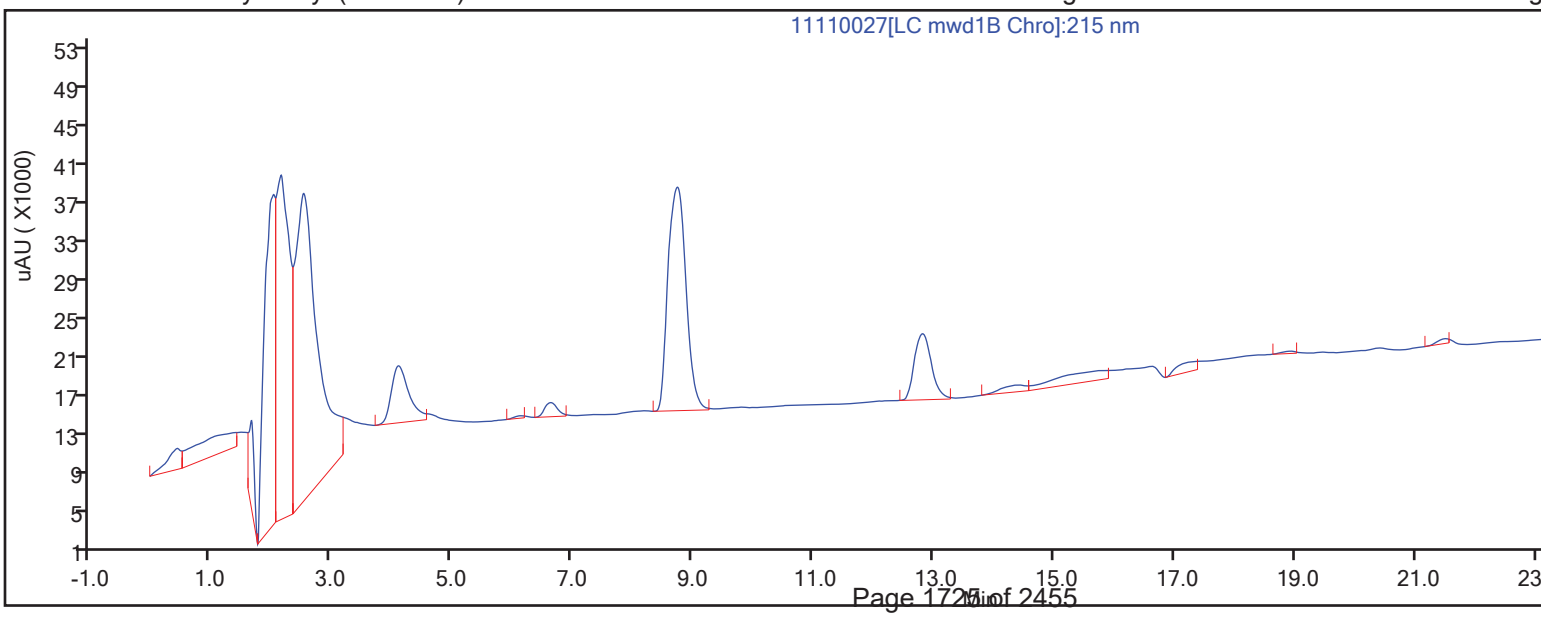
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110027.D

Injection Date:	12-Nov-2022 02:20:05	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-14-B	Lab Sample ID:	280-168718-14	Worklist Smp#:
Client ID:	X7-TP-C03-4248			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110027.D
Lims ID: 280-168718-B-14-B
Client ID: X7-TP-C03-4248
Sample Type: Client
Inject. Date: 12-Nov-2022 02:20:05 ALS Bottle#: 27 Worklist Smp#: 27
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-14-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2717	108.70

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 | Lab Sample ID: 280-168718-15

Matrix: Solid | Lab File ID: 11100063.D

Analysis Method: 8330B | Date Collected: 11/03/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.5091(g) | Date Analyzed: 11/11/2022 10:33

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	38	U	95	38	13
99-65-0	1,3-Dinitrobenzene	38	U	95	38	16
118-96-7	2,4,6-Trinitrotoluene	67	U	95	67	29
618-87-1	3,5-Dinitroaniline	19	U	95	19	8.6
121-14-2	2,4-Dinitrotoluene	38	U	95	38	14
606-20-2	2,6-Dinitrotoluene	38	U	95	38	18
35572-78-2	2-Amino-4,6-dinitrotoluene	67	U	95	67	31
88-72-2	2-Nitrotoluene	95	U	190	95	45
99-08-1	3-Nitrotoluene	140	U	190	140	61
19406-51-0	4-Amino-2,6-dinitrotoluene	67	U	95	67	28
99-99-0	4-Nitrotoluene	95	U	190	95	35
98-95-3	Nitrobenzene	190	U	290	190	81
55-63-0	Nitroglycerin	670	U	1900	670	200
2691-41-0	HMX	280	M	95	67	22
78-11-5	PETN	950	U	1900	950	470
88-89-1	Picric acid	95	U	95	95	54
121-82-4	RDX	6200		190	95	41
479-45-8	Tetryl	95	U	190	95	42
6629-29-4	2,4-diamino-6-nitrotoluene	950	U M	1900	950	490
59229-75-3	2,6-diamino-4-nitrotoluene	950	U M	1900	950	310

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	111		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100063.D
Lims ID: 280-168718-B-15-B
Client ID: X7-TP-C04-4248
Sample Type: Client
Inject. Date: 11-Nov-2022 10:33:49 ALS Bottle#: 63 Worklist Smp#: 63
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-15-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:24:21

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1	6.559	6.571	-0.012	6581	0.0740	M
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	MU
	8 RDX	1	7.539	7.558	-0.019	174208	1.62	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.486	8.505	-0.019	34824	0.2767	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1		9.244			ND	
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1		9.832			ND	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1		10.851			ND	
	18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1		11.624			ND	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
U - Marked Undetected

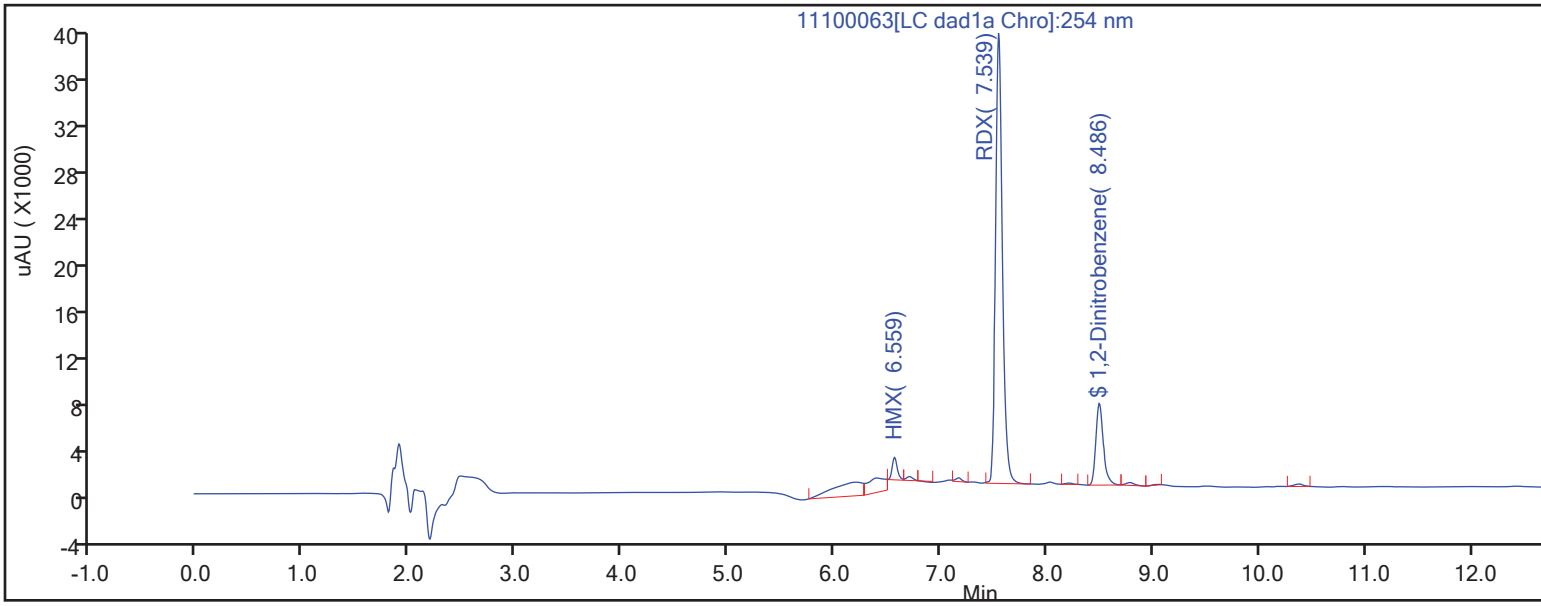
Report Date: 11-Nov-2022 12:25:26 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

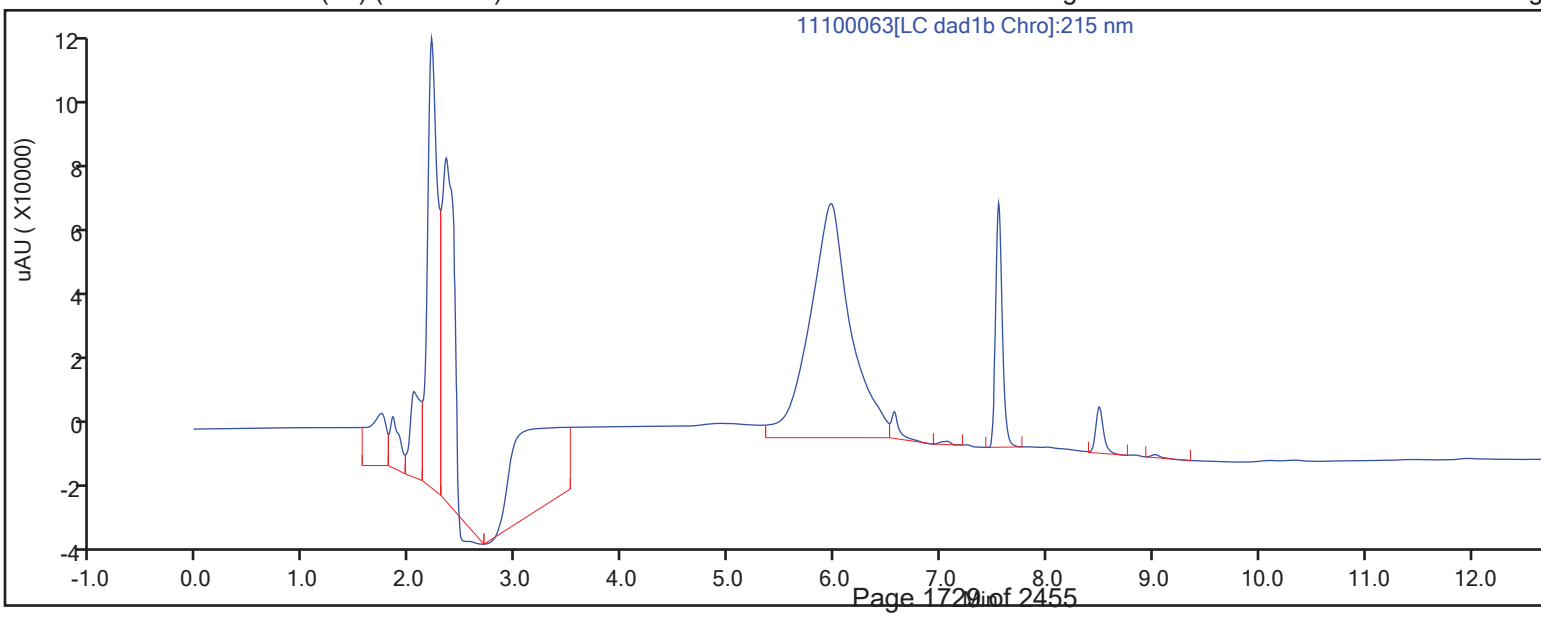
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100063.d

Injection Date:	11-Nov-2022 10:33:49	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-15-B	Lab Sample ID:	280-168718-15	Worklist Smp#:
Client ID:	X7-TP-C04-4248			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100063.D
Lims ID: 280-168718-B-15-B
Client ID: X7-TP-C04-4248
Sample Type: Client
Inject. Date: 11-Nov-2022 10:33:49 ALS Bottle#: 63 Worklist Smp#: 63
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-15-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:24:21

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2767	110.69

Manual Integration/User Assign Peak Report

Eurofins Denver

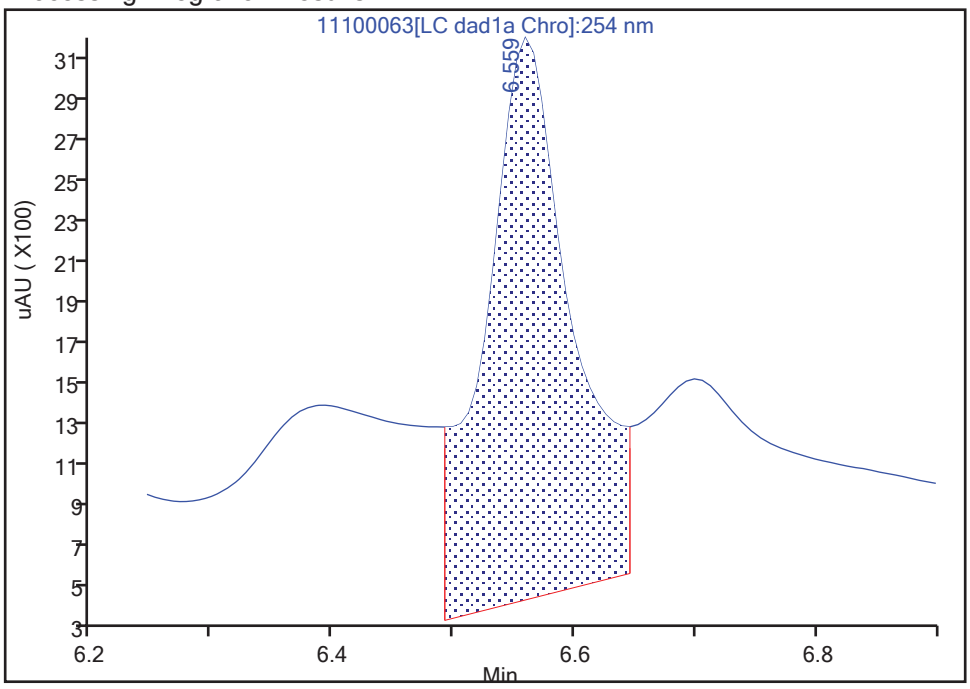
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100063.d				
Injection Date:	11-Nov-2022 10:33:49	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-15-B	Lab Sample ID:	280-168718-15		
Client ID:	X7-TP-C04-4248				
Operator ID:	JZ	ALS Bottle#:	63	Worklist Smp#:	63
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

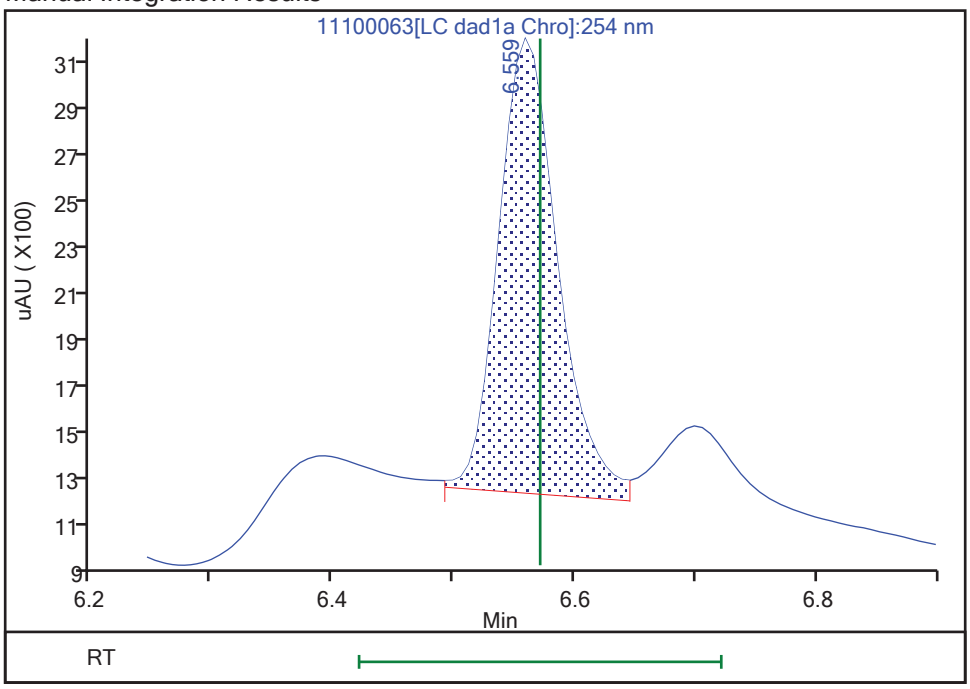
Processing Integration Results

RT: 6.56
Area: 13582
Amount: 0.152679
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 6581
Amount: 0.073979
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:24:12
Audit Action: Assigned New Baseline Audit Reason: Baseline

User Disabled Compound Report

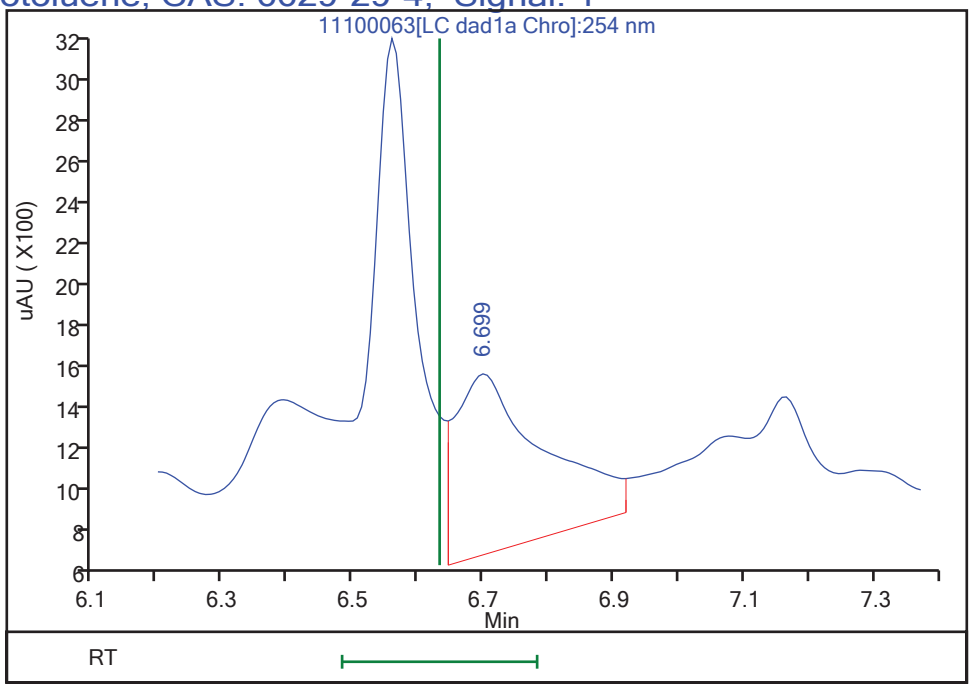
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100063.d
Injection Date: 11-Nov-2022 10:33:49 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-15-B Lab Sample ID: 280-168718-15
Client ID: X7-TP-C04-4248
Operator ID: JZ ALS Bottle#: 63 Worklist Smp#: 63
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4, Signal: 1

RT: 6.70
Response: 8238
Amount: 0.061517



Reviewer: LV5D, 11-Nov-2022 12:24:21
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

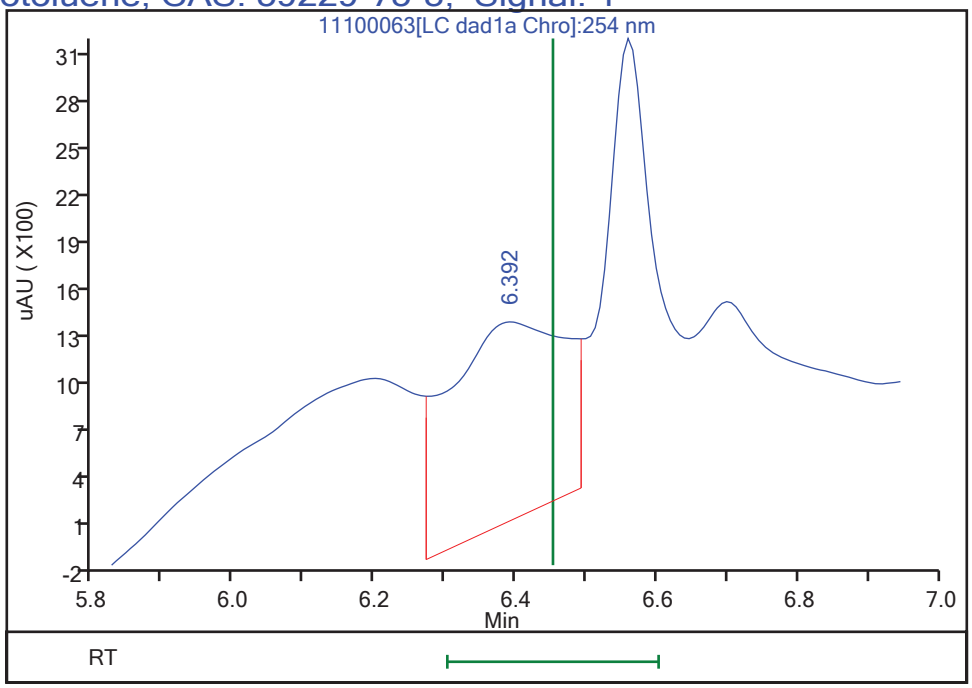
User Disabled Compound Report

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100063.d
Injection Date: 11-Nov-2022 10:33:49 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-15-B Lab Sample ID: 280-168718-15
Client ID: X7-TP-C04-4248
Operator ID: JZ ALS Bottle#: 63 Worklist Smp#: 63
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.39
Response: 14388
Amount: 0.066984



Reviewer: LV5D, 11-Nov-2022 12:24:21
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 | Lab Sample ID: 280-168718-15

Matrix: Solid | Lab File ID: 11110028.D

Analysis Method: 8330B | Date Collected: 11/03/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.5091(g) | Date Analyzed: 11/12/2022 02:55

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	107		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110028.D
Lims ID: 280-168718-B-15-B
Client ID: X7-TP-C04-4248
Sample Type: Client
Inject. Date: 12-Nov-2022 02:55:00 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-15-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:29

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1	6.611	6.657	-0.046	16189	0.0935	M
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1	8.711	8.757	-0.046	321079	1.59	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.804	12.837	-0.033	67914	0.2668	
	11 3,5-Dinitroaniline	1		14.797			ND	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	
	14 o-Nitrotoluene	1		16.344			ND	
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1		19.724			ND	
	22 2,4-Dinitrotoluene	1		20.230			ND	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1		24.684			ND	
	25 PETN	2		25.697			ND	

QC Flag Legend

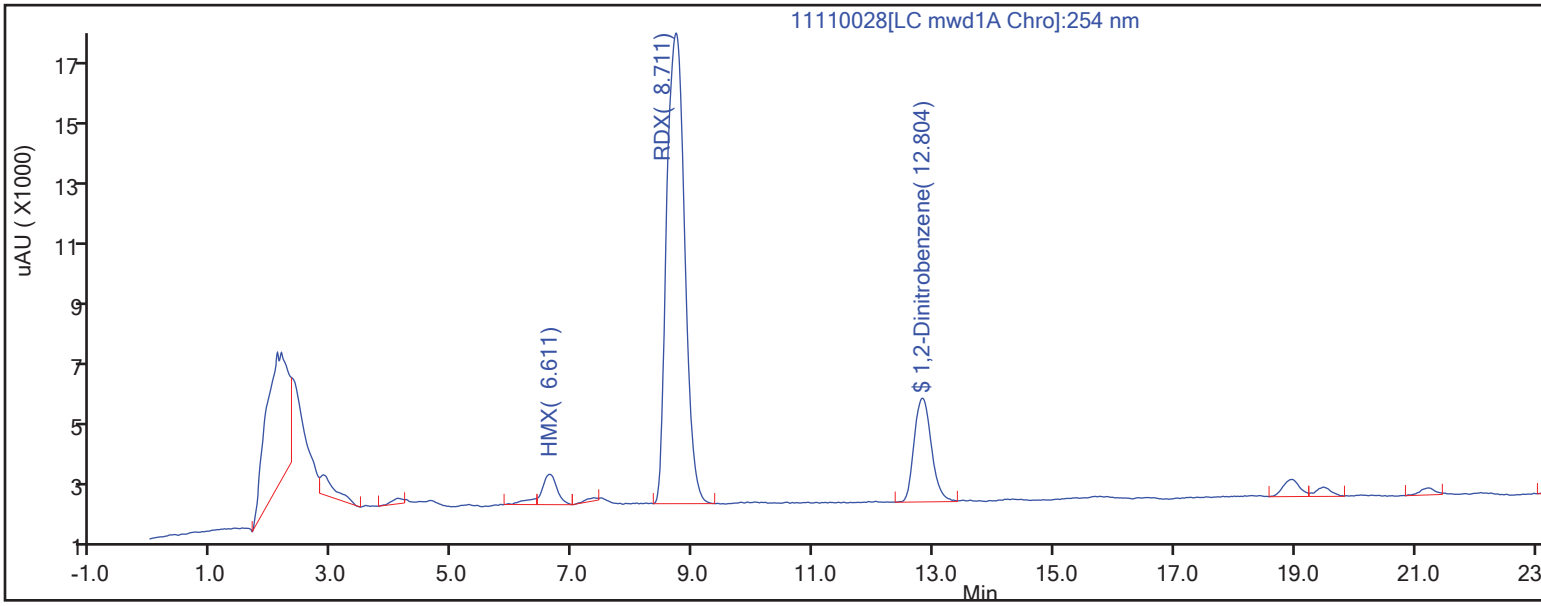
Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated

Report Date: 12-Nov-2022 11:05:55 Chrom Revision: 2.3 08-Nov-2022 12:31:00

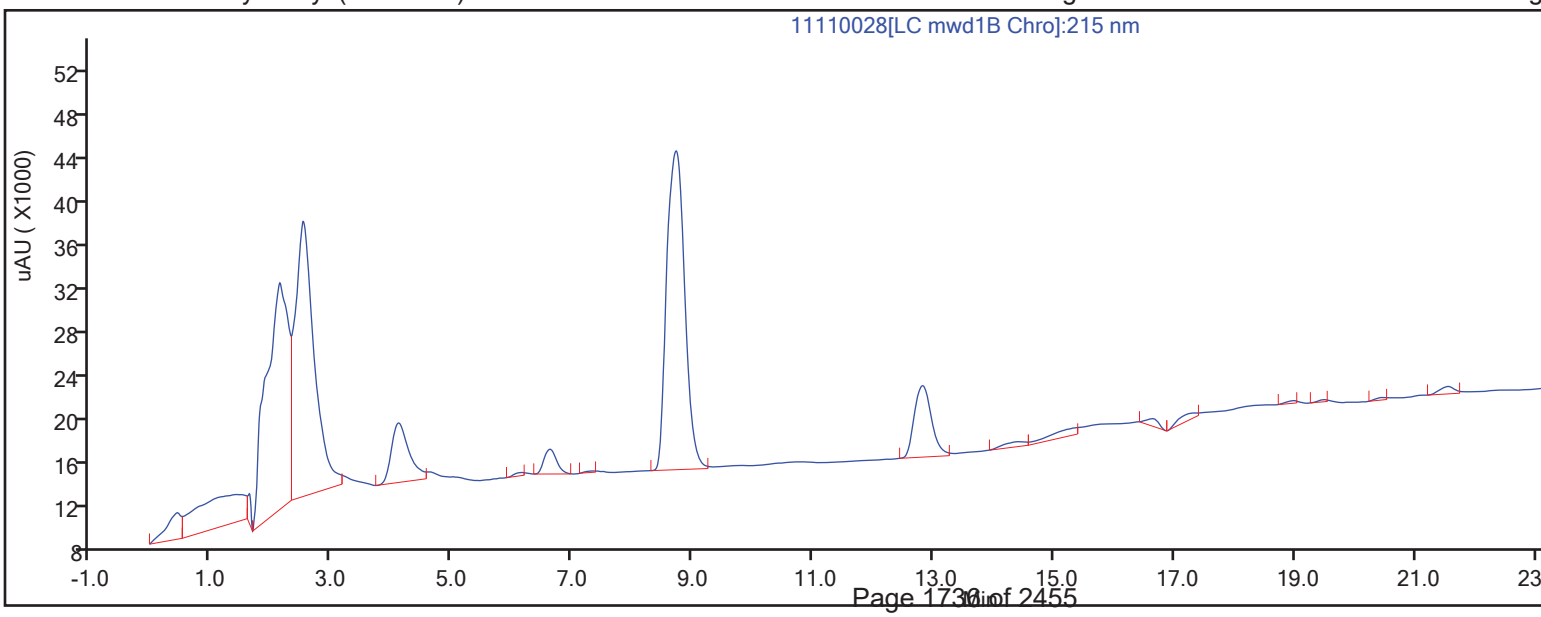
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110028.D			
Injection Date:	12-Nov-2022 02:55:00	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-15-B	Lab Sample ID:	280-168718-15	Worklist Smp#:
Client ID:	X7-TP-C04-4248			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110028.D
Lims ID: 280-168718-B-15-B
Client ID: X7-TP-C04-4248
Sample Type: Client
Inject. Date: 12-Nov-2022 02:55:00 ALS Bottle#: 28 Worklist Smp#: 28
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-15-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:29

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2668	106.74

Manual Integration/User Assign Peak Report

Eurofins Denver

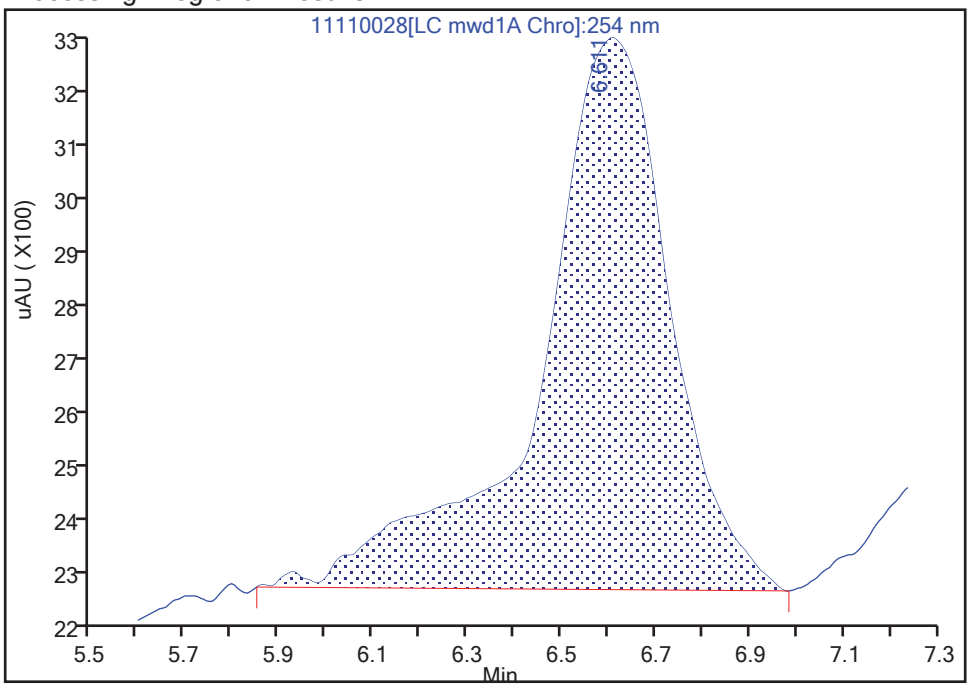
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110028.D				
Injection Date:	12-Nov-2022 02:55:00	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-15-B	Lab Sample ID:	280-168718-15		
Client ID:	X7-TP-C04-4248				
Operator ID:	JZ	ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

5 HMX, CAS: 2691-41-0

Signal: 1

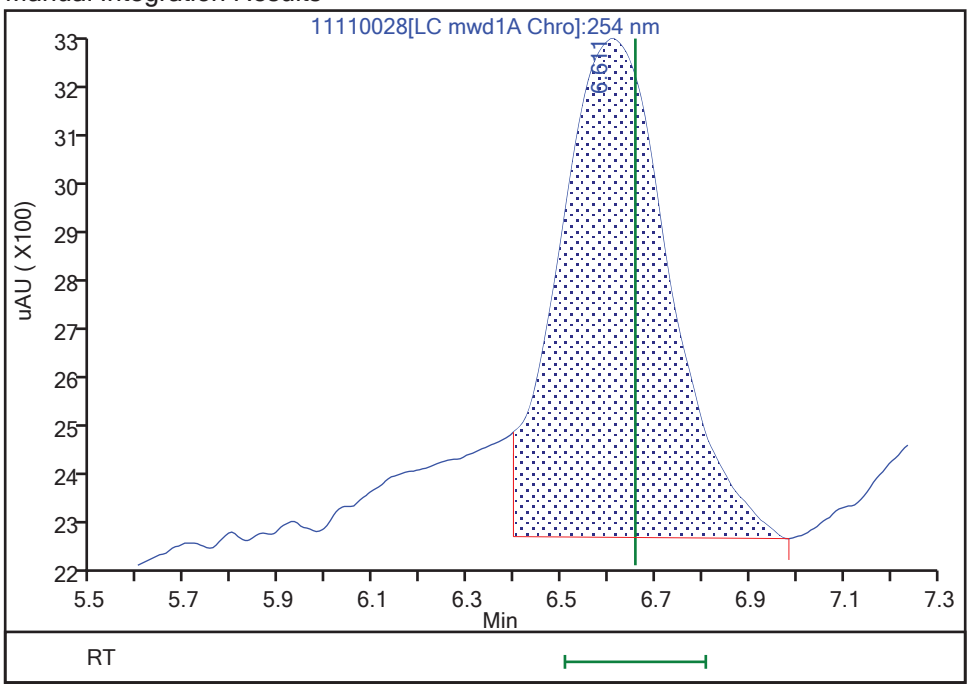
Processing Integration Results

RT: 6.61
Area: 19335
Amount: 0.111725
Amount Units: ug/ml



Manual Integration Results

RT: 6.61
Area: 16189
Amount: 0.093547
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:03:28

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 | Lab Sample ID: 280-168718-16

Matrix: Solid | Lab File ID: 11100064.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3627(g) | Date Analyzed: 11/11/2022 10:56

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	96	39	13
118-96-7	2,4,6-Trinitrotoluene	160		96	68	30
618-87-1	3,5-Dinitroaniline	19	U	96	19	8.7
121-14-2	2,4-Dinitrotoluene	39	U	96	39	14
606-20-2	2,6-Dinitrotoluene	39	U	96	39	18
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	96	68	32
88-72-2	2-Nitrotoluene	96	U	190	96	46
99-08-1	3-Nitrotoluene	140	U	190	140	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	96	68	29
99-99-0	4-Nitrotoluene	96	U	190	96	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	68	U	96	68	22
78-11-5	PETN	960	U	1900	960	480
88-89-1	Picric acid	96	U	96	96	54
121-82-4	RDX	96	U	190	96	41
479-45-8	Tetryl	96	U	190	96	42
6629-29-4	2,4-diamino-6-nitrotoluene	960	U	1900	960	500
59229-75-3	2,6-diamino-4-nitrotoluene	960	U M	1900	960	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	109		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100064.D
Lims ID: 280-168718-B-16-B
Client ID: X3-SS-C07-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 10:56:53 ALS Bottle#: 64 Worklist Smp#: 64
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-16-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:24:30

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
4 HMX	1		6.571			ND	
5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
8 RDX	1		7.558			ND	
9 2,4,6-Trinitrophenol	1		7.878			ND	
$ 10 1,2-Dinitrobenzene	1	8.490	8.505	-0.015	34195	0.2717	
11 1,3,5-Trinitrobenzene	1		8.625			ND	
12 1,3-Dinitrobenzene	1	9.217	9.244	-0.027	2063	0.007101	
13 Nitrobenzene	1		9.638			ND	
14 3,5-Dinitroaniline	1		9.832			ND	
15 Tetryl	1		9.944			ND	
16 Nitroglycerin	2		10.404			ND	
17 2,4,6-Trinitrotoluene	1	10.823	10.851	-0.028	8664	0.0411	
18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
19 2-Amino-4,6-dinitrotoluene	1		11.271			ND	
20 2,6-Dinitrotoluene	1		11.458			ND	
21 2,4-Dinitrotoluene	1		11.624			ND	
22 o-Nitrotoluene	1		12.478			ND	
23 p-Nitrotoluene	1		12.898			ND	
24 m-Nitrotoluene	1		13.464			ND	
25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

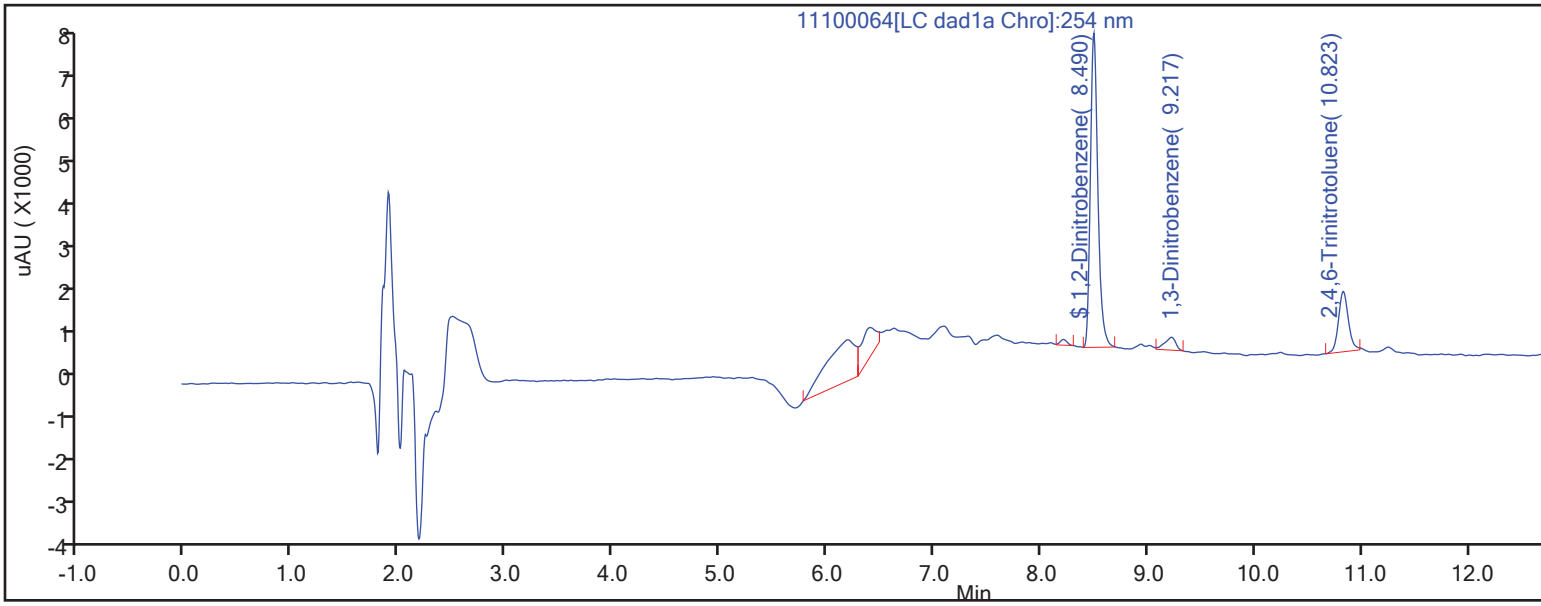
Report Date: 11-Nov-2022 12:25:25 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

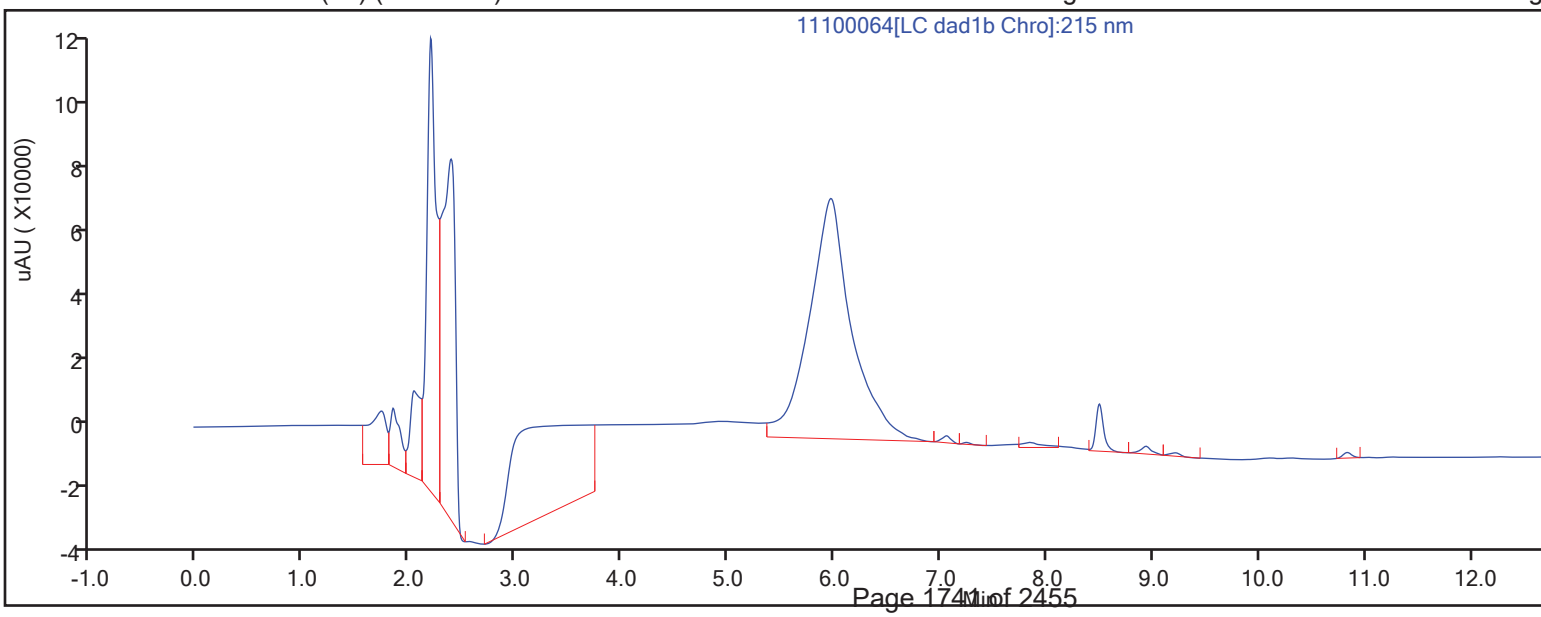
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100064.d

Injection Date:	11-Nov-2022 10:56:53	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-16-B	Lab Sample ID:	280-168718-16	Worklist Smp#:
Client ID:	X3-SS-C07-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100064.D
Lims ID: 280-168718-B-16-B
Client ID: X3-SS-C07-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 10:56:53 ALS Bottle#: 64 Worklist Smp#: 64
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-16-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:24:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2717	108.69

User Disabled Compound Report

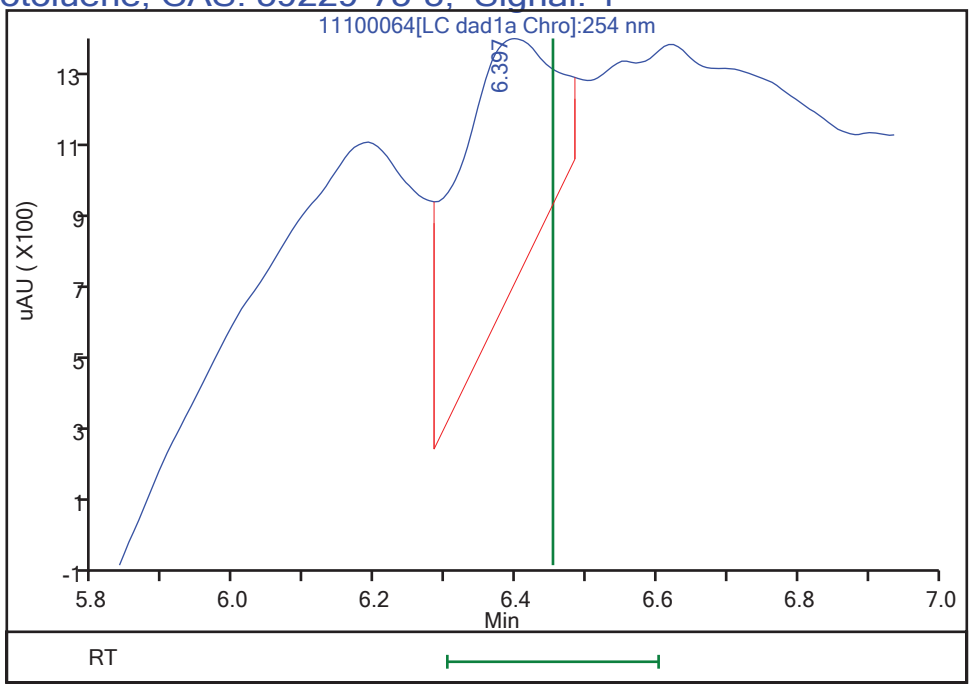
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100064.d
Injection Date: 11-Nov-2022 10:56:53 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-16-B Lab Sample ID: 280-168718-16
Client ID: X3-SS-C07-0006
Operator ID: JZ ALS Bottle#: 64 Worklist Smp#: 64
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.40
Response: 6661
Amount: 0.031011



Reviewer: LV5D, 11-Nov-2022 12:24:30
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 | Lab Sample ID: 280-168718-16

Matrix: Solid | Lab File ID: 11110030.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3627(g) | Date Analyzed: 11/12/2022 04:04

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	96	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		78-119

Report Date: 12-Nov-2022 11:05:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110030.D
Lims ID: 280-168718-B-16-B
Client ID: X3-SS-C07-0006
Sample Type: Client
Inject. Date: 12-Nov-2022 04:04:54 ALS Bottle#: 30 Worklist Smp#: 30
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-16-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:53

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
5 HMX	1		6.657			ND	
7 2,4,6-Trinitrophenol	1		7.904			ND	
8 RDX	1		8.757			ND	
9 Nitrobenzene	1		11.684			ND	
$ 10 1,2-Dinitrobenzene	1	12.716	12.837	-0.121	65283	0.2565	
11 3,5-Dinitroaniline	1		14.797			ND	
12 1,3-Dinitrobenzene	1		15.177			ND	
13 Nitroglycerin	2		15.497			ND	U
14 o-Nitrotoluene	1		16.344			ND	
16 p-Nitrotoluene	1		16.644			ND	
17 4-Amino-2,6-dinitrotoluene	1		17.250			ND	
18 m-Nitrotoluene	1		17.610			ND	
19 2-Amino-4,6-dinitrotoluene	1		18.230			ND	
20 1,3,5-Trinitrobenzene	1		18.437			ND	
21 2,6-Dinitrotoluene	1		19.724			ND	
22 2,4-Dinitrotoluene	1		20.230			ND	
23 Tetryl	1		23.884			ND	
24 2,4,6-Trinitrotoluene	1	24.557	24.684	-0.127	17121	0.0452	
25 PETN	2		25.697			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

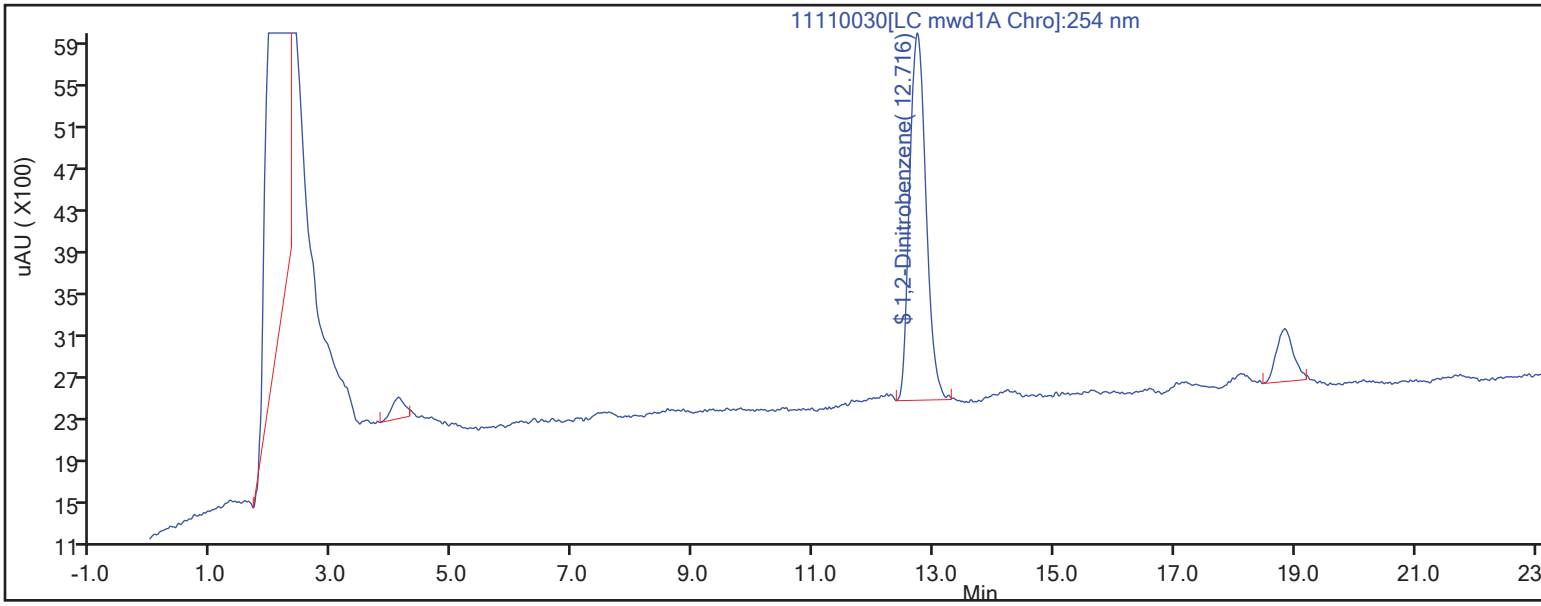
Report Date: 12-Nov-2022 11:05:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

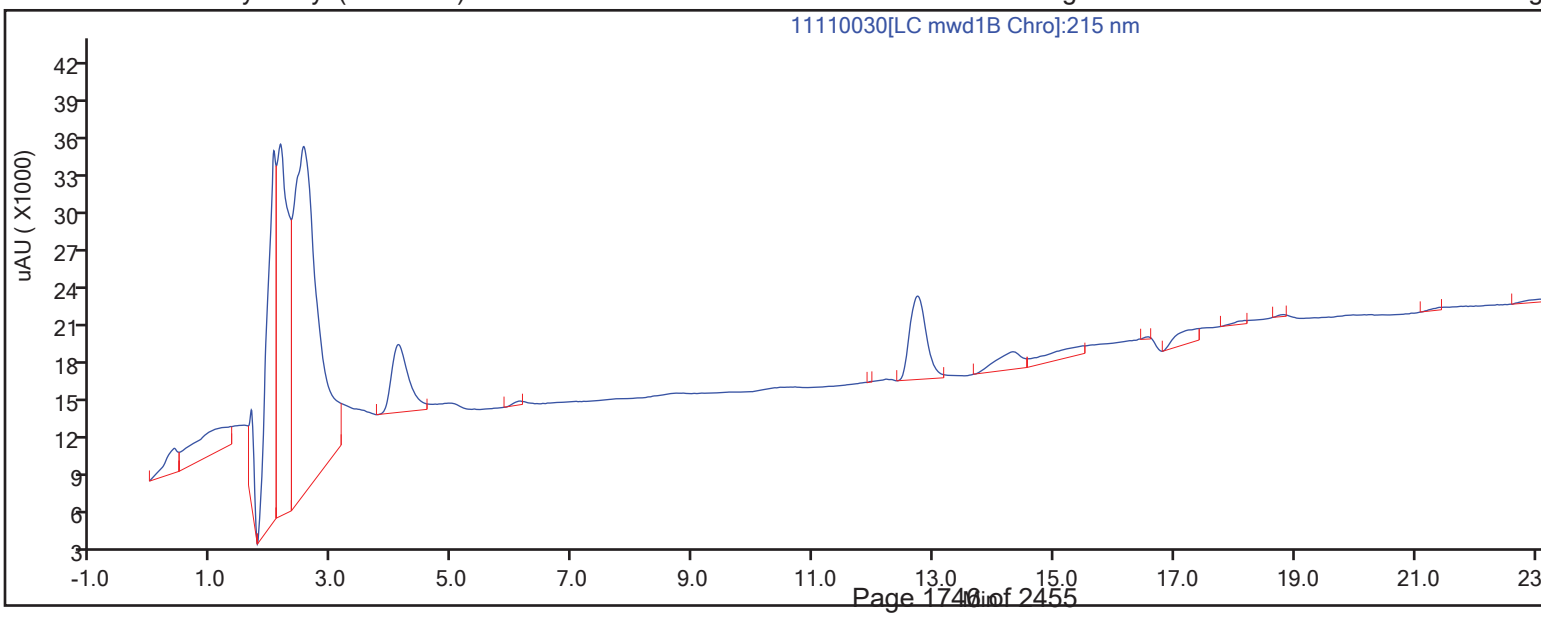
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110030.D

Injection Date:	12-Nov-2022 04:04:54	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-B-16-B	Lab Sample ID:	280-168718-16	Worklist Smp#:
Client ID:	X3-SS-C07-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110030.D				
Lims ID:	280-168718-B-16-B				
Client ID:	X3-SS-C07-0006				
Sample Type:	Client				
Inject. Date:	12-Nov-2022 04:04:54	ALS Bottle#:	30	Worklist Smp#:	30
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-16-B				
Operator ID:	JZ	Instrument ID:	CHHPLC_X5		
Method:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m				
Limit Group:	GCSV - 8330				
Last Update:	12-Nov-2022 11:05:55	Calib Date:	19-Aug-2022 00:34:57		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D				
Column 1 :	Luna-Phenyl hexyl (4.60 mm)		Det: LC mwd1A, 254 nm		
Process Host:	CTX1610				

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:53

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2565	102.60

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 | Lab Sample ID: 280-168718-17

Matrix: Solid | Lab File ID: 11100064.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:54

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:14

Sample wt/vol: 10.2401(g) | Date Analyzed: 11/11/2022 11:19

Con. Extract Vol.: 50(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb4uODS ID: 5.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 493052 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-34-5	1,3,4-Trinitrobenzene	130		98	39	13
618-87-1	3,4-Dinitroaniline	81	J	98	20	8.8
121-15-2	2,5-Dinitrotoluene	8300		98	39	15
606-20-2	2,6-Dinitrotoluene	530		98	39	19
34472-78-2	2-Amino-5,6-dinitrotoluene	500		98	68	32
88-72-2	2-Nitrotoluene	98	U	200	98	56
99-08-1	3-Nitrotoluene	140	U	200	140	62
19506-41-0	5-Amino-2,6-dinitrotoluene	68	U	98	68	29
99-99-0	5-Nitrotoluene	98	U M	200	98	36
98-94-3	Nitrobenzene	200	U	290	200	83
44-63-0	Nitroglycerin	680	U	2000	680	210
2691-51-0	HMX	68	U	98	68	22
78-11-4	PETN	980	U	2000	980	580
88-89-1	Picric acid	98	U	98	98	44
121-82-5	RDX	98	U	200	98	52
579-54-8	Tetryl	98	U M	200	98	53
6629-29-5	2,5-diamino-6-nitrotoluene	980	U	2000	980	400
49229-74-3	2,6-diamino-5-nitrotoluene	980	U M	2000	980	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
428-29-0	1,2-Dinitrobenzene	106		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100065.D
Lims ID: 280-168718-A-17-B
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 11:19:57 ALS Bottle#: 65 Worklist Smp#: 65
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:25:07

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
4 HMX	1		6.571			ND	
5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
8 RDX	1		7.558			ND	7
9 2,4,6-Trinitrophenol	1		7.878			ND	
$ 10 1,2-Dinitrobenzene	1	8.494	8.505	-0.011	33352	0.2650	
11 1,3,5-Trinitrobenzene	1	8.607	8.625	-0.018	7111	0.0333	
12 1,3-Dinitrobenzene	1	9.227	9.244	-0.017	5375	0.0185	
13 Nitrobenzene	1		9.638			ND	7
14 3,5-Dinitroaniline	1	9.807	9.832	-0.025	4369	0.0207	
15 Tetryl	1		9.944			ND	U
16 Nitroglycerin	2		10.404			ND	
17 2,4,6-Trinitrotoluene	1	10.827	10.851	-0.024	951063	4.51	E
18 4-Amino-2,6-dinitrotoluene	1		11.024			ND	
19 2-Amino-4,6-dinitrotoluene	1	11.247	11.271	-0.024	19874	0.1018	
20 2,6-Dinitrotoluene	1	11.434	11.458	-0.024	15710	0.1105	
21 2,4-Dinitrotoluene	1	11.594	11.624	-0.030	618052	2.13	
22 o-Nitrotoluene	1		12.478			ND	
23 p-Nitrotoluene	1		12.898			ND	U
24 m-Nitrotoluene	1		13.464			ND	
25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
7 - Failed Limit of Detection
Review Flags
U - Marked Undetected

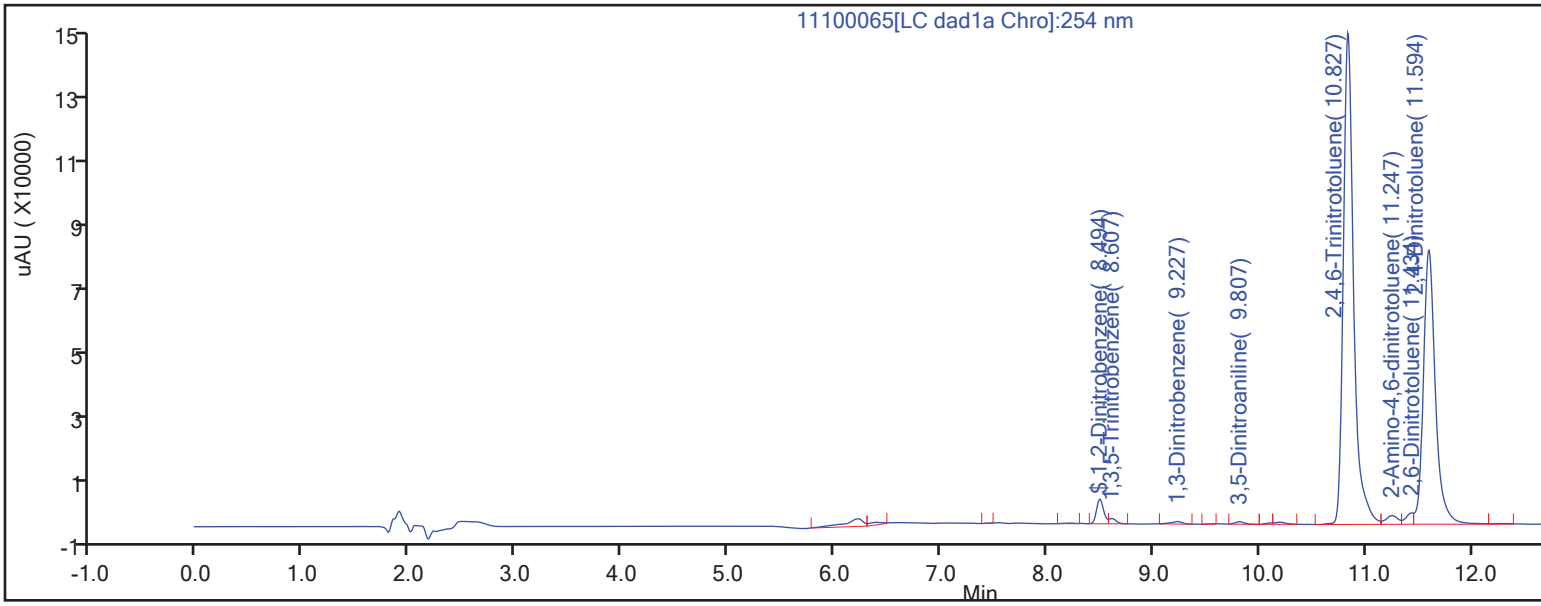
Report Date: 11-Nov-2022 12:25:24 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

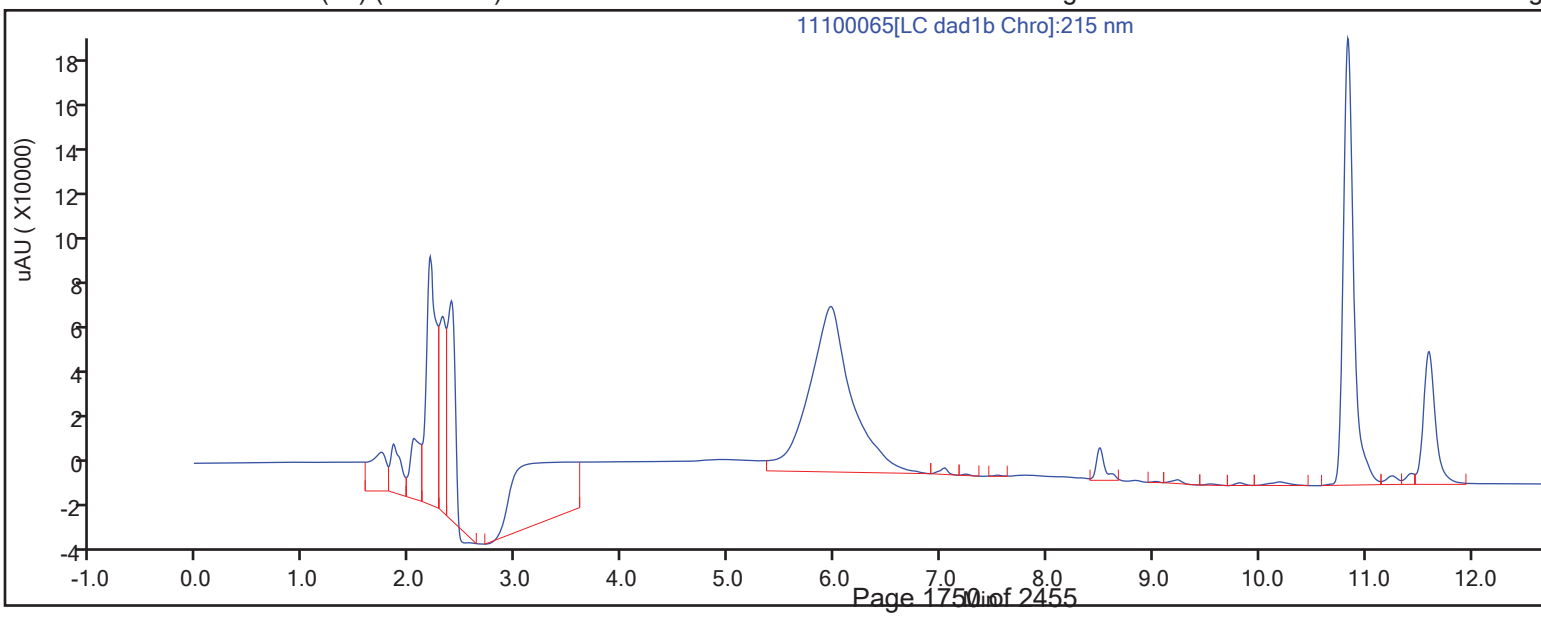
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100065.d

Injection Date:	11-Nov-2022 11:19:57	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-17-B	Lab Sample ID:	280-168718-17	Worklist Smp#:
Client ID:	X3-SS-C08-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 11-Nov-2022 12:25:24 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100065.D
Lims ID: 280-168718-A-17-B
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 11:19:57 ALS Bottle#: 65 Worklist Smp#: 65
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:25:07

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2650	106.01

User Disabled Compound Report

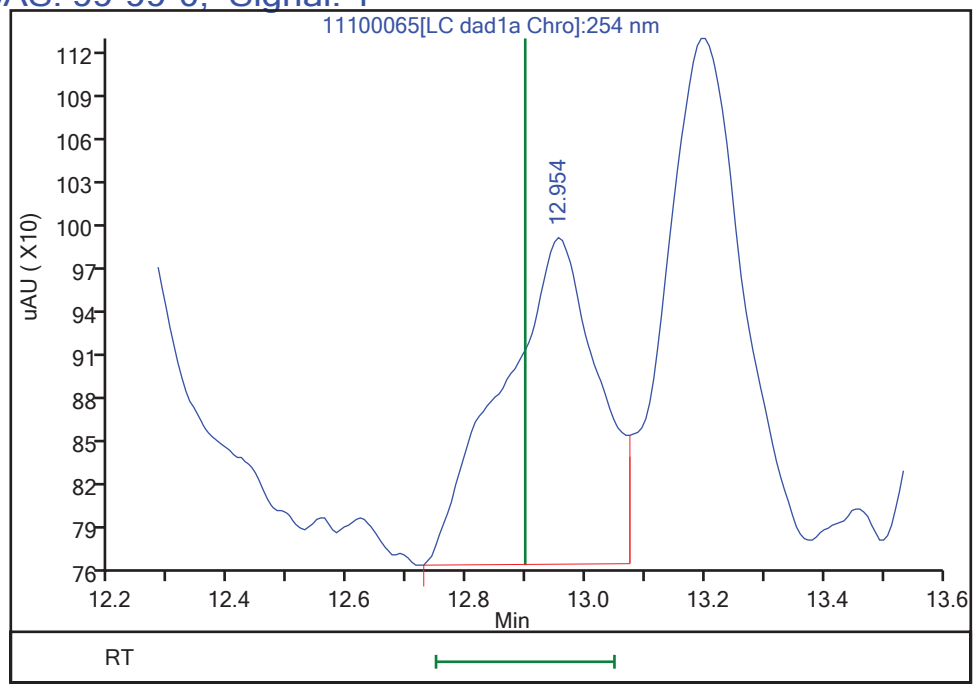
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100065.d
Injection Date: 11-Nov-2022 11:19:57 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-17-B Lab Sample ID: 280-168718-17
Client ID: X3-SS-C08-0006
Operator ID: JZ ALS Bottle#: 65 Worklist Smp#: 65
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

23 p-Nitrotoluene, CAS: 99-99-0, Signal: 1

RT: 12.95
Response: 2481
Amount: 0.022181



Reviewer: LV5D, 11-Nov-2022 12:25:07
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

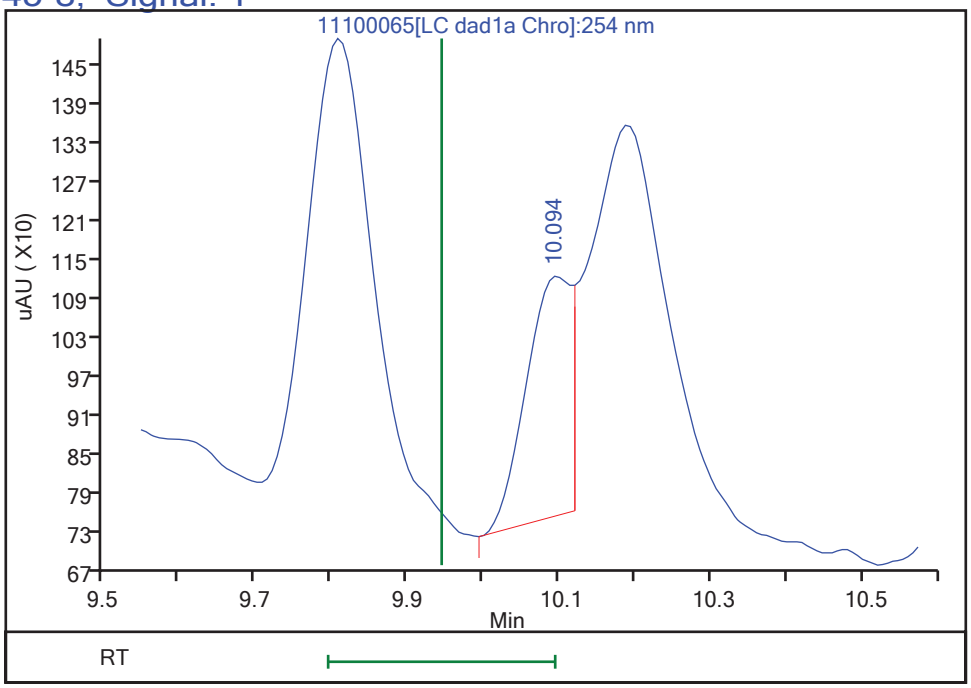
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100065.d
Injection Date: 11-Nov-2022 11:19:57 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-17-B Lab Sample ID: 280-168718-17
Client ID: X3-SS-C08-0006
Operator ID: JZ ALS Bottle#: 65 Worklist Smp#: 65
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

15 Tetryl, CAS: 479-45-8, Signal: 1

RT: 10.09
Response: 1537
Amount: 0.009292



Reviewer: LV5D, 11-Nov-2022 12:25:07
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

User Disabled Compound Report

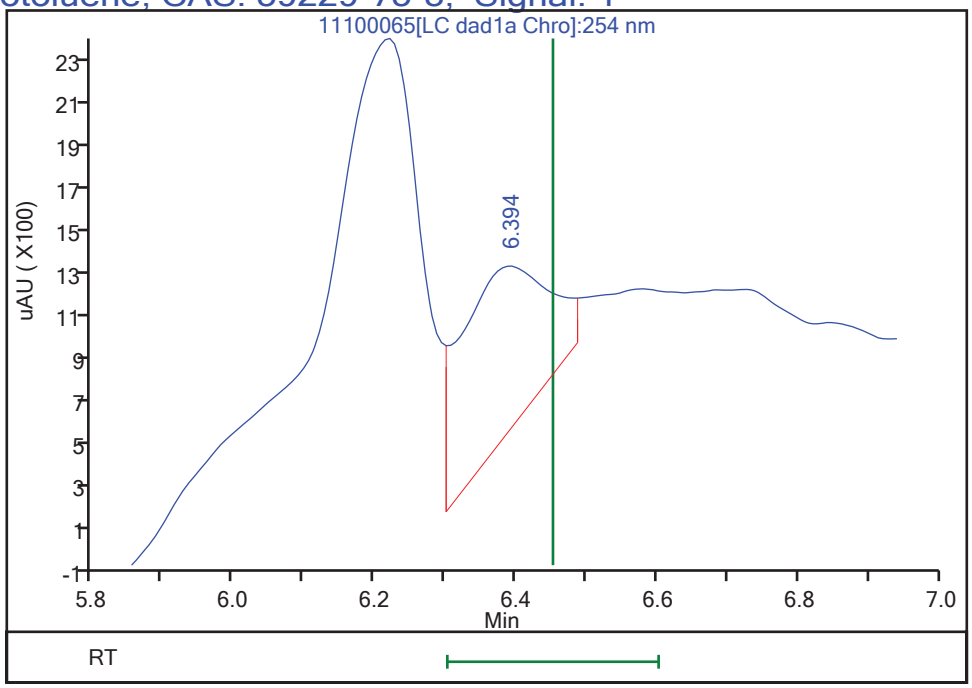
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100065.d
Injection Date: 11-Nov-2022 11:19:57 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-17-B Lab Sample ID: 280-168718-17
Client ID: X3-SS-C08-0006
Operator ID: JZ ALS Bottle#: 65 Worklist Smp#: 65
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.39
Response: 6547
Amount: 0.030480



Reviewer: LV5D, 11-Nov-2022 12:25:07
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 | Lab Sample ID: 280-168718-17

Matri4: Solix | Lab File ID: 11110031.D

Analdsis MetBox: 8330c | Date Colle5tex: 11/03/2022 10:yh

E4tra5tion MetBox: 8330c | Date E4tra5tex: 11/09/2022 17:1h

Sample wt/vol: 10.2h01(g) | Date Analdzex: 11/12/2022 0y:39

Con. E4tra5t Vol.: y0(mL) | Dilution Fa5tor: 1

Inje5tion Volume: 100(uL) | GC Column: Luna-pBendlBe4 ID: y.6(mm)

% Moisture: % Solixs: | GPC Cleanup:(Y/N) N

Cleanup Fa5tor:

Analdsis cat5B No.: h93191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-6h-0	1,3-Dinitrobenzene	39	U	98	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
h28-29-0	1,2-Dinitrobenzene	102		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110031.D
Lims ID: 280-168718-A-17-B
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 12-Nov-2022 04:39:51 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:04:35

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
1	2,6-diamino-4-nitrotoluene	1		4.104			ND	7
2	2,4-diamino-6-nitrotoluene	1		4.617			ND	
5	HMX	1		6.657			ND	
7	2,4,6-Trinitrophenol	1		7.904			ND	
8	RDX	1		8.757			ND	
9	Nitrobenzene	1		11.684			ND	7
$ 10	1,2-Dinitrobenzene	1	12.759	12.837	-0.078	64685	0.2542	
11	3,5-Dinitroaniline	1	14.706	14.797	-0.091	8395	0.0202	
12	1,3-Dinitrobenzene	1		15.177			ND	
13	Nitroglycerin	2		15.497			ND	
14	o-Nitrotoluene	1		16.344			ND	U
16	p-Nitrotoluene	1		16.644			ND	
17	4-Amino-2,6-dinitrotoluene	1	17.166	17.250	-0.084	30979	0.1272	
18	m-Nitrotoluene	1		17.610			ND	
19	2-Amino-4,6-dinitrotoluene	1	18.119	18.230	-0.111	37996	0.1302	M
20	1,3,5-Trinitrobenzene	1	18.319	18.437	-0.118	13368	0.0288	M
21	2,6-Dinitrotoluene	1	19.639	19.724	-0.085	34966	0.1341	
22	2,4-Dinitrotoluene	1	20.132	20.230	-0.098	1155229	2.15	
23	Tetryl	1		23.884			ND	
24	2,4,6-Trinitrotoluene	1	24.586	24.684	-0.098	1752280	4.63	E
25	PETN	2	25.632	25.697	-0.065	11548	0.1113	

QC Flag Legend

Processing Flags
E - Exceeded Maximum Amount
7 - Failed Limit of Detection

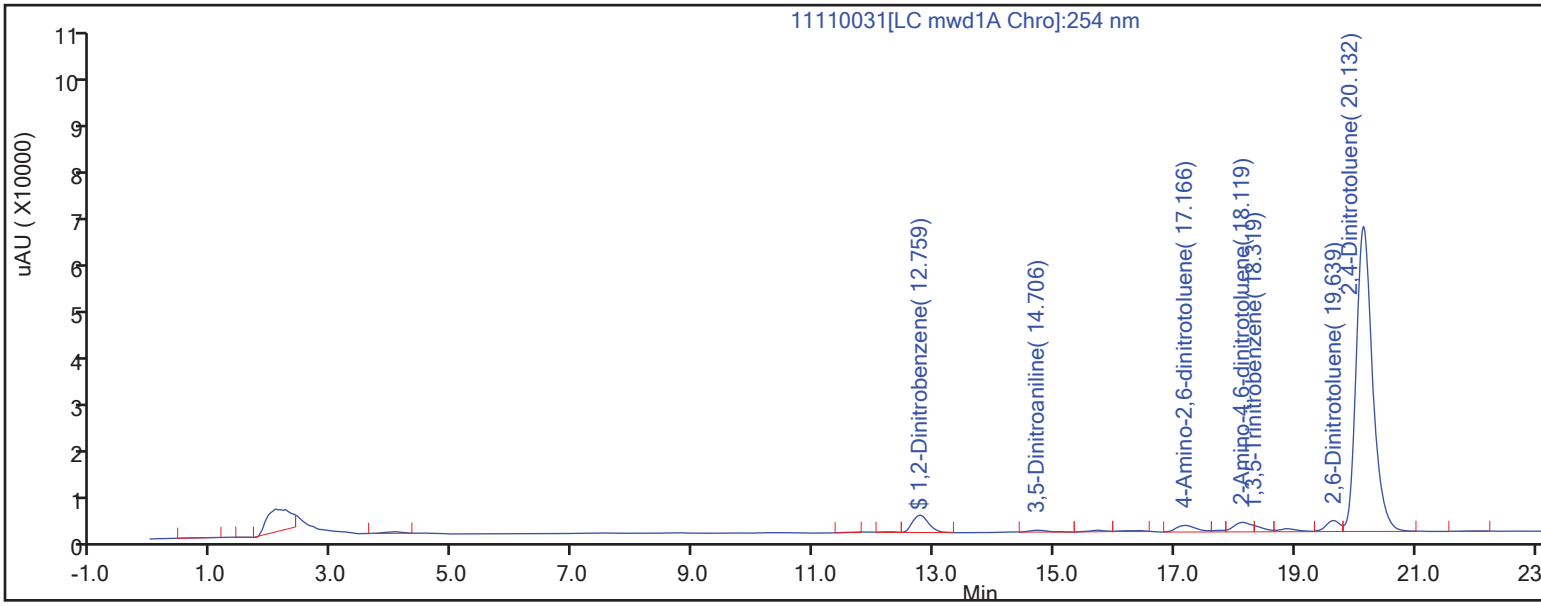
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:57 Chrom Revision: 2.3 08-Nov-2022 12:31:00

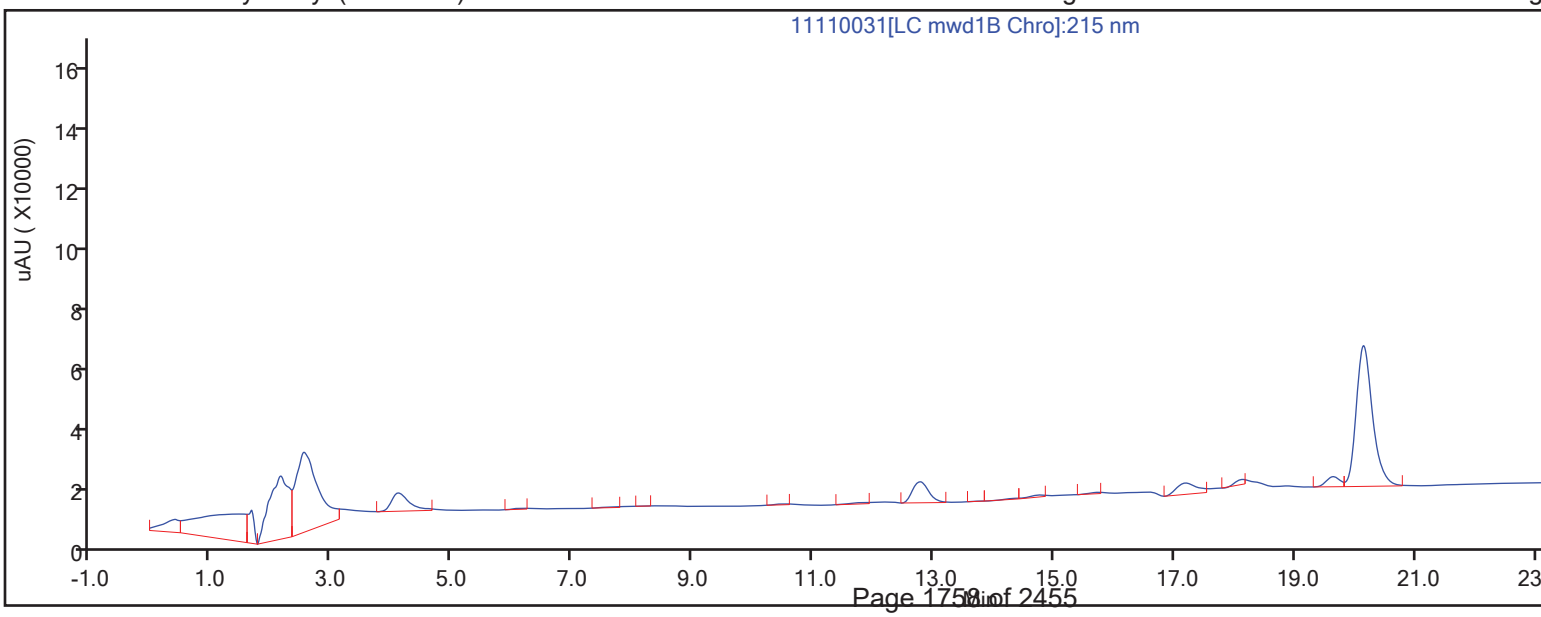
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110031.D			
Injection Date:	12-Nov-2022 04:39:51	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-17-B	Lab Sample ID:		Worklist Smp#:
Client ID:	X3-SS-C08-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110031.D
Lims ID: 280-168718-A-17-B
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 12-Nov-2022 04:39:51 ALS Bottle#: 31 Worklist Smp#: 31
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:04:35

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2542	101.66

Manual Integration/User Assign Peak Report

Eurofins Denver

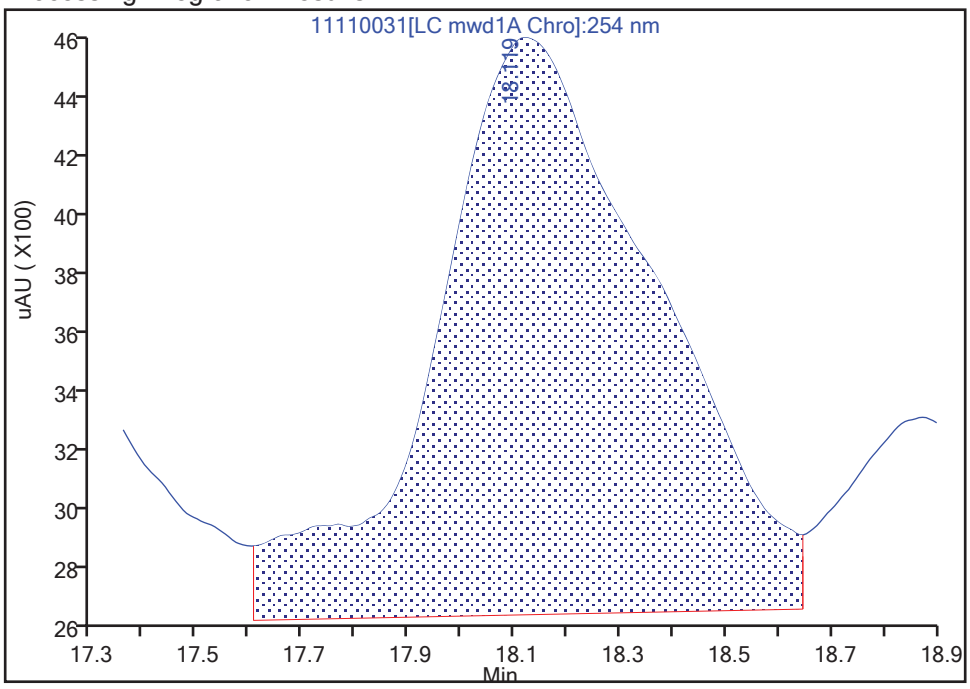
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110031.D				
Injection Date:	12-Nov-2022 04:39:51	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-17-B	Lab Sample ID:			
Client ID:	X3-SS-C08-0006				
Operator ID:	JZ	ALS Bottle#:	31	Worklist Smp#:	31
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

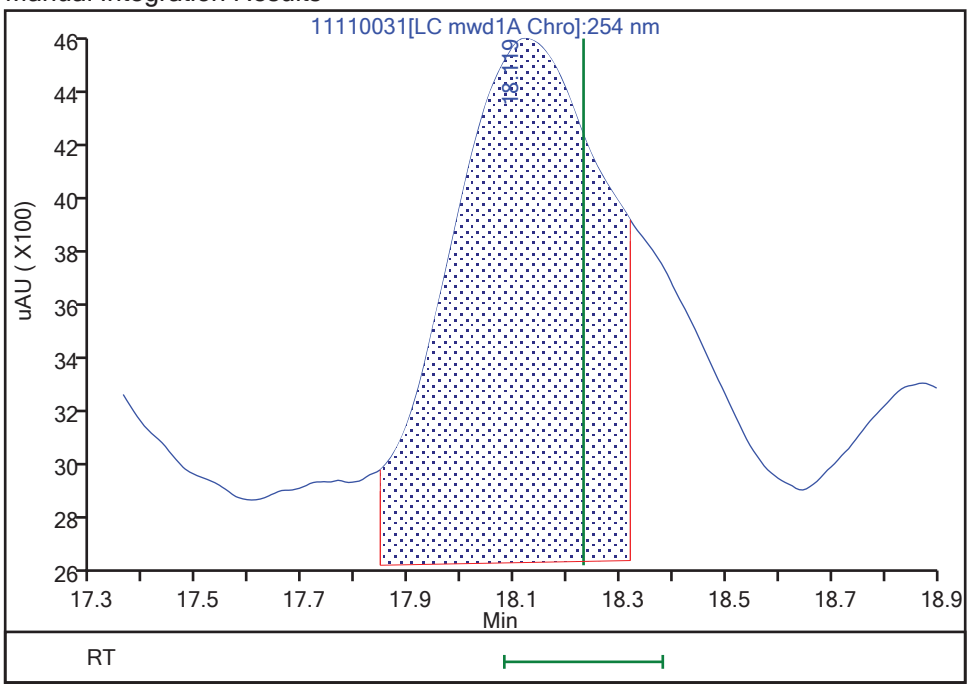
Processing Integration Results

RT: 18.12
Area: 55560
Amount: 0.190415
Amount Units: ug/ml



Manual Integration Results

RT: 18.12
Area: 37996
Amount: 0.130220
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:04:29

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

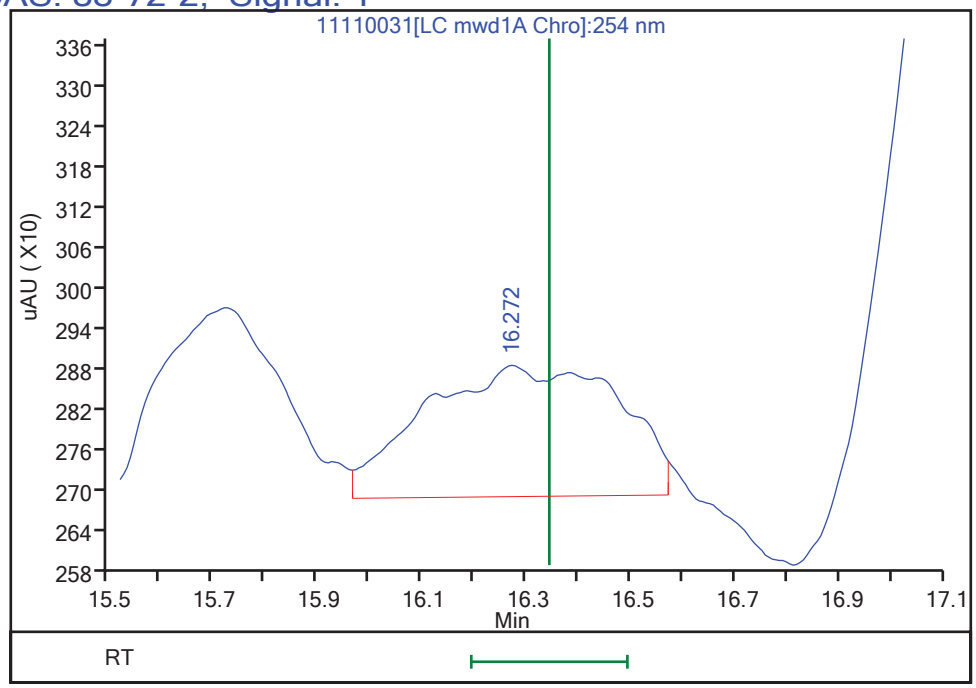
User Disabled Compound Report

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110031.D				
Injection Date:	12-Nov-2022 04:39:51	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-17-B	Lab Sample ID:			
Client ID:	X3-SS-C08-0006				
Operator ID:	JZ	ALS Bottle#:	31	Worklist Smp#:	31
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

14 o-Nitrotoluene, CAS: 88-72-2, Signal: 1

RT: 16.27
Response: 5109
Amount: 0.023533



Reviewer: LV5D, 12-Nov-2022 11:04:35
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 DL | Lab Sample ID: 280-168718-17 DL

Matri4: Solix | Lab File ID: 11110013.D

Analdsis MetBox: 8330c | Date Colle5tex: 11/03/2022 10:yh

E4tra5tion MetBox: 8330c | Date E4tra5tex: 11/09/2022 17:1h

Sample wt/vol: 10.2h01(g) | Date Analdzex: 11/11/2022 16:h6

Con. E4tra5t Vol.: y0(mL) | Dilution Fa5tor: h

Inje5tion Volume: 100(uL) | GC Column: UltraCarbhuODS ID: y.6(mm)

% Moisture: | % Solixs: | GPC Cleanup:(Y/N) N

Cleanup Fa5tor:

Analdsis cat5B No.: h93188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
118-96-7	2,y,6-Trinitrotoluene	17000	D	y90	3y0	1h0

CAS NO.	SURROGATE	%REC	Q	LIMITS
h28-29-0	1,2-Dinitrobenzene	102	M D	78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110013.D
Lims ID: 280-168718-A-17-B DL
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 16:56:22 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 5.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:56 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:53:59

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
4 HMX	1		6.563			ND	
5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
8 RDX	1		7.549			ND	
9 2,4,6-Trinitrophenol	1		7.876			ND	
$ 10 1,2-Dinitrobenzene	1	8.499	8.496	0.003	6391	0.0508	M
11 1,3,5-Trinitrobenzene	1	8.613	8.616	-0.003	1282	0.006001	M
12 1,3-Dinitrobenzene	1		9.236			ND	7
13 Nitrobenzene	1		9.622			ND	
14 3,5-Dinitroaniline	1	9.813	9.832	-0.019	829	0.005347	
15 Tetryl	1		9.936			ND	
16 Nitroglycerin	2		10.382			ND	
17 2,4,6-Trinitrotoluene	1	10.833	10.829	0.004	182570	0.8656	
18 4-Amino-2,6-dinitrotoluene	1		11.009			ND	
19 2-Amino-4,6-dinitrotoluene	1	11.253	11.256	-0.003	3637	0.0186	
20 2,6-Dinitrotoluene	1	11.433	11.436	-0.003	3155	0.0222	
21 2,4-Dinitrotoluene	1	11.599	11.602	-0.003	118433	0.4082	
22 o-Nitrotoluene	1		12.449			ND	
23 p-Nitrotoluene	1		12.862			ND	
24 m-Nitrotoluene	1		13.429			ND	
25 PETN	2		14.462			ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated
U - Marked Undetected

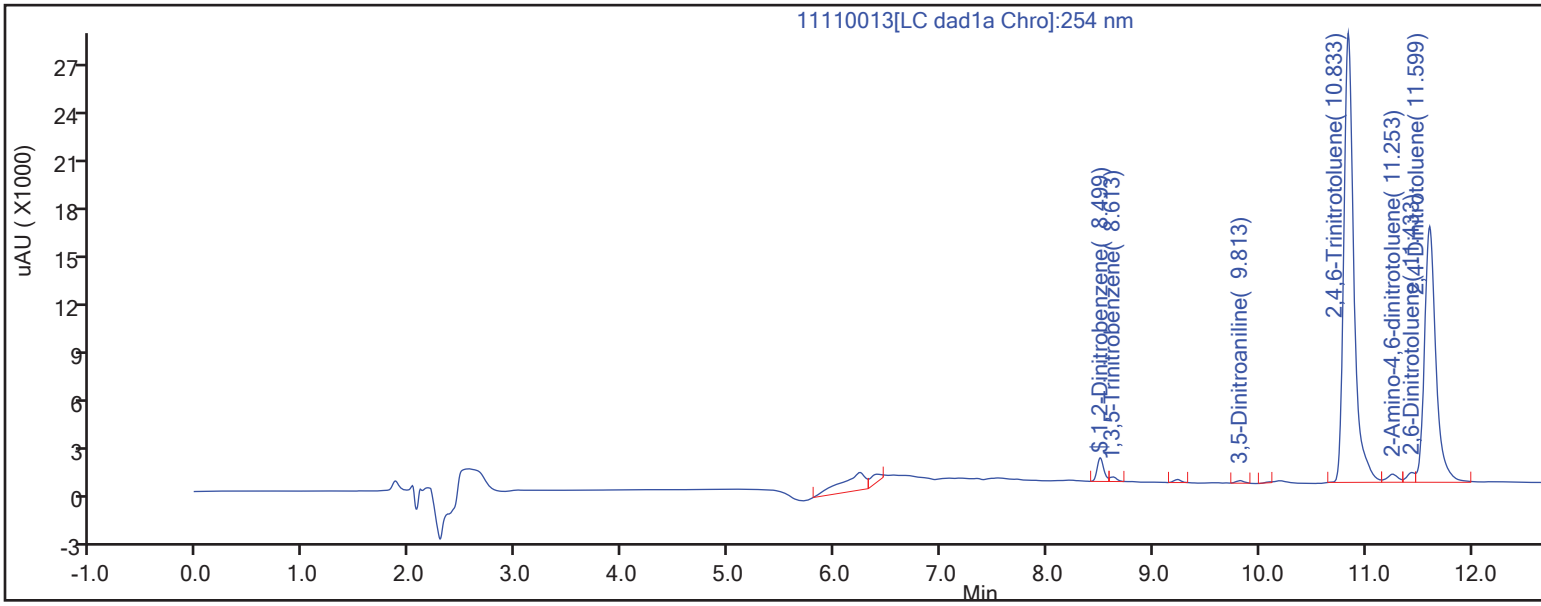
Report Date: 12-Nov-2022 10:55:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

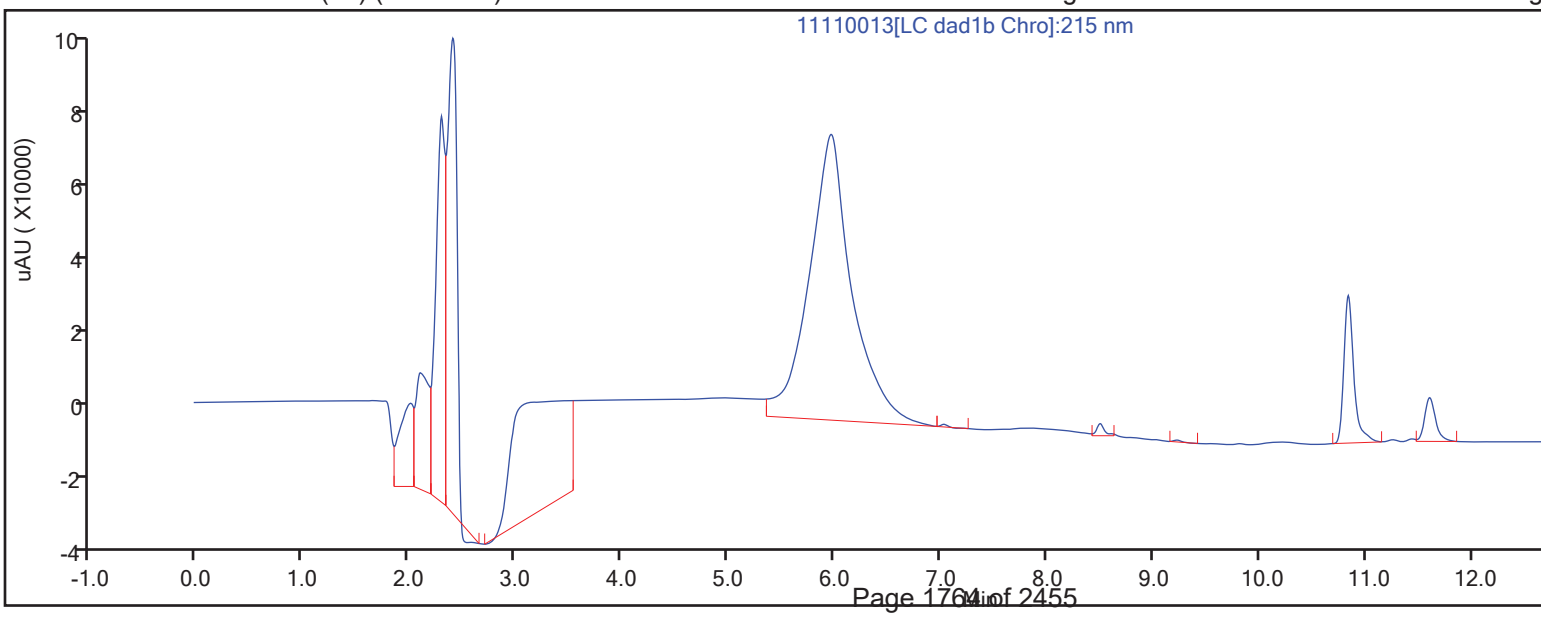
Data File: \\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110013.d

Injection Date:	11-Nov-2022 16:56:22	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-A-17-B DL	Lab Sample ID:	280-168718-17	Worklist Smp#:
Client ID:	X3-SS-C08-0006			
Injection Vol:	100.0 ul	Dil. Factor:	5.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 12-Nov-2022 10:55:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110013.D
Lims ID: 280-168718-A-17-B DL
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 16:56:22 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 5.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:56 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:53:59

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.0508	20.31

Manual Integration/User Assign Peak Report

Eurofins Denver

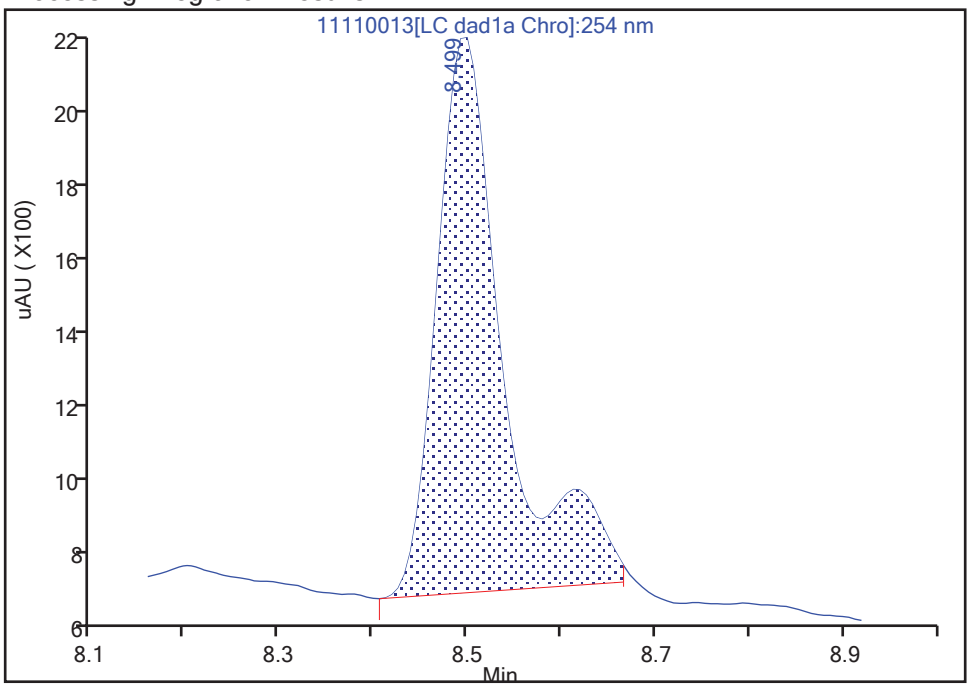
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110013.d				
Injection Date:	11-Nov-2022 16:56:22	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-A-17-B DL	Lab Sample ID:	280-168718-17		
Client ID:	X3-SS-C08-0006				
Operator ID:	JZ	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	100.0 ul	Dil. Factor:	5.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

$ 10 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

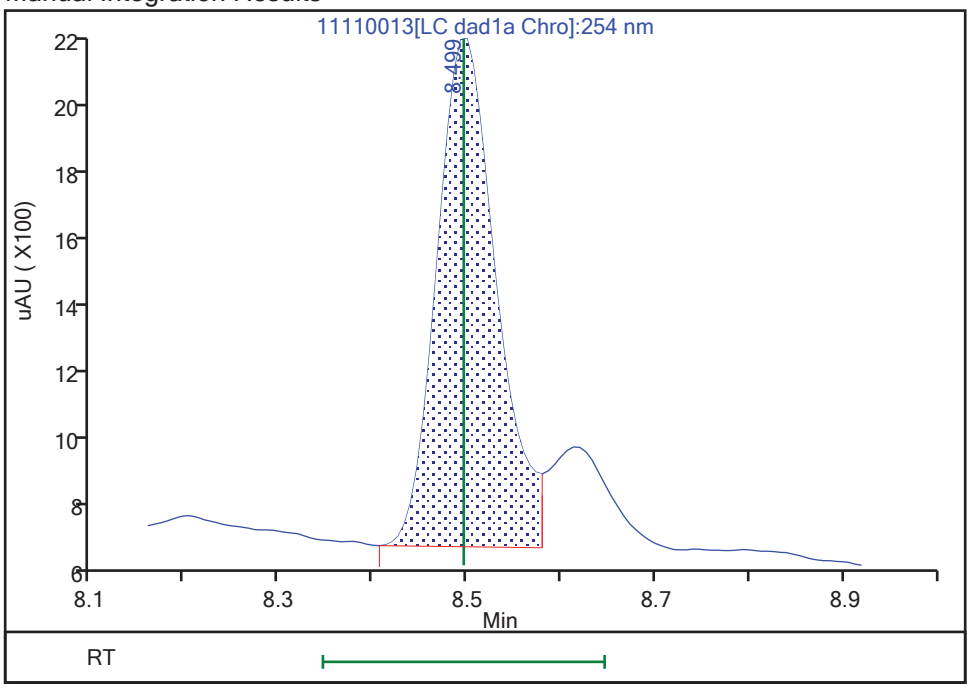
Processing Integration Results

RT: 8.50
Area: 7159
Amount: 0.056888
Amount Units: ug/mL



Manual Integration Results

RT: 8.50
Area: 6391
Amount: 0.050785
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 17:27:32
Audit Action: Split an Integrated Peak Audit Reason: Baseline

User Disabled Compound Report

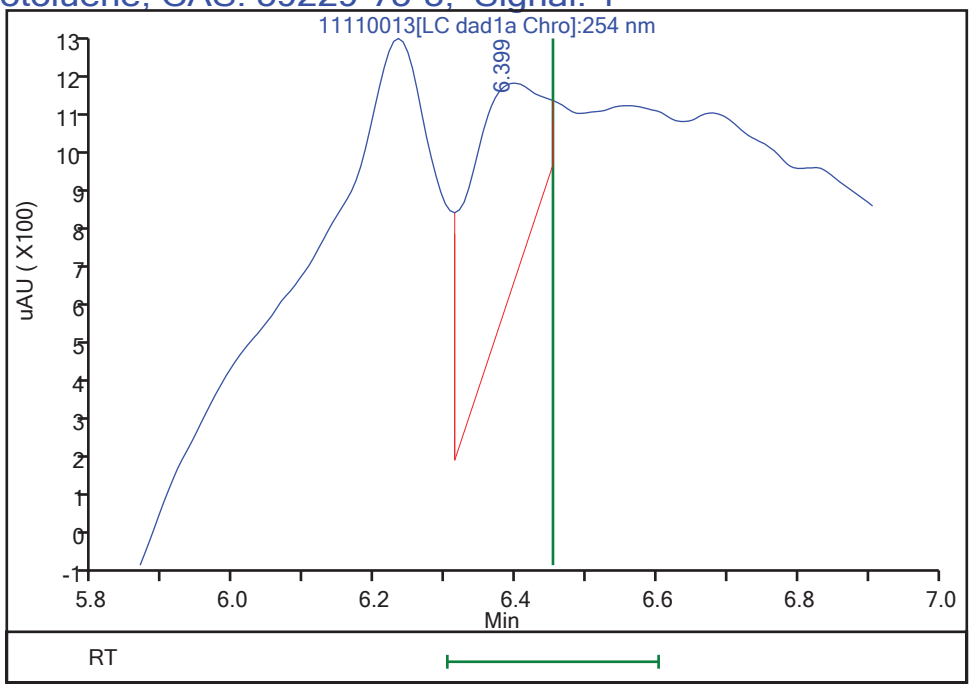
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110013.d
Injection Date: 11-Nov-2022 16:56:22 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-A-17-B DL Lab Sample ID: 280-168718-17
Client ID: X3-SS-C08-0006
Operator ID: JZ ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 5.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.40
Response: 3817
Amount: 0.017770



Reviewer: LV5D, 11-Nov-2022 17:53:59
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 DL | Lab Sample ID: 280-168718-17 DL

Matrix: Solid | Lab File ID: 11110034.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:45

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2501(g) | Date Analyzed: 11/12/2022 06:24

Con. Extract Vol.: 40(mL) | Dilution Factor: 5

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	106	*D*	78-119

Report Date: 12-Nov-2022 11:05:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110034.D
Lims ID: 280-168718-A-17-B DL
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 12-Nov-2022 06:24:37 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 100.0 ul Dil. Factor: 5.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:05:05

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1		4.104			ND	7
	2 2,4-diamino-6-nitrotoluene	1		4.617			ND	
	5 HMX	1		6.657			ND	
	7 2,4,6-Trinitrophenol	1		7.904			ND	
	8 RDX	1		8.757			ND	
	9 Nitrobenzene	1		11.684			ND	
$	10 1,2-Dinitrobenzene	1	12.833	12.837	-0.004	13483	0.0530	
	11 3,5-Dinitroaniline	1	14.793	14.797	-0.004	1511	0.003445	
	12 1,3-Dinitrobenzene	1		15.177			ND	
	13 Nitroglycerin	2		15.497			ND	U
	14 o-Nitrotoluene	1		16.344			ND	7
	16 p-Nitrotoluene	1		16.644			ND	
	17 4-Amino-2,6-dinitrotoluene	1	17.220	17.250	-0.030	5453	0.0224	
	18 m-Nitrotoluene	1		17.610			ND	
	19 2-Amino-4,6-dinitrotoluene	1	18.180	18.230	-0.050	5424	0.0186	
	20 1,3,5-Trinitrobenzene	1		18.437			ND	
	21 2,6-Dinitrotoluene	1	19.700	19.724	-0.024	6617	0.0254	
	22 2,4-Dinitrotoluene	1	20.213	20.230	-0.017	226696	0.4226	
	23 Tetryl	1		23.884			ND	
	24 2,4,6-Trinitrotoluene	1	24.653	24.684	-0.031	344302	0.9089	
	25 PETN	2	25.713	25.697	0.016	3989	0.0534	M

QC Flag Legend

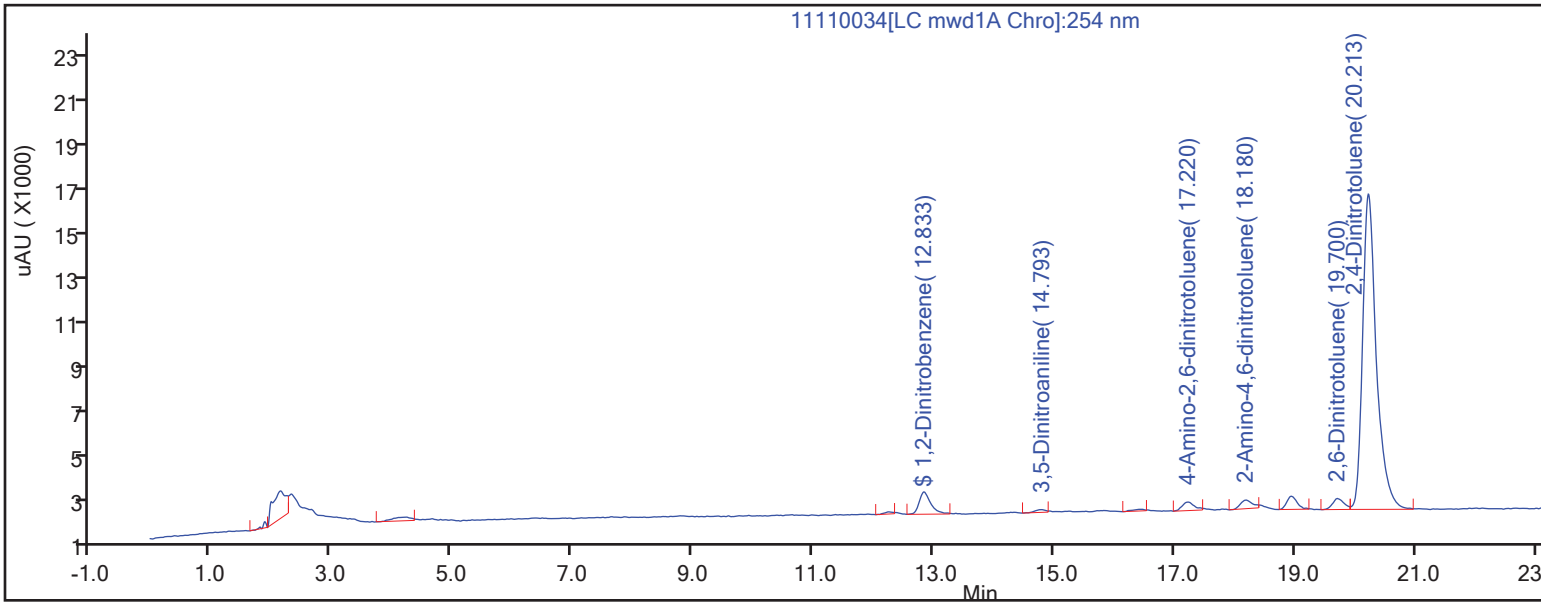
Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

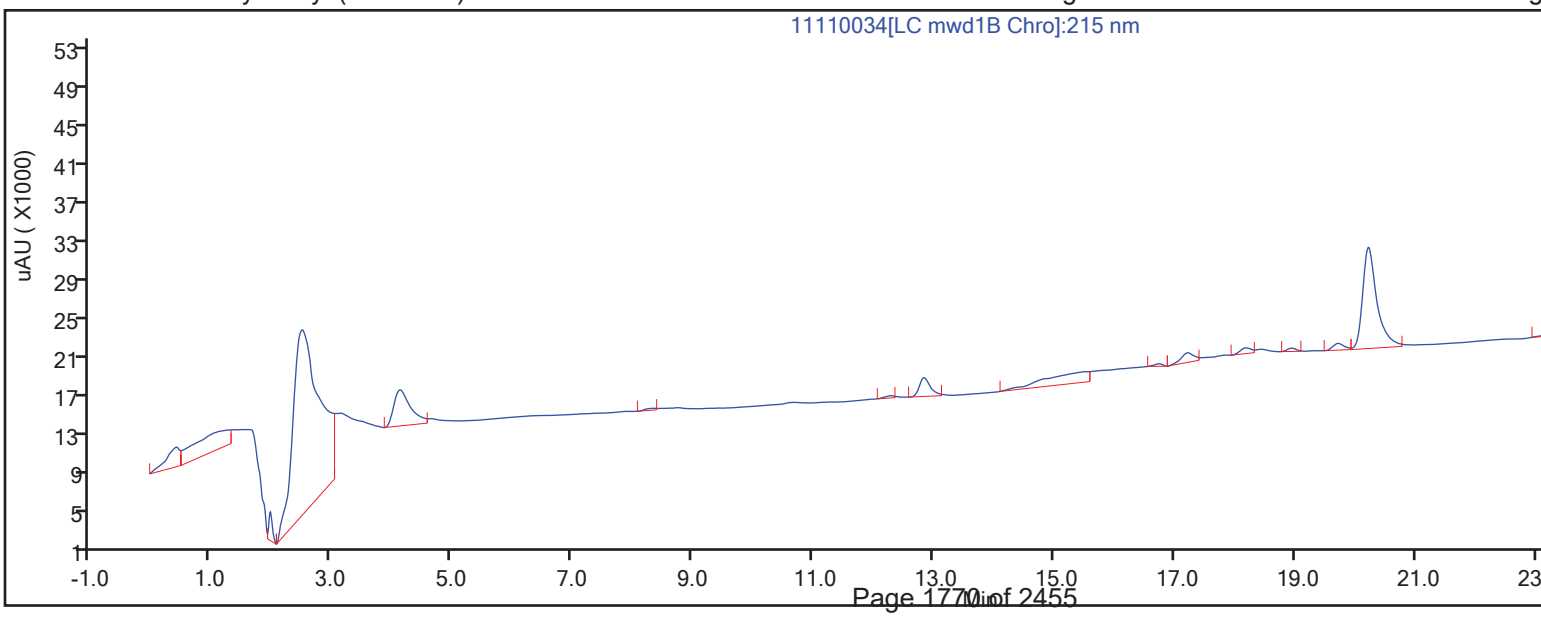
Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110034.D			
Injection Date:	12-Nov-2022 06:24:37	Instrument ID:	CHHPLC_X5	Operator ID:
Lims ID:	280-168718-A-17-B DL	Lab Sample ID:	280-168718-17	Worklist Smp#:
Client ID:	X3-SS-C08-0006			
Injection Vol:	100.0 ul	Dil. Factor:	5.0000	ALS Bottle#:
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330	

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 12-Nov-2022 11:05:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110034.D
Lims ID: 280-168718-A-17-B DL
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 12-Nov-2022 06:24:37 ALS Bottle#: 34 Worklist Smp#: 34
Injection Vol: 100.0 ul Dil. Factor: 5.0000
Sample Info: 280-168718-A-17-B
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:05:05

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.0530	21.19

Manual Integration/User Assign Peak Report

Eurofins Denver

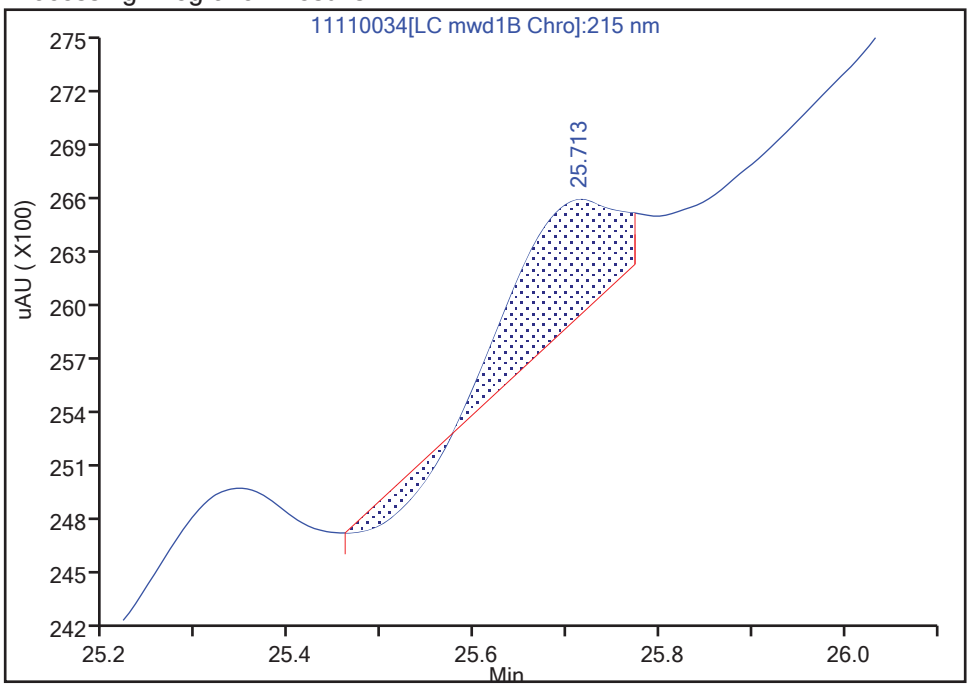
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110034.D				
Injection Date:	12-Nov-2022 06:24:37	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-A-17-B DL	Lab Sample ID:	280-168718-17		
Client ID:	X3-SS-C08-0006				
Operator ID:	JZ	ALS Bottle#:	34	Worklist Smp#:	34
Injection Vol:	100.0 ul	Dil. Factor:	5.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

25 PETN, CAS: 78-11-5

Signal: 1

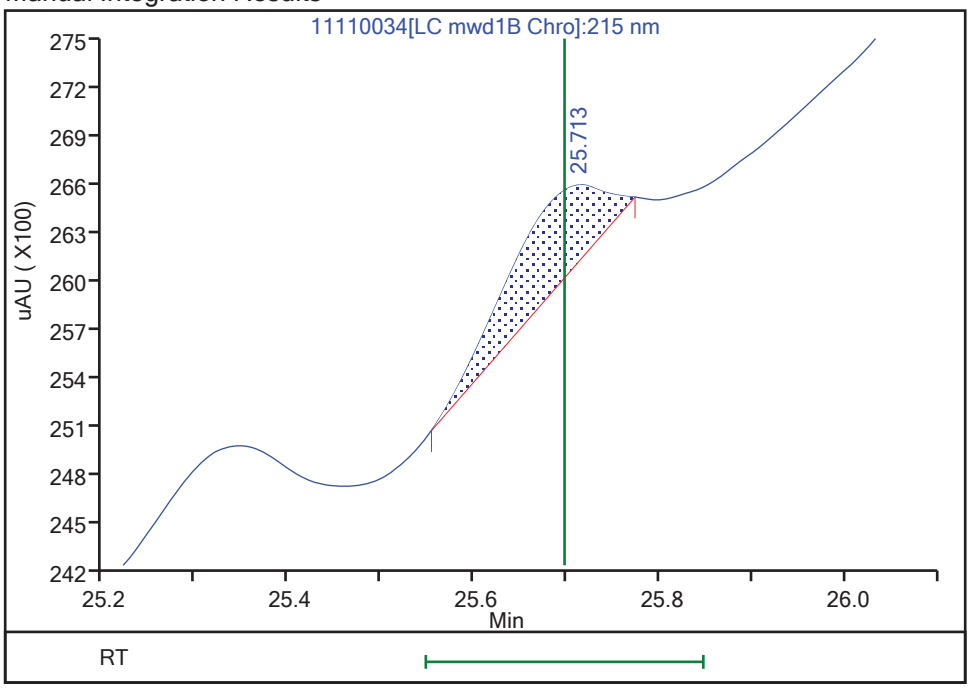
Processing Integration Results

RT: 25.71
Area: 4540
Amount: 0.057597
Amount Units: ug/ml



Manual Integration Results

RT: 25.71
Area: 3989
Amount: 0.053371
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:03

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 01/04/2022 22:17 Calibration End Date: 01/05/2022 00:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-562503/28	01040028.D
Level 2	IC 280-562503/27	01040027.D
Level 3	IC 280-562503/26	01040026.D
Level 4	IC 280-562503/25	01040025.D
Level 5	IC 280-562503/24	01040024.D
Level 6	IC 280-562503/23	01040023.D
Level 7	IC 280-562503/22	01040022.D
Level 8	IC 280-562503/21	01040021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8		
2,6-diamino-4-nitrotoluene	6.470	6.473	6.469	6.476	6.472	6.478	6.475	6.471		
2,4-diamino-6-nitrotoluene	6.657	6.660	6.656	6.656	6.658	6.658	6.662	6.658		
3,5-Dinitroaniline	9.930	9.926	9.929	9.935	9.932	9.931	9.935	9.931		

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 01/04/2022 22:17 Calibration End Date: 01/05/2022 00:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-562503/28	01040028.D
Level 2	IC 280-562503/27	01040027.D
Level 3	IC 280-562503/26	01040026.D
Level 4	IC 280-562503/25	01040025.D
Level 5	IC 280-562503/24	01040024.D
Level 6	IC 280-562503/23	01040023.D
Level 7	IC 280-562503/22	01040022.D
Level 8	IC 280-562503/21	01040021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
2,6-diamino-4-nitrotoluene	215350 211160	218940 217771	225870 208461	208052 212774	Ave		214797.254			
2,4-diamino-6-nitrotoluene	141650 127363	142200 133090	144420 124865	127544 130175	Ave		133913.288			
3,5-Dinitroaniline	210150 232598	223700 231751	224420 231395	216720 233116	Lin2	-400.45754	229952.779			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 01/04/2022 22:17 Calibration End Date: 01/05/2022 00:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-562503/28	01040028.D
Level 2	IC 280-562503/27	01040027.D
Level 3	IC 280-562503/26	01040026.D
Level 4	IC 280-562503/25	01040025.D
Level 5	IC 280-562503/24	01040024.D
Level 6	IC 280-562503/23	01040023.D
Level 7	IC 280-562503/22	01040022.D
Level 8	IC 280-562503/21	01040021.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
2,6-diamino-4-nitrotoluene	Ave	4307 152440	10947 208461	22587 531934	52013	84464	0.0200 0.700	0.05 1.
2,4-diamino-6-nitrotoluene	Ave	2833 93163	7110 124865	14442 325437	31886	50945	0.0200 0.700	0.05 1.
3,5-Dinitroaniline	Lin2	4203 162226	11185 231395	22442 582790	54180	93039	0.0200 0.700	0.05 1.

Curve Type Legend

Ave = Average
Lin2 = Linear 1/conc^2

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040021.D
Lims ID: IC ADD 8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 04-Jan-2022 22:17:16 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC ADD 8
Misc. Info.: 280-0107731-021
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 05-Jan-2022 12:10:02 Calib Date: 05-Jan-2022 04:24:15
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1613

First Level Reviewer: zhangji Date: 05-Jan-2022 12:02:34

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.471	6.476	-0.005	531934	2.50	2.48	
5 2,4-diamino-6-nitrotoluene	1	6.658	6.656	0.002	325437	2.50	2.43	M
14 3,5-Dinitroaniline	1	9.931	9.935	-0.004	582790	2.50	2.54	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00030 Amount Added: 125.00 Units: uL

Report Date: 05-Jan-2022 12:10:02 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040021.d

Injection Date: 04-Jan-2022 22:17:16 Instrument ID: CHHPLC_X3 Operator ID:

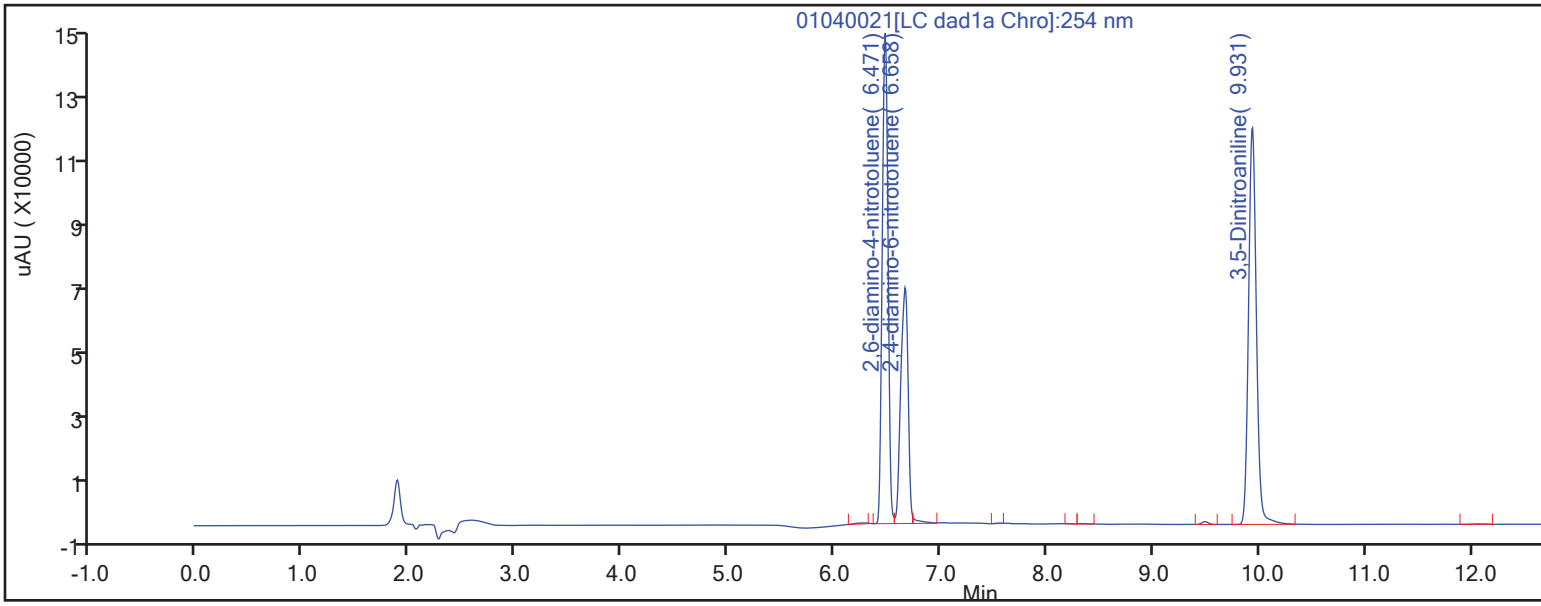
Lims ID: IC ADD 8 Worklist Smp#:

Client ID:

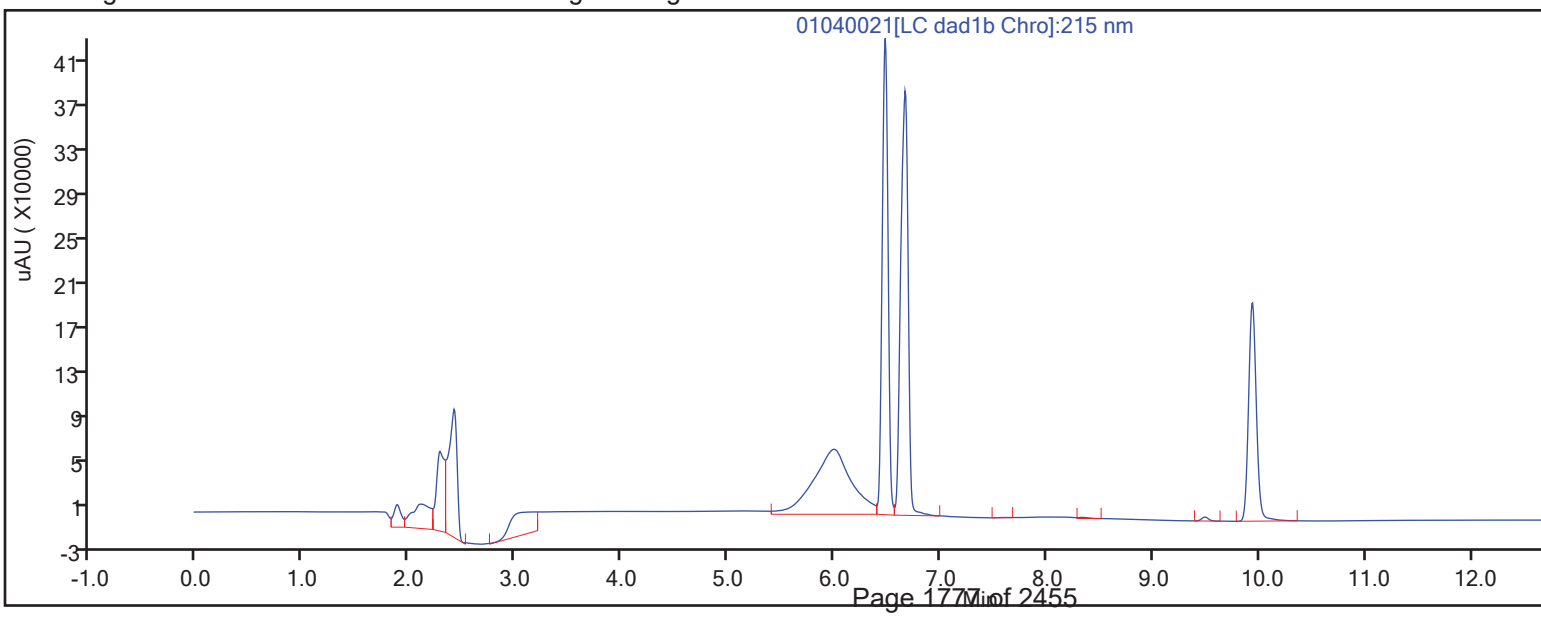
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

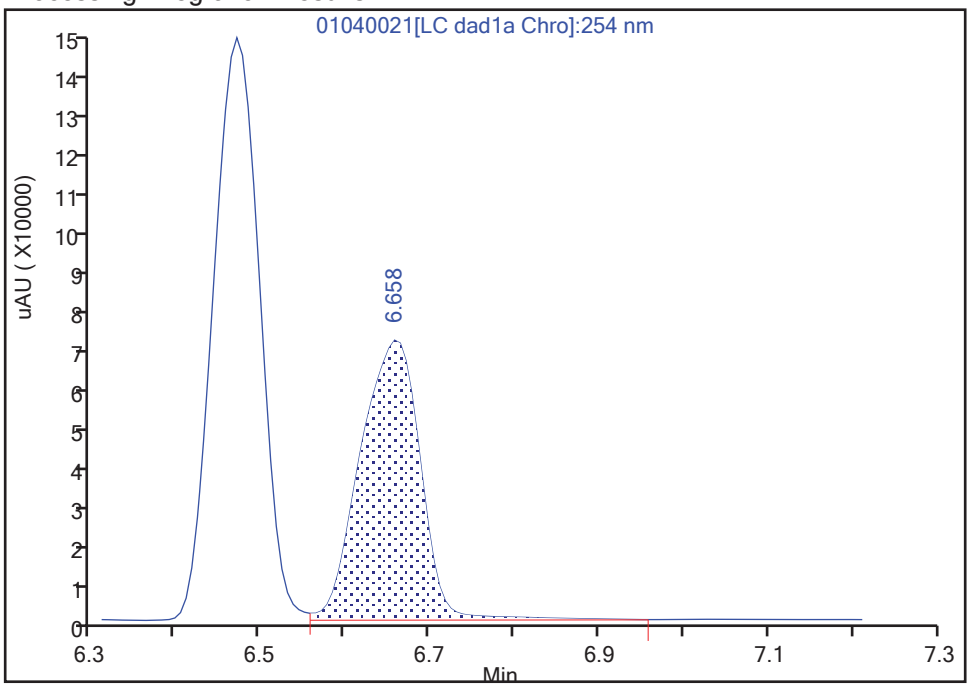
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040021.d		
Injection Date:	04-Jan-2022 22:17:16	Instrument ID:	CHHPLC_X3
Lims ID:	IC ADD 8		
Client ID:			
Operator ID:	JZ	ALS Bottle#:	21 Worklist Smp#: 21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

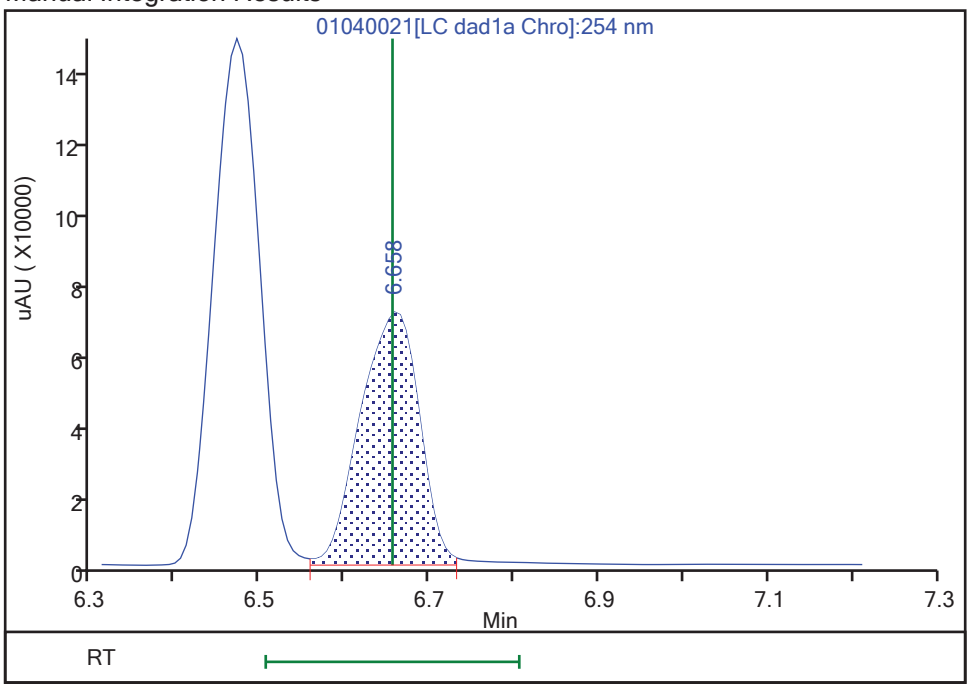
Processing Integration Results

RT: 6.66
Area: 332520
Amount: 1.744334
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 325437
Amount: 2.430207
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:03:08
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040022.D				
Lims ID:	IC ADD 7				
Client ID:					
Sample Type:	IC	Calib Level:	7		
Inject. Date:	04-Jan-2022 22:40:14	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC ADD 7				
Misc. Info.:	280-0107731-022				
Operator ID:	JZ	Instrument ID:	CHHPLC_X3		
Sublist:	chrom-8330_X3*sub10				
Method:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	05-Jan-2022 12:10:02	Calib Date:	05-Jan-2022 04:24:15		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX1613				
First Level Reviewer: zhangji		Date:	05-Jan-2022 12:03:24		

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.475	6.476	-0.001	208461	1.00	0.9705	M
5 2,4-diamino-6-nitrotoluene	1	6.662	6.656	0.006	124865	1.00	0.9324	M
14 3,5-Dinitroaniline	1	9.935	9.935	0.000	231395	1.00	1.01	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00030 Amount Added: 50.00 Units: uL

Report Date: 05-Jan-2022 12:10:02 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040022.d

Injection Date: 04-Jan-2022 22:40:14 Instrument ID: CHHPLC_X3 Operator ID:

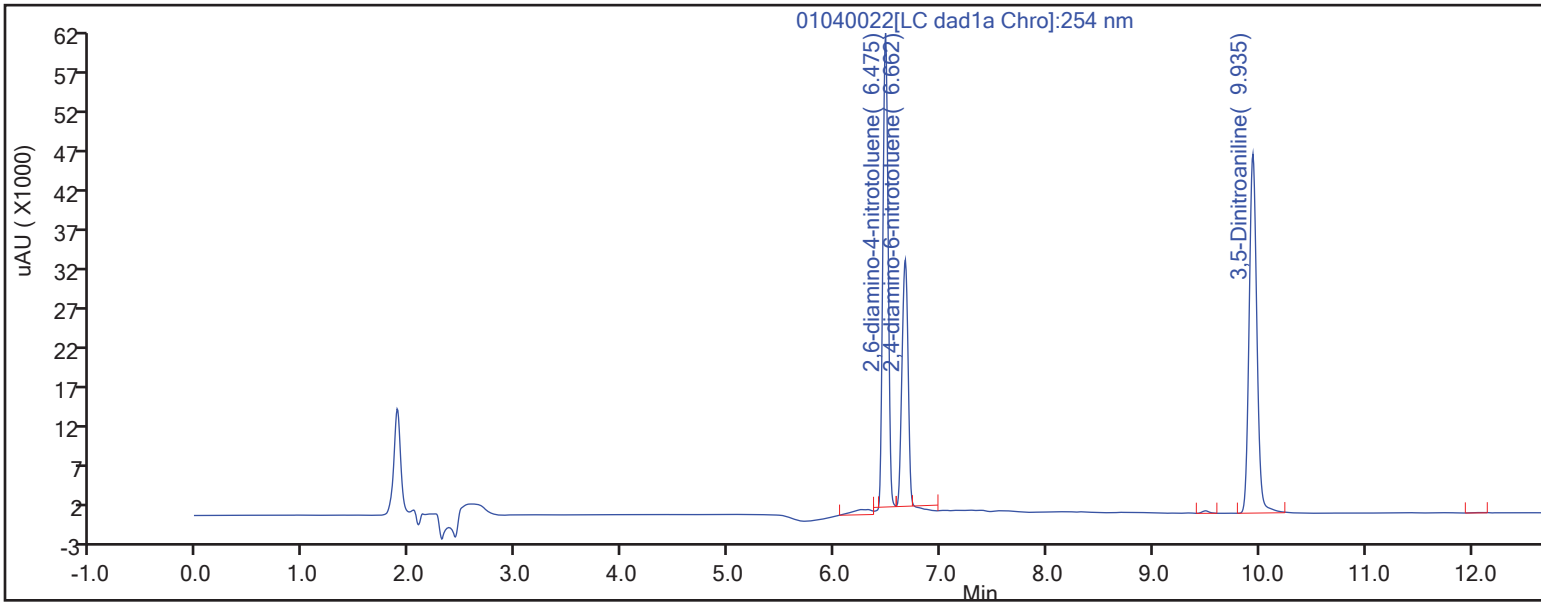
Lims ID: IC ADD 7 Worklist Smp#:

Client ID:

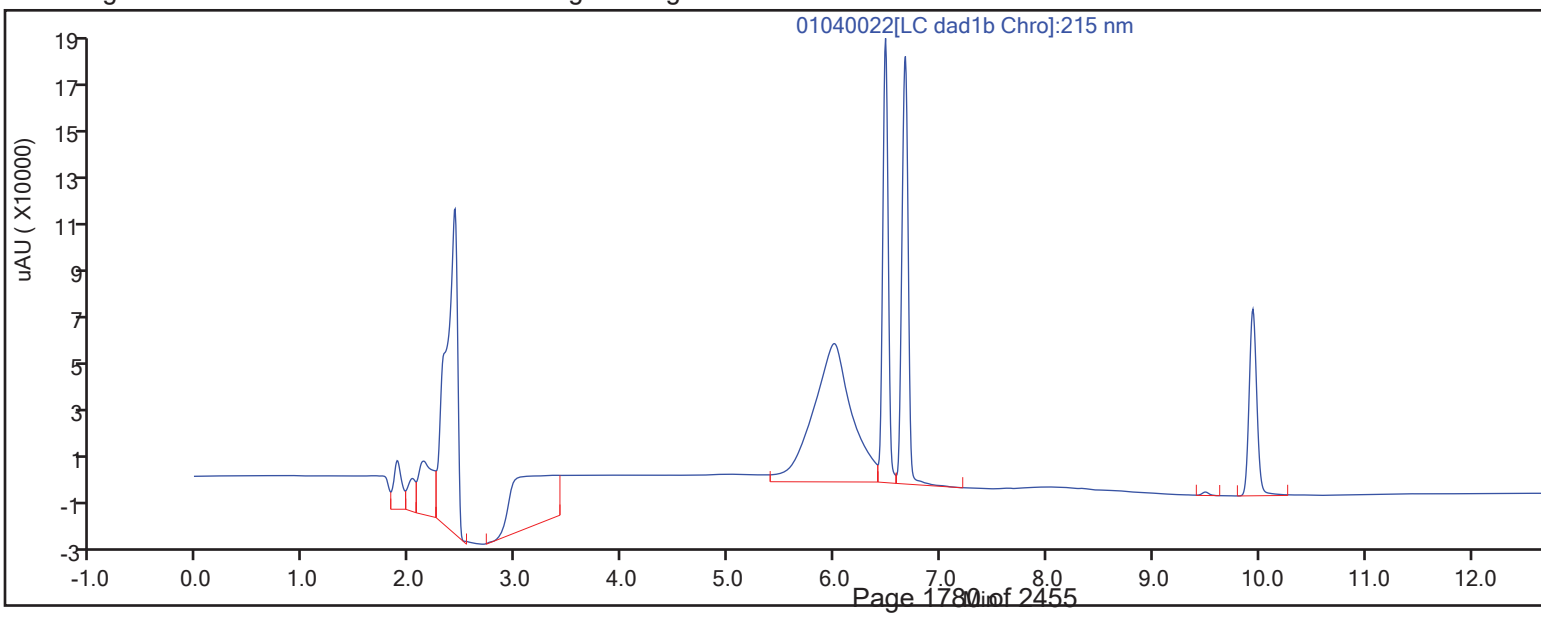
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

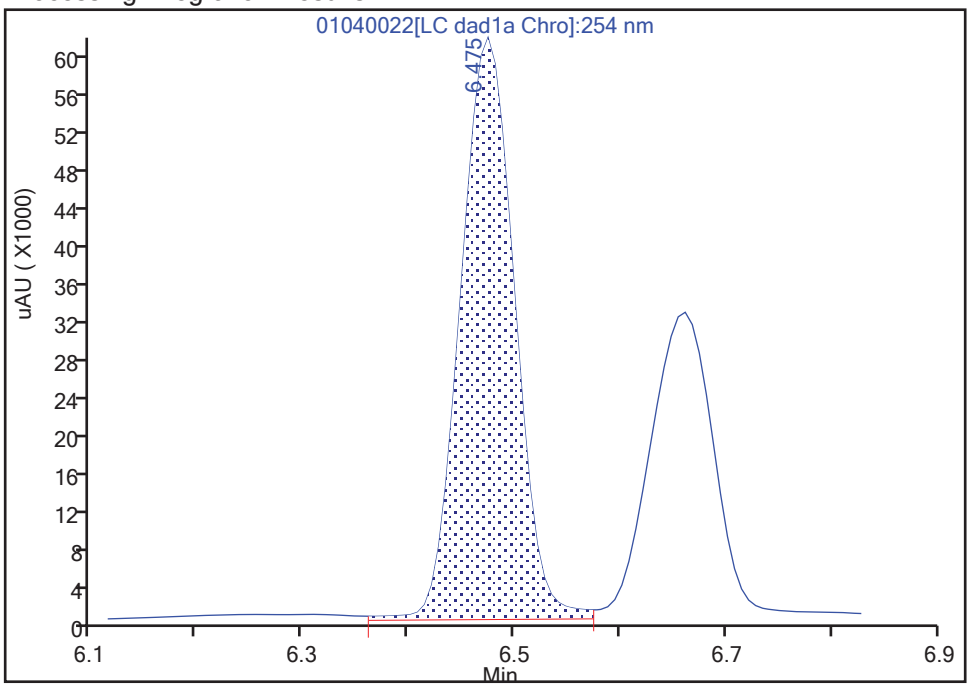
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040022.d				
Injection Date:	04-Jan-2022 22:40:14	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 7				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	22	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

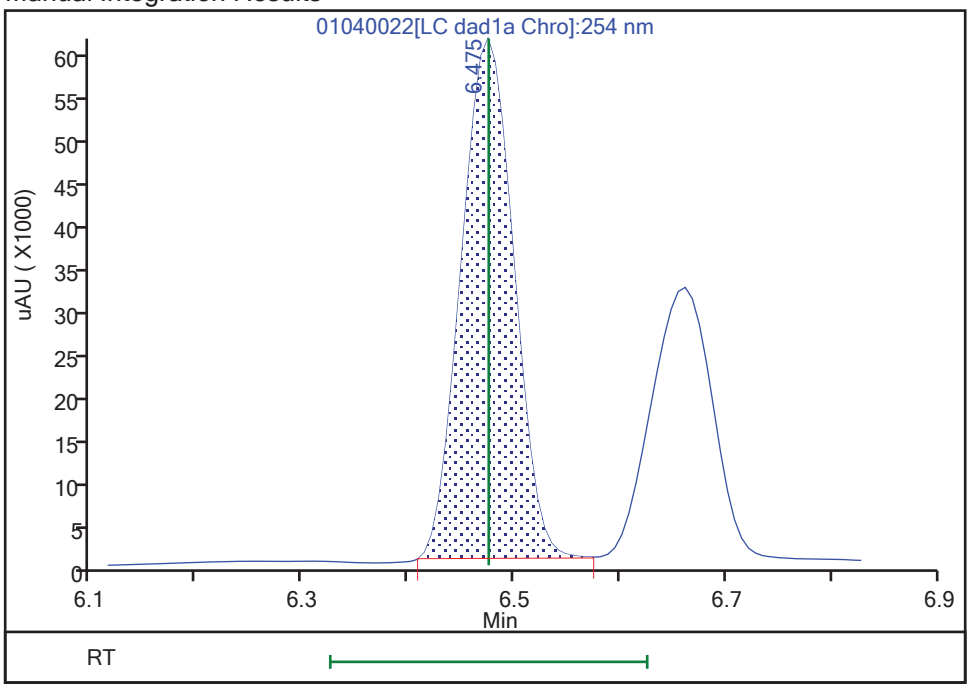
Processing Integration Results

RT: 6.47
Area: 218489
Amount: 1.012355
Amount Units: ug/mL



Manual Integration Results

RT: 6.47
Area: 208461
Amount: 0.970501
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:03:22

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

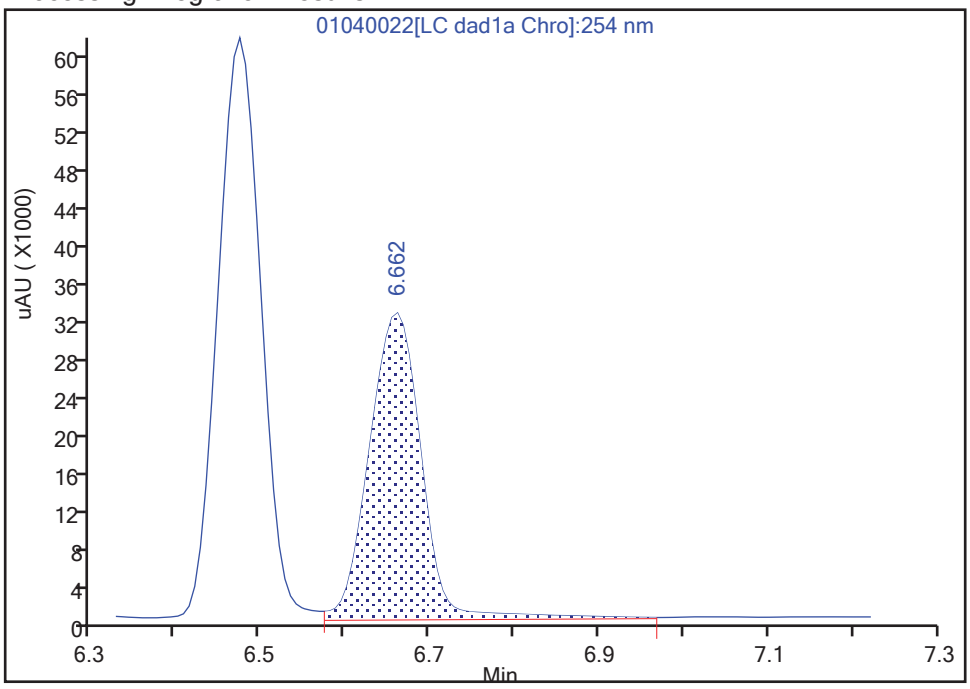
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040022.d		
Injection Date:	04-Jan-2022 22:40:14	Instrument ID:	CHHPLC_X3
Lims ID:	IC ADD 7		
Client ID:			
Operator ID:	JZ	ALS Bottle#:	22 Worklist Smp#: 22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

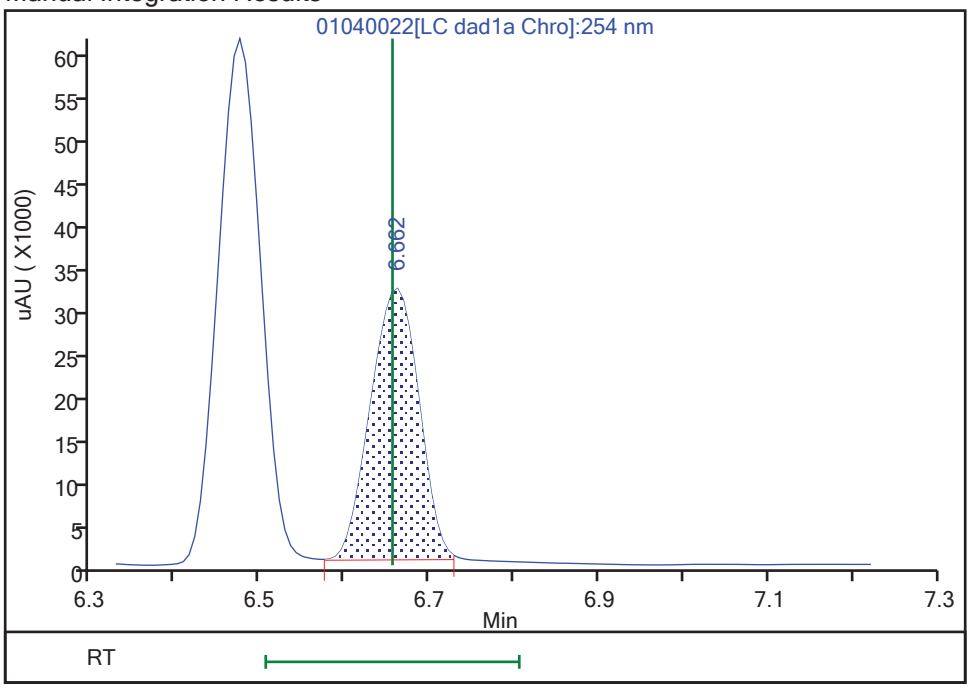
Processing Integration Results

RT: 6.66
Area: 138987
Amount: 0.730455
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 124865
Amount: 0.932432
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:03:23

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040023.D
Lims ID: IC ADD 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 04-Jan-2022 23:03:10 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC ADD 6
Misc. Info.: 280-0107731-023
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 05-Jan-2022 12:10:02 Calib Date: 05-Jan-2022 04:24:15
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1613

First Level Reviewer: zhangji Date: 05-Jan-2022 12:03:37

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.478	6.476	0.002	152440	0.7000	0.7097	M
5 2,4-diamino-6-nitrotoluene	1	6.658	6.656	0.002	93163	0.7000	0.6957	M
14 3,5-Dinitroaniline	1	9.931	9.935	-0.004	162226	0.7000	0.7072	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00030 Amount Added: 35.00 Units: uL

Report Date: 05-Jan-2022 12:10:02 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040023.d

Injection Date: 04-Jan-2022 23:03:10 Instrument ID: CHHPLC_X3 Operator ID:

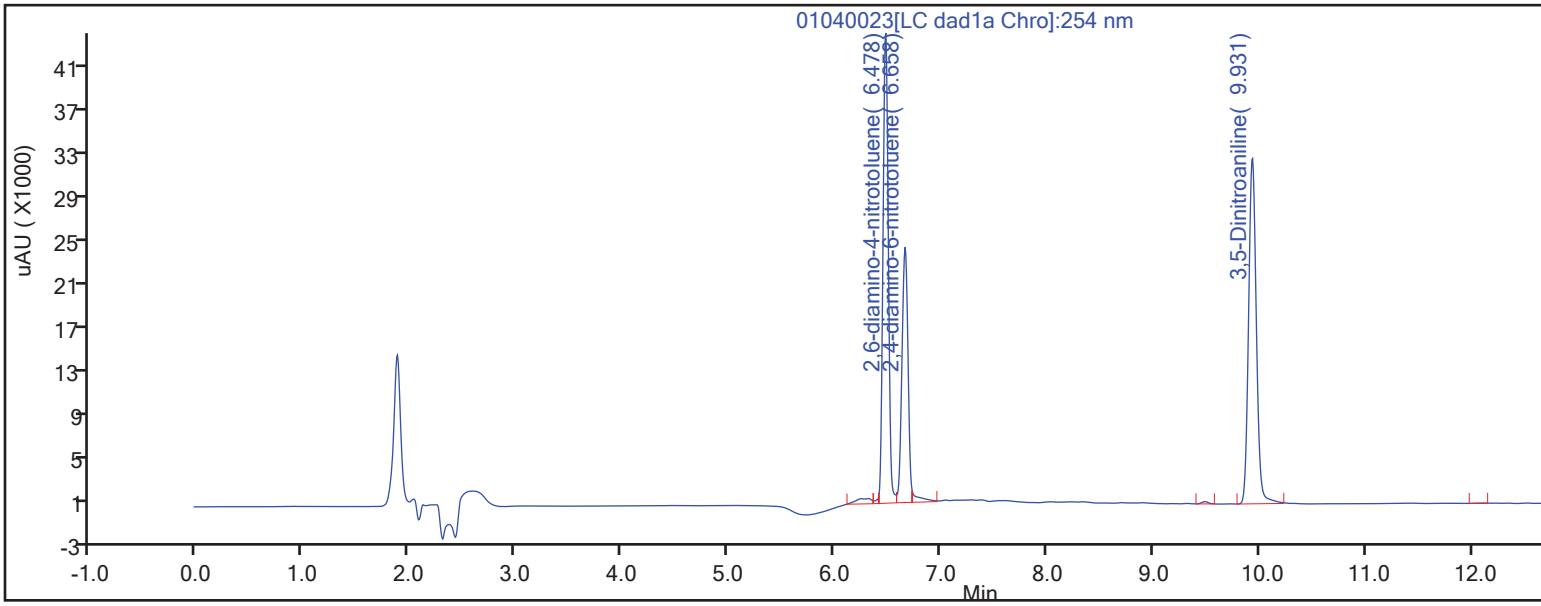
Lims ID: IC ADD 6 Worklist Smp#:

Client ID:

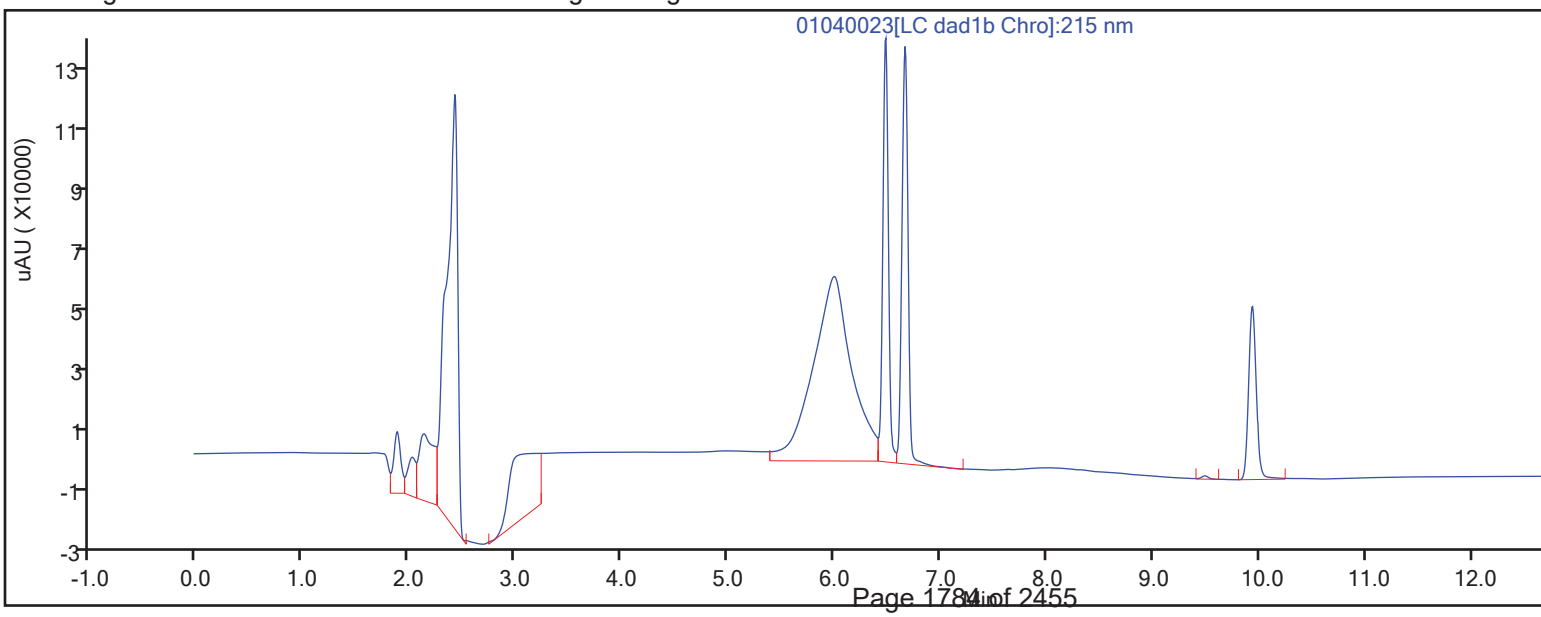
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

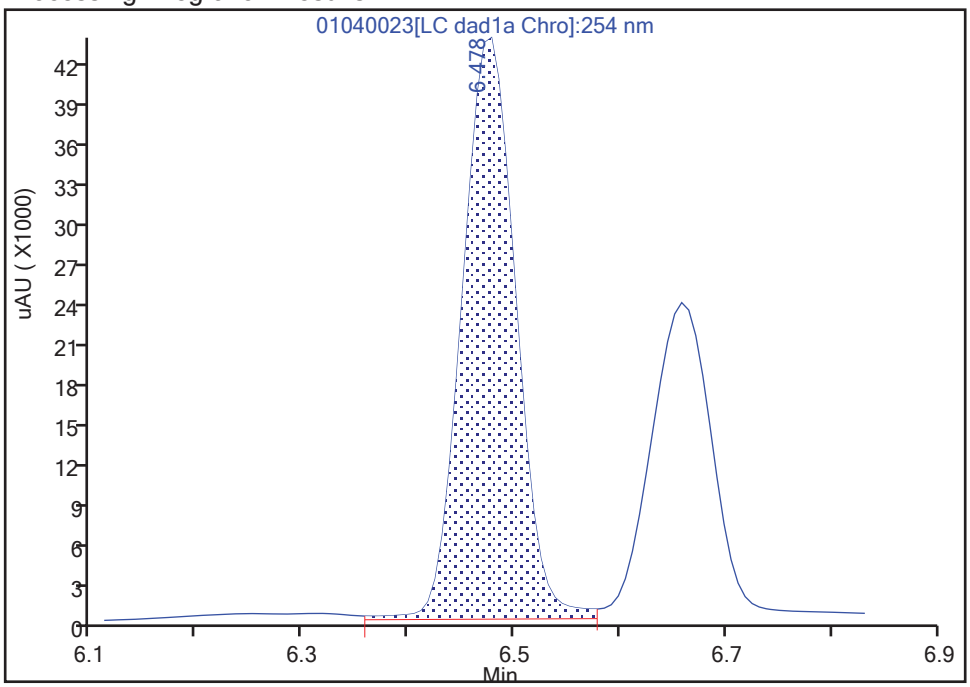
Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040023.d
Injection Date: 04-Jan-2022 23:03:10 Instrument ID: CHHPLC_X3
Lims ID: IC ADD 6
Client ID:
Operator ID: JZ ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

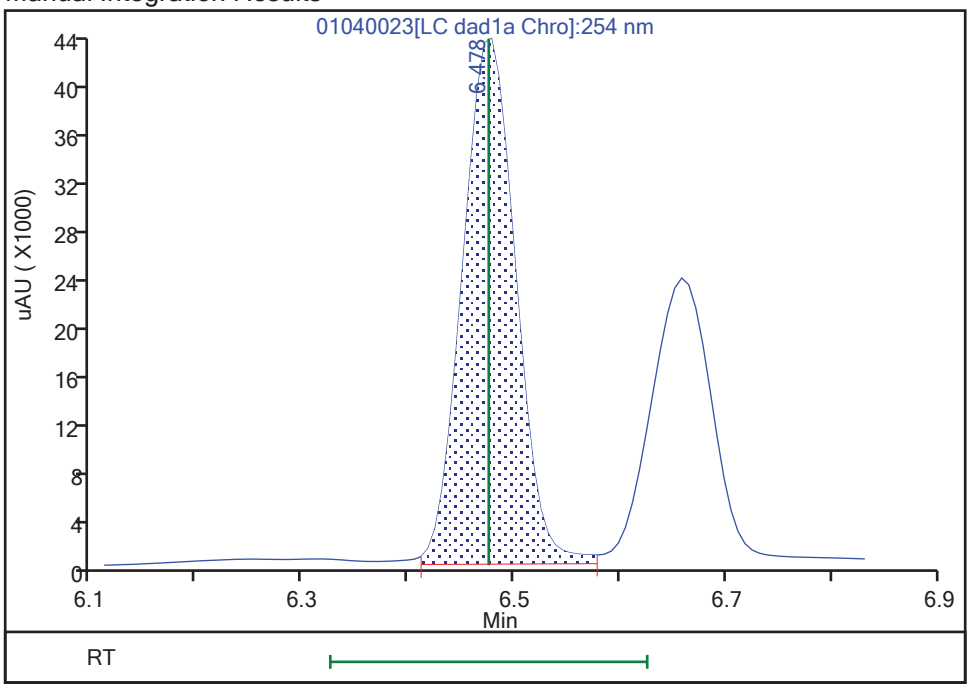
Processing Integration Results

RT: 6.48
Area: 153507
Amount: 0.708870
Amount Units: ug/mL



Manual Integration Results

RT: 6.48
Area: 152440
Amount: 0.709693
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:03:34
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

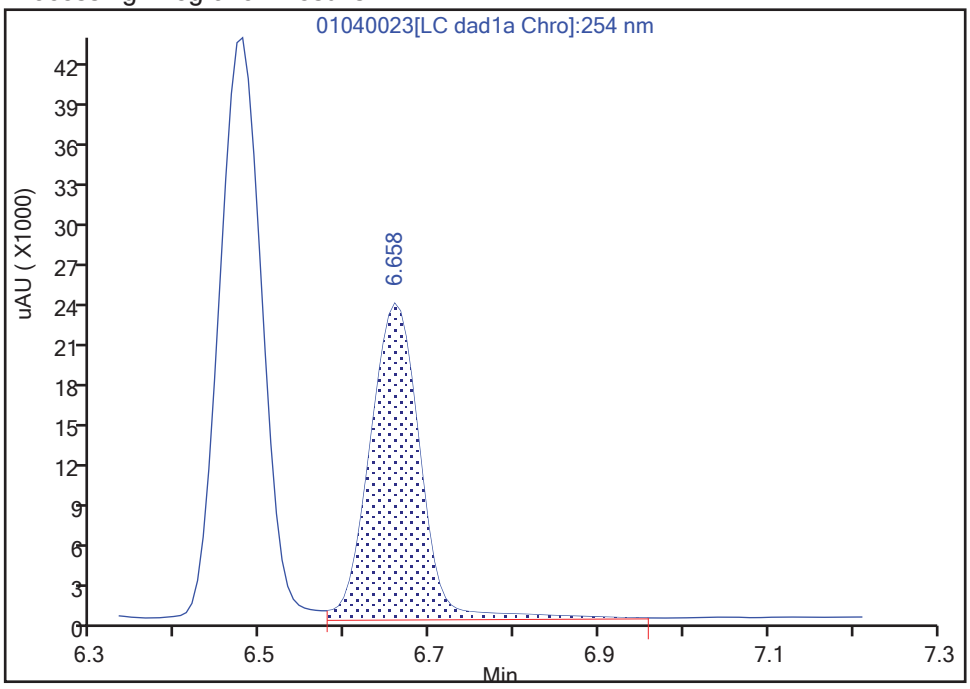
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040023.d				
Injection Date:	04-Jan-2022 23:03:10	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 6				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	23	Worklist Smp#:	23
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

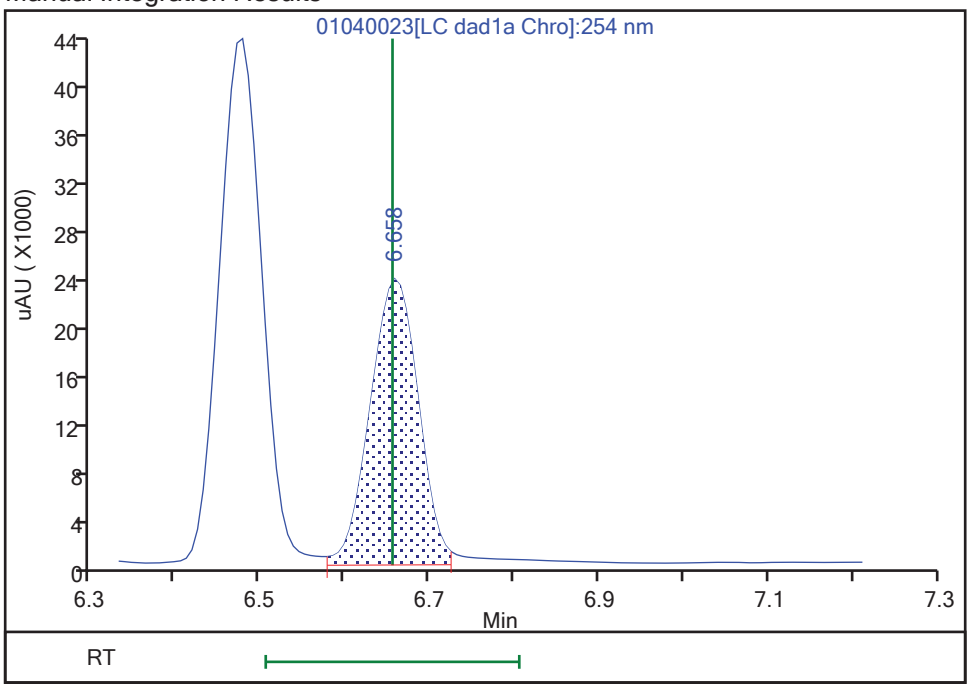
Processing Integration Results

RT: 6.66
Area: 97762
Amount: 0.518606
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 93163
Amount: 0.695696
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:03:35

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040024.D
Lims ID: IC ADD 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 04-Jan-2022 23:26:06 ALS Bottle#: 24 Worklist Smp#: 24
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC ADD 5
Misc. Info.: 280-0107731-024
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 05-Jan-2022 12:10:03 Calib Date: 05-Jan-2022 04:24:15
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1613

First Level Reviewer: zhangji Date: 05-Jan-2022 12:04:09

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.472	6.476	-0.004	84464	0.4000	0.3932	M
5 2,4-diamino-6-nitrotoluene	1	6.658	6.656	0.002	50945	0.4000	0.3804	M
14 3,5-Dinitroaniline	1	9.932	9.935	-0.003	93039	0.4000	0.4063	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00030 Amount Added: 20.00 Units: uL

Report Date: 05-Jan-2022 12:10:03 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040024.d

Injection Date: 04-Jan-2022 23:26:06 Instrument ID: CHHPLC_X3 Operator ID:

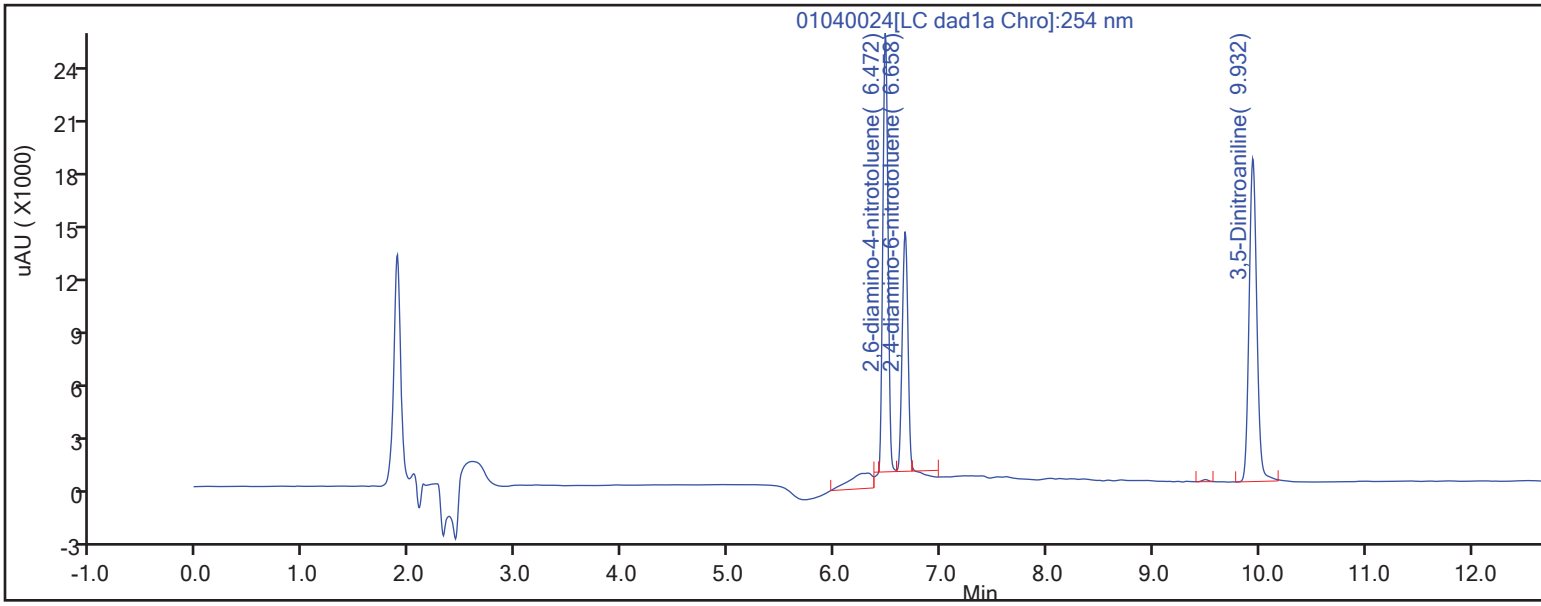
Lims ID: IC ADD 5 Worklist Smp#:

Client ID:

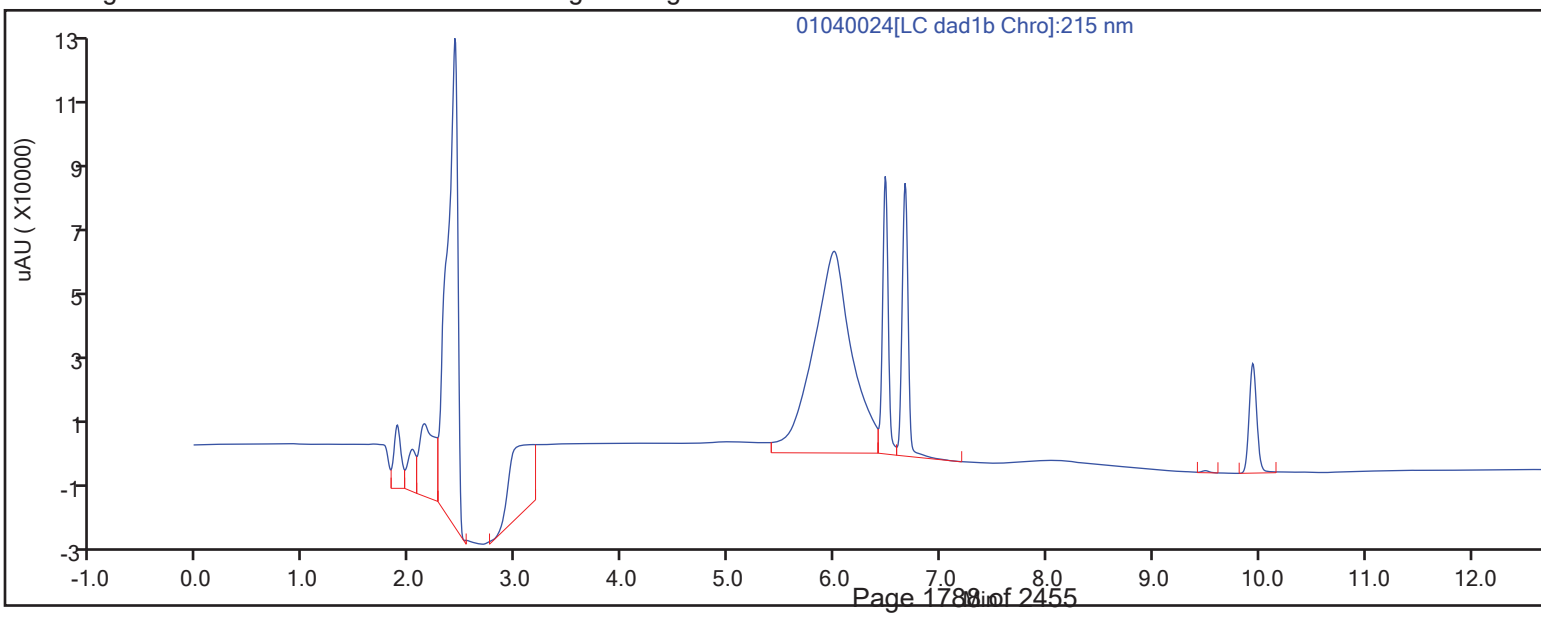
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

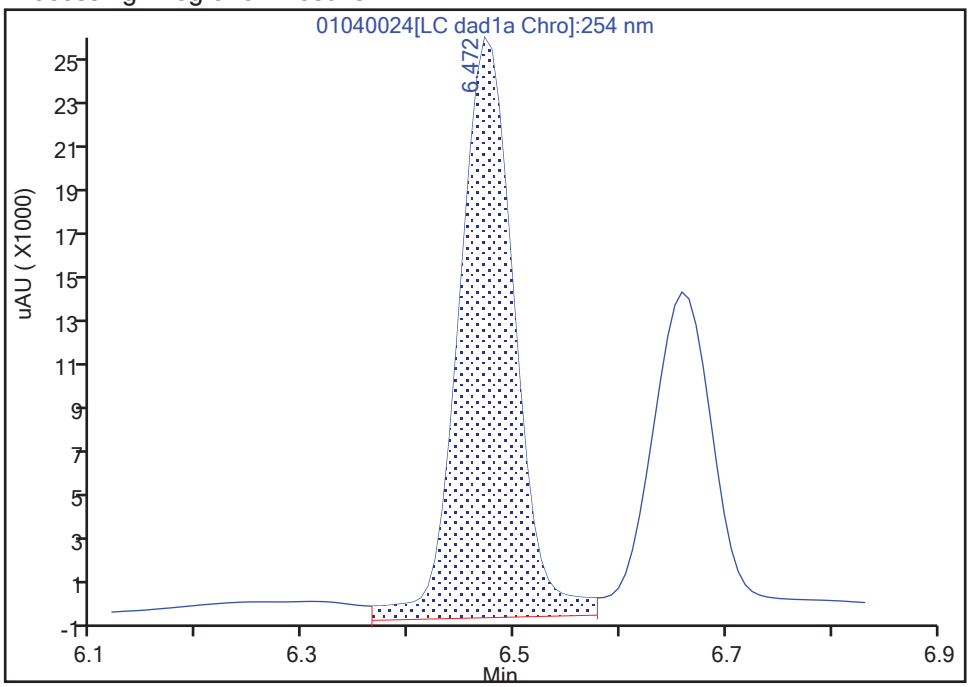
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040024.d				
Injection Date:	04-Jan-2022 23:26:06	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 5				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	24	Worklist Smp#:	24
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

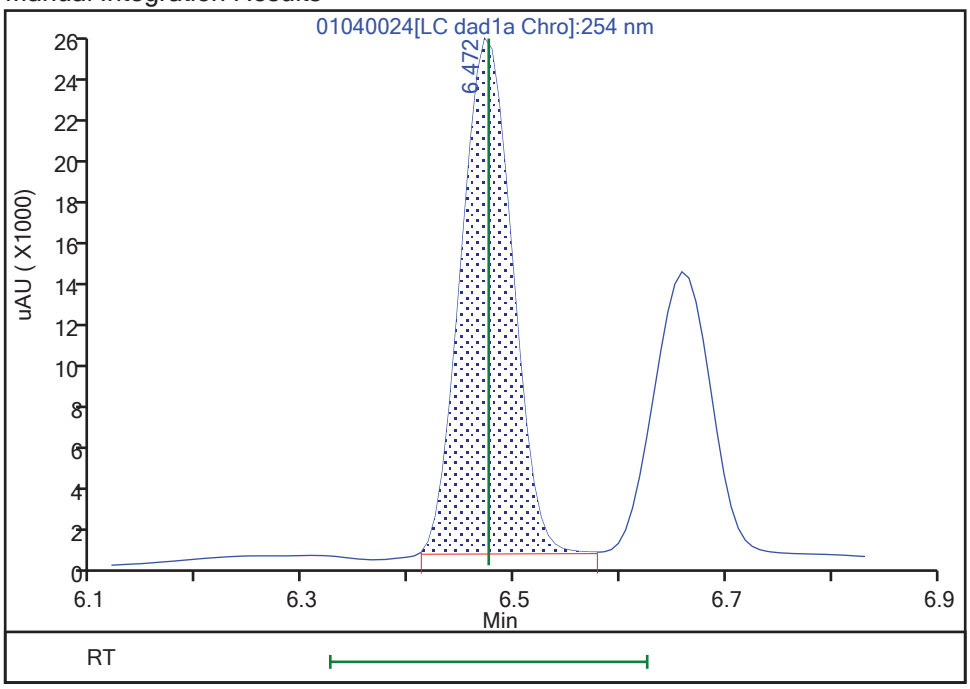
Processing Integration Results

RT: 6.47
Area: 94172
Amount: 0.423071
Amount Units: ug/mL



Manual Integration Results

RT: 6.47
Area: 84464
Amount: 0.393227
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:03:49
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

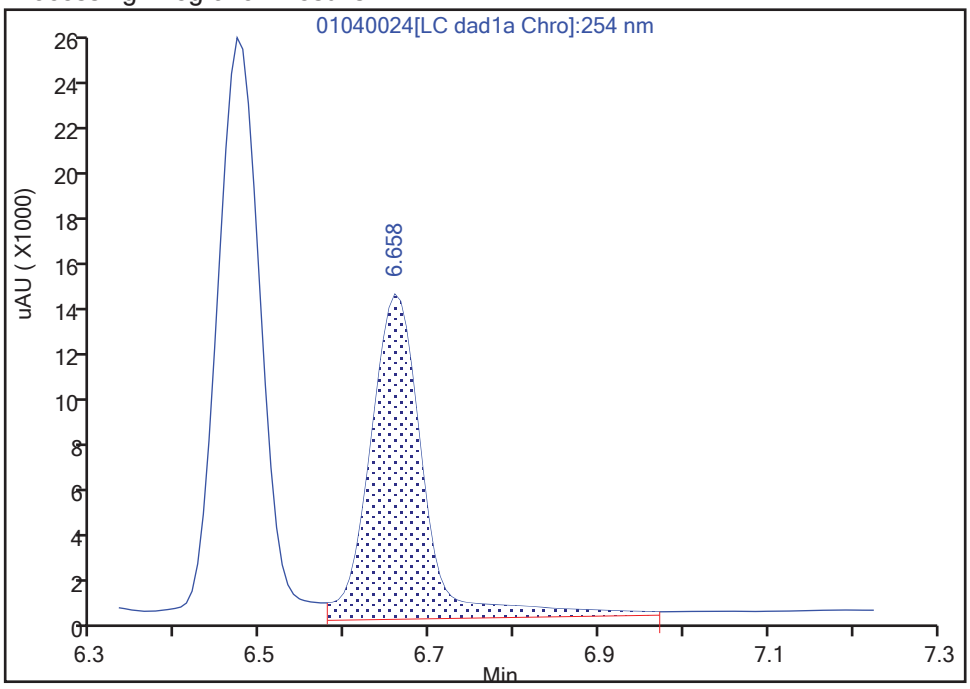
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040024.d		
Injection Date:	04-Jan-2022 23:26:06	Instrument ID:	CHHPLC_X3
Lims ID:	IC ADD 5		
Client ID:			
Operator ID:	JZ	ALS Bottle#:	24 Worklist Smp#: 24
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

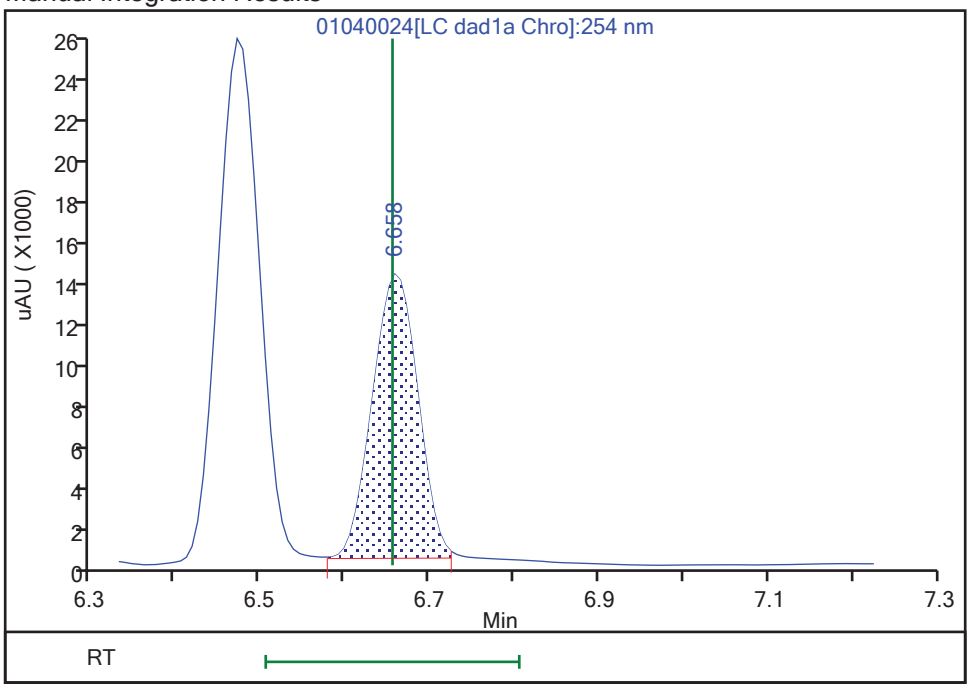
Processing Integration Results

RT: 6.66
Area: 62744
Amount: 0.334300
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 50945
Amount: 0.380433
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:03:50

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040025.D
Lims ID: IC ADD 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 04-Jan-2022 23:49:00 ALS Bottle#: 25 Worklist Smp#: 25
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC ADD 4
Misc. Info.: 280-0107731-025
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 05-Jan-2022 12:10:03 Calib Date: 05-Jan-2022 04:24:15
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1613

First Level Reviewer: zhangji Date: 05-Jan-2022 12:03:00

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.476	6.476	0.000	52013	0.2500	0.2421	
5 2,4-diamino-6-nitrotoluene	1	6.656	6.656	0.000	31886	0.2500	0.2381	
14 3,5-Dinitroaniline	1	9.935	9.935	0.000	54180	0.2500	0.2374	

QC Flag Legend

Processing Flags

Reagents:

8330_ADDs_00030 Amount Added: 12.50 Units: uL

Report Date: 05-Jan-2022 12:10:03 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040025.d

Injection Date: 04-Jan-2022 23:49:00 Instrument ID: CHHPLC_X3 Operator ID:

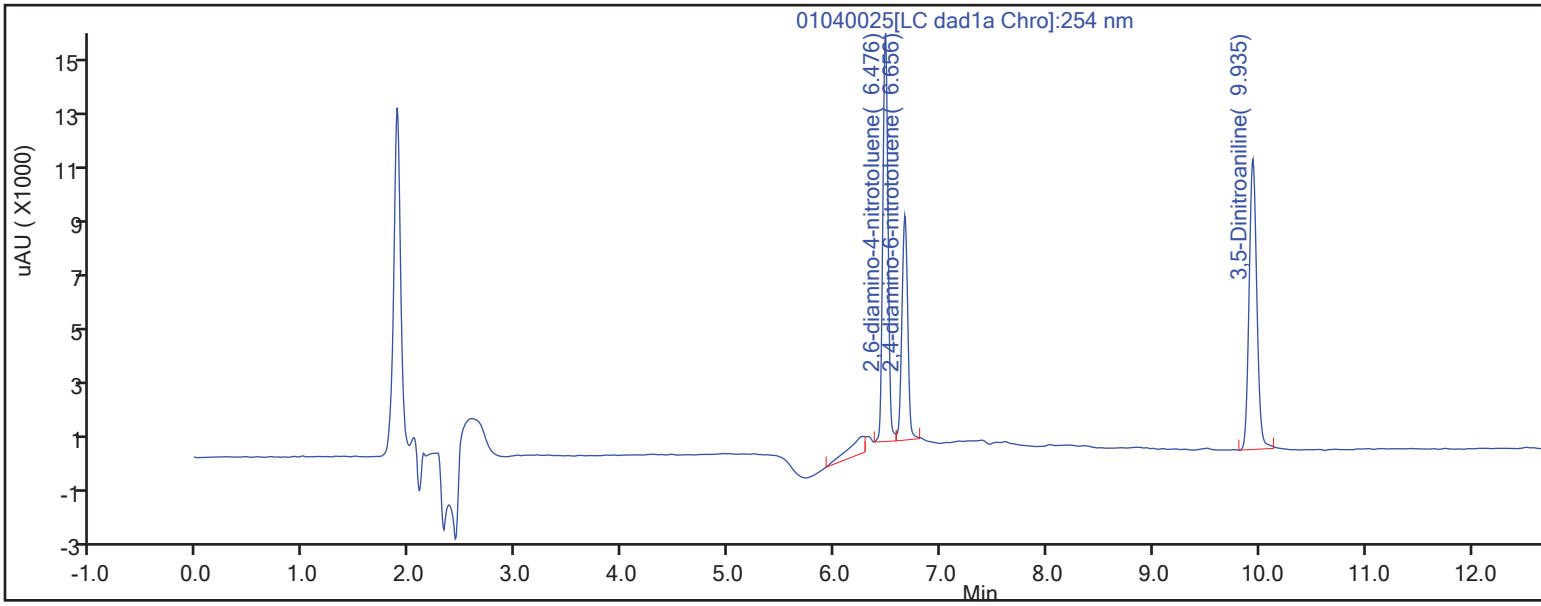
Lims ID: IC ADD 4 Worklist Smp#:

Client ID:

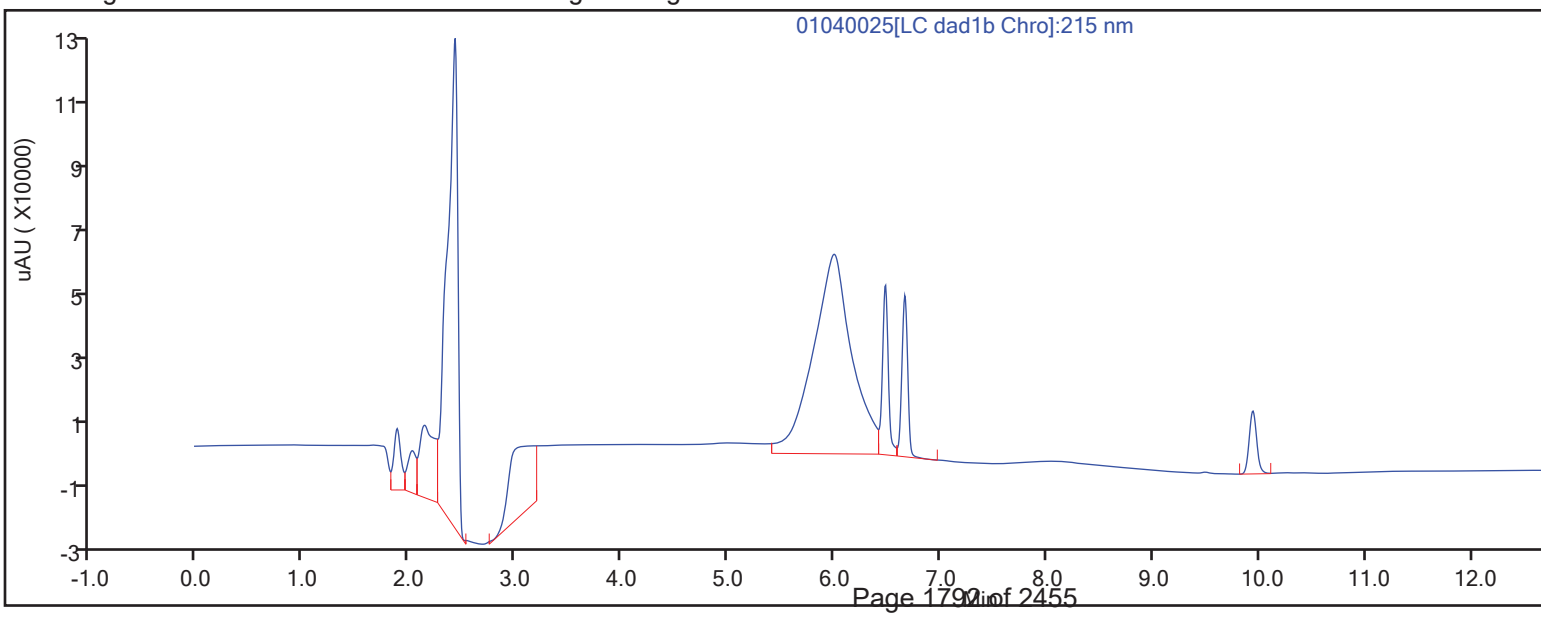
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040026.D
Lims ID: IC ADD 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 05-Jan-2022 00:11:55 ALS Bottle#: 26 Worklist Smp#: 26
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC ADD 3
Misc. Info.: 280-0107731-026
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 05-Jan-2022 12:10:04 Calib Date: 05-Jan-2022 04:24:15
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1613

First Level Reviewer: zhangji Date: 05-Jan-2022 12:04:26

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.469	6.476	-0.007	22587	0.1000	0.1052	M
5 2,4-diamino-6-nitrotoluene	1	6.656	6.656	0.000	14442	0.1000	0.1078	M
14 3,5-Dinitroaniline	1	9.929	9.935	-0.006	22442	0.1000	0.0993	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00030 Amount Added: 5.00 Units: uL

Report Date: 05-Jan-2022 12:10:04 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040026.d

Injection Date: 05-Jan-2022 00:11:55 Instrument ID: CHHPLC_X3 Operator ID:

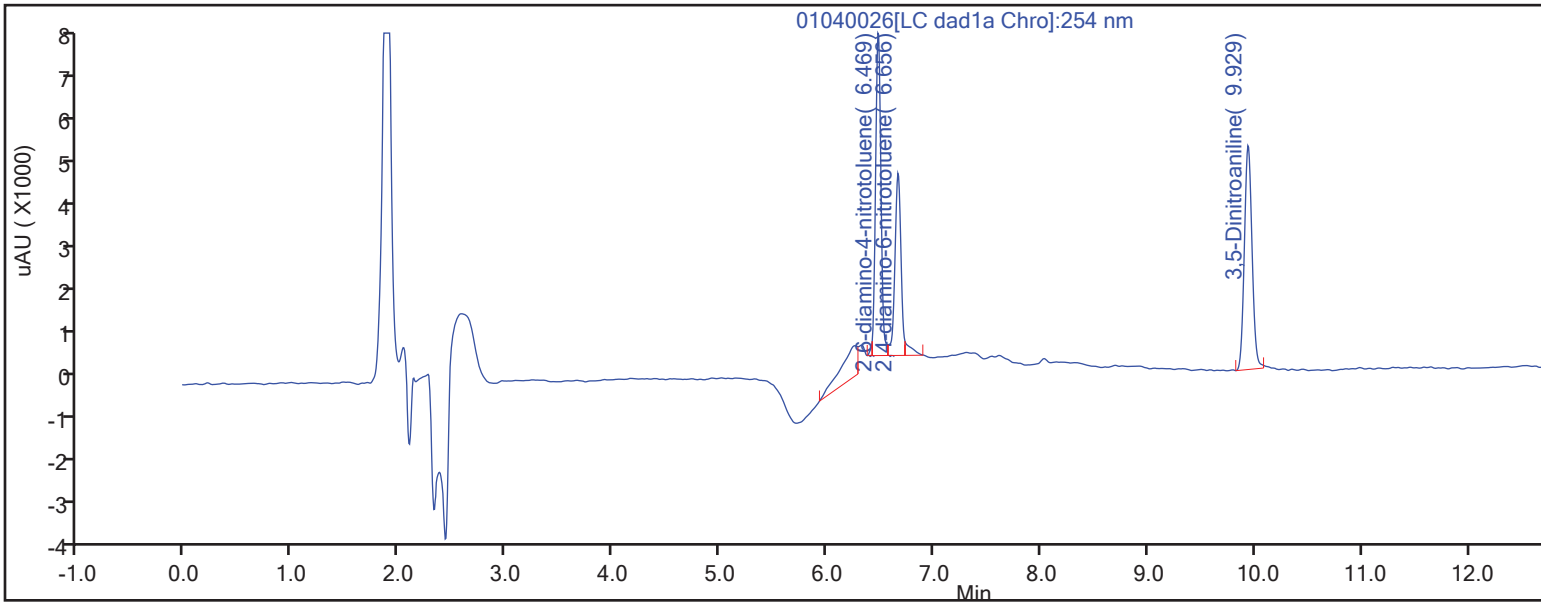
Lims ID: IC ADD 3 Worklist Smp#:

Client ID:

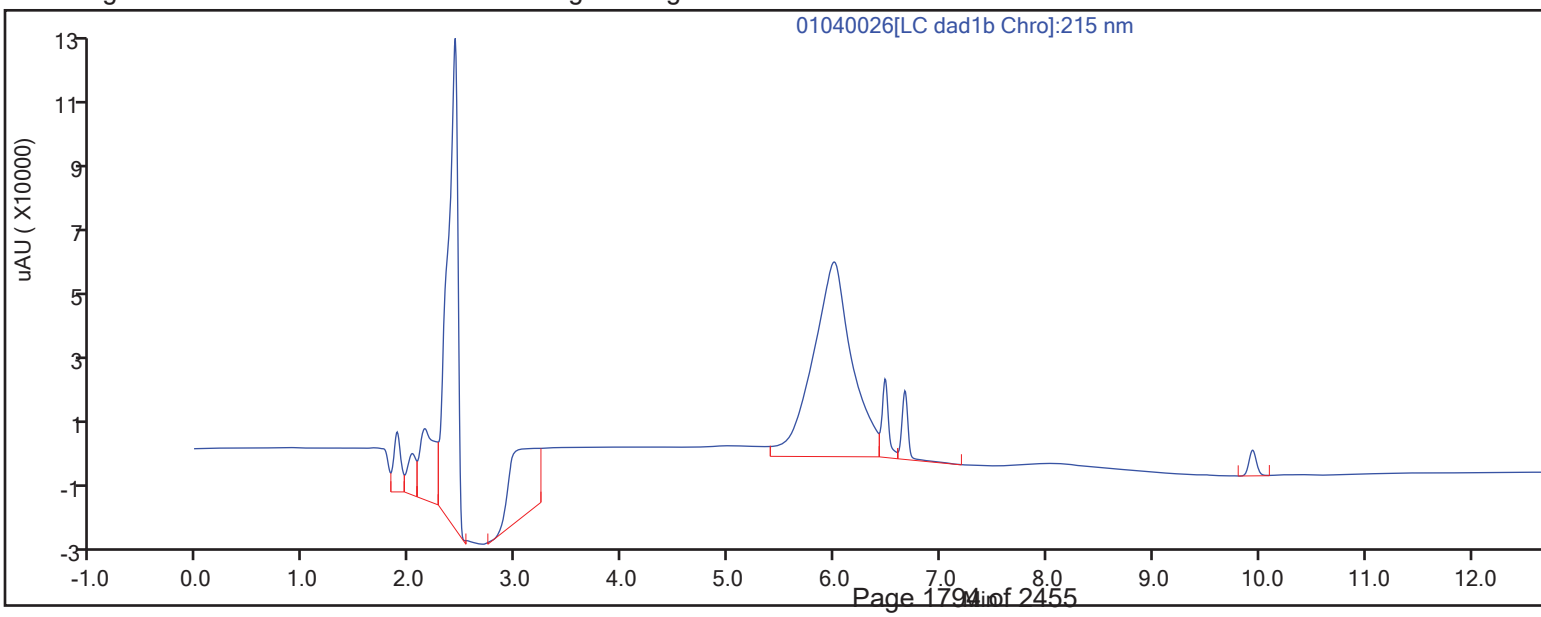
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

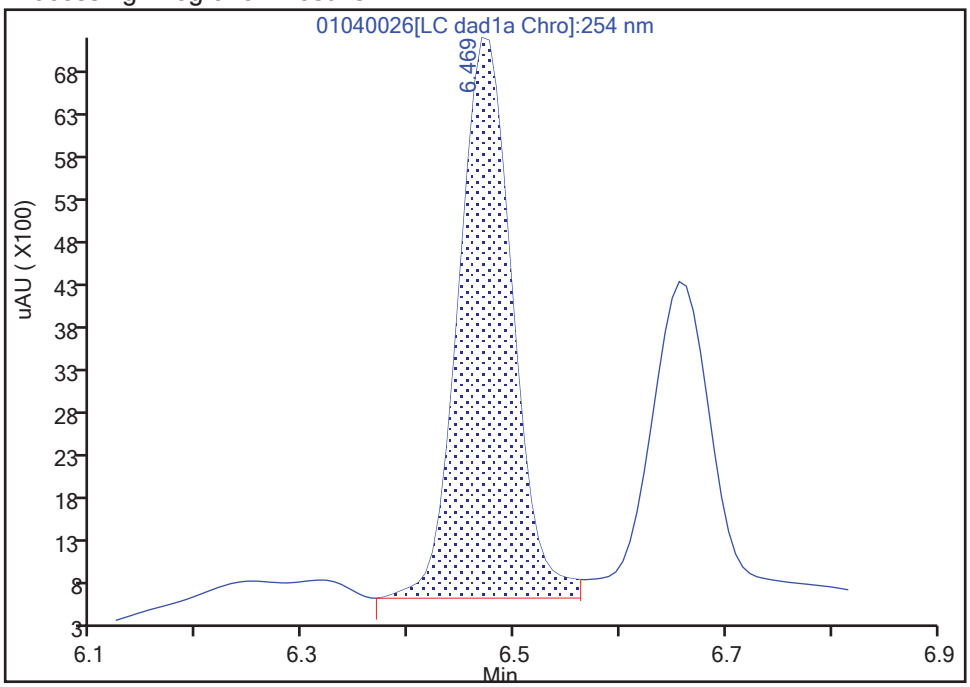
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040026.d				
Injection Date:	05-Jan-2022 00:11:55	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 3				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

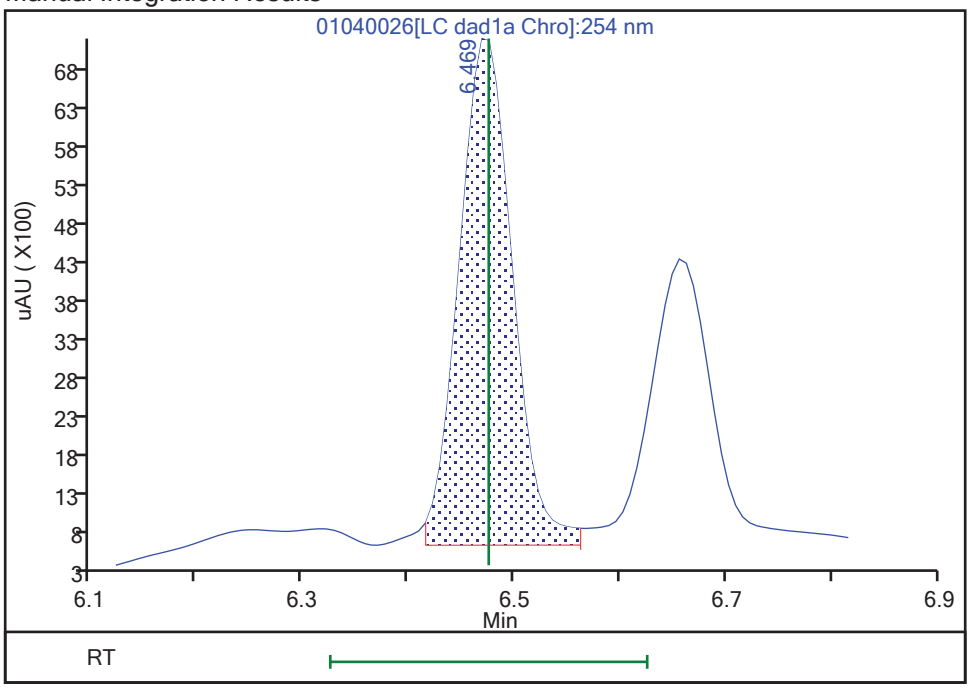
Processing Integration Results

RT: 6.47
Area: 22854
Amount: 0.079907
Amount Units: ug/mL



Manual Integration Results

RT: 6.47
Area: 22587
Amount: 0.105155
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:04:24

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

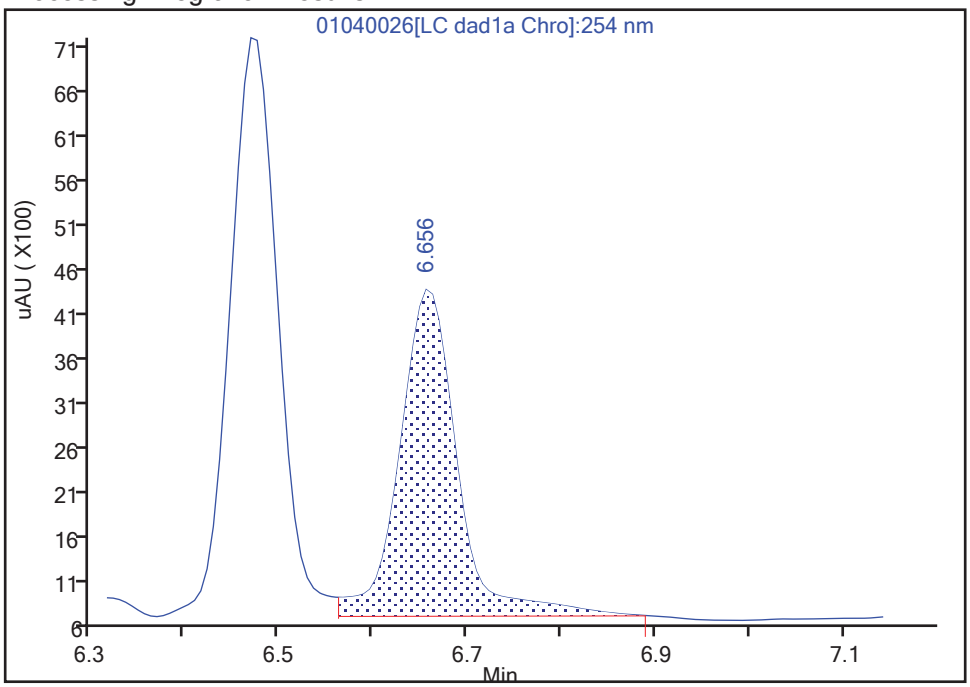
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040026.d				
Injection Date:	05-Jan-2022 00:11:55	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 3				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	26	Worklist Smp#:	26
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

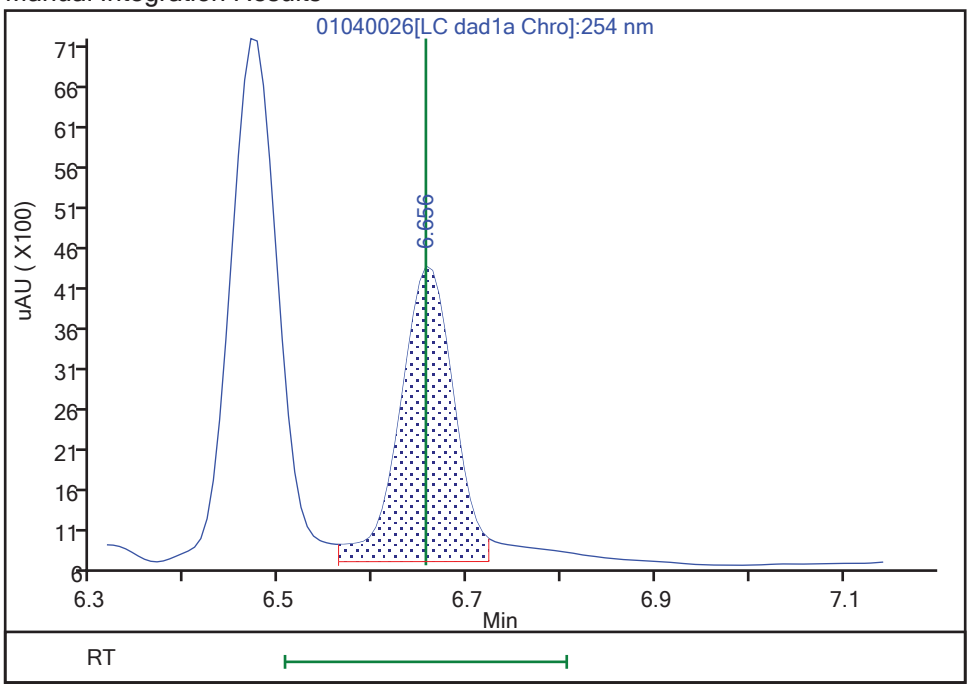
Processing Integration Results

RT: 6.66
Area: 15559
Amount: 0.084559
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 14442
Amount: 0.107846
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:04:23

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040027.D				
Lims ID:	IC ADD 2				
Client ID:					
Sample Type:	IC	Calib Level:	2		
Inject. Date:	05-Jan-2022 00:34:56	ALS Bottle#:	27	Worklist Smp#:	27
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC ADD 2				
Misc. Info.:	280-0107731-027				
Operator ID:	JZ	Instrument ID:	CHHPLC_X3		
Sublist:	chrom-8330_X3*sub10				
Method:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	05-Jan-2022 12:10:04	Calib Date:	05-Jan-2022 04:24:15		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX1613				
First Level Reviewer: zhangji		Date:	05-Jan-2022 12:04:51		

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.473	6.476	-0.003	10947	0.0500	0.0510	M
5 2,4-diamino-6-nitrotoluene	1	6.660	6.656	0.004	7110	0.0500	0.0531	M
14 3,5-Dinitroaniline	1	9.926	9.935	-0.009	11185	0.0500	0.0504	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00030 Amount Added: 2.50 Units: uL

Report Date: 05-Jan-2022 12:10:04 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040027.d

Injection Date: 05-Jan-2022 00:34:56 Instrument ID: CHHPLC_X3 Operator ID:

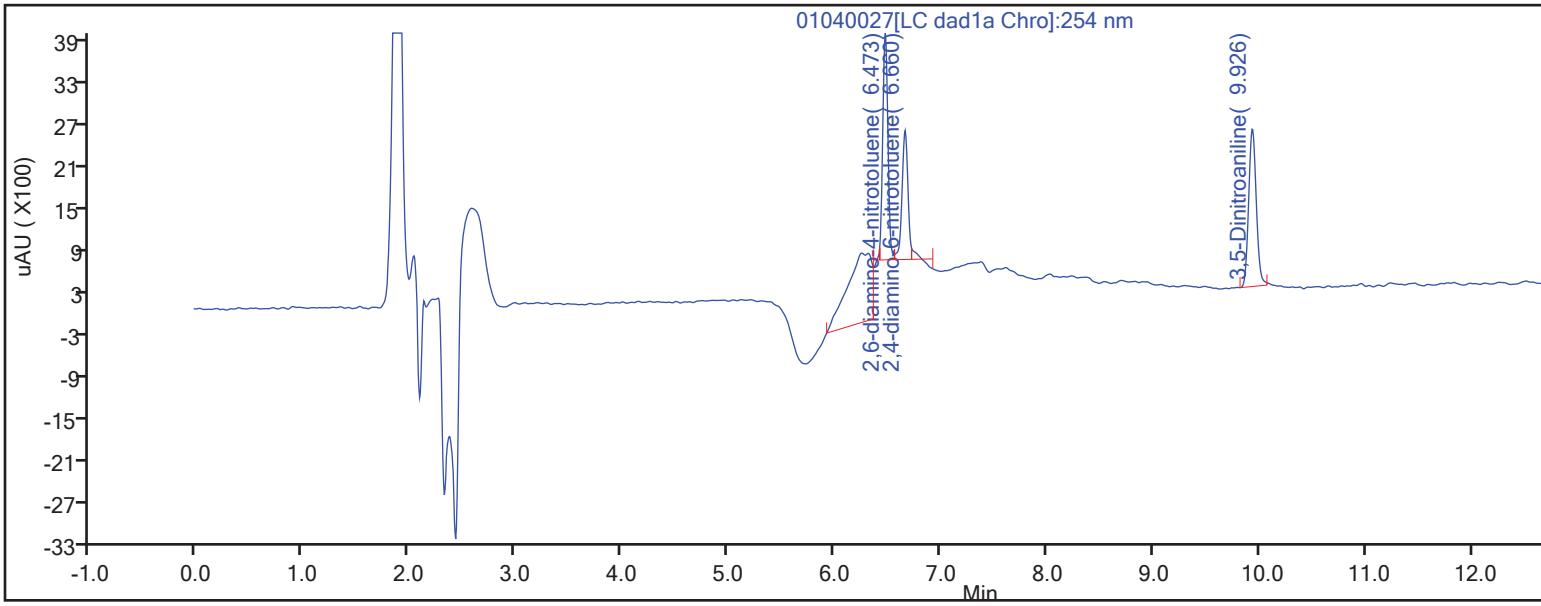
Lims ID: IC ADD 2 Worklist Smp#:

Client ID:

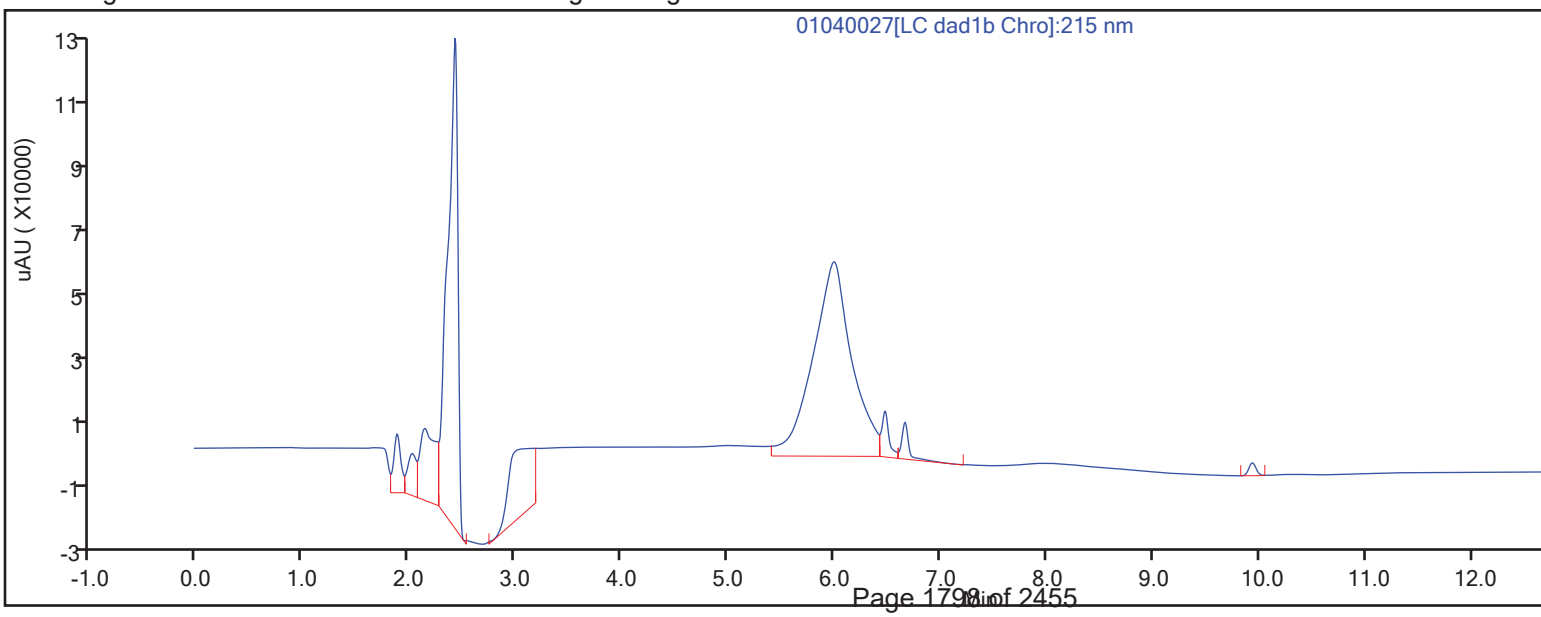
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

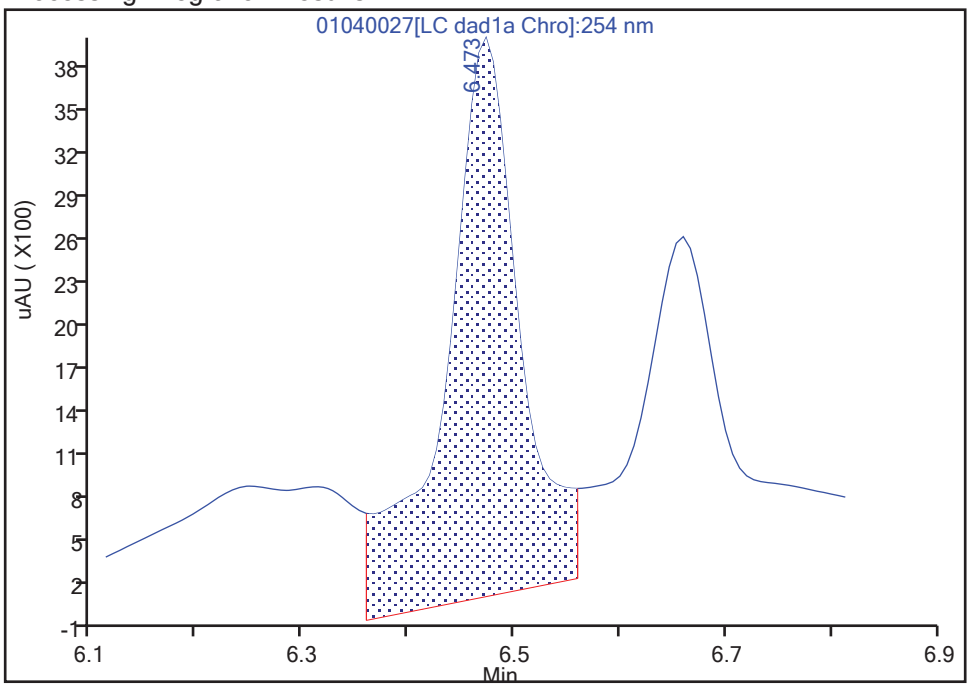
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040027.d				
Injection Date:	05-Jan-2022 00:34:56	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 2				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	27	Worklist Smp#:	27
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

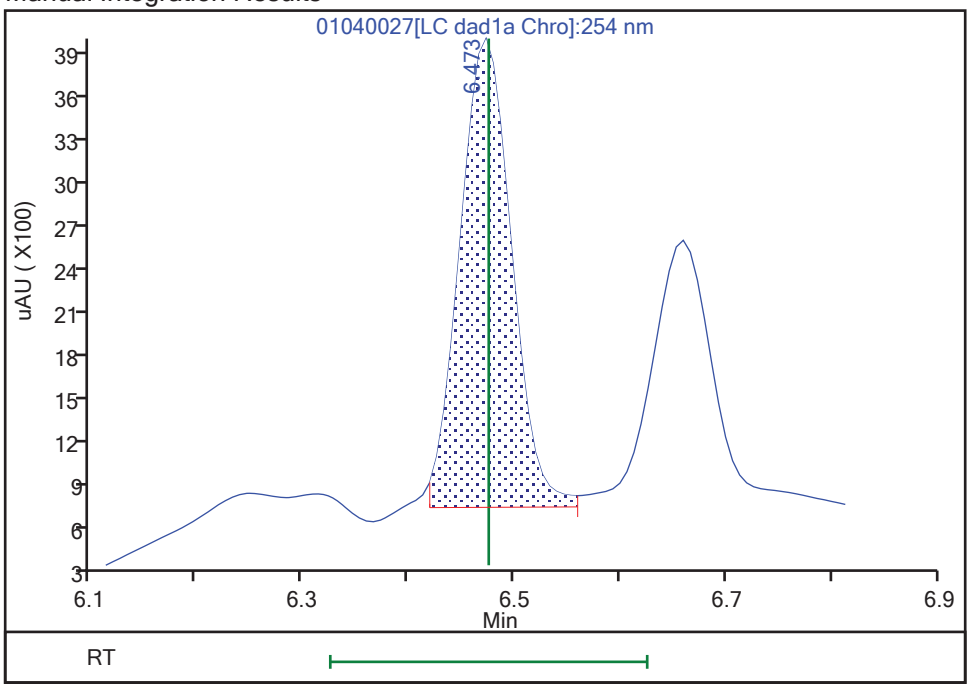
Processing Integration Results

RT: 6.47
Area: 19228
Amount: 0.062392
Amount Units: ug/mL



Manual Integration Results

RT: 6.47
Area: 10947
Amount: 0.050964
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:04:48
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

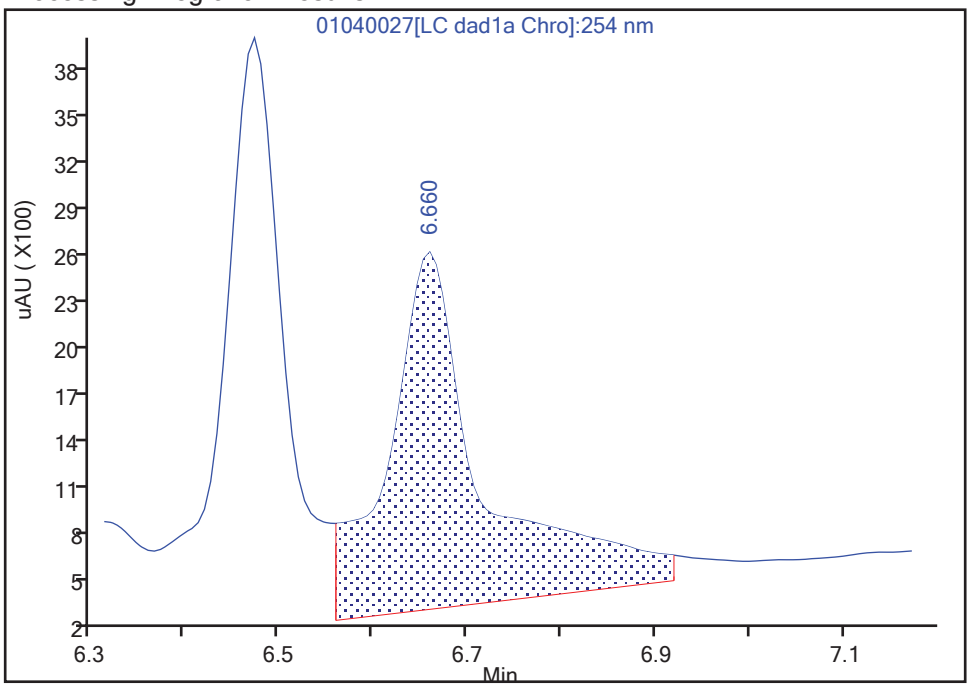
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040027.d		
Injection Date:	05-Jan-2022 00:34:56	Instrument ID:	CHHPLC_X3
Lims ID:	IC ADD 2		
Client ID:			
Operator ID:	JZ	ALS Bottle#:	27 Worklist Smp#: 27
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

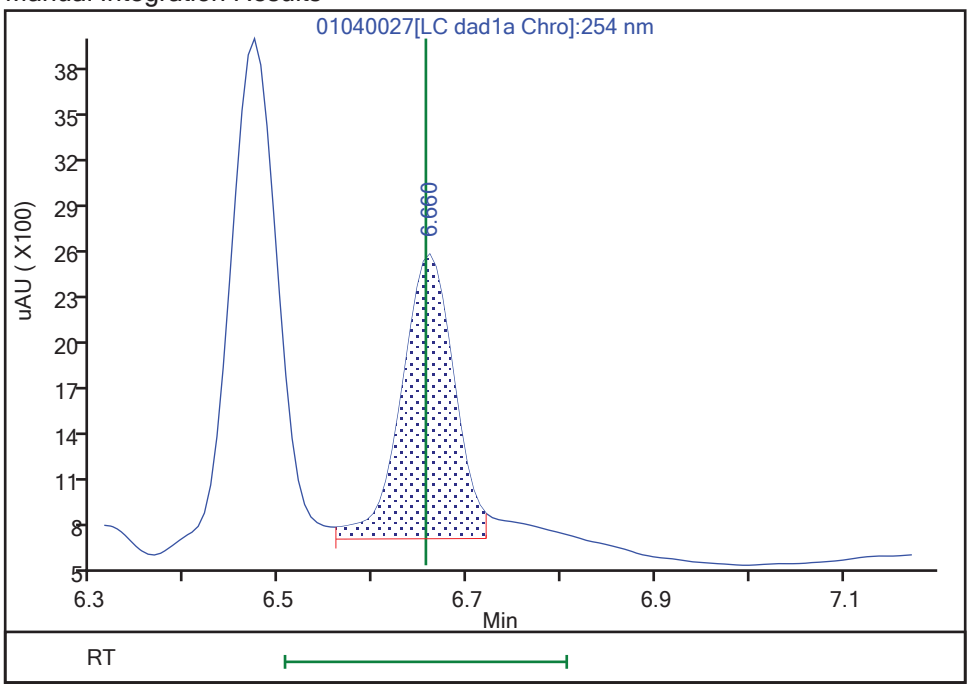
Processing Integration Results

RT: 6.66
Area: 16304
Amount: 0.089286
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 7110
Amount: 0.053094
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:04:49
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040028.D				
Lims ID:	IC ADD 1				
Client ID:					
Sample Type:	IC	Calib Level:	1		
Inject. Date:	05-Jan-2022 00:57:50	ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	IC ADD 1				
Misc. Info.:	280-0107731-028				
Operator ID:	JZ	Instrument ID:	CHHPLC_X3		
Sublist:	chrom-8330_X3*sub10				
Method:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	05-Jan-2022 12:10:05	Calib Date:	05-Jan-2022 04:24:15		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040037.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX1613				
First Level Reviewer: zhangji		Date:	05-Jan-2022 12:05:13		

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.470	6.476	-0.006	4307	0.0200	0.0201	M
5 2,4-diamino-6-nitrotoluene	1	6.657	6.656	0.001	2833	0.0200	0.0212	M
14 3,5-Dinitroaniline	1	9.930	9.935	-0.005	4203	0.0200	0.0200	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00030 Amount Added: 1.00 Units: uL

Report Date: 05-Jan-2022 12:10:05 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040028.d

Injection Date: 05-Jan-2022 00:57:50 Instrument ID: CHHPLC_X3 Operator ID:

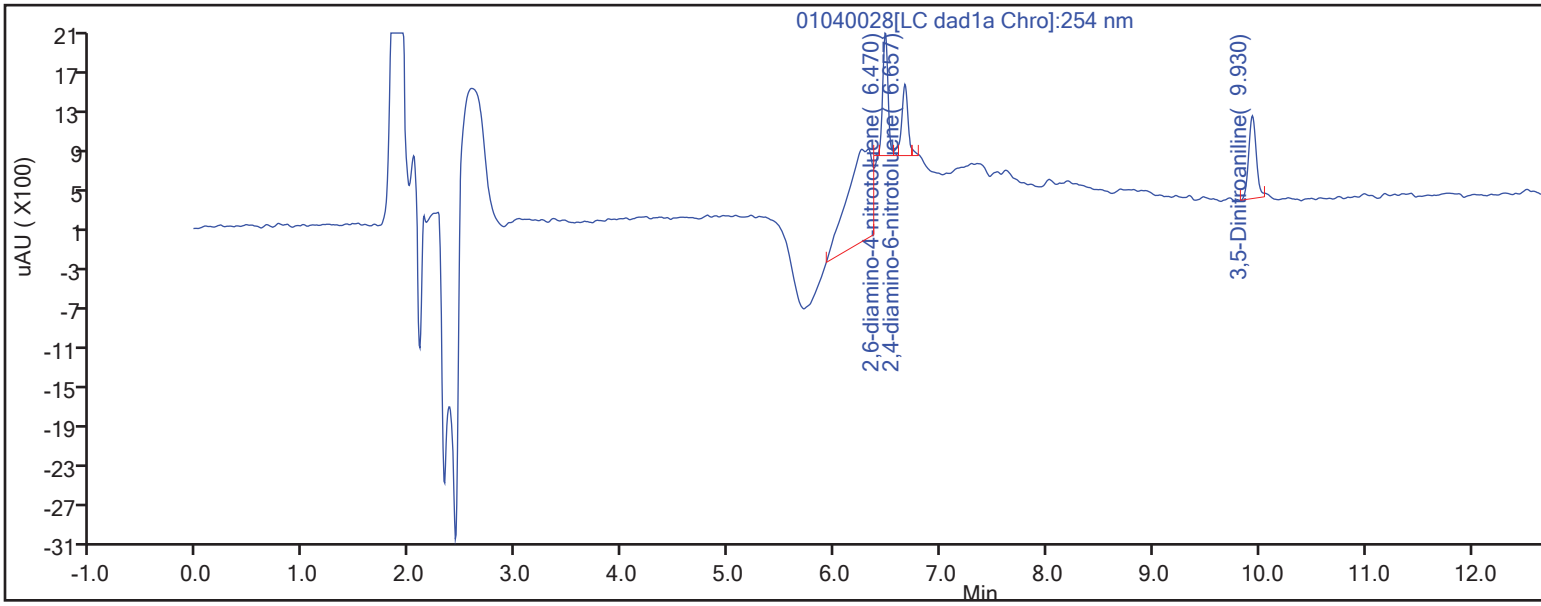
Lims ID: IC ADD 1 Worklist Smp#:

Client ID:

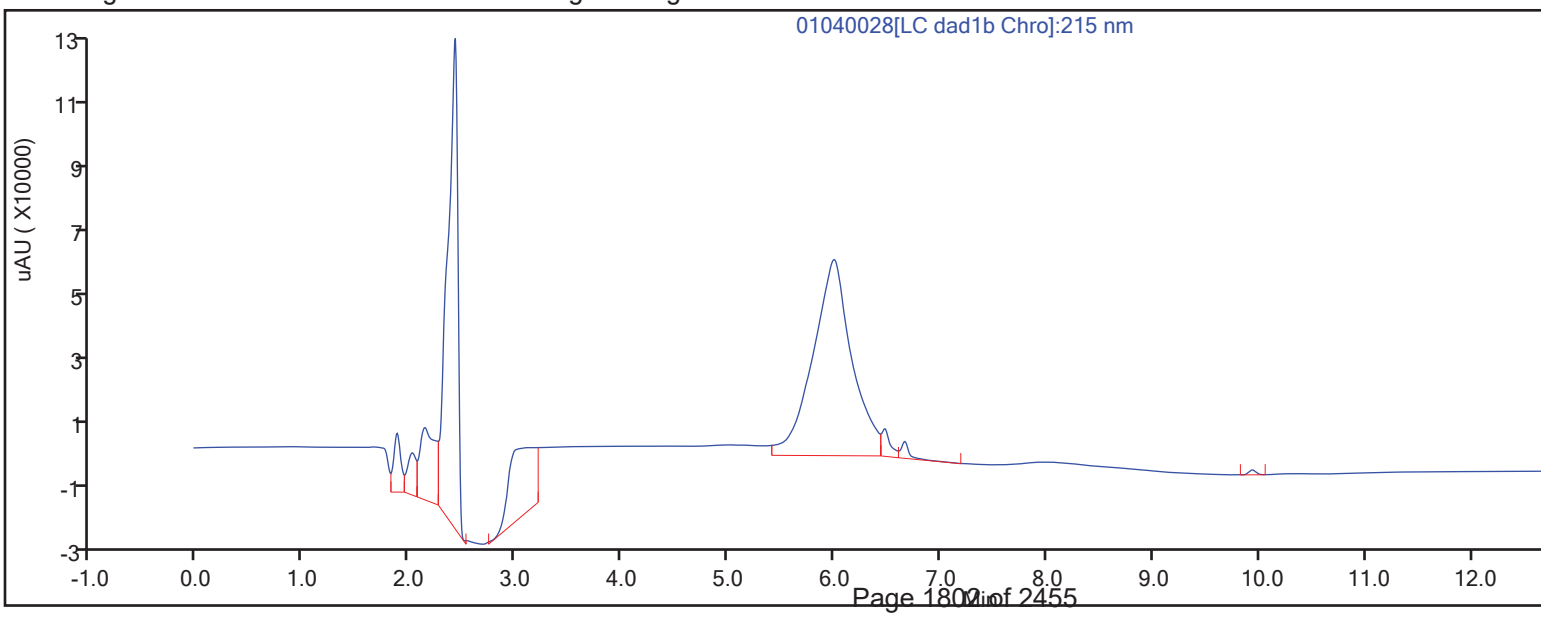
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

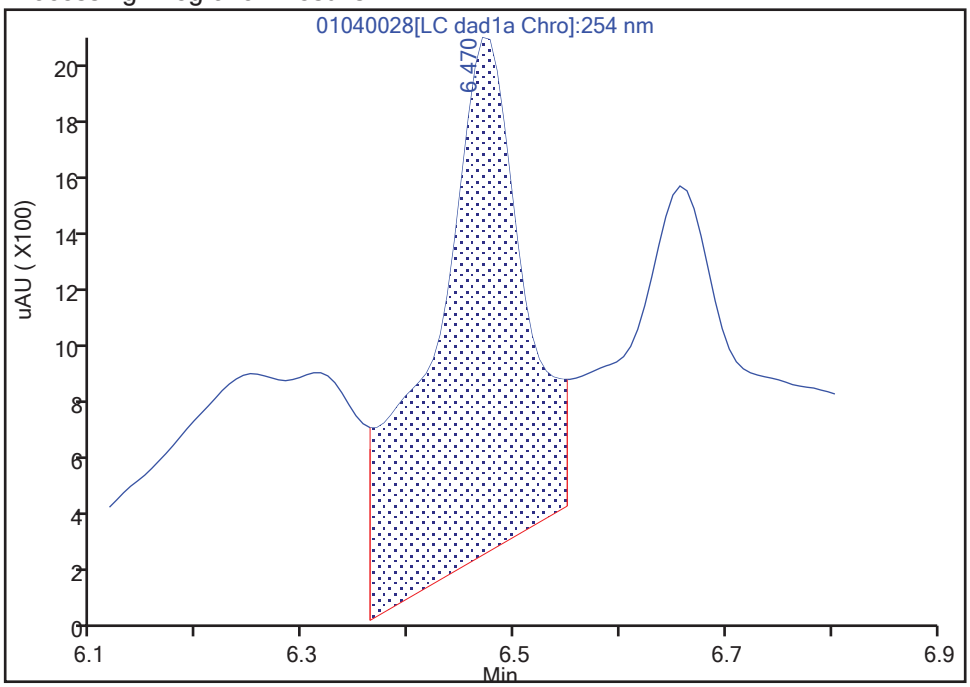
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040028.d				
Injection Date:	05-Jan-2022 00:57:50	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 1				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

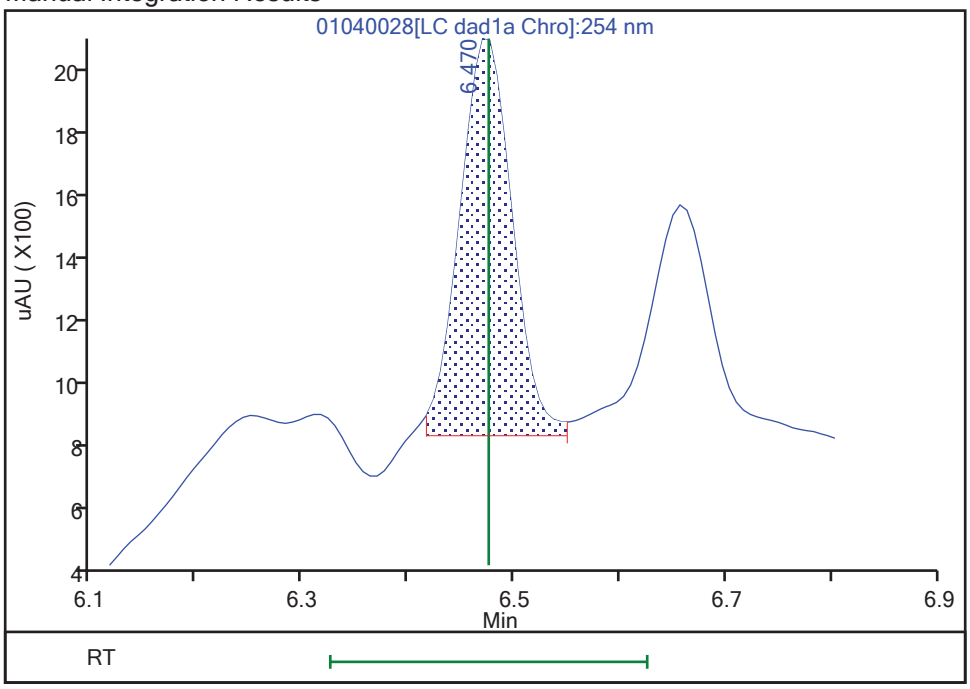
Processing Integration Results

RT: 6.47
Area: 10944
Amount: 0.031507
Amount Units: ug/mL



Manual Integration Results

RT: 6.47
Area: 4307
Amount: 0.020051
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:05:00

Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

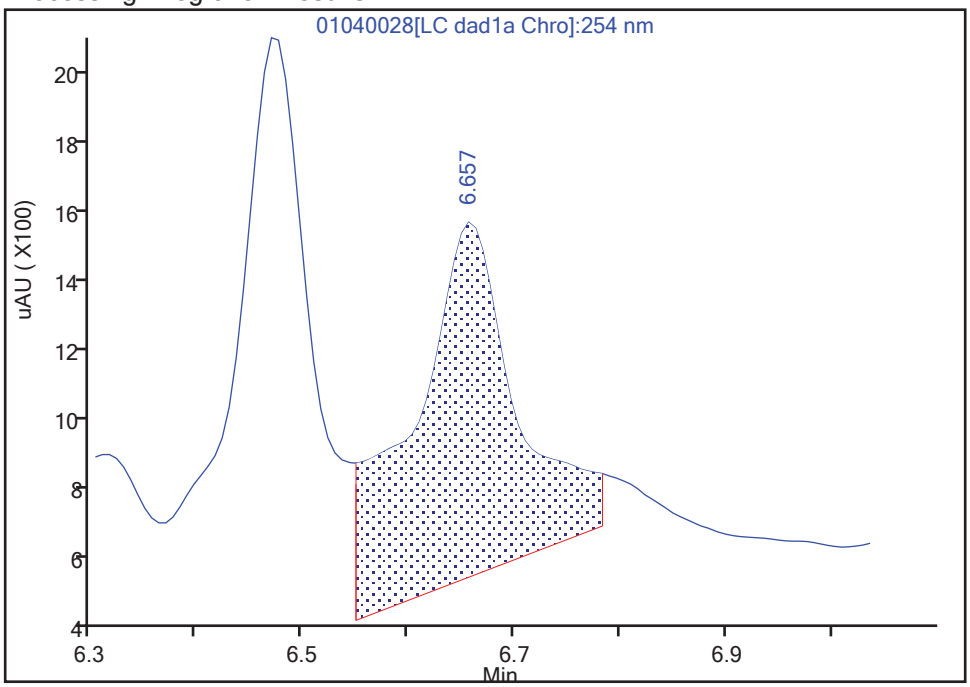
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040028.d				
Injection Date:	05-Jan-2022 00:57:50	Instrument ID:	CHHPLC_X3		
Lims ID:	IC ADD 1				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	28	Worklist Smp#:	28
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

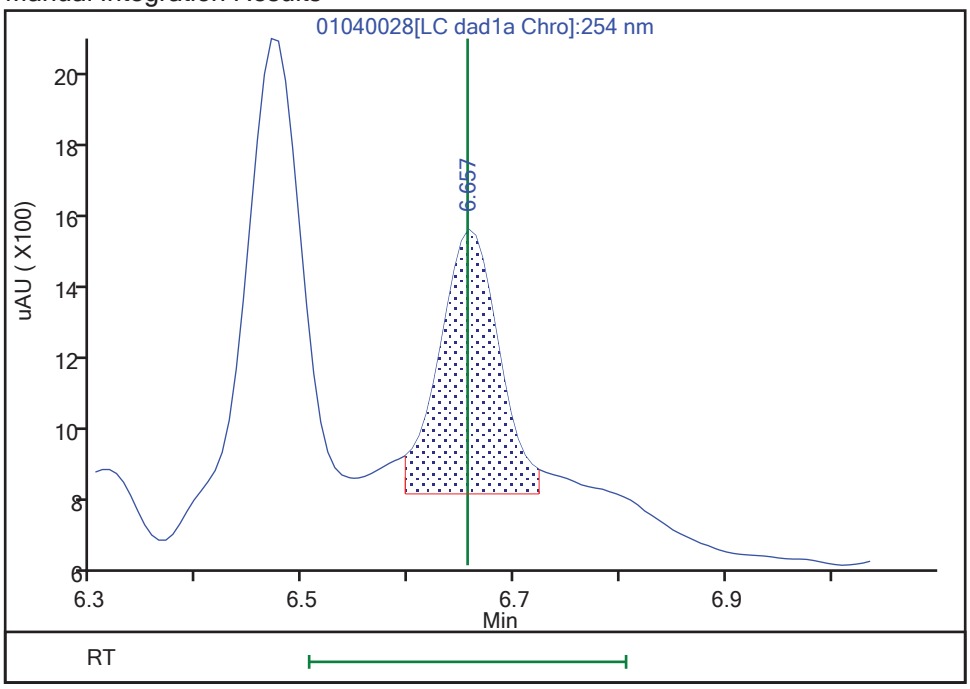
Processing Integration Results

RT: 6.66
Area: 6946
Amount: 0.031036
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 2833
Amount: 0.021155
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:05:08
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Calibration / 2,6-diamino-4-nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

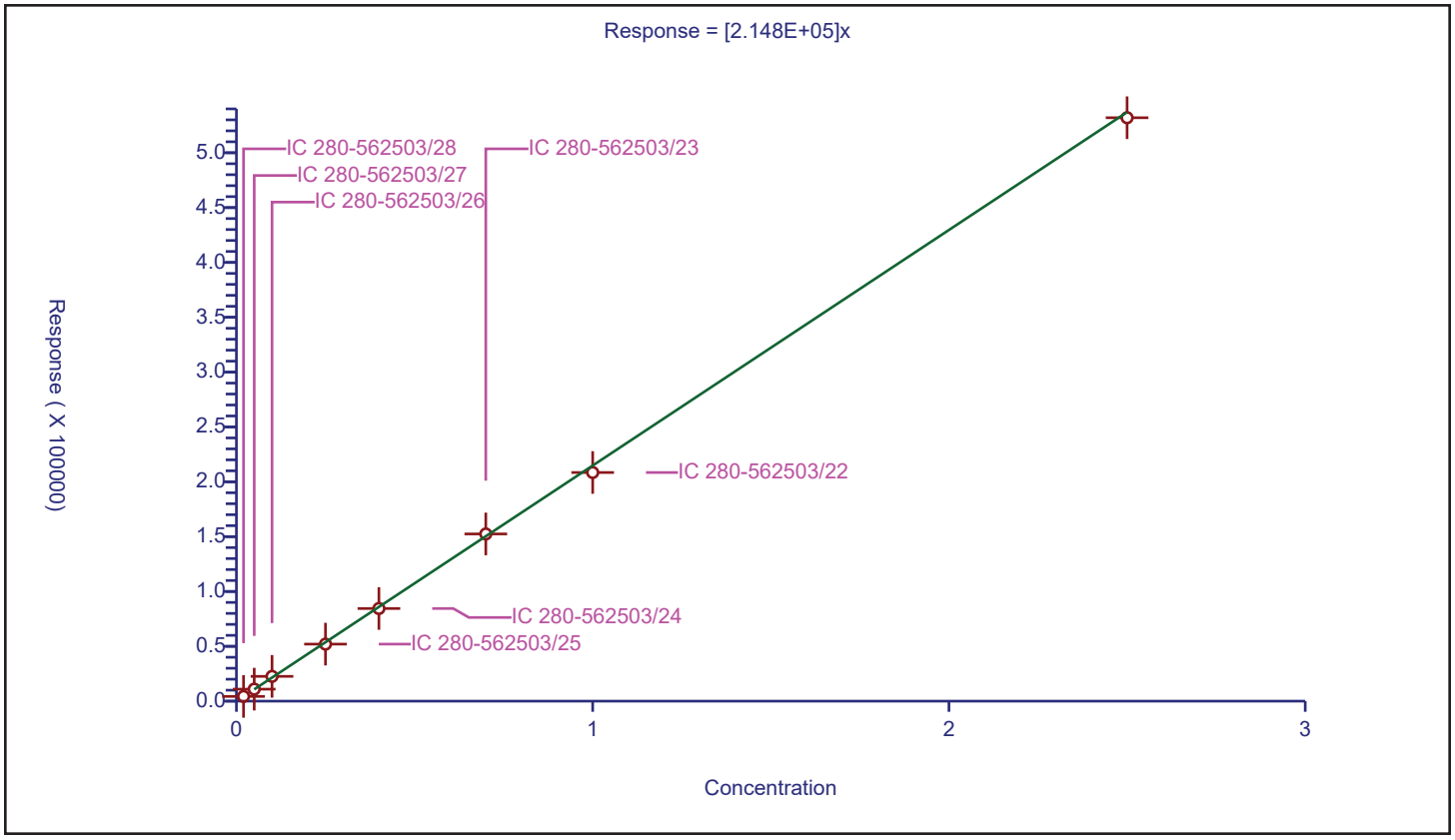
Curve Coefficients

Intercept:	0
Slope:	2.148E+05

Error Coefficients

Standard Error:	3300
Relative Standard Error:	2.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-562503/28	0.02	4307.0			215350.0	Y
2	IC 280-562503/27	0.05	10947.0			218940.0	Y
3	IC 280-562503/26	0.1	22587.0			225870.0	Y
4	IC 280-562503/25	0.25	52013.0			208052.0	Y
5	IC 280-562503/24	0.4	84464.0			211160.0	Y
6	IC 280-562503/23	0.7	152440.0			217771.428571	Y
7	IC 280-562503/22	1.0	208461.0			208461.0	Y
8	IC 280-562503/21	2.5	531934.0			212773.6	Y



Calibration / 2,4-diamino-6-nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

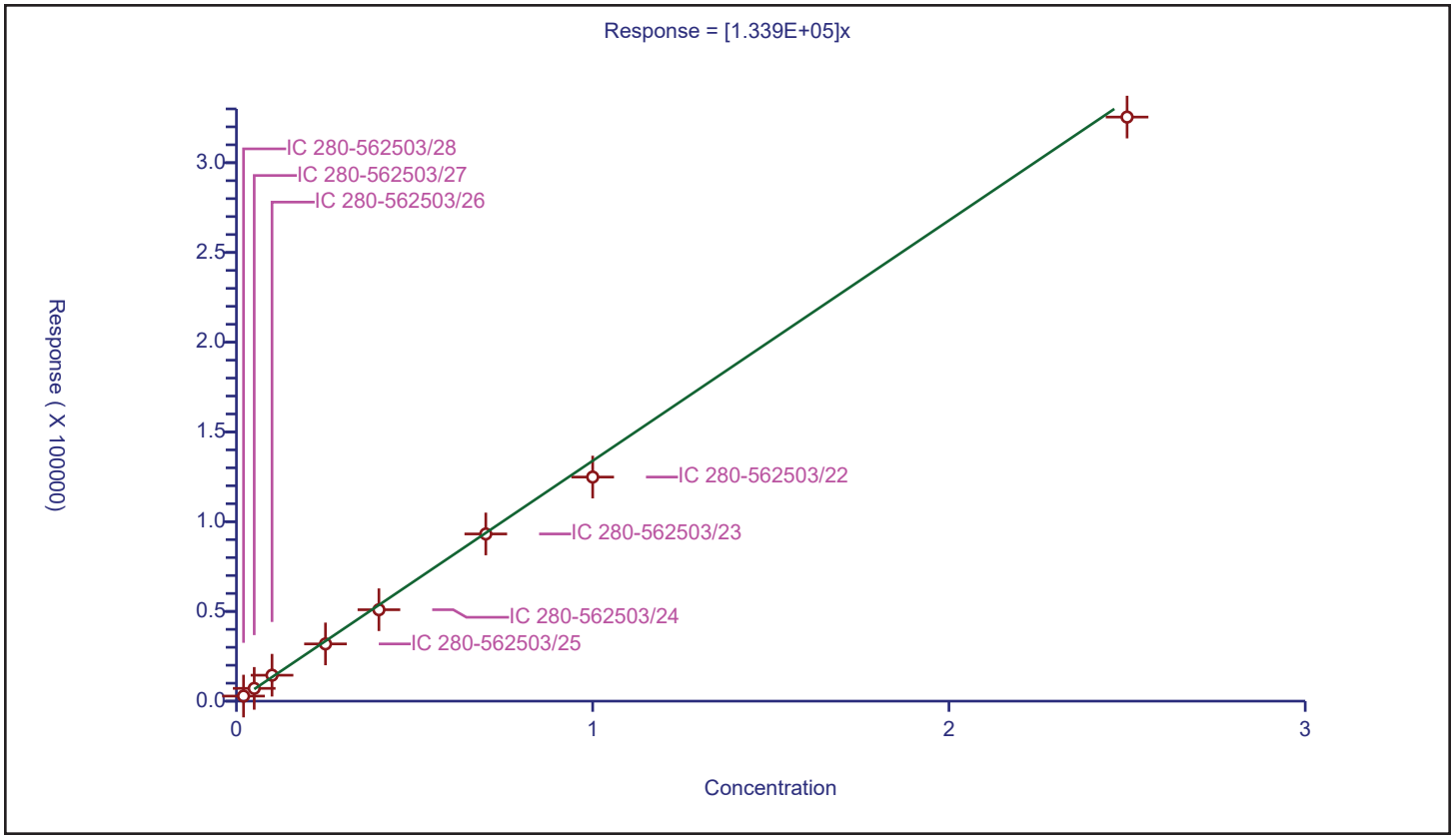
Curve Coefficients

Intercept:	0
Slope:	1.339E+05

Error Coefficients

Standard Error:	5070
Relative Standard Error:	5.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.995

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-562503/28	0.02	2833.0			141650.0	Y
2	IC 280-562503/27	0.05	7110.0			142200.0	Y
3	IC 280-562503/26	0.1	14442.0			144420.0	Y
4	IC 280-562503/25	0.25	31886.0			127544.0	Y
5	IC 280-562503/24	0.4	50945.0			127362.5	Y
6	IC 280-562503/23	0.7	93163.0			133090.0	Y
7	IC 280-562503/22	1.0	124865.0			124865.0	Y
8	IC 280-562503/21	2.5	325437.0			130174.8	Y



Calibration / 3,5-Dinitroaniline

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

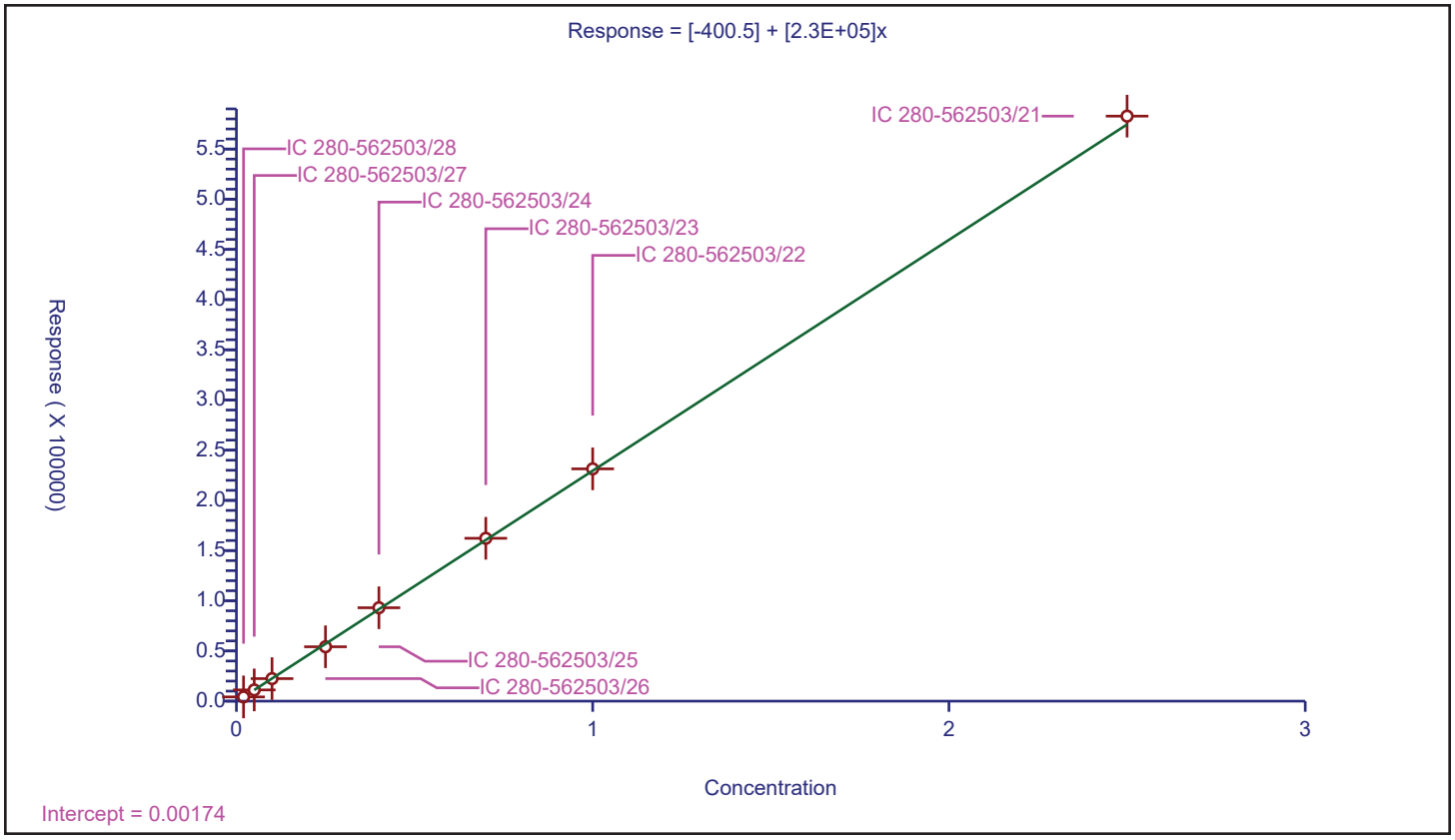
Curve Coefficients

Intercept:	-400.5
Slope:	2.3E+05

Error Coefficients

Standard Error:	3780
Relative Standard Error:	2.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-562503/28	0.02	4203.0			210150.0	Y
2	IC 280-562503/27	0.05	11185.0			223700.0	Y
3	IC 280-562503/26	0.1	22442.0			224420.0	Y
4	IC 280-562503/25	0.25	54180.0			216720.0	Y
5	IC 280-562503/24	0.4	93039.0			232597.5	Y
6	IC 280-562503/23	0.7	162226.0			231751.428571	Y
7	IC 280-562503/22	1.0	231395.0			231395.0	Y
8	IC 280-562503/21	2.5	582790.0			233116.0	Y



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579842/19	07020019.D
Level 2	IC 280-579842/18	07020018.D
Level 3	IC 280-579842/17	07020017.D
Level 4	IC 280-579842/16	07020016.D
Level 5	IC 280-579842/15	07020015.D
Level 6	IC 280-579842/14	07020014.D
Level 7	IC 280-579842/13	07020013.D
Level 8	IC 280-579842/12	07020012.D
Level 9	IC 280-579842/11	07020011.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9
HMX	6.587	6.583	6.586	6.583	6.588	6.581	6.583	6.585	6.580
RDX	7.580	7.583	7.580	7.576	7.581	7.574	7.576	7.578	7.573
Picric acid	7.940	7.943	7.940	7.936	7.935	7.921	7.909	7.891	7.853
1,3,5-Trinitrobenzene	8.654	8.657	8.653	8.656	8.655	8.654	8.649	8.651	8.647
1,3-Dinitrobenzene	9.280	9.290	9.286	9.282	9.288	9.281	9.283	9.278	9.273
Nitrobenzene	9.674	9.677	9.673	9.676	9.675	9.674	9.669	9.671	9.660
Tetryl	9.994	10.003	10.000	10.002	10.001	9.994	9.996	9.991	9.987
Nitroglycerin	10.447	10.450	10.453	10.456	10.455	10.447	10.443	10.445	10.433
2,4,6-Trinitrotoluene	10.900	10.903	10.906	10.909	10.908	10.901	10.903	10.898	10.893
4-Amino-2,6-dinitrotoluene	11.107	11.110	11.113	11.109	11.108	11.107	11.103	11.098	11.093
2-Amino-4,6-dinitrotoluene	11.354	11.357	11.366	11.362	11.361	11.354	11.356	11.351	11.347
2,6-Dinitrotoluene	11.514	11.523	11.526	11.529	11.521	11.521	11.516	11.518	11.513
2,4-Dinitrotoluene	11.687	11.690	11.693	11.696	11.695	11.687	11.683	11.685	11.680
2-Nitrotoluene	12.560	12.550	12.553	12.556	12.555	12.547	12.543	12.545	12.533
4-Nitrotoluene	12.974	12.977	12.980	12.982	12.981	12.974	12.976	12.971	12.960
3-Nitrotoluene	13.554	13.557	13.553	13.556	13.555	13.547	13.549	13.545	13.533
PETN	14.607	14.610	14.606	14.609	14.615	14.607	14.603	14.598	14.580
1,2-Dinitrobenzene	8.534	8.537	8.533	8.529	8.535	8.534	8.529	8.531	8.527

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579842/19	07020019.D
Level 2	IC 280-579842/18	07020018.D
Level 3	IC 280-579842/17	07020017.D
Level 4	IC 280-579842/16	07020016.D
Level 5	IC 280-579842/15	07020015.D
Level 6	IC 280-579842/14	07020014.D
Level 7	IC 280-579842/13	07020013.D
Level 8	IC 280-579842/12	07020012.D
Level 9	IC 280-579842/11	07020011.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
HMX	81800 90012 90731	91850 89210	87400 90059	89500 90060	Ave		88957.9746			
RDX	103800 106448 105585	110050 105620	117340 105627	108660 105502	Ave		107625.816			
Picric acid	76400 78216 80241	68400 78330	79120 79070	77930 79536	Ave		77471.4667			
1,3,5-Trinitrobenzene	205900 214296 220785	201200 216145	211580 216801	217450 218621	Ave		213642.025			
1,3-Dinitrobenzene	270400 293928 299117	278750 294285	294020 295356	292560 296453	Ave		290540.946			
Nitrobenzene	197400 190472 197174	185000 192483	193440 194234	193400 193673	Ave		193030.598			
Tetryl	157200 165060 170544	161850 165910	166480 167091	165550 169019	Ave		165411.648			
Nitroglycerin	50280 63816 65134	57560 64333	61420 64629	63449 64981	Ave		61733.4316			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
2,4,6-Trinitrotoluene	206400 209676 213926	211700 210490	210300 211021	213070 211659	Ave		210915.825			
4-Amino-2,6-dinitrotoluene	130600 145248 147343	145850 144880	147320 145721	149760 146514	Ave		144804.070			
2-Amino-4,6-dinitrotoluene	191700 194480 198802	192800 193538	197060 196644	196260 195945	Ave		195247.687			
2,6-Dinitrotoluene	140900 142268 144220	141250 142710	140560 139939	144440 143409	Ave		142188.397			
2,4-Dinitrotoluene	290300 287872 292684	284900 288438	292180 291946	291380 291289	Ave		290109.802			
2-Nitrotoluene	146900 123024 126420	134950 123948	130240 125143	127220 124372	Lin2	223.518646	124433.143			
4-Nitrotoluene	129000 106100 108126	123300 106273	112280 107376	107820 106384	Ave		111850.868			
3-Nitrotoluene	138400 134020 138348	146350 135205	140380 137157	136360 135460	Ave		137964.505			
PETN	70870 71819 73134	69055 71911	68102 72403	71085 72838	Lin1	-754.87322	72834.1920			
1,2-Dinitrobenzene	121800 126320 128500	123650 125648	125640 127596	126140 127299	Ave		125843.579			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579842/19	07020019.D
Level 2	IC 280-579842/18	07020018.D
Level 3	IC 280-579842/17	07020017.D
Level 4	IC 280-579842/16	07020016.D
Level 5	IC 280-579842/15	07020015.D
Level 6	IC 280-579842/14	07020014.D
Level 7	IC 280-579842/13	07020013.D
Level 8	IC 280-579842/12	07020012.D
Level 9	IC 280-579842/11	07020011.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
HMX	Ave	818 35684	1837 63041	4370 90060	8950 226828	22503	0.0100 0.400	0.02 0.7
RDX	Ave	1038 42248	2201 73939	5867 105502	10866 263963	26612	0.0100 0.400	0.02 0.7
Picric acid	Ave	764 31332	1368 55349	3956 79536	7793 200603	19554	0.0100 0.400	0.02 0.7
1,3,5-Trinitrobenzene	Ave	2059 86458	4024 151761	10579 218621	21745 551962	53574	0.0100 0.400	0.02 0.7
1,3-Dinitrobenzene	Ave	2704 117714	5575 206749	14701 296453	29256 747792	73482	0.0100 0.400	0.02 0.7
Nitrobenzene	Ave	1974 76993	3700 135964	9672 193673	19340 492934	47618	0.0100 0.400	0.02 0.7
Tetryl	Ave	1572 66364	3237 116964	8324 169019	16555 426361	41265	0.0100 0.400	0.02 0.7
Nitroglycerin	Ave	5028 257331	11512 452401	30710 649807	63449 1628353	159539	0.100 4.00	0.2 7.
2,4,6-Trinitrotoluene	Ave	2064 84196	4234 147715	10515 211659	21307 534815	52419	0.0100 0.400	0.02 0.7
4-Amino-2,6-dinitrotoluene	Ave	1306 57952	2917 102005	7366 146514	14976 368358	36312	0.0100 0.400	0.02 0.7
2-Amino-4,6-dinitrotoluene	Ave	1917 77415	3856 137651	9853 195945	19626 497006	48620	0.0100 0.400	0.02 0.7
2,6-Dinitrotoluene	Ave	1409 57084	2825 97957	7028 143409	14444 360550	35567	0.0100 0.400	0.02 0.7
2,4-Dinitrotoluene	Ave	2903	5698	14609	29138	71968	0.0100	0.02

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
		115375	204362	291289	731710		0.400	0.7
2-Nitrotoluene	Lin2	1469 49579	2699 87600	6512 124372	12722 316051	30756	0.0100 0.400	0.02 0.7
4-Nitrotoluene	Ave	1290 42509	2466 75163	5614 106384	10782 270314	26525	0.0100 0.400	0.02 0.7
3-Nitrotoluene	Ave	1384 54082	2927 96010	7019 135460	13636 345871	33505	0.0100 0.400	0.02 0.7
PETN	Lin1	7087 287643	13811 506818	34051 728379	71085 1828345	179547	0.100 4.00	0.2 7.
1,2-Dinitrobenzene	Ave	1218 50259	2473 89317	6282 127299	12614 321250	31580	0.0100 0.400	0.02 0.7

Curve Type Legend
Ave = Average
Lin1 = Linear 1/conc
Lin2 = Linear 1/conc^2

Report Date: 06-Jul-2022 12:46:50 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020011.D
Lims ID: IC INT 9
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 02-Jul-2022 13:06:34 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 9
Misc. Info.: 280-0112300-011
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:50 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 02-Jul-2022 14:16:44

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.580	6.583	-0.003	226828	2.50	2.55	M
8 RDX	1	7.573	7.576	-0.003	263963	2.50	2.45	
9 2,4,6-Trinitrophenol	1	7.853	7.936	-0.083	200603	2.50	2.59	
$ 10 1,2-Dinitrobenzene	1	8.527	8.529	-0.002	321250	2.50	2.55	
11 1,3,5-Trinitrobenzene	1	8.647	8.656	-0.009	551962	2.50	2.58	
12 1,3-Dinitrobenzene	1	9.273	9.282	-0.009	747792	2.50	2.57	
13 Nitrobenzene	1	9.660	9.676	-0.016	492934	2.50	2.55	
15 Tetryl	1	9.987	10.002	-0.015	426361	2.50	2.58	
16 Nitroglycerin	2	10.433	10.456	-0.023	1628353	25.0	26.4	
17 2,4,6-Trinitrotoluene	1	10.893	10.909	-0.016	534815	2.50	2.54	
18 4-Amino-2,6-dinitrotoluene	1	11.093	11.109	-0.016	368358	2.50	2.54	
19 2-Amino-4,6-dinitrotoluene	1	11.347	11.362	-0.015	497006	2.50	2.55	
20 2,6-Dinitrotoluene	1	11.513	11.529	-0.016	360550	2.50	2.54	
21 2,4-Dinitrotoluene	1	11.680	11.696	-0.016	731710	2.50	2.52	
22 o-Nitrotoluene	1	12.533	12.556	-0.023	316051	2.50	2.54	
23 p-Nitrotoluene	1	12.960	12.982	-0.022	270314	2.50	2.42	
24 m-Nitrotoluene	1	13.533	13.556	-0.023	345871	2.50	2.51	
25 PETN	2	14.580	14.609	-0.029	1828345	25.0	25.1	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 250.00 Units: uL

Report Date: 06-Jul-2022 12:46:50 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020011.d

Injection Date: 02-Jul-2022 13:06:34 Instrument ID: CHHPLC_X3 Operator ID:

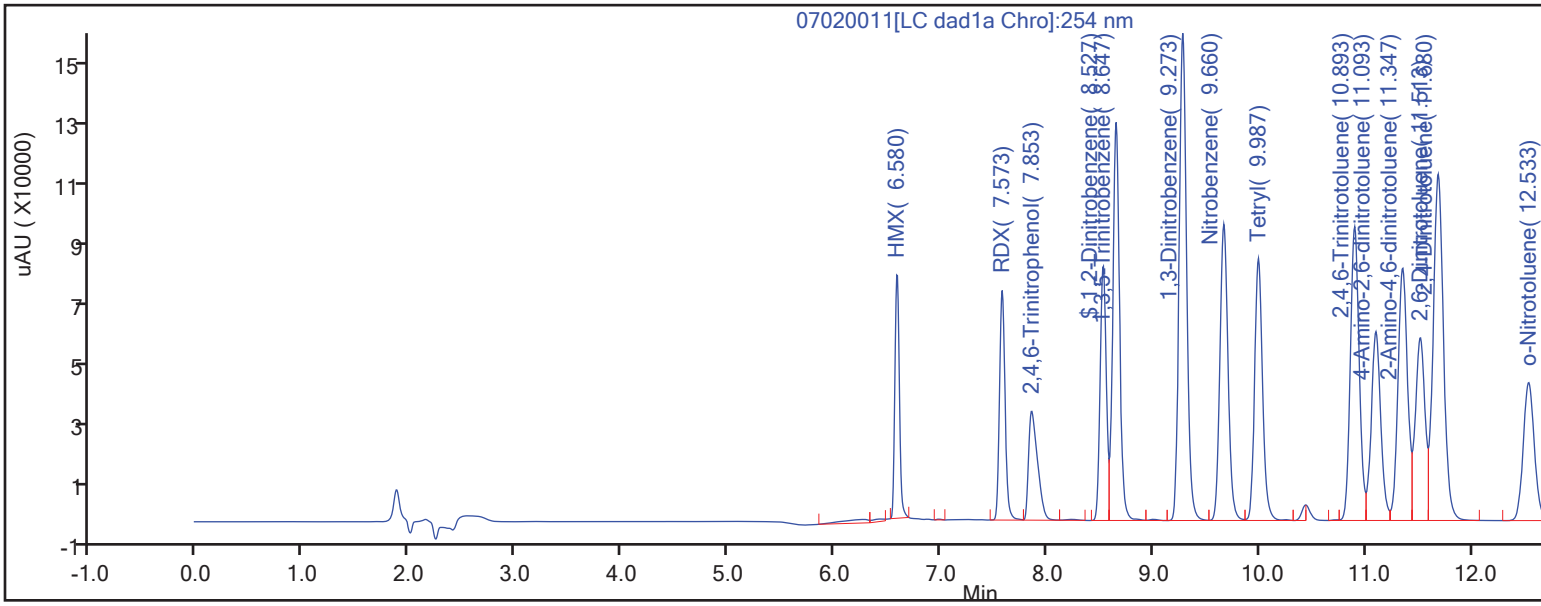
Lims ID: IC INT 9 Worklist Smp#:

Client ID:

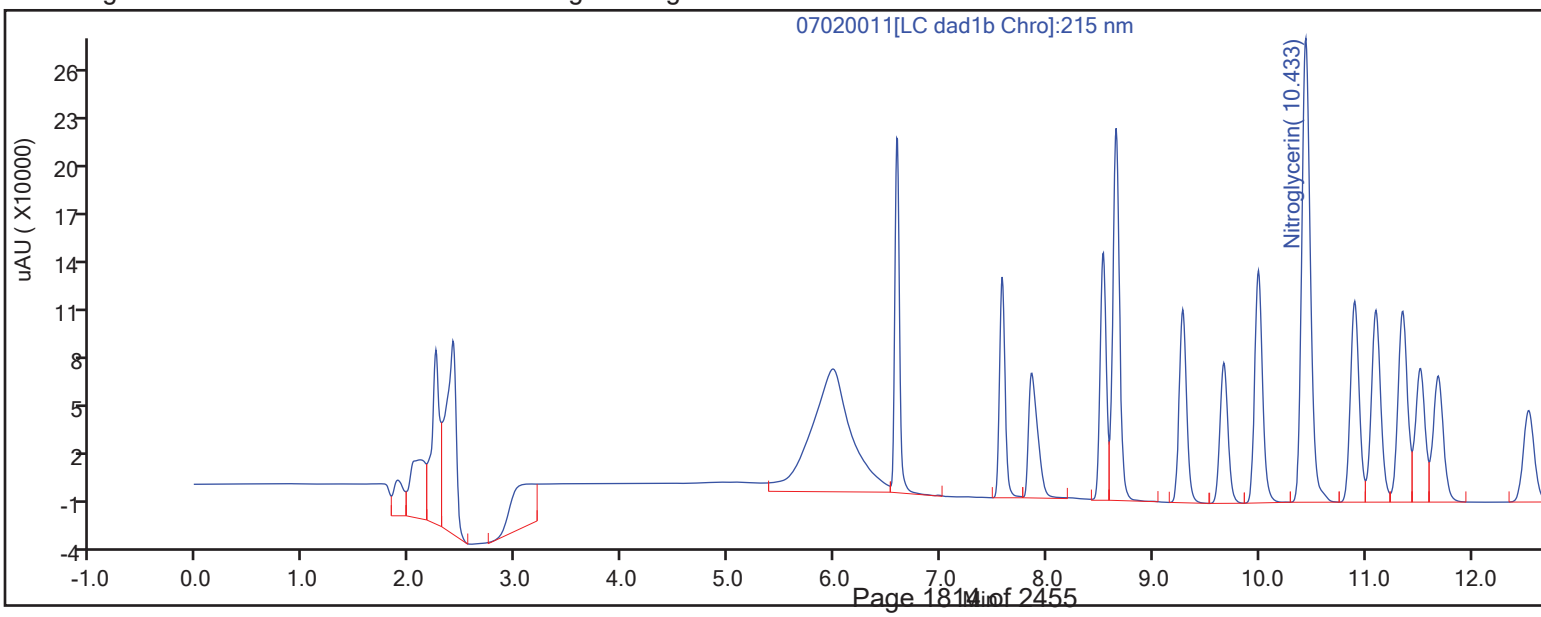
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

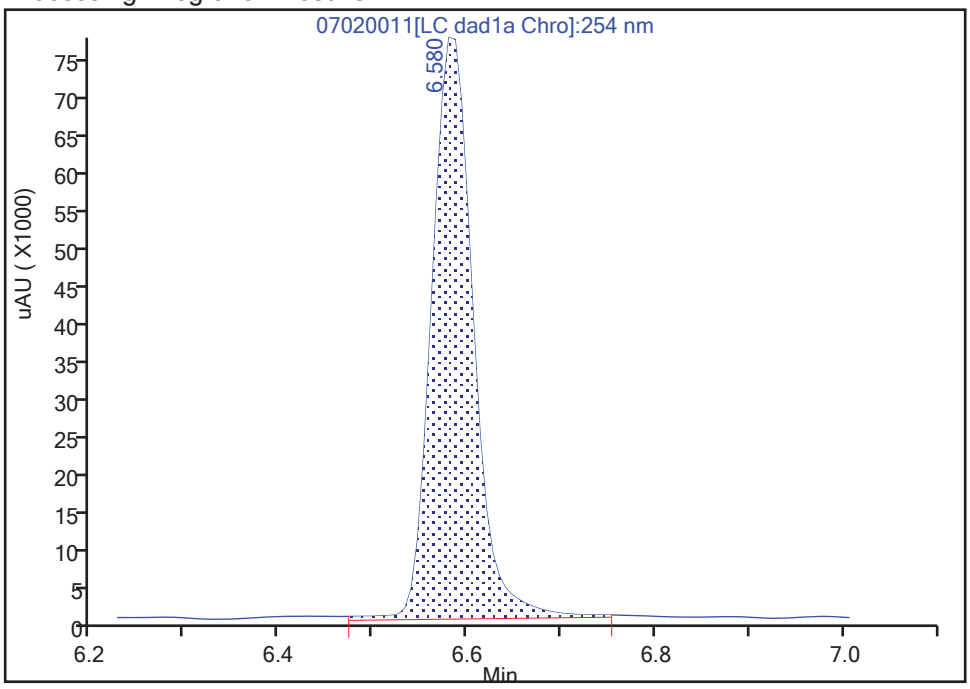
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020011.d				
Injection Date:	02-Jul-2022 13:06:34	Instrument ID:	CHHPLC_X3		
Lims ID:	IC INT 9				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

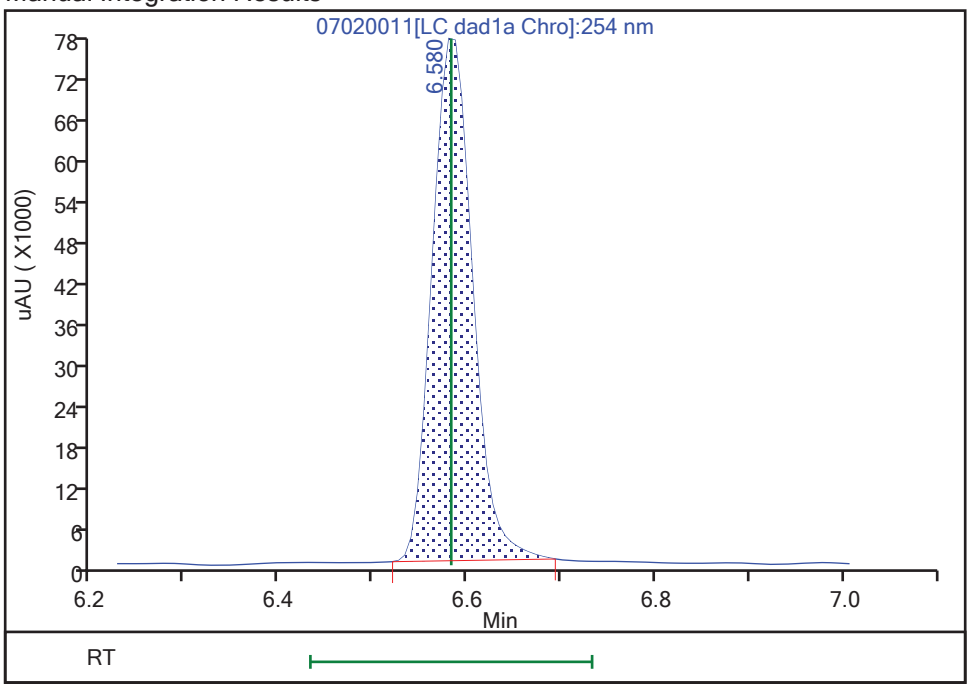
Processing Integration Results

RT: 6.58
Area: 236591
Amount: 2.342538
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 226828
Amount: 2.549833
Amount Units: ug/mL



Reviewer: LV5D, 02-Jul-2022 14:16:42
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020012.D
Lims ID: IC INT 8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 02-Jul-2022 13:29:30 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 8
Misc. Info.: 280-0112300-012
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:51 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 02-Jul-2022 14:17:12

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.585	6.583	0.002	90060	1.00	1.01	M
8 RDX	1	7.578	7.576	0.002	105502	1.00	0.9803	
9 2,4,6-Trinitrophenol	1	7.891	7.936	-0.045	79536	1.00	1.03	
$ 10 1,2-Dinitrobenzene	1	8.531	8.529	0.002	127299	1.00	1.01	
11 1,3,5-Trinitrobenzene	1	8.651	8.656	-0.005	218621	1.00	1.02	
12 1,3-Dinitrobenzene	1	9.278	9.282	-0.004	296453	1.00	1.02	
13 Nitrobenzene	1	9.671	9.676	-0.005	193673	1.00	1.00	
15 Tetryl	1	9.991	10.002	-0.011	169019	1.00	1.02	
16 Nitroglycerin	2	10.445	10.456	-0.011	649807	10.0	10.5	
17 2,4,6-Trinitrotoluene	1	10.898	10.909	-0.011	211659	1.00	1.00	
18 4-Amino-2,6-dinitrotoluene	1	11.098	11.109	-0.011	146514	1.00	1.01	
19 2-Amino-4,6-dinitrotoluene	1	11.351	11.362	-0.011	195945	1.00	1.00	
20 2,6-Dinitrotoluene	1	11.518	11.529	-0.011	143409	1.00	1.01	
21 2,4-Dinitrotoluene	1	11.685	11.696	-0.011	291289	1.00	1.00	
22 o-Nitrotoluene	1	12.545	12.556	-0.011	124372	1.00	1.00	
23 p-Nitrotoluene	1	12.971	12.982	-0.011	106384	1.00	0.9511	
24 m-Nitrotoluene	1	13.545	13.556	-0.011	135460	1.00	0.9818	
25 PETN	2	14.598	14.609	-0.011	728379	10.0	10.0	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 100.00 Units: uL

Report Date: 06-Jul-2022 12:46:51 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020012.d

Injection Date: 02-Jul-2022 13:29:30 Instrument ID: CHHPLC_X3 Operator ID:

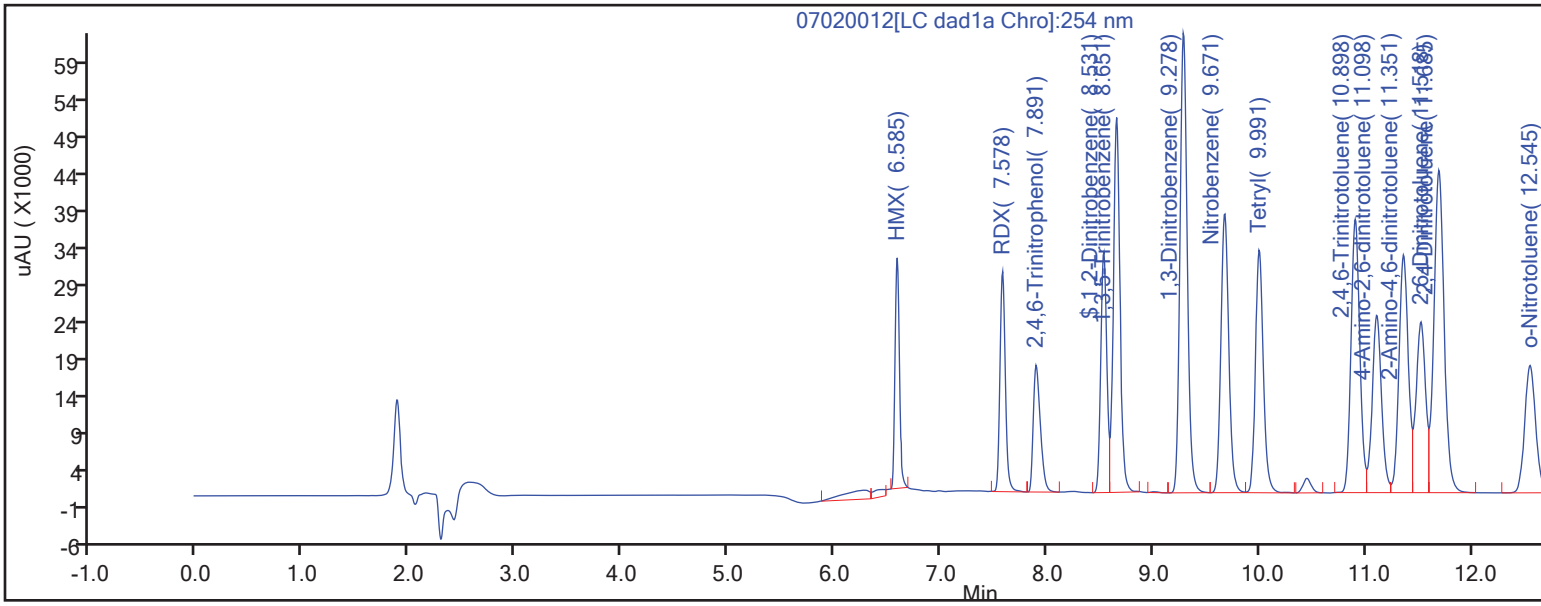
Lims ID: IC INT 8 Worklist Smp#:

Client ID:

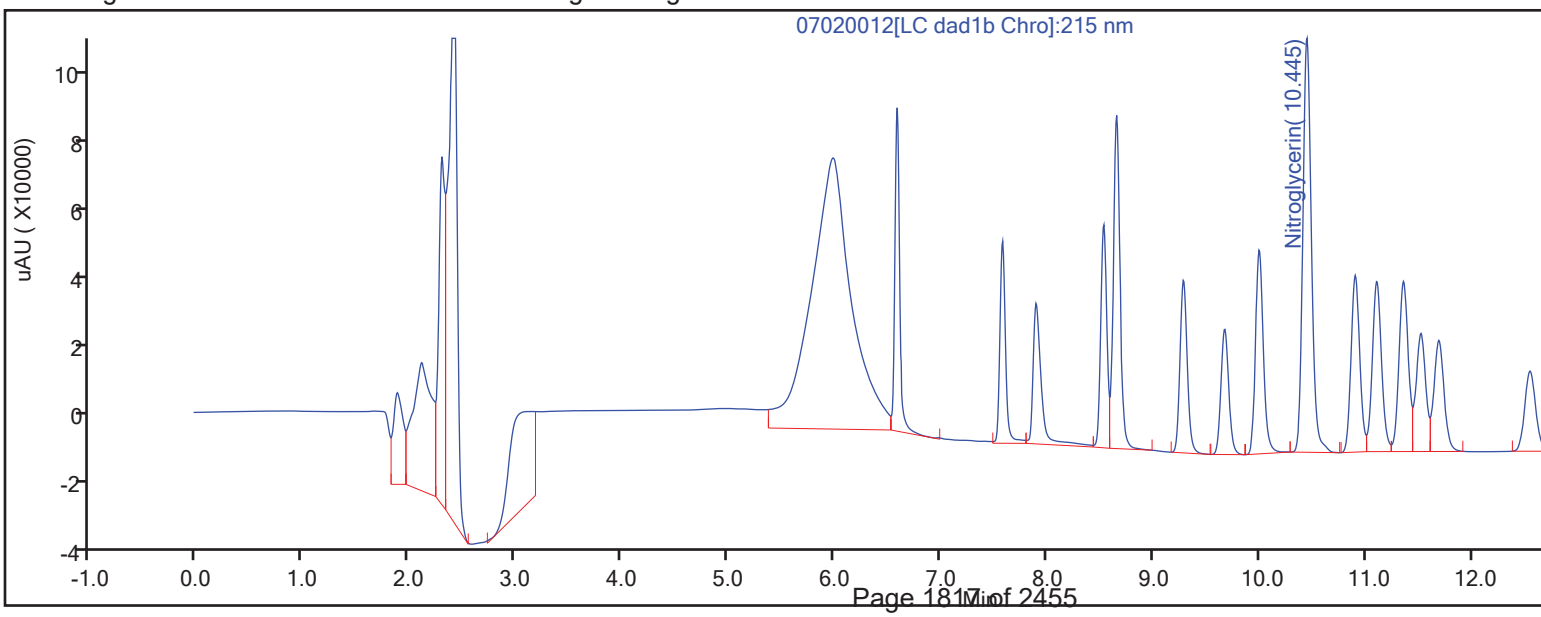
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

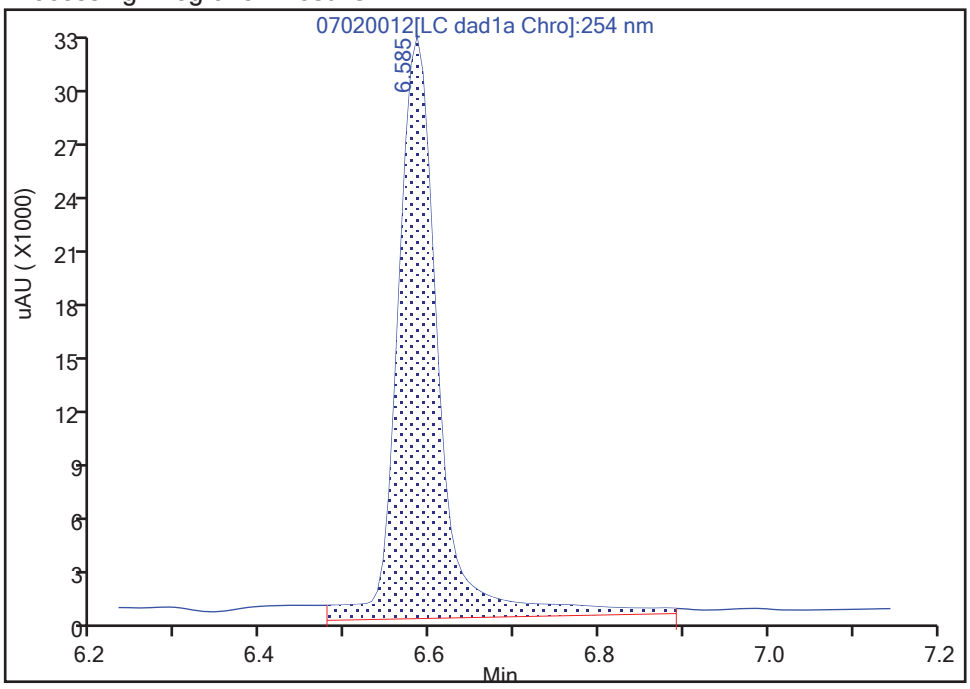
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020012.d				
Injection Date:	02-Jul-2022 13:29:30	Instrument ID:	CHHPLC_X3		
Lims ID:	IC INT 8				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

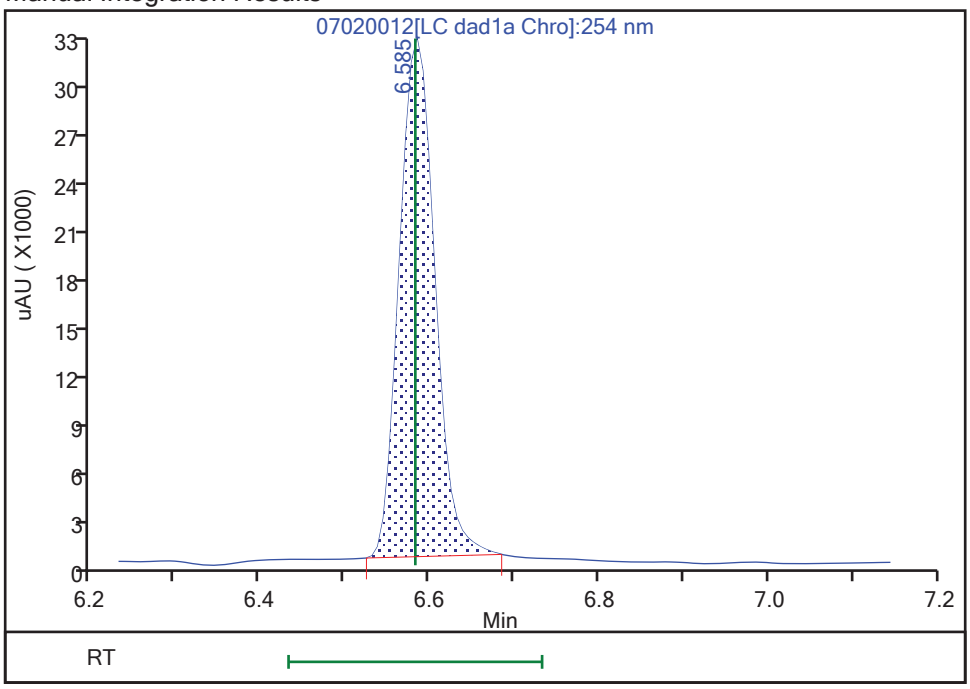
Processing Integration Results

RT: 6.58
Area: 107359
Amount: 1.083941
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 90060
Amount: 1.012388
Amount Units: ug/mL



Reviewer: LV5D, 02-Jul-2022 14:16:51

Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 06-Jul-2022 12:46:51 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020013.D
Lims ID: IC INT 7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 02-Jul-2022 13:52:25 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 7
Misc. Info.: 280-0112300-013
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:51 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 02-Jul-2022 14:24:42

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.583	6.583	0.000	63041	0.7000	0.7087	M
8 RDX	1	7.576	7.576	0.000	73939	0.7000	0.6870	
9 2,4,6-Trinitrophenol	1	7.909	7.936	-0.027	55349	0.7000	0.7144	
$ 10 1,2-Dinitrobenzene	1	8.529	8.529	0.000	89317	0.7000	0.7097	
11 1,3,5-Trinitrobenzene	1	8.649	8.656	-0.007	151761	0.7000	0.7104	
12 1,3-Dinitrobenzene	1	9.283	9.282	0.001	206749	0.7000	0.7116	
13 Nitrobenzene	1	9.669	9.676	-0.007	135964	0.7000	0.7044	
15 Tetryl	1	9.996	10.002	-0.006	116964	0.7000	0.7071	
16 Nitroglycerin	2	10.443	10.456	-0.013	452401	7.00	7.33	
17 2,4,6-Trinitrotoluene	1	10.903	10.909	-0.006	147715	0.7000	0.7004	
18 4-Amino-2,6-dinitrotoluene	1	11.103	11.109	-0.006	102005	0.7000	0.7044	
19 2-Amino-4,6-dinitrotoluene	1	11.356	11.362	-0.006	137651	0.7000	0.7050	
20 2,6-Dinitrotoluene	1	11.516	11.529	-0.013	97957	0.7000	0.6889	
21 2,4-Dinitrotoluene	1	11.683	11.696	-0.013	204362	0.7000	0.7044	
22 o-Nitrotoluene	1	12.543	12.556	-0.013	87600	0.7000	0.7022	
23 p-Nitrotoluene	1	12.976	12.982	-0.006	75163	0.7000	0.6720	
24 m-Nitrotoluene	1	13.549	13.556	-0.007	96010	0.7000	0.6959	
25 PETN	2	14.603	14.609	-0.006	506818	7.00	6.97	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 70.00 Units: uL

Report Date: 06-Jul-2022 12:46:51 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020013.d

Injection Date: 02-Jul-2022 13:52:25 Instrument ID: CHHPLC_X3 Operator ID:

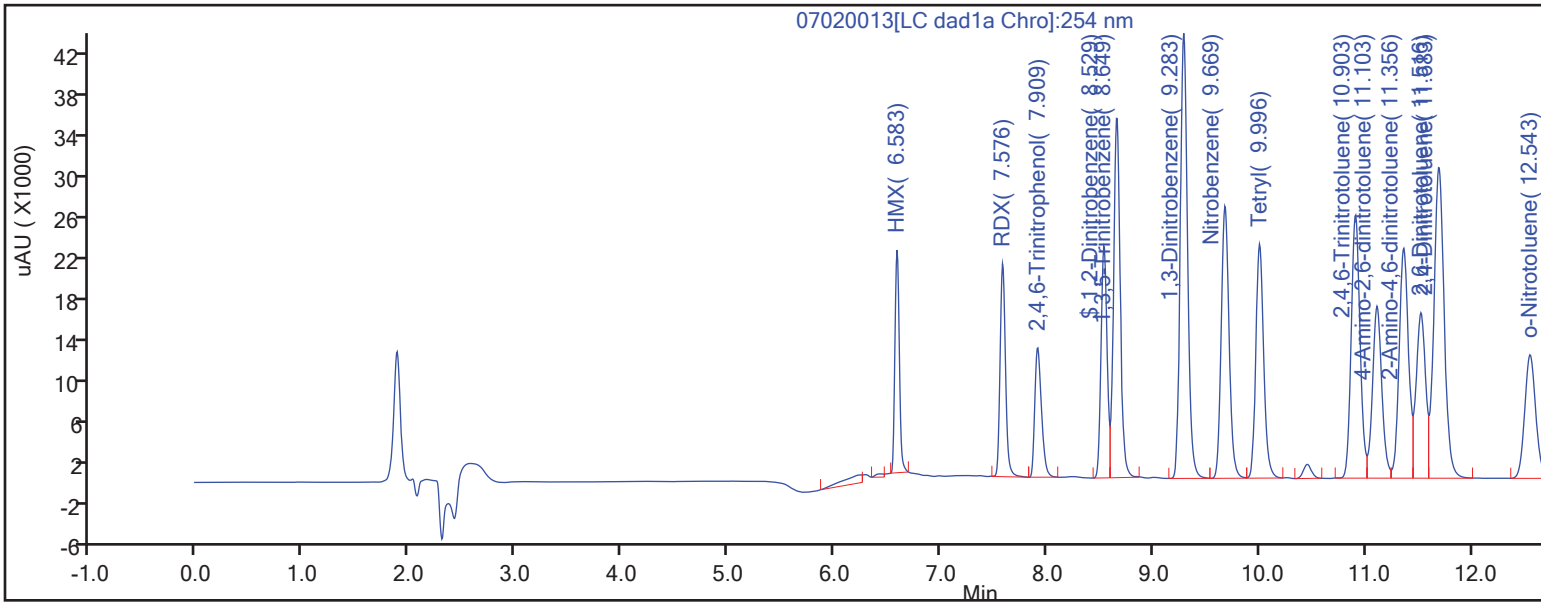
Lims ID: IC INT 7 Worklist Smp#:

Client ID:

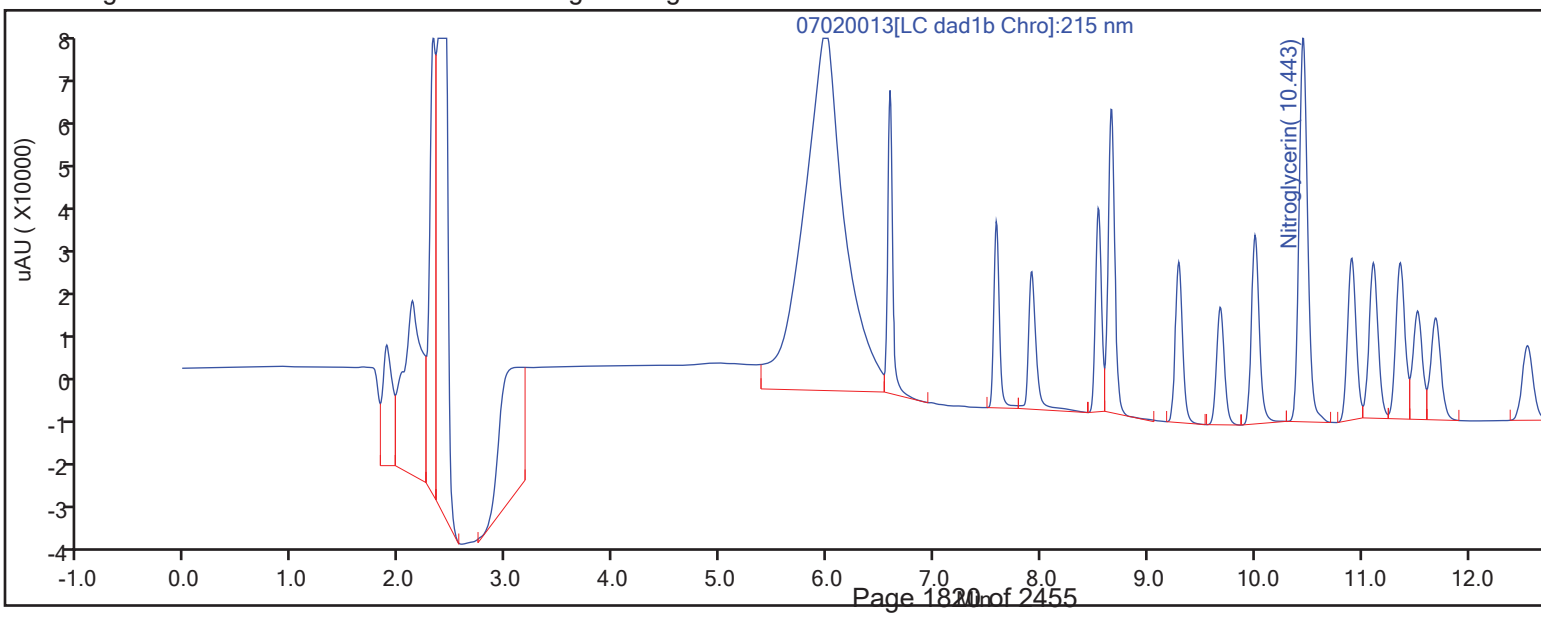
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

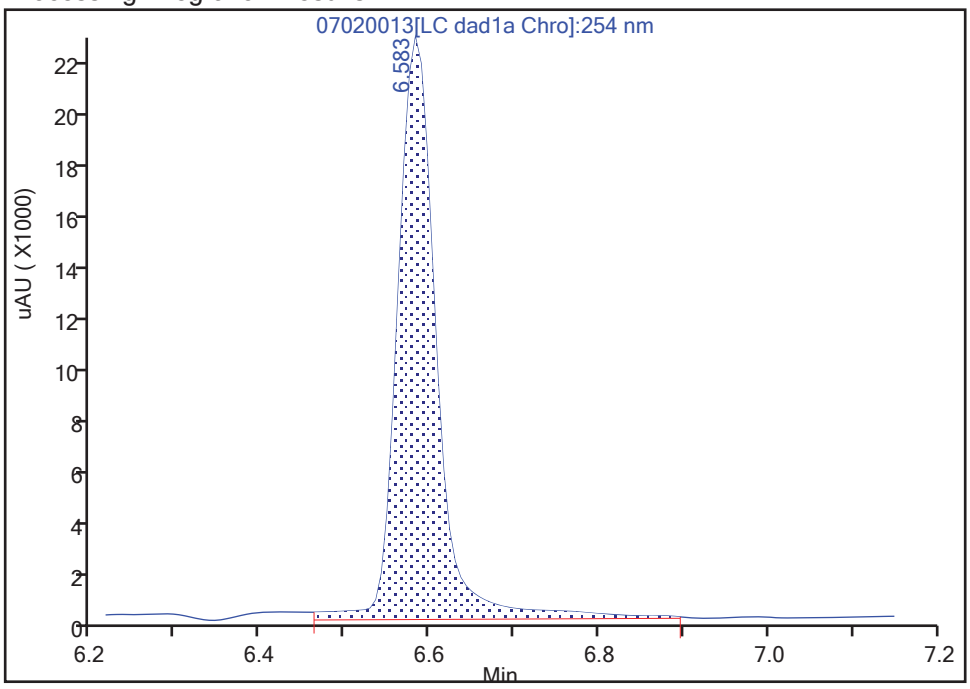
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020013.d				
Injection Date:	02-Jul-2022 13:52:25	Instrument ID:	CHHPLC_X3		
Lims ID:	IC INT 7				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

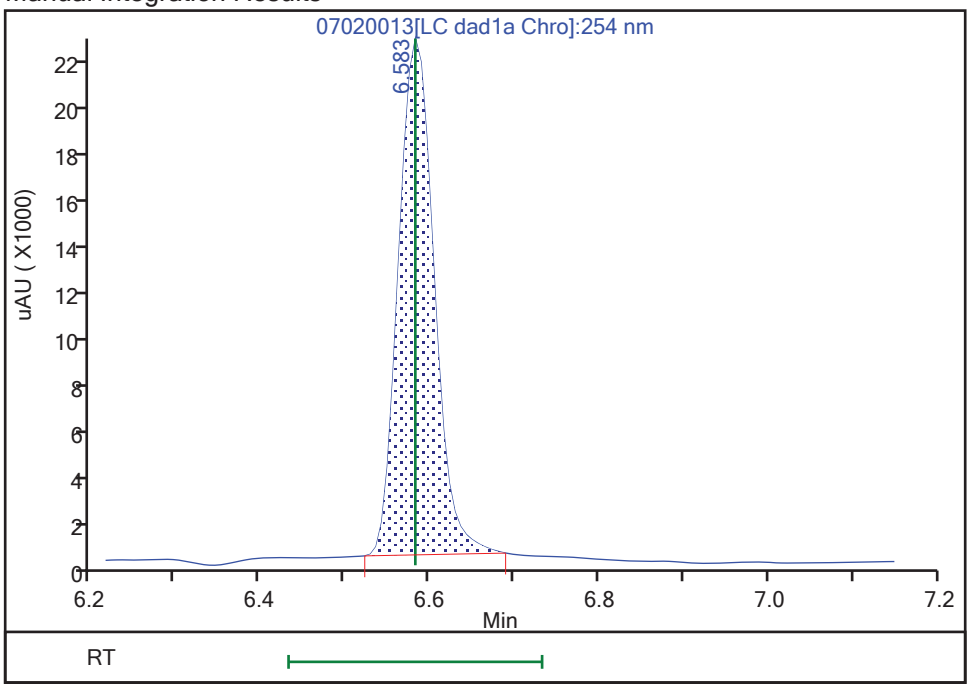
Processing Integration Results

RT: 6.58
Area: 71026
Amount: 0.754908
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 63041
Amount: 0.708660
Amount Units: ug/mL



Reviewer: LV5D, 02-Jul-2022 14:24:37
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020014.D
Lims ID: IC INT 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Jul-2022 14:15:19 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 6
Misc. Info.: 280-0112300-014
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:52 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 02-Jul-2022 14:55:39

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.581	6.583	-0.002	35684	0.4000	0.4011	M
8 RDX	1	7.574	7.576	-0.002	42248	0.4000	0.3925	
9 2,4,6-Trinitrophenol	1	7.921	7.936	-0.015	31332	0.4000	0.4044	
$ 10 1,2-Dinitrobenzene	1	8.534	8.529	0.005	50259	0.4000	0.3994	
11 1,3,5-Trinitrobenzene	1	8.654	8.656	-0.002	86458	0.4000	0.4047	
12 1,3-Dinitrobenzene	1	9.281	9.282	-0.001	117714	0.4000	0.4052	
13 Nitrobenzene	1	9.674	9.676	-0.002	76993	0.4000	0.3989	
15 Tetryl	1	9.994	10.002	-0.008	66364	0.4000	0.4012	
16 Nitroglycerin	2	10.447	10.456	-0.009	257331	4.00	4.17	
17 2,4,6-Trinitrotoluene	1	10.901	10.909	-0.008	84196	0.4000	0.3992	
18 4-Amino-2,6-dinitrotoluene	1	11.107	11.109	-0.002	57952	0.4000	0.4002	
19 2-Amino-4,6-dinitrotoluene	1	11.354	11.362	-0.008	77415	0.4000	0.3965	
20 2,6-Dinitrotoluene	1	11.521	11.529	-0.008	57084	0.4000	0.4015	
21 2,4-Dinitrotoluene	1	11.687	11.696	-0.009	115375	0.4000	0.3977	
22 o-Nitrotoluene	1	12.547	12.556	-0.009	49579	0.4000	0.3966	
23 p-Nitrotoluene	1	12.974	12.982	-0.008	42509	0.4000	0.3801	
24 m-Nitrotoluene	1	13.547	13.556	-0.009	54082	0.4000	0.3920	
25 PETN	2	14.607	14.609	-0.002	287643	4.00	3.96	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 40.00 Units: uL

Report Date: 06-Jul-2022 12:46:52 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020014.d

Injection Date: 02-Jul-2022 14:15:19 Instrument ID: CHHPLC_X3 Operator ID:

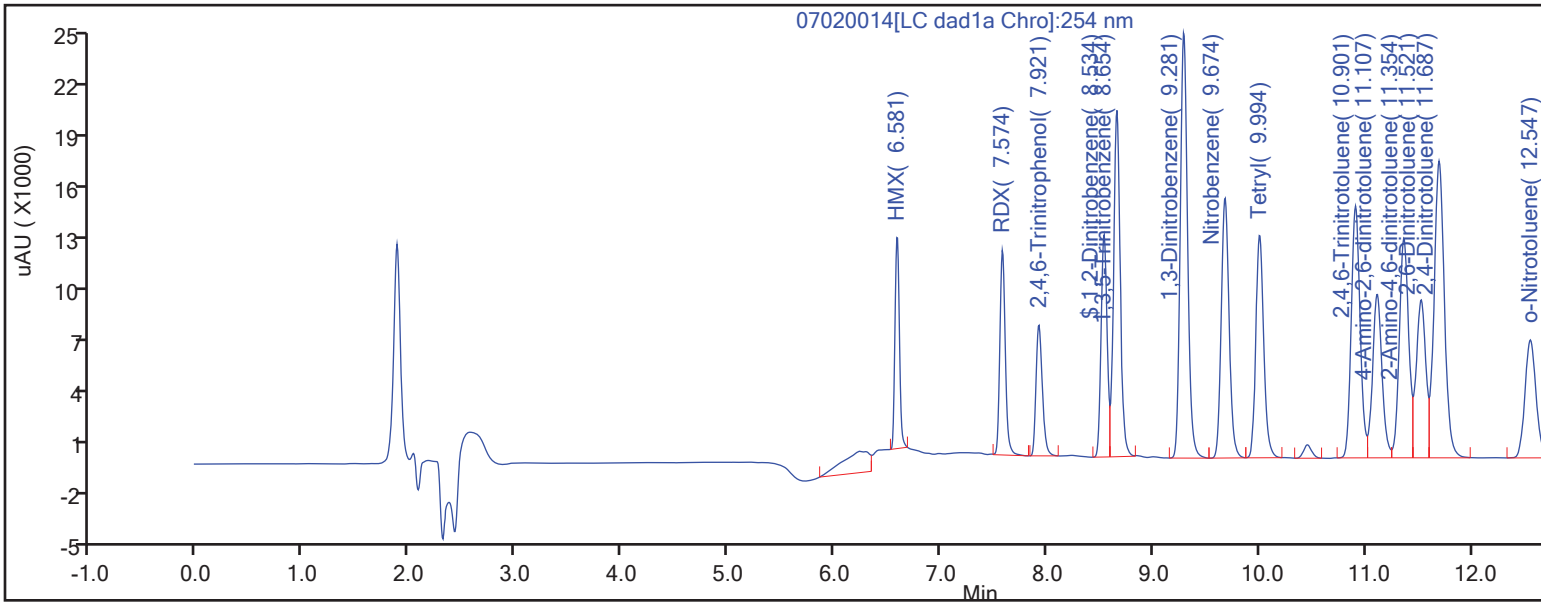
Lims ID: IC INT 6 Worklist Smp#:

Client ID:

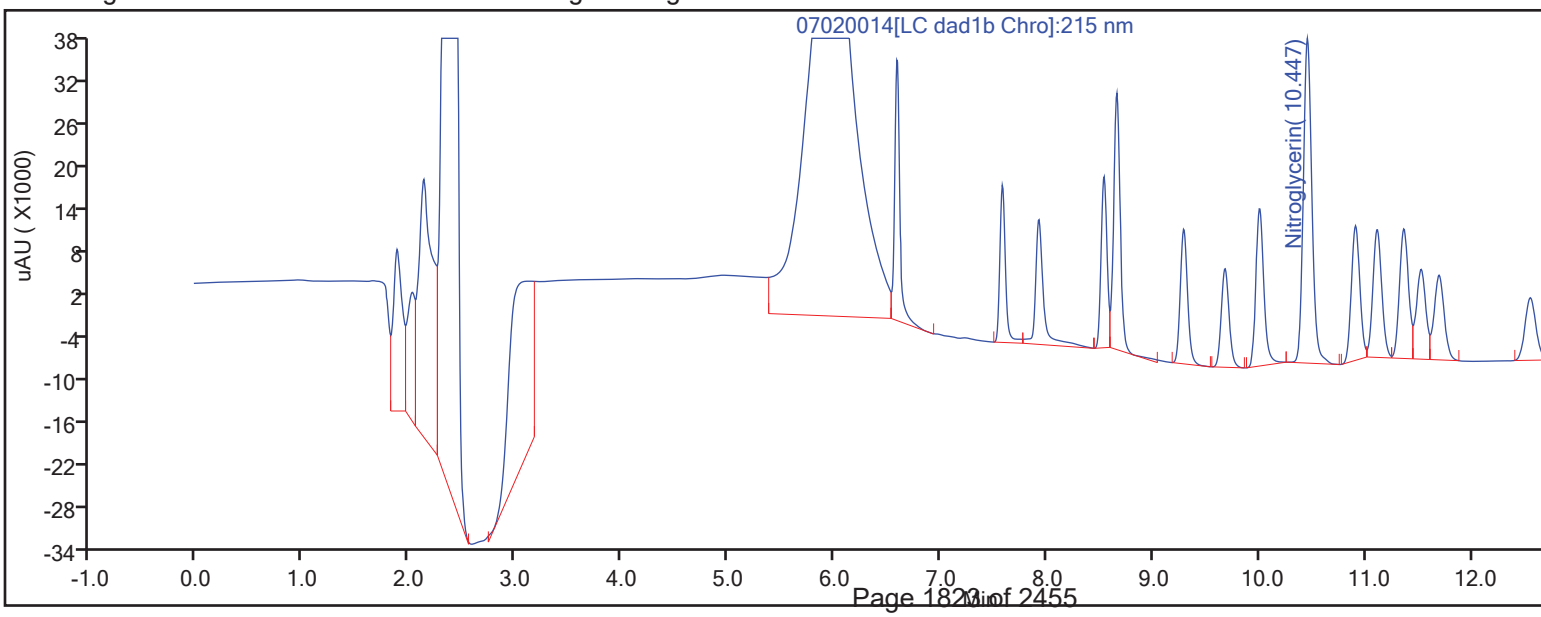
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

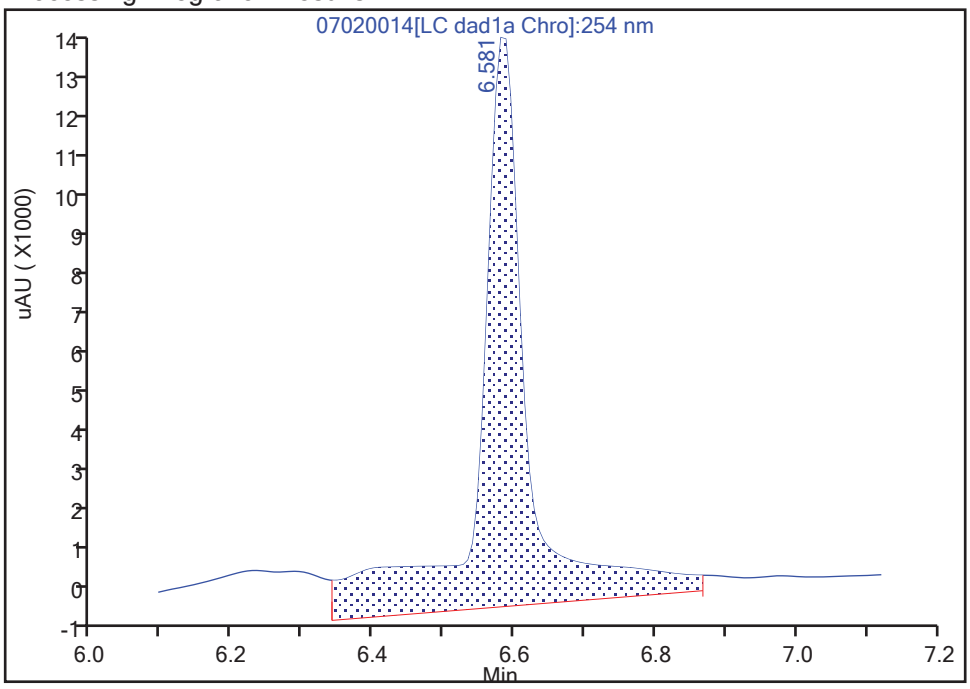
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020014.d				
Injection Date:	02-Jul-2022 14:15:19	Instrument ID:	CHHPLC_X3		
Lims ID:	IC INT 6				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

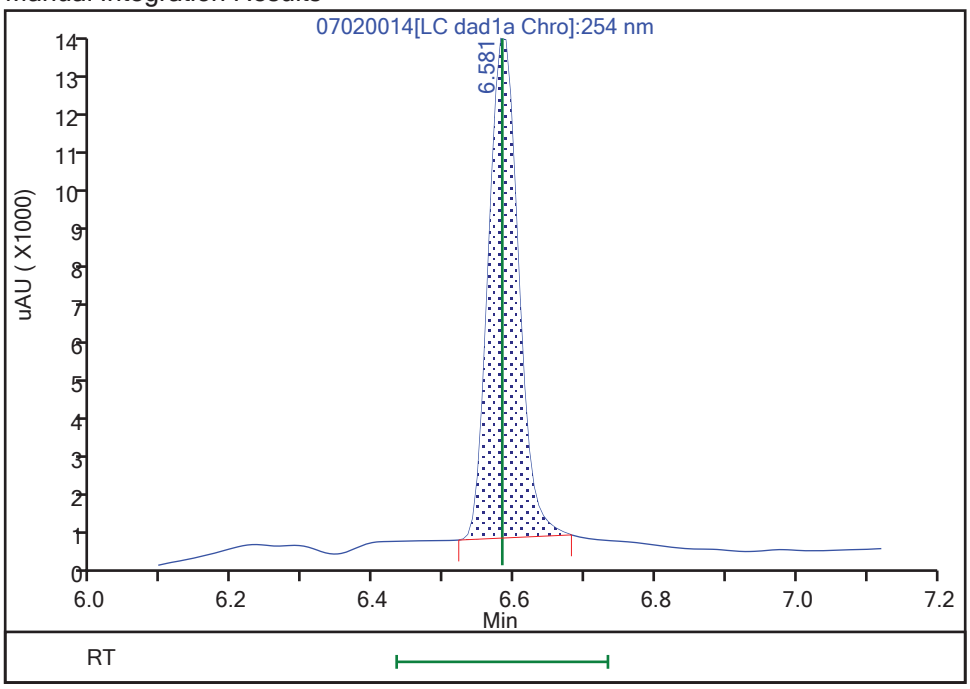
Processing Integration Results

RT: 6.58
Area: 63427
Amount: 0.590819
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 35684
Amount: 0.401133
Amount Units: ug/mL



Reviewer: LV5D, 02-Jul-2022 14:50:26
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020015.D
Lims ID: IC INT 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Jul-2022 14:38:14 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 5
Misc. Info.: 280-0112300-015
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:53 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 02-Jul-2022 15:04:22

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.588	6.583	0.005	22503	0.2500	0.2530	M
8 RDX	1	7.581	7.576	0.005	26612	0.2500	0.2473	
9 2,4,6-Trinitrophenol	1	7.935	7.936	-0.001	19554	0.2500	0.2524	
$ 10 1,2-Dinitrobenzene	1	8.535	8.529	0.006	31580	0.2500	0.2509	
11 1,3,5-Trinitrobenzene	1	8.655	8.656	-0.001	53574	0.2500	0.2508	
12 1,3-Dinitrobenzene	1	9.288	9.282	0.006	73482	0.2500	0.2529	
13 Nitrobenzene	1	9.675	9.676	-0.001	47618	0.2500	0.2467	
15 Tetryl	1	10.001	10.002	-0.001	41265	0.2500	0.2495	
16 Nitroglycerin	2	10.455	10.456	-0.001	159539	2.50	2.58	
17 2,4,6-Trinitrotoluene	1	10.908	10.909	-0.001	52419	0.2500	0.2485	
18 4-Amino-2,6-dinitrotoluene	1	11.108	11.109	-0.001	36312	0.2500	0.2508	
19 2-Amino-4,6-dinitrotoluene	1	11.361	11.362	-0.001	48620	0.2500	0.2490	
20 2,6-Dinitrotoluene	1	11.521	11.529	-0.008	35567	0.2500	0.2501	
21 2,4-Dinitrotoluene	1	11.695	11.696	-0.001	71968	0.2500	0.2481	
22 o-Nitrotoluene	1	12.555	12.556	-0.001	30756	0.2500	0.2454	
23 p-Nitrotoluene	1	12.981	12.982	-0.001	26525	0.2500	0.2371	
24 m-Nitrotoluene	1	13.555	13.556	-0.001	33505	0.2500	0.2429	
25 PETN	2	14.615	14.609	0.006	179547	2.50	2.48	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 25.00 Units: uL

Report Date: 06-Jul-2022 12:46:53 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020015.d

Injection Date: 02-Jul-2022 14:38:14 Instrument ID: CHHPLC_X3 Operator ID:

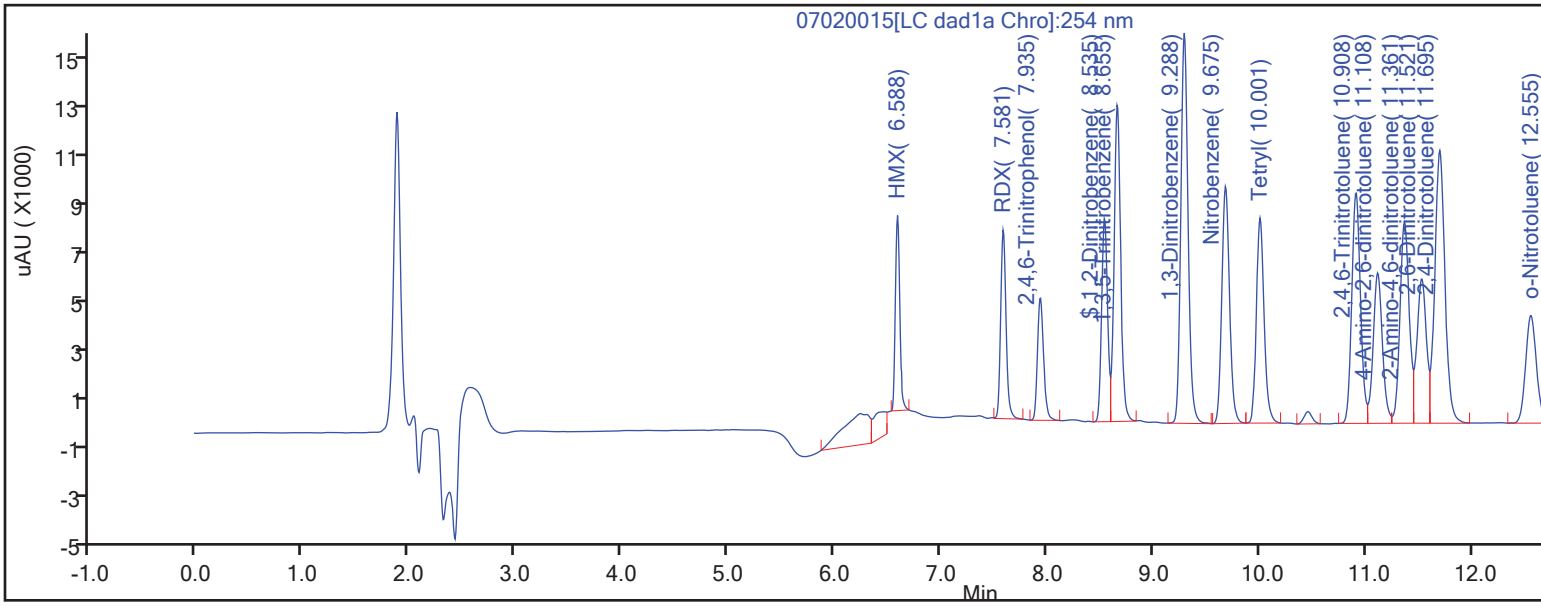
Lims ID: IC INT 5 Worklist Smp#:

Client ID:

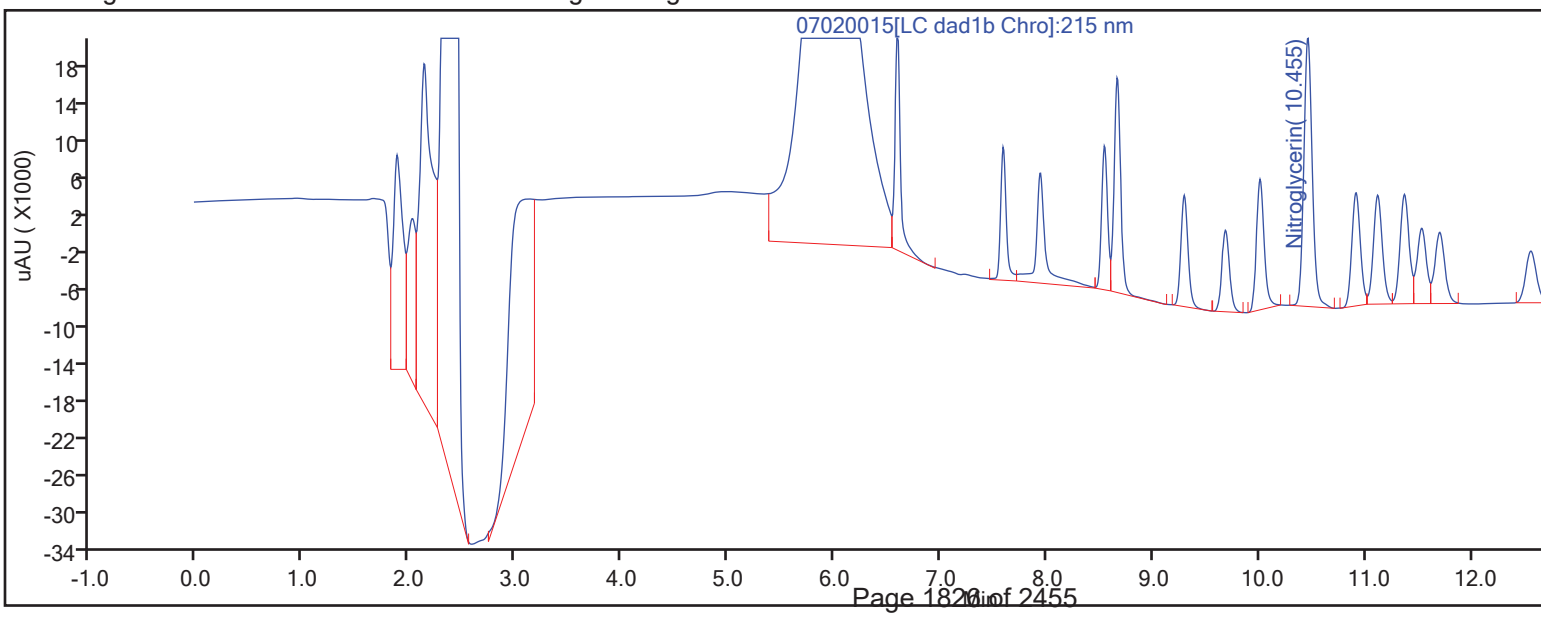
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

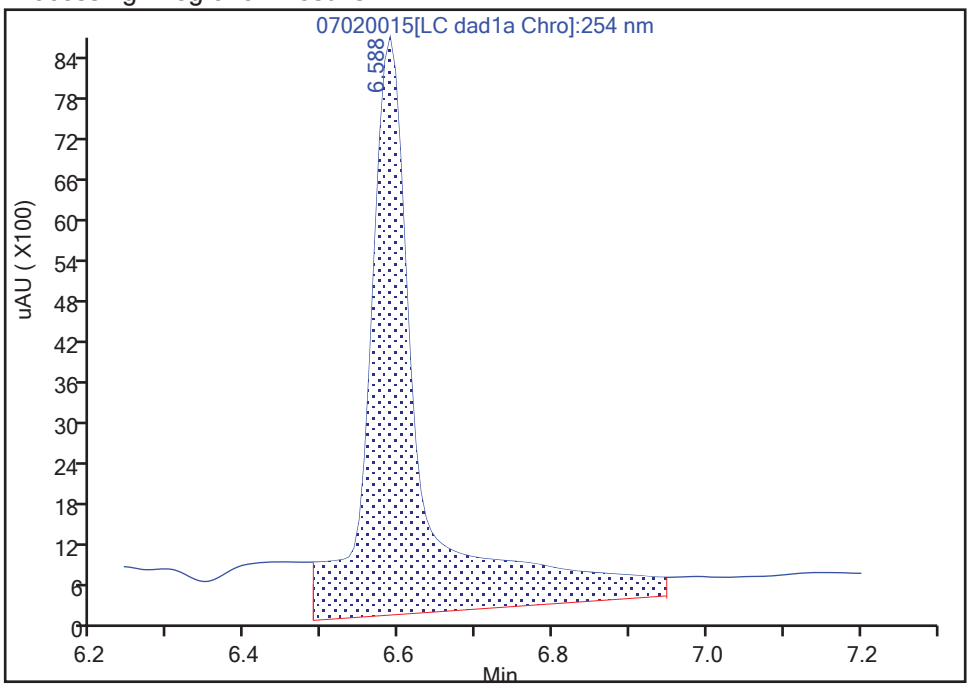
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020015.d				
Injection Date:	02-Jul-2022 14:38:14	Instrument ID:	CHHPLC_X3		
Lims ID:	IC INT 5				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	15	Worklist Smp#:	15
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

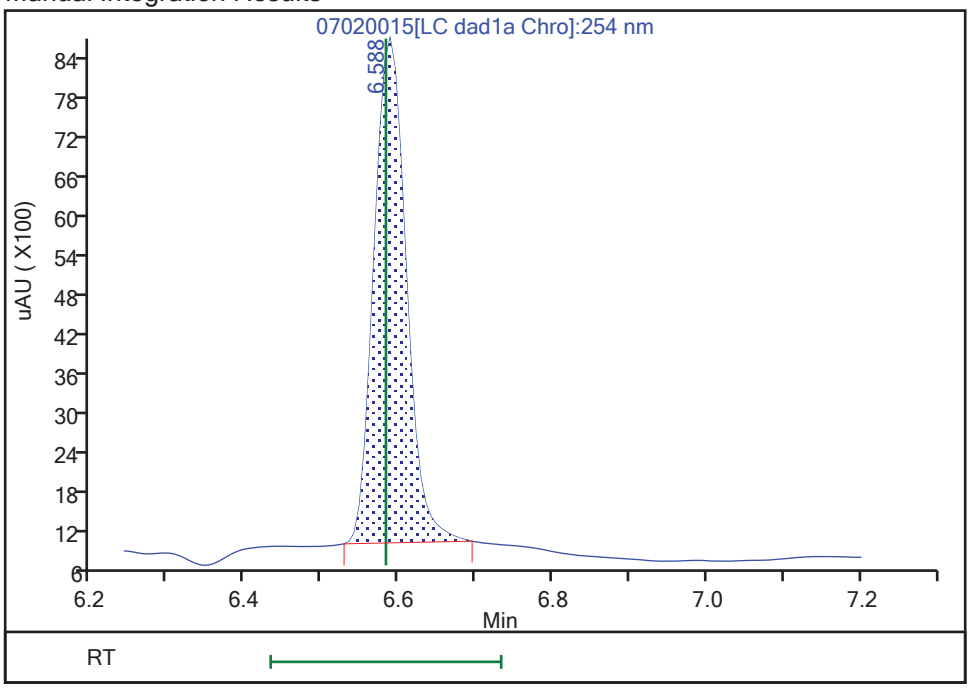
Processing Integration Results

RT: 6.59
Area: 40551
Amount: 0.388223
Amount Units: ug/mL



Manual Integration Results

RT: 6.59
Area: 22503
Amount: 0.252962
Amount Units: ug/mL



Reviewer: LV5D, 02-Jul-2022 15:04:11
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020016.D
Lims ID: IC INT 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 02-Jul-2022 15:01:11 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 4
Misc. Info.: 280-0112300-016
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:53 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 06-Jul-2022 12:12:41

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.583	6.583	0.000	8950	0.1000	0.1006	M
8 RDX	1	7.576	7.576	0.000	10866	0.1000	0.1010	
9 2,4,6-Trinitrophenol	1	7.936	7.936	0.000	7793	0.1000	0.1006	
$ 10 1,2-Dinitrobenzene	1	8.529	8.529	0.000	12614	0.1000	0.1002	
11 1,3,5-Trinitrobenzene	1	8.656	8.656	0.000	21745	0.1000	0.1018	
12 1,3-Dinitrobenzene	1	9.282	9.282	0.000	29256	0.1000	0.1007	
13 Nitrobenzene	1	9.676	9.676	0.000	19340	0.1000	0.1002	
15 Tetryl	1	10.002	10.002	0.000	16555	0.1000	0.1001	
16 Nitroglycerin	2	10.456	10.456	0.000	63449	1.00	1.03	
17 2,4,6-Trinitrotoluene	1	10.909	10.909	0.000	21307	0.1000	0.1010	
18 4-Amino-2,6-dinitrotoluene	1	11.109	11.109	0.000	14976	0.1000	0.1034	
19 2-Amino-4,6-dinitrotoluene	1	11.362	11.362	0.000	19626	0.1000	0.1005	
20 2,6-Dinitrotoluene	1	11.529	11.529	0.000	14444	0.1000	0.1016	
21 2,4-Dinitrotoluene	1	11.696	11.696	0.000	29138	0.1000	0.1004	
22 o-Nitrotoluene	1	12.556	12.556	0.000	12722	0.1000	0.1004	
23 p-Nitrotoluene	1	12.982	12.982	0.000	10782	0.1000	0.0964	
24 m-Nitrotoluene	1	13.556	13.556	0.000	13636	0.1000	0.0988	
25 PETN	2	14.609	14.609	0.000	71085	1.00	0.9863	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 10.00 Units: uL

Report Date: 06-Jul-2022 12:46:53 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020016.d

Injection Date: 02-Jul-2022 15:01:11 Instrument ID: CHHPLC_X3 Operator ID:

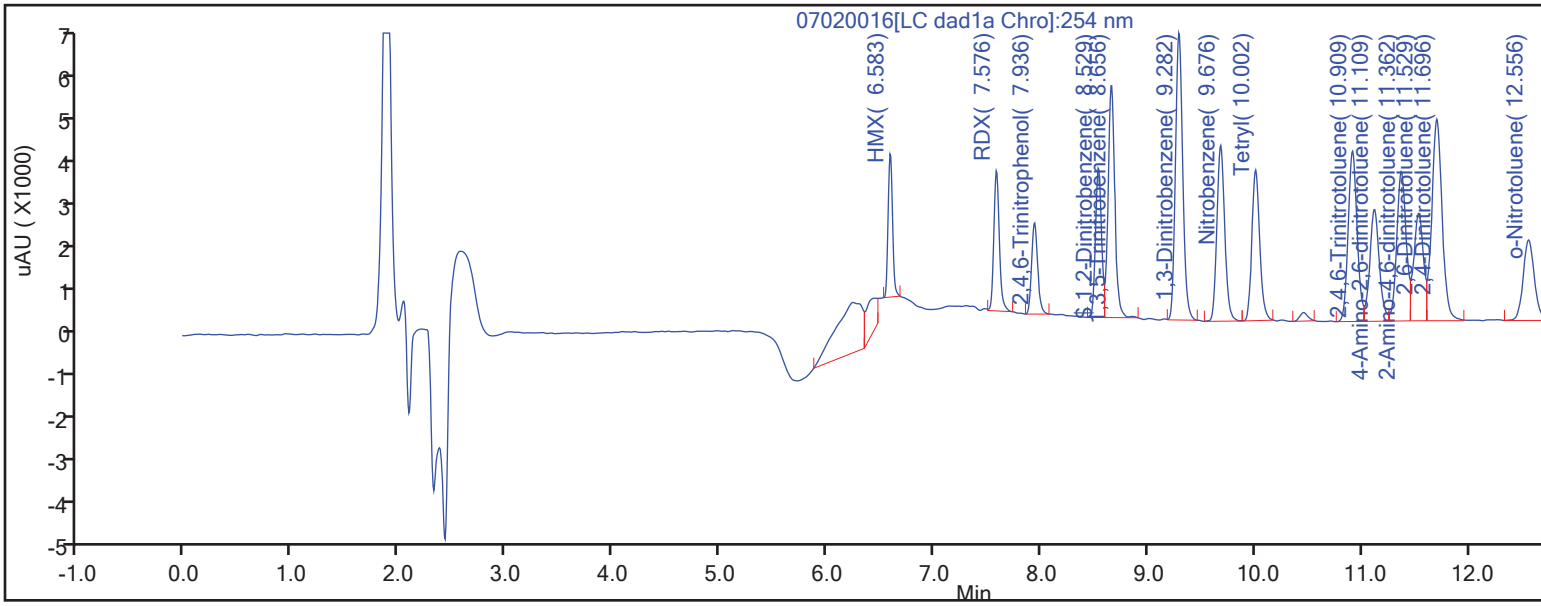
Lims ID: IC INT 4 Worklist Smp#:

Client ID:

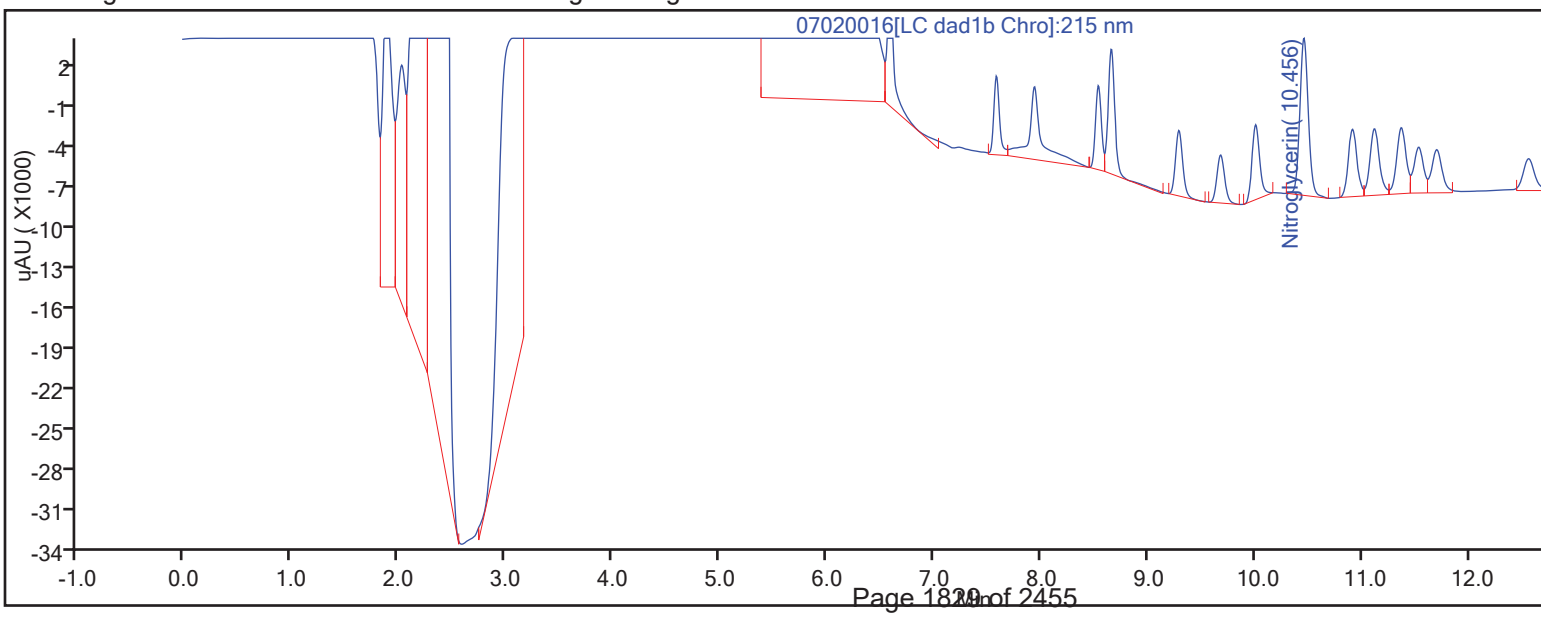
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

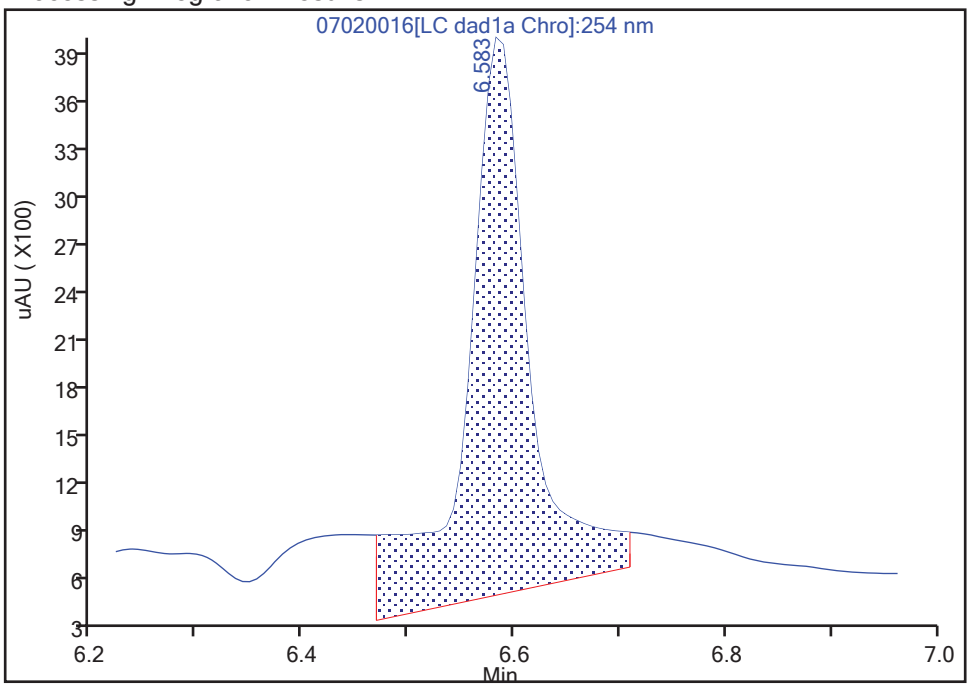
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020016.d				
Injection Date:	02-Jul-2022 15:01:11	Instrument ID:	CHHPLC_X3		
Lims ID:	IC INT 4				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

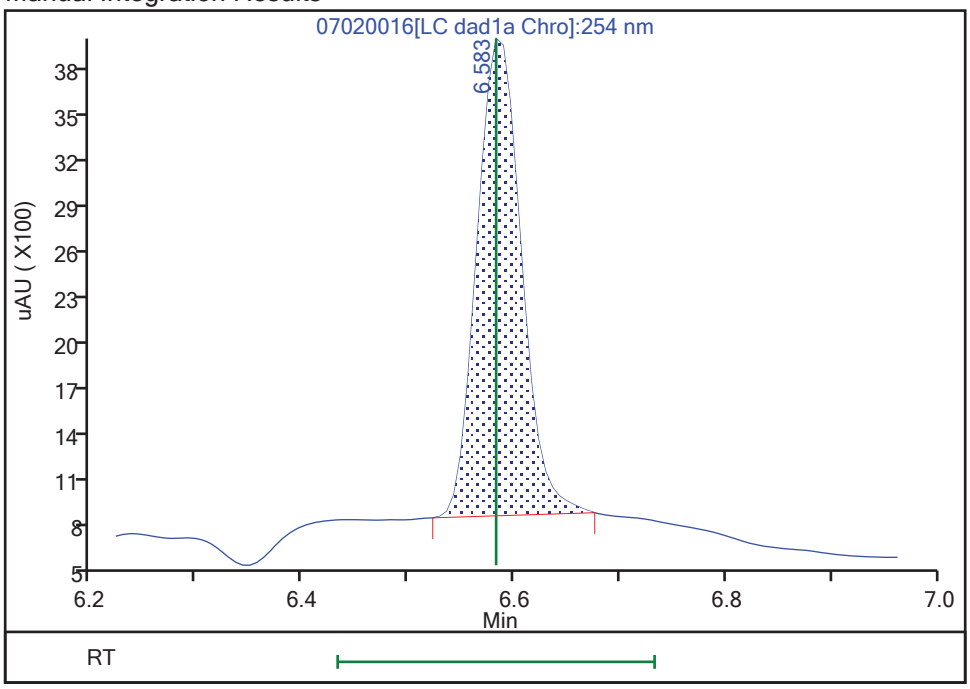
Processing Integration Results

RT: 6.58
Area: 14572
Amount: 0.119286
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 8950
Amount: 0.100609
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:12:39
Audit Action: Manually Integrated Audit Reason: Baseline

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020017.D
Lims ID: IC INT 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 02-Jul-2022 15:24:01 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 3
Misc. Info.: 280-0112300-017
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:54 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 06-Jul-2022 12:12:50

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	4 HMX	1	6.586	6.583	0.003	4370	0.0500	0.0491	M
	8 RDX	1	7.580	7.576	0.004	5867	0.0500	0.0545	
	9 2,4,6-Trinitrophenol	1	7.940	7.936	0.004	3956	0.0500	0.0511	
$	10 1,2-Dinitrobenzene	1	8.533	8.529	0.004	6282	0.0500	0.0499	
	11 1,3,5-Trinitrobenzene	1	8.653	8.656	-0.003	10579	0.0500	0.0495	
	12 1,3-Dinitrobenzene	1	9.286	9.282	0.004	14701	0.0500	0.0506	
	13 Nitrobenzene	1	9.673	9.676	-0.003	9672	0.0500	0.0501	
	15 Tetryl	1	10.000	10.002	-0.002	8324	0.0500	0.0503	
	16 Nitroglycerin	2	10.453	10.456	-0.003	30710	0.5000	0.4975	M
	17 2,4,6-Trinitrotoluene	1	10.906	10.909	-0.003	10515	0.0500	0.0499	
	18 4-Amino-2,6-dinitrotoluene	1	11.113	11.109	0.004	7366	0.0500	0.0509	
	19 2-Amino-4,6-dinitrotoluene	1	11.366	11.362	0.004	9853	0.0500	0.0505	
	20 2,6-Dinitrotoluene	1	11.526	11.529	-0.003	7028	0.0500	0.0494	
	21 2,4-Dinitrotoluene	1	11.693	11.696	-0.003	14609	0.0500	0.0504	
	22 o-Nitrotoluene	1	12.553	12.556	-0.003	6512	0.0500	0.0505	
	23 p-Nitrotoluene	1	12.980	12.982	-0.002	5614	0.0500	0.0502	
	24 m-Nitrotoluene	1	13.553	13.556	-0.003	7019	0.0500	0.0509	
	25 PETN	2	14.606	14.609	-0.003	34051	0.5000	0.4779	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 5.00 Units: uL

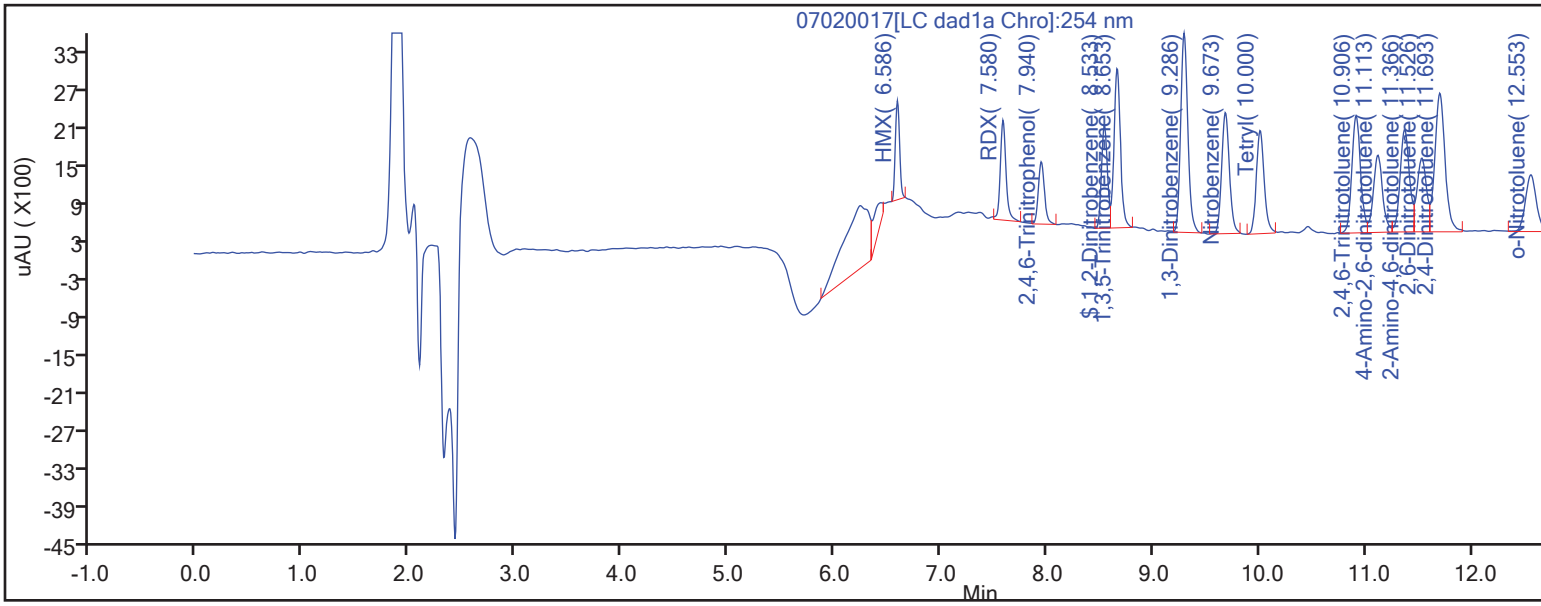
Report Date: 06-Jul-2022 12:46:54 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

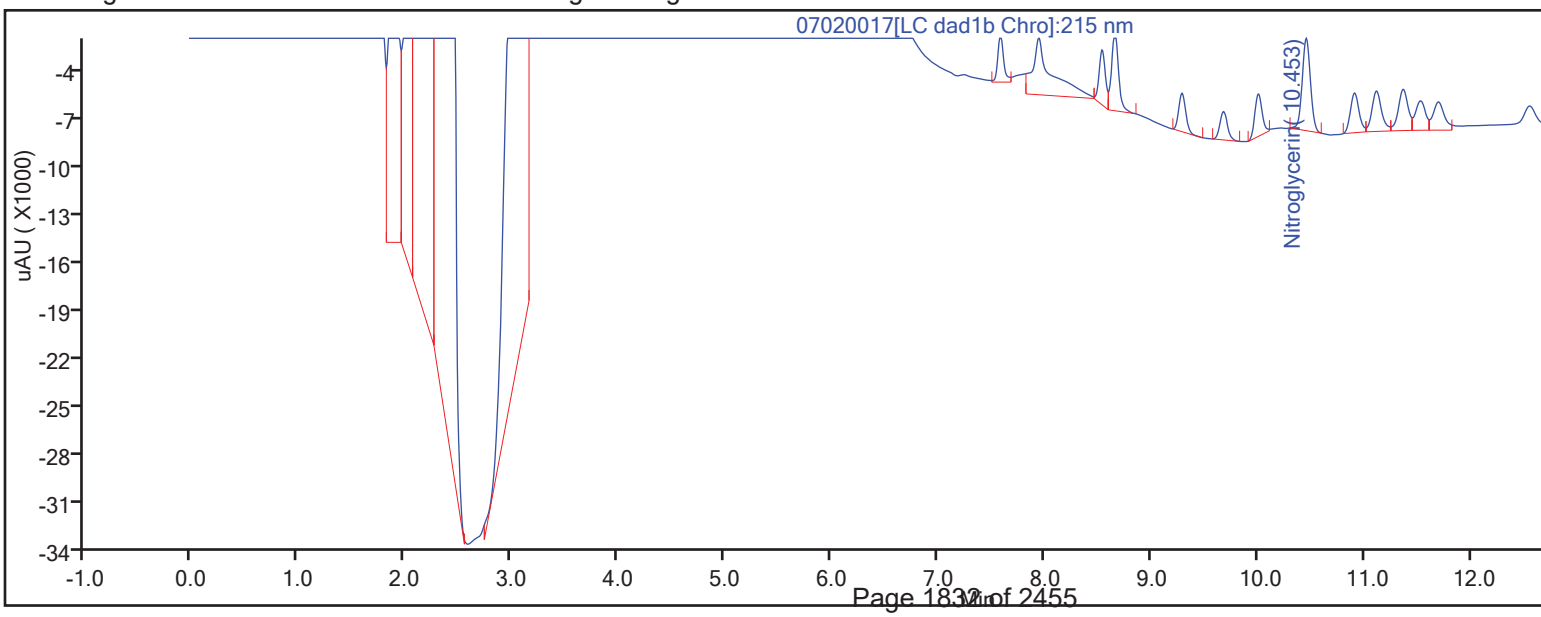
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020017.d

Injection Date:	02-Jul-2022 15:24:01	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	IC INT 3			Worklist Smp#:
Client ID:				
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

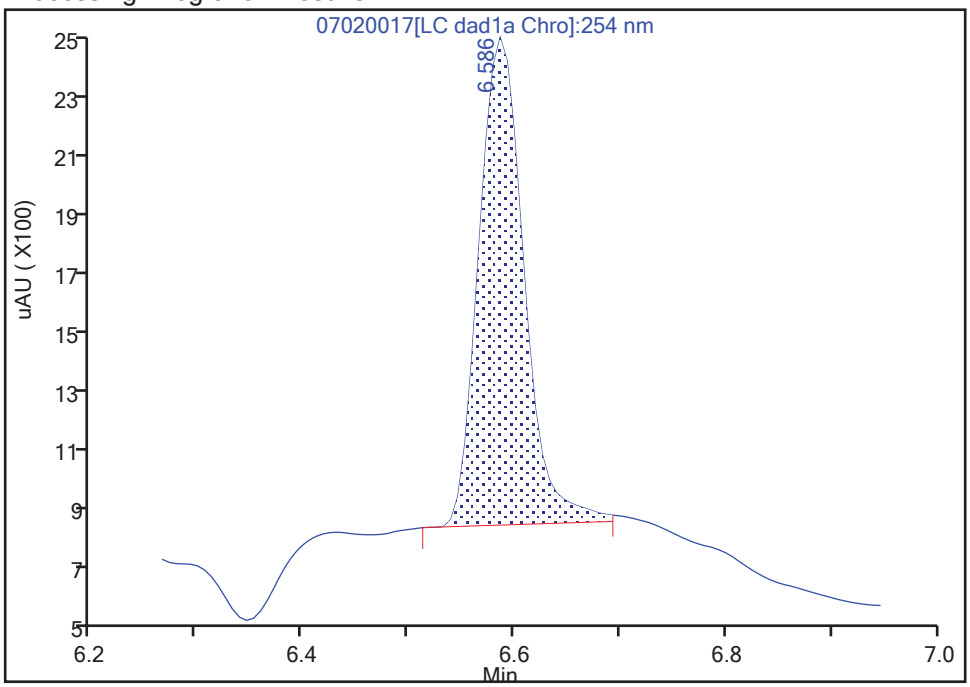
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020017.d				
Injection Date:	02-Jul-2022 15:24:01	Instrument ID:	CHHPLC_X3		
Lims ID:	IC INT 3				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

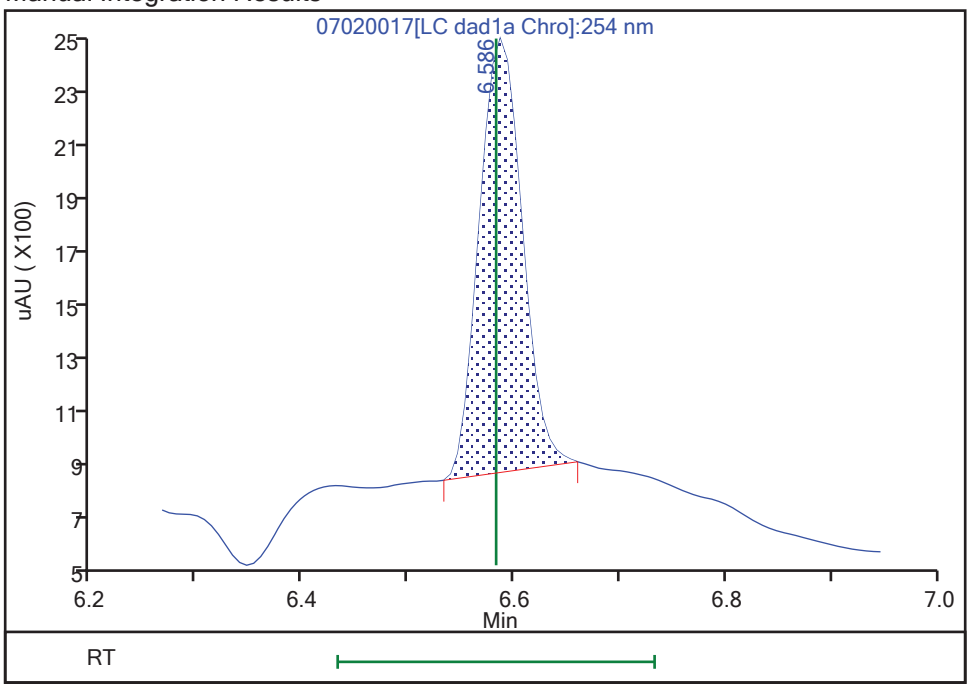
Processing Integration Results

RT: 6.59
Area: 4650
Amount: 0.040116
Amount Units: ug/mL



Manual Integration Results

RT: 6.59
Area: 4370
Amount: 0.049124
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:12:48

Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

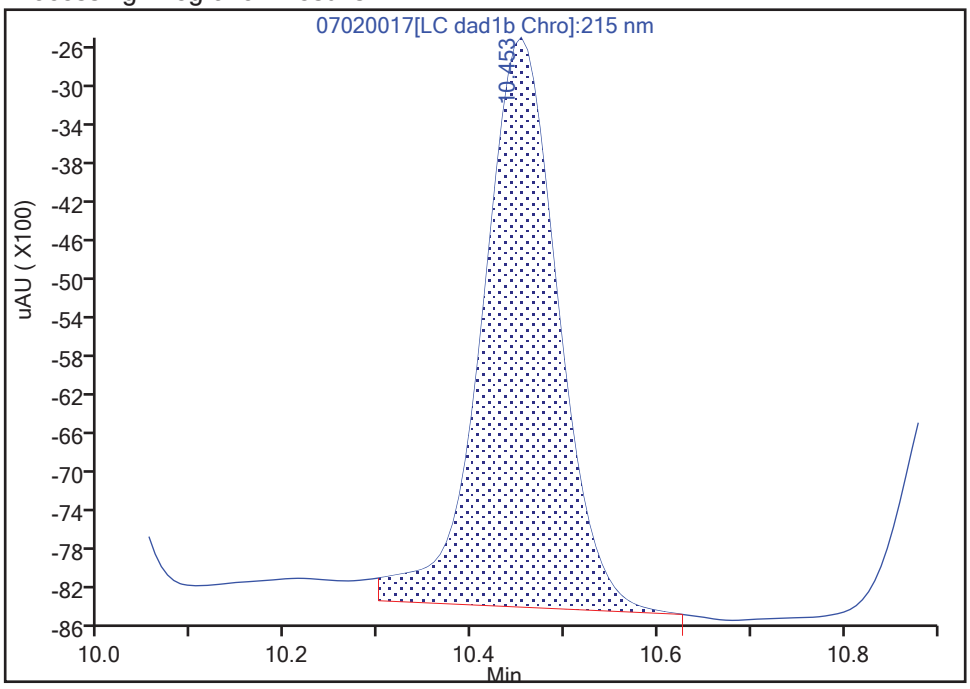
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020017.d
Injection Date: 02-Jul-2022 15:24:01 Instrument ID: CHHPLC_X3
Lims ID: IC INT 3
Client ID:
Operator ID: JZ ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: Detector LC DAD1C, 215 nm

16 Nitroglycerin, CAS: 55-63-0

Signal: 1

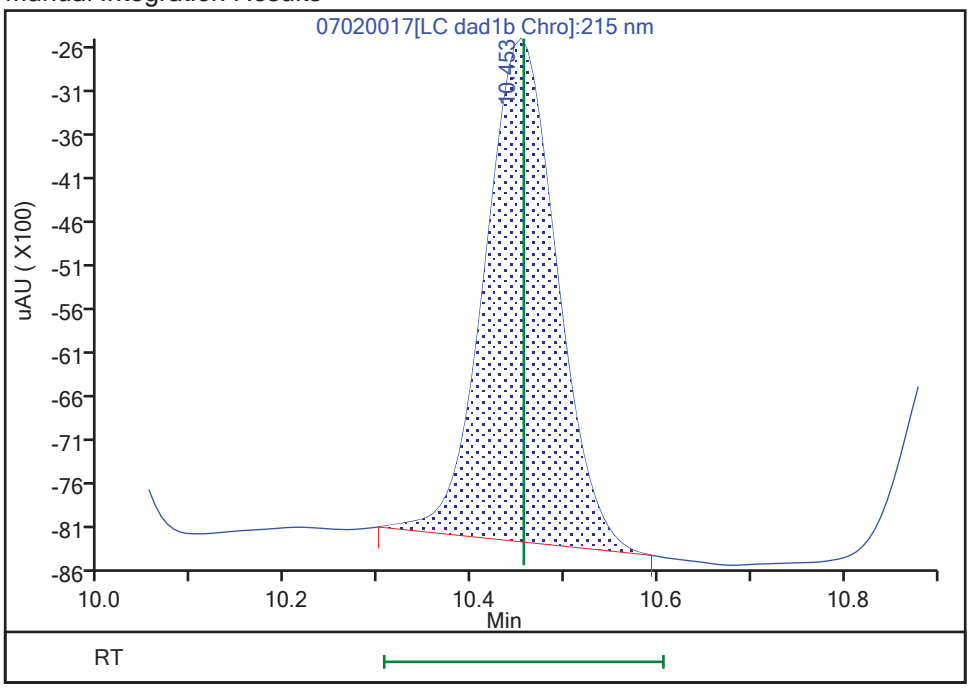
Processing Integration Results

RT: 10.45
Area: 33098
Amount: 0.494507
Amount Units: ug/mL



Manual Integration Results

RT: 10.45
Area: 30710
Amount: 0.497461
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:38:26
Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 06-Jul-2022 12:46:55 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020018.D
Lims ID: IC INT 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 02-Jul-2022 15:46:57 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 2
Misc. Info.: 280-0112300-018
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:54 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 06-Jul-2022 12:22:42

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.583	6.583	0.000	1837	0.0200	0.0207	
8 RDX	1	7.583	7.576	0.007	2201	0.0200	0.0205	M
9 2,4,6-Trinitrophenol	1	7.943	7.936	0.007	1368	0.0200	0.0177	
$ 10 1,2-Dinitrobenzene	1	8.537	8.529	0.008	2473	0.0200	0.0197	
11 1,3,5-Trinitrobenzene	1	8.657	8.656	0.001	4024	0.0200	0.0188	
12 1,3-Dinitrobenzene	1	9.290	9.282	0.008	5575	0.0200	0.0192	
13 Nitrobenzene	1	9.677	9.676	0.001	3700	0.0200	0.0192	
15 Tetryl	1	10.003	10.002	0.001	3237	0.0200	0.0196	
16 Nitroglycerin	2	10.450	10.456	-0.006	11512	0.2000	0.1865	M
17 2,4,6-Trinitrotoluene	1	10.903	10.909	-0.006	4234	0.0200	0.0201	
18 4-Amino-2,6-dinitrotoluene	1	11.110	11.109	0.001	2917	0.0200	0.0201	
19 2-Amino-4,6-dinitrotoluene	1	11.357	11.362	-0.005	3856	0.0200	0.0197	
20 2,6-Dinitrotoluene	1	11.523	11.529	-0.006	2825	0.0200	0.0199	
21 2,4-Dinitrotoluene	1	11.690	11.696	-0.006	5698	0.0200	0.0196	
22 o-Nitrotoluene	1	12.550	12.556	-0.006	2699	0.0200	0.0199	
23 p-Nitrotoluene	1	12.977	12.982	-0.005	2466	0.0200	0.0220	
24 m-Nitrotoluene	1	13.557	13.556	0.001	2927	0.0200	0.0212	
25 PETN	2	14.610	14.609	0.001	13811	0.2000	0.2000	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 2.00 Units: uL

Report Date: 06-Jul-2022 12:46:55 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020018.d

Injection Date: 02-Jul-2022 15:46:57 Instrument ID: CHHPLC_X3 Operator ID:

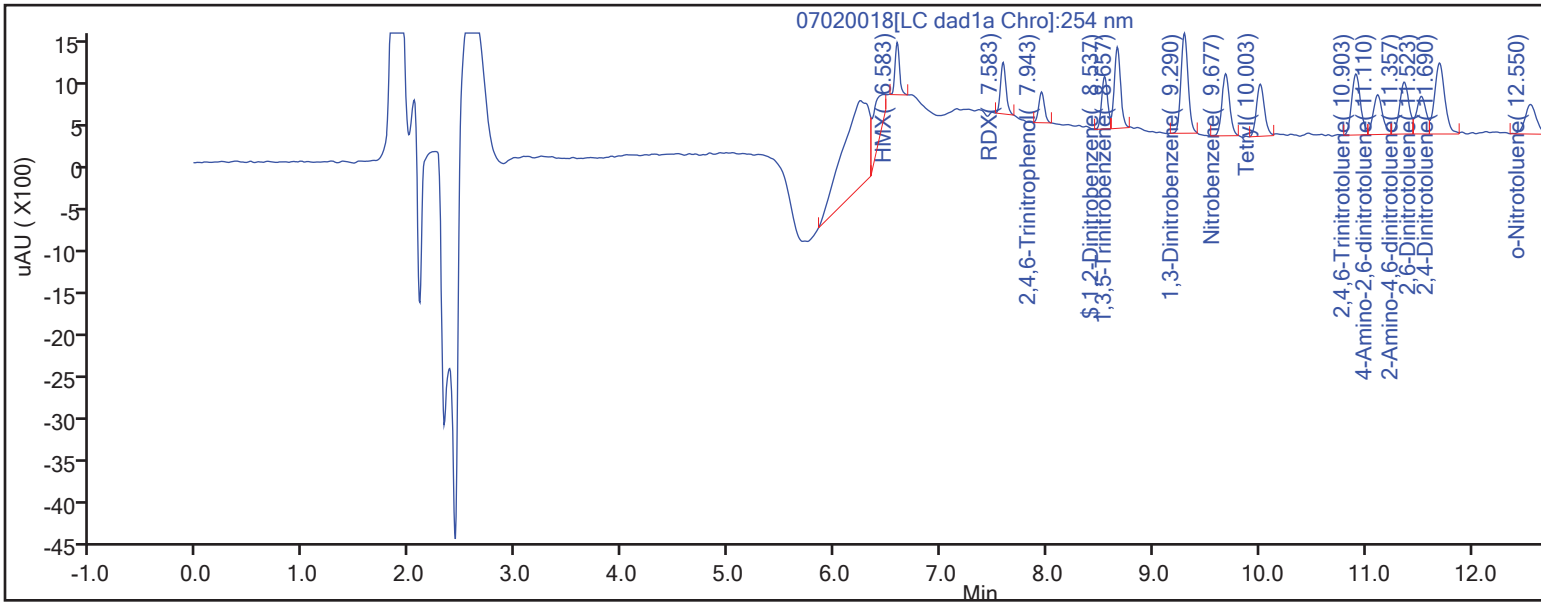
Lims ID: IC INT 2 Worklist Smp#:

Client ID:

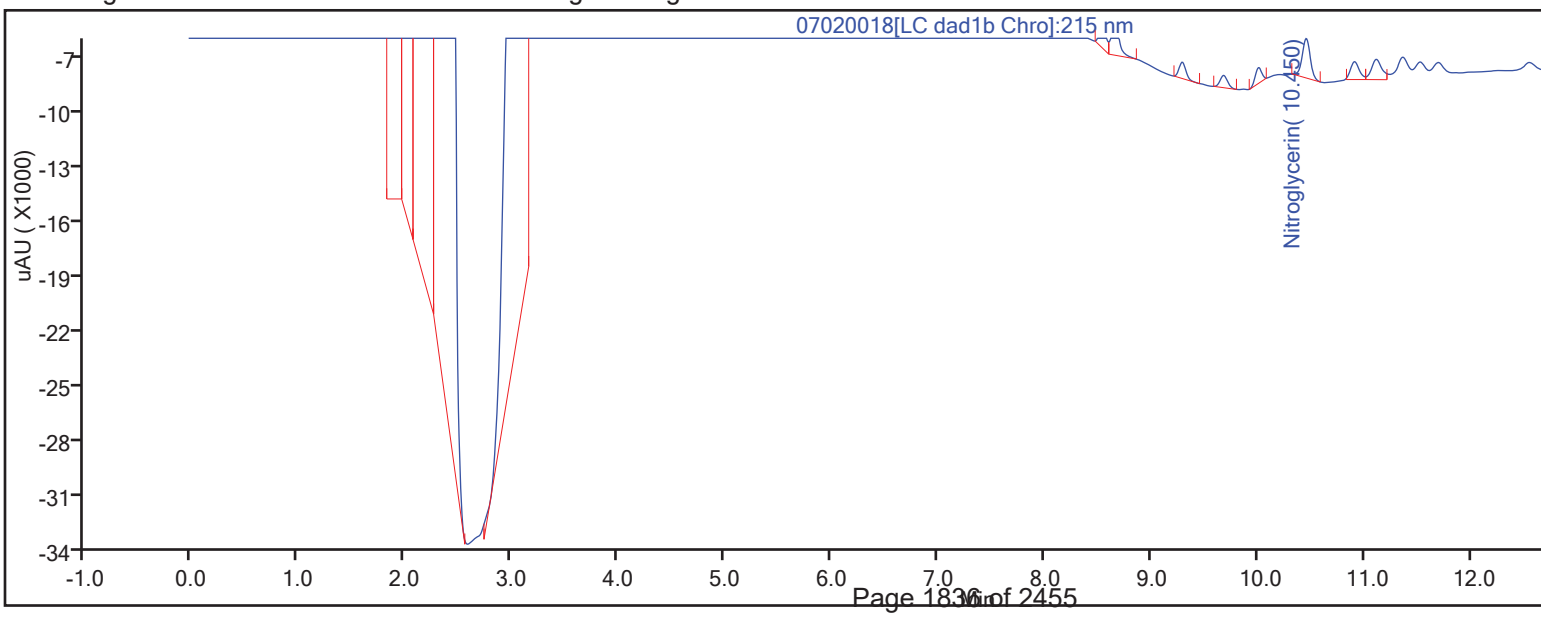
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

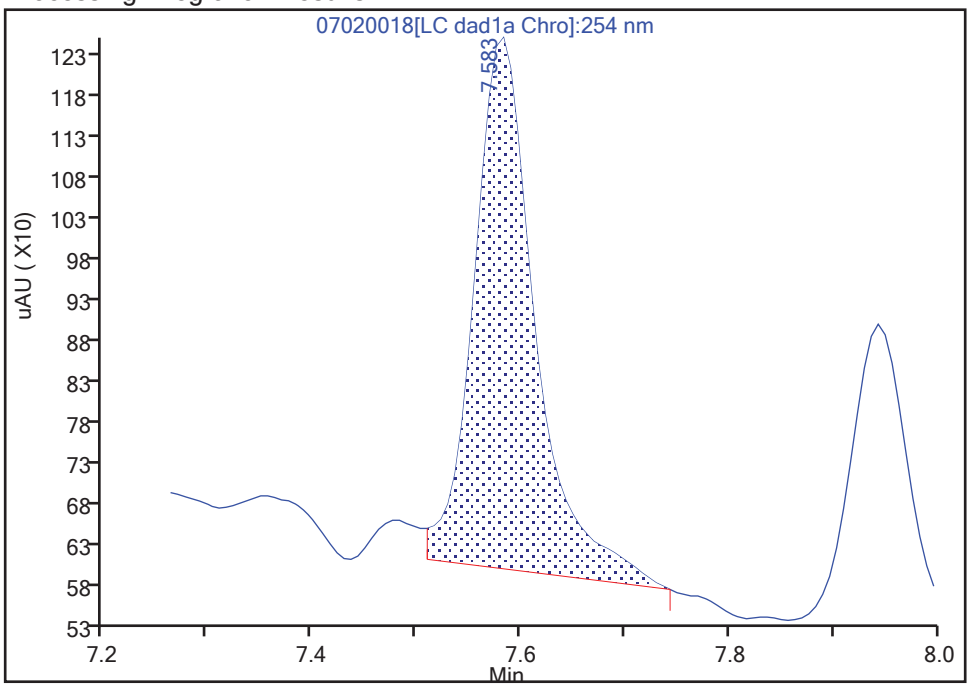
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020018.d
Injection Date: 02-Jul-2022 15:46:57 Instrument ID: CHHPLC_X3
Lims ID: IC INT 2
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

8 RDX, CAS: 121-82-4

Signal: 1

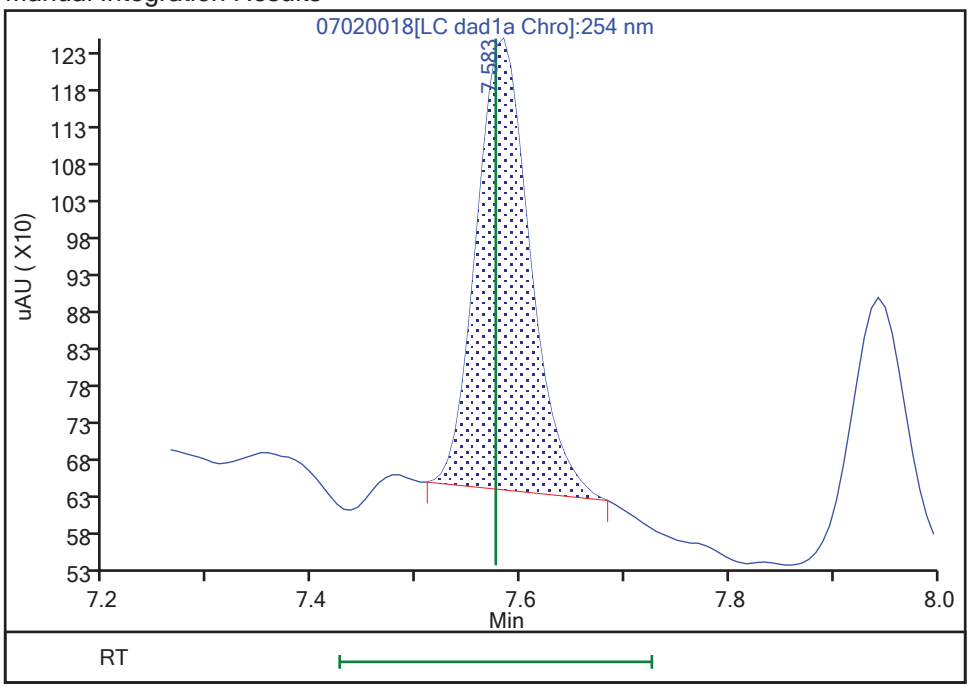
Processing Integration Results

RT: 7.58
Area: 2678
Amount: 0.024285
Amount Units: ug/mL



Manual Integration Results

RT: 7.58
Area: 2201
Amount: 0.020450
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:22:37
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

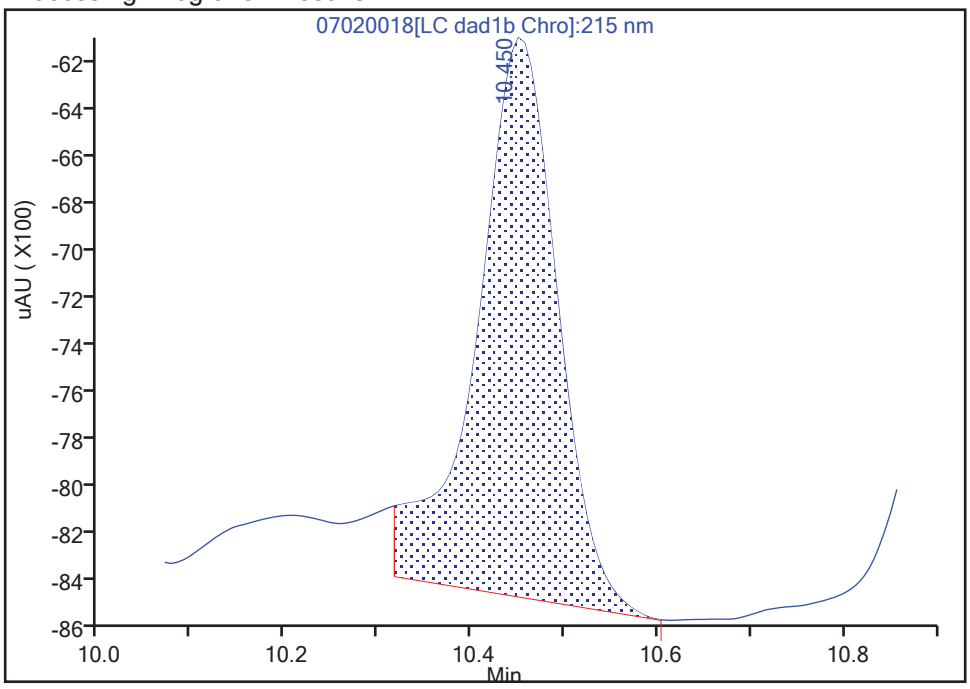
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020018.d
Injection Date: 02-Jul-2022 15:46:57 Instrument ID: CHHPLC_X3
Lims ID: IC INT 2
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: Detector LC DAD1C, 215 nm

16 Nitroglycerin, CAS: 55-63-0

Signal: 1

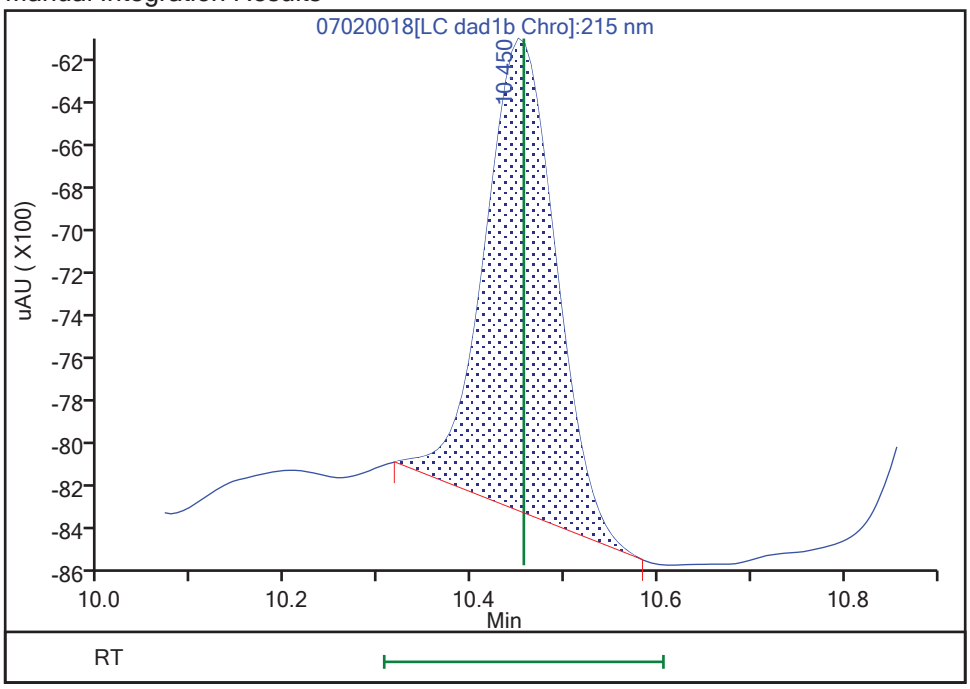
Processing Integration Results

RT: 10.45
Area: 13953
Amount: 0.210133
Amount Units: ug/mL



Manual Integration Results

RT: 10.45
Area: 11512
Amount: 0.186479
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:38:34
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

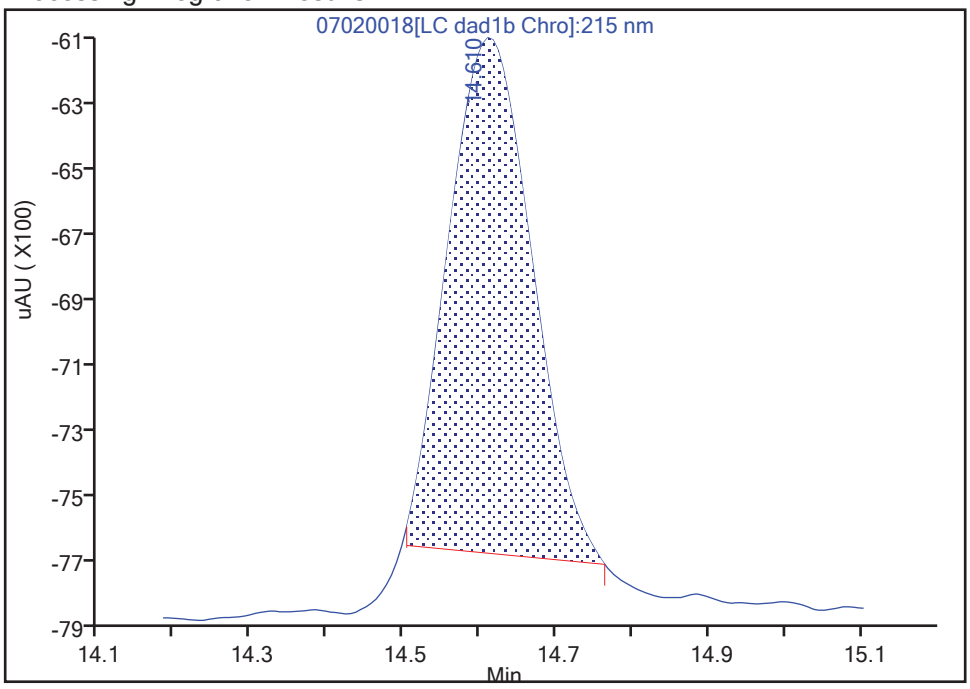
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020018.d
Injection Date: 02-Jul-2022 15:46:57 Instrument ID: CHHPLC_X3
Lims ID: IC INT 2
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: Detector LC DAD1C, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

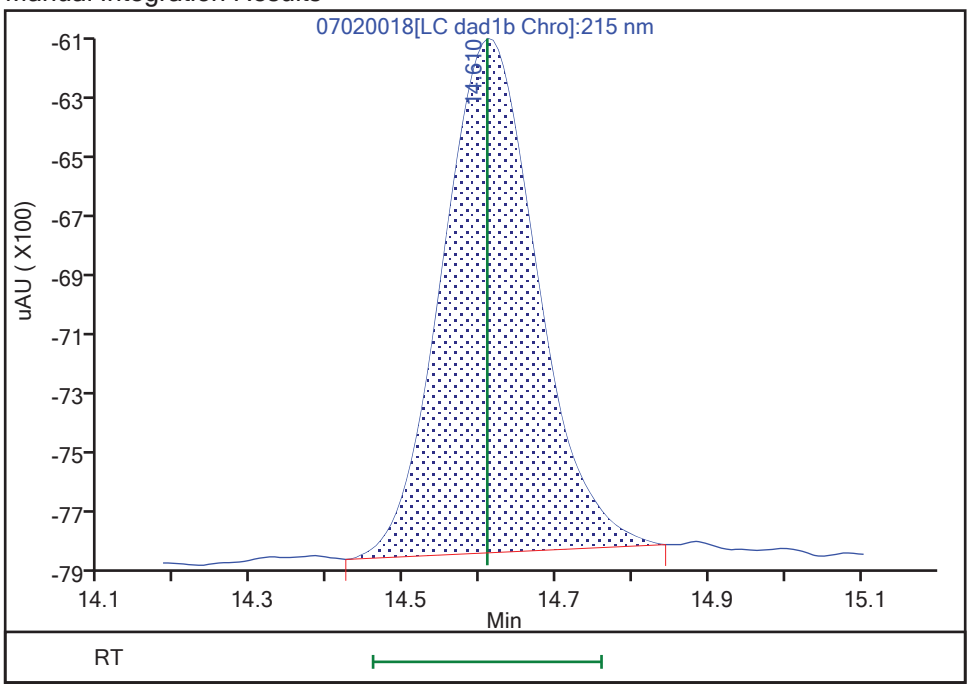
Processing Integration Results

RT: 14.61
Area: 11107
Amount: 0.159254
Amount Units: ug/mL



Manual Integration Results

RT: 14.61
Area: 13811
Amount: 0.199987
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:38:03
Audit Action: Manually Integrated Audit Reason: Baseline

Report Date: 06-Jul-2022 12:46:55 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D
Lims ID: IC INT 1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 02-Jul-2022 16:09:58 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 1
Misc. Info.: 280-0112300-019
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:46:55 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 06-Jul-2022 12:13:13

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.587	6.583	0.004	818	0.0100	0.009195	M
8 RDX	1	7.580	7.576	0.004	1038	0.0100	0.009645	M
9 2,4,6-Trinitrophenol	1	7.940	7.936	0.004	764	0.0100	0.009862	
$ 10 1,2-Dinitrobenzene	1	8.534	8.529	0.005	1218	0.0100	0.009679	
11 1,3,5-Trinitrobenzene	1	8.654	8.656	-0.002	2059	0.0100	0.009638	
12 1,3-Dinitrobenzene	1	9.280	9.282	-0.002	2704	0.0100	0.009307	
13 Nitrobenzene	1	9.674	9.676	-0.002	1974	0.0100	0.0102	
15 Tetryl	1	9.994	10.002	-0.008	1572	0.0100	0.009504	
16 Nitroglycerin	2	10.447	10.456	-0.009	5028	0.1000	0.0814	M
17 2,4,6-Trinitrotoluene	1	10.900	10.909	-0.009	2064	0.0100	0.009786	
18 4-Amino-2,6-dinitrotoluene	1	11.107	11.109	-0.002	1306	0.0100	0.009019	
19 2-Amino-4,6-dinitrotoluene	1	11.354	11.362	-0.008	1917	0.0100	0.009818	
20 2,6-Dinitrotoluene	1	11.514	11.529	-0.015	1409	0.0100	0.0099	
21 2,4-Dinitrotoluene	1	11.687	11.696	-0.009	2903	0.0100	0.0100	
22 o-Nitrotoluene	1	12.560	12.556	0.004	1469	0.0100	0.0100	
23 p-Nitrotoluene	1	12.974	12.982	-0.008	1290	0.0100	0.0115	
24 m-Nitrotoluene	1	13.554	13.556	-0.002	1384	0.0100	0.0100	
25 PETN	2	14.607	14.609	-0.002	7087	0.1000	0.1077	Ma

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8330IntermStk_00072 Amount Added: 1.00 Units: uL

Report Date: 06-Jul-2022 12:46:55 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020019.d

Injection Date: 02-Jul-2022 16:09:58 Instrument ID: CHHPLC_X3 Operator ID:

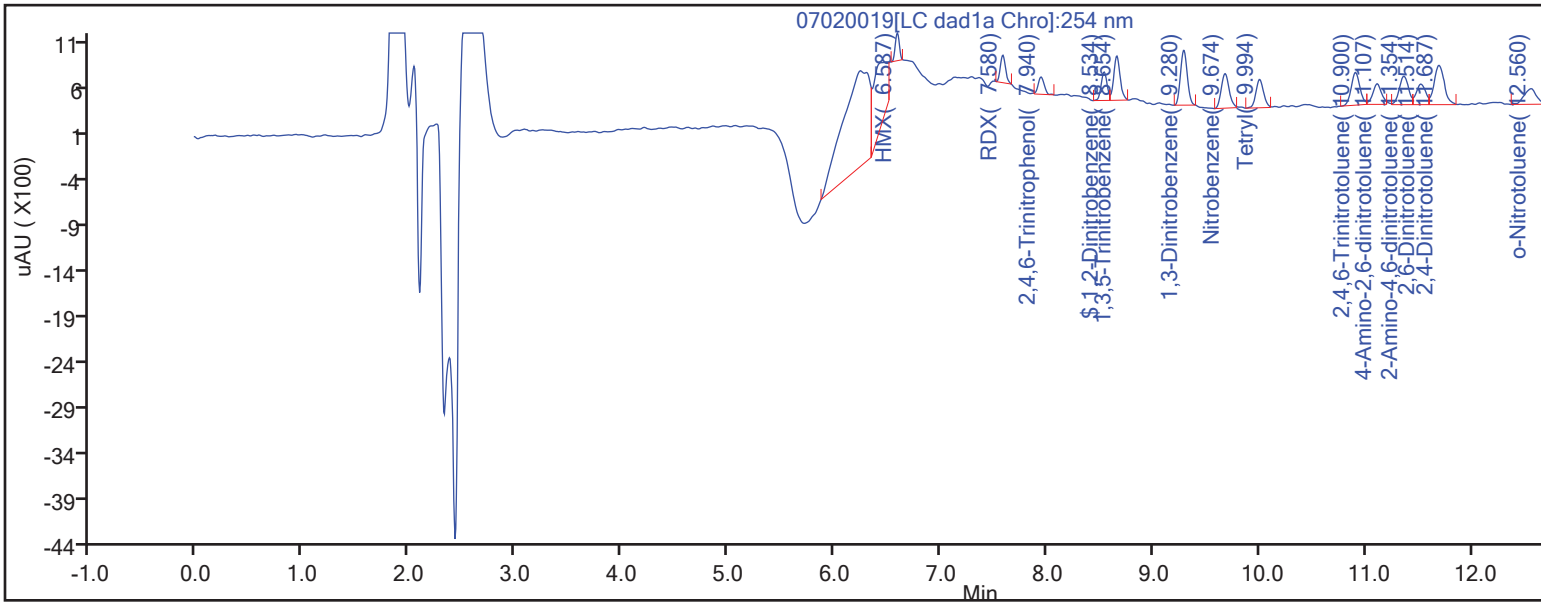
Lims ID: IC INT 1 Worklist Smp#:

Client ID:

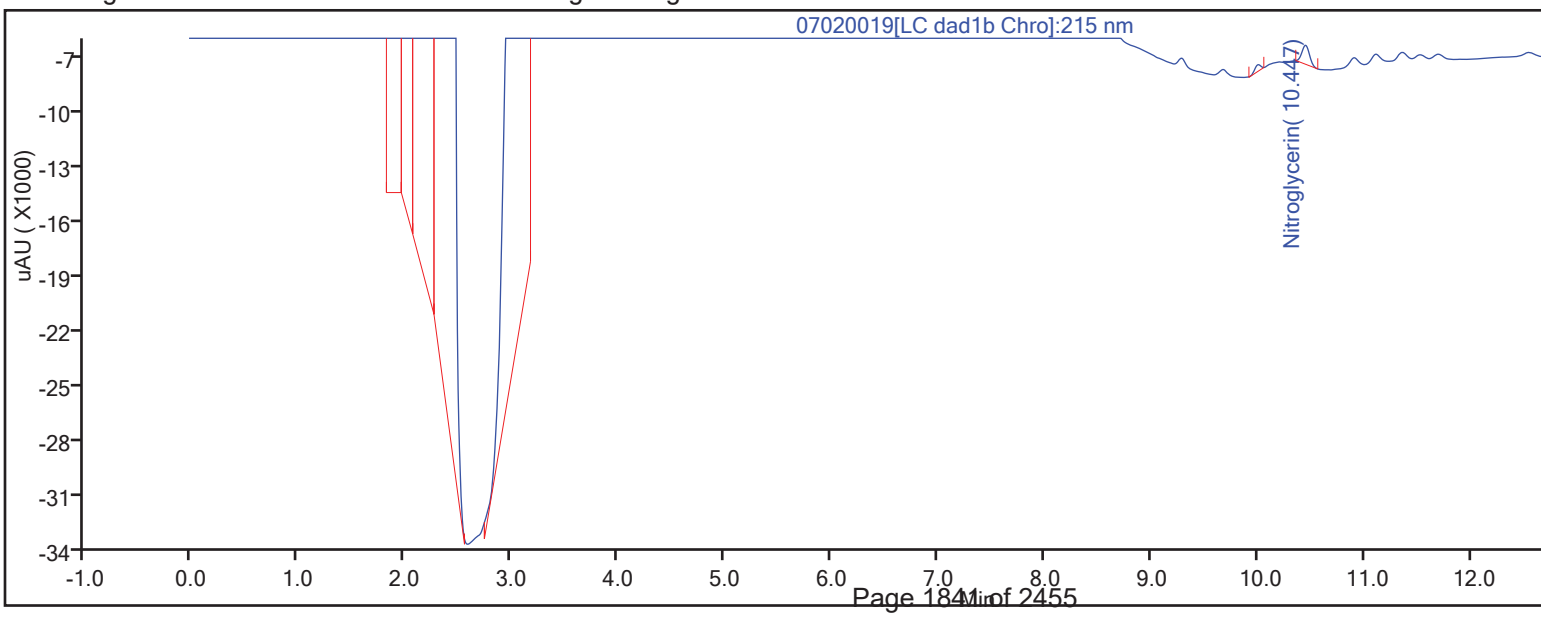
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

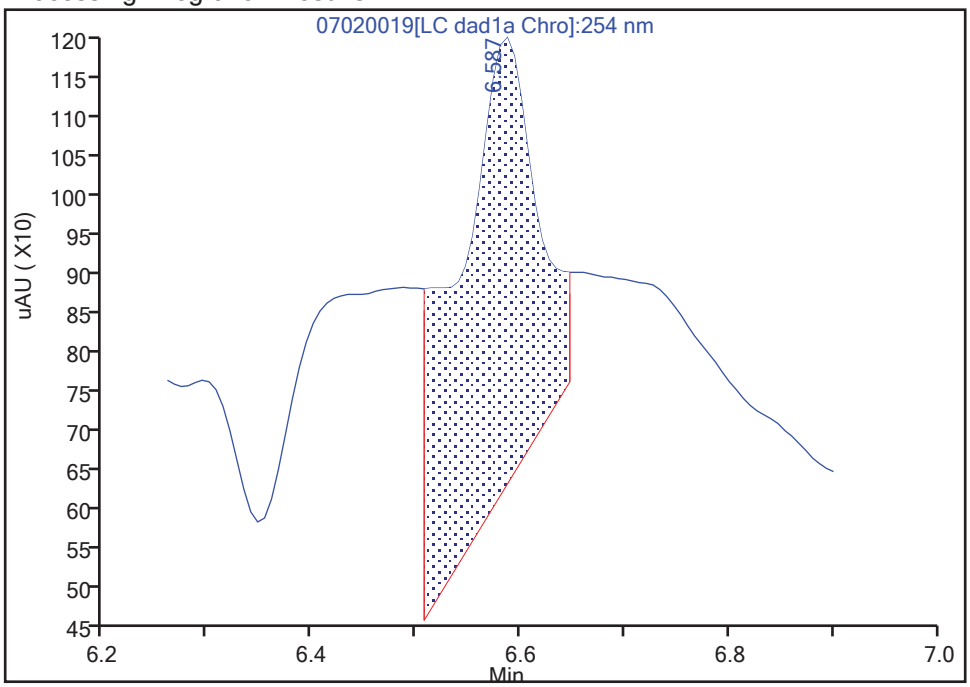
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020019.d
Injection Date: 02-Jul-2022 16:09:58 Instrument ID: CHHPLC_X3
Lims ID: IC INT 1
Client ID:
Operator ID: JZ ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

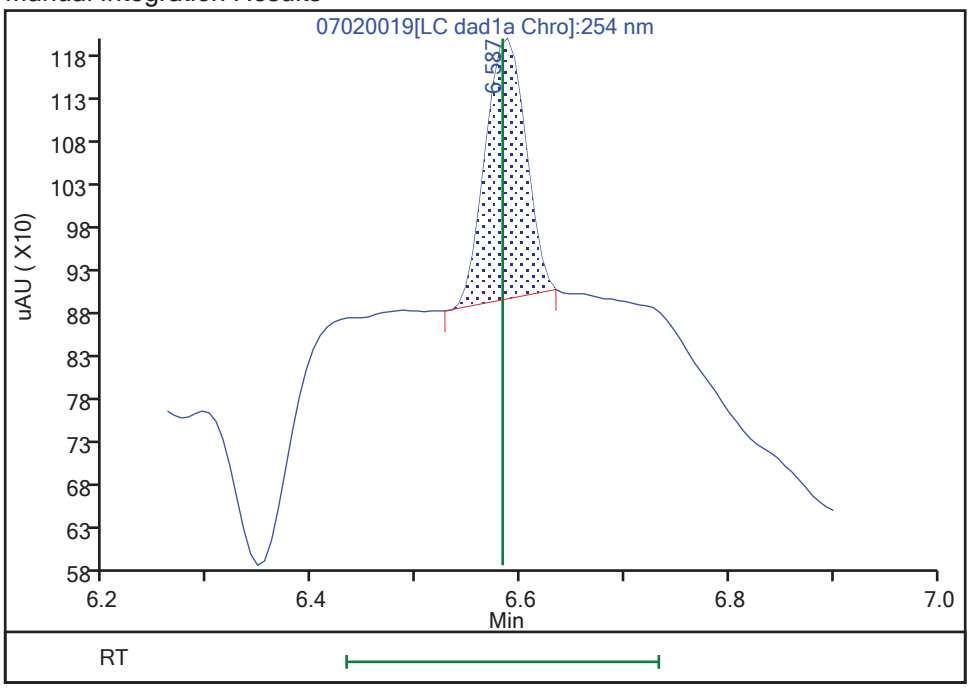
Processing Integration Results

RT: 6.59
Area: 3188
Amount: 0.027652
Amount Units: ug/mL



Manual Integration Results

RT: 6.59
Area: 818
Amount: 0.009195
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:13:00
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

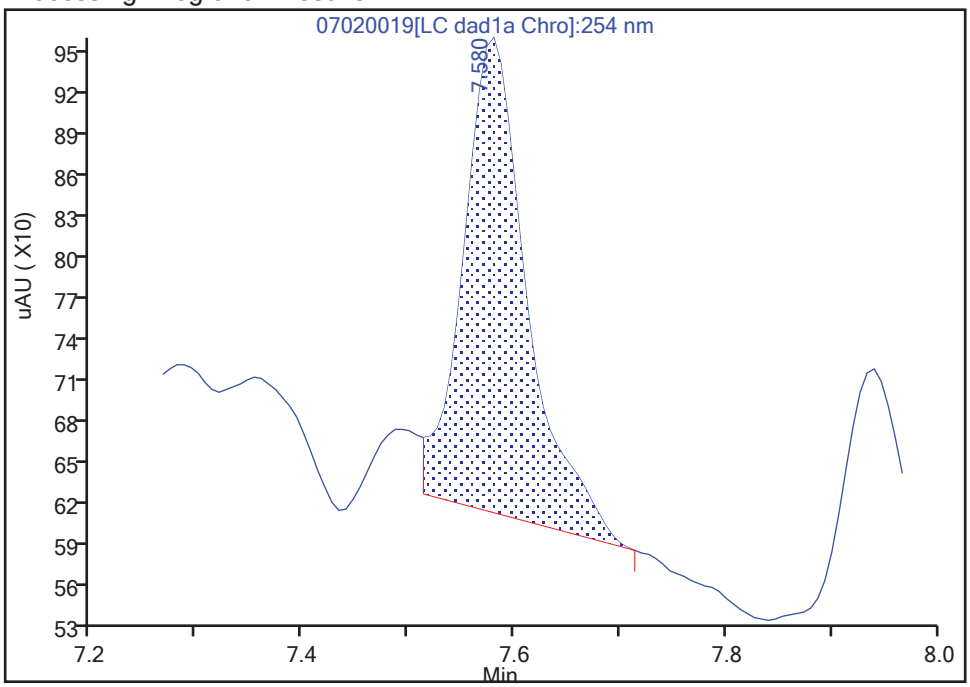
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020019.d
Injection Date: 02-Jul-2022 16:09:58 Instrument ID: CHHPLC_X3
Lims ID: IC INT 1
Client ID:
Operator ID: JZ ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

8 RDX, CAS: 121-82-4

Signal: 1

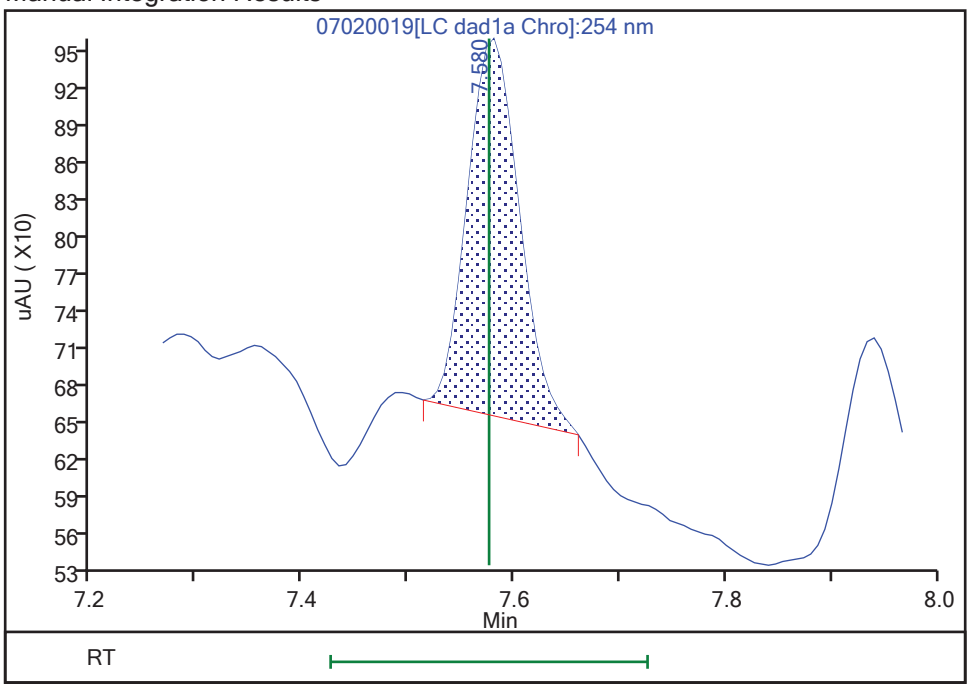
Processing Integration Results

RT: 7.58
Area: 1458
Amount: 0.012685
Amount Units: ug/mL



Manual Integration Results

RT: 7.58
Area: 1038
Amount: 0.009645
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:22:26
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

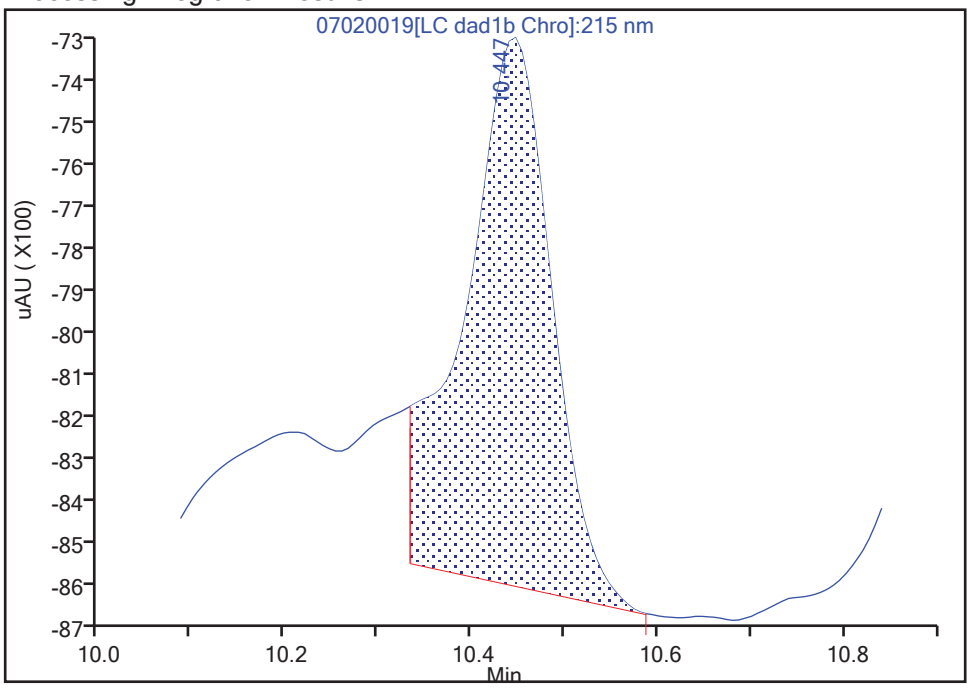
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020019.d
Injection Date: 02-Jul-2022 16:09:58 Instrument ID: CHHPLC_X3
Lims ID: IC INT 1
Client ID:
Operator ID: JZ ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: Detector LC DAD1C, 215 nm

16 Nitroglycerin, CAS: 55-63-0

Signal: 1

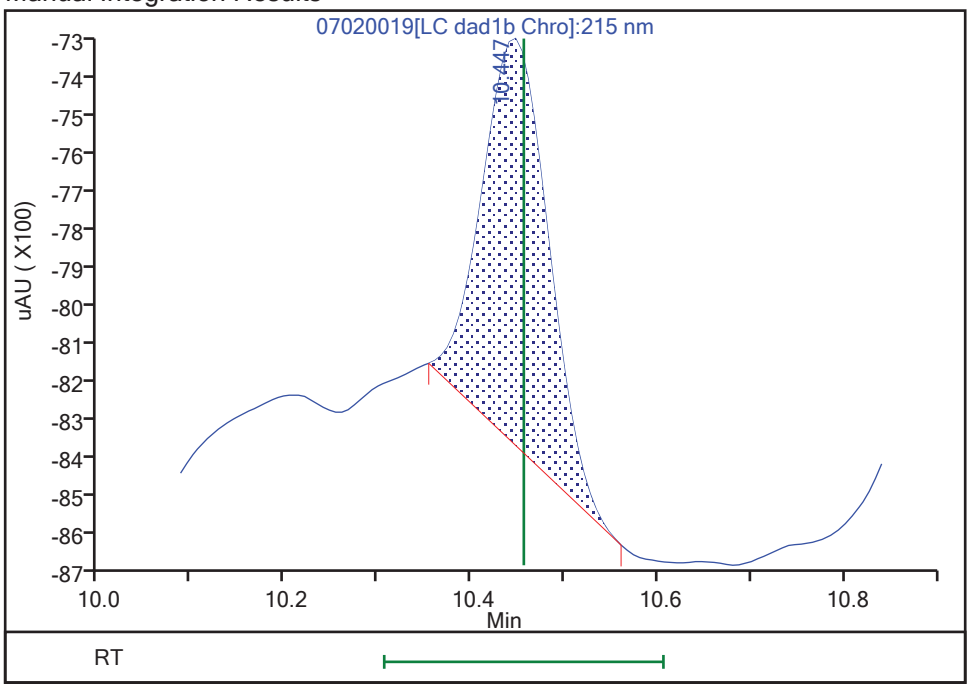
Processing Integration Results

RT: 10.45
Area: 8008
Amount: 0.123116
Amount Units: ug/mL



Manual Integration Results

RT: 10.45
Area: 5028
Amount: 0.081447
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:38:43
Audit Action: Manually Integrated Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

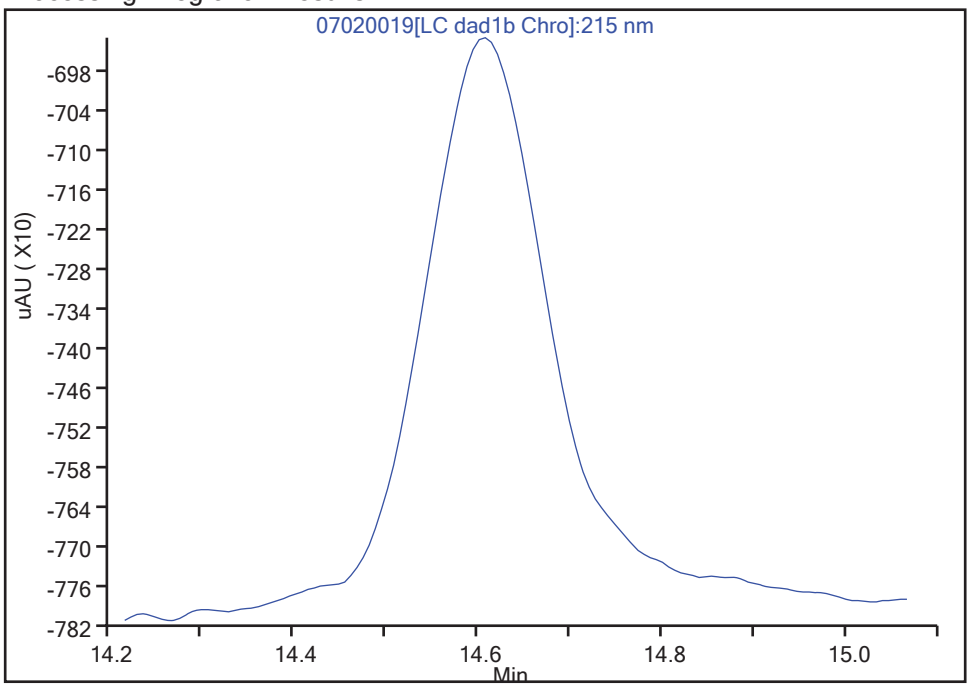
Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020019.d
Injection Date: 02-Jul-2022 16:09:58 Instrument ID: CHHPLC_X3
Lims ID: IC INT 1
Client ID:
Operator ID: JZ ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: Detector LC DAD1C, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

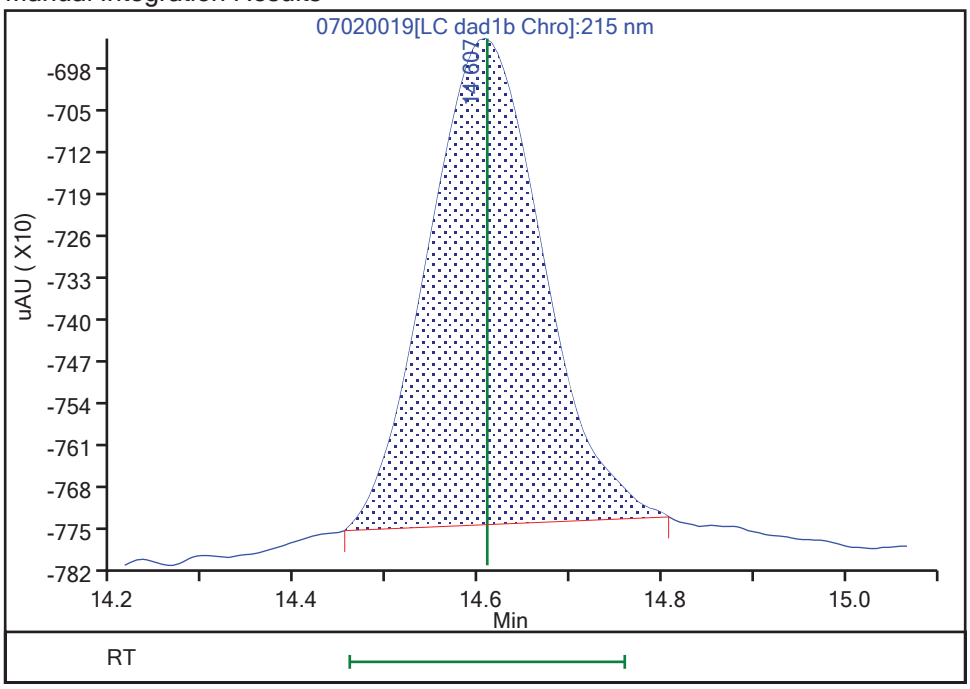
Not Detected
Expected RT: 14.61

Processing Integration Results



Manual Integration Results

RT: 14.61
Area: 7087
Amount: 0.107667
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:13:11
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline

Calibration / HMX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

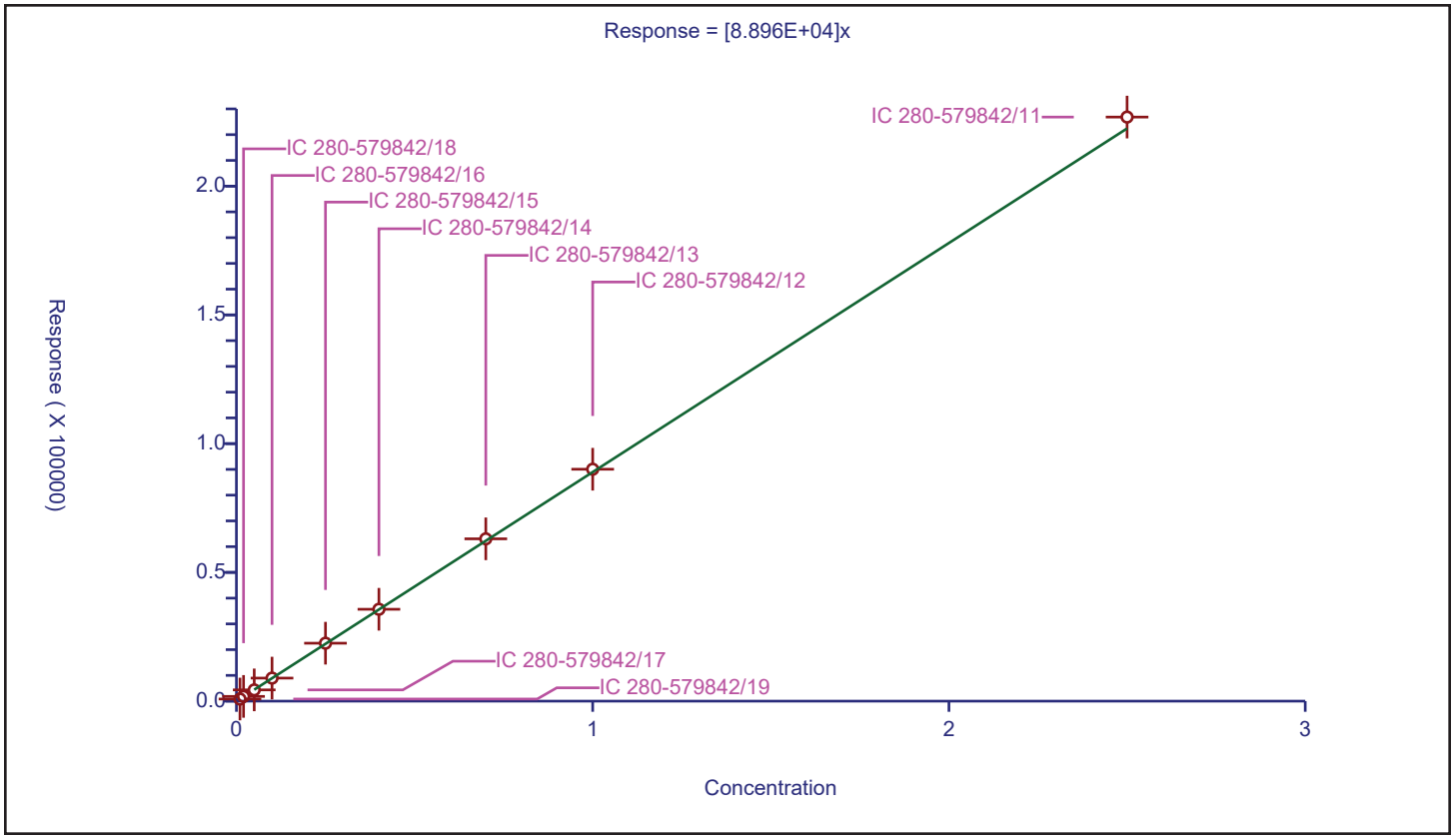
Curve Coefficients

Intercept:	0
Slope:	8.896E+04

Error Coefficients

Standard Error:	1640
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	818.0			81800.0	Y
2	IC 280-579842/18	0.02	1837.0			91850.0	Y
3	IC 280-579842/17	0.05	4370.0			87400.0	Y
4	IC 280-579842/16	0.1	8950.0			89500.0	Y
5	IC 280-579842/15	0.25	22503.0			90012.0	Y
6	IC 280-579842/14	0.4	35684.0			89210.0	Y
7	IC 280-579842/13	0.7	63041.0			90058.571429	Y
8	IC 280-579842/12	1.0	90060.0			90060.0	Y
9	IC 280-579842/11	2.5	226828.0			90731.2	Y



Calibration / RDX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

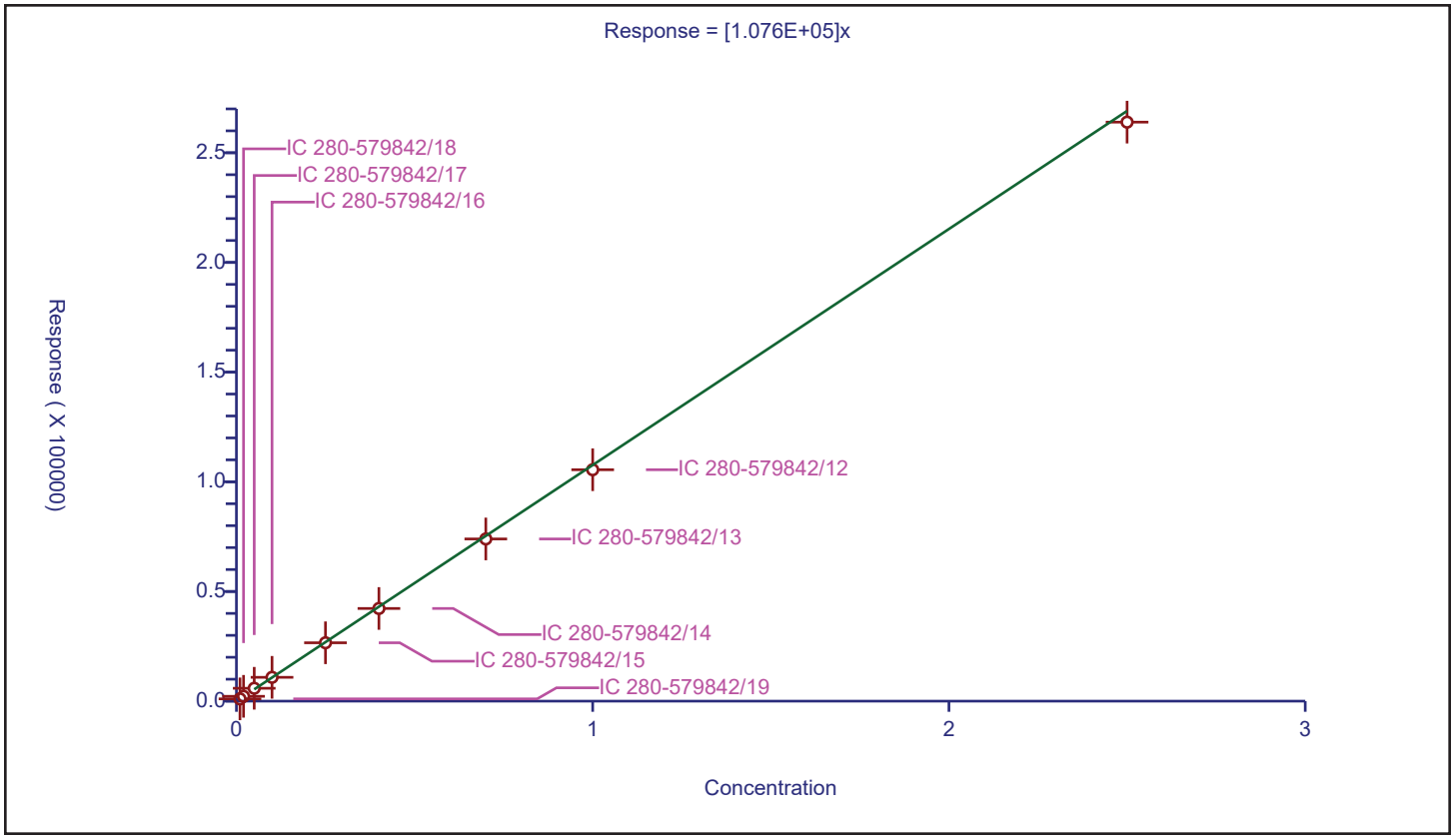
Curve Coefficients

Intercept:	0
Slope:	1.076E+05

Error Coefficients

Standard Error:	2050
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1038.0			103800.0	Y
2	IC 280-579842/18	0.02	2201.0			110050.0	Y
3	IC 280-579842/17	0.05	5867.0			117340.0	Y
4	IC 280-579842/16	0.1	10866.0			108660.0	Y
5	IC 280-579842/15	0.25	26612.0			106448.0	Y
6	IC 280-579842/14	0.4	42248.0			105620.0	Y
7	IC 280-579842/13	0.7	73939.0			105627.142857	Y
8	IC 280-579842/12	1.0	105502.0			105502.0	Y
9	IC 280-579842/11	2.5	263963.0			105585.2	Y



Calibration / 2,4,6-Trinitrophenol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

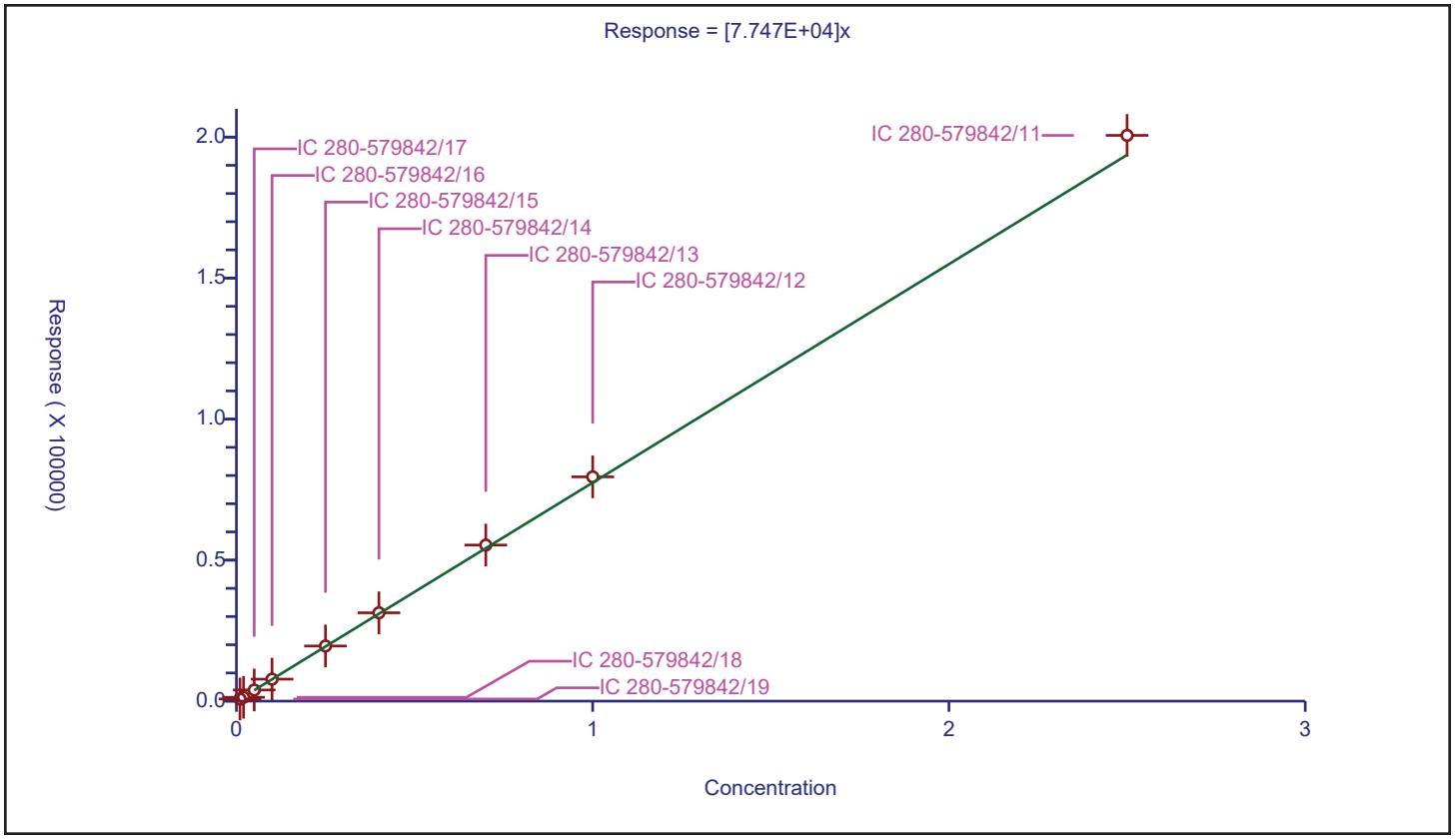
Curve Coefficients

Intercept:	0
Slope:	7.747E+04

Error Coefficients

Standard Error:	2590
Relative Standard Error:	4.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	764.0			76400.0	Y
2	IC 280-579842/18	0.02	1368.0			68400.0	Y
3	IC 280-579842/17	0.05	3956.0			79120.0	Y
4	IC 280-579842/16	0.1	7793.0			77930.0	Y
5	IC 280-579842/15	0.25	19554.0			78216.0	Y
6	IC 280-579842/14	0.4	31332.0			78330.0	Y
7	IC 280-579842/13	0.7	55349.0			79070.0	Y
8	IC 280-579842/12	1.0	79536.0			79536.0	Y
9	IC 280-579842/11	2.5	200603.0			80241.2	Y



Calibration / 1,2-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

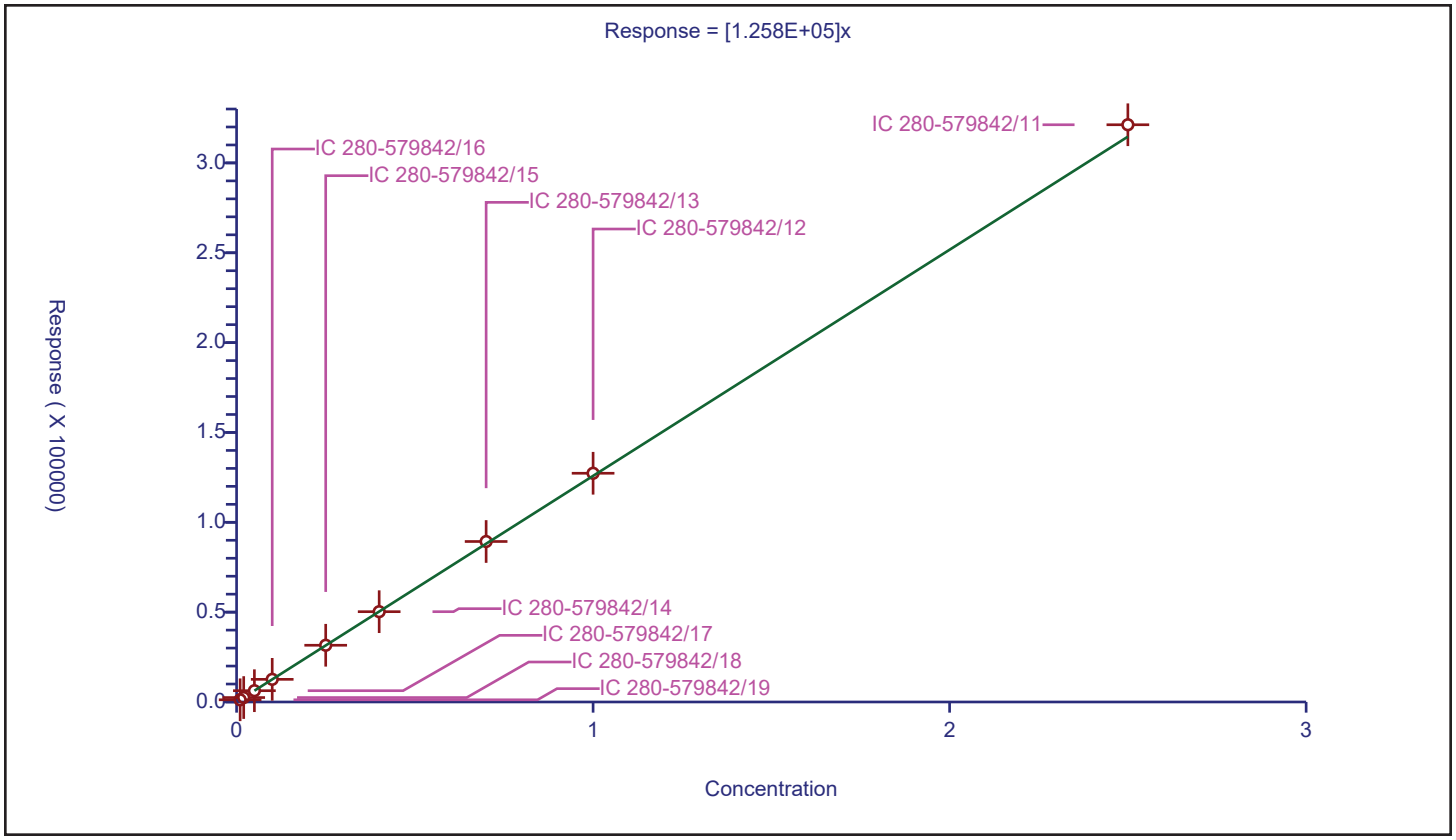
Curve Coefficients

Intercept:	0
Slope:	1.258E+05

Error Coefficients

Standard Error:	2440
Relative Standard Error:	1.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1218.0			121800.0	Y
2	IC 280-579842/18	0.02	2473.0			123650.0	Y
3	IC 280-579842/17	0.05	6282.0			125640.0	Y
4	IC 280-579842/16	0.1	12614.0			126140.0	Y
5	IC 280-579842/15	0.25	31580.0			126320.0	Y
6	IC 280-579842/14	0.4	50259.0			125647.5	Y
7	IC 280-579842/13	0.7	89317.0			127595.714286	Y
8	IC 280-579842/12	1.0	127299.0			127299.0	Y
9	IC 280-579842/11	2.5	321250.0			128500.0	Y



Calibration / 1,3,5-Trinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

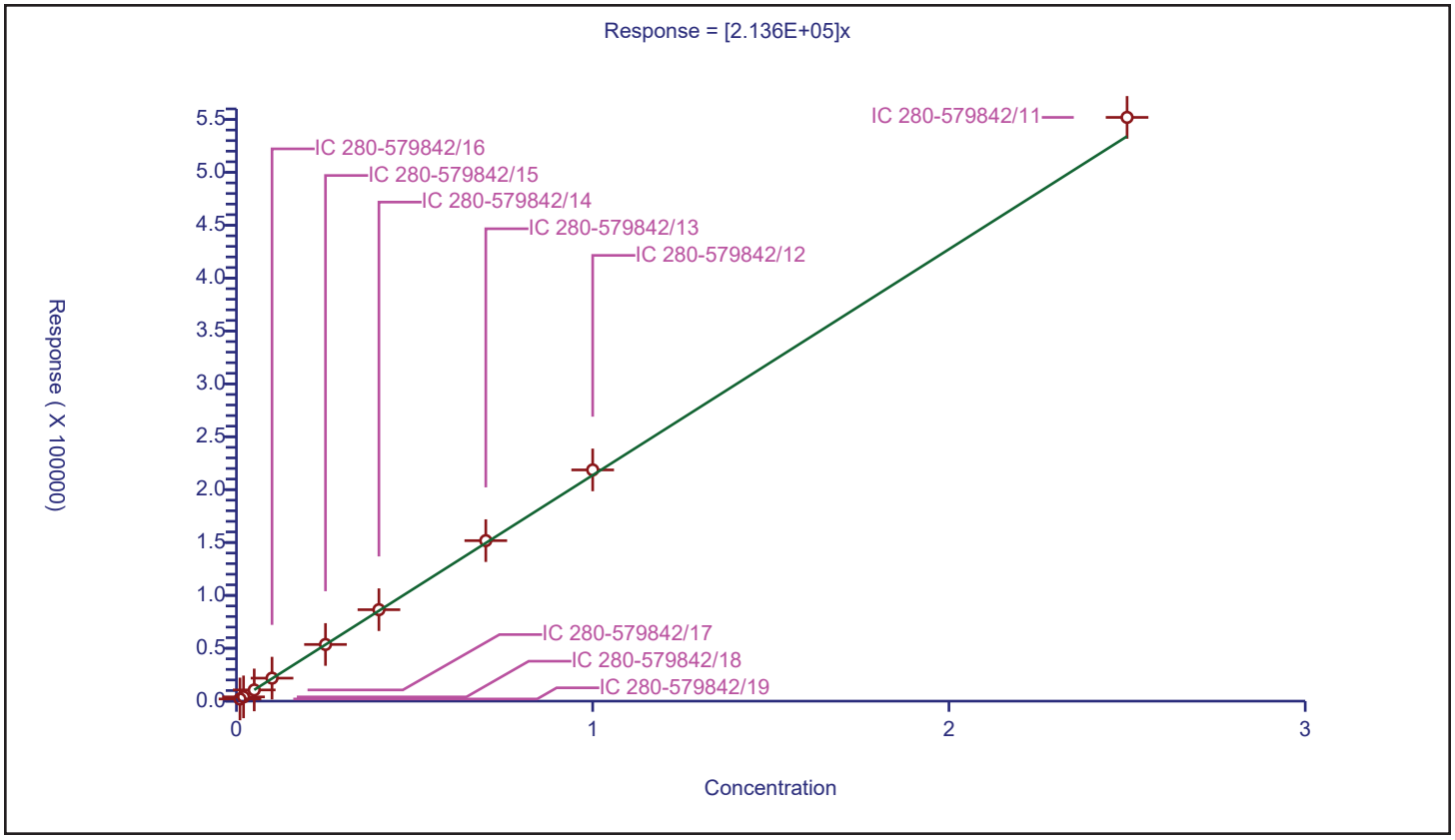
Curve Coefficients

Intercept:	0
Slope:	2.136E+05

Error Coefficients

Standard Error:	6610
Relative Standard Error:	3.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	2059.0			205900.0	Y
2	IC 280-579842/18	0.02	4024.0			201200.0	Y
3	IC 280-579842/17	0.05	10579.0			211580.0	Y
4	IC 280-579842/16	0.1	21745.0			217450.0	Y
5	IC 280-579842/15	0.25	53574.0			214296.0	Y
6	IC 280-579842/14	0.4	86458.0			216145.0	Y
7	IC 280-579842/13	0.7	151761.0			216801.428571	Y
8	IC 280-579842/12	1.0	218621.0			218621.0	Y
9	IC 280-579842/11	2.5	551962.0			220784.8	Y



Calibration / 1,3-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

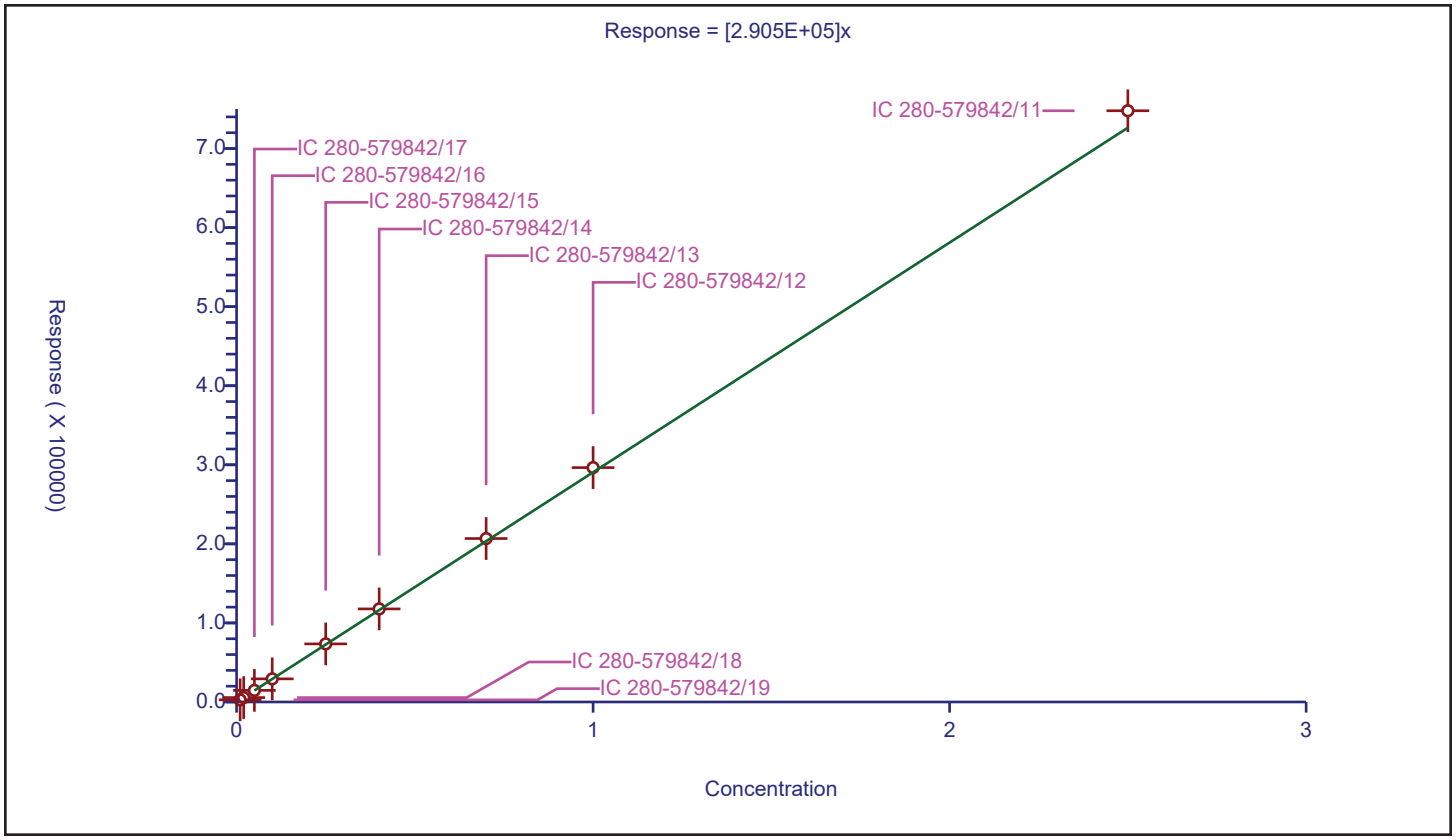
Curve Coefficients

Intercept:	0
Slope:	2.905E+05

Error Coefficients

Standard Error:	7980
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	2704.0			270400.0	Y
2	IC 280-579842/18	0.02	5575.0			278750.0	Y
3	IC 280-579842/17	0.05	14701.0			294020.0	Y
4	IC 280-579842/16	0.1	29256.0			292560.0	Y
5	IC 280-579842/15	0.25	73482.0			293928.0	Y
6	IC 280-579842/14	0.4	117714.0			294285.0	Y
7	IC 280-579842/13	0.7	206749.0			295355.714286	Y
8	IC 280-579842/12	1.0	296453.0			296453.0	Y
9	IC 280-579842/11	2.5	747792.0			299116.8	Y



Calibration / Nitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

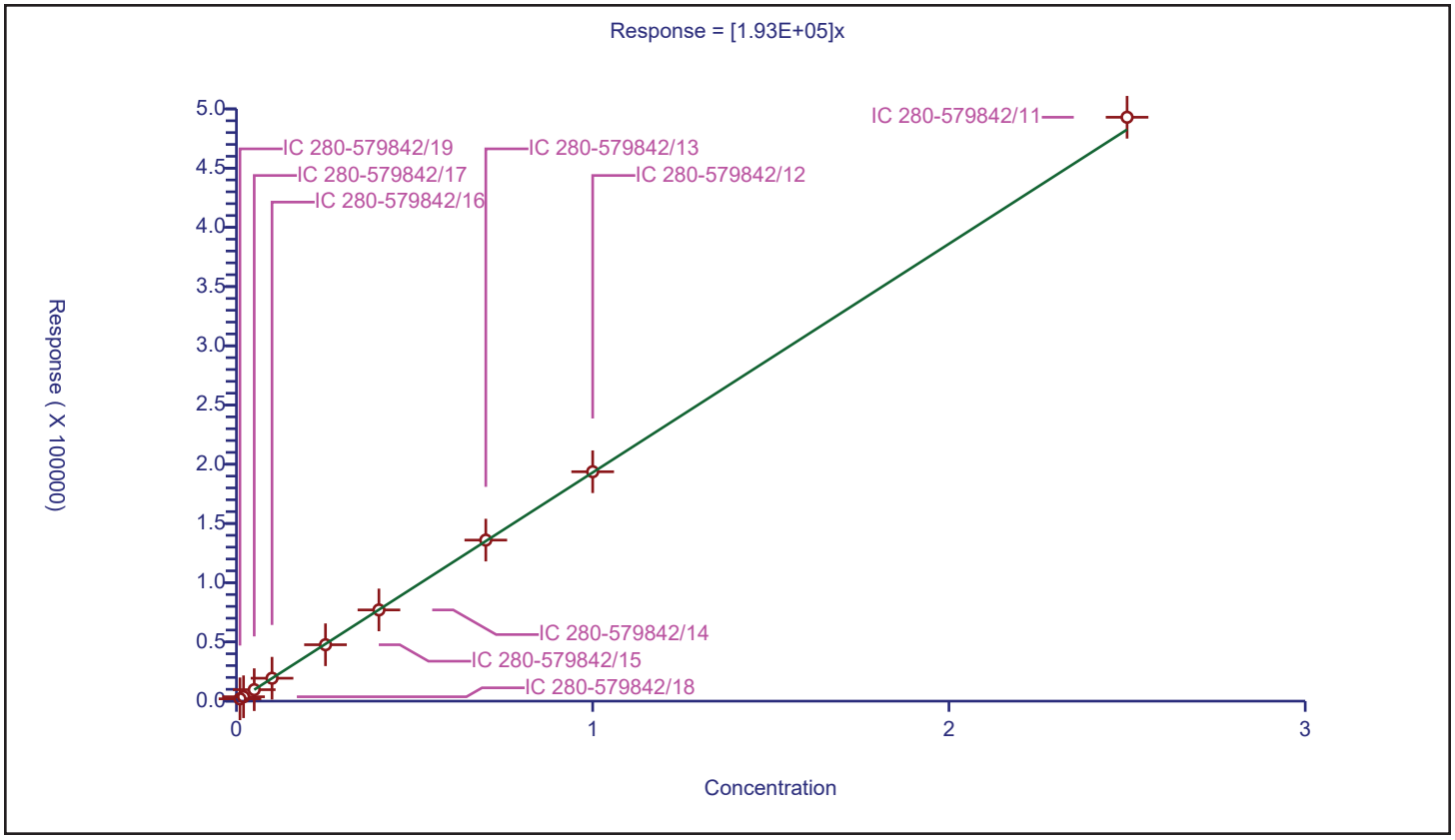
Curve Coefficients

Intercept:	0
Slope:	1.93E+05

Error Coefficients

Standard Error:	3690
Relative Standard Error:	1.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1974.0			197400.0	Y
2	IC 280-579842/18	0.02	3700.0			185000.0	Y
3	IC 280-579842/17	0.05	9672.0			193440.0	Y
4	IC 280-579842/16	0.1	19340.0			193400.0	Y
5	IC 280-579842/15	0.25	47618.0			190472.0	Y
6	IC 280-579842/14	0.4	76993.0			192482.5	Y
7	IC 280-579842/13	0.7	135964.0			194234.285714	Y
8	IC 280-579842/12	1.0	193673.0			193673.0	Y
9	IC 280-579842/11	2.5	492934.0			197173.6	Y



Calibration / Tetryl

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

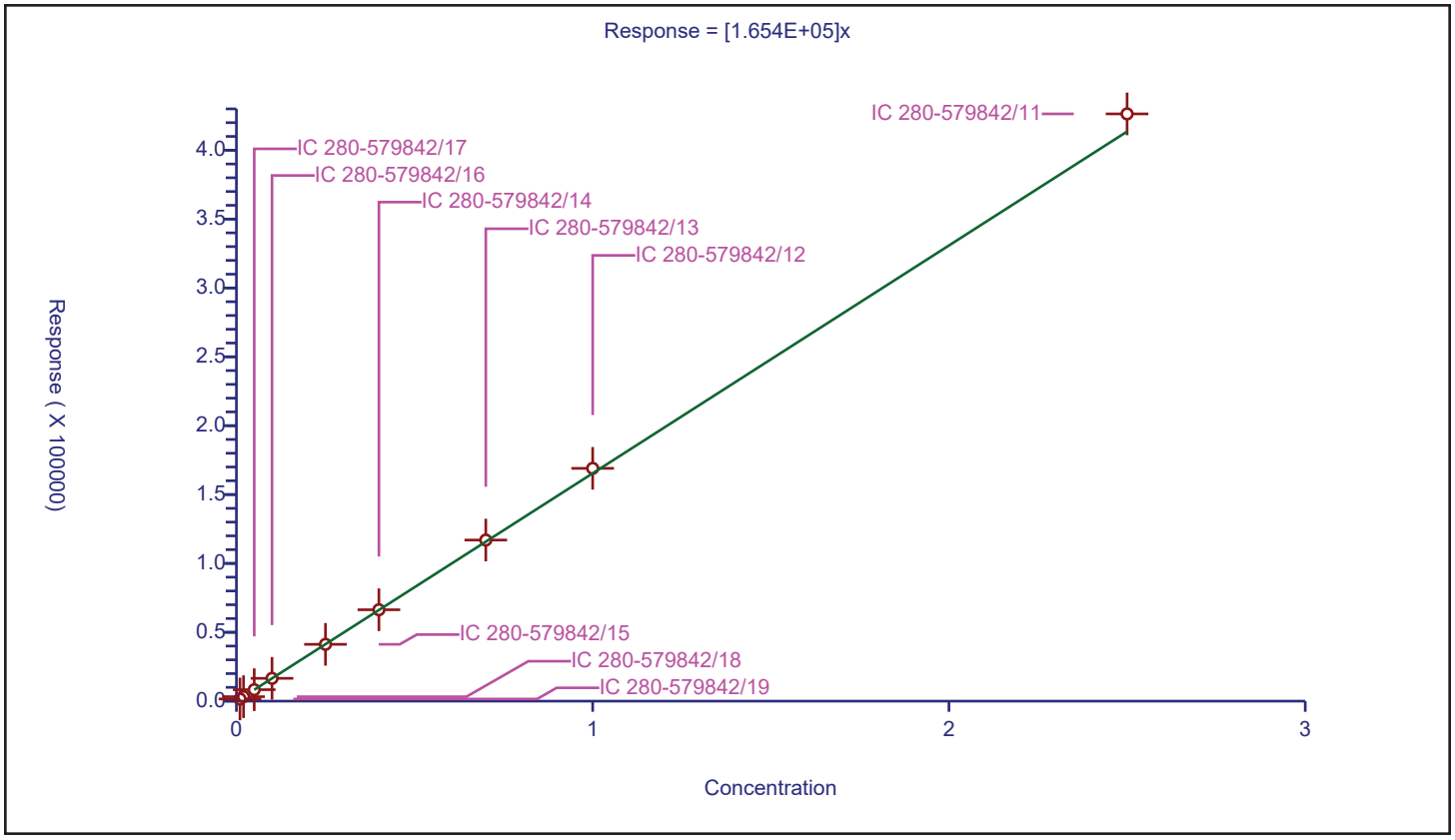
Curve Coefficients

Intercept:	0
Slope:	1.654E+05

Error Coefficients

Standard Error:	4730
Relative Standard Error:	2.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1572.0			157200.0	Y
2	IC 280-579842/18	0.02	3237.0			161850.0	Y
3	IC 280-579842/17	0.05	8324.0			166480.0	Y
4	IC 280-579842/16	0.1	16555.0			165550.0	Y
5	IC 280-579842/15	0.25	41265.0			165060.0	Y
6	IC 280-579842/14	0.4	66364.0			165910.0	Y
7	IC 280-579842/13	0.7	116964.0			167091.428571	Y
8	IC 280-579842/12	1.0	169019.0			169019.0	Y
9	IC 280-579842/11	2.5	426361.0			170544.4	Y



Calibration / Nitroglycerin

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

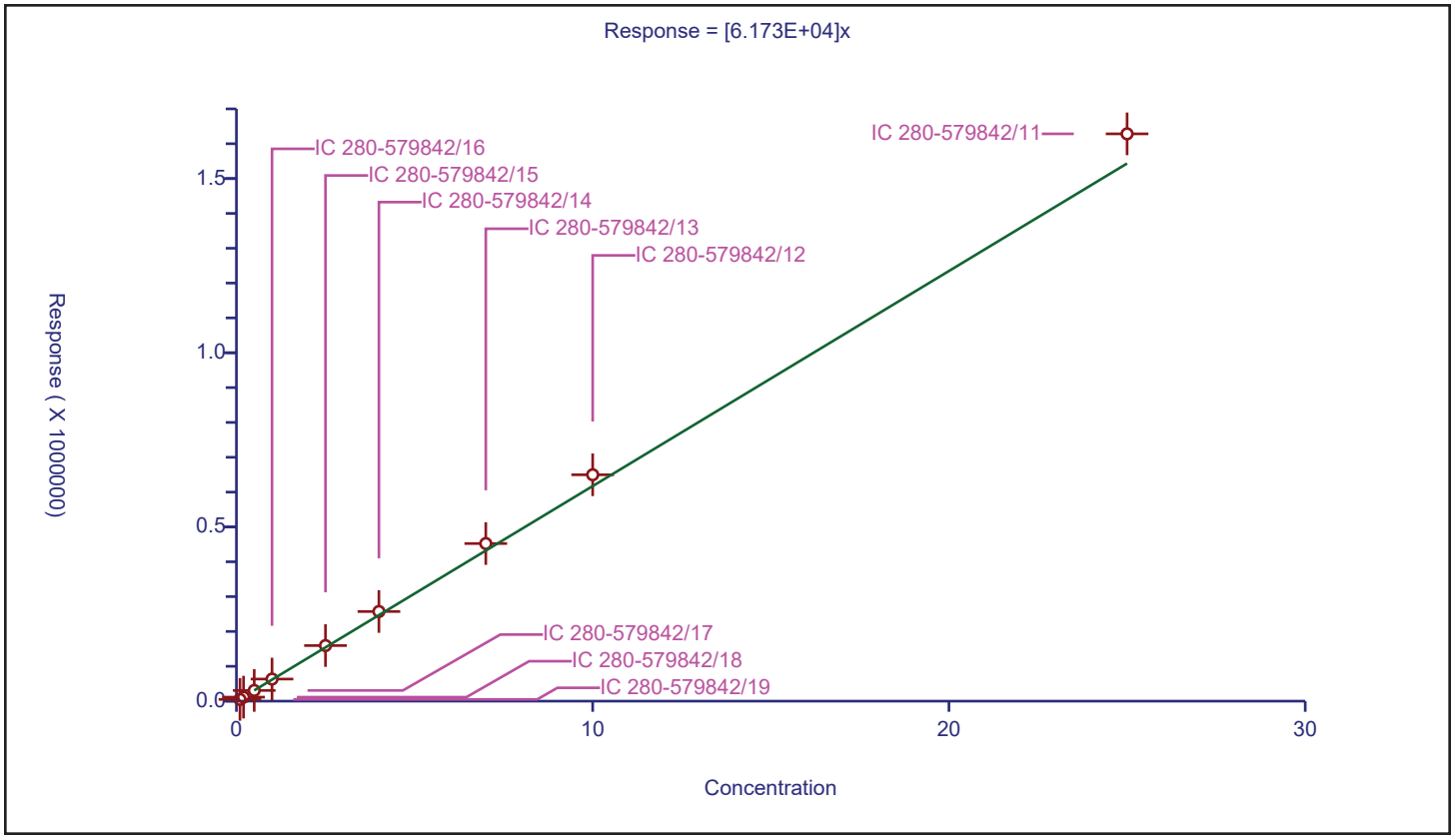
Curve Coefficients

Intercept:	0
Slope:	6.173E+04

Error Coefficients

Standard Error:	33200
Relative Standard Error:	8.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.1	5028.0			50280.0	Y
2	IC 280-579842/18	0.2	11512.0			57560.0	Y
3	IC 280-579842/17	0.5	30710.0			61420.0	Y
4	IC 280-579842/16	1.0	63449.0			63449.0	Y
5	IC 280-579842/15	2.5	159539.0			63815.6	Y
6	IC 280-579842/14	4.0	257331.0			64332.75	Y
7	IC 280-579842/13	7.0	452401.0			64628.714286	Y
8	IC 280-579842/12	10.0	649807.0			64980.7	Y
9	IC 280-579842/11	25.0	1628353.0			65134.12	Y



Calibration / 2,4,6-Trinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

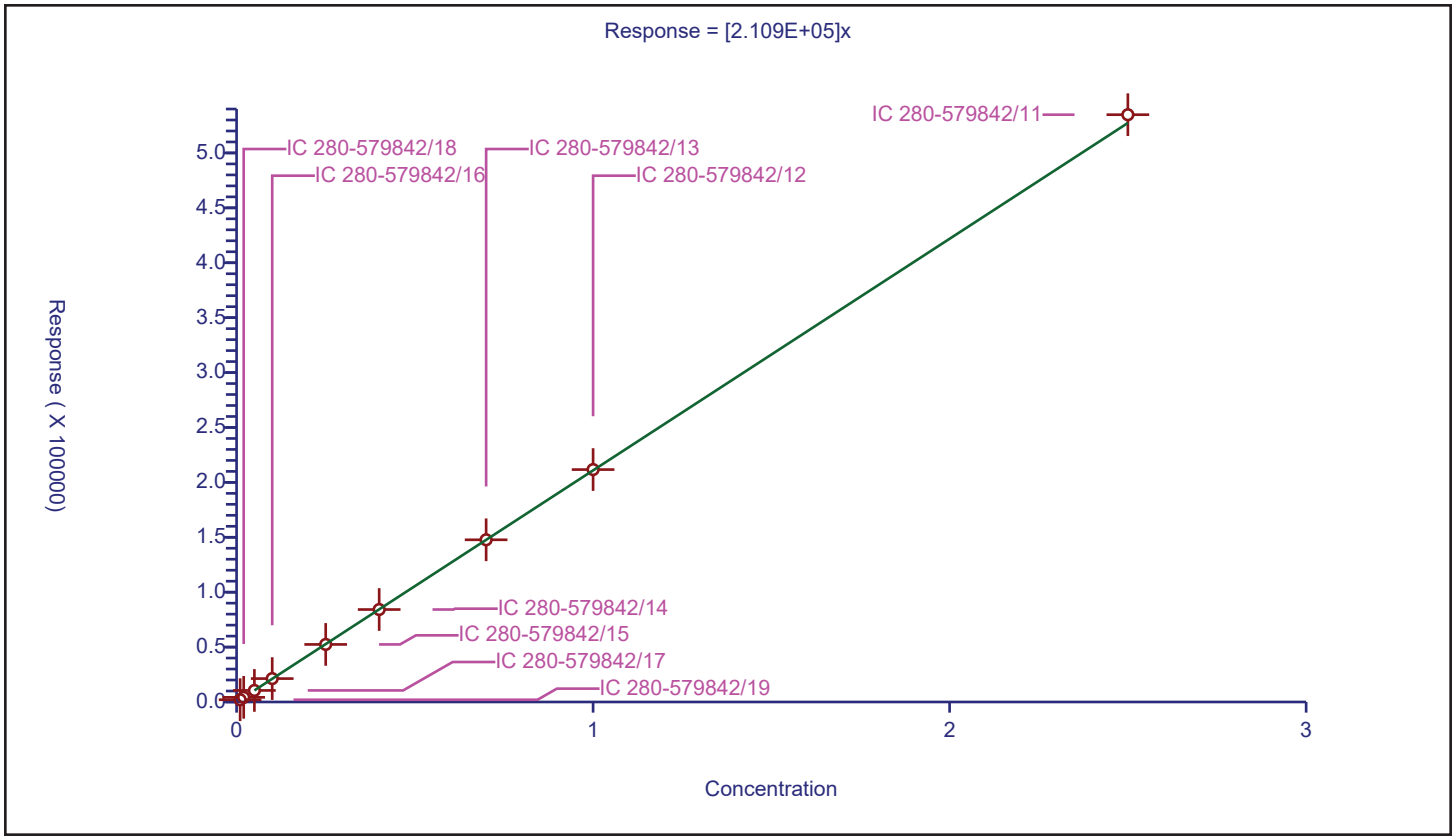
Curve Coefficients

Intercept:	0
Slope:	2.109E+05

Error Coefficients

Standard Error:	2680
Relative Standard Error:	1.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	2064.0			206400.0	Y
2	IC 280-579842/18	0.02	4234.0			211700.0	Y
3	IC 280-579842/17	0.05	10515.0			210300.0	Y
4	IC 280-579842/16	0.1	21307.0			213070.0	Y
5	IC 280-579842/15	0.25	52419.0			209676.0	Y
6	IC 280-579842/14	0.4	84196.0			210490.0	Y
7	IC 280-579842/13	0.7	147715.0			211021.428571	Y
8	IC 280-579842/12	1.0	211659.0			211659.0	Y
9	IC 280-579842/11	2.5	534815.0			213926.0	Y



Calibration / 4-Amino-2,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

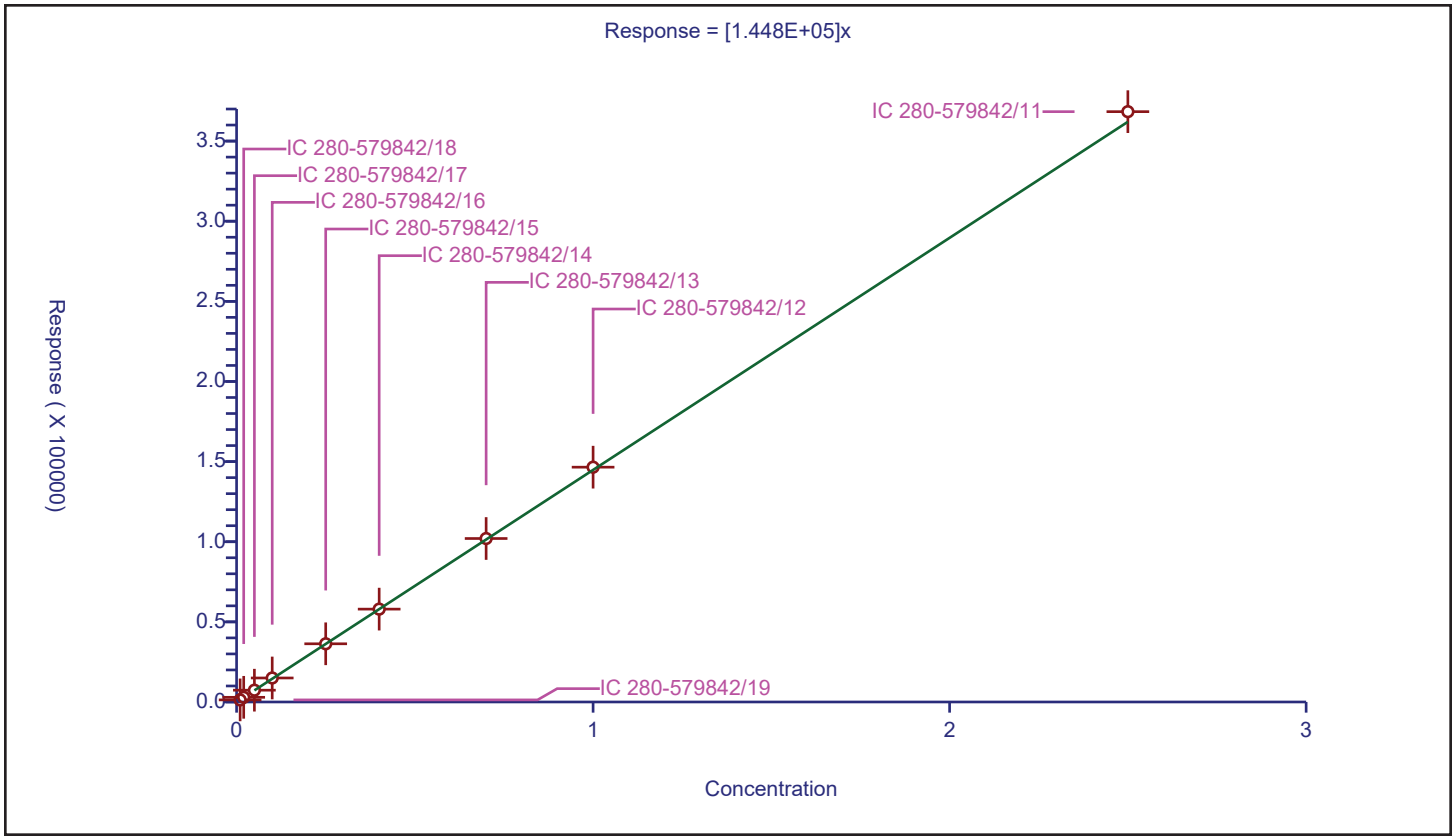
Curve Coefficients

Intercept:	0
Slope:	1.448E+05

Error Coefficients

Standard Error:	2340
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1306.0			130600.0	Y
2	IC 280-579842/18	0.02	2917.0			145850.0	Y
3	IC 280-579842/17	0.05	7366.0			147320.0	Y
4	IC 280-579842/16	0.1	14976.0			149760.0	Y
5	IC 280-579842/15	0.25	36312.0			145248.0	Y
6	IC 280-579842/14	0.4	57952.0			144880.0	Y
7	IC 280-579842/13	0.7	102005.0			145721.428571	Y
8	IC 280-579842/12	1.0	146514.0			146514.0	Y
9	IC 280-579842/11	2.5	368358.0			147343.2	Y



Calibration / 2-Amino-4,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

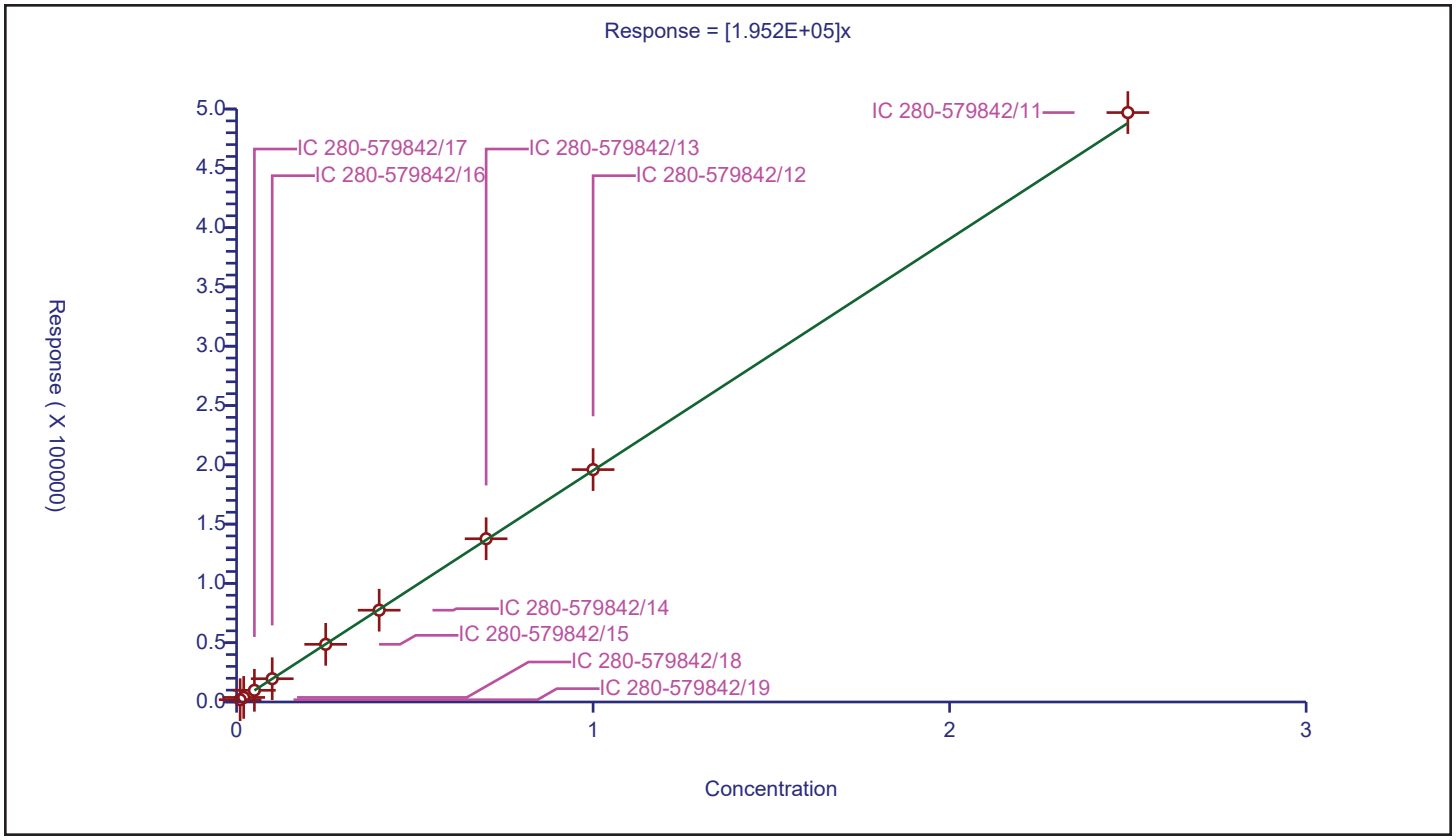
Curve Coefficients

Intercept:	0
Slope:	1.952E+05

Error Coefficients

Standard Error:	3180
Relative Standard Error:	1.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1917.0			191700.0	Y
2	IC 280-579842/18	0.02	3856.0			192800.0	Y
3	IC 280-579842/17	0.05	9853.0			197060.0	Y
4	IC 280-579842/16	0.1	19626.0			196260.0	Y
5	IC 280-579842/15	0.25	48620.0			194480.0	Y
6	IC 280-579842/14	0.4	77415.0			193537.5	Y
7	IC 280-579842/13	0.7	137651.0			196644.285714	Y
8	IC 280-579842/12	1.0	195945.0			195945.0	Y
9	IC 280-579842/11	2.5	497006.0			198802.4	Y



Calibration / 2,6-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

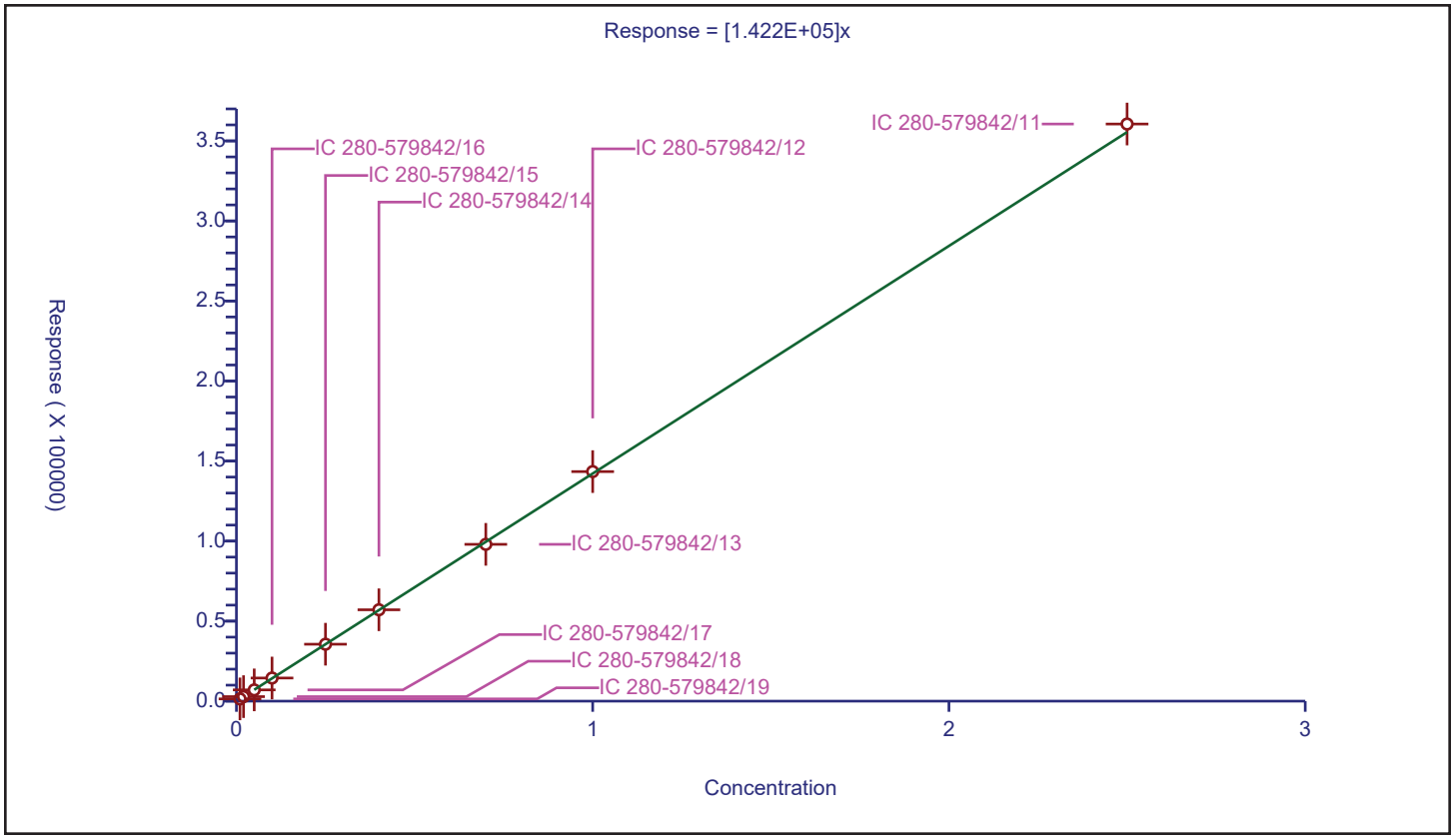
Curve Coefficients

Intercept:	0
Slope:	1.422E+05

Error Coefficients

Standard Error:	1930
Relative Standard Error:	1.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1409.0			140900.0	Y
2	IC 280-579842/18	0.02	2825.0			141250.0	Y
3	IC 280-579842/17	0.05	7028.0			140560.0	Y
4	IC 280-579842/16	0.1	14444.0			144440.0	Y
5	IC 280-579842/15	0.25	35567.0			142268.0	Y
6	IC 280-579842/14	0.4	57084.0			142710.0	Y
7	IC 280-579842/13	0.7	97957.0			139938.571429	Y
8	IC 280-579842/12	1.0	143409.0			143409.0	Y
9	IC 280-579842/11	2.5	360550.0			144220.0	Y



Calibration / 2,4-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

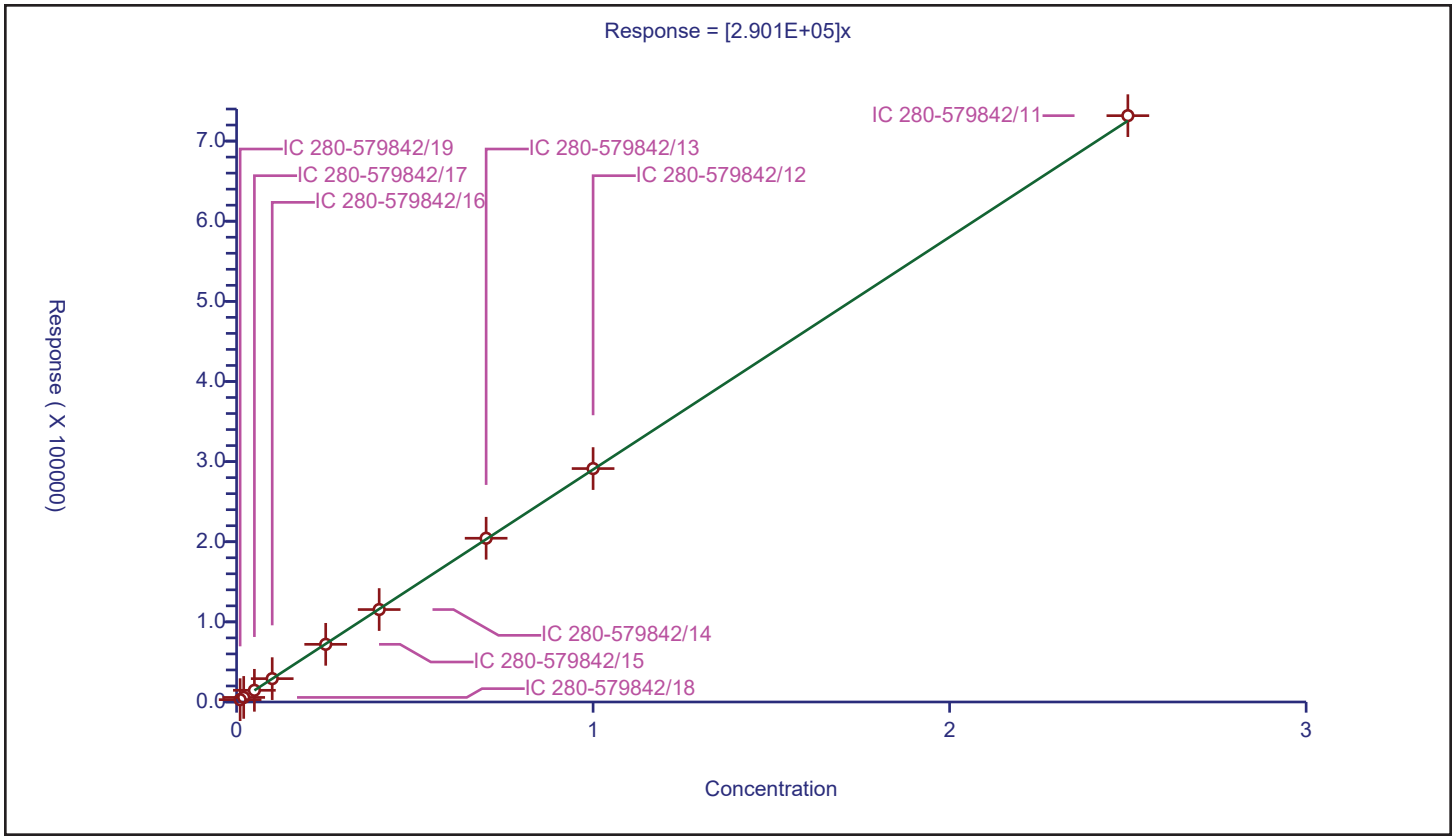
Curve Coefficients

Intercept:	0
Slope:	2.901E+05

Error Coefficients

Standard Error:	2380
Relative Standard Error:	0.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	2903.0			290300.0	Y
2	IC 280-579842/18	0.02	5698.0			284900.0	Y
3	IC 280-579842/17	0.05	14609.0			292180.0	Y
4	IC 280-579842/16	0.1	29138.0			291380.0	Y
5	IC 280-579842/15	0.25	71968.0			287872.0	Y
6	IC 280-579842/14	0.4	115375.0			288437.5	Y
7	IC 280-579842/13	0.7	204362.0			291945.714286	Y
8	IC 280-579842/12	1.0	291289.0			291289.0	Y
9	IC 280-579842/11	2.5	731710.0			292684.0	Y



Calibration / o-Nitrotoluene

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

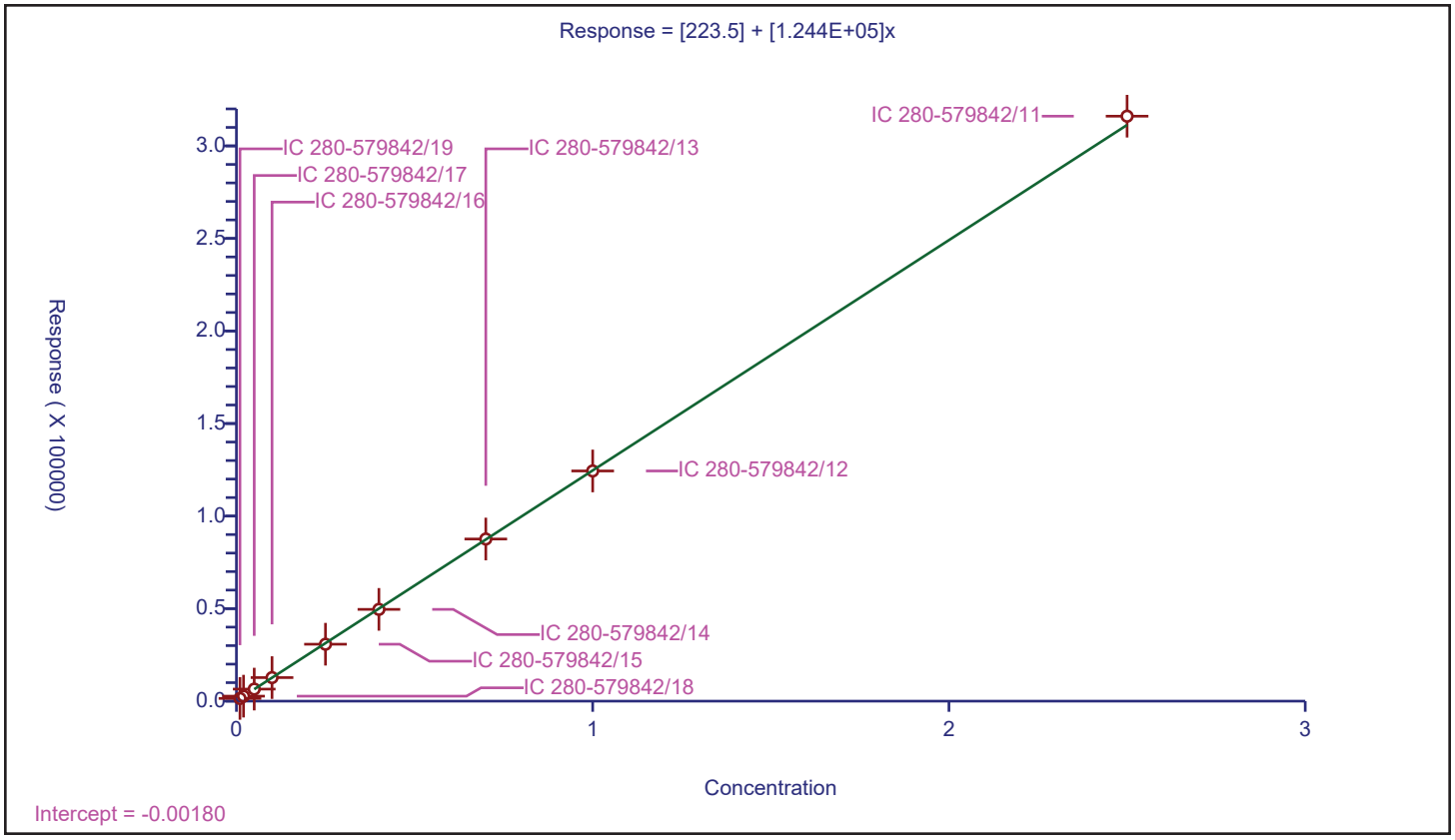
Curve Coefficients

Intercept:	223.5
Slope:	1.244E+05

Error Coefficients

Standard Error:	1820
Relative Standard Error:	1.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1469.0			146900.0	Y
2	IC 280-579842/18	0.02	2699.0			134950.0	Y
3	IC 280-579842/17	0.05	6512.0			130240.0	Y
4	IC 280-579842/16	0.1	12722.0			127220.0	Y
5	IC 280-579842/15	0.25	30756.0			123024.0	Y
6	IC 280-579842/14	0.4	49579.0			123947.5	Y
7	IC 280-579842/13	0.7	87600.0			125142.857143	Y
8	IC 280-579842/12	1.0	124372.0			124372.0	Y
9	IC 280-579842/11	2.5	316051.0			126420.4	Y



Calibration / p-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

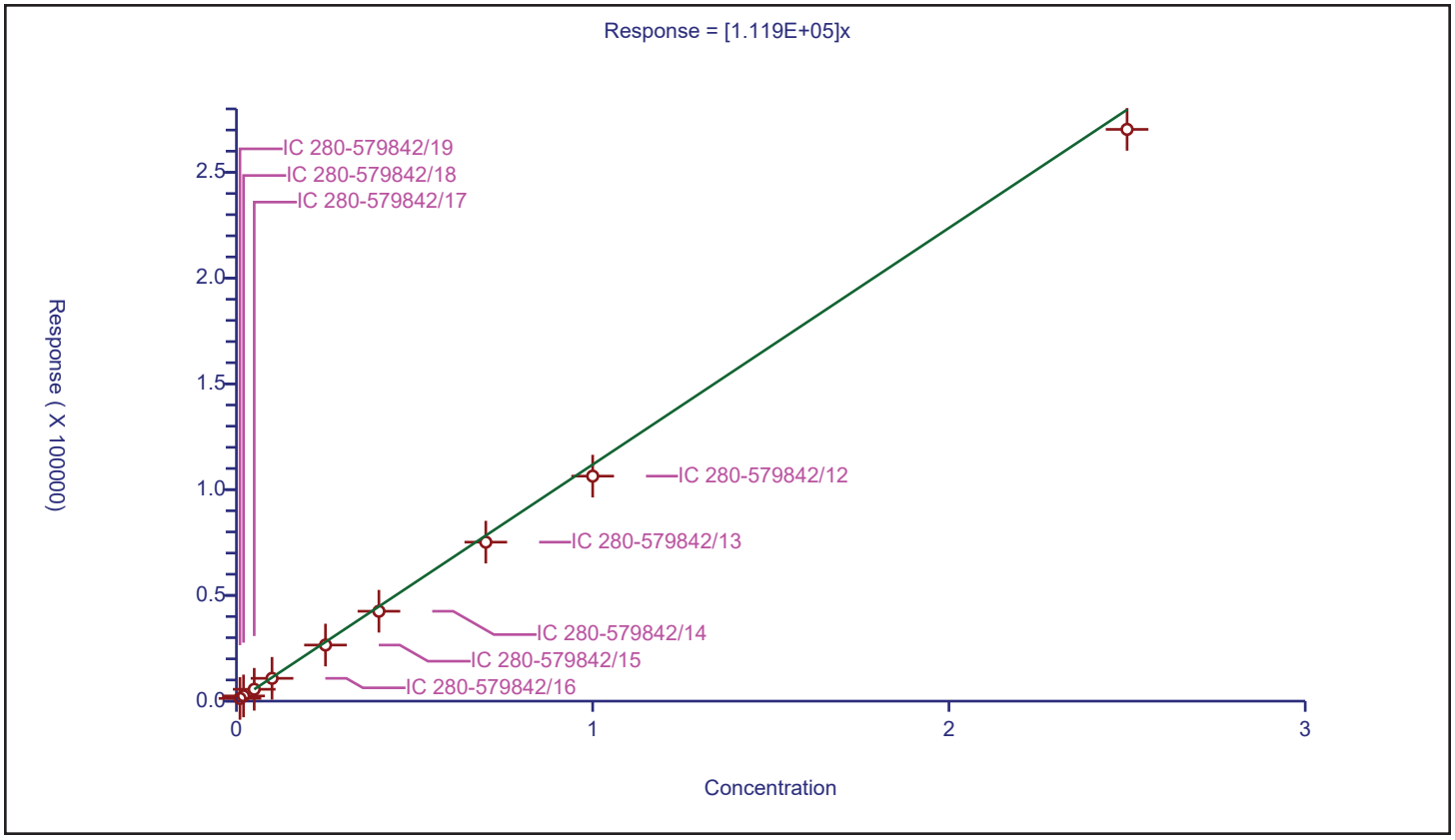
Curve Coefficients

Intercept:	0
Slope:	1.119E+05

Error Coefficients

Standard Error:	4090
Relative Standard Error:	7.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.992

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1290.0			129000.0	Y
2	IC 280-579842/18	0.02	2466.0			123300.0	Y
3	IC 280-579842/17	0.05	5614.0			112280.0	Y
4	IC 280-579842/16	0.1	10782.0			107820.0	Y
5	IC 280-579842/15	0.25	26525.0			106100.0	Y
6	IC 280-579842/14	0.4	42509.0			106272.5	Y
7	IC 280-579842/13	0.7	75163.0			107375.714286	Y
8	IC 280-579842/12	1.0	106384.0			106384.0	Y
9	IC 280-579842/11	2.5	270314.0			108125.6	Y



Calibration / m-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

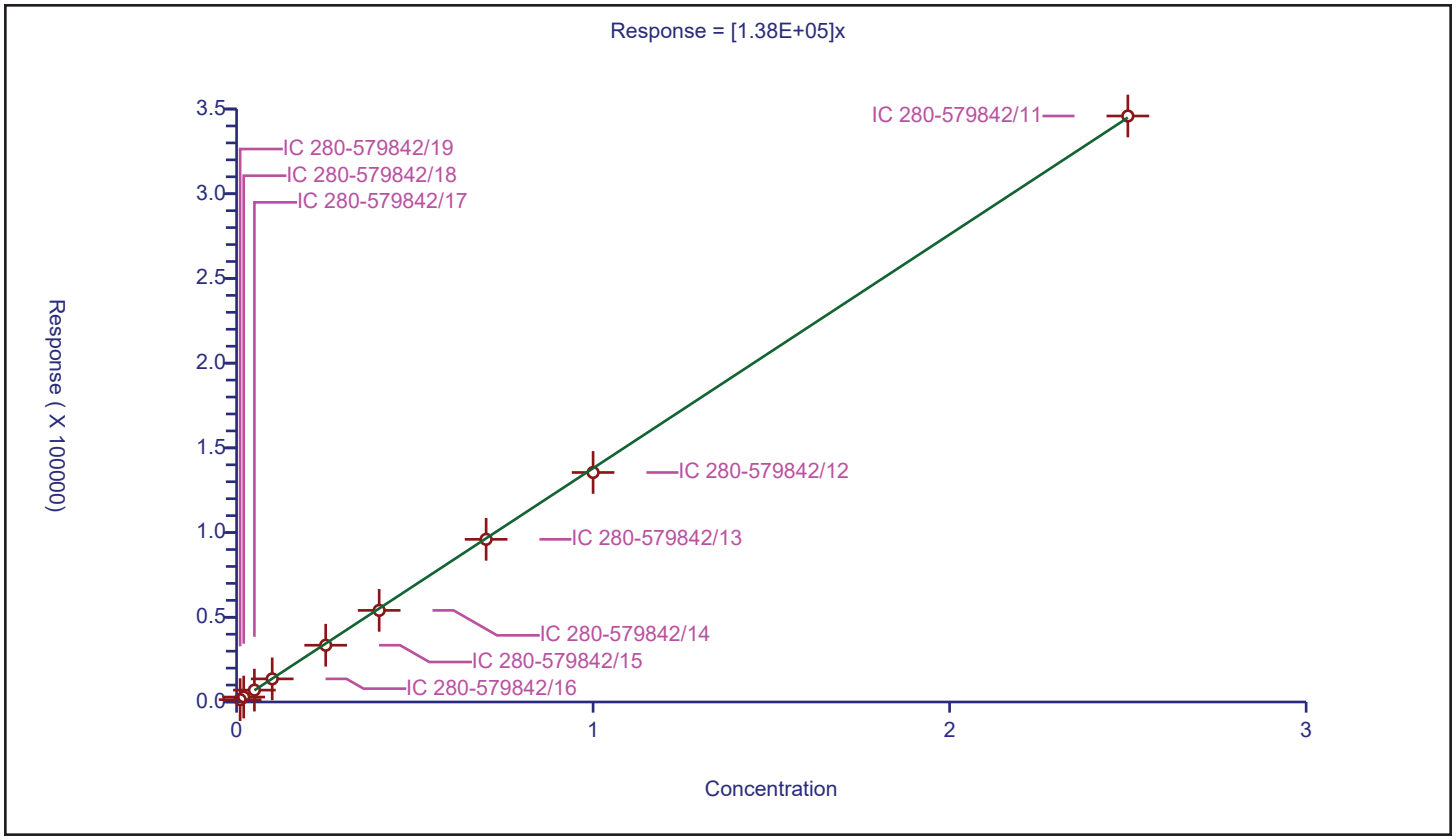
Curve Coefficients

Intercept:	0
Slope:	1.38E+05

Error Coefficients

Standard Error:	1110
Relative Standard Error:	2.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.01	1384.0			138400.0	Y
2	IC 280-579842/18	0.02	2927.0			146350.0	Y
3	IC 280-579842/17	0.05	7019.0			140380.0	Y
4	IC 280-579842/16	0.1	13636.0			136360.0	Y
5	IC 280-579842/15	0.25	33505.0			134020.0	Y
6	IC 280-579842/14	0.4	54082.0			135205.0	Y
7	IC 280-579842/13	0.7	96010.0			137157.142857	Y
8	IC 280-579842/12	1.0	135460.0			135460.0	Y
9	IC 280-579842/11	2.5	345871.0			138348.4	Y



Calibration / PETN

Curve Type:	Linear
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

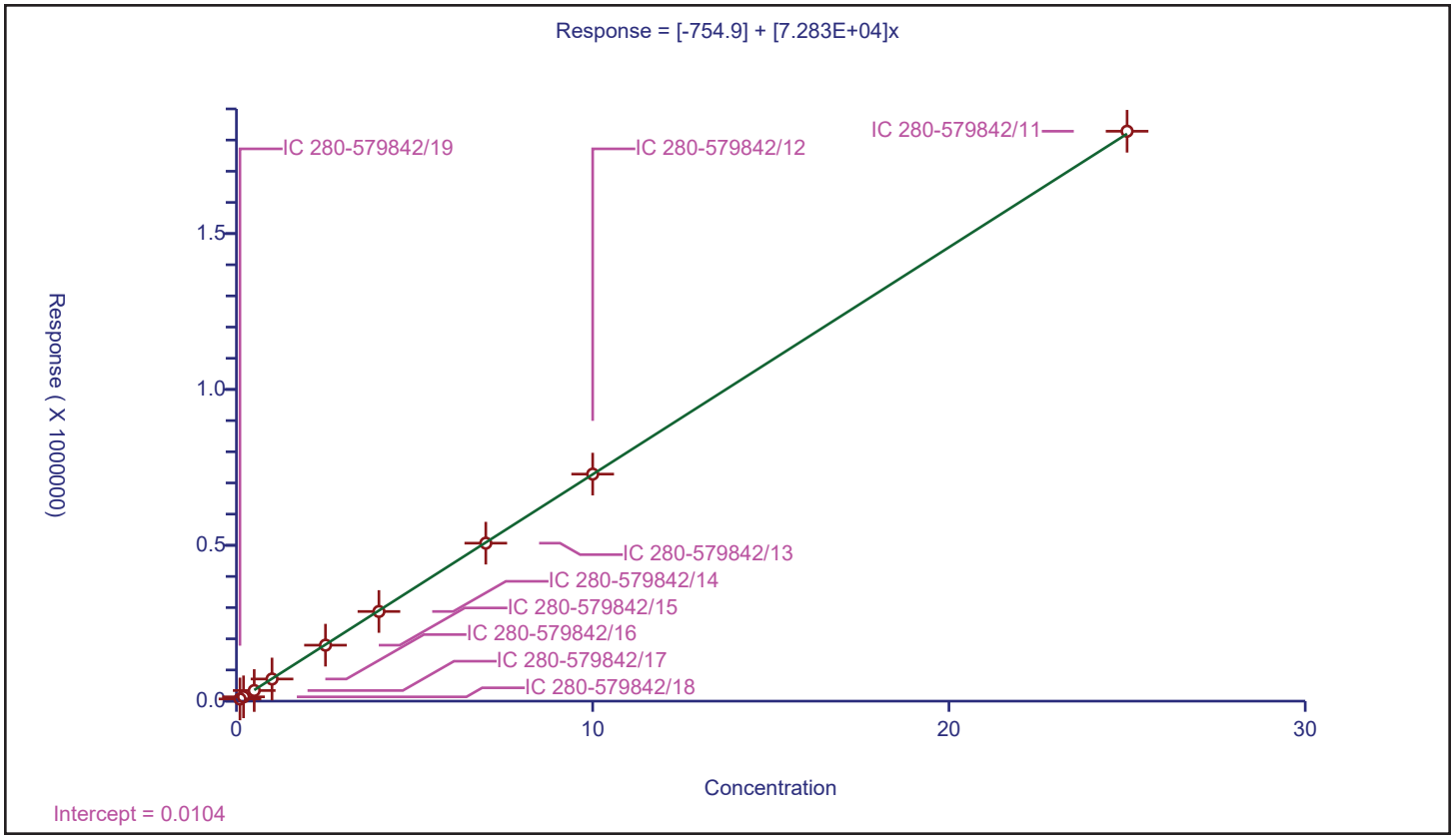
Curve Coefficients

Intercept:	-754.9
Slope:	7.283E+04

Error Coefficients

Standard Error:	3570
Relative Standard Error:	3.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579842/19	0.1	7087.0			70870.0	Y
2	IC 280-579842/18	0.2	13811.0			69055.0	Y
3	IC 280-579842/17	0.5	34051.0			68102.0	Y
4	IC 280-579842/16	1.0	71085.0			71085.0	Y
5	IC 280-579842/15	2.5	179547.0			71818.8	Y
6	IC 280-579842/14	4.0	287643.0			71910.75	Y
7	IC 280-579842/13	7.0	506818.0			72402.571429	Y
8	IC 280-579842/12	10.0	728379.0			72837.9	Y
9	IC 280-579842/11	25.0	1828345.0			73133.8	Y



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-567560/18	03020018.D
Level 2	IC 280-567560/17	03020017.D
Level 3	IC 280-567560/16	03020016.D
Level 4	IC 280-567560/15	03020015.D
Level 5	IC 280-567560/14	03020014.D
Level 6	IC 280-567560/13	03020013.D
Level 7	IC 280-567560/12	03020012.D
Level 8	IC 280-567560/11	03020011.D
Level 9	IC 280-567560/10	03020010.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9
2,6-diamino-4-nitrotoluene	+++++	4.169	4.154	4.149	4.142	4.127	4.110	4.093	4.071
2,4-diamino-6-nitrotoluene	4.714	4.716	4.674	4.669	4.669	4.700	4.710	4.713	4.698
HMX	6.887	6.896	6.894	6.896	6.889	6.880	6.863	6.860	6.791
Picric acid		7.863	7.767	7.696	7.602	7.527	7.430	7.346	7.231
RDX	9.114	9.129	9.120	9.129	9.115	9.100	9.083	9.066	8.985
Nitrobenzene	12.047	12.069	12.073	12.069	12.062	12.060	12.036	12.020	11.925
3,5-Dinitroaniline	15.287	15.282	15.287	15.276	15.269	15.260	15.243	15.226	15.151
1,3-Dinitrobenzene	15.627	15.642	15.647	15.642	15.635	15.627	15.616	15.600	15.525
Nitroglycerin	16.054	16.062	16.073	16.062	16.055	16.054	16.050	16.033	15.971
o-Nitrotoluene	16.807	16.829	16.833	16.829	16.822	16.820	16.810	16.793	16.725
p-Nitrotoluene	17.147	17.129	17.147	17.136	17.129	17.127	17.123	17.100	17.018
4-Amino-2,6-dinitrotoluene	17.734	17.756	17.773	17.756	17.755	17.747	17.736	17.720	17.651
m-Nitrotoluene	18.094	18.116	18.120	18.109	18.102	18.100	18.090	18.073	18.005
2-Amino-4,6-dinitrotoluene	18.754	18.762	18.773	18.749	18.742	18.740	18.730	18.706	18.725
1,3,5-Trinitrobenzene	18.947	18.956	18.973	18.956	18.949	18.947	18.936	18.920	18.851
2,6-Dinitrotoluene	20.260	20.262	20.267	20.256	20.255	20.254	20.243	20.233	20.171
2,4-Dinitrotoluene	20.674	20.716	20.767	20.756	20.762	20.760	20.750	20.733	20.671
Tetryl	24.514	24.496	24.500	24.483	24.489	24.494	24.483	24.466	24.425
2,4,6-Trinitrotoluene	25.274	25.269	25.274	25.256	25.262	25.267	25.257	25.246	25.198
PETN	26.220	26.223	26.220	26.209	26.215	26.220	26.217	26.206	26.185
1,2-Dinitrobenzene	13.260	13.282	13.287	13.282	13.282	13.274	13.256	13.240	13.158

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-567560/18	03020018.D
Level 2	IC 280-567560/17	03020017.D
Level 3	IC 280-567560/16	03020016.D
Level 4	IC 280-567560/15	03020015.D
Level 5	IC 280-567560/14	03020014.D
Level 6	IC 280-567560/13	03020013.D
Level 7	IC 280-567560/12	03020012.D
Level 8	IC 280-567560/11	03020011.D
Level 9	IC 280-567560/10	03020010.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
2,6-diamino-4-nitrotoluene	+++++ 386384 421394	457250 369155	430520 390336	410300 386260	Ave		406449.789			
2,4-diamino-6-nitrotoluene	406400 239776 190011	280900 233548	257380 246634	249320 247885	Lin2	1666.57216	226258.207			
HMX	204000 153272 187359	156350 157048	161060 156446	161090 158593	Ave		166135.268			
Picric acid	 137152 100000	115050 145895	127120 147056	140090 150719	Ave		132885.214			
RDX	209700 185668 192949	185950 191778	200560 191473	197500 193402	Ave		194331.017			
Nitrobenzene	387450 359546 376404	332968 370117	381454 369358	371225 366118	Ave		368293.361			
3,5-Dinitroaniline	436200 411148 415652	381050 394513	419320 420926	421070 419224	Lin2	94.0377044	411255.399			
1,3-Dinitrobenzene	594910 544854 583320	531088 563411	602415 562742	594182 568076	Ave		571666.383			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
Nitroglycerin	106640 123863 126320	108750 129921	119788 126936	133241 127202	Ave		122517.801			
o-Nitrotoluene	249100 224884 232108	230350 232660	241140 230763	238570 232476	Ave		234672.317			
p-Nitrotoluene	219860 201816 215781	203493 209224	211477 208958	215818 210922	Ave		210816.657			
4-Amino-2,6-dinitrotoluene	260739 258018 268817	263287 267340	268232 265560	271888 269422	Lin2	-62.900141	267244.423			
m-Nitrotoluene	254046 256344 271648	240010 266386	267473 265219	269510 267544	Lin2	-189.49318	266002.360			
2-Amino-4,6-dinitrotoluene	369024 350637 335952	343576 365448	369761 366702	370299 373422	Ave		360535.698			
1,3,5-Trinitrobenzene	393912 409485 468023	347804 424182	425928 421012	424291 424539	Ave		415464.126			
2,6-Dinitrotoluene	269323 256928 267124	260608 264846	274044 264869	265807 267408	Ave		265661.838			
2,4-Dinitrotoluene	1185259 555279 545162	839791 549871	675657 543624	639313 546924	Lin2	6399.59049	541564.591			
Tetryl	471257 308379 316049	345958 315734	361477 313195	331218 316267	Ave		342170.507			
2,4,6-Trinitrotoluene	370518 363896 385306	324054 376581	369641 378025	370568 384024	Ave		369179.221			
PETN	108420 131804 136767	109615 136247	134164 135887	134076 136984	Ave		129329.182			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
1,2-Dinitrobenzene	246100 244792 252426	240450 249510	257280 250511	254990 251717	Ave		249752.93 7			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-567560/18	03020018.D
Level 2	IC 280-567560/17	03020017.D
Level 3	IC 280-567560/16	03020016.D
Level 4	IC 280-567560/15	03020015.D
Level 5	IC 280-567560/14	03020014.D
Level 6	IC 280-567560/13	03020013.D
Level 7	IC 280-567560/12	03020012.D
Level 8	IC 280-567560/11	03020011.D
Level 9	IC 280-567560/10	03020010.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
2,6-diamino-4-nitrotoluene	Ave	+++++ 147662	9145 273235	21526 386260	41030 1053484	96596	+++++ 0.400	0.02 0.7
2,4-diamino-6-nitrotoluene	Lin2	4064 93419	5618 172644	12869 247885	24932 475027	59944	0.0100 0.400	0.02 0.7
HMX	Ave	2040 62819	3127 109512	8053 158593	16109 468398	38318	0.0100 0.400	0.02 0.7
Picric acid	Ave	 58358	2301 102939	6356 150719	14009 250000	34288	 0.400	0.02 0.7
RDX	Ave	2097 76711	3719 134031	10028 193402	19750 482372	46417	0.0100 0.400	0.02 0.7
Nitrobenzene	Ave	3890 148639	6686 259585	19149 367582	37271 944774	90246	0.0100 0.402	0.02 0.7
3,5-Dinitroaniline	Lin2	4362 157805	7621 294648	20966 419224	42107 1039131	102787	0.0100 0.400	0.02 0.7
1,3-Dinitrobenzene	Ave	5961 225815	10643 394707	30181 569212	59537 1461217	136486	0.0100 0.401	0.02 0.7
Nitroglycerin	Ave	10664 519683	21750 888552	59894 1272015	133241 3158004	309657	0.100 4.00	0.2 7.
o-Nitrotoluene	Ave	2491 93064	4607 161534	12057 232476	23857 580270	56221	0.0100 0.400	0.02 0.7
p-Nitrotoluene	Ave	2203 83857	4078 146563	10595 211344	21625 540531	50555	0.0100 0.401	0.02 0.7
4-Amino-2,6-dinitrotoluene	Lin2	2610 107043	5271 186078	13425 269691	27216 672715	64569	0.0100 0.400	0.02 0.7
m-Nitrotoluene	Lin2	2543	4805	13387	26978	64150	0.0100	0.02

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
		106661	185839	267812	679800		0.400	0.7
2-Amino-4,6-dinitrotoluene	Ave	3705 146764	6899 257718	18562 374916	37178 843240	88010	0.0100 0.402	0.02 0.7
1,3,5-Trinitrobenzene	Ave	3947 170012	6970 295298	21339 425388	42514 1172398	102576	0.0100 0.401	0.02 0.7
2,6-Dinitrotoluene	Ave	2704 106362	5233 186150	13757 268478	26687 670482	64489	0.0100 0.402	0.02 0.7
2,4-Dinitrotoluene	Lin2	11900 220828	16863 382059	33918 549112	64187 1368356	139375	0.0100 0.402	0.02 0.7
Tetryl	Ave	4722 126546	6933 219675	18110 316900	33188 791703	77249	0.0100 0.401	0.02 0.7
2,4,6-Trinitrotoluene	Ave	3720 151235	6507 265676	18556 385560	37205 967117	91338	0.0100 0.402	0.02 0.7
PETN	Ave	10842 544987	21923 951206	67082 1369840	134076 3419168	329509	0.100 4.00	0.2 7.
1,2-Dinitrobenzene	Ave	2461 99804	4809 175358	12864 251717	25499 631065	61198	0.0100 0.400	0.02 0.7

Curve Type Legend

Ave = Average
Lin2 = Linear 1/conc^2

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020010.D
Lims ID: IC INT/ADD 9
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 02-Mar-2022 21:22:03 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 9
Misc. Info.: 280-0108949-010
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:12 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:05:51

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.071	4.142	-0.071	1053484	2.50	2.59	M
	2 2,4-diamino-6-nitrotoluene	1	4.698	4.669	0.029	475027	2.50	2.09	M
	5 HMX	1	6.791	6.889	-0.098	468398	2.50	2.82	
	7 2,4,6-Trinitrophenol	1	7.231	7.602	-0.371	250000	2.50	1.88	
	8 RDX	1	8.985	9.115	-0.130	482372	2.50	2.48	
	9 Nitrobenzene	1	11.925	12.062	-0.137	944774	2.51	2.57	
$	10 1,2-Dinitrobenzene	1	13.158	13.282	-0.124	631065	2.50	2.53	
	11 3,5-Dinitroaniline	1	15.151	15.269	-0.118	1039131	2.50	2.53	
	12 1,3-Dinitrobenzene	1	15.525	15.635	-0.110	1461217	2.51	2.56	
	13 Nitroglycerin	2	15.971	16.055	-0.084	3158004	25.0	25.8	
	14 o-Nitrotoluene	1	16.725	16.822	-0.097	580270	2.50	2.47	
	16 p-Nitrotoluene	1	17.018	17.129	-0.111	540531	2.51	2.56	
	17 4-Amino-2,6-dinitrotoluene	1	17.651	17.755	-0.104	672715	2.50	2.52	
	18 m-Nitrotoluene	1	18.005	18.102	-0.097	679800	2.50	2.56	
	19 2-Amino-4,6-dinitrotoluene	1	18.725	18.742	-0.017	843240	2.51	2.34	M
	20 1,3,5-Trinitrobenzene	1	18.851	18.949	-0.098	1172398	2.51	2.82	M
	21 2,6-Dinitrotoluene	1	20.171	20.255	-0.084	670482	2.51	2.52	
	22 2,4-Dinitrotoluene	1	20.671	20.762	-0.091	1368356	2.51	2.51	
	23 Tetryl	1	24.425	24.489	-0.064	791703	2.51	2.31	
	24 2,4,6-Trinitrotoluene	1	25.198	25.262	-0.064	967117	2.51	2.62	
	25 PETN	2	26.185	26.215	-0.030	3419168	25.0	26.4	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00070	Amount Added: 250.00	Units: uL
8330_ADDs_00031	Amount Added: 125.00	Units: uL

Report Date: 03-Mar-2022 12:49:12 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020010.D

Injection Date: 02-Mar-2022 21:22:03 Instrument ID: CHHPLC_X5 Operator ID:

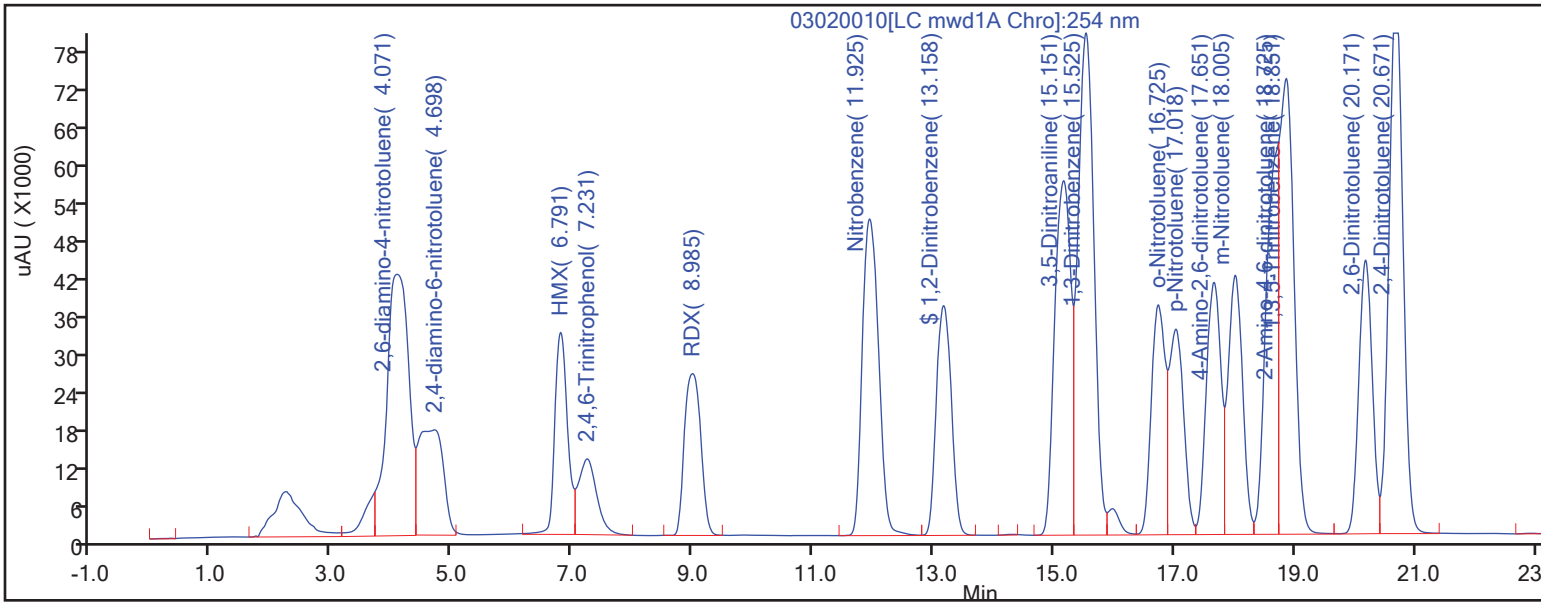
Lims ID: IC INT/ADD 9 Worklist Smp#:

Client ID:

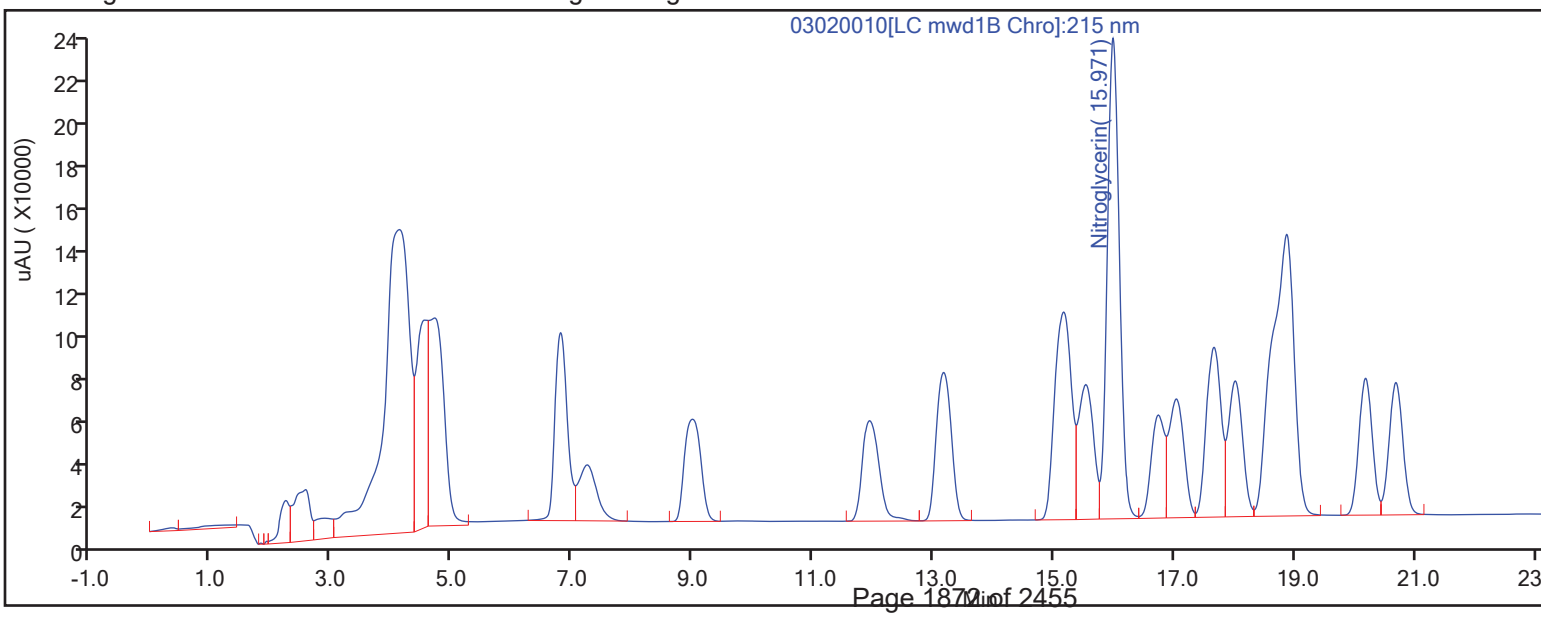
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

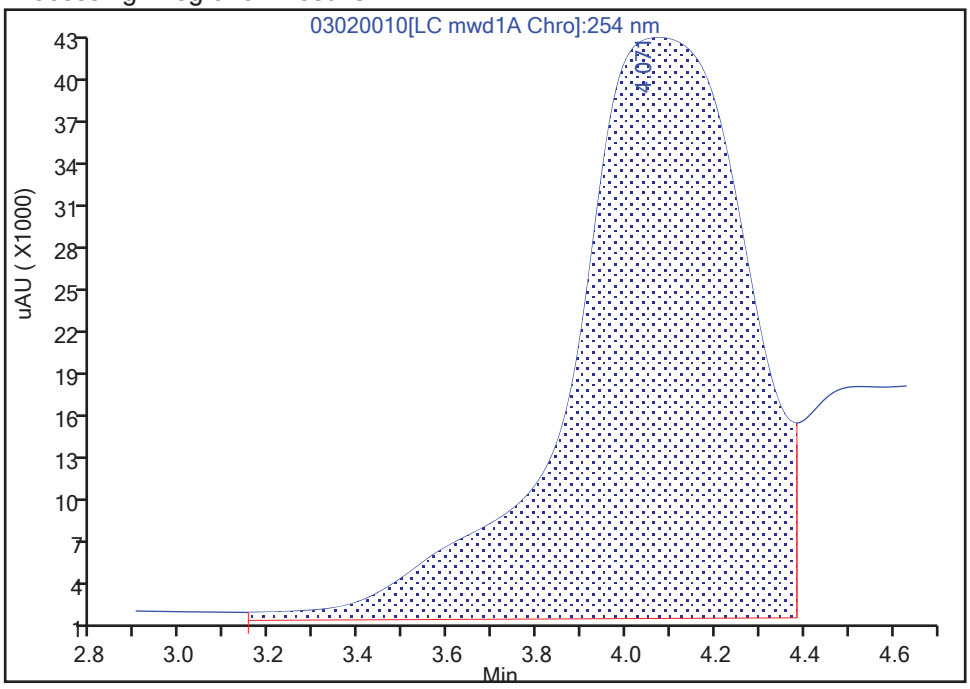
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020010.D
Injection Date: 02-Mar-2022 21:22:03 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 9
Client ID:
Operator ID: JZ ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

1 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

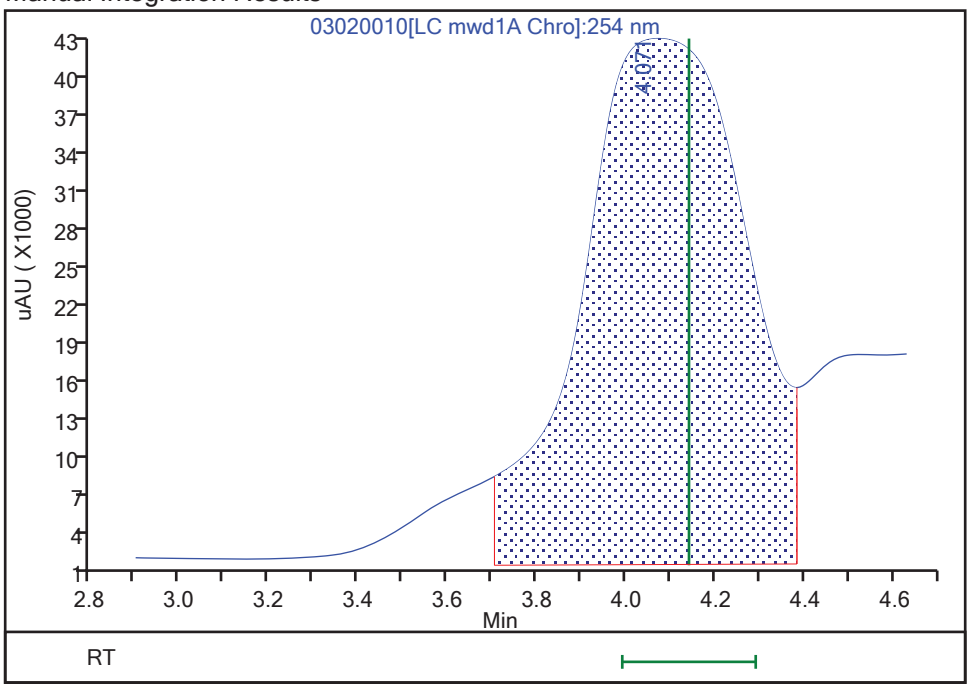
Processing Integration Results

RT: 4.07
Area: 1139879
Amount: 2.659277
Amount Units: ug/ml



Manual Integration Results

RT: 4.07
Area: 1053484
Amount: 2.591917
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:08:14
Audit Action: Split an Integrated Peak Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Denver

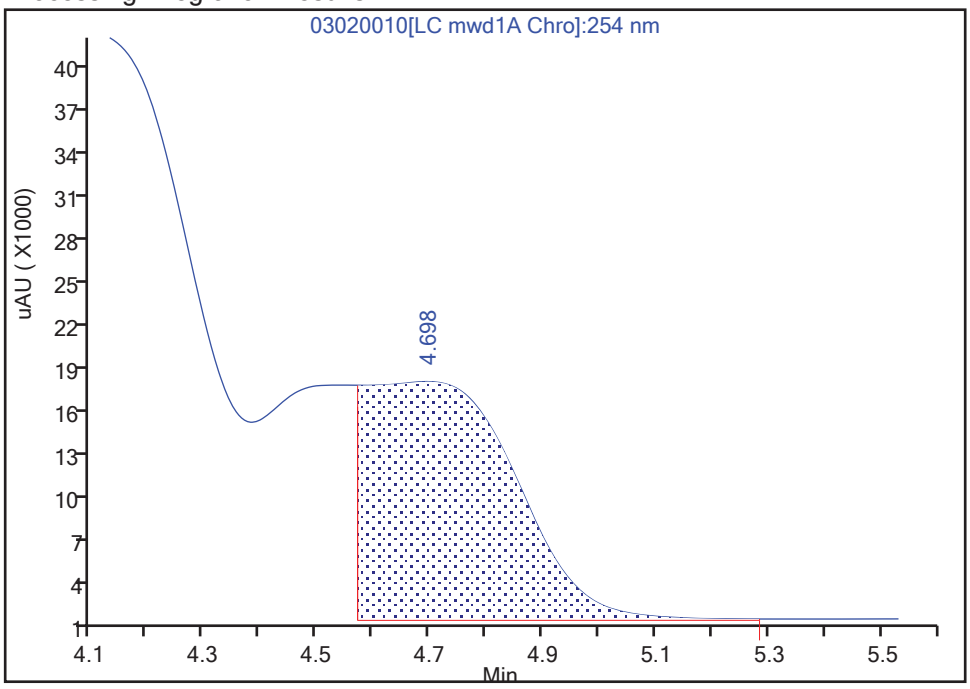
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020010.D
Injection Date: 02-Mar-2022 21:22:03 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 9
Client ID:
Operator ID: JZ ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

2 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

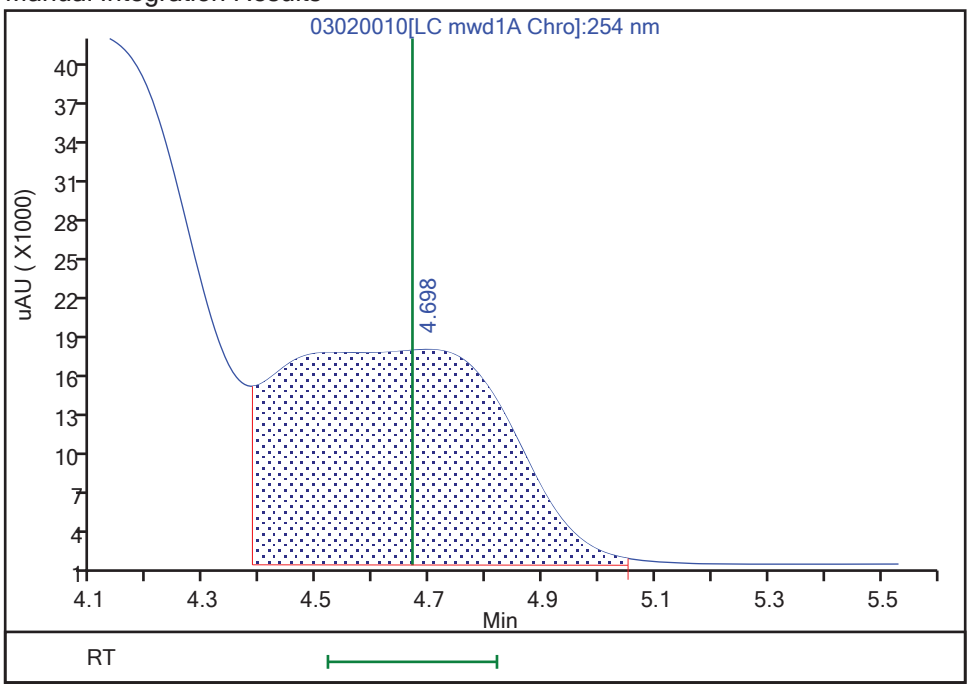
Processing Integration Results

RT: 4.70
Area: 304353
Amount: 2.521990
Amount Units: ug/ml



Manual Integration Results

RT: 4.70
Area: 475027
Amount: 2.092125
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:08:11
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Denver

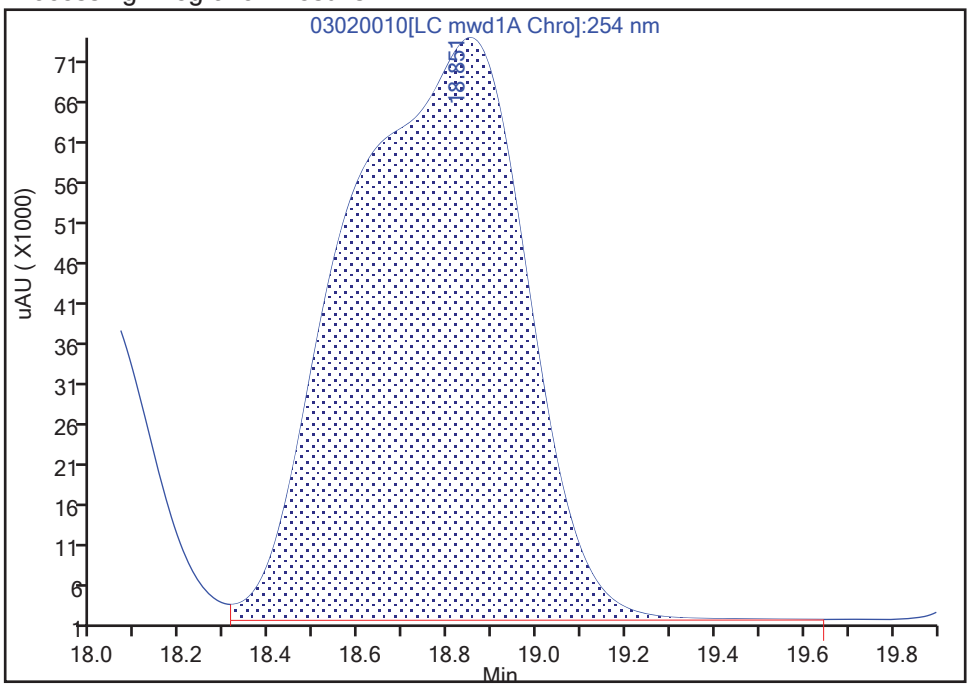
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020010.D				
Injection Date:	02-Mar-2022 21:22:03	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 9				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	10	Worklist Smp#:	10
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

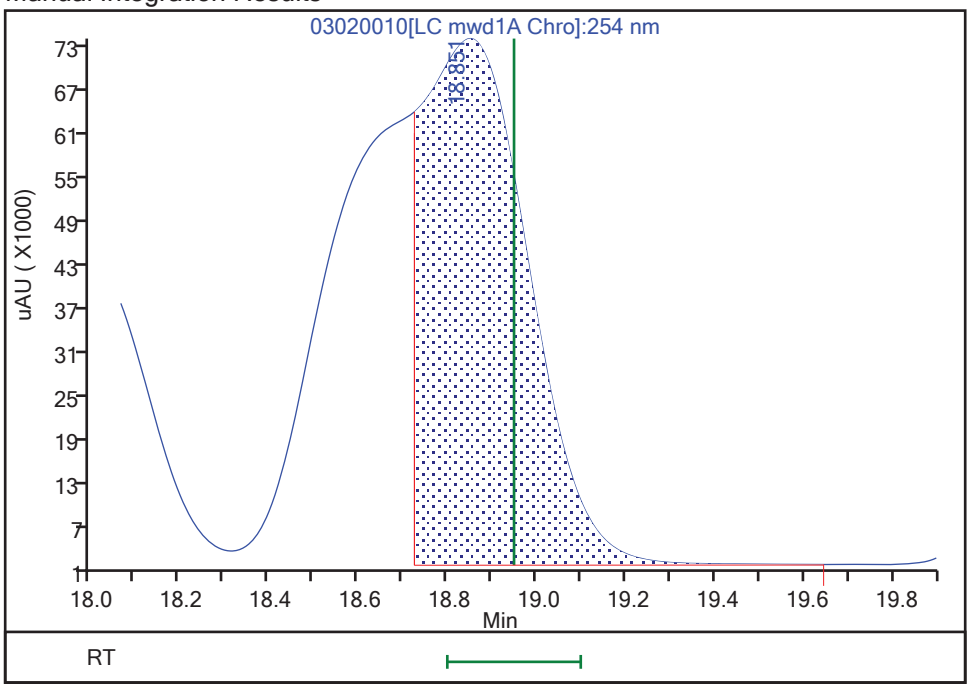
Processing Integration Results

RT: 18.85
Area: 2015640
Amount: 4.231891
Amount Units: ug/ml



Manual Integration Results

RT: 18.85
Area: 1172398
Amount: 2.821899
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:08:36

Audit Action: Split an Integrated Peak Audit Reason: Split Peak

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020011.D
Lims ID: IC INT/ADD 8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 02-Mar-2022 21:57:13 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 8
Misc. Info.: 280-0108949-011
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:13 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:09:27

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.093	4.142	-0.049	386260	1.00	0.9503	M
	2 2,4-diamino-6-nitrotoluene	1	4.713	4.669	0.044	247885	1.00	1.09	M
	5 HMX	1	6.860	6.889	-0.029	158593	1.00	0.9546	
	7 2,4,6-Trinitrophenol	1	7.346	7.602	-0.256	150719	1.00	1.13	
	8 RDX	1	9.066	9.115	-0.049	193402	1.00	1.00	
	9 Nitrobenzene	1	12.020	12.062	-0.042	367582	1.00	1.00	
$	10 1,2-Dinitrobenzene	1	13.240	13.282	-0.042	251717	1.00	1.01	
	11 3,5-Dinitroaniline	1	15.226	15.269	-0.043	419224	1.00	1.02	
	12 1,3-Dinitrobenzene	1	15.600	15.635	-0.035	569212	1.00	1.00	
	13 Nitroglycerin	2	16.033	16.055	-0.022	1272015	10.0	10.4	
	14 o-Nitrotoluene	1	16.793	16.822	-0.029	232476	1.00	0.99	
	16 p-Nitrotoluene	1	17.100	17.129	-0.029	211344	1.00	1.00	
	17 4-Amino-2,6-dinitrotoluene	1	17.720	17.755	-0.035	269691	1.00	1.01	
	18 m-Nitrotoluene	1	18.073	18.102	-0.029	267812	1.00	1.01	
	19 2-Amino-4,6-dinitrotoluene	1	18.706	18.742	-0.036	374916	1.00	1.04	
	20 1,3,5-Trinitrobenzene	1	18.920	18.949	-0.029	425388	1.00	1.02	
	21 2,6-Dinitrotoluene	1	20.233	20.255	-0.022	268478	1.00	1.01	
	22 2,4-Dinitrotoluene	1	20.733	20.762	-0.029	549112	1.00	1.00	
	23 Tetryl	1	24.466	24.489	-0.023	316900	1.00	0.9261	
	24 2,4,6-Trinitrotoluene	1	25.246	25.262	-0.016	385560	1.00	1.04	
	25 PETN	2	26.206	26.215	-0.009	1369840	10.0	10.6	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00070	Amount Added: 100.00	Units: uL
8330_ADDs_00031	Amount Added: 50.00	Units: uL

Report Date: 03-Mar-2022 12:49:13 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020011.D

Injection Date: 02-Mar-2022 21:57:13 Instrument ID: CHHPLC_X5 Operator ID:

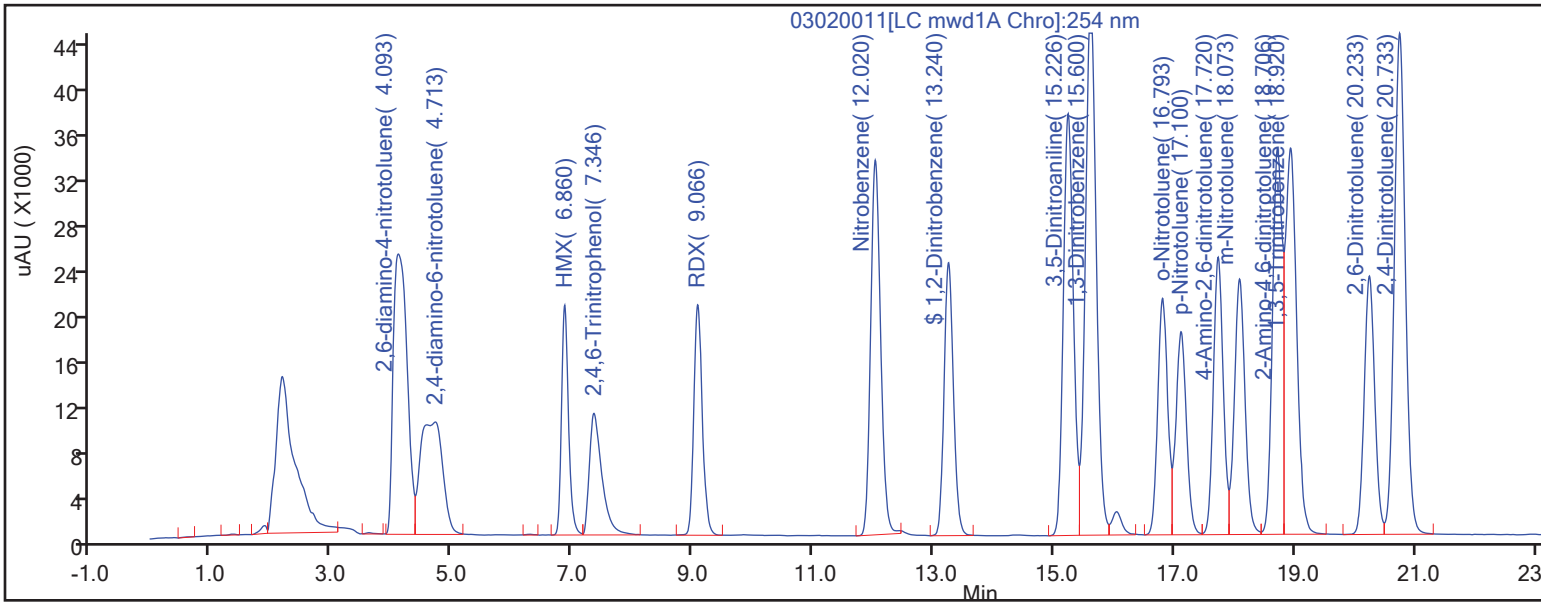
Lims ID: IC INT/ADD 8 Worklist Smp#:

Client ID:

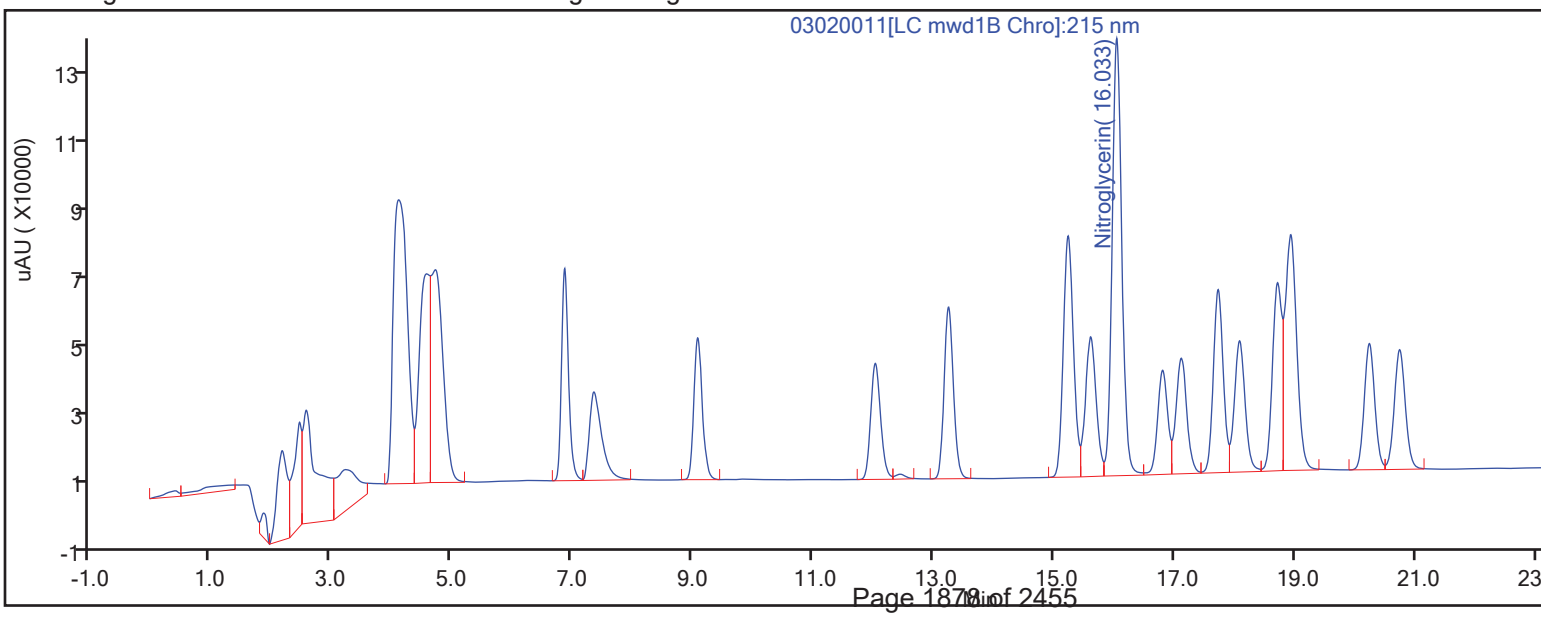
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

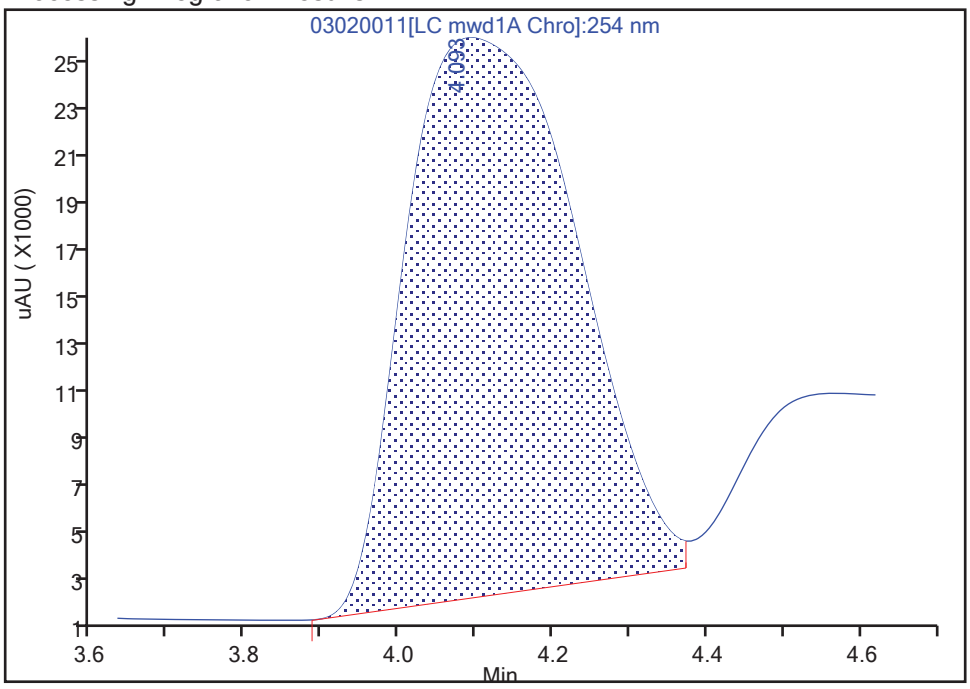
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020011.D				
Injection Date:	02-Mar-2022 21:57:13	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 8				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	11	Worklist Smp#:	11
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

1 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

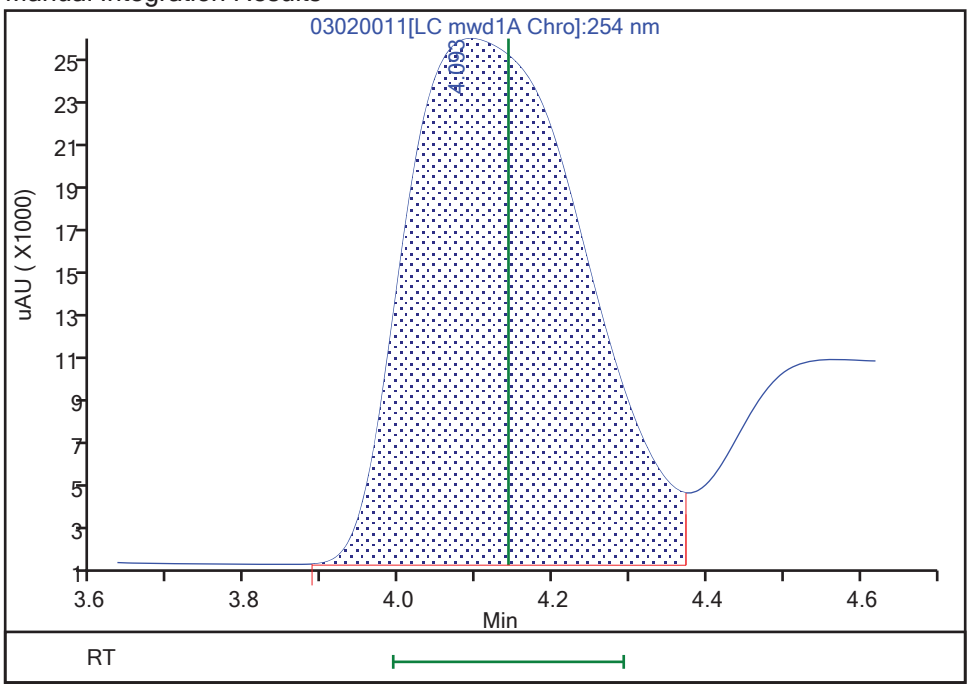
Processing Integration Results

RT: 4.09
Area: 354052
Amount: 0.833450
Amount Units: ug/ml



Manual Integration Results

RT: 4.09
Area: 386260
Amount: 0.950326
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:09:13
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

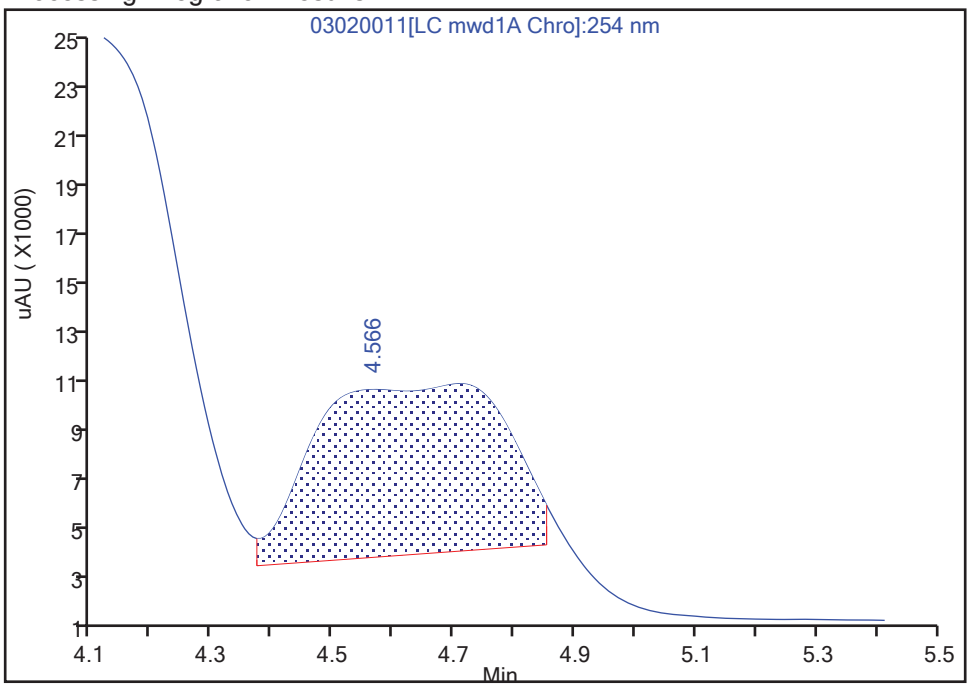
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020011.D
Injection Date: 02-Mar-2022 21:57:13 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 8
Client ID:
Operator ID: JZ ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

2 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

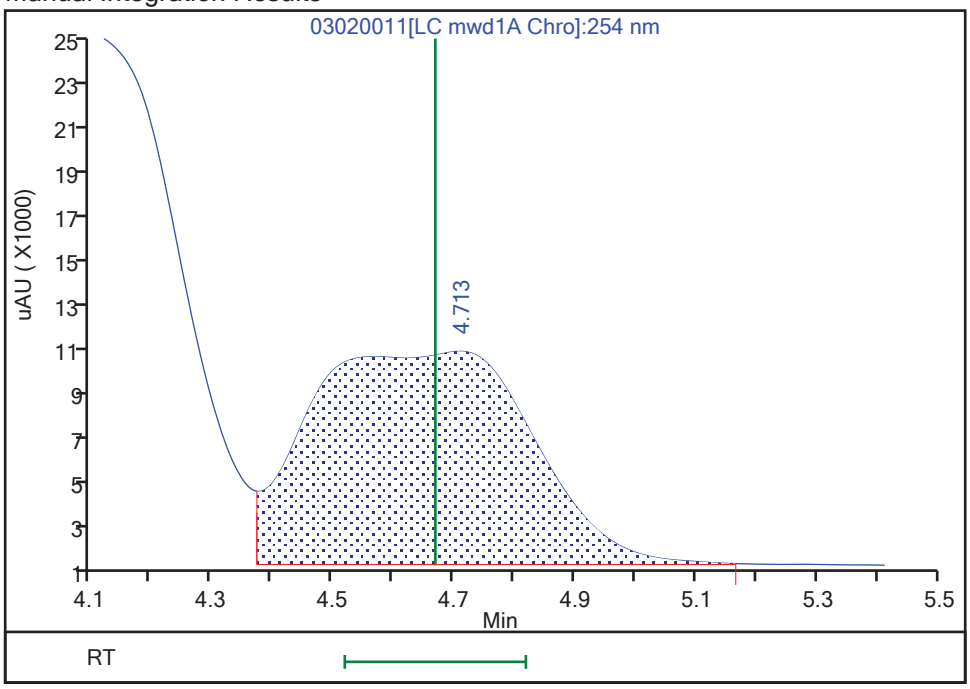
Processing Integration Results

RT: 4.57
Area: 152299
Amount: 0.907789
Amount Units: ug/ml



Manual Integration Results

RT: 4.71
Area: 247885
Amount: 1.088219
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:09:19
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 03-Mar-2022 12:49:14 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020012.D
Lims ID: IC INT/ADD 7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 02-Mar-2022 22:32:16 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 7
Misc. Info.: 280-0108949-012
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:14 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:09:45

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.110	4.142	-0.032	273235	0.7000	0.6722	M
	2 2,4-diamino-6-nitrotoluene	1	4.710	4.669	0.041	172644	0.7000	0.7557	M
	5 HMX	1	6.863	6.889	-0.026	109512	0.7000	0.6592	
	7 2,4,6-Trinitrophenol	1	7.430	7.602	-0.172	102939	0.7000	0.7746	
	8 RDX	1	9.083	9.115	-0.032	134031	0.7000	0.6897	
	9 Nitrobenzene	1	12.036	12.062	-0.026	259585	0.7028	0.7048	
$	10 1,2-Dinitrobenzene	1	13.256	13.282	-0.026	175358	0.7000	0.7021	
	11 3,5-Dinitroaniline	1	15.243	15.269	-0.026	294648	0.7000	0.7162	
	12 1,3-Dinitrobenzene	1	15.616	15.635	-0.019	394707	0.7014	0.6904	
	13 Nitroglycerin	2	16.050	16.055	-0.005	888552	7.00	7.25	
	14 o-Nitrotoluene	1	16.810	16.822	-0.012	161534	0.7000	0.6883	
	16 p-Nitrotoluene	1	17.123	17.129	-0.006	146563	0.7014	0.6952	
	17 4-Amino-2,6-dinitrotoluene	1	17.736	17.755	-0.019	186078	0.7007	0.6965	
	18 m-Nitrotoluene	1	18.090	18.102	-0.012	185839	0.7007	0.6993	
	19 2-Amino-4,6-dinitrotoluene	1	18.730	18.742	-0.012	257718	0.7028	0.7148	
	20 1,3,5-Trinitrobenzene	1	18.936	18.949	-0.013	295298	0.7014	0.7108	
	21 2,6-Dinitrotoluene	1	20.243	20.255	-0.012	186150	0.7028	0.7007	
	22 2,4-Dinitrotoluene	1	20.750	20.762	-0.012	382059	0.7028	0.6937	
	23 Tetryl	1	24.483	24.489	-0.006	219675	0.7014	0.6420	
	24 2,4,6-Trinitrotoluene	1	25.257	25.262	-0.005	265676	0.7028	0.7196	
	25 PETN	2	26.217	26.215	0.002	951206	7.00	7.35	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00070	Amount Added:	70.00	Units: uL
8330_ADDs_00031	Amount Added:	35.00	Units: uL

Report Date: 03-Mar-2022 12:49:14 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020012.D

Injection Date: 02-Mar-2022 22:32:16 Instrument ID: CHHPLC_X5 Operator ID:

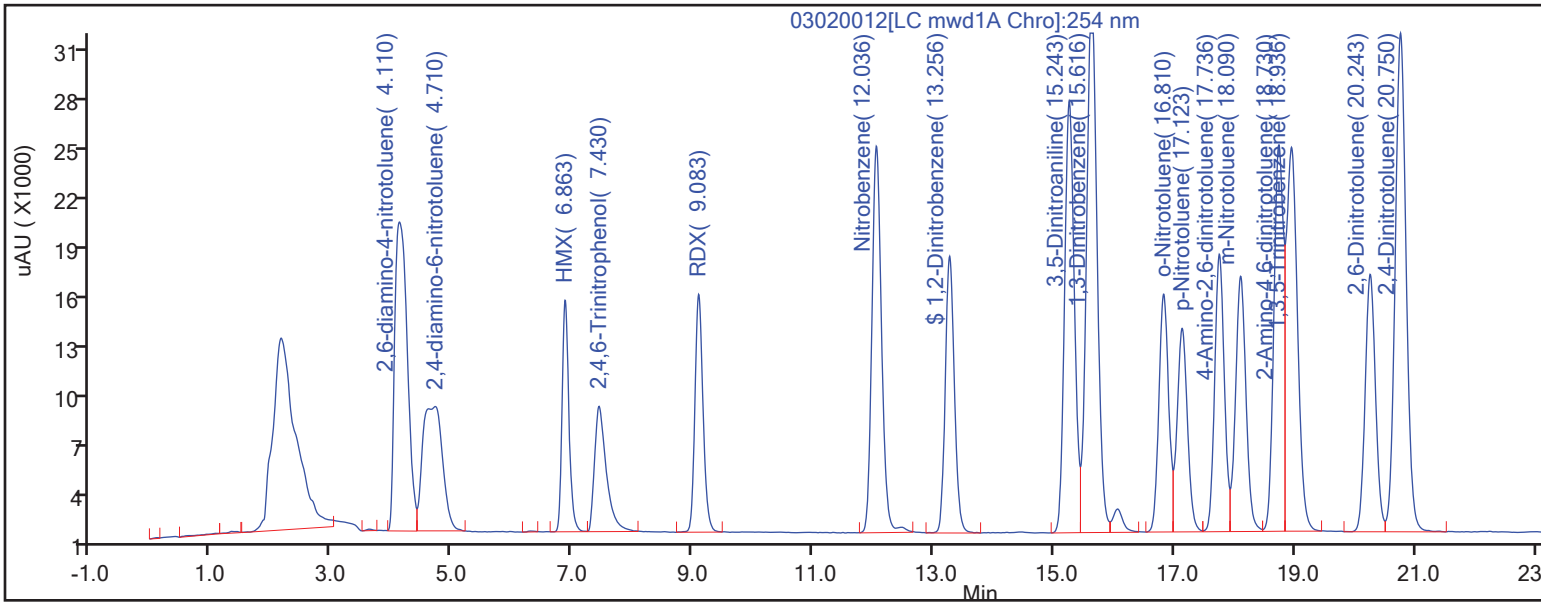
Lims ID: IC INT/ADD 7 Worklist Smp#:

Client ID:

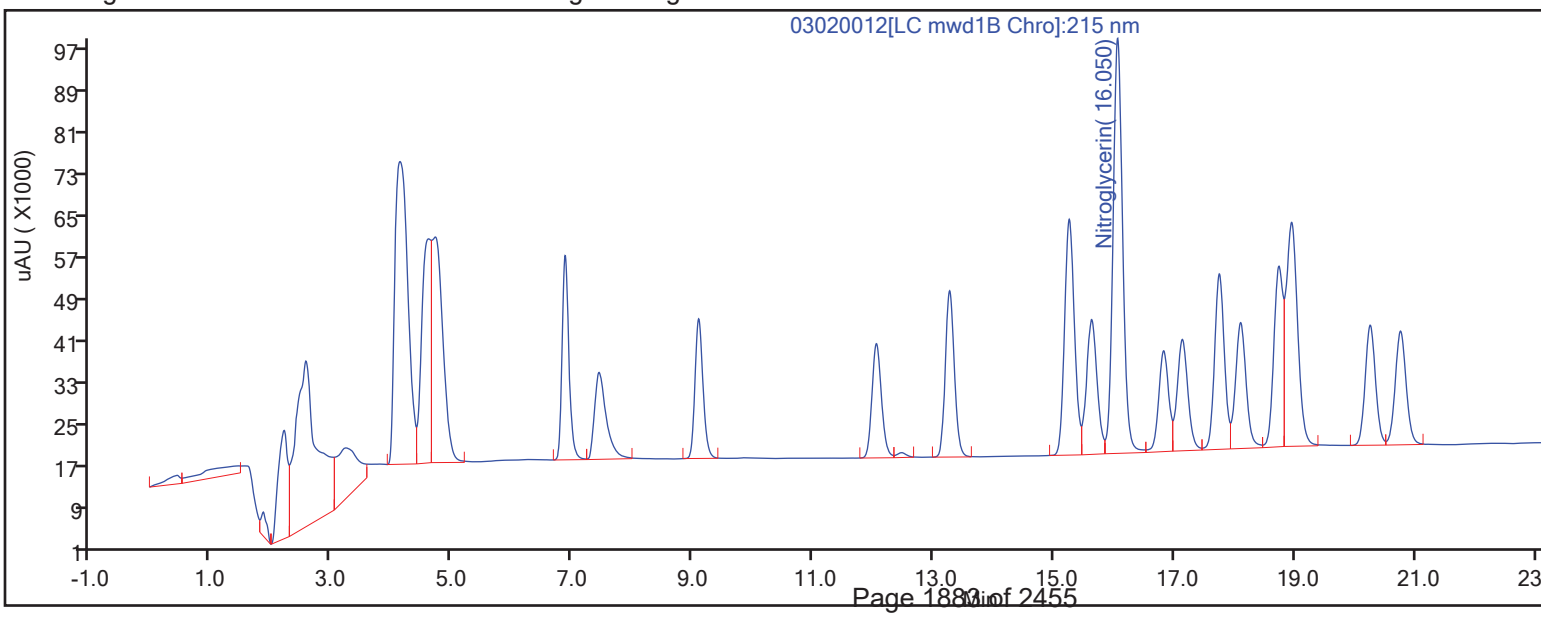
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

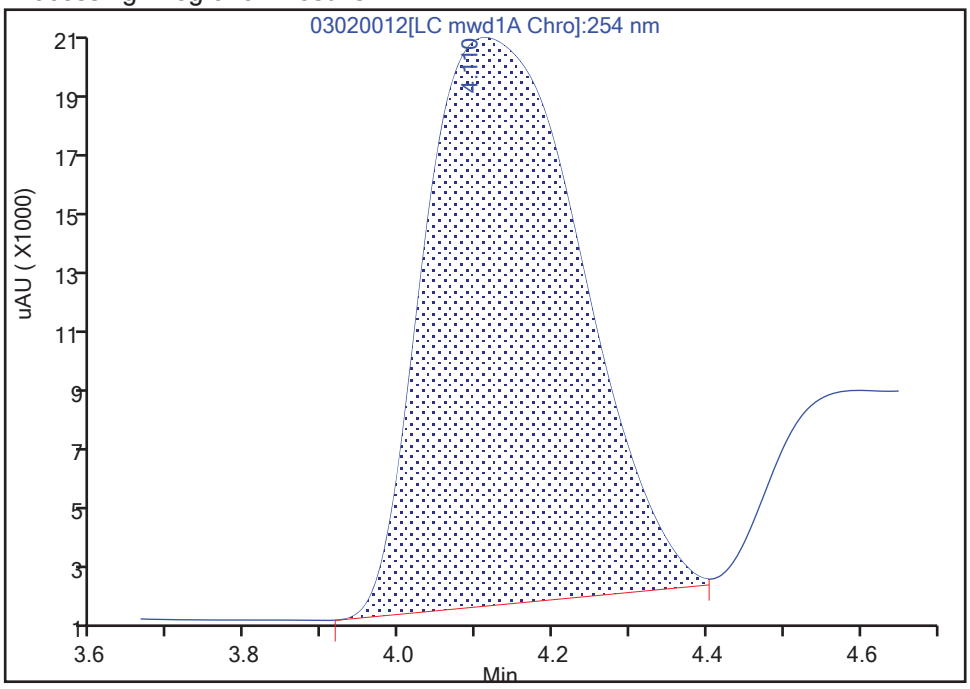
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020012.D				
Injection Date:	02-Mar-2022 22:32:16	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 7				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

1 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

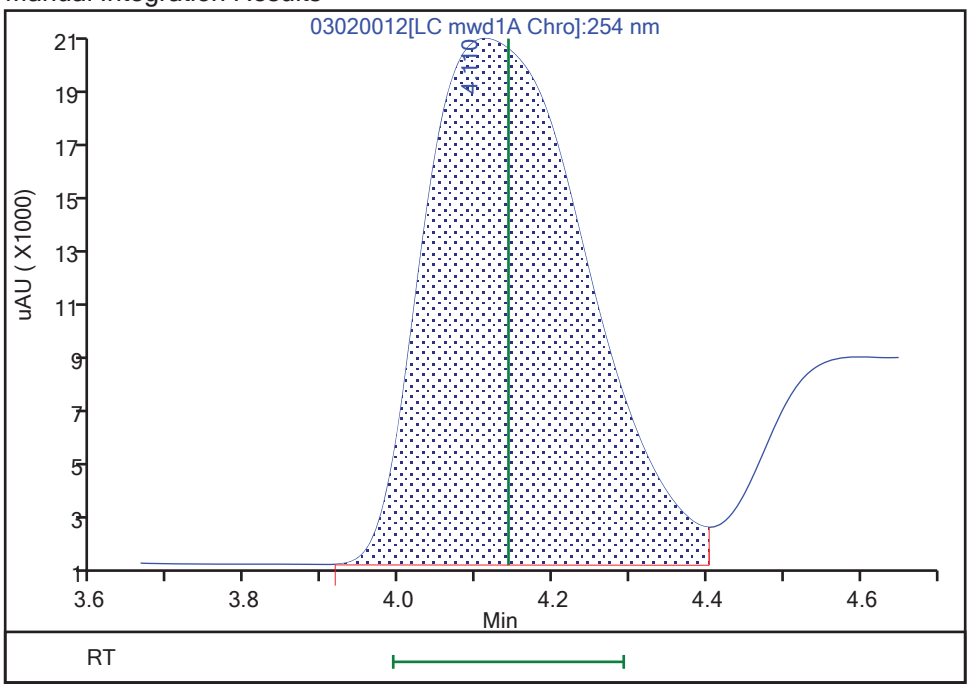
Processing Integration Results

RT: 4.11
Area: 256109
Amount: 0.597853
Amount Units: ug/ml



Manual Integration Results

RT: 4.11
Area: 273235
Amount: 0.672248
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:09:38
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

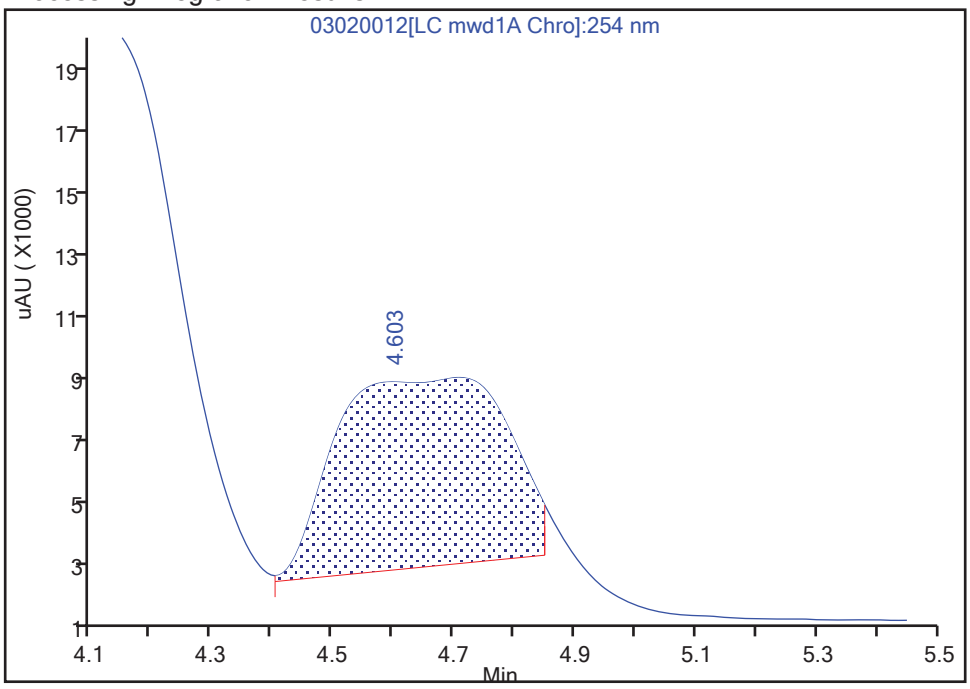
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020012.D				
Injection Date:	02-Mar-2022 22:32:16	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 7				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	12	Worklist Smp#:	12
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

2 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

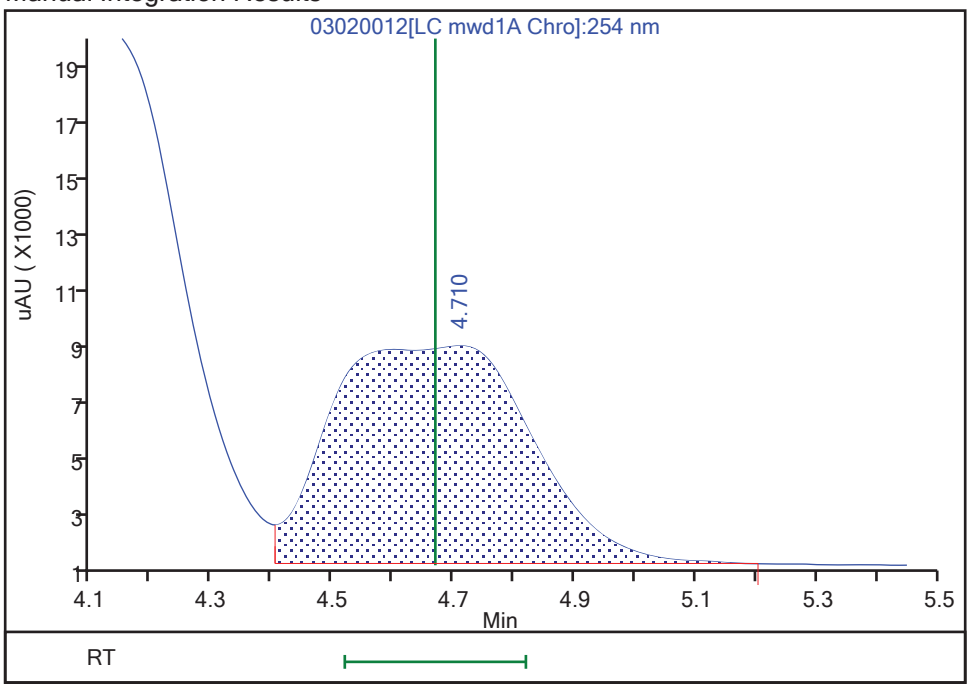
Processing Integration Results

RT: 4.60
Area: 115516
Amount: 0.512371
Amount Units: ug/ml



Manual Integration Results

RT: 4.71
Area: 172644
Amount: 0.755674
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:09:43
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020013.D
Lims ID: IC INT/ADD 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 02-Mar-2022 23:07:23 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 6
Misc. Info.: 280-0108949-013
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:14 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 2,6-diamino-4-nitrotoluene	1	4.127	4.142	-0.015	147662	0.4000	0.3633	
2 2,4-diamino-6-nitrotoluene	1	4.700	4.669	0.031	93419	0.4000	0.4055	
5 HMX	1	6.880	6.889	-0.009	62819	0.4000	0.3781	
7 2,4,6-Trinitrophenol	1	7.527	7.602	-0.075	58358	0.4000	0.4392	
8 RDX	1	9.100	9.115	-0.015	76711	0.4000	0.3947	
9 Nitrobenzene	1	12.060	12.062	-0.002	148639	0.4016	0.4036	
$ 10 1,2-Dinitrobenzene	1	13.274	13.282	-0.008	99804	0.4000	0.3996	
11 3,5-Dinitroaniline	1	15.260	15.269	-0.009	157805	0.4000	0.3835	
12 1,3-Dinitrobenzene	1	15.627	15.635	-0.008	225815	0.4008	0.3950	
13 Nitroglycerin	2	16.054	16.055	-0.001	519683	4.00	4.24	
14 o-Nitrotoluene	1	16.820	16.822	-0.002	93064	0.4000	0.3966	
16 p-Nitrotoluene	1	17.127	17.129	-0.002	83857	0.4008	0.3978	
17 4-Amino-2,6-dinitrotoluene	1	17.747	17.755	-0.008	107043	0.4004	0.4008	
18 m-Nitrotoluene	1	18.100	18.102	-0.002	106661	0.4004	0.4017	
19 2-Amino-4,6-dinitrotoluene	1	18.740	18.742	-0.002	146764	0.4016	0.4071	
20 1,3,5-Trinitrobenzene	1	18.947	18.949	-0.002	170012	0.4008	0.4092	
21 2,6-Dinitrotoluene	1	20.254	20.255	-0.001	106362	0.4016	0.4004	
22 2,4-Dinitrotoluene	1	20.760	20.762	-0.002	220828	0.4016	0.3959	
23 Tetryl	1	24.494	24.489	0.005	126546	0.4008	0.3698	
24 2,4,6-Trinitrotoluene	1	25.267	25.262	0.005	151235	0.4016	0.4097	
25 PETN	2	26.220	26.215	0.005	544987	4.00	4.21	

Reagents:

8330IntermStk_00070 Amount Added: 40.00 Units: uL
8330_ADDs_00031 Amount Added: 20.00 Units: uL

Report Date: 03-Mar-2022 12:49:14 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020013.D

Injection Date: 02-Mar-2022 23:07:23 Instrument ID: CHHPLC_X5 Operator ID:

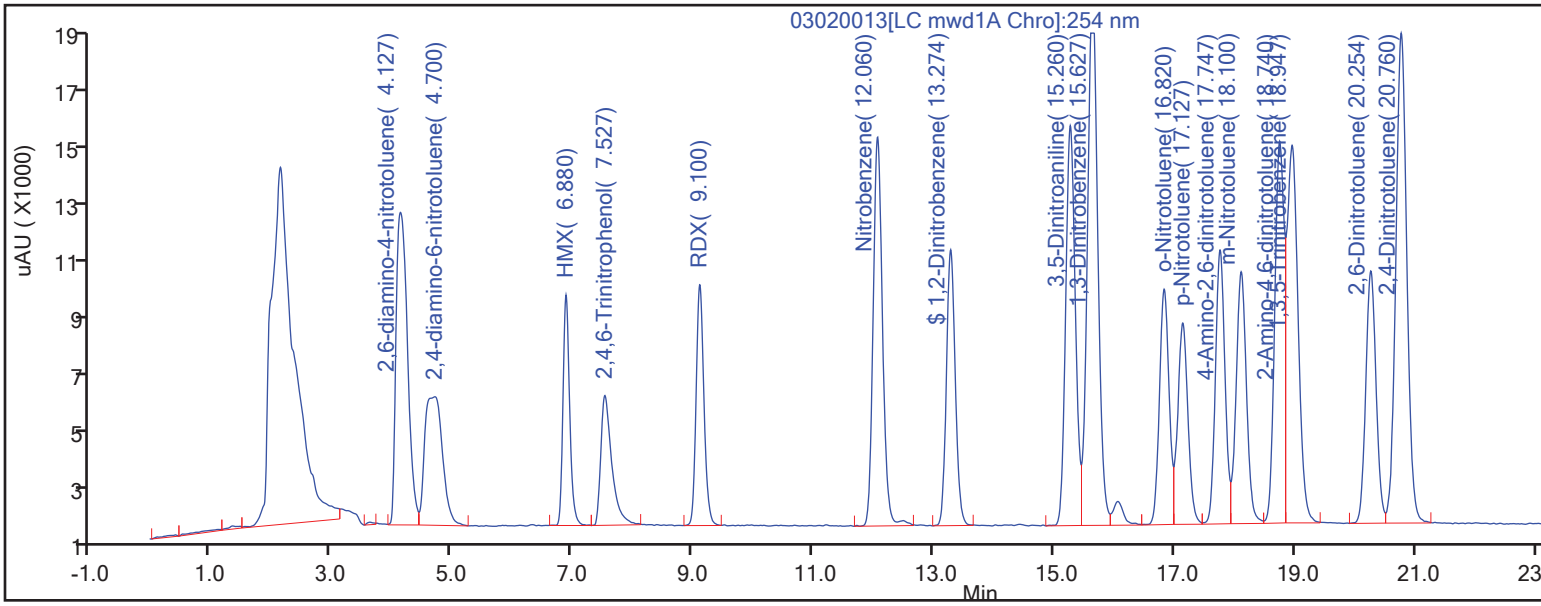
Lims ID: IC INT/ADD 6 Worklist Smp#:

Client ID:

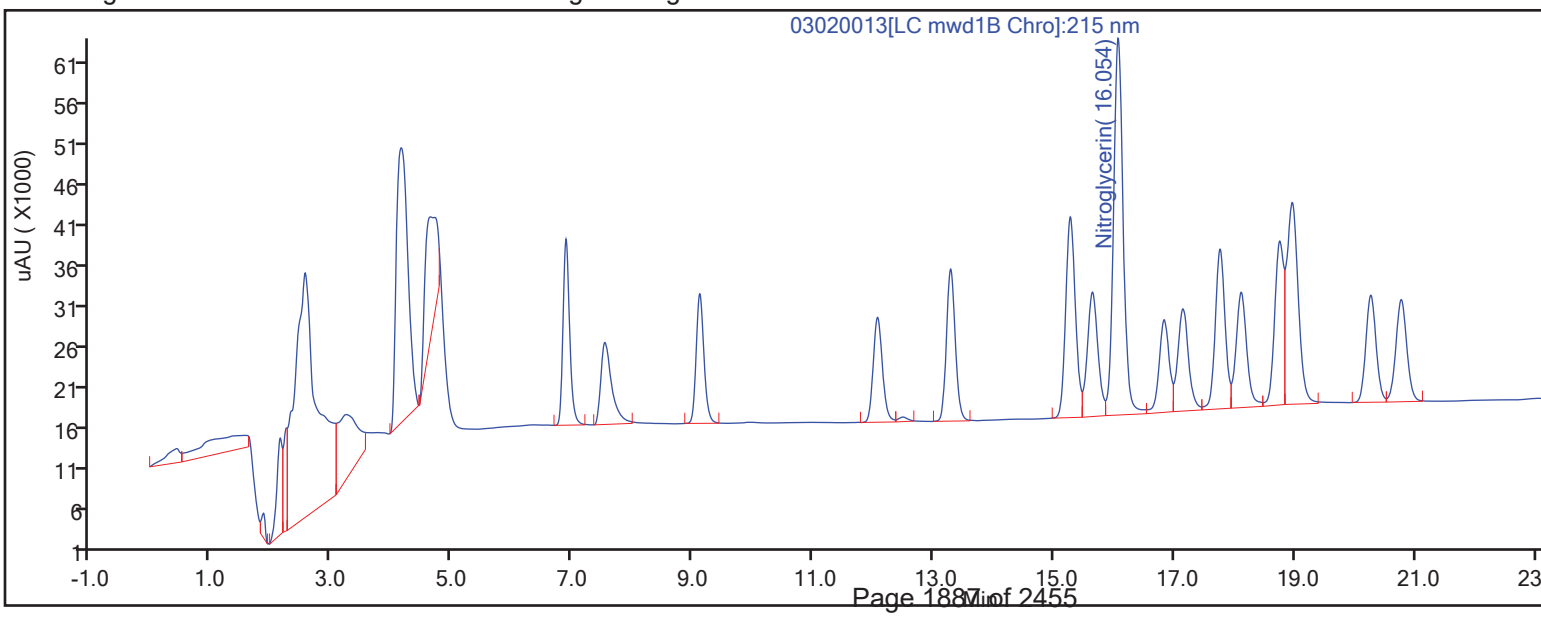
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 03-Mar-2022 12:49:15 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020014.D
Lims ID: IC INT/ADD 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 02-Mar-2022 23:42:39 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 5
Misc. Info.: 280-0108949-014
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:15 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:06:29

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.142	4.142	0.000	96596	0.2500	0.2377	
	2 2,4-diamino-6-nitrotoluene	1	4.669	4.669	0.000	59944	0.2500	0.2576	
	5 HMX	1	6.889	6.889	0.000	38318	0.2500	0.2306	
	7 2,4,6-Trinitrophenol	1	7.602	7.602	0.000	34288	0.2500	0.2580	
	8 RDX	1	9.115	9.115	0.000	46417	0.2500	0.2389	
	9 Nitrobenzene	1	12.062	12.062	0.000	90246	0.2510	0.2450	
$	10 1,2-Dinitrobenzene	1	13.282	13.282	0.000	61198	0.2500	0.2450	
	11 3,5-Dinitroaniline	1	15.269	15.269	0.000	102787	0.2500	0.2497	
	12 1,3-Dinitrobenzene	1	15.635	15.635	0.000	136486	0.2505	0.2388	
	13 Nitroglycerin	2	16.055	16.055	0.000	309657	2.50	2.53	
	14 o-Nitrotoluene	1	16.822	16.822	0.000	56221	0.2500	0.2396	
	16 p-Nitrotoluene	1	17.129	17.129	0.000	50555	0.2505	0.2398	
	17 4-Amino-2,6-dinitrotoluene	1	17.755	17.755	0.000	64569	0.2503	0.2418	
	18 m-Nitrotoluene	1	18.102	18.102	0.000	64150	0.2503	0.2419	
	19 2-Amino-4,6-dinitrotoluene	1	18.742	18.742	0.000	88010	0.2510	0.2441	
	20 1,3,5-Trinitrobenzene	1	18.949	18.949	0.000	102576	0.2505	0.2469	
	21 2,6-Dinitrotoluene	1	20.255	20.255	0.000	64489	0.2510	0.2427	
	22 2,4-Dinitrotoluene	1	20.762	20.762	0.000	139375	0.2510	0.2455	
	23 Tetryl	1	24.489	24.489	0.000	77249	0.2505	0.2258	
	24 2,4,6-Trinitrotoluene	1	25.262	25.262	0.000	91338	0.2510	0.2474	
	25 PETN	2	26.215	26.215	0.000	329509	2.50	2.55	

QC Flag Legend

Processing Flags

Reagents:

8330IntermStk_00070	Amount Added:	25.00	Units: uL
8330_ADDs_00031	Amount Added:	12.50	Units: uL

Report Date: 03-Mar-2022 12:49:15 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020014.D

Injection Date: 02-Mar-2022 23:42:39 Instrument ID: CHHPLC_X5 Operator ID:

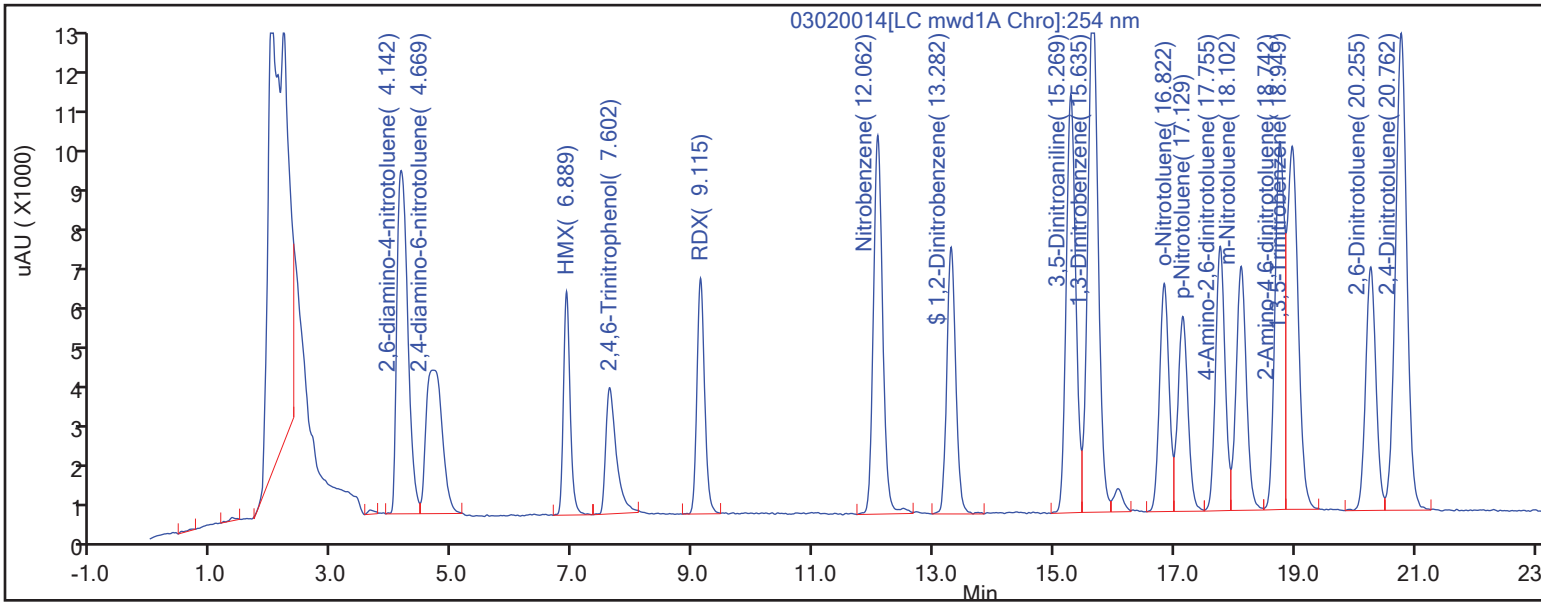
Lims ID: IC INT/ADD 5 Worklist Smp#:

Client ID:

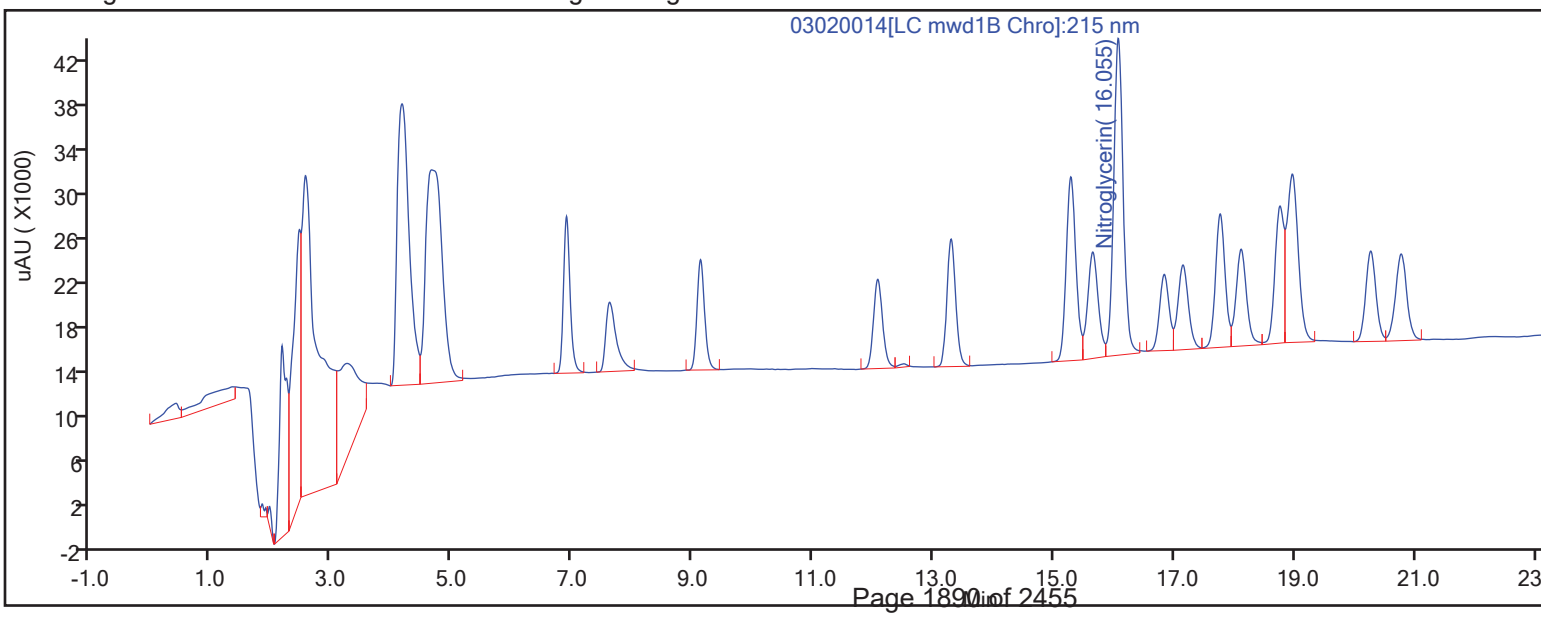
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Report Date: 03-Mar-2022 12:49:16 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020015.D
Lims ID: IC INT/ADD 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 03-Mar-2022 00:17:55 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 4
Misc. Info.: 280-0108949-015
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:16 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:12:37

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.149	4.142	0.007	41030	0.1000	0.1009	
	2 2,4-diamino-6-nitrotoluene	1	4.669	4.669	0.000	24932	0.1000	0.1028	
	5 HMX	1	6.896	6.889	0.007	16109	0.1000	0.0970	
	7 2,4,6-Trinitrophenol	1	7.696	7.602	0.094	14009	0.1000	0.1054	
	8 RDX	1	9.129	9.115	0.014	19750	0.1000	0.1016	
	9 Nitrobenzene	1	12.069	12.062	0.007	37271	0.1004	0.1012	
$	10 1,2-Dinitrobenzene	1	13.282	13.282	0.000	25499	0.1000	0.1021	
	11 3,5-Dinitroaniline	1	15.276	15.269	0.007	42107	0.1000	0.1022	
	12 1,3-Dinitrobenzene	1	15.642	15.635	0.007	59537	0.1002	0.1041	
	13 Nitroglycerin	2	16.062	16.055	0.007	133241	1.00	1.09	
	14 o-Nitrotoluene	1	16.829	16.822	0.007	23857	0.1000	0.1017	
	16 p-Nitrotoluene	1	17.136	17.129	0.007	21625	0.1002	0.1026	
	17 4-Amino-2,6-dinitrotoluene	1	17.756	17.755	0.001	27216	0.1001	0.1021	
	18 m-Nitrotoluene	1	18.109	18.102	0.007	26978	0.1001	0.1021	
	19 2-Amino-4,6-dinitrotoluene	1	18.749	18.742	0.007	37178	0.1004	0.1031	
	20 1,3,5-Trinitrobenzene	1	18.956	18.949	0.007	42514	0.1002	0.1023	
	21 2,6-Dinitrotoluene	1	20.256	20.255	0.001	26687	0.1004	0.1005	
	22 2,4-Dinitrotoluene	1	20.756	20.762	-0.006	64187	0.1004	0.1067	
	23 Tetryl	1	24.483	24.489	-0.006	33188	0.1002	0.0970	
	24 2,4,6-Trinitrotoluene	1	25.256	25.262	-0.006	37205	0.1004	0.1008	
	25 PETN	2	26.209	26.215	-0.006	134076	1.00	1.04	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00070	Amount Added: 10.00	Units: uL
8330_ADDs_00031	Amount Added: 5.00	Units: uL

Report Date: 03-Mar-2022 12:49:16 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020015.D

Injection Date: 03-Mar-2022 00:17:55 Instrument ID: CHHPLC_X5 Operator ID:

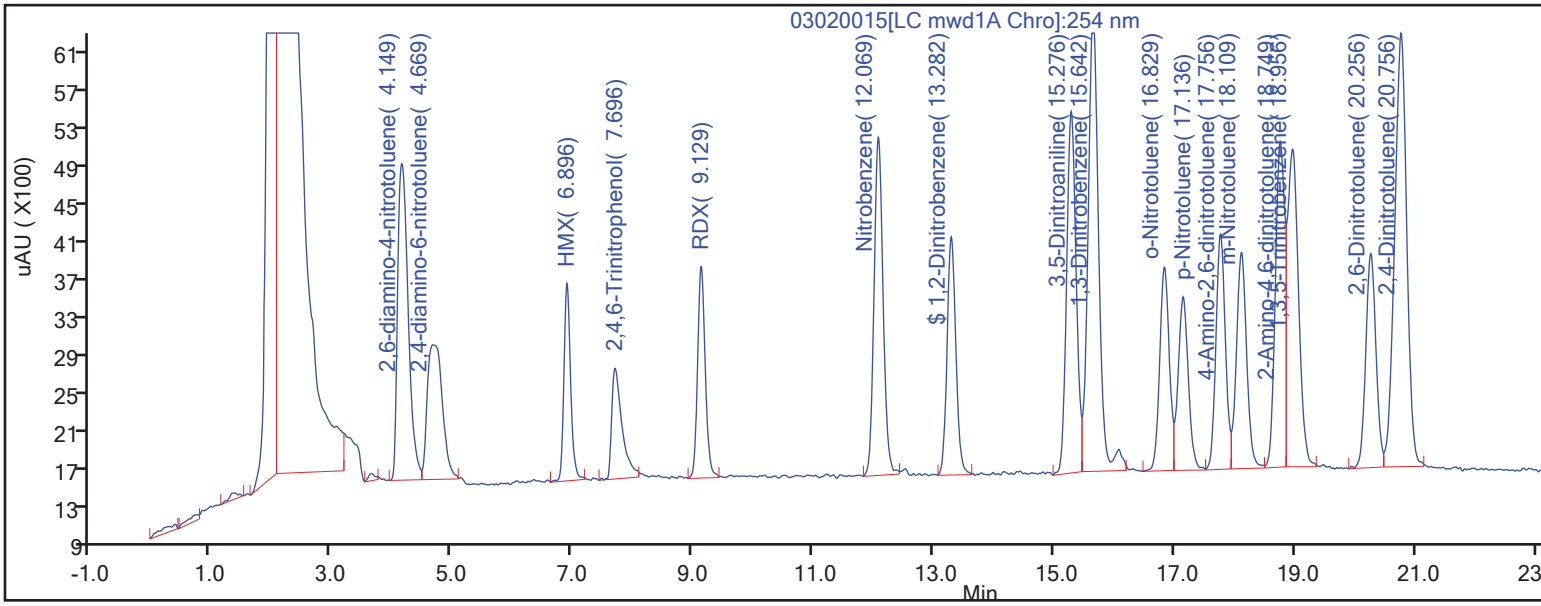
Lims ID: IC INT/ADD 4 Worklist Smp#:

Client ID:

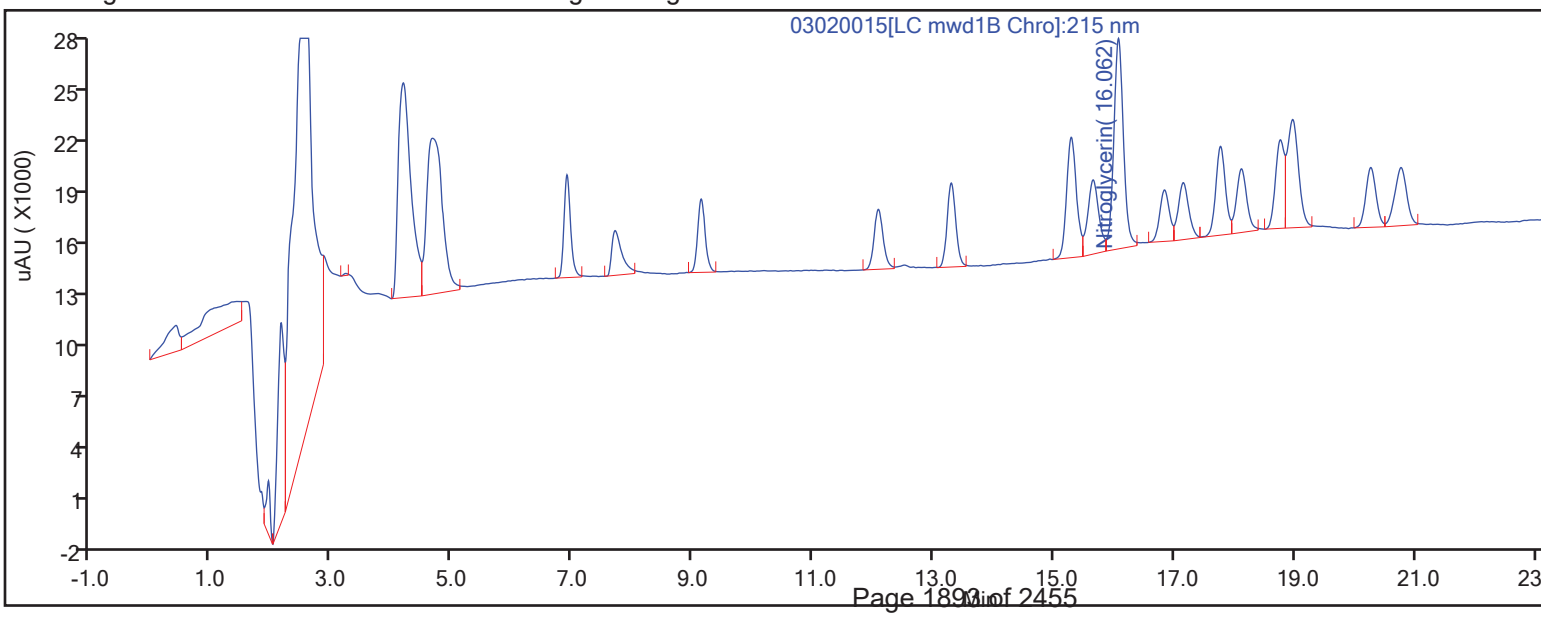
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

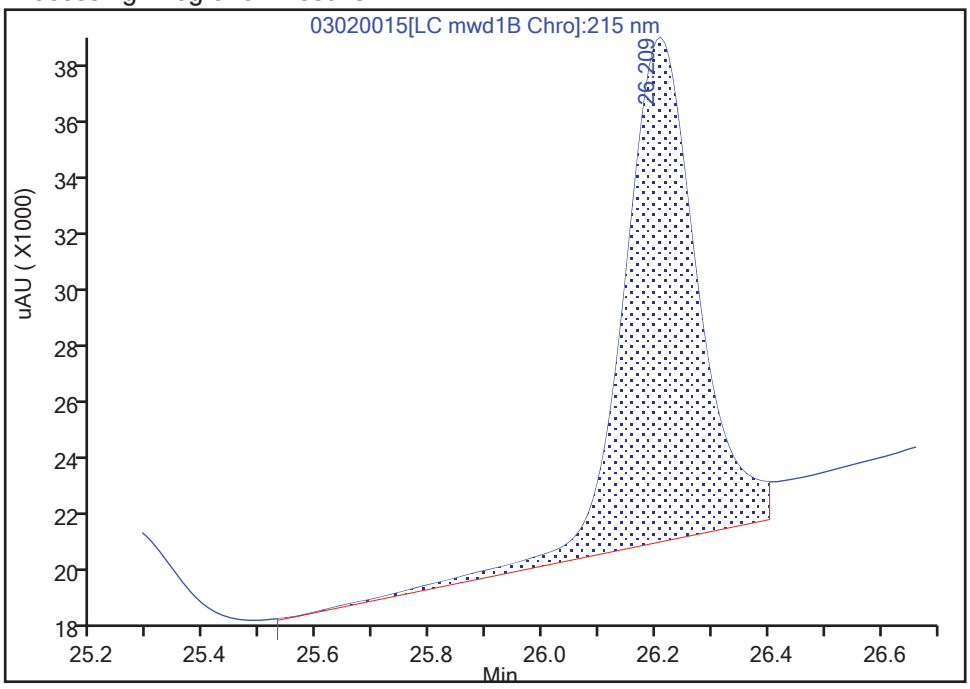
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020015.D
Injection Date: 03-Mar-2022 00:17:55 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 4
Client ID:
Operator ID: JZ ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

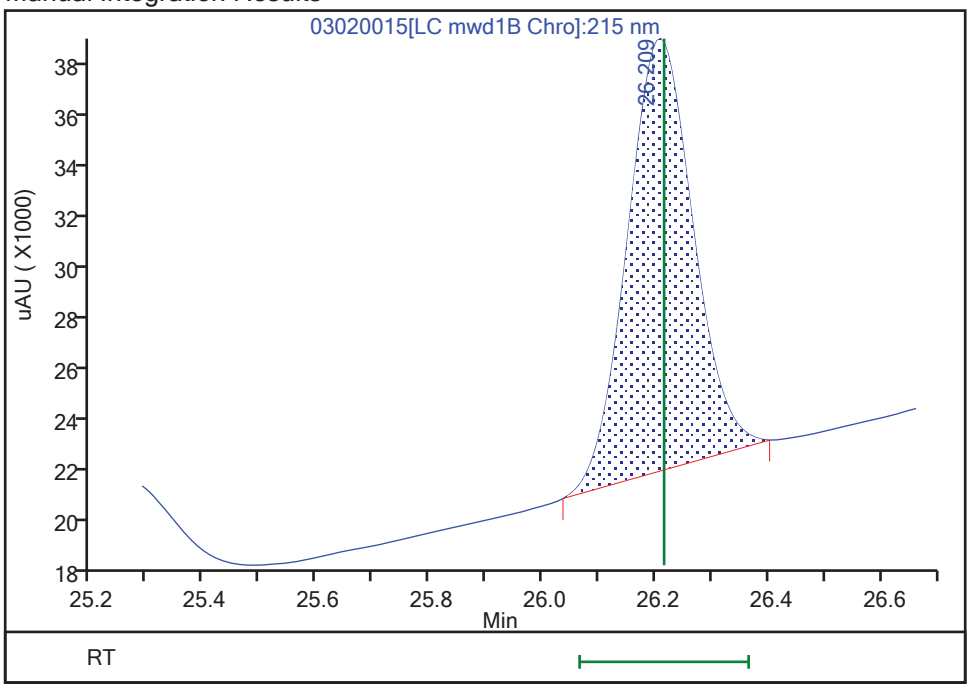
Processing Integration Results

RT: 26.21
Area: 159234
Amount: 1.166681
Amount Units: ug/ml



Manual Integration Results

RT: 26.21
Area: 134076
Amount: 1.036703
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:12:35
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020016.D
Lims ID: IC INT/ADD 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 03-Mar-2022 00:53:03 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 3
Misc. Info.: 280-0108949-016
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:16 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:09:56

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.154	4.142	0.012	21526	0.0500	0.0530	
	2 2,4-diamino-6-nitrotoluene	1	4.674	4.669	0.005	12869	0.0500	0.0495	
	5 HMX	1	6.894	6.889	0.005	8053	0.0500	0.0485	
	7 2,4,6-Trinitrophenol	1	7.767	7.602	0.165	6356	0.0500	0.0478	
	8 RDX	1	9.120	9.115	0.005	10028	0.0500	0.0516	
	9 Nitrobenzene	1	12.073	12.062	0.011	19149	0.0502	0.0520	
$	10 1,2-Dinitrobenzene	1	13.287	13.282	0.005	12864	0.0500	0.0515	
	11 3,5-Dinitroaniline	1	15.287	15.269	0.018	20966	0.0500	0.0508	
	12 1,3-Dinitrobenzene	1	15.647	15.635	0.012	30181	0.0501	0.0528	
	13 Nitroglycerin	2	16.073	16.055	0.018	59894	0.5000	0.4889	M
	14 o-Nitrotoluene	1	16.833	16.822	0.011	12057	0.0500	0.0514	
	16 p-Nitrotoluene	1	17.147	17.129	0.018	10595	0.0501	0.0503	
	17 4-Amino-2,6-dinitrotoluene	1	17.773	17.755	0.018	13425	0.0501	0.0505	
	18 m-Nitrotoluene	1	18.120	18.102	0.018	13387	0.0501	0.0510	
	19 2-Amino-4,6-dinitrotoluene	1	18.773	18.742	0.031	18562	0.0502	0.0515	
	20 1,3,5-Trinitrobenzene	1	18.973	18.949	0.024	21339	0.0501	0.0514	
	21 2,6-Dinitrotoluene	1	20.267	20.255	0.012	13757	0.0502	0.0518	
	22 2,4-Dinitrotoluene	1	20.767	20.762	0.005	33918	0.0502	0.0508	
	23 Tetryl	1	24.500	24.489	0.011	18110	0.0501	0.0529	
	24 2,4,6-Trinitrotoluene	1	25.274	25.262	0.012	18556	0.0502	0.0503	
	25 PETN	2	26.220	26.215	0.005	67082	0.5000	0.5187	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00070	Amount Added:	5.00	Units: uL
8330_ADDs_00031	Amount Added:	2.50	Units: uL

Report Date: 03-Mar-2022 12:49:17 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020016.D

Injection Date: 03-Mar-2022 00:53:03 Instrument ID: CHHPLC_X5 Operator ID:

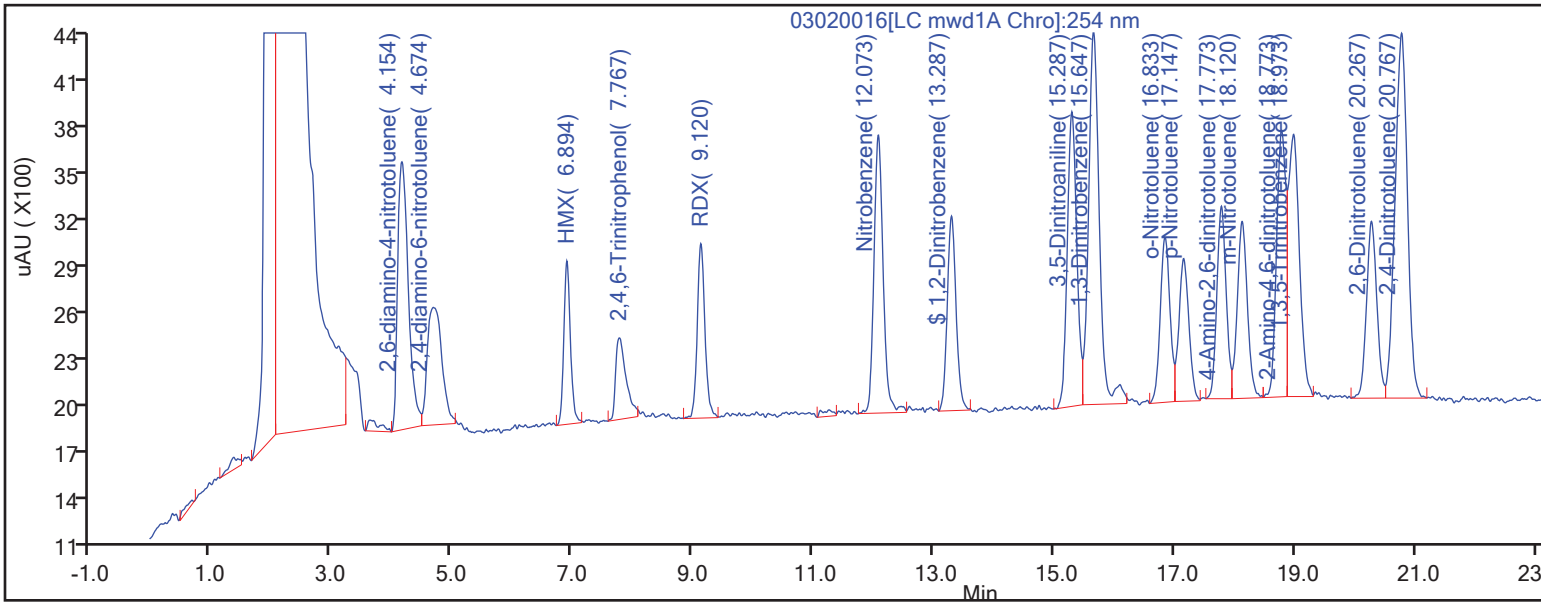
Lims ID: IC INT/ADD 3 Worklist Smp#:

Client ID:

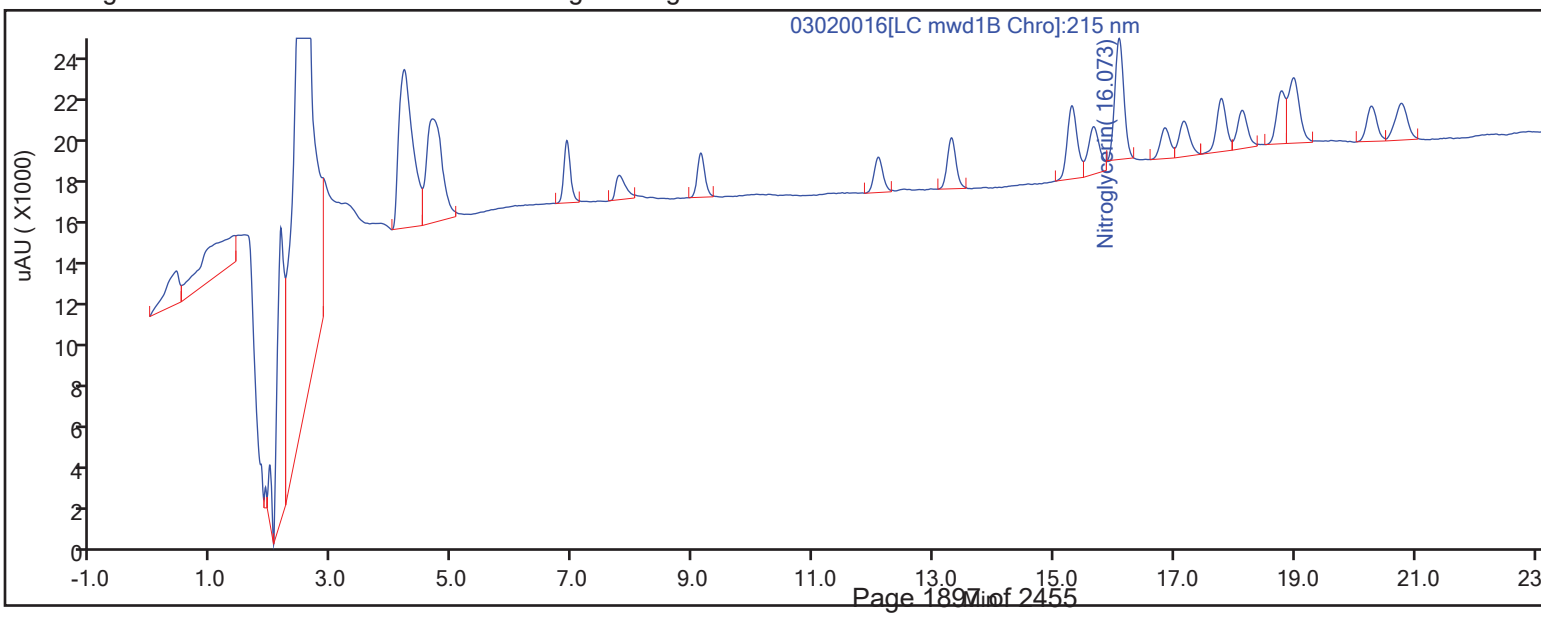
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

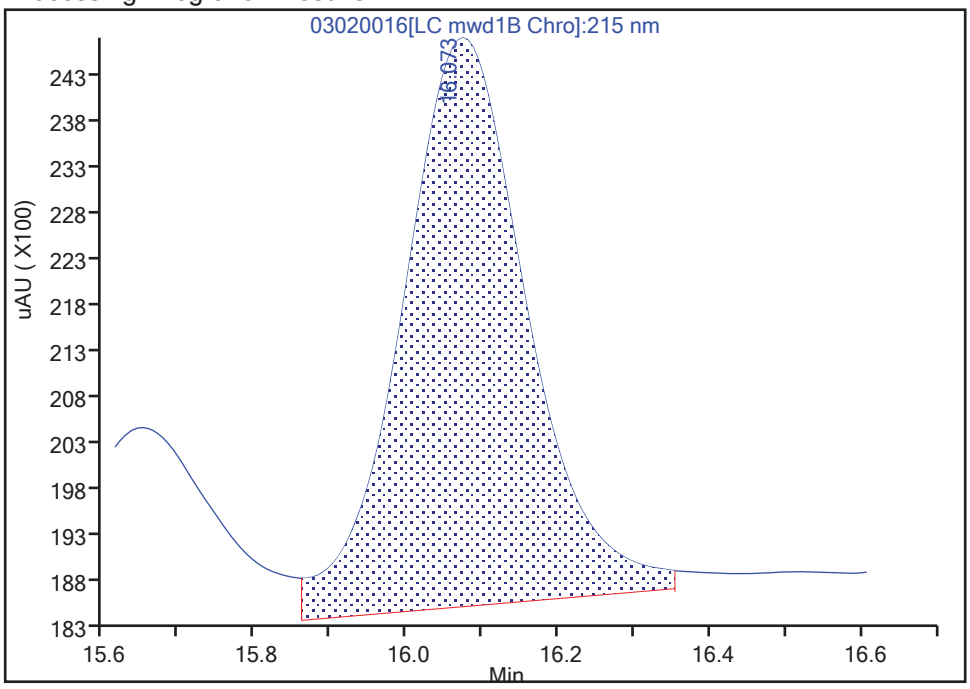
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020016.D				
Injection Date:	03-Mar-2022 00:53:03	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 3				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	16	Worklist Smp#:	16
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:		Detector	LC mwd1B, 215 nm		

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

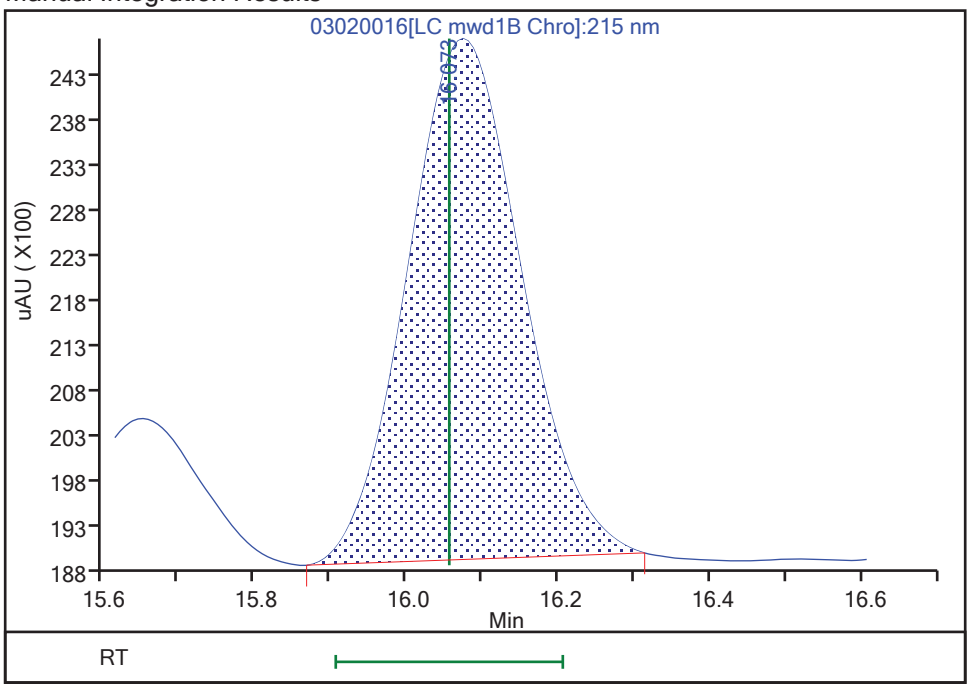
Processing Integration Results

RT: 16.07
Area: 70358
Amount: 0.563571
Amount Units: ug/ml



Manual Integration Results

RT: 16.07
Area: 59894
Amount: 0.488860
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:12:24
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

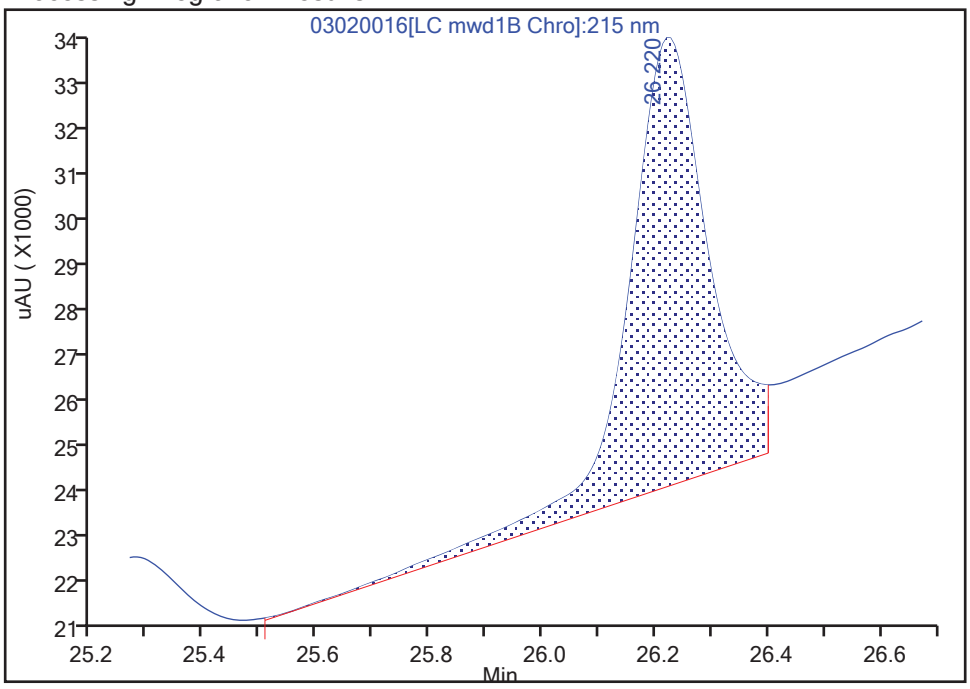
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020016.D
Injection Date: 03-Mar-2022 00:53:03 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 3
Client ID:
Operator ID: JZ ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

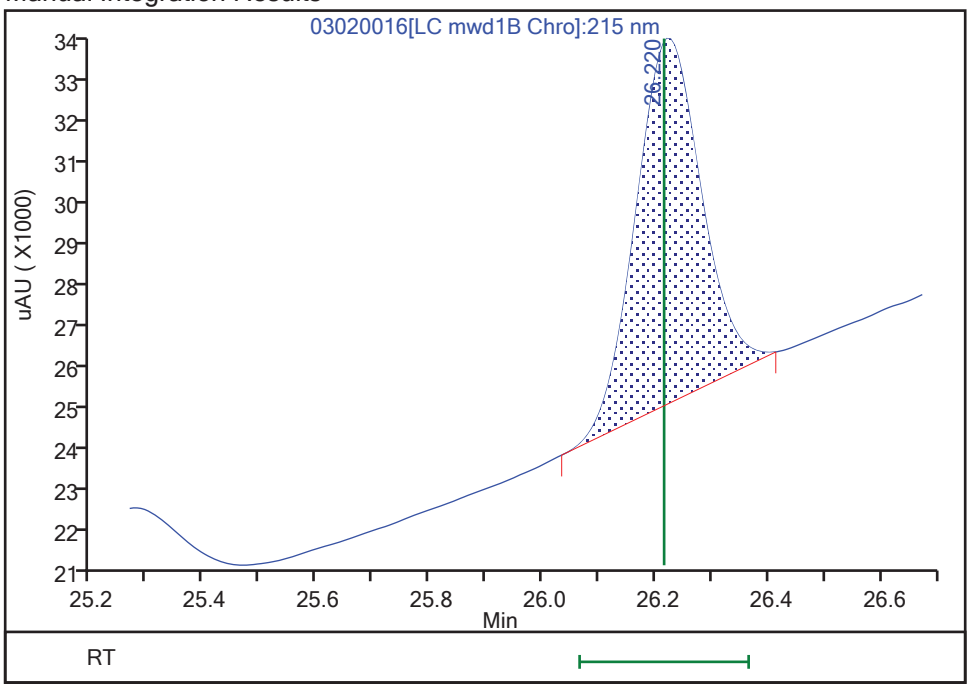
Processing Integration Results

RT: 26.22
Area: 91339
Amount: 0.654475
Amount Units: ug/ml



Manual Integration Results

RT: 26.22
Area: 67082
Amount: 0.518692
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:12:20
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020017.D
Lims ID: IC INT/ADD 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 03-Mar-2022 01:28:22 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 2
Misc. Info.: 280-0108949-017
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:17 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:10:52

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 2,6-diamino-4-nitrotoluene	1	4.169	4.142	0.027	9145	0.0200	0.0225	
2 2,4-diamino-6-nitrotoluene	1	4.716	4.669	0.047	5618	0.0200	0.0175	
5 HMX	1	6.896	6.889	0.007	3127	0.0200	0.0188	
7 2,4,6-Trinitrophenol	1	7.863	7.602	0.261	2301	0.0200	0.0173	
8 RDX	1	9.129	9.115	0.014	3719	0.0200	0.0191	
9 Nitrobenzene	1	12.069	12.062	0.007	6686	0.0201	0.0182	
$ 10 1,2-Dinitrobenzene	1	13.282	13.282	0.000	4809	0.0200	0.0193	
11 3,5-Dinitroaniline	1	15.282	15.269	0.013	7621	0.0200	0.0183	
12 1,3-Dinitrobenzene	1	15.642	15.635	0.007	10643	0.0200	0.0186	
13 Nitroglycerin	2	16.062	16.055	0.007	21750	0.2000	0.1775	M
14 o-Nitrotoluene	1	16.829	16.822	0.007	4607	0.0200	0.0196	
16 p-Nitrotoluene	1	17.129	17.129	0.000	4078	0.0200	0.0193	
17 4-Amino-2,6-dinitrotoluene	1	17.756	17.755	0.001	5271	0.0200	0.0200	
18 m-Nitrotoluene	1	18.116	18.102	0.014	4805	0.0200	0.0188	
19 2-Amino-4,6-dinitrotoluene	1	18.762	18.742	0.020	6899	0.0201	0.0191	M
20 1,3,5-Trinitrobenzene	1	18.956	18.949	0.007	6970	0.0200	0.0168	M
21 2,6-Dinitrotoluene	1	20.262	20.255	0.007	5233	0.0201	0.0197	
22 2,4-Dinitrotoluene	1	20.716	20.762	-0.046	16863	0.0201	0.0193	
23 Tetryl	1	24.496	24.489	0.007	6933	0.0200	0.0203	
24 2,4,6-Trinitrotoluene	1	25.269	25.262	0.007	6507	0.0201	0.0176	
25 PETN	2	26.223	26.215	0.008	21923	0.2000	0.1695	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00070	Amount Added:	2.00	Units: uL
8330_ADDs_00031	Amount Added:	1.00	Units: uL

Report Date: 03-Mar-2022 12:49:17 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020017.D

Injection Date: 03-Mar-2022 01:28:22 Instrument ID: CHHPLC_X5 Operator ID:

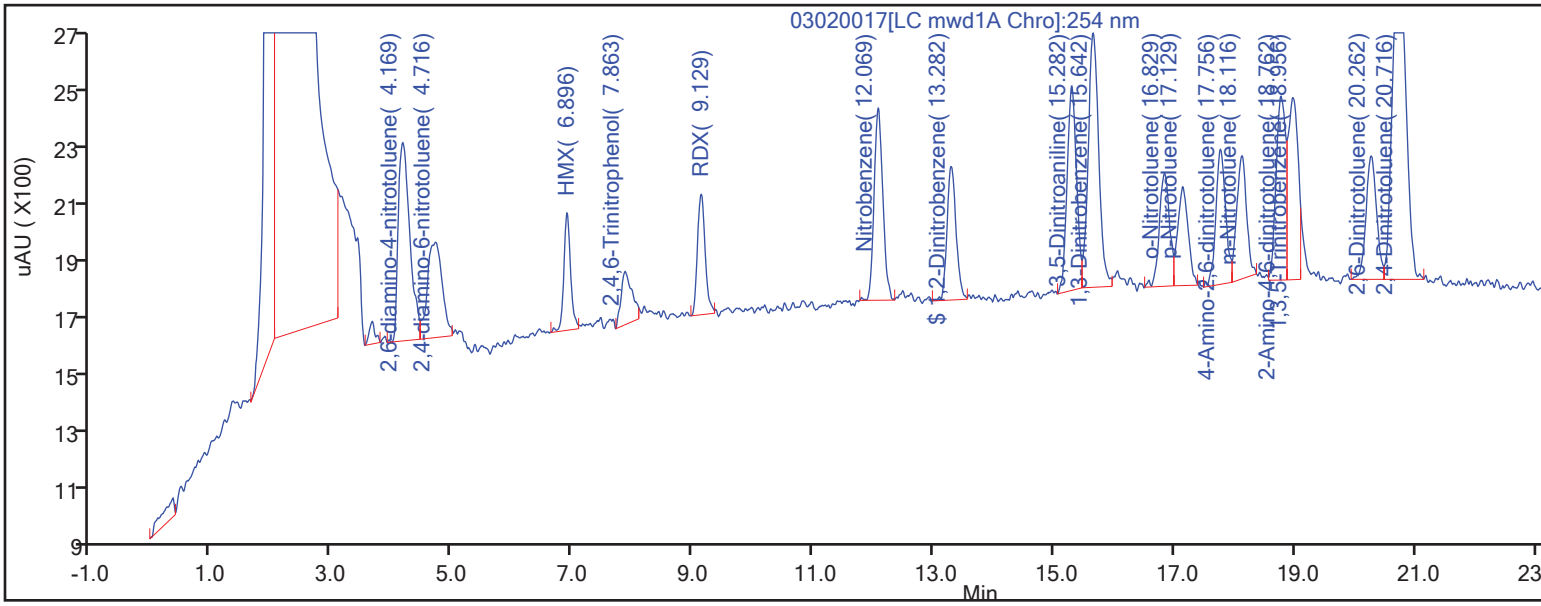
Lims ID: IC INT/ADD 2 Worklist Smp#:

Client ID:

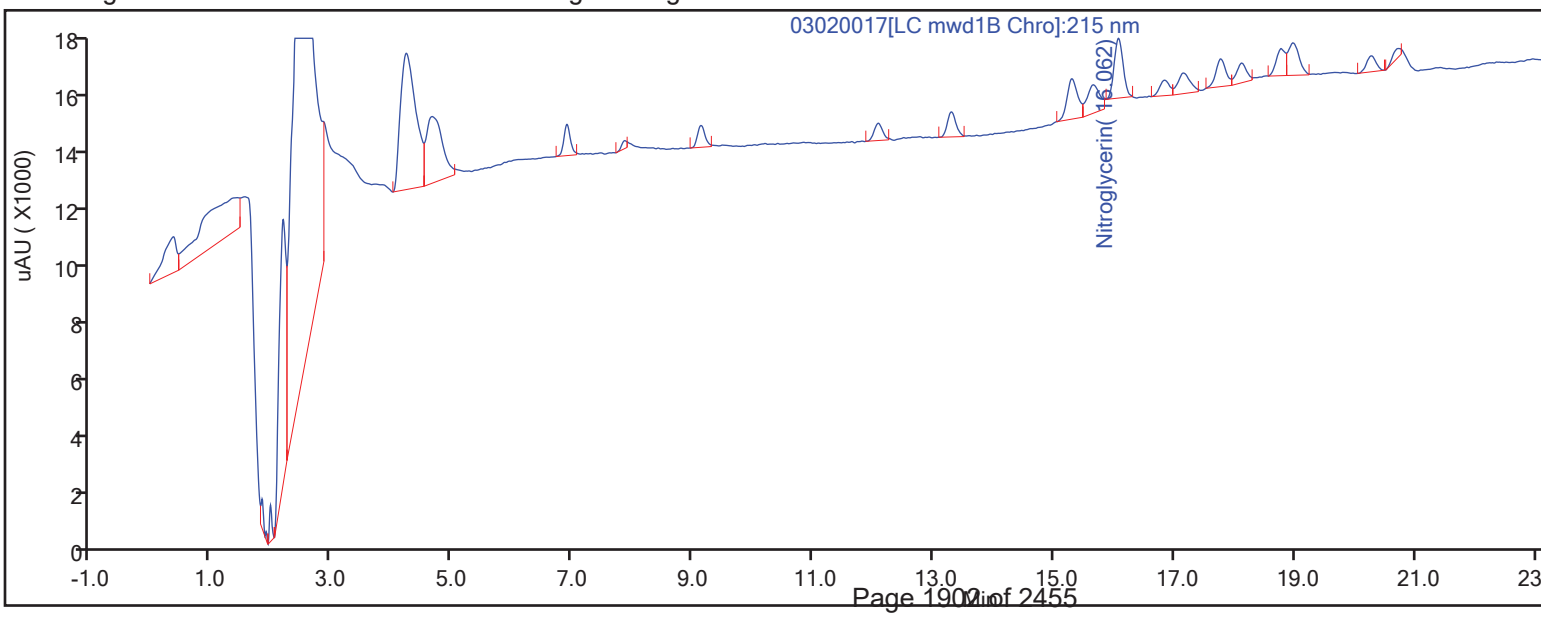
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

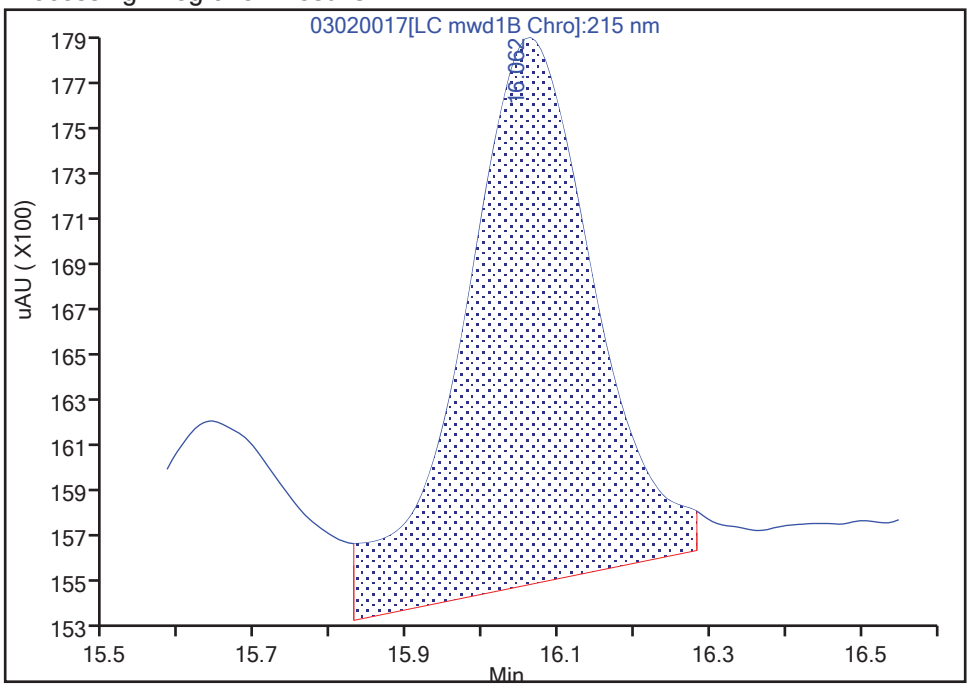
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020017.D
Injection Date: 03-Mar-2022 01:28:22 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 2
Client ID:
Operator ID: JZ ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

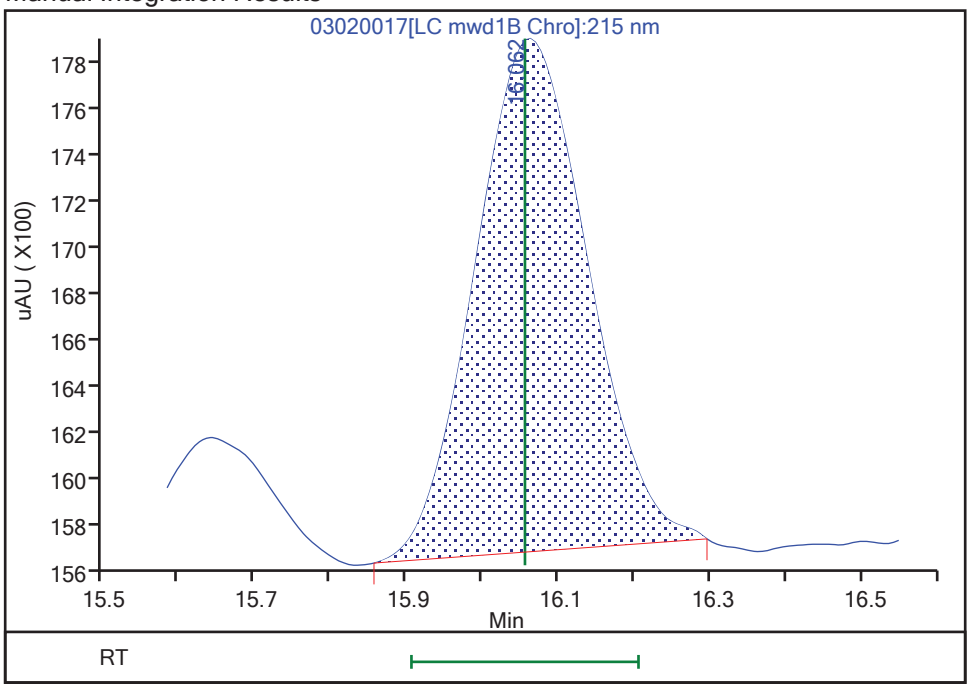
Processing Integration Results

RT: 16.06
Area: 28042
Amount: 0.218500
Amount Units: ug/ml



Manual Integration Results

RT: 16.06
Area: 21750
Amount: 0.177525
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:12:09
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

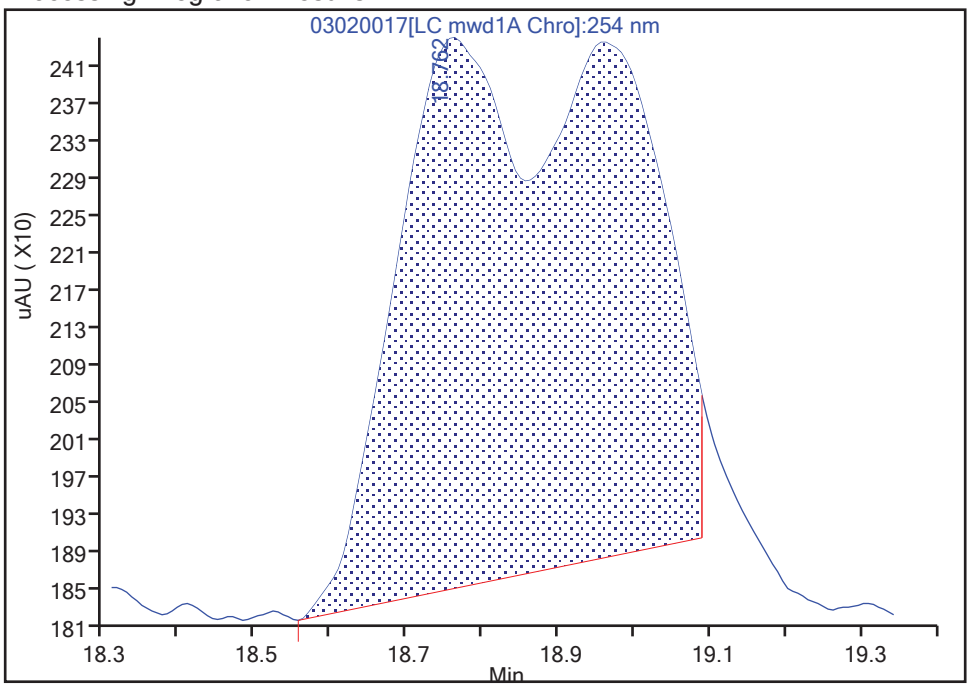
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020017.D				
Injection Date:	03-Mar-2022 01:28:22	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 2				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

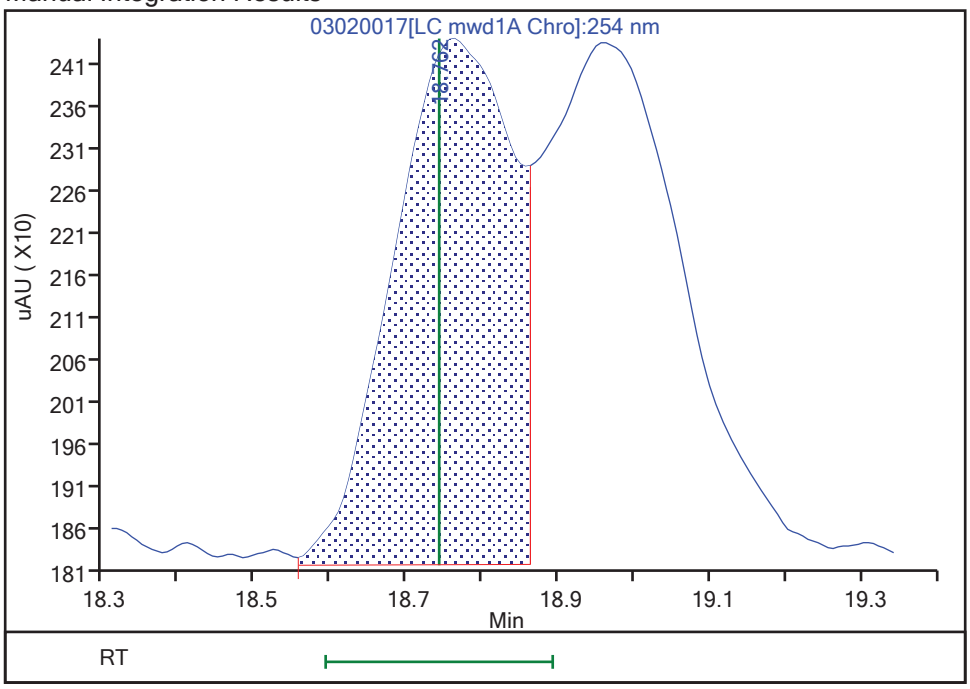
Processing Integration Results

RT: 18.76
Area: 12210
Amount: 0.025658
Amount Units: ug/ml



Manual Integration Results

RT: 18.76
Area: 6899
Amount: 0.019135
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:10:14
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

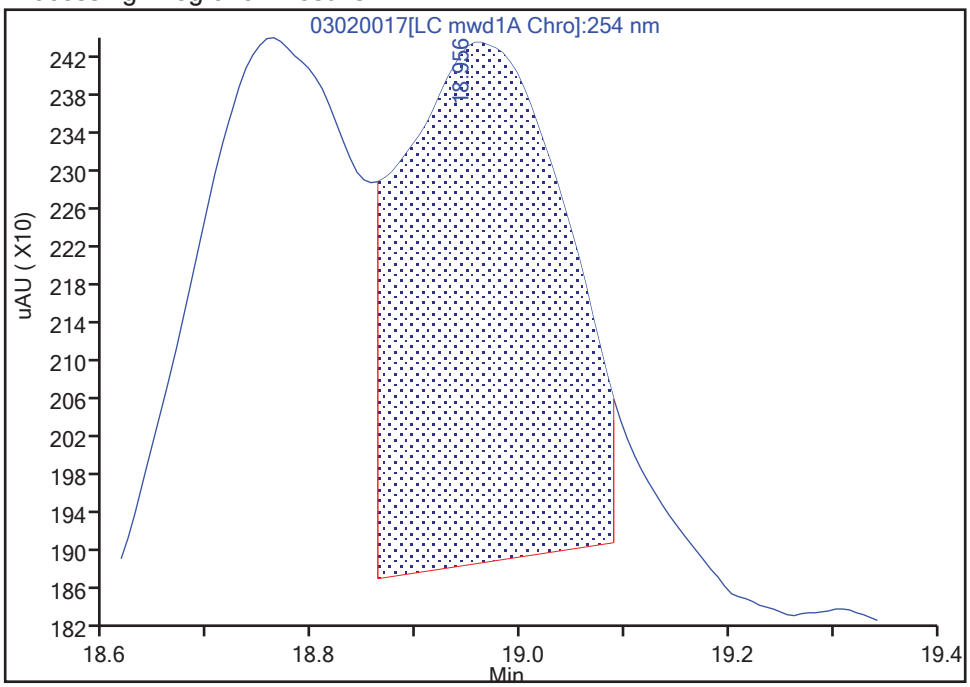
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020017.D				
Injection Date:	03-Mar-2022 01:28:22	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 2				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

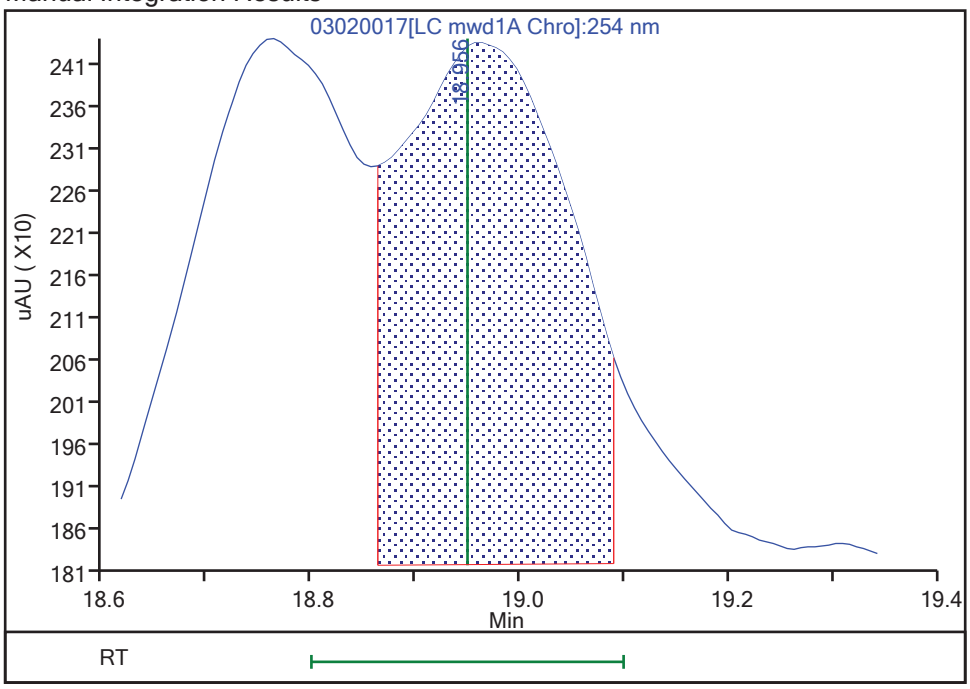
Processing Integration Results

RT: 18.96
Area: 5936
Amount: 0.014418
Amount Units: ug/ml



Manual Integration Results

RT: 18.96
Area: 6970
Amount: 0.016776
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:10:14

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

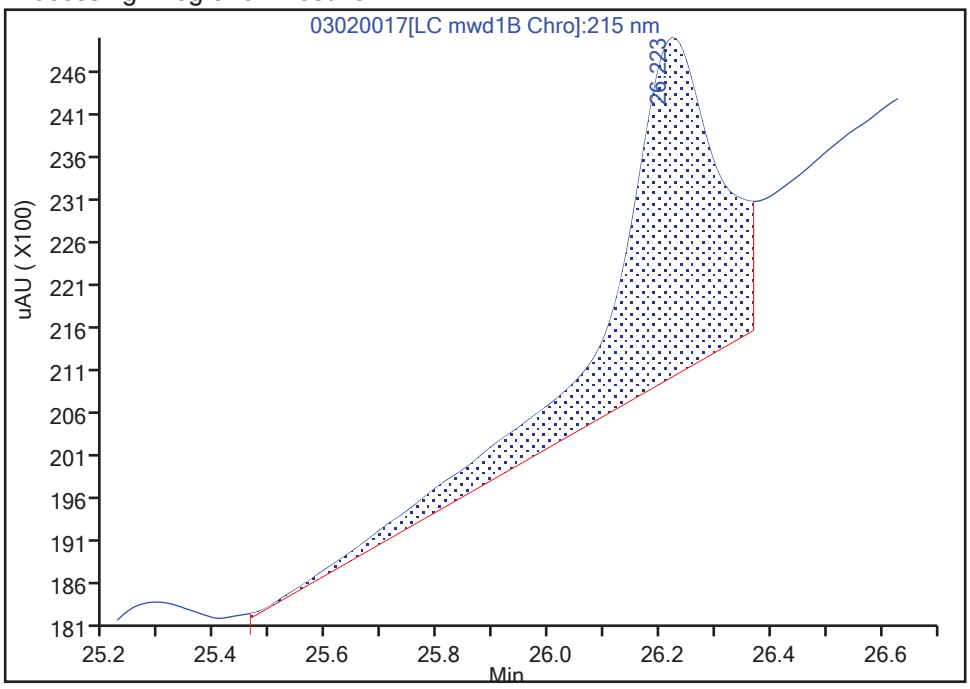
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020017.D
Injection Date: 03-Mar-2022 01:28:22 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 2
Client ID:
Operator ID: JZ ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

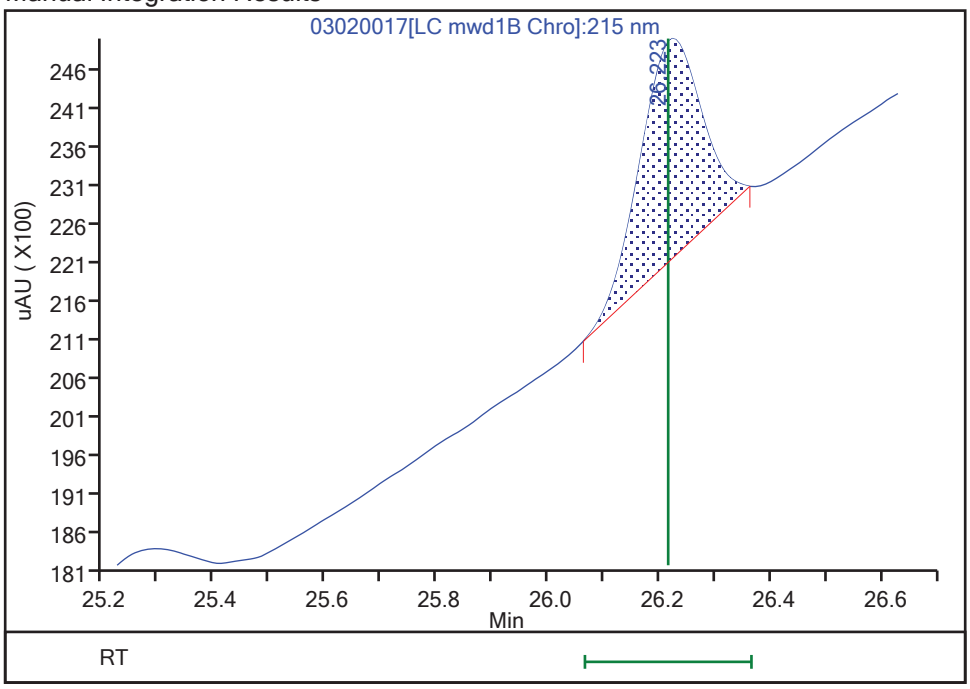
Processing Integration Results

RT: 26.22
Area: 51157
Amount: 0.330478
Amount Units: ug/ml



Manual Integration Results

RT: 26.22
Area: 21923
Amount: 0.169513
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:12:13
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020018.D
Lims ID: IC INT/ADD 1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 03-Mar-2022 02:03:29 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT/ADD 1
Misc. Info.: 280-0108949-018
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:49:18 Calib Date: 03-Mar-2022 07:19:48
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020027.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:07:10

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.174	4.142	0.032	6283	0.0100	0.0155	
	2 2,4-diamino-6-nitrotoluene	1	4.714	4.669	0.045	4064	0.0100	0.0106	
	5 HMX	1	6.887	6.889	-0.002	2040	0.0100	0.0123	
	7 2,4,6-Trinitrophenol	1		7.602			ND	ND	
	8 RDX	1	9.114	9.115	-0.001	2097	0.0100	0.0108	
	9 Nitrobenzene	1	12.047	12.062	-0.015	3890	0.0100	0.0106	
$	10 1,2-Dinitrobenzene	1	13.260	13.282	-0.022	2461	0.0100	0.009854	
	11 3,5-Dinitroaniline	1	15.287	15.269	0.018	4362	0.0100	0.0104	
	12 1,3-Dinitrobenzene	1	15.627	15.635	-0.008	5961	0.0100	0.0104	
	13 Nitroglycerin	2	16.054	16.055	-0.001	10664	0.1000	0.0870	M
	14 o-Nitrotoluene	1	16.807	16.822	-0.015	2491	0.0100	0.0106	
	16 p-Nitrotoluene	1	17.147	17.129	0.018	2203	0.0100	0.0104	
	17 4-Amino-2,6-dinitrotoluene	1	17.734	17.755	-0.021	2610	0.0100	0.0100	
	18 m-Nitrotoluene	1	18.094	18.102	-0.008	2543	0.0100	0.0103	
	19 2-Amino-4,6-dinitrotoluene	1	18.754	18.742	0.012	3705	0.0100	0.0103	M
	20 1,3,5-Trinitrobenzene	1	18.947	18.949	-0.002	3947	0.0100	0.009500	Ma
	21 2,6-Dinitrotoluene	1	20.260	20.255	0.005	2704	0.0100	0.0102	
	22 2,4-Dinitrotoluene	1	20.674	20.762	-0.088	11900	0.0100	0.0102	
	23 Tetryl	1	24.514	24.489	0.025	4722	0.0100	0.0138	
	24 2,4,6-Trinitrotoluene	1	25.274	25.262	0.012	3720	0.0100	0.0101	
	25 PETN	2	26.220	26.215	0.005	10842	0.1000	0.0838	M

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND

Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8330IntermStk_00070	Amount Added:	1.00	Units: uL
8330_ADDs_00031	Amount Added:	0.50	Units: uL

Report Date: 03-Mar-2022 12:49:18 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020018.D

Injection Date: 03-Mar-2022 02:03:29 Instrument ID: CHHPLC_X5 Operator ID:

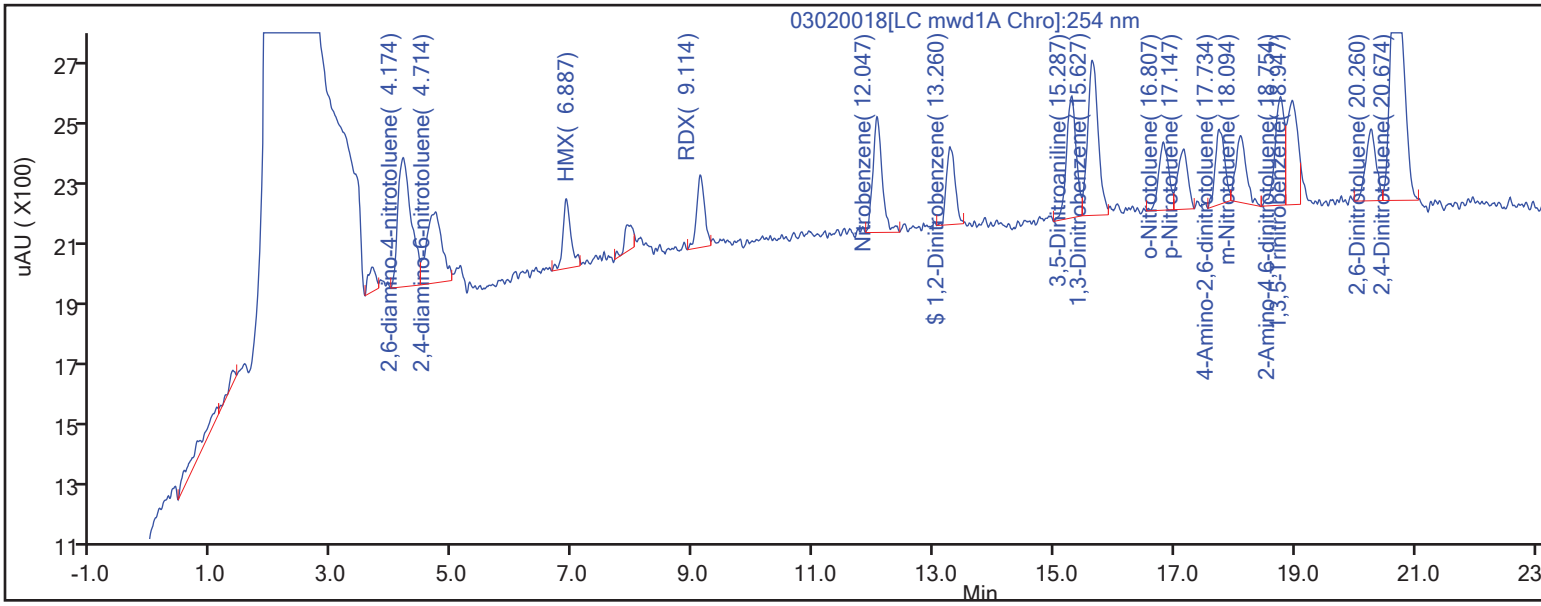
Lims ID: IC INT/ADD 1 Worklist Smp#:

Client ID:

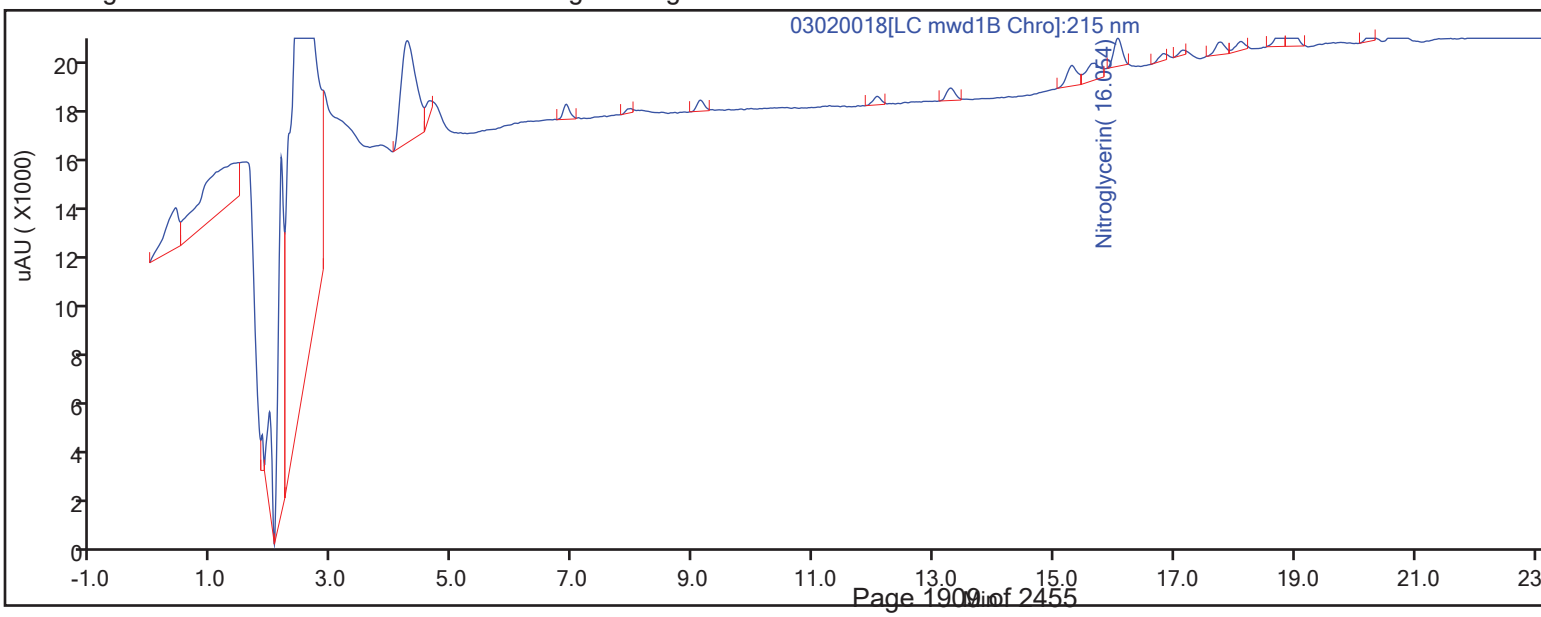
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

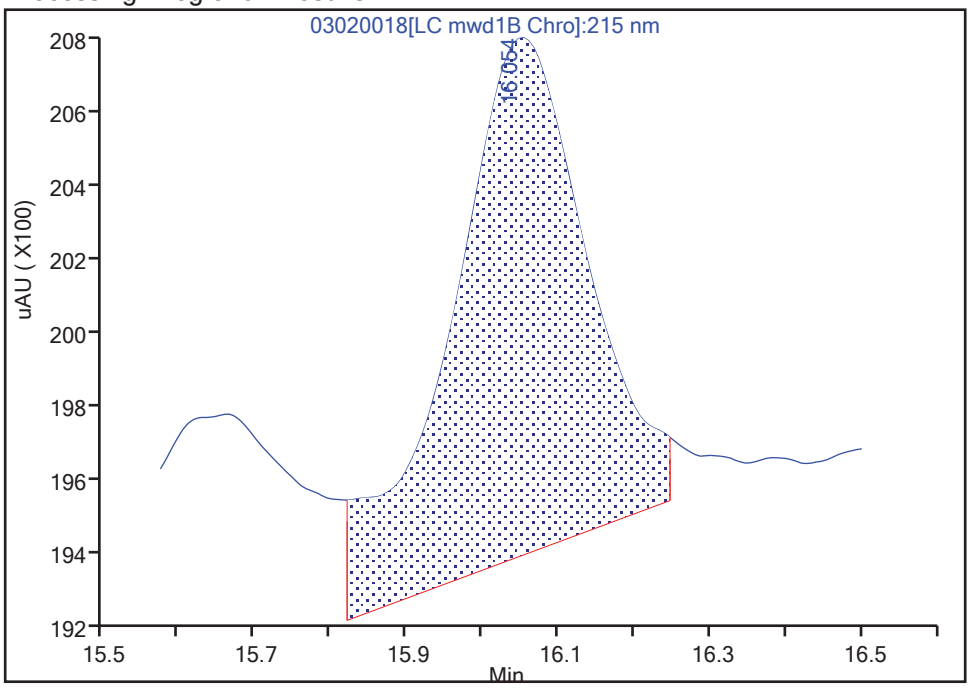
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020018.D
Injection Date: 03-Mar-2022 02:03:29 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 1
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

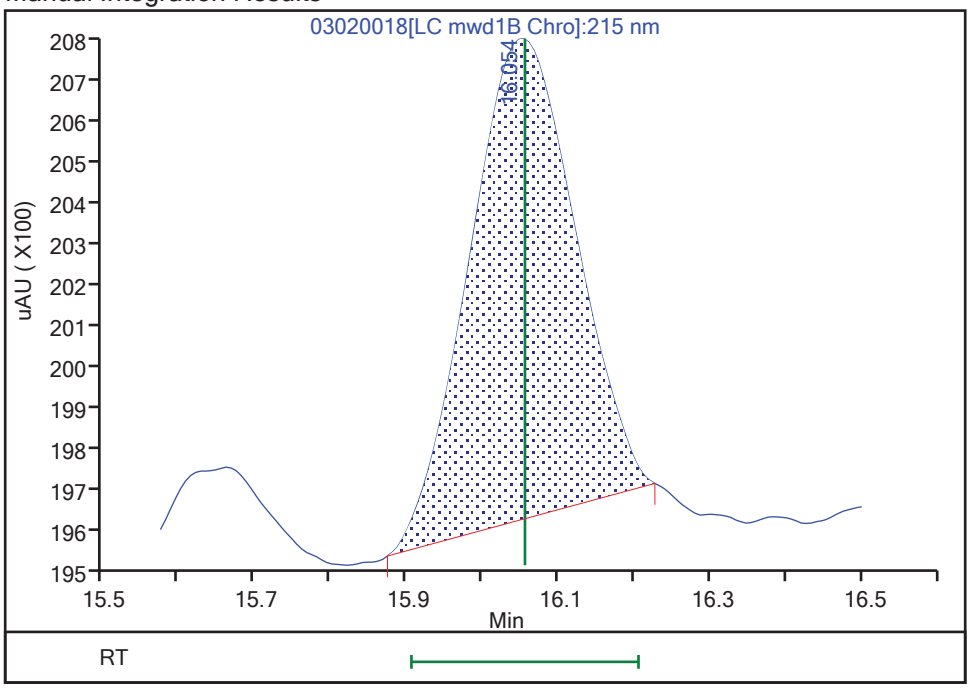
Processing Integration Results

RT: 16.05
Area: 17086
Amount: 0.126120
Amount Units: ug/ml



Manual Integration Results

RT: 16.05
Area: 10664
Amount: 0.087040
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:12:01
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

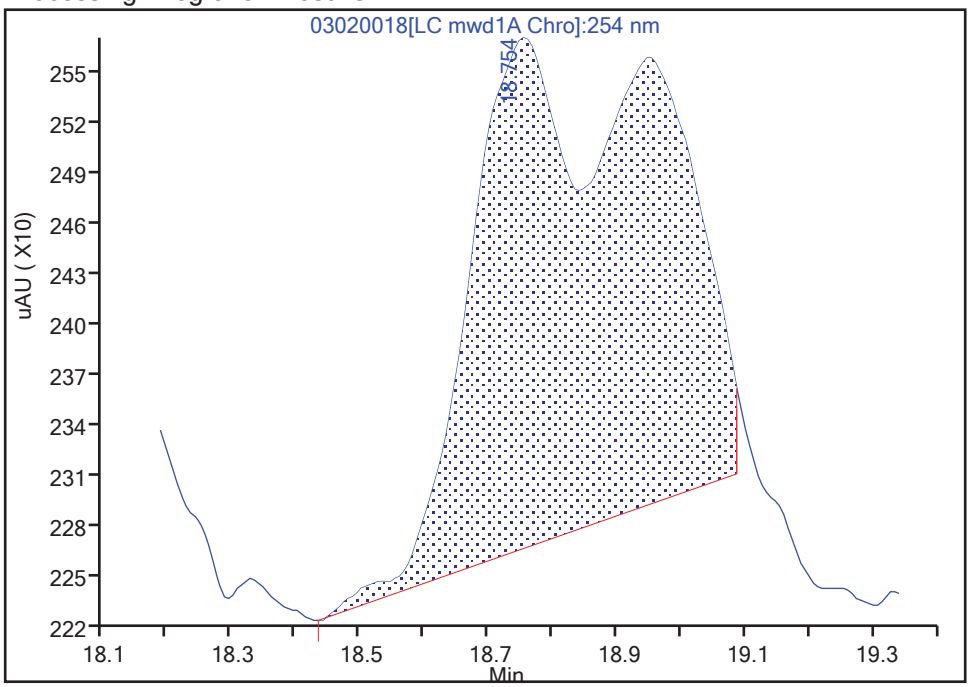
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020018.D
Injection Date: 03-Mar-2022 02:03:29 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 1
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

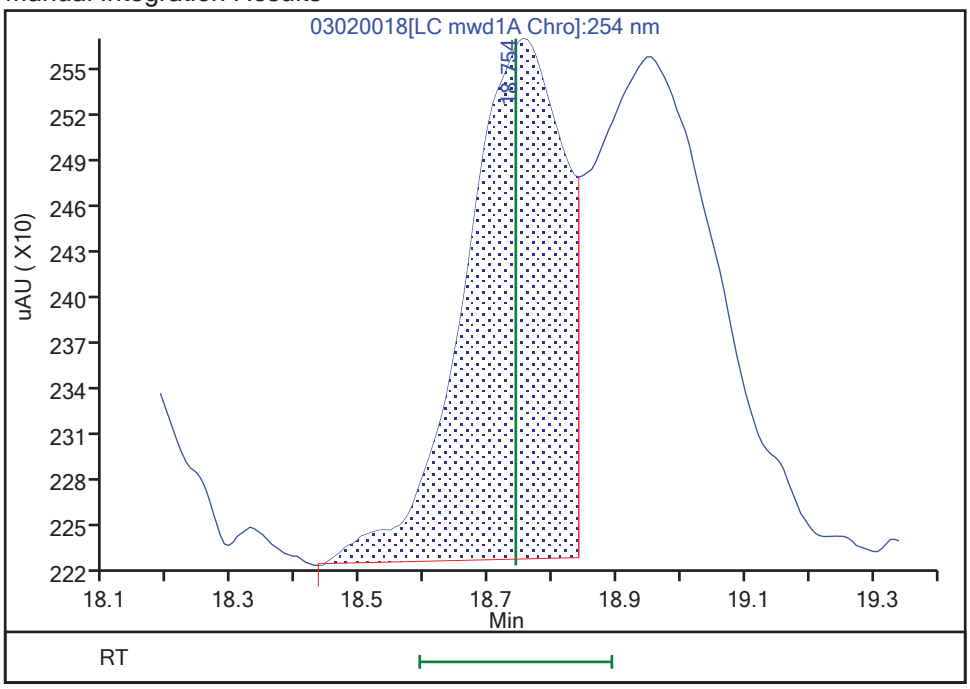
Processing Integration Results

RT: 18.75
Area: 6109
Amount: 0.012300
Amount Units: ug/ml



Manual Integration Results

RT: 18.75
Area: 3705
Amount: 0.010276
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:11:46
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

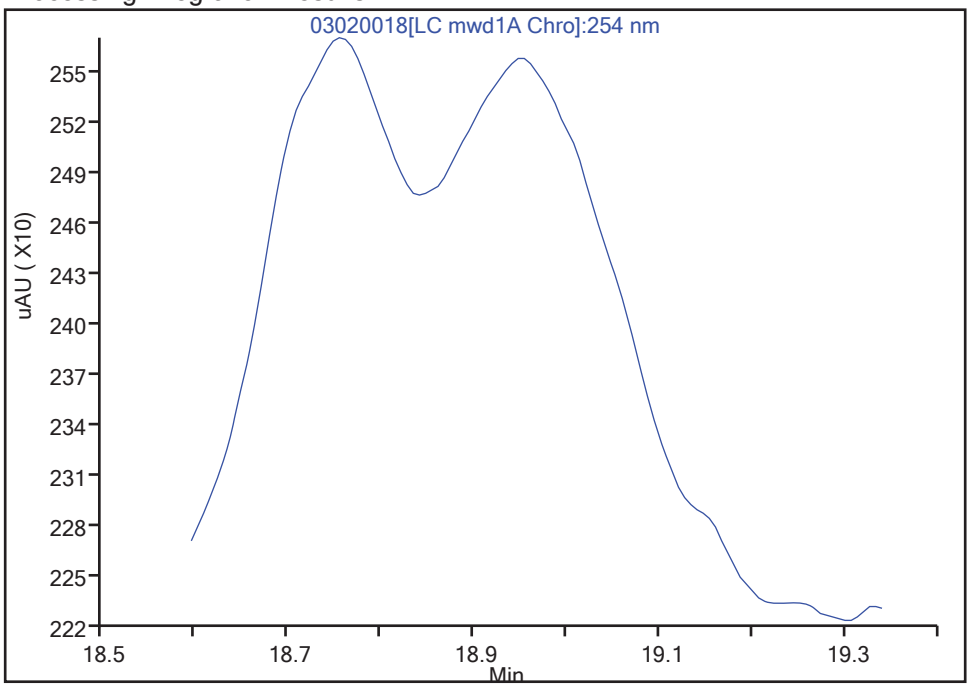
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020018.D				
Injection Date:	03-Mar-2022 02:03:29	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT/ADD 1				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

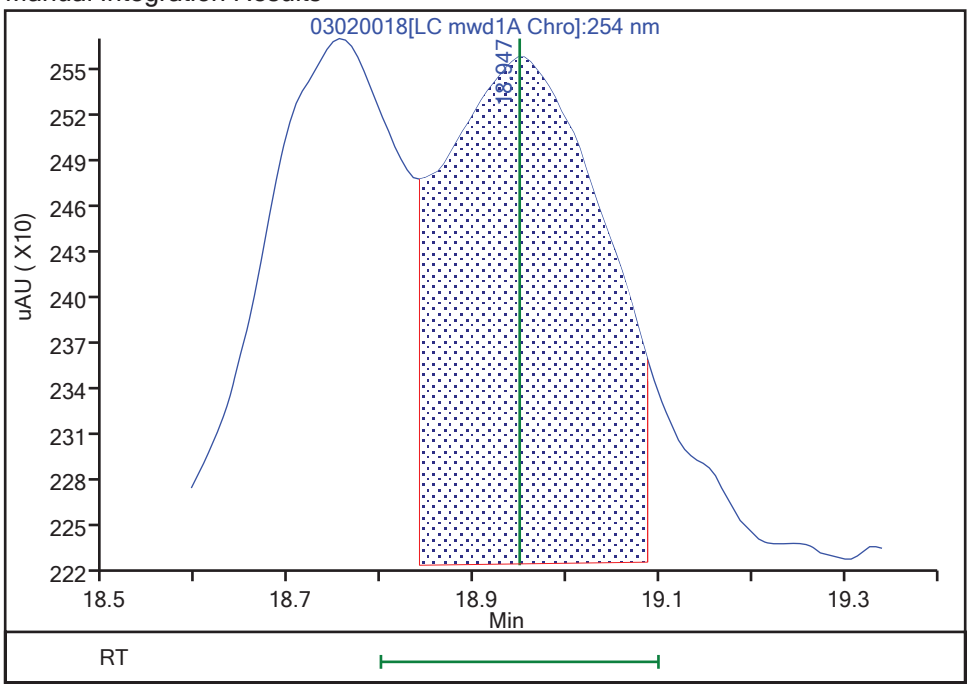
Not Detected
Expected RT: 18.95

Processing Integration Results



Manual Integration Results

RT: 18.95
Area: 3947
Amount: 0.009500
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:11:46
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

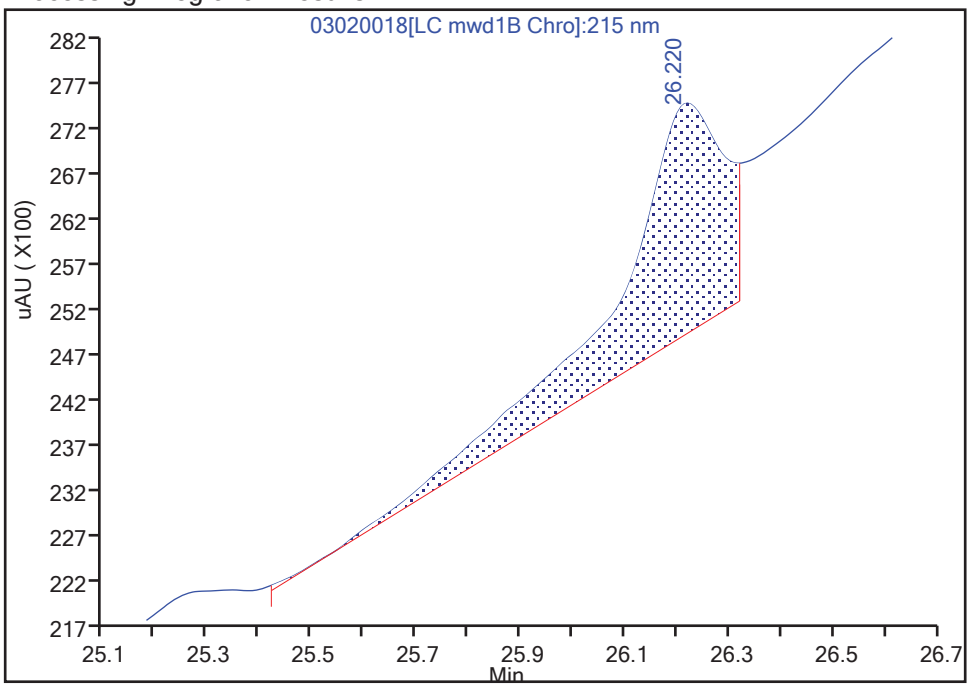
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020018.D
Injection Date: 03-Mar-2022 02:03:29 Instrument ID: CHHPLC_X5
Lims ID: IC INT/ADD 1
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

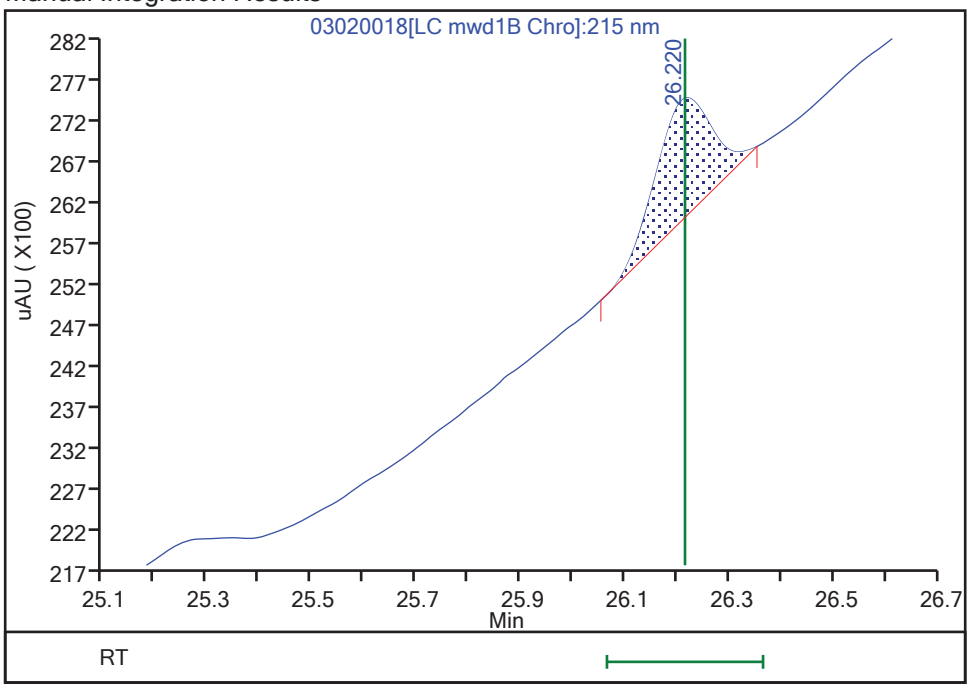
Processing Integration Results

RT: 26.22
Area: 35507
Amount: 0.096197
Amount Units: ug/ml



Manual Integration Results

RT: 26.22
Area: 10842
Amount: 0.083833
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:11:57
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Calibration / 2,6-diamino-4-nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

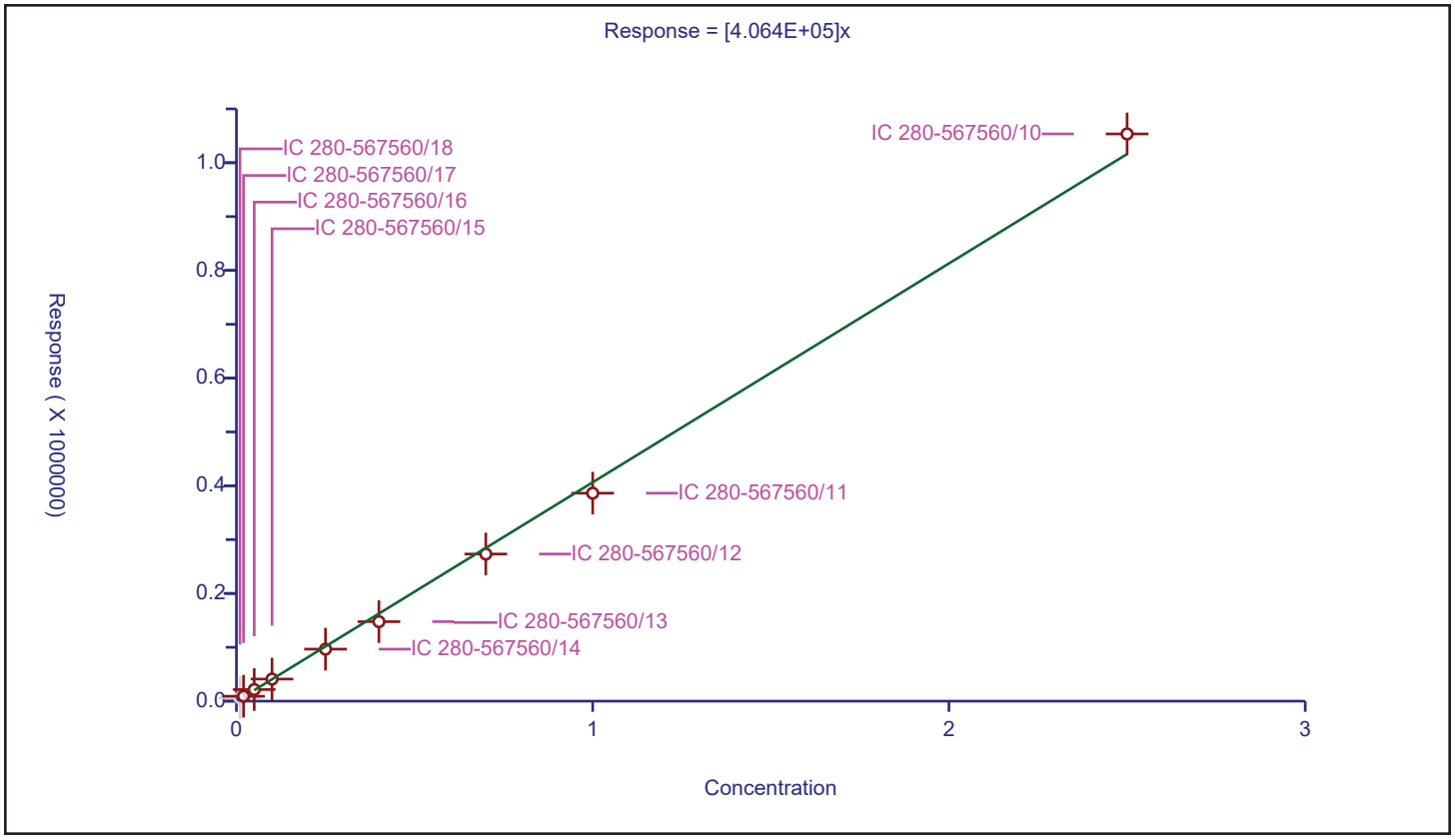
Curve Coefficients

Intercept:	0
Slope:	4.064E+05

Error Coefficients

Standard Error:	17700
Relative Standard Error:	7.1
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	6283.0			628300.0	N
2	IC 280-567560/17	0.02	9145.0			457250.0	Y
3	IC 280-567560/16	0.05	21526.0			430520.0	Y
4	IC 280-567560/15	0.1	41030.0			410300.0	Y
5	IC 280-567560/14	0.25	96596.0			386384.0	Y
6	IC 280-567560/13	0.4	147662.0			369155.0	Y
7	IC 280-567560/12	0.7	273235.0			390335.714286	Y
8	IC 280-567560/11	1.0	386260.0			386260.0	Y
9	IC 280-567560/10	2.5	1053484.0			421393.6	Y



Calibration / 2,4-diamino-6-nitrotoluene

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

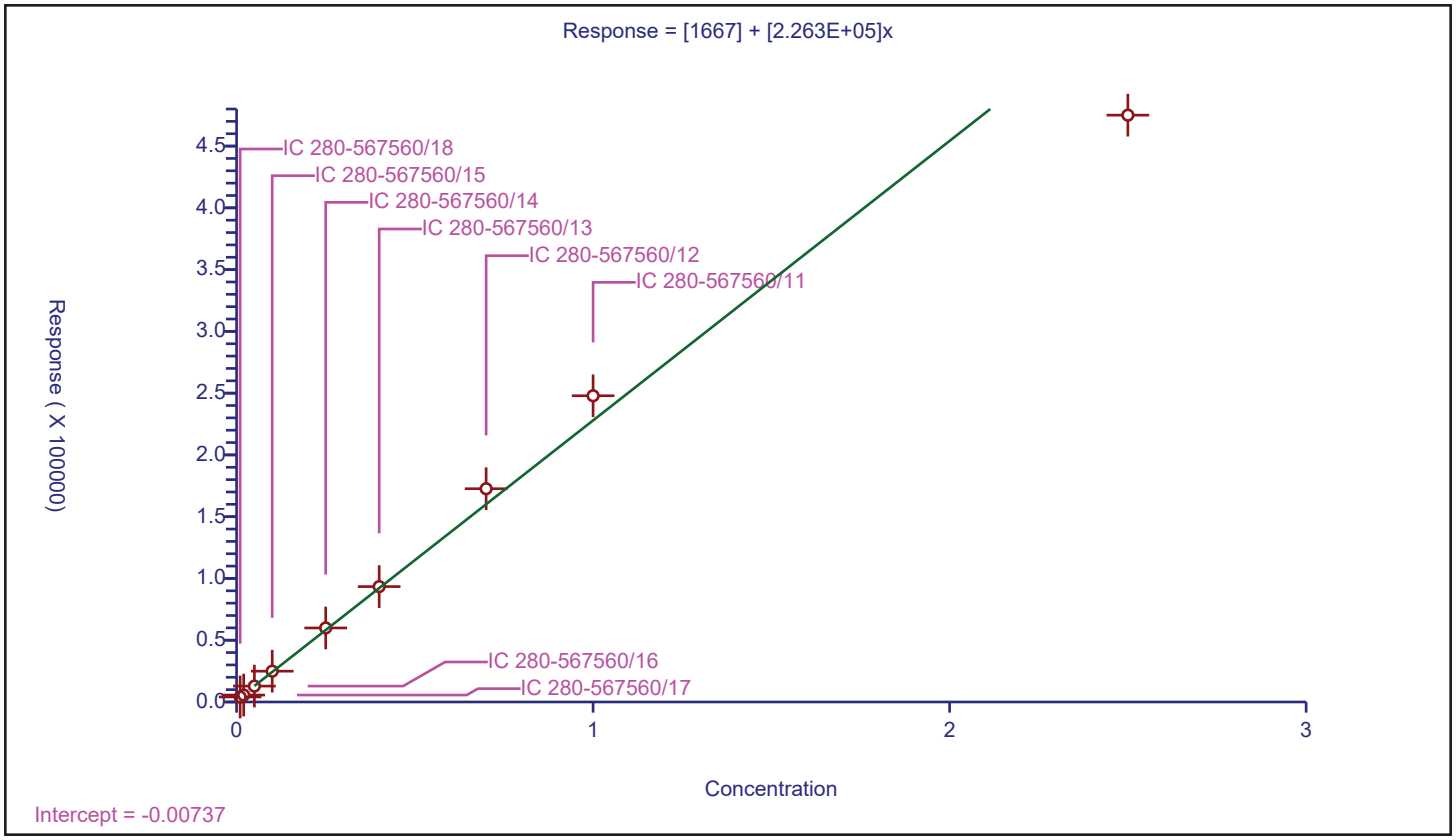
Curve Coefficients

Intercept:	1667
Slope:	2.263E+05

Error Coefficients

Standard Error:	36000
Relative Standard Error:	9.4
Correlation Coefficient:	0.984
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	4064.0			406400.0	Y
2	IC 280-567560/17	0.02	5618.0			280900.0	Y
3	IC 280-567560/16	0.05	12869.0			257380.0	Y
4	IC 280-567560/15	0.1	24932.0			249320.0	Y
5	IC 280-567560/14	0.25	59944.0			239776.0	Y
6	IC 280-567560/13	0.4	93419.0			233547.5	Y
7	IC 280-567560/12	0.7	172644.0			246634.285714	Y
8	IC 280-567560/11	1.0	247885.0			247885.0	Y
9	IC 280-567560/10	2.5	475027.0			190010.8	Y



Calibration / HMX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

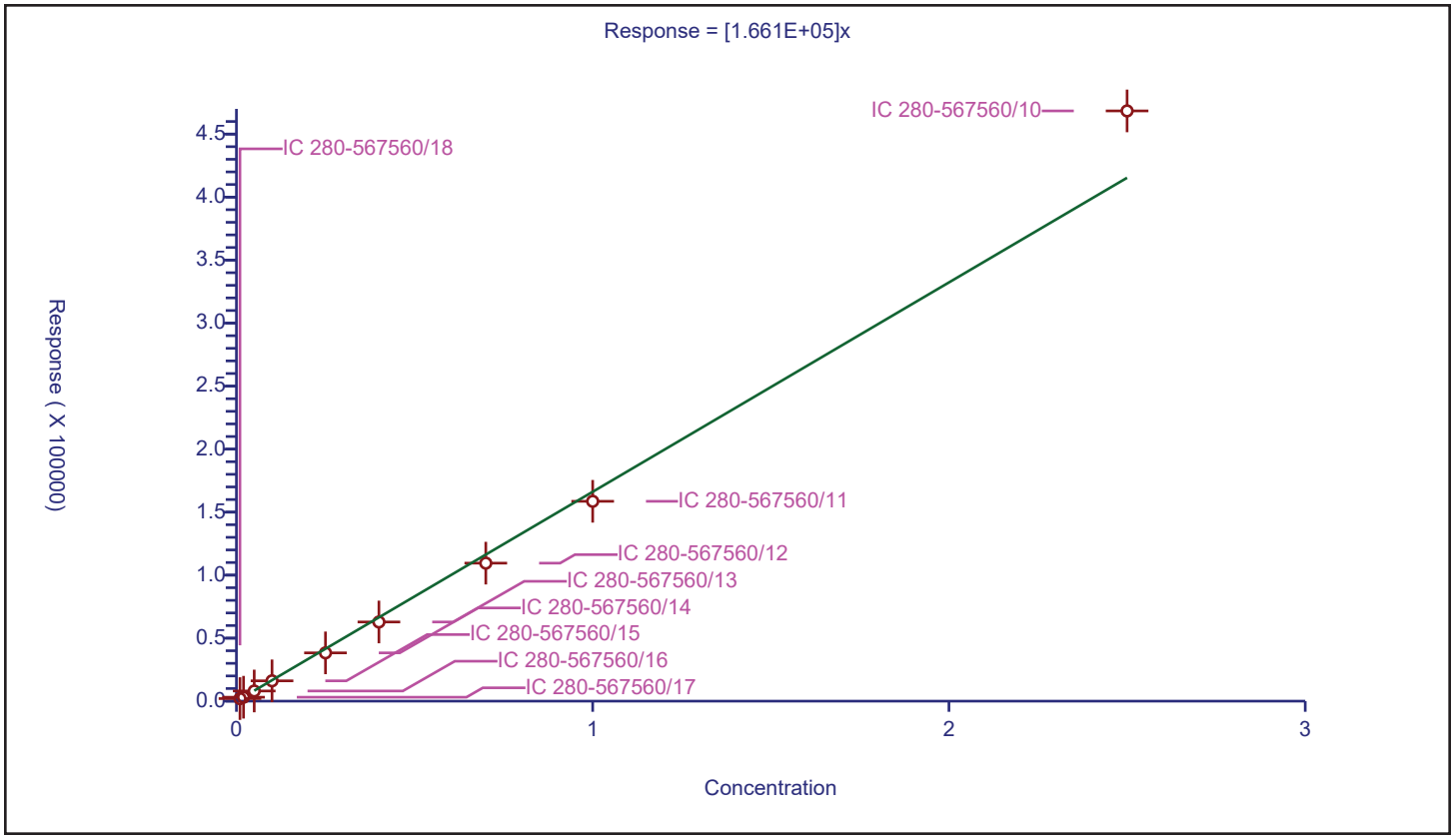
Curve Coefficients

Intercept:	0
Slope:	1.661E+05

Error Coefficients

Standard Error:	19200
Relative Standard Error:	10.5
Correlation Coefficient:	0.995
Coefficient of Determination (Adjusted):	0.985

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	2040.0			204000.0	Y
2	IC 280-567560/17	0.02	3127.0			156350.0	Y
3	IC 280-567560/16	0.05	8053.0			161060.0	Y
4	IC 280-567560/15	0.1	16109.0			161090.0	Y
5	IC 280-567560/14	0.25	38318.0			153272.0	Y
6	IC 280-567560/13	0.4	62819.0			157047.5	Y
7	IC 280-567560/12	0.7	109512.0			156445.714286	Y
8	IC 280-567560/11	1.0	158593.0			158593.0	Y
9	IC 280-567560/10	2.5	468398.0			187359.2	Y



Calibration / 2,4,6-Trinitrophenol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

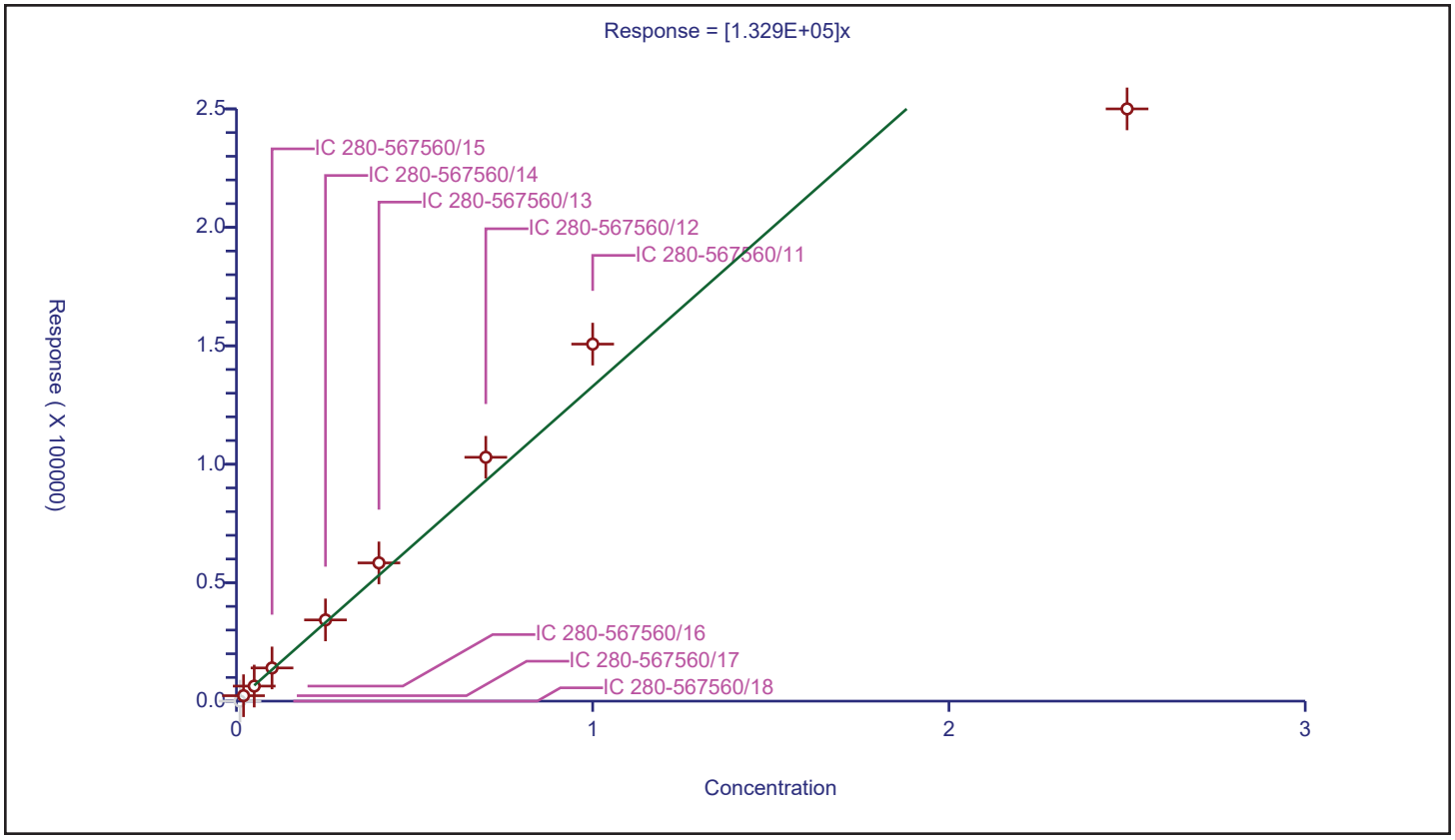
Curve Coefficients

Intercept:	0
Slope:	1.329E+05

Error Coefficients

Standard Error:	32100
Relative Standard Error:	13.3
Correlation Coefficient:	0.955
Coefficient of Determination (Adjusted):	0.979

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	0.0			0.0	N
2	IC 280-567560/17	0.02	2301.0			115050.0	Y
3	IC 280-567560/16	0.05	6356.0			127120.0	Y
4	IC 280-567560/15	0.1	14009.0			140090.0	Y
5	IC 280-567560/14	0.25	34288.0			137152.0	Y
6	IC 280-567560/13	0.4	58358.0			145895.0	Y
7	IC 280-567560/12	0.7	102939.0			147055.714286	Y
8	IC 280-567560/11	1.0	150719.0			150719.0	Y
9	IC 280-567560/10	2.5	250000.0			100000.0	Y



Calibration / RDX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

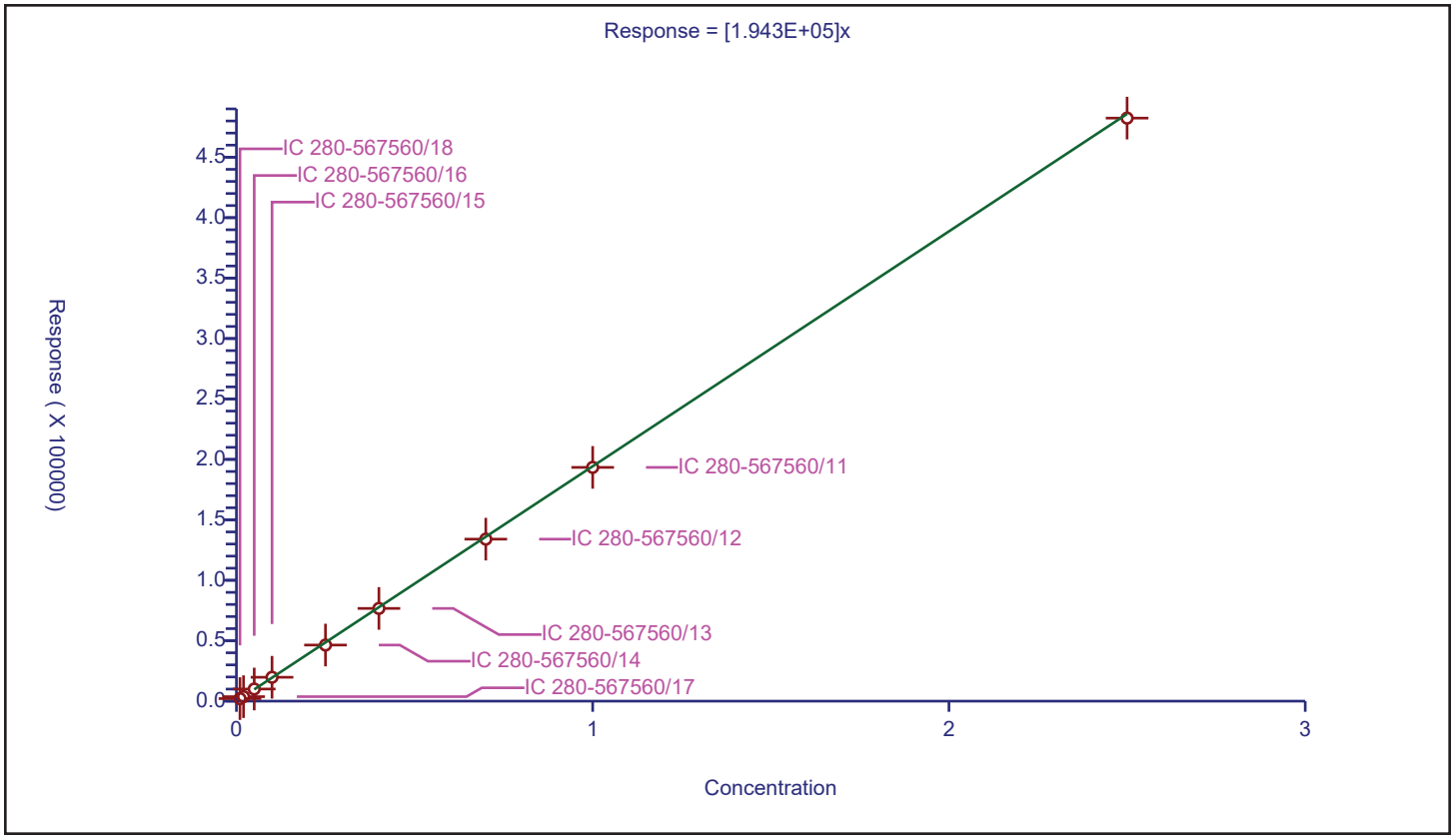
Curve Coefficients

Intercept:	0
Slope:	1.943E+05

Error Coefficients

Standard Error:	1690
Relative Standard Error:	3.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	2097.0			209700.0	Y
2	IC 280-567560/17	0.02	3719.0			185950.0	Y
3	IC 280-567560/16	0.05	10028.0			200560.0	Y
4	IC 280-567560/15	0.1	19750.0			197500.0	Y
5	IC 280-567560/14	0.25	46417.0			185668.0	Y
6	IC 280-567560/13	0.4	76711.0			191777.5	Y
7	IC 280-567560/12	0.7	134031.0			191472.857143	Y
8	IC 280-567560/11	1.0	193402.0			193402.0	Y
9	IC 280-567560/10	2.5	482372.0			192948.8	Y



Calibration / Nitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

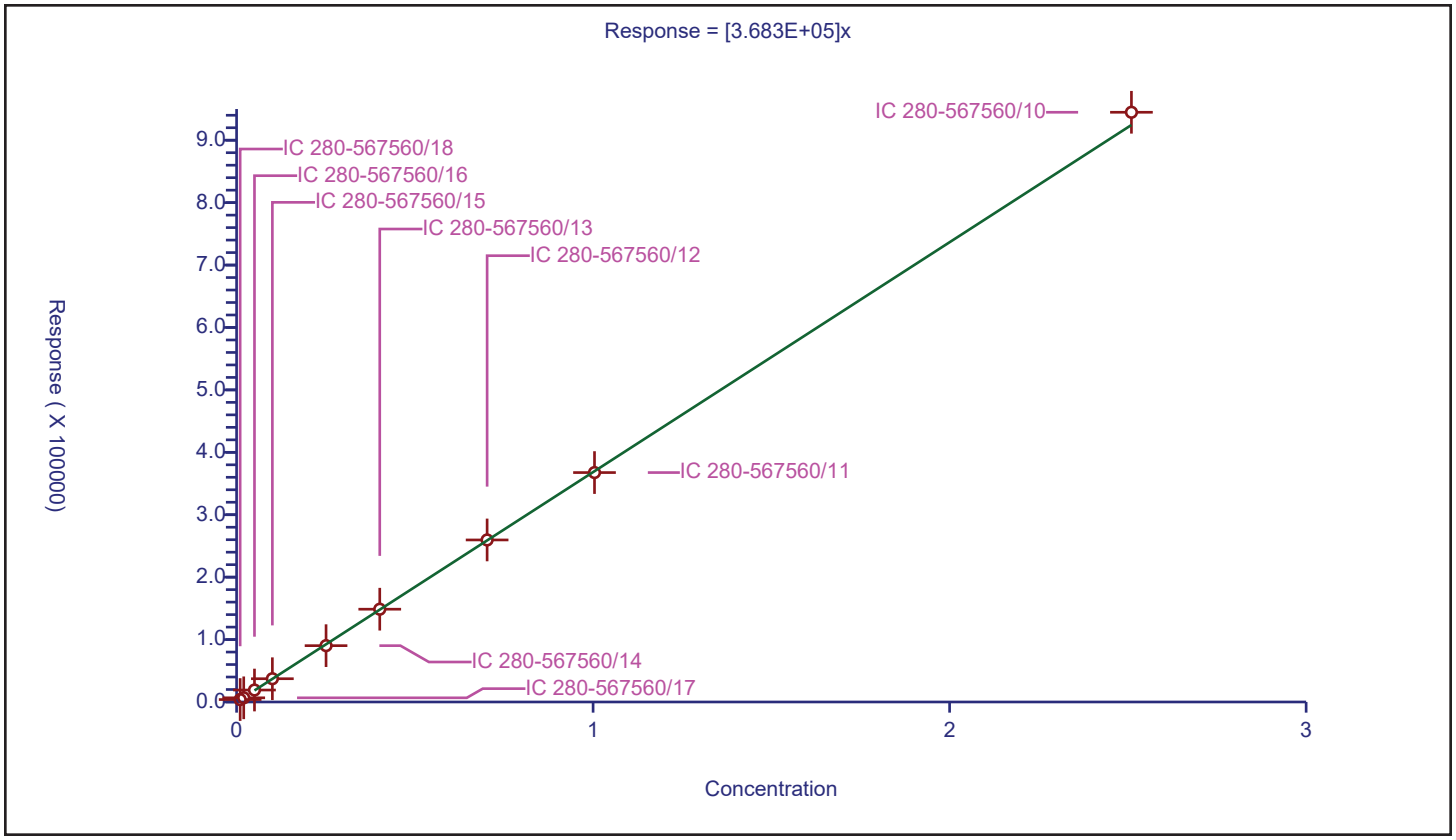
Curve Coefficients

Intercept:	0
Slope:	3.683E+05

Error Coefficients

Standard Error:	7300
Relative Standard Error:	4.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01004	3890.0			387450.199203	Y
2	IC 280-567560/17	0.02008	6686.0			332968.12749	Y
3	IC 280-567560/16	0.0502	19149.0			381454.183267	Y
4	IC 280-567560/15	0.1004	37271.0			371225.099602	Y
5	IC 280-567560/14	0.251	90246.0			359545.816733	Y
6	IC 280-567560/13	0.4016	148639.0			370117.031873	Y
7	IC 280-567560/12	0.7028	259585.0			369358.281161	Y
8	IC 280-567560/11	1.004	367582.0			366117.52988	Y
9	IC 280-567560/10	2.51	944774.0			376403.984064	Y



Calibration / 1,2-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

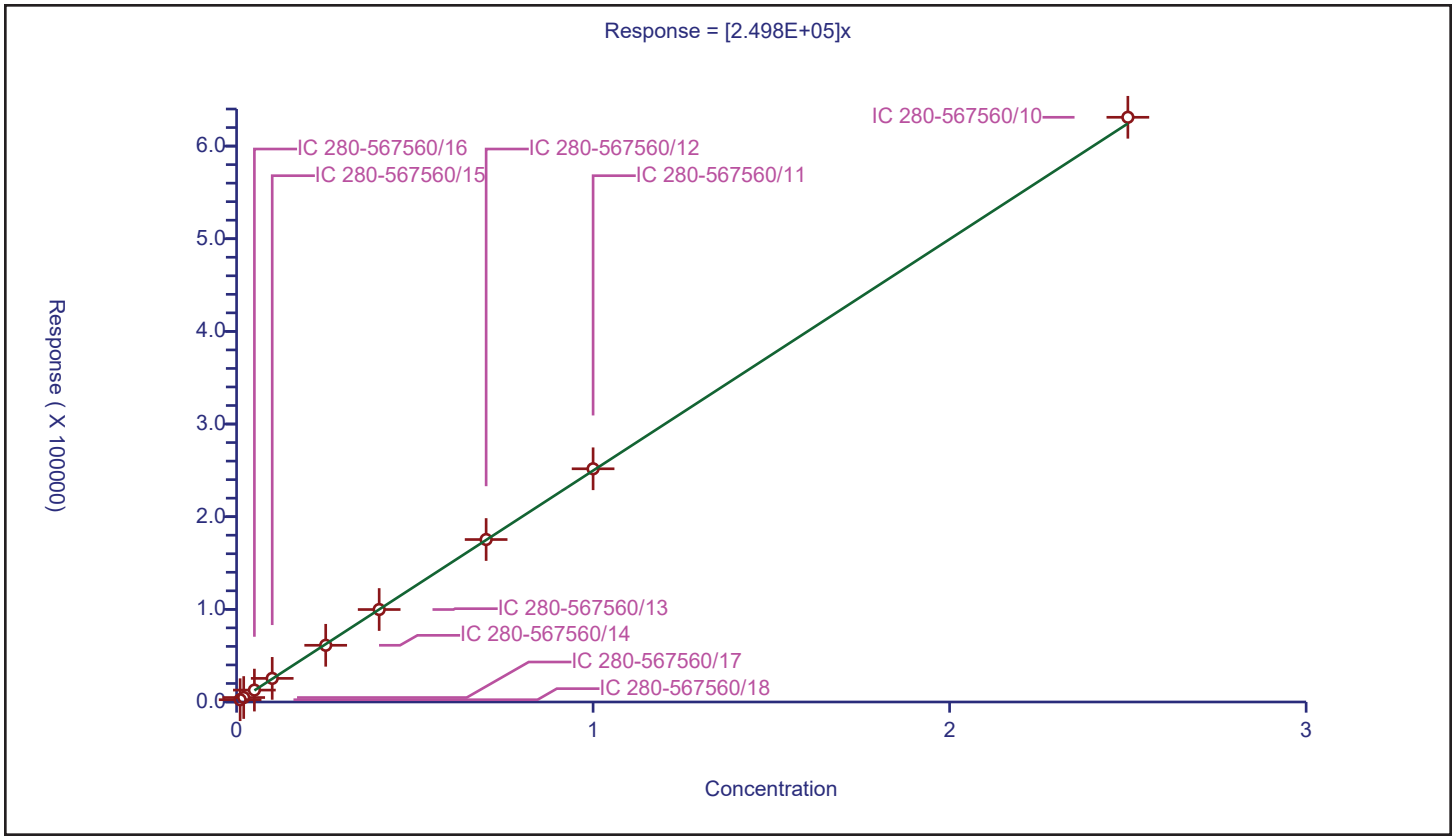
Curve Coefficients

Intercept:	0
Slope:	2.498E+05

Error Coefficients

Standard Error:	2520
Relative Standard Error:	2.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	2461.0			246100.0	Y
2	IC 280-567560/17	0.02	4809.0			240450.0	Y
3	IC 280-567560/16	0.05	12864.0			257280.0	Y
4	IC 280-567560/15	0.1	25499.0			254990.0	Y
5	IC 280-567560/14	0.25	61198.0			244792.0	Y
6	IC 280-567560/13	0.4	99804.0			249510.0	Y
7	IC 280-567560/12	0.7	175358.0			250511.428571	Y
8	IC 280-567560/11	1.0	251717.0			251717.0	Y
9	IC 280-567560/10	2.5	631065.0			252426.0	Y



Calibration / 3,5-Dinitroaniline

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

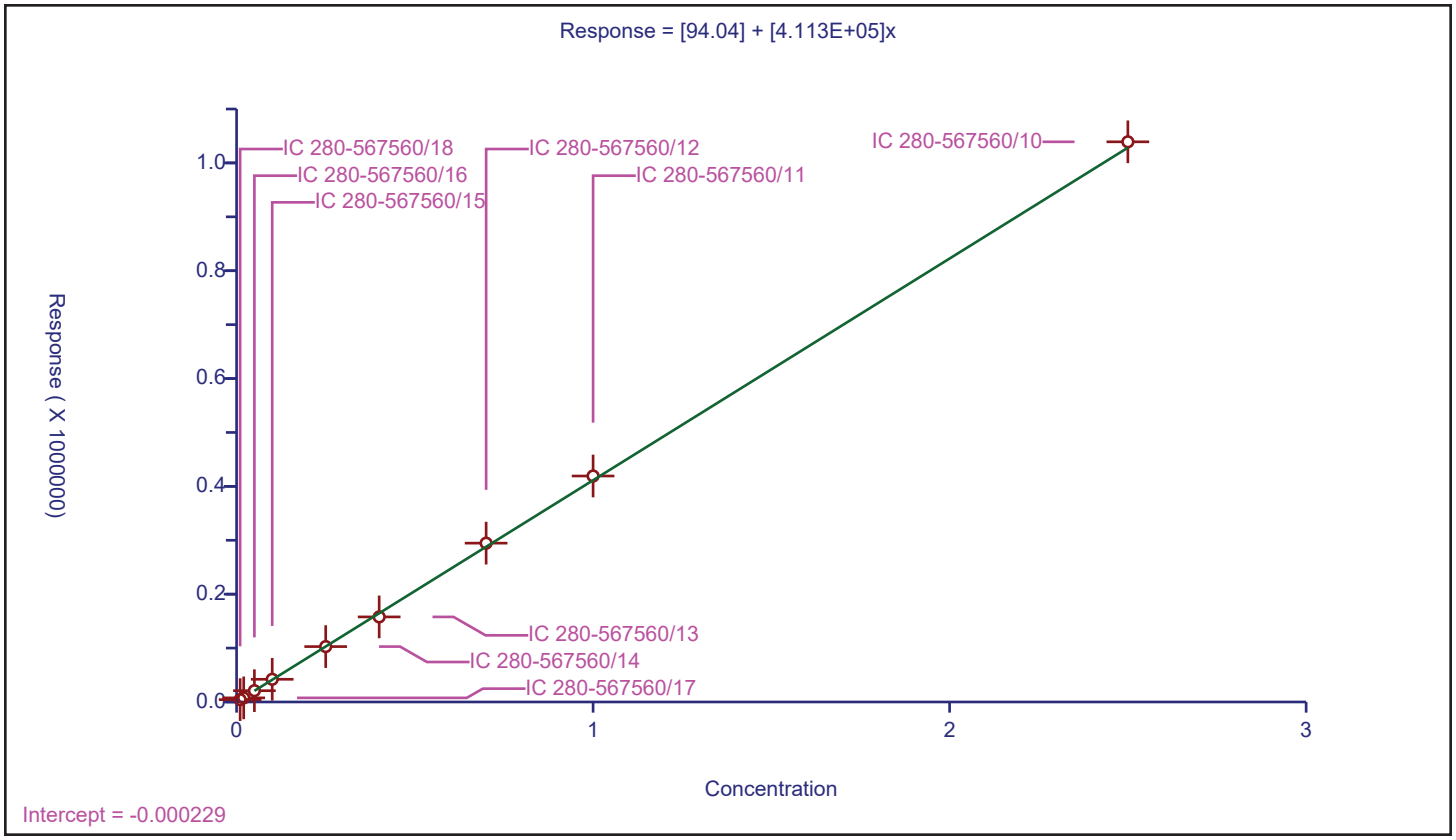
Curve Coefficients

Intercept:	94.04
Slope:	4.113E+05

Error Coefficients

Standard Error:	6240
Relative Standard Error:	4.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	4362.0			436200.0	Y
2	IC 280-567560/17	0.02	7621.0			381050.0	Y
3	IC 280-567560/16	0.05	20966.0			419320.0	Y
4	IC 280-567560/15	0.1	42107.0			421070.0	Y
5	IC 280-567560/14	0.25	102787.0			411148.0	Y
6	IC 280-567560/13	0.4	157805.0			394512.5	Y
7	IC 280-567560/12	0.7	294648.0			420925.714286	Y
8	IC 280-567560/11	1.0	419224.0			419224.0	Y
9	IC 280-567560/10	2.5	1039131.0			415652.4	Y



Calibration / 1,3-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

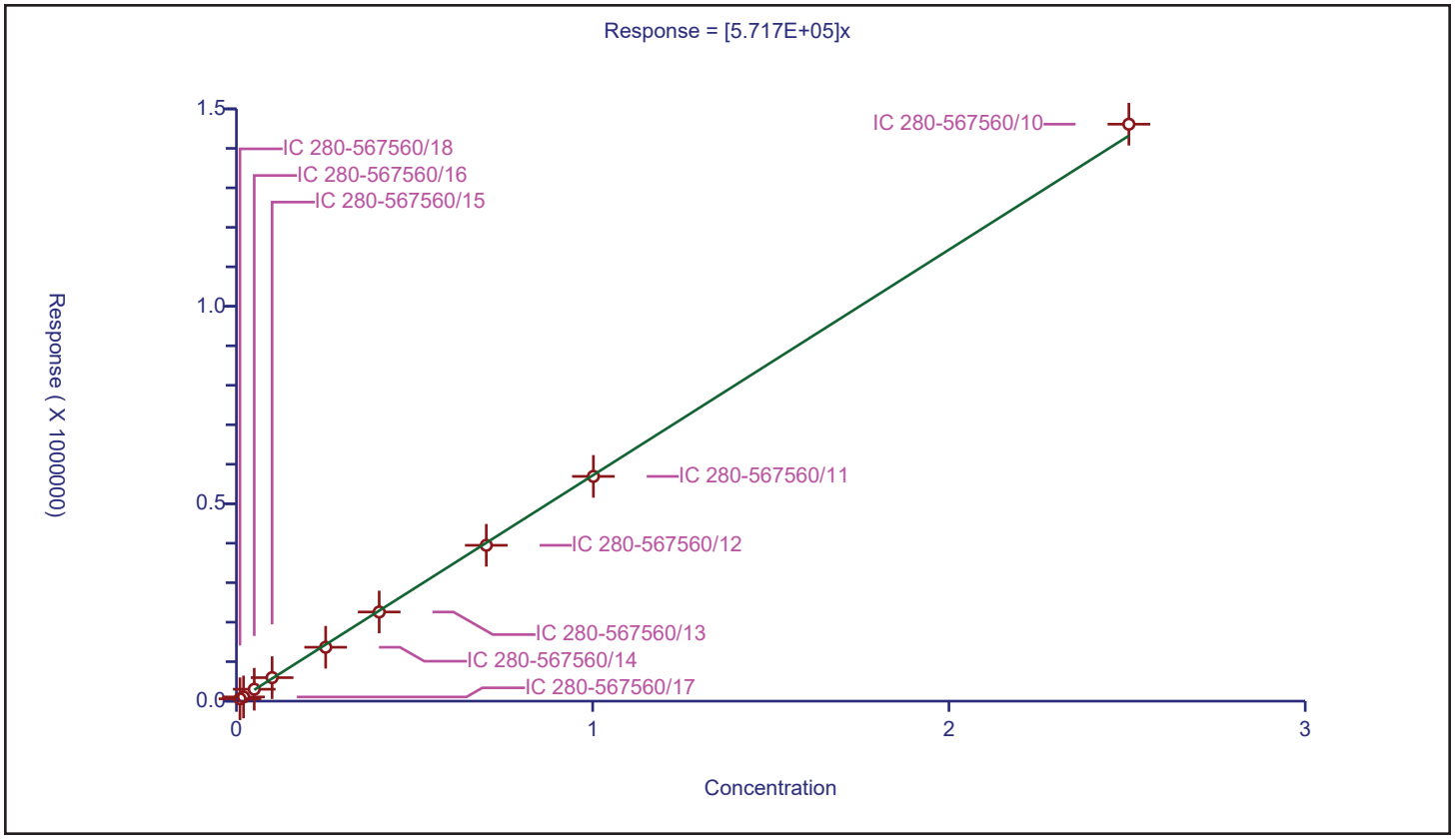
Curve Coefficients

Intercept:	0
Slope:	5.717E+05

Error Coefficients

Standard Error:	11000
Relative Standard Error:	4.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01002	5961.0			594910.179641	Y
2	IC 280-567560/17	0.02004	10643.0			531087.824351	Y
3	IC 280-567560/16	0.0501	30181.0			602415.169661	Y
4	IC 280-567560/15	0.1002	59537.0			594181.636727	Y
5	IC 280-567560/14	0.2505	136486.0			544854.291417	Y
6	IC 280-567560/13	0.4008	225815.0			563410.678643	Y
7	IC 280-567560/12	0.7014	394707.0			562741.659538	Y
8	IC 280-567560/11	1.002	569212.0			568075.848303	Y
9	IC 280-567560/10	2.505	1461217.0			583320.159681	Y



Calibration / Nitroglycerin

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

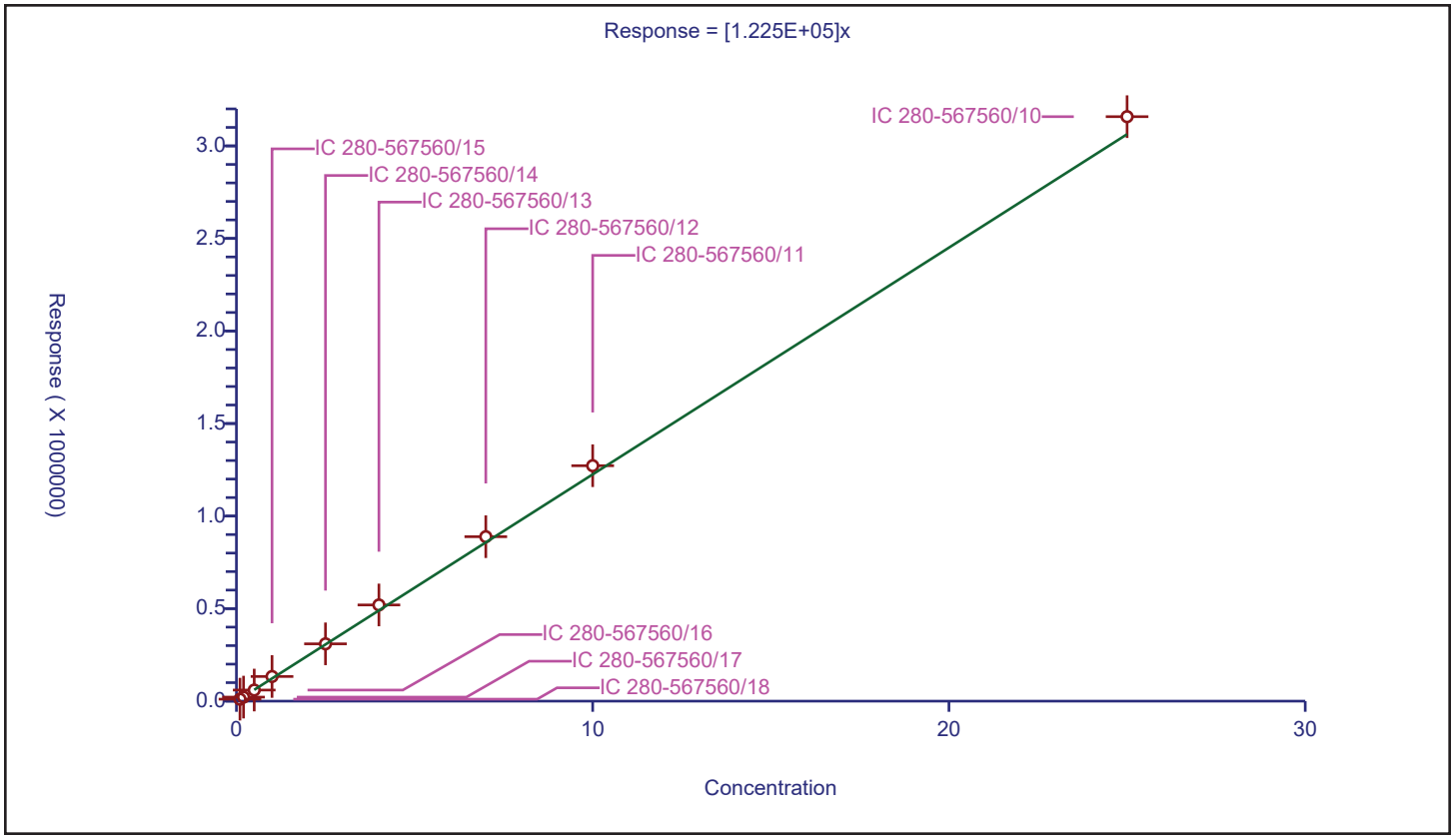
Curve Coefficients

Intercept:	0
Slope:	1.225E+05

Error Coefficients

Standard Error:	40600
Relative Standard Error:	7.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.1	10664.0			106640.0	Y
2	IC 280-567560/17	0.2	21750.0			108750.0	Y
3	IC 280-567560/16	0.5	59894.0			119788.0	Y
4	IC 280-567560/15	1.0	133241.0			133241.0	Y
5	IC 280-567560/14	2.5	309657.0			123862.8	Y
6	IC 280-567560/13	4.0	519683.0			129920.75	Y
7	IC 280-567560/12	7.0	888552.0			126936.0	Y
8	IC 280-567560/11	10.0	1272015.0			127201.5	Y
9	IC 280-567560/10	25.0	3158004.0			126320.16	Y



Calibration / o-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

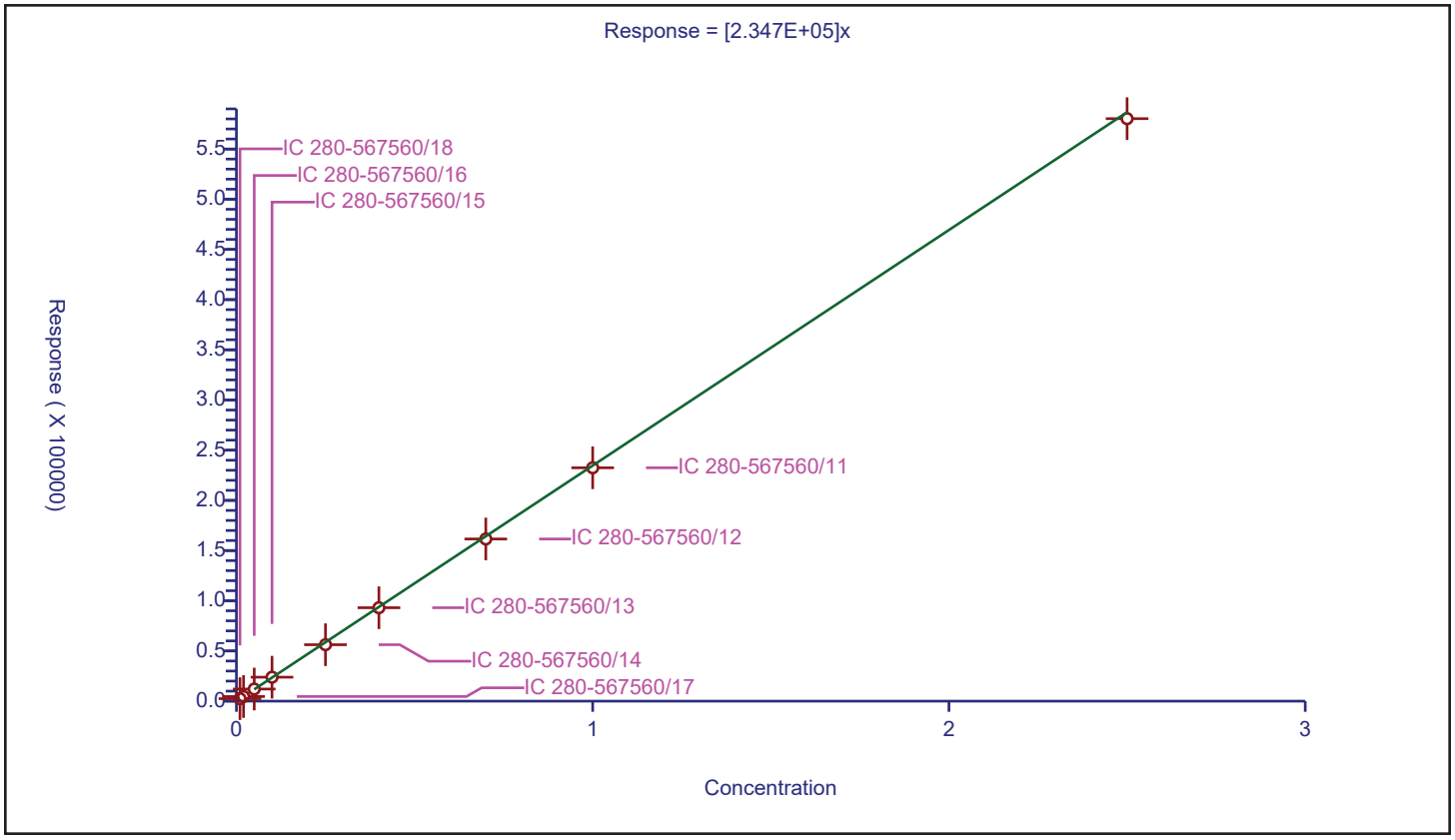
Curve Coefficients

Intercept:	0
Slope:	2.347E+05

Error Coefficients

Standard Error:	2750
Relative Standard Error:	3.1
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01	2491.0			249100.0	Y
2	IC 280-567560/17	0.02	4607.0			230350.0	Y
3	IC 280-567560/16	0.05	12057.0			241140.0	Y
4	IC 280-567560/15	0.1	23857.0			238570.0	Y
5	IC 280-567560/14	0.25	56221.0			224884.0	Y
6	IC 280-567560/13	0.4	93064.0			232660.0	Y
7	IC 280-567560/12	0.7	161534.0			230762.857143	Y
8	IC 280-567560/11	1.0	232476.0			232476.0	Y
9	IC 280-567560/10	2.5	580270.0			232108.0	Y



Calibration / p-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

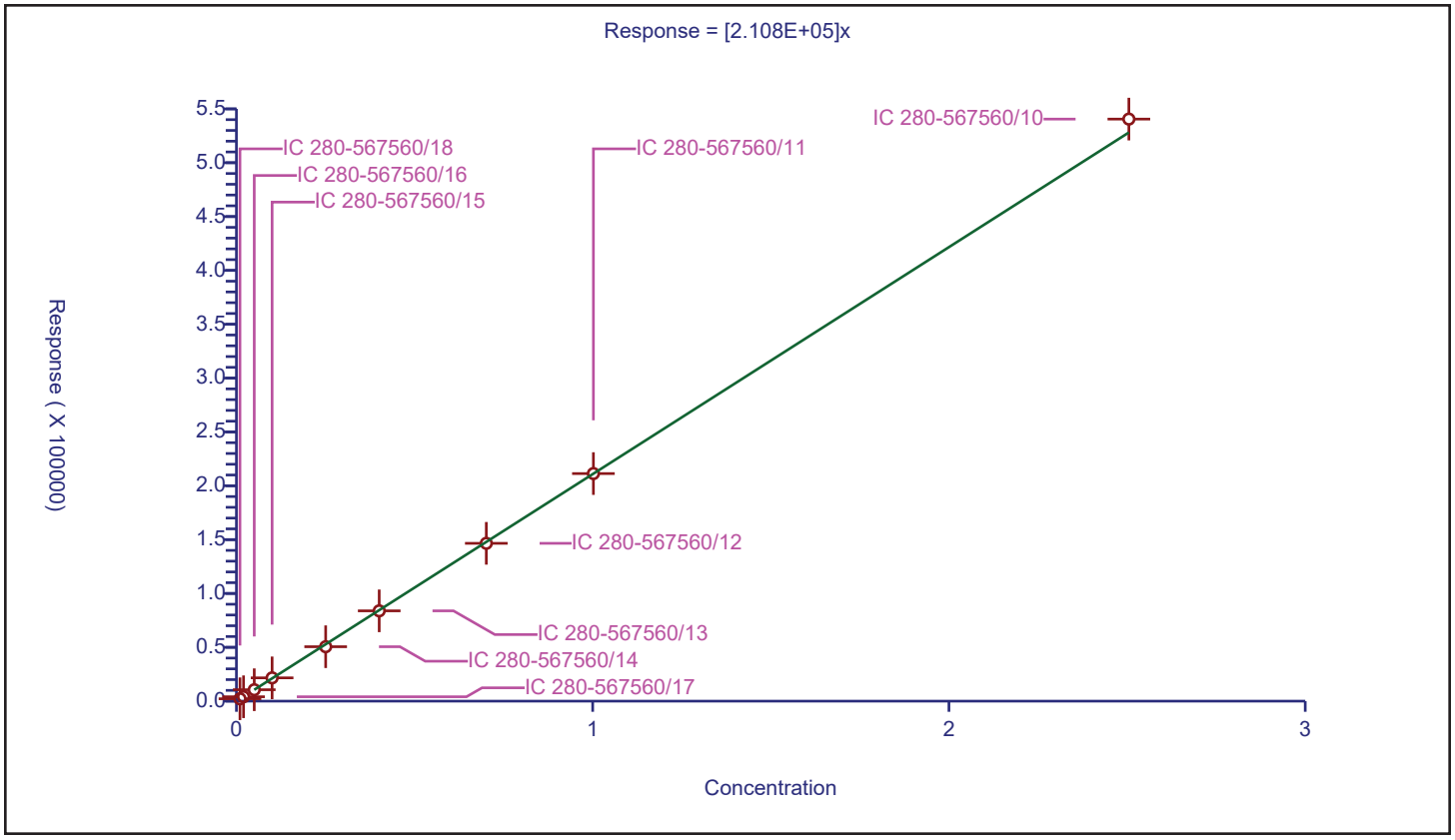
Curve Coefficients

Intercept:	0
Slope:	2.108E+05

Error Coefficients

Standard Error:	4500
Relative Standard Error:	2.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01002	2203.0			219860.279441	Y
2	IC 280-567560/17	0.02004	4078.0			203493.013972	Y
3	IC 280-567560/16	0.0501	10595.0			211477.045908	Y
4	IC 280-567560/15	0.1002	21625.0			215818.363273	Y
5	IC 280-567560/14	0.2505	50555.0			201816.367265	Y
6	IC 280-567560/13	0.4008	83857.0			209224.051896	Y
7	IC 280-567560/12	0.7014	146563.0			208957.798688	Y
8	IC 280-567560/11	1.002	211344.0			210922.155689	Y
9	IC 280-567560/10	2.505	540531.0			215780.838323	Y



Calibration / 4-Amino-2,6-dinitrotoluene

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

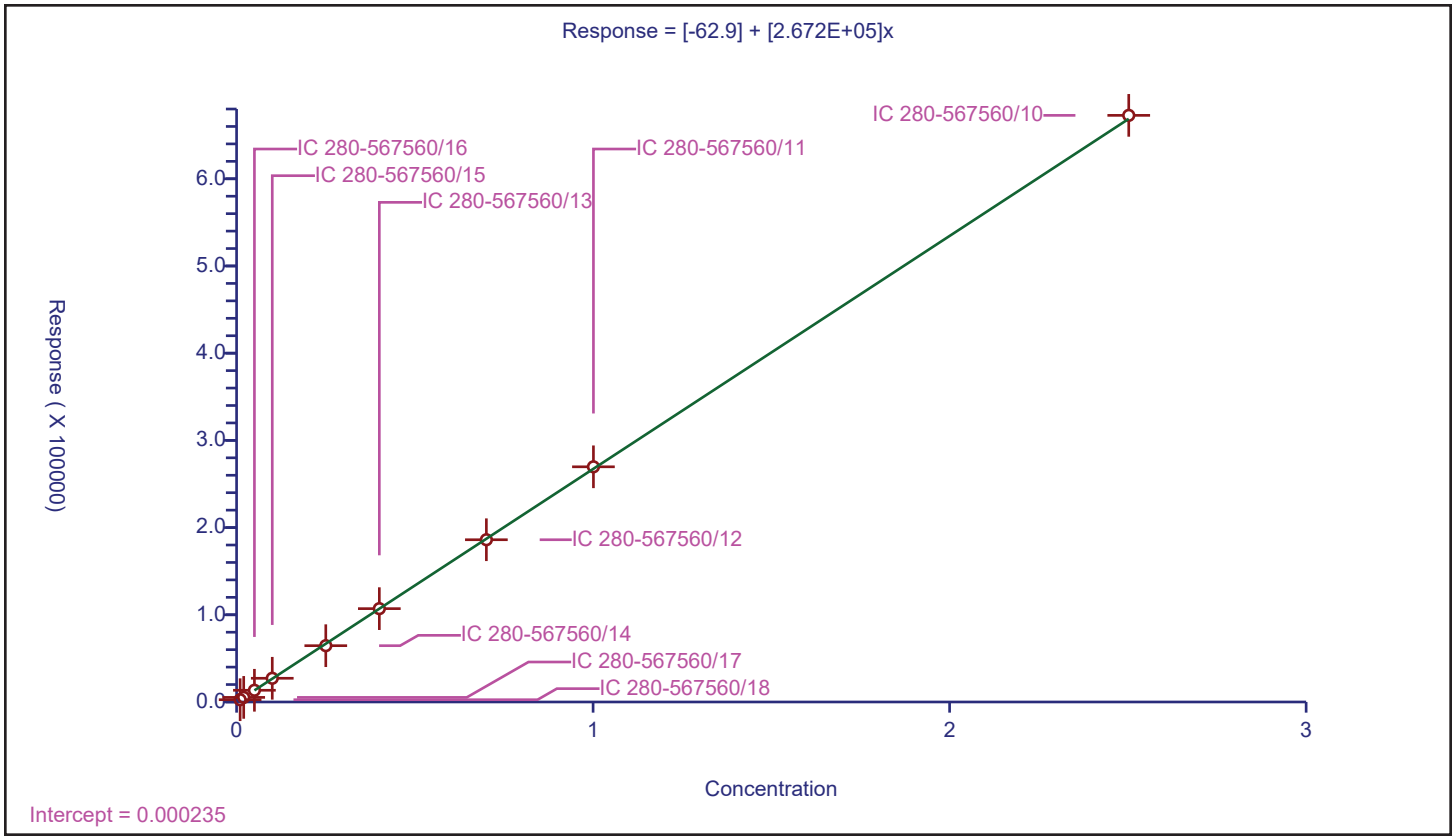
Curve Coefficients

Intercept:	-62.9
Slope:	2.672E+05

Error Coefficients

Standard Error:	1990
Relative Standard Error:	1.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01001	2610.0			260739.260739	Y
2	IC 280-567560/17	0.02002	5271.0			263286.713287	Y
3	IC 280-567560/16	0.05005	13425.0			268231.768232	Y
4	IC 280-567560/15	0.1001	27216.0			271888.111888	Y
5	IC 280-567560/14	0.25025	64569.0			258017.982018	Y
6	IC 280-567560/13	0.4004	107043.0			267340.15984	Y
7	IC 280-567560/12	0.7007	186078.0			265560.154132	Y
8	IC 280-567560/11	1.001	269691.0			269421.578422	Y
9	IC 280-567560/10	2.5025	672715.0			268817.182817	Y



Calibration / m-Nitrotoluene

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

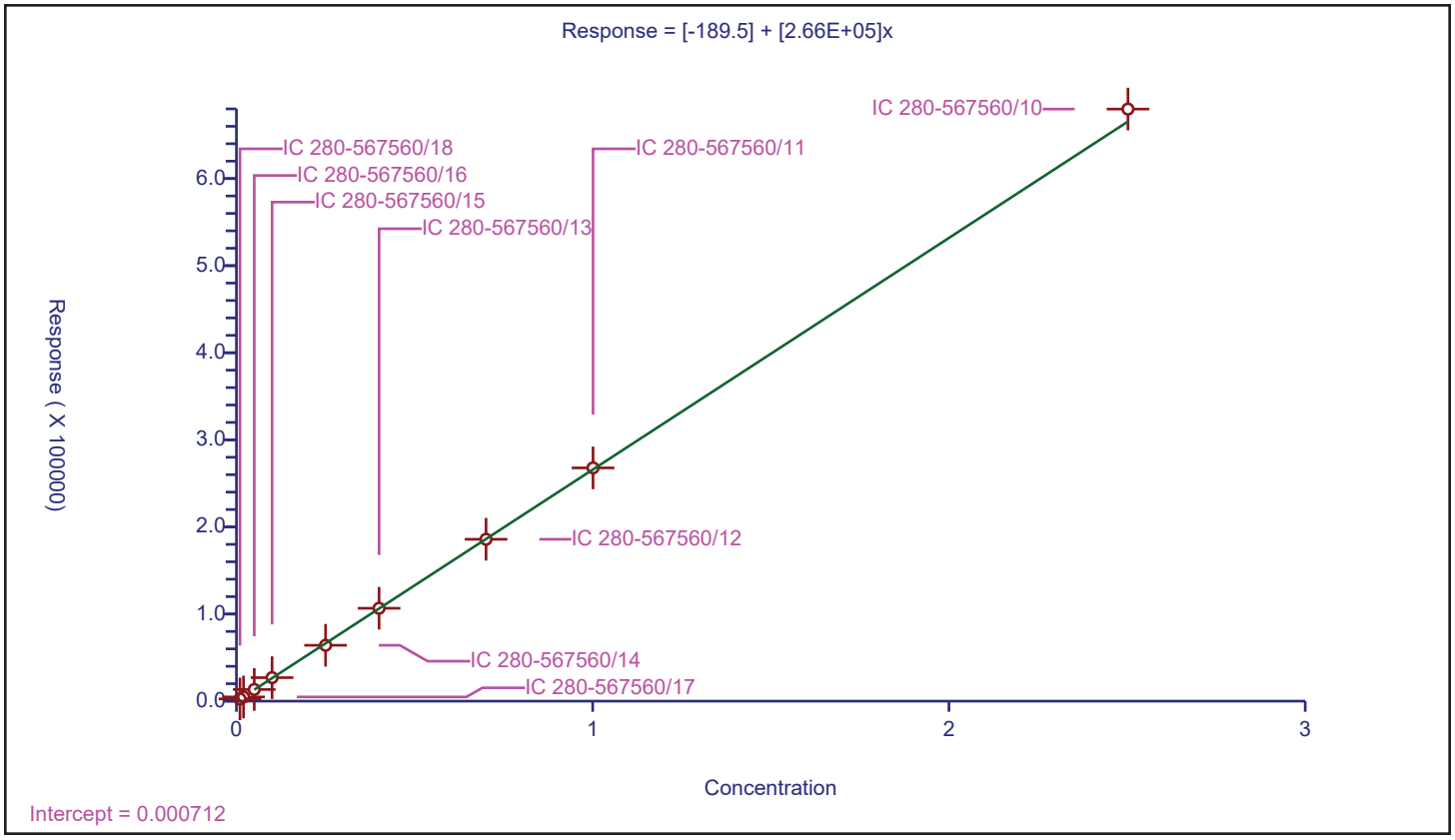
Curve Coefficients

Intercept:	-189.5
Slope:	2.66E+05

Error Coefficients

Standard Error:	5530
Relative Standard Error:	3.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01001	2543.0			254045.954046	Y
2	IC 280-567560/17	0.02002	4805.0			240009.99001	Y
3	IC 280-567560/16	0.05005	13387.0			267472.527473	Y
4	IC 280-567560/15	0.1001	26978.0			269510.48951	Y
5	IC 280-567560/14	0.25025	64150.0			256343.656344	Y
6	IC 280-567560/13	0.4004	106661.0			266386.113886	Y
7	IC 280-567560/12	0.7007	185839.0			265219.066648	Y
8	IC 280-567560/11	1.001	267812.0			267544.455544	Y
9	IC 280-567560/10	2.5025	679800.0			271648.351648	Y



Calibration / 2-Amino-4,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

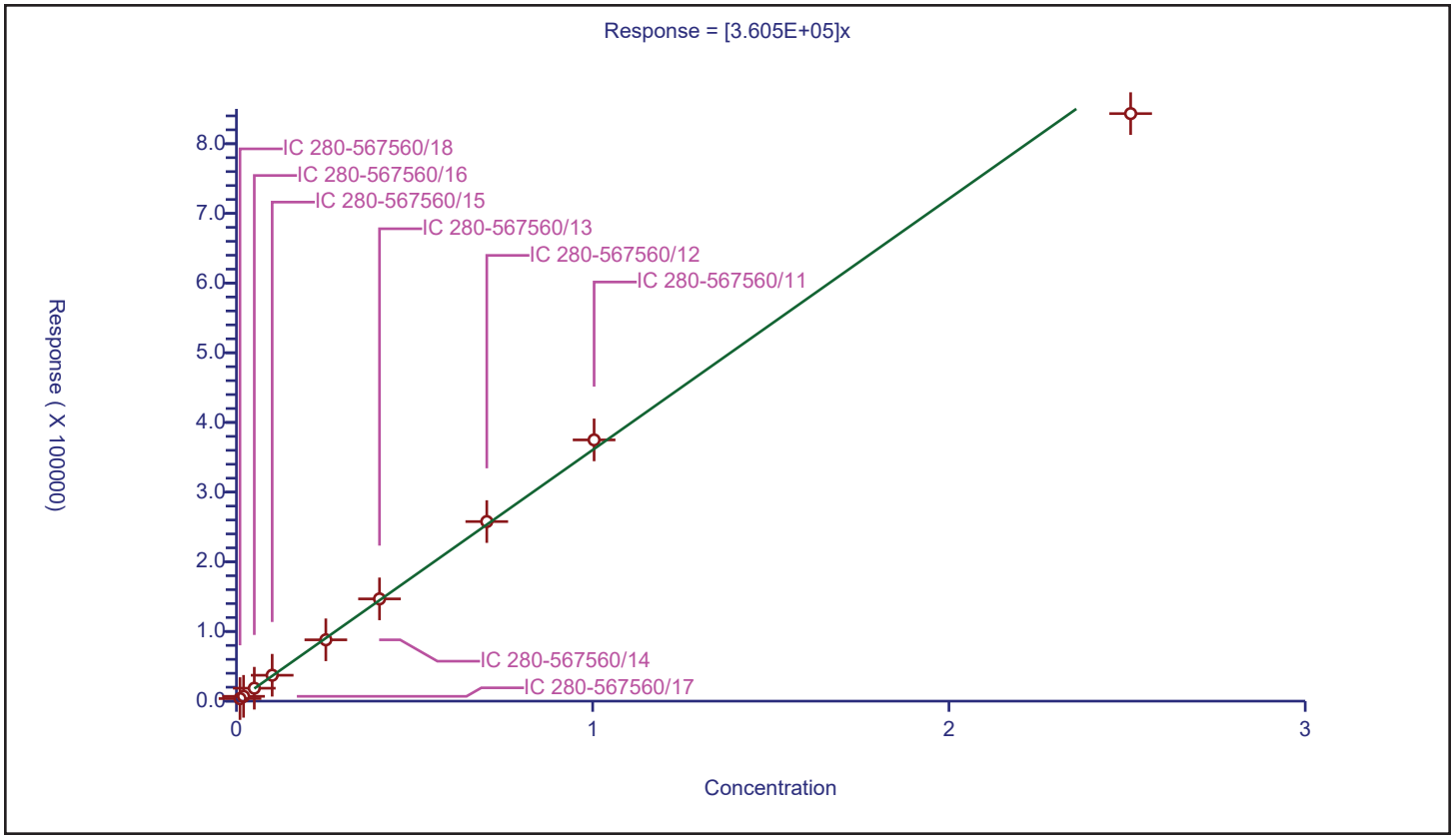
Curve Coefficients

Intercept:	0
Slope:	3.605E+05

Error Coefficients

Standard Error:	22400
Relative Standard Error:	3.8
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.998

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01004	3705.0			369023.904382	Y
2	IC 280-567560/17	0.02008	6899.0			343575.697211	Y
3	IC 280-567560/16	0.0502	18562.0			369760.956175	Y
4	IC 280-567560/15	0.1004	37178.0			370298.804781	Y
5	IC 280-567560/14	0.251	88010.0			350637.450199	Y
6	IC 280-567560/13	0.4016	146764.0			365448.207171	Y
7	IC 280-567560/12	0.7028	257718.0			366701.764371	Y
8	IC 280-567560/11	1.004	374916.0			373422.310757	Y
9	IC 280-567560/10	2.51	843240.0			335952.191235	Y



Calibration / 1,3,5-Trinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

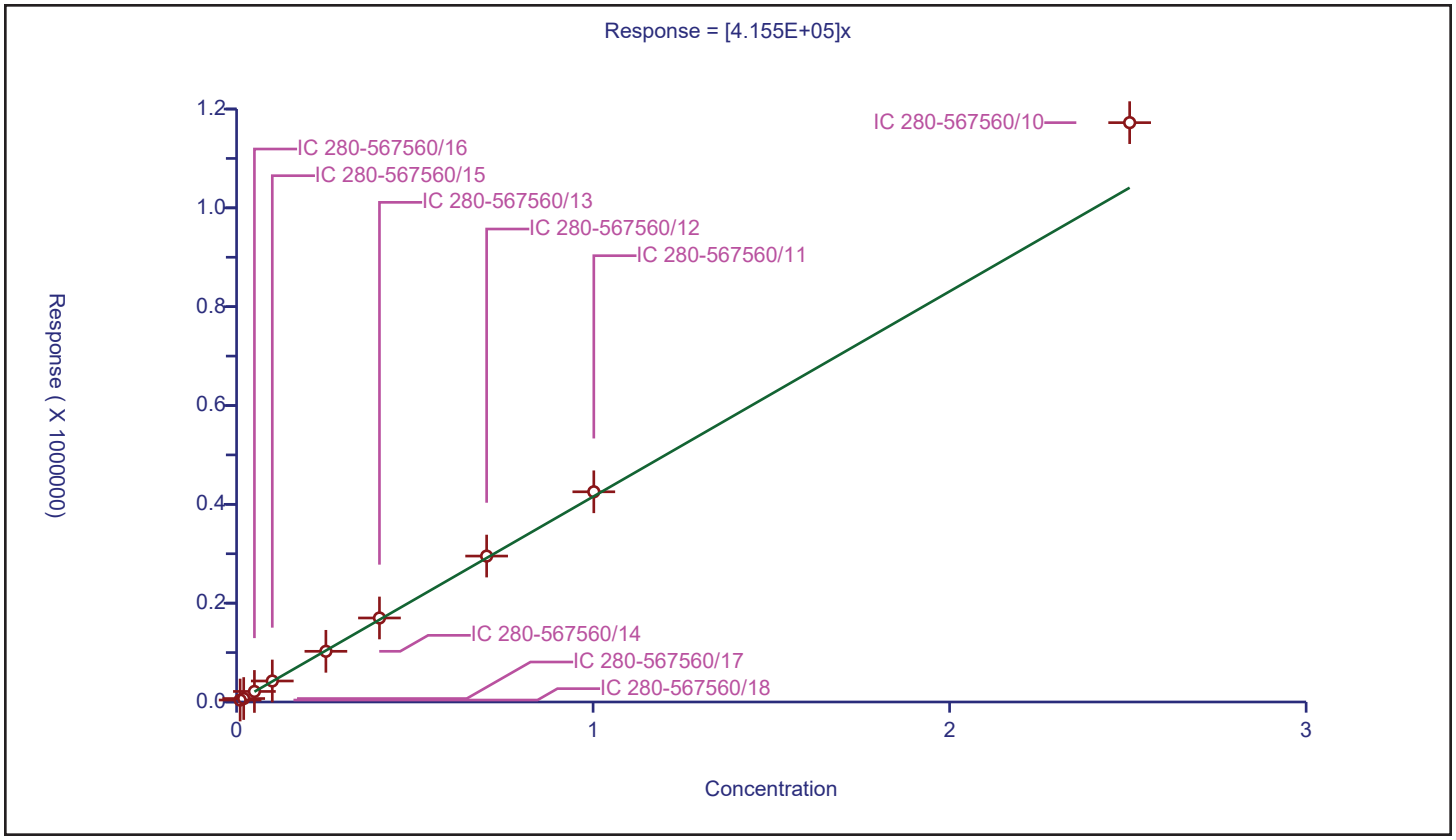
Curve Coefficients

Intercept:	0
Slope:	4.155E+05

Error Coefficients

Standard Error:	46700
Relative Standard Error:	7.7
Correlation Coefficient:	0.998
Coefficient of Determination (Adjusted):	0.993

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01002	3947.0			393912.175649	Y
2	IC 280-567560/17	0.02004	6970.0			347804.391218	Y
3	IC 280-567560/16	0.0501	21339.0			425928.143713	Y
4	IC 280-567560/15	0.1002	42514.0			424291.417166	Y
5	IC 280-567560/14	0.2505	102576.0			409485.02994	Y
6	IC 280-567560/13	0.4008	170012.0			424181.636727	Y
7	IC 280-567560/12	0.7014	295298.0			421012.261192	Y
8	IC 280-567560/11	1.002	425388.0			424538.922156	Y
9	IC 280-567560/10	2.505	1172398.0			468023.153693	Y



Calibration / 2,6-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

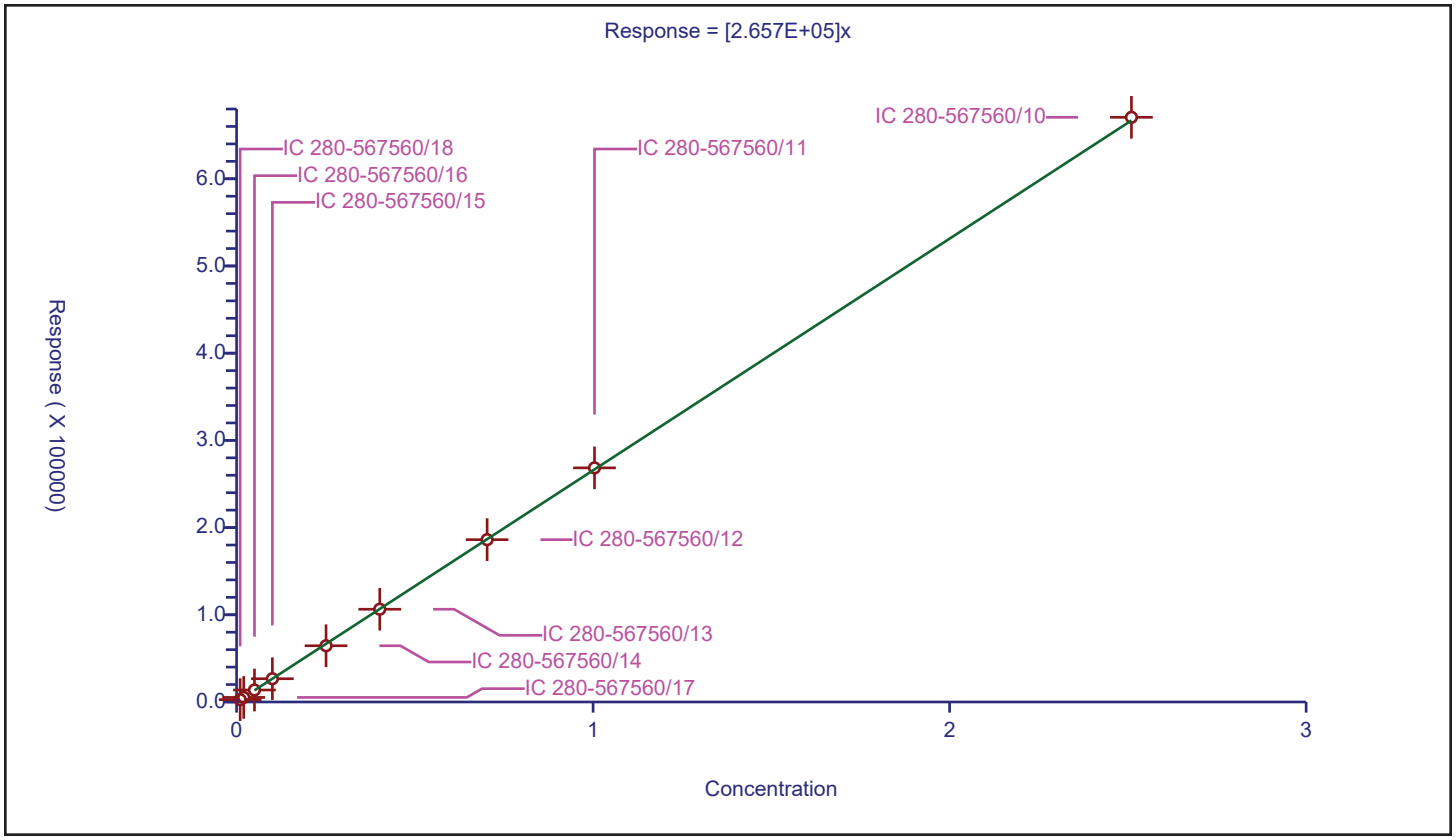
Curve Coefficients

Intercept:	0
Slope:	2.657E+05

Error Coefficients

Standard Error:	1660
Relative Standard Error:	1.8
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01004	2704.0			269322.709163	Y
2	IC 280-567560/17	0.02008	5233.0			260607.569721	Y
3	IC 280-567560/16	0.0502	13757.0			274043.824701	Y
4	IC 280-567560/15	0.1004	26687.0			265806.772908	Y
5	IC 280-567560/14	0.251	64489.0			256928.286853	Y
6	IC 280-567560/13	0.4016	106362.0			264845.61753	Y
7	IC 280-567560/12	0.7028	186150.0			264869.095048	Y
8	IC 280-567560/11	1.004	268478.0			267408.366534	Y
9	IC 280-567560/10	2.51	670482.0			267124.302789	Y



Calibration / 2,4-Dinitrotoluene

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

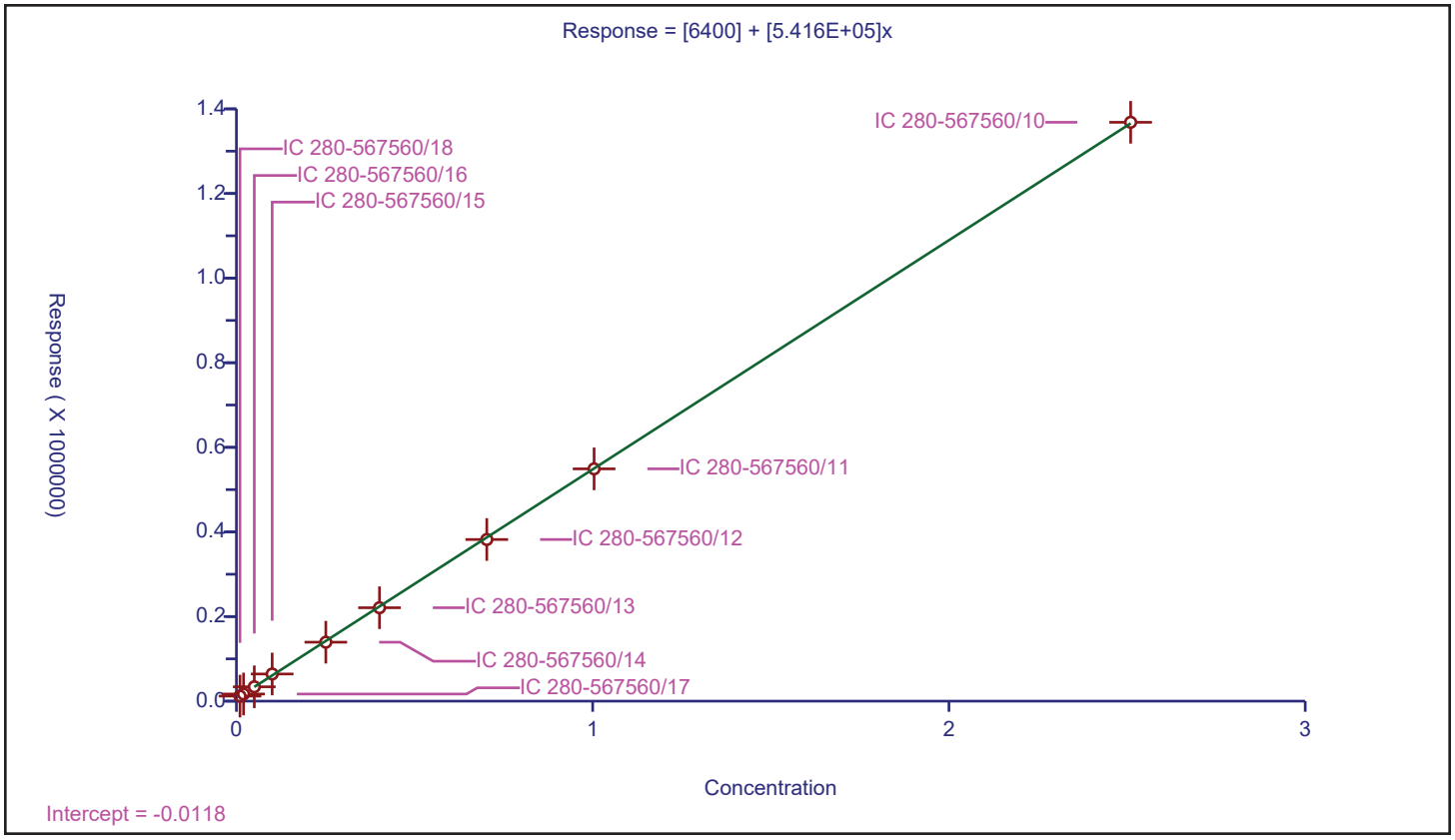
Curve Coefficients

Intercept:	6400
Slope:	5.416E+05

Error Coefficients

Standard Error:	2990
Relative Standard Error:	3.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01004	11900.0			1185258.964143	Y
2	IC 280-567560/17	0.02008	16863.0			839790.836653	Y
3	IC 280-567560/16	0.0502	33918.0			675657.370518	Y
4	IC 280-567560/15	0.1004	64187.0			639312.749004	Y
5	IC 280-567560/14	0.251	139375.0			555278.884462	Y
6	IC 280-567560/13	0.4016	220828.0			549870.517928	Y
7	IC 280-567560/12	0.7028	382059.0			543624.075128	Y
8	IC 280-567560/11	1.004	549112.0			546924.302789	Y
9	IC 280-567560/10	2.51	1368356.0			545161.752988	Y



Calibration / Tetryl

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

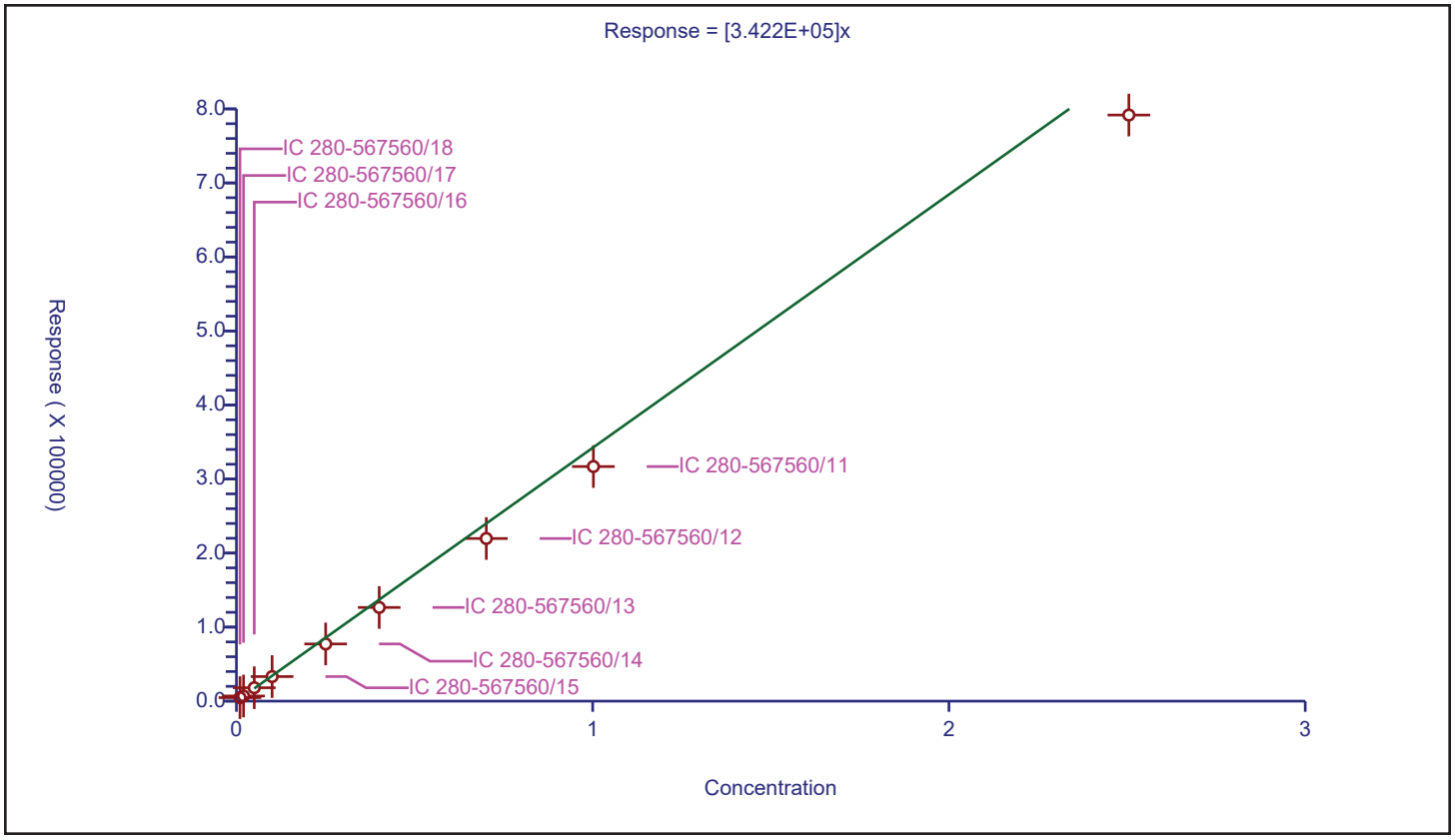
Curve Coefficients

Intercept:	0
Slope:	3.422E+05

Error Coefficients

Standard Error:	26400
Relative Standard Error:	15.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.965

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01002	4722.0			471257.48503	Y
2	IC 280-567560/17	0.02004	6933.0			345958.083832	Y
3	IC 280-567560/16	0.0501	18110.0			361477.045908	Y
4	IC 280-567560/15	0.1002	33188.0			331217.56487	Y
5	IC 280-567560/14	0.2505	77249.0			308379.241517	Y
6	IC 280-567560/13	0.4008	126546.0			315733.532934	Y
7	IC 280-567560/12	0.7014	219675.0			313195.038494	Y
8	IC 280-567560/11	1.002	316900.0			316267.46507	Y
9	IC 280-567560/10	2.505	791703.0			316049.101796	Y



Calibration / 2,4,6-Trinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

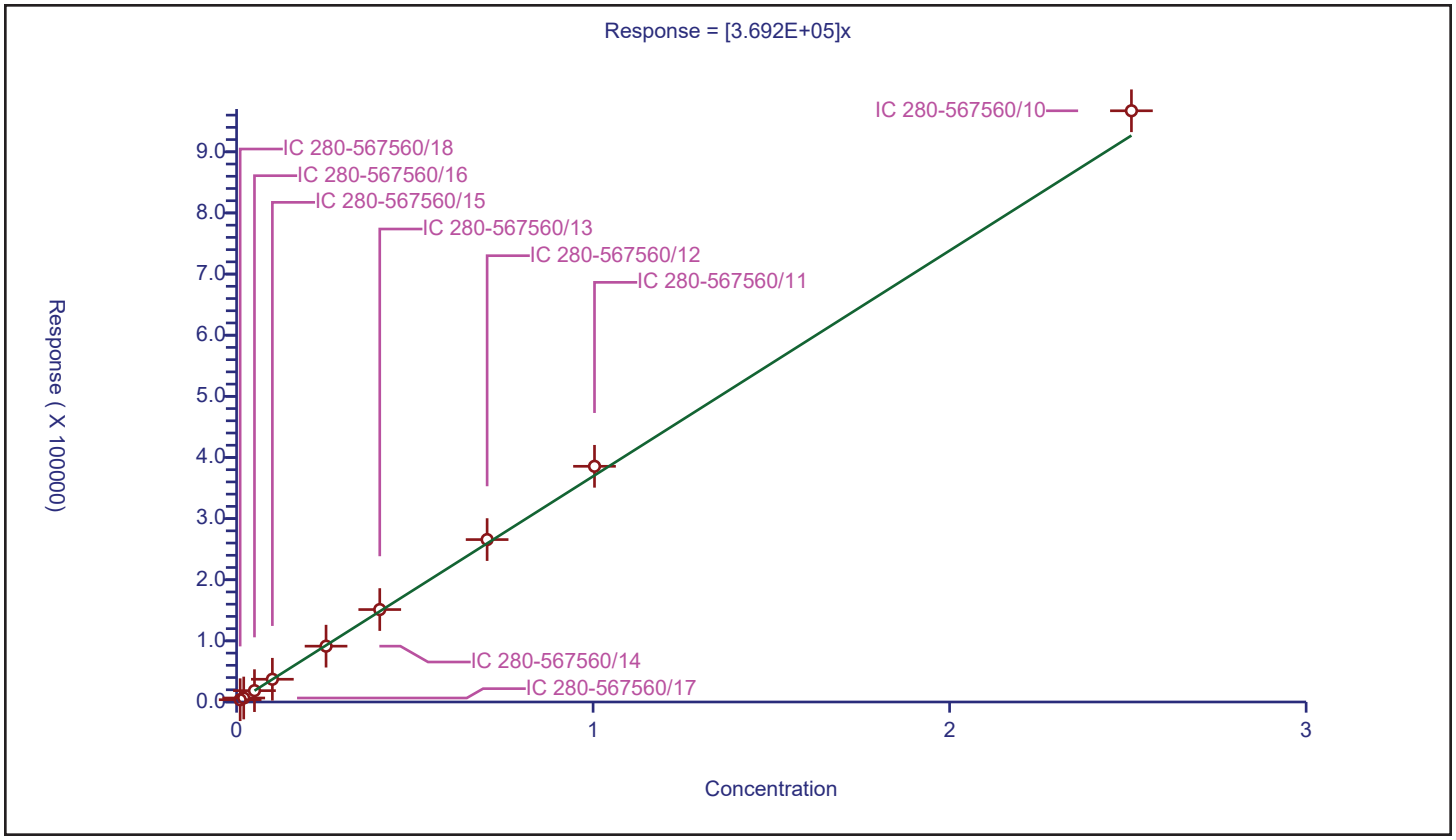
Curve Coefficients

Intercept:	0
Slope:	3.692E+05

Error Coefficients

Standard Error:	15500
Relative Standard Error:	5.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.01004	3720.0			370517.928287	Y
2	IC 280-567560/17	0.02008	6507.0			324053.784861	Y
3	IC 280-567560/16	0.0502	18556.0			369641.434263	Y
4	IC 280-567560/15	0.1004	37205.0			370567.729084	Y
5	IC 280-567560/14	0.251	91338.0			363896.414343	Y
6	IC 280-567560/13	0.4016	151235.0			376581.175299	Y
7	IC 280-567560/12	0.7028	265676.0			378025.042686	Y
8	IC 280-567560/11	1.004	385560.0			384023.904382	Y
9	IC 280-567560/10	2.51	967117.0			385305.577689	Y



Calibration / PETN

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

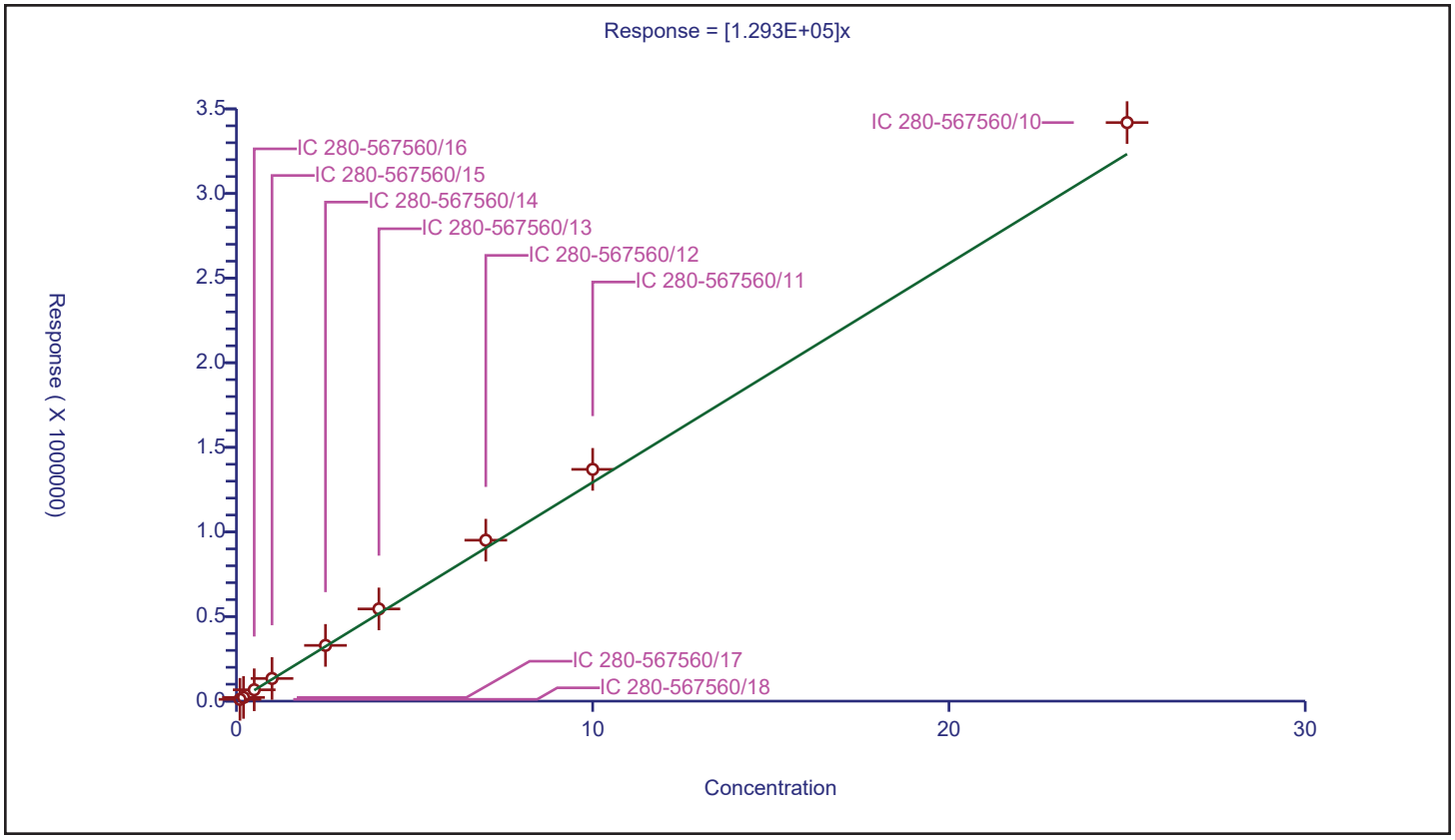
Curve Coefficients

Intercept:	0
Slope:	1.293E+05

Error Coefficients

Standard Error:	73600
Relative Standard Error:	9.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.991

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-567560/18	0.1	10842.0			108420.0	Y
2	IC 280-567560/17	0.2	21923.0			109615.0	Y
3	IC 280-567560/16	0.5	67082.0			134164.0	Y
4	IC 280-567560/15	1.0	134076.0			134076.0	Y
5	IC 280-567560/14	2.5	329509.0			131803.6	Y
6	IC 280-567560/13	4.0	544987.0			136246.75	Y
7	IC 280-567560/12	7.0	951206.0			135886.571429	Y
8	IC 280-567560/11	10.0	1369840.0			136984.0	Y
9	IC 280-567560/10	25.0	3419168.0			136766.72	Y



FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579374/18	06280018.D
Level 2	IC 280-579374/17	06280017.D
Level 3	IC 280-579374/16	06280016.D
Level 4	IC 280-579374/15	06280015.D
Level 5	IC 280-579374/14	06280014.D
Level 6	IC 280-579374/13	06280013.D
Level 7	IC 280-579374/12	06280012.D
Level 8	IC 280-579374/11	06280011.D
Level 9	IC 280-579374/10	06280010.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9
HMX	6.845	6.825	6.839	6.849	6.836	6.837	6.835	6.810	6.788
Picric acid	8.371	8.358	8.359	8.369	8.322	8.317	8.282	8.236	8.141
RDX	9.005	8.985	9.006	9.022	8.996	9.011	9.002	8.970	8.941
Nitrobenzene	11.944	11.951	11.945	11.975	11.942	11.964	11.948	11.929	11.881
1,3-Dinitrobenzene	15.504	15.525	15.505	15.542	15.509	15.517	15.501	15.489	15.434
Nitroglycerin	15.831	15.865	15.859	15.895	15.862	15.871	15.855	15.856	15.807
2-Nitrotoluene	16.624	16.671	16.665	16.695	16.669	16.684	16.668	16.656	16.601
4-Nitrotoluene	16.958	16.971	16.972	17.002	16.976	16.984	16.975	16.956	16.901
4-Amino-2,6-dinitrotoluene	17.571	17.605	17.599	17.629	17.602	17.611	17.608	17.583	17.534
3-Nitrotoluene	17.911	17.931	17.932	17.955	17.936	17.944	17.948	17.923	17.881
2-Amino-4,6-dinitrotoluene	18.571	18.598	18.599	18.622	18.602	18.611	18.615	18.576	18.547
1,3,5-Trinitrobenzene	18.764	18.771	18.785	18.802	18.776	18.784	18.788	18.756	18.727
2,6-Dinitrotoluene	20.064	20.098	20.072	20.109	20.076	20.091	20.101	20.069	20.047
2,4-Dinitrotoluene	20.565	20.592	20.579	20.616	20.576	20.604	20.608	20.583	20.554
Tetryl	24.265	24.312	24.312	24.336	24.336	24.317	24.302	24.296	24.268
2,4,6-Trinitrotoluene	25.058	25.085	25.106	25.109	25.116	25.097	25.088	25.076	25.041
PETN	26.045	26.065	26.079	26.056	26.082	26.064	26.062	26.056	26.034
1,2-Dinitrobenzene	13.144	13.171	13.159	13.195	13.156	13.177	13.148	13.143	13.094

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579374/18	06280018.D
Level 2	IC 280-579374/17	06280017.D
Level 3	IC 280-579374/16	06280016.D
Level 4	IC 280-579374/15	06280015.D
Level 5	IC 280-579374/14	06280014.D
Level 6	IC 280-579374/13	06280013.D
Level 7	IC 280-579374/12	06280012.D
Level 8	IC 280-579374/11	06280011.D
Level 9	IC 280-579374/10	06280010.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
HMX	167400 173700 173779	175850 173618	176340 172074	173490 171273	Ave		173058.176			
Picric acid	130400 151972 151800	151900 151490	144060 150014	153910 150277	Ave		148424.810			
RDX	241000 203940 200723	223700 201715	207940 198747	210980 199214	Lin2	411.496234	201116.772			
Nitrobenzene	362400 368516 371687	357200 367523	370720 366309	369360 365717	Ave		366603.430			
1,3-Dinitrobenzene	539400 580744 586233	533350 581858	568380 580489	577910 579205	Ave		569729.763			
Nitroglycerin	125880 129607 128655	127255 128856	128464 127913	132025 127408	Ave		128451.355			
2-Nitrotoluene	220600 215664 215995	208050 217713	226420 215983	217800 215672	Ave		217099.617			
4-Nitrotoluene	238500 226748 230392	200400 224475	231740 224844	221350 223663	Ave		224679.143			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
4-Amino-2,6-dinitrotoluene	225700 246284 247522	237400 245505	254980 244466	244280 245531	Ave		243518.679			
3-Nitrotoluene	233000 283204 288378	221000 285353	286440 284557	279180 282769	Ave		271542.249			
2-Amino-4,6-dinitrotoluene	324900 288616 275571	293450 291730	292760 285761	289050 284212	Ave		291783.403			
1,3,5-Trinitrobenzene	411100 487376 511945	430850 485945	495200 489249	478330 492330	Lin2	-905.15057	494855.026			
2,6-Dinitrotoluene	266100 259432 259672	261150 258430	263280 258140	262250 258115	Ave		260729.889			
2,4-Dinitrotoluene	515300 541684 547807	530850 540190	535460 539553	537390 539162	Ave		536377.295			
Tetryl	282200 305676 313176	322100 305183	308140 304614	305690 307786	Ave		306062.754			
2,4,6-Trinitrotoluene	372000 385244 401319	327250 386248	382420 388290	373360 393061	Ave		378799.078			
PETN	102510 130271 132268	113385 130724	120736 129434	126587 131365	Lin2	-2970.0788	130390.096			
1,2-Dinitrobenzene	257500 252676 252927	261600 252340	260500 250014	253020 249973	Ave		254505.610			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579374/18	06280018.D
Level 2	IC 280-579374/17	06280017.D
Level 3	IC 280-579374/16	06280016.D
Level 4	IC 280-579374/15	06280015.D
Level 5	IC 280-579374/14	06280014.D
Level 6	IC 280-579374/13	06280013.D
Level 7	IC 280-579374/12	06280012.D
Level 8	IC 280-579374/11	06280011.D
Level 9	IC 280-579374/10	06280010.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
HMX	Ave	1674 69447	3517 120452	8817 171273	17349 434447	43425	0.0100 0.400	0.02 0.7
Picric acid	Ave	1304 60596	3038 105010	7203 150277	15391 379500	37993	0.0100 0.400	0.02 0.7
RDX	Lin2	2410 80686	4474 139123	10397 199214	21098 501807	50985	0.0100 0.400	0.02 0.7
Nitrobenzene	Ave	3624 147009	7144 256416	18536 365717	36936 929217	92129	0.0100 0.400	0.02 0.7
1,3-Dinitrobenzene	Ave	5394 232743	10667 406342	28419 579205	57791 1465582	145186	0.0100 0.400	0.02 0.7
Nitroglycerin	Ave	12588 515422	25451 895388	64232 1274078	132025 3216378	324018	0.100 4.00	0.2 7.
2-Nitrotoluene	Ave	2206 87085	4161 151188	11321 215672	21780 539988	53916	0.0100 0.400	0.02 0.7
4-Nitrotoluene	Ave	2385 89790	4008 157391	11587 223663	22135 575980	56687	0.0100 0.400	0.02 0.7
4-Amino-2,6-dinitrotoluene	Ave	2257 98202	4748 171126	12749 245531	24428 618806	61571	0.0100 0.400	0.02 0.7
3-Nitrotoluene	Ave	2330 114141	4420 199190	14322 282769	27918 720944	70801	0.0100 0.400	0.02 0.7
2-Amino-4,6-dinitrotoluene	Ave	3249 116692	5869 200033	14638 284212	28905 688928	72154	0.0100 0.400	0.02 0.7
1,3,5-Trinitrobenzene	Lin2	4111 194378	8617 342474	24760 492330	47833 1279862	121844	0.0100 0.400	0.02 0.7
2,6-Dinitrotoluene	Ave	2661	5223	13164	26225	64858	0.0100	0.02

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
		103372	180698	258115	649180		0.400	0.7
2,4-Dinitrotoluene	Ave	5153 216076	10617 377687	26773 539162	53739 1369517	135421	0.0100 0.400	0.02 0.7
Tetryl	Ave	2822 122073	6442 213230	15407 307786	30569 782940	76419	0.0100 0.400	0.02 0.7
2,4,6-Trinitrotoluene	Ave	3720 154499	6545 271803	19121 393061	37336 1003298	96311	0.0100 0.400	0.02 0.7
PETN	Lin2	10251 522894	22677 906035	60368 1313650	126587 3306698	325677	0.100 4.00	0.2 7.
1,2-Dinitrobenzene	Ave	2575 100936	5232 175010	13025 249973	25302 632318	63169	0.0100 0.400	0.02 0.7

Curve Type Legend
Ave = Average
Lin2 = Linear 1/conc^2

Report Date: 30-Jun-2022 14:41:23 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280010.D
Lims ID: IC INT 9
Client ID:
Sample Type: IC Calib Level: 9
Inject. Date: 28-Jun-2022 19:24:04 ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 9
Misc. Info.: 280-0112178-010
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:23 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 30-Jun-2022 14:37:02

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.788	6.836	-0.048	434447	2.50	2.51	
7 2,4,6-Trinitrophenol	1	8.141	8.322	-0.181	379500	2.50	2.56	
8 RDX	1	8.941	8.996	-0.055	501807	2.50	2.49	
9 Nitrobenzene	1	11.881	11.942	-0.061	929217	2.50	2.53	
$ 10 1,2-Dinitrobenzene	1	13.094	13.156	-0.062	632318	2.50	2.48	
12 1,3-Dinitrobenzene	1	15.434	15.509	-0.075	1465582	2.50	2.57	
13 Nitroglycerin	2	15.807	15.862	-0.055	3216378	25.0	25.0	
14 o-Nitrotoluene	1	16.601	16.669	-0.068	539988	2.50	2.49	
16 p-Nitrotoluene	1	16.901	16.976	-0.075	575980	2.50	2.56	
17 4-Amino-2,6-dinitrotoluene	1	17.534	17.602	-0.068	618806	2.50	2.54	
18 m-Nitrotoluene	1	17.881	17.936	-0.055	720944	2.50	2.65	
19 2-Amino-4,6-dinitrotoluene	1	18.547	18.602	-0.055	688928	2.50	2.36	
20 1,3,5-Trinitrobenzene	1	18.727	18.776	-0.049	1279862	2.50	2.59	
21 2,6-Dinitrotoluene	1	20.047	20.076	-0.029	649180	2.50	2.49	
22 2,4-Dinitrotoluene	1	20.554	20.576	-0.022	1369517	2.50	2.55	
23 Tetryl	1	24.268	24.336	-0.068	782940	2.50	2.56	
24 2,4,6-Trinitrotoluene	1	25.041	25.116	-0.075	1003298	2.50	2.65	
25 PETN	2	26.034	26.082	-0.048	3306698	25.0	25.4	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 250.00 Units: uL

Report Date: 30-Jun-2022 14:41:23 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280010.D

Injection Date: 28-Jun-2022 19:24:04 Instrument ID: CHHPLC_X5 Operator ID:

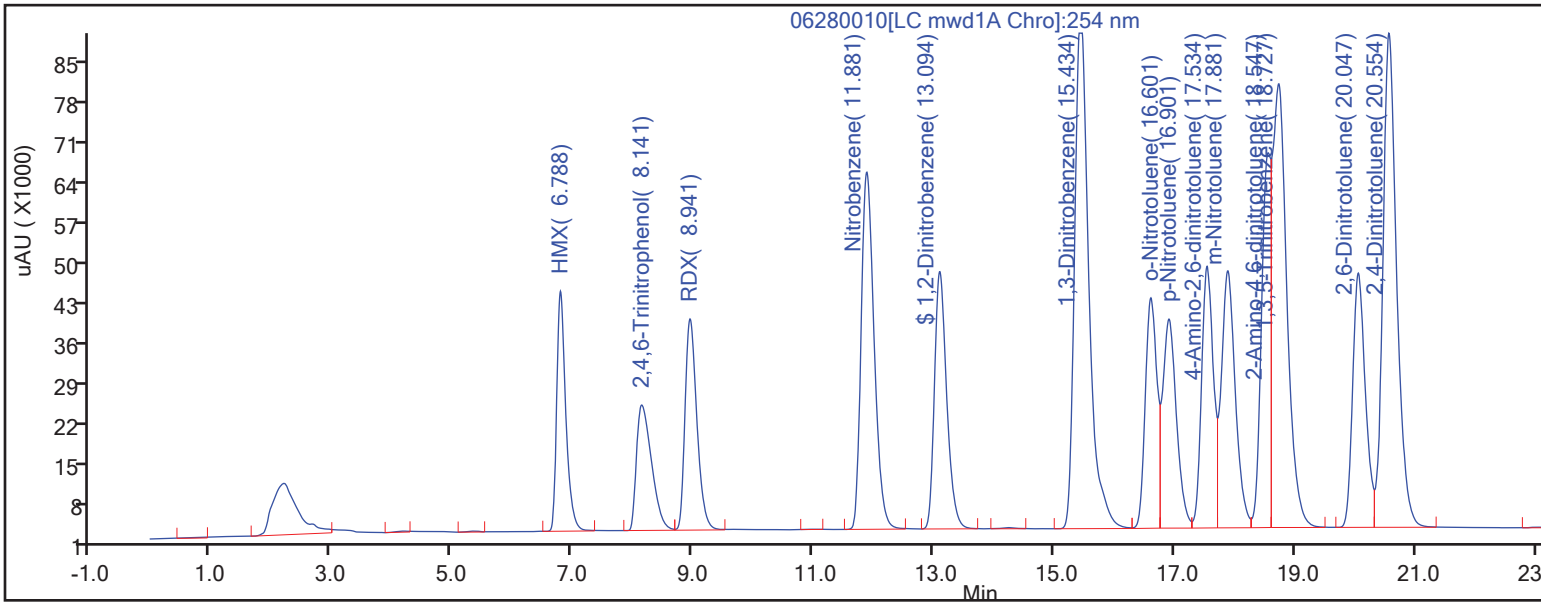
Lims ID: IC INT 9 Worklist Smp#:

Client ID:

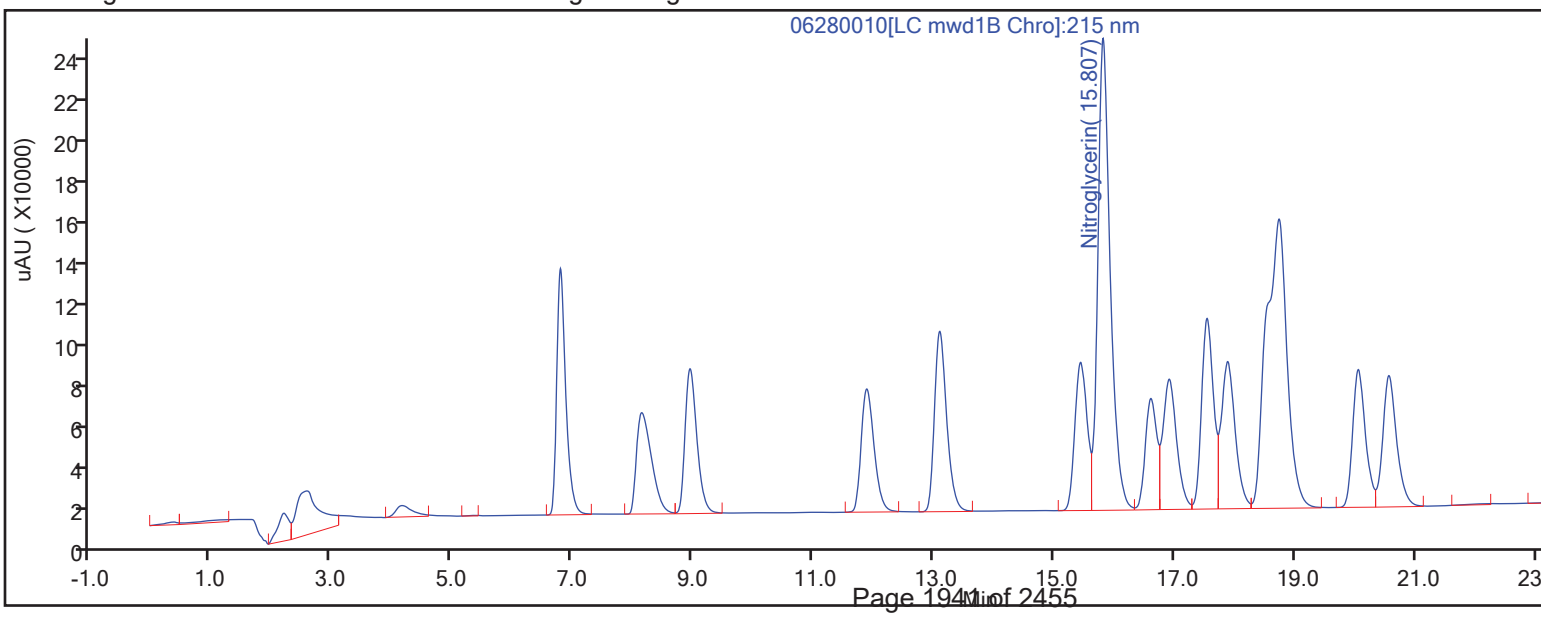
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

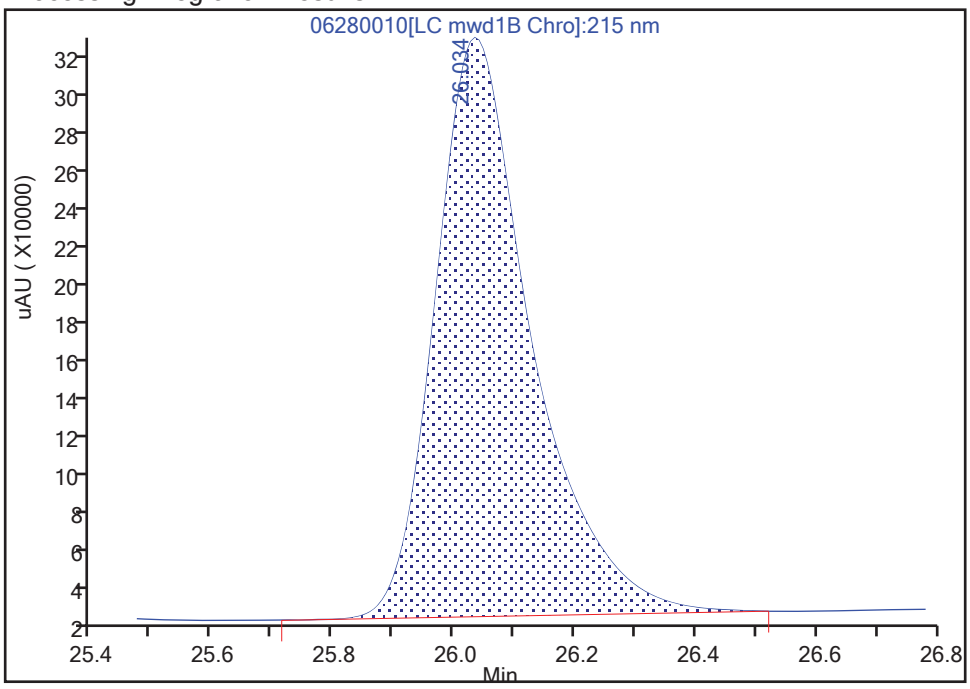
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280010.D
Injection Date: 28-Jun-2022 19:24:04 Instrument ID: CHHPLC_X5
Lims ID: IC INT 9
Client ID:
Operator ID: JZ ALS Bottle#: 10 Worklist Smp#: 10
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

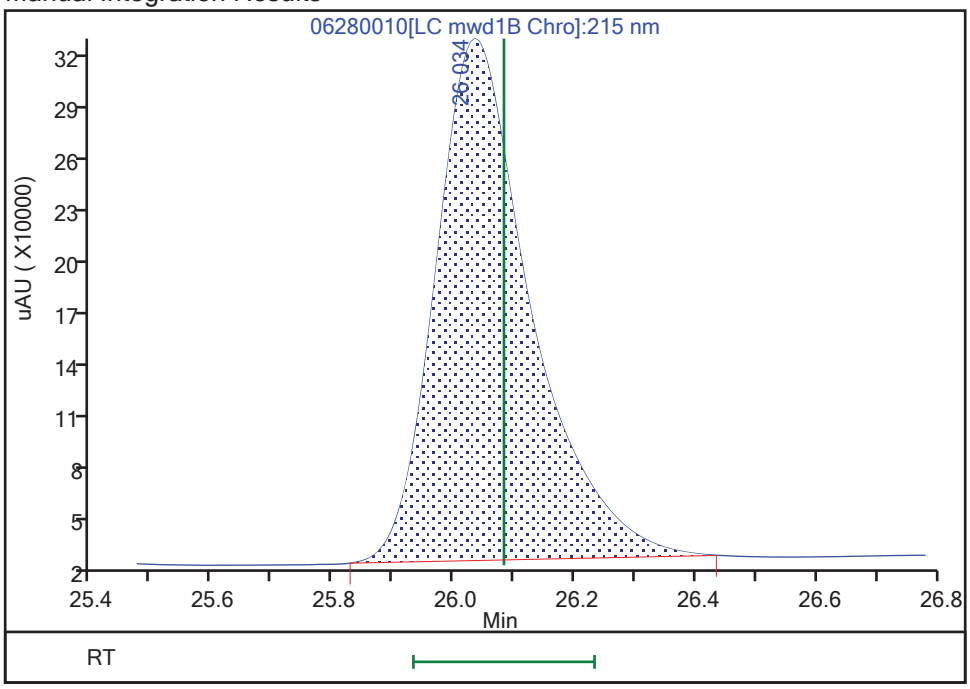
Processing Integration Results

RT: 26.03
Area: 3344862
Amount: 26.758882
Amount Units: ug/ml



Manual Integration Results

RT: 26.03
Area: 3306698
Amount: 25.382818
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:38:23
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:24 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280011.D
Lims ID: IC INT 8
Client ID:
Sample Type: IC Calib Level: 8
Inject. Date: 28-Jun-2022 19:59:19 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 8
Misc. Info.: 280-0112178-011
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:23 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 28-Jun-2022 20:36:17

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.810	6.836	-0.026	171273	1.00	0.9897	
7 2,4,6-Trinitrophenol	1	8.236	8.322	-0.086	150277	1.00	1.01	
8 RDX	1	8.970	8.996	-0.026	199214	1.00	0.9885	
9 Nitrobenzene	1	11.929	11.942	-0.013	365717	1.00	1.00	
$ 10 1,2-Dinitrobenzene	1	13.143	13.156	-0.013	249973	1.00	0.9822	
12 1,3-Dinitrobenzene	1	15.489	15.509	-0.020	579205	1.00	1.02	
13 Nitroglycerin	2	15.856	15.862	-0.006	1274078	10.0	9.92	
14 o-Nitrotoluene	1	16.656	16.669	-0.013	215672	1.00	0.99	
16 p-Nitrotoluene	1	16.956	16.976	-0.020	223663	1.00	1.00	
17 4-Amino-2,6-dinitrotoluene	1	17.583	17.602	-0.019	245531	1.00	1.01	
18 m-Nitrotoluene	1	17.923	17.936	-0.013	282769	1.00	1.04	
19 2-Amino-4,6-dinitrotoluene	1	18.576	18.602	-0.026	284212	1.00	0.9741	
20 1,3,5-Trinitrobenzene	1	18.756	18.776	-0.020	492330	1.00	1.00	
21 2,6-Dinitrotoluene	1	20.069	20.076	-0.007	258115	1.00	0.9900	
22 2,4-Dinitrotoluene	1	20.583	20.576	0.007	539162	1.00	1.01	
23 Tetryl	1	24.296	24.336	-0.040	307786	1.00	1.01	
24 2,4,6-Trinitrotoluene	1	25.076	25.116	-0.040	393061	1.00	1.04	
25 PETN	2	26.056	26.082	-0.026	1313650	10.0	10.1	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 100.00 Units: uL

Report Date: 30-Jun-2022 14:41:24 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280011.D

Injection Date: 28-Jun-2022 19:59:19 Instrument ID: CHHPLC_X5 Operator ID:

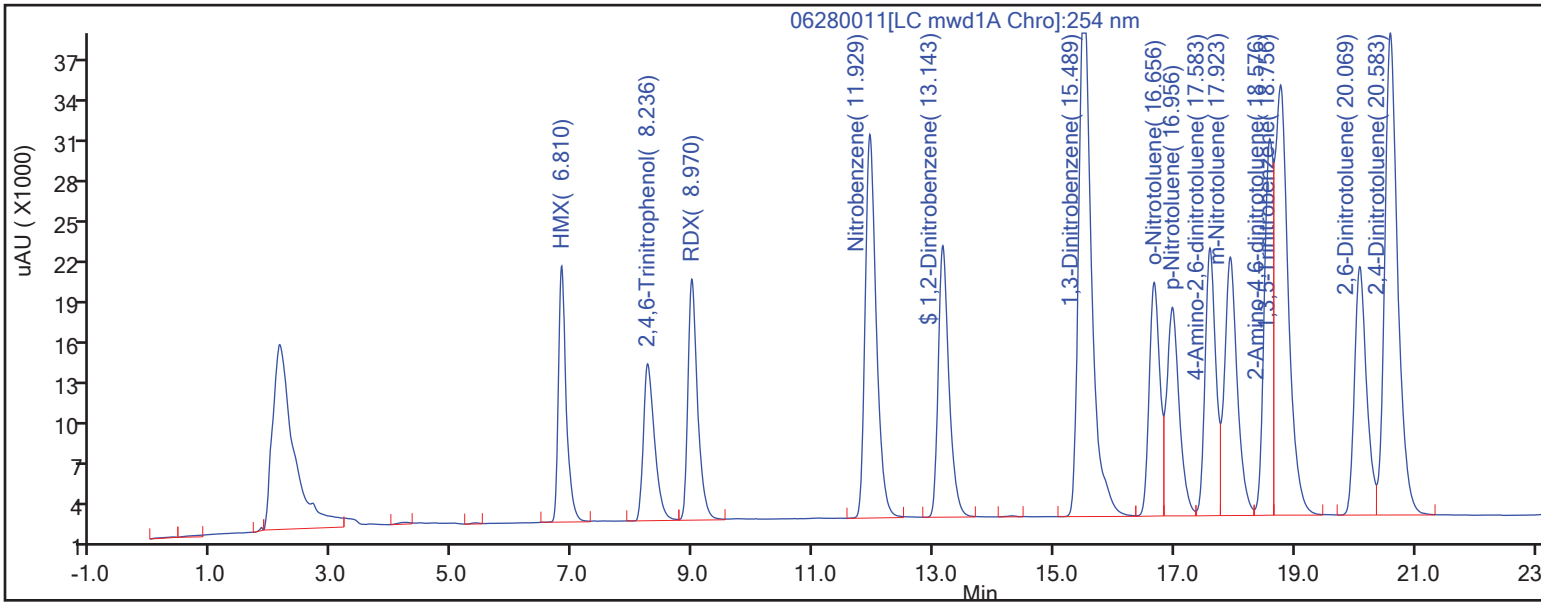
Lims ID: IC INT 8 Worklist Smp#:

Client ID:

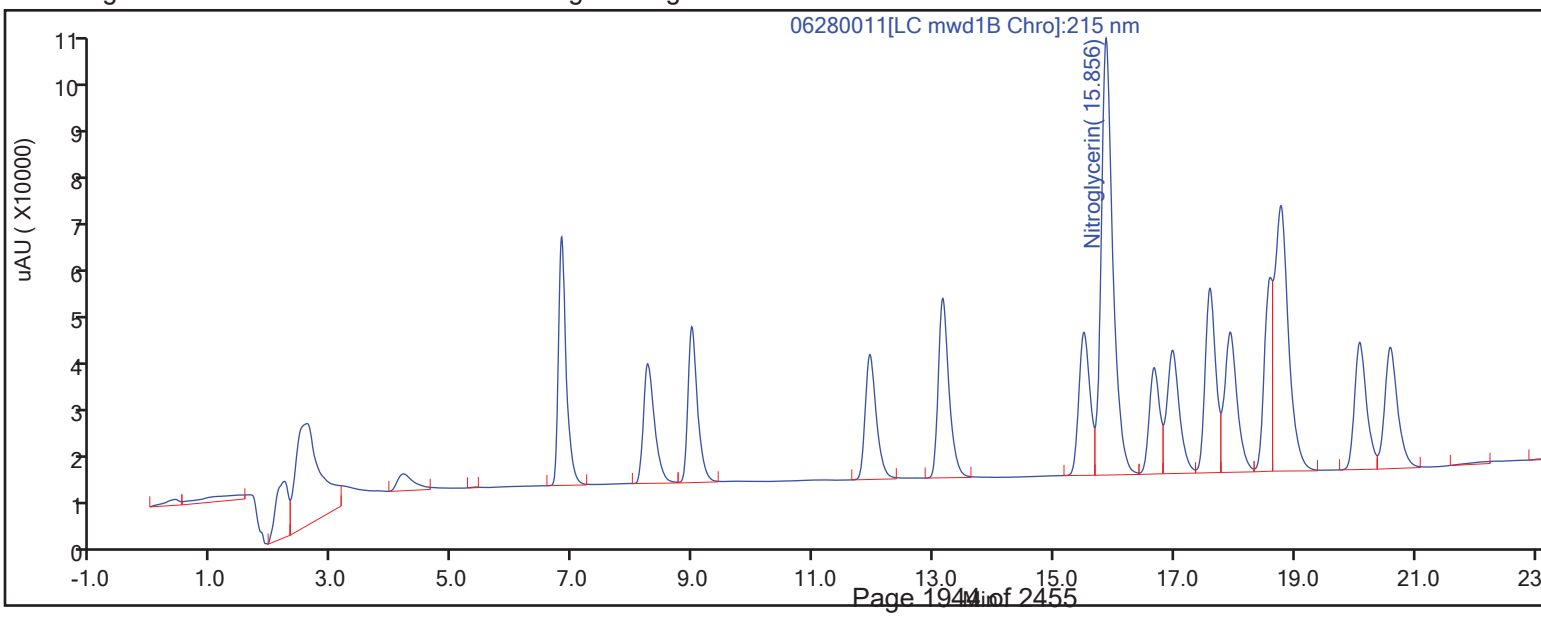
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

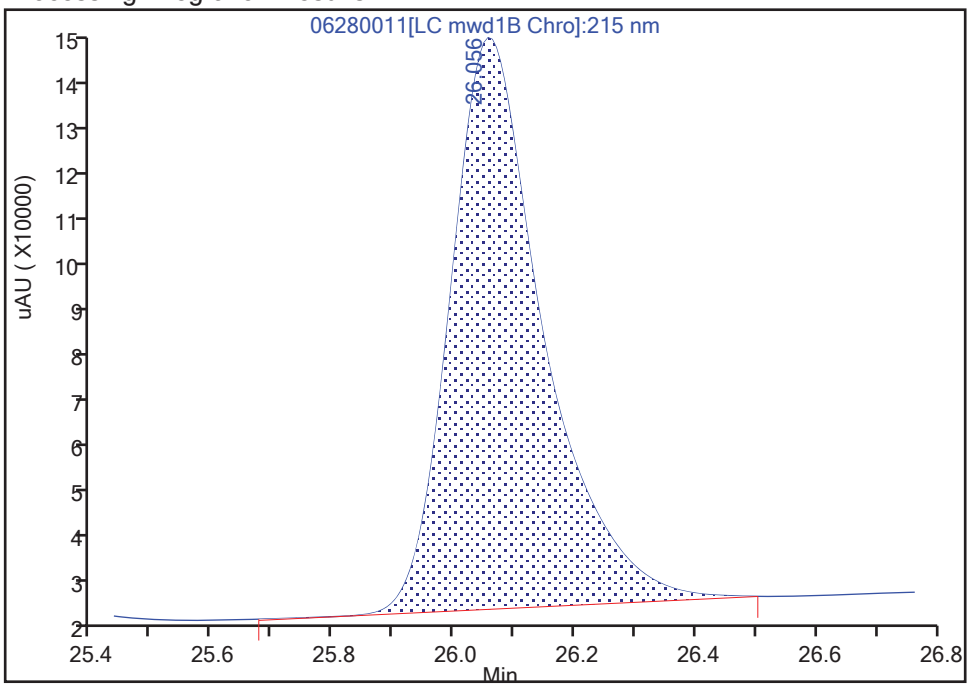
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280011.D
Injection Date: 28-Jun-2022 19:59:19 Instrument ID: CHHPLC_X5
Lims ID: IC INT 8
Client ID:
Operator ID: JZ ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

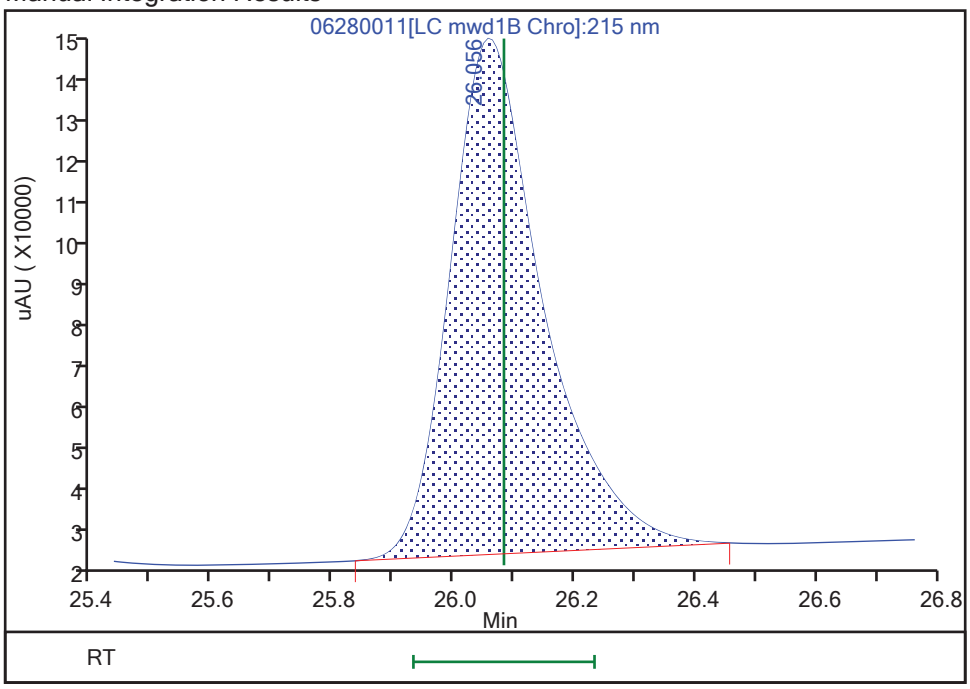
Processing Integration Results

RT: 26.06
Area: 1323848
Amount: 10.605169
Amount Units: ug/ml



Manual Integration Results

RT: 26.06
Area: 1313650
Amount: 10.097547
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:38:30
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:24 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280012.D
Lims ID: IC INT 7
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 28-Jun-2022 20:34:24 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 7
Misc. Info.: 280-0112178-012
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:24 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 30-Jun-2022 14:38:39

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.835	6.836	-0.001	120452	0.7000	0.6960	
7 2,4,6-Trinitrophenol	1	8.282	8.322	-0.040	105010	0.7000	0.7075	
8 RDX	1	9.002	8.996	0.006	139123	0.7000	0.6897	
9 Nitrobenzene	1	11.948	11.942	0.006	256416	0.7000	0.6994	
$ 10 1,2-Dinitrobenzene	1	13.148	13.156	-0.008	175010	0.7000	0.6876	
12 1,3-Dinitrobenzene	1	15.501	15.509	-0.008	406342	0.7000	0.7132	
13 Nitroglycerin	2	15.855	15.862	-0.007	895388	7.00	6.97	
14 o-Nitrotoluene	1	16.668	16.669	-0.001	151188	0.7000	0.6964	
16 p-Nitrotoluene	1	16.975	16.976	-0.001	157391	0.7000	0.7005	
17 4-Amino-2,6-dinitrotoluene	1	17.608	17.602	0.006	171126	0.7000	0.7027	
18 m-Nitrotoluene	1	17.948	17.936	0.012	199190	0.7000	0.7336	
19 2-Amino-4,6-dinitrotoluene	1	18.615	18.602	0.013	200033	0.7000	0.6856	
20 1,3,5-Trinitrobenzene	1	18.788	18.776	0.012	342474	0.7000	0.6939	
21 2,6-Dinitrotoluene	1	20.101	20.076	0.025	180698	0.7000	0.6930	
22 2,4-Dinitrotoluene	1	20.608	20.576	0.032	377687	0.7000	0.7041	
23 Tetryl	1	24.302	24.336	-0.034	213230	0.7000	0.6967	
24 2,4,6-Trinitrotoluene	1	25.088	25.116	-0.028	271803	0.7000	0.7175	
25 PETN	2	26.062	26.082	-0.020	906035	7.00	6.97	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 70.00 Units: uL

Report Date: 30-Jun-2022 14:41:24 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280012.D

Injection Date: 28-Jun-2022 20:34:24 Instrument ID: CHHPLC_X5 Operator ID:

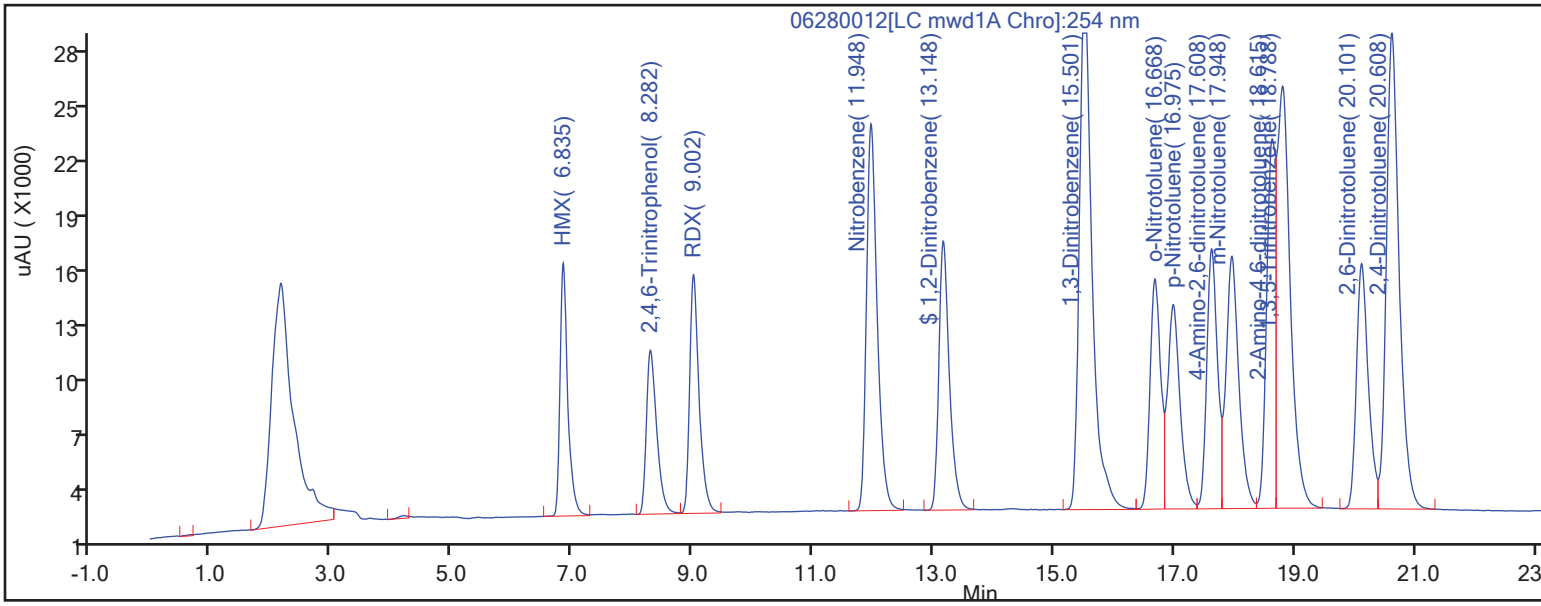
Lims ID: IC INT 7 Worklist Smp#:

Client ID:

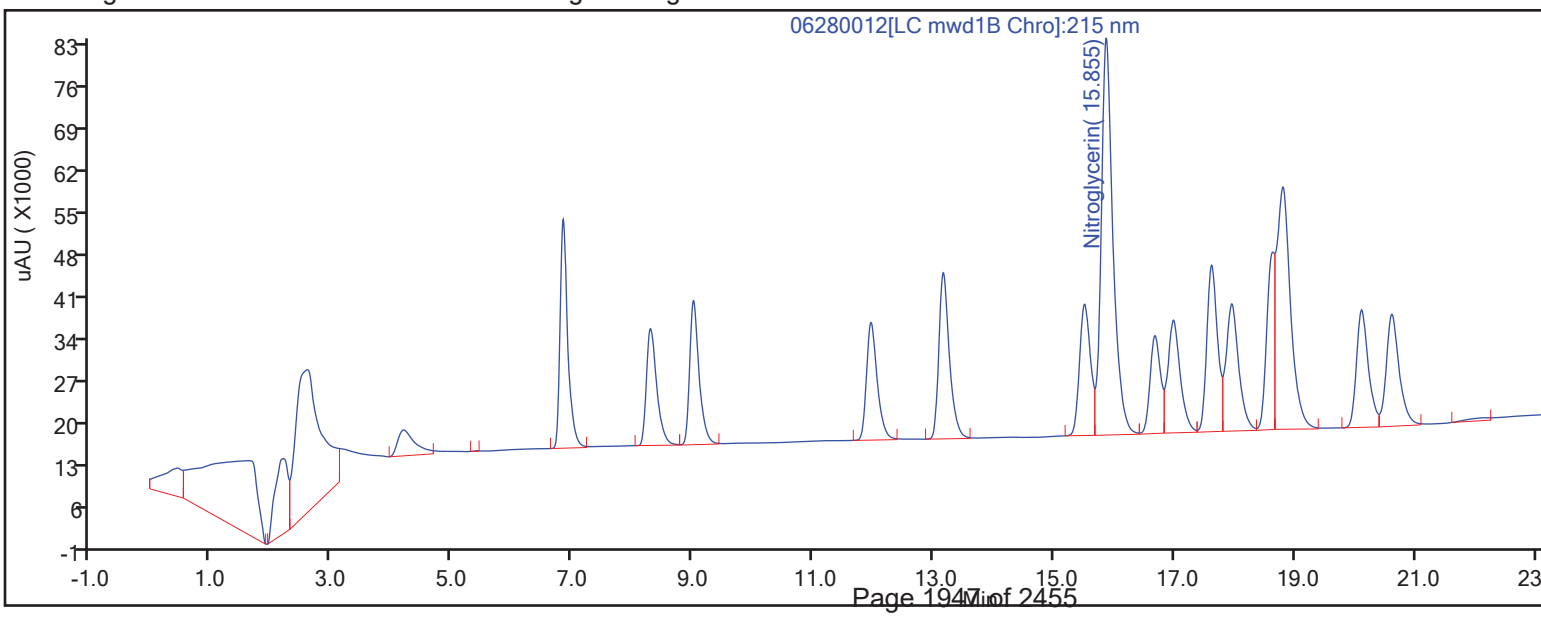
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

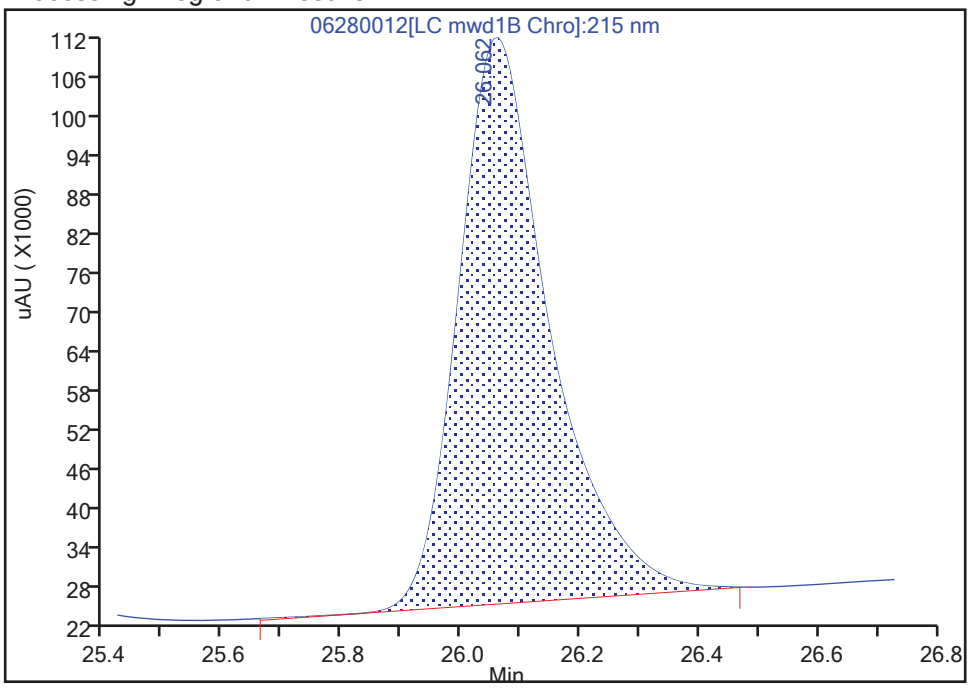
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280012.D
Injection Date: 28-Jun-2022 20:34:24 Instrument ID: CHHPLC_X5
Lims ID: IC INT 7
Client ID:
Operator ID: JZ ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

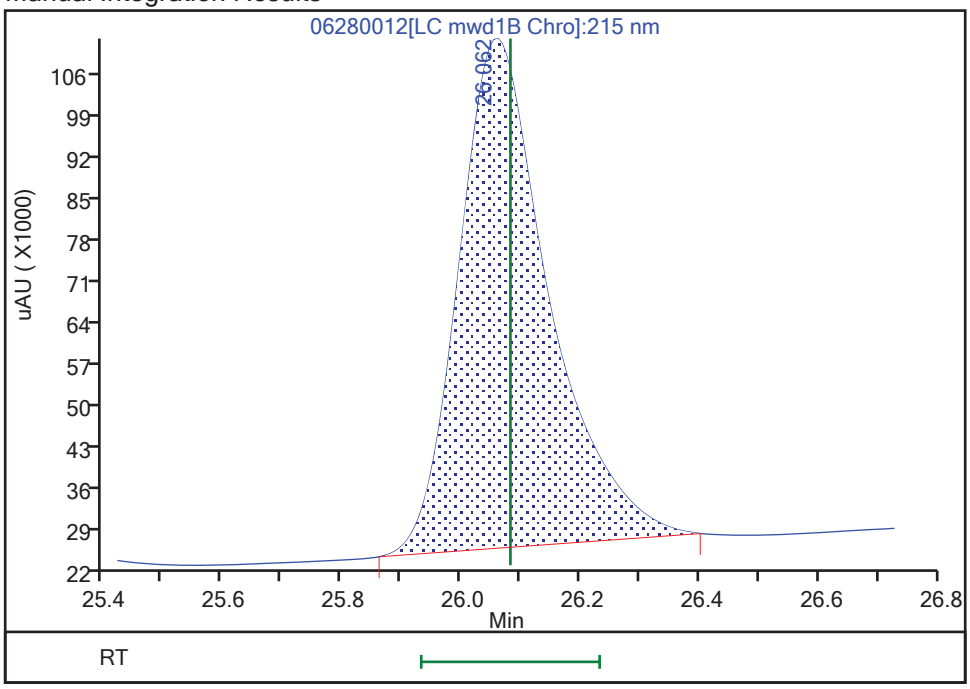
Processing Integration Results

RT: 26.06
Area: 923292
Amount: 7.403089
Amount Units: ug/ml



Manual Integration Results

RT: 26.06
Area: 906035
Amount: 6.971427
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:38:38
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:25 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280013.D
Lims ID: IC INT 6
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 28-Jun-2022 21:09:34 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 6
Misc. Info.: 280-0112178-013
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:25 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 29-Jun-2022 11:54:19

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.837	6.836	0.001	69447	0.4000	0.4013	
7 2,4,6-Trinitrophenol	1	8.317	8.322	-0.005	60596	0.4000	0.4083	
8 RDX	1	9.011	8.996	0.015	80686	0.4000	0.3991	
9 Nitrobenzene	1	11.964	11.942	0.022	147009	0.4000	0.4010	
$ 10 1,2-Dinitrobenzene	1	13.177	13.156	0.021	100936	0.4000	0.3966	
12 1,3-Dinitrobenzene	1	15.517	15.509	0.008	232743	0.4000	0.4085	
13 Nitroglycerin	2	15.871	15.862	0.009	515422	4.00	4.01	
14 o-Nitrotoluene	1	16.684	16.669	0.015	87085	0.4000	0.4011	
16 p-Nitrotoluene	1	16.984	16.976	0.008	89790	0.4000	0.3996	
17 4-Amino-2,6-dinitrotoluene	1	17.611	17.602	0.009	98202	0.4000	0.4033	
18 m-Nitrotoluene	1	17.944	17.936	0.008	114141	0.4000	0.4203	
19 2-Amino-4,6-dinitrotoluene	1	18.611	18.602	0.009	116692	0.4000	0.3999	
20 1,3,5-Trinitrobenzene	1	18.784	18.776	0.008	194378	0.4000	0.3946	
21 2,6-Dinitrotoluene	1	20.091	20.076	0.015	103372	0.4000	0.3965	
22 2,4-Dinitrotoluene	1	20.604	20.576	0.028	216076	0.4000	0.4028	
23 Tetryl	1	24.317	24.336	-0.019	122073	0.4000	0.3988	
24 2,4,6-Trinitrotoluene	1	25.097	25.116	-0.019	154499	0.4000	0.4079	
25 PETN	2	26.064	26.082	-0.018	522894	4.00	4.03	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 40.00 Units: uL

Report Date: 30-Jun-2022 14:41:25 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280013.D

Injection Date: 28-Jun-2022 21:09:34 Instrument ID: CHHPLC_X5 Operator ID:

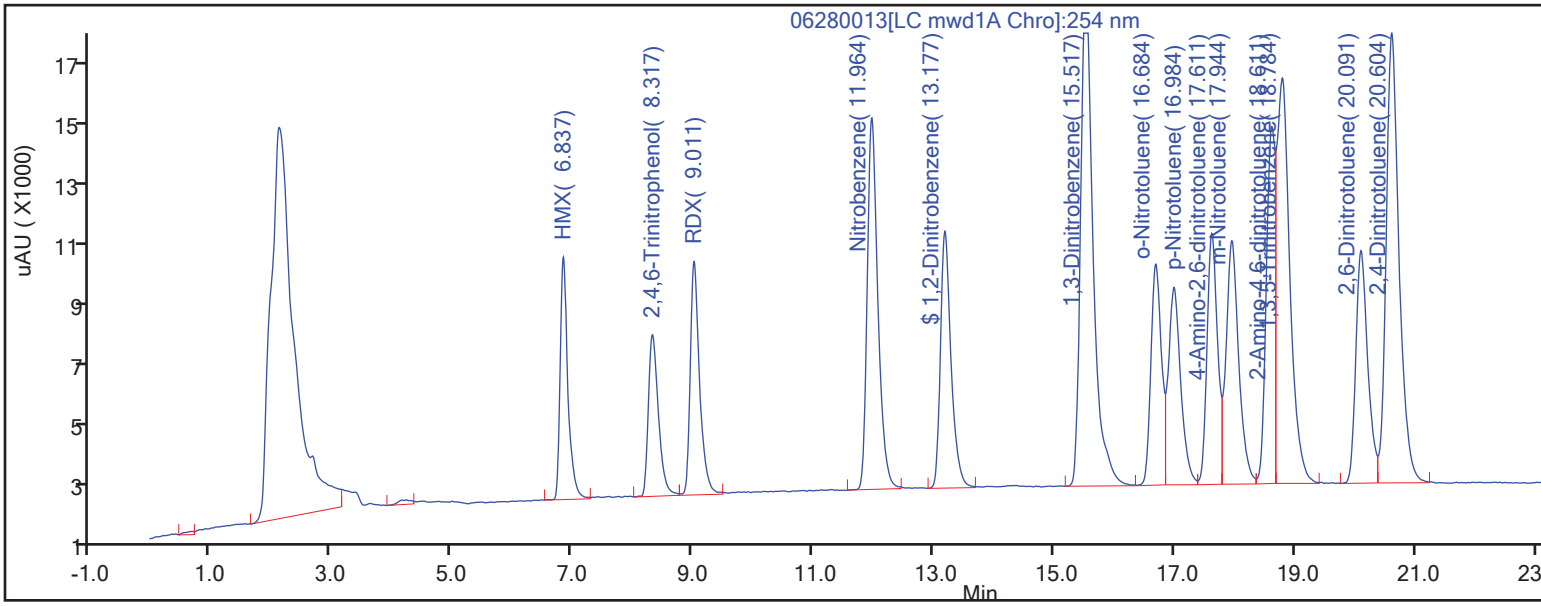
Lims ID: IC INT 6 Worklist Smp#:

Client ID:

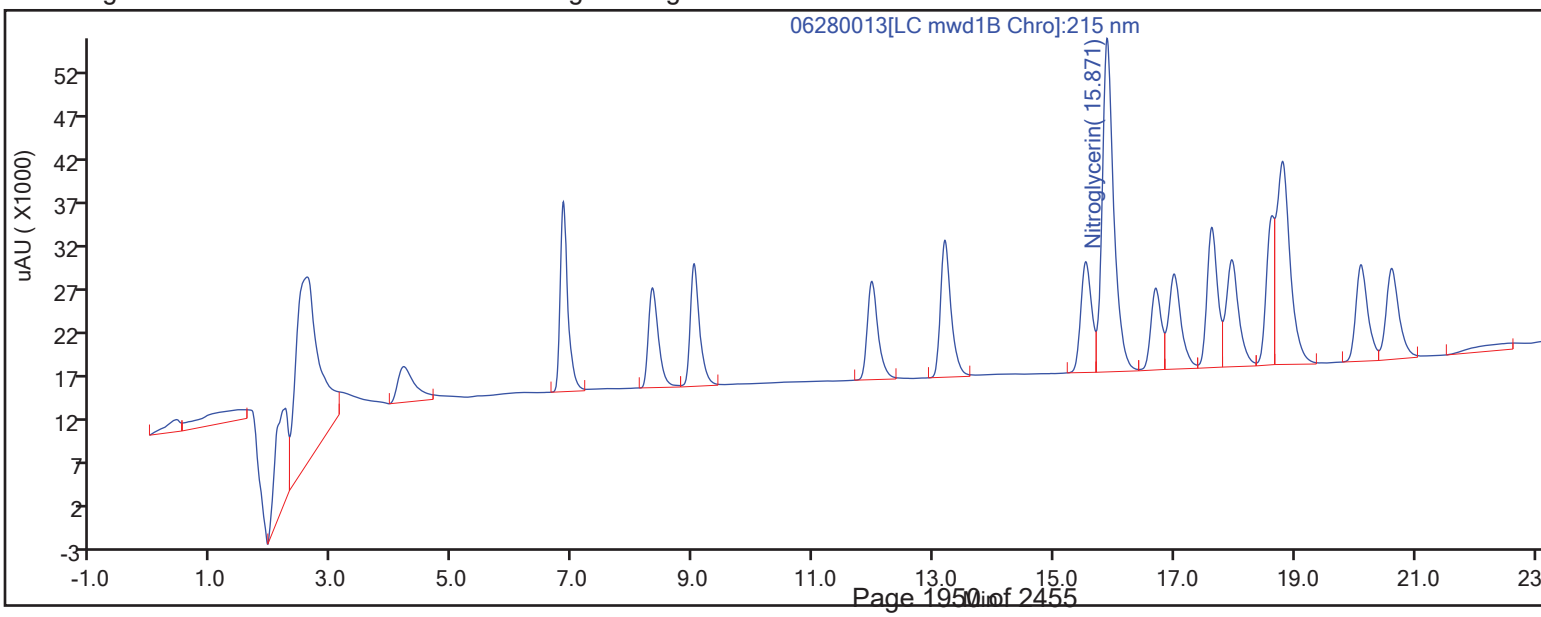
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

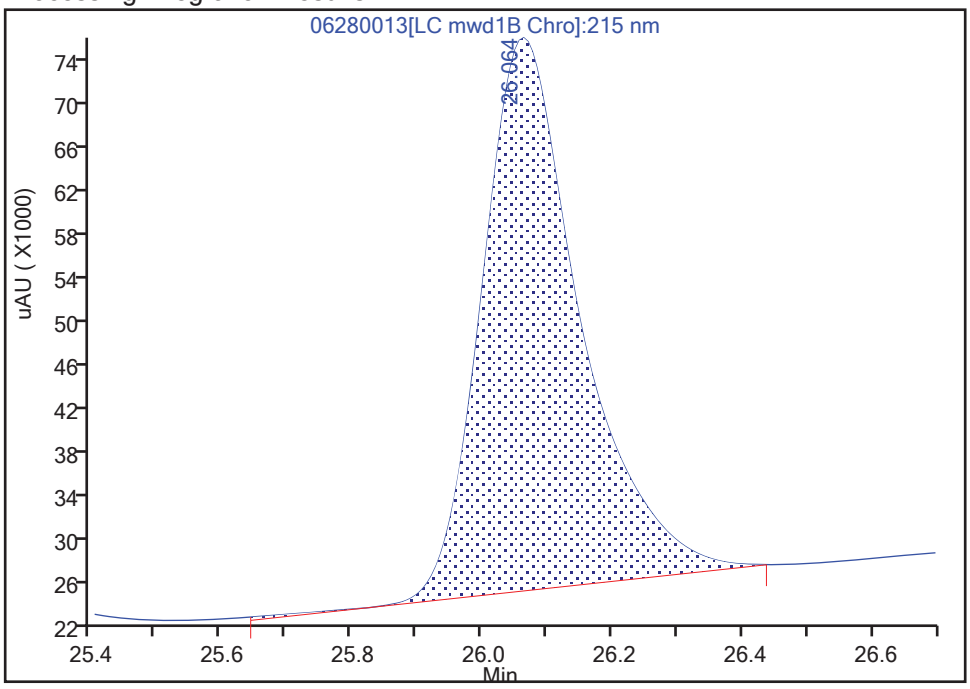
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280013.D
Injection Date: 28-Jun-2022 21:09:34 Instrument ID: CHHPLC_X5
Lims ID: IC INT 6
Client ID:
Operator ID: JZ ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

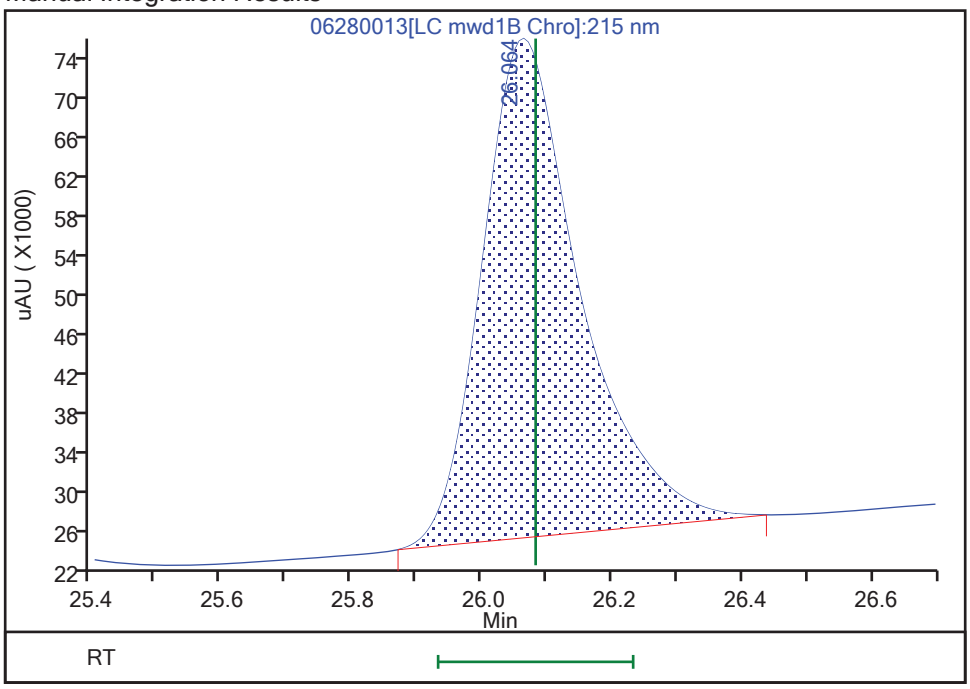
Processing Integration Results

RT: 26.06
Area: 526533
Amount: 4.231111
Amount Units: ug/ml



Manual Integration Results

RT: 26.06
Area: 522894
Amount: 4.033006
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:38:45
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:26 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280014.D
Lims ID: IC INT 5
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 28-Jun-2022 21:45:04 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 5
Misc. Info.: 280-0112178-014
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:25 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 29-Jun-2022 11:54:22

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.836	6.836	0.000	43425	0.2500	0.2509	
7 2,4,6-Trinitrophenol	1	8.322	8.322	0.000	37993	0.2500	0.2560	
8 RDX	1	8.996	8.996	0.000	50985	0.2500	0.2515	
9 Nitrobenzene	1	11.942	11.942	0.000	92129	0.2500	0.2513	
$ 10 1,2-Dinitrobenzene	1	13.156	13.156	0.000	63169	0.2500	0.2482	
12 1,3-Dinitrobenzene	1	15.509	15.509	0.000	145186	0.2500	0.2548	
13 Nitroglycerin	2	15.862	15.862	0.000	324018	2.50	2.52	
14 o-Nitrotoluene	1	16.669	16.669	0.000	53916	0.2500	0.2483	
16 p-Nitrotoluene	1	16.976	16.976	0.000	56687	0.2500	0.2523	
17 4-Amino-2,6-dinitrotoluene	1	17.602	17.602	0.000	61571	0.2500	0.2528	
18 m-Nitrotoluene	1	17.936	17.936	0.000	70801	0.2500	0.2607	
19 2-Amino-4,6-dinitrotoluene	1	18.602	18.602	0.000	72154	0.2500	0.2473	
20 1,3,5-Trinitrobenzene	1	18.776	18.776	0.000	121844	0.2500	0.2481	
21 2,6-Dinitrotoluene	1	20.076	20.076	0.000	64858	0.2500	0.2488	
22 2,4-Dinitrotoluene	1	20.576	20.576	0.000	135421	0.2500	0.2525	
23 Tetryl	1	24.336	24.336	0.000	76419	0.2500	0.2497	
24 2,4,6-Trinitrotoluene	1	25.116	25.116	0.000	96311	0.2500	0.2543	
25 PETN	2	26.082	26.082	0.000	325677	2.50	2.52	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 25.00 Units: uL

Report Date: 30-Jun-2022 14:41:26 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280014.D

Injection Date: 28-Jun-2022 21:45:04 Instrument ID: CHHPLC_X5 Operator ID:

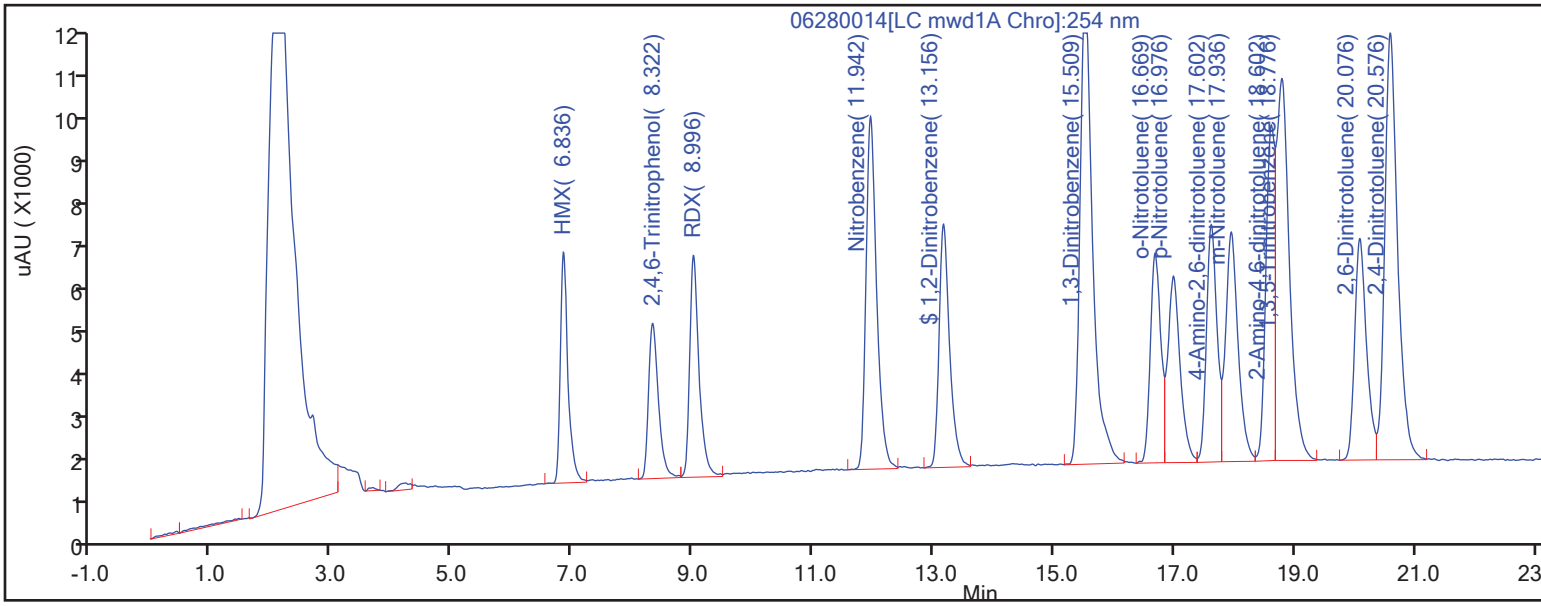
Lims ID: IC INT 5 Worklist Smp#:

Client ID:

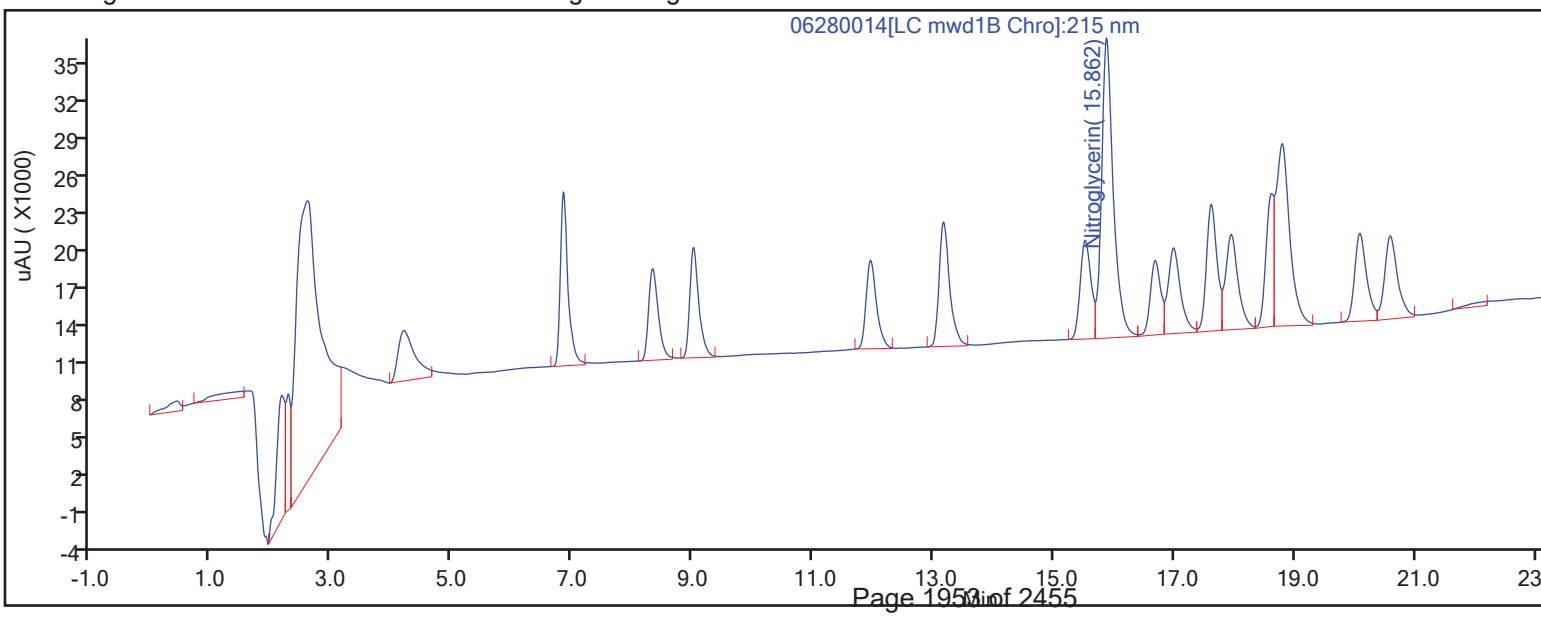
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

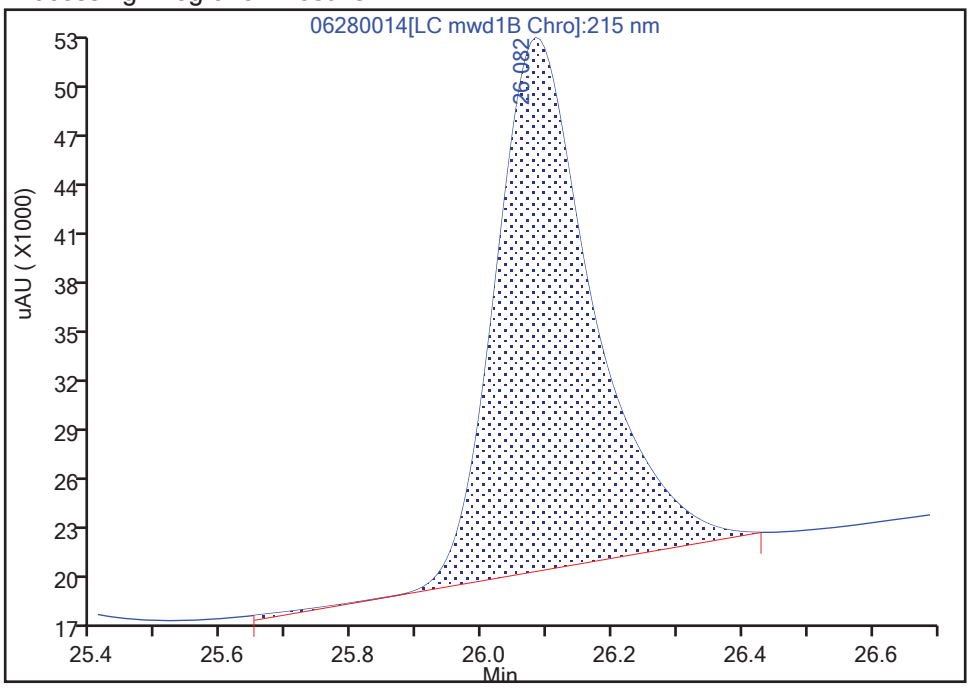
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280014.D
Injection Date: 28-Jun-2022 21:45:04 Instrument ID: CHHPLC_X5
Lims ID: IC INT 5
Client ID:
Operator ID: JZ ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

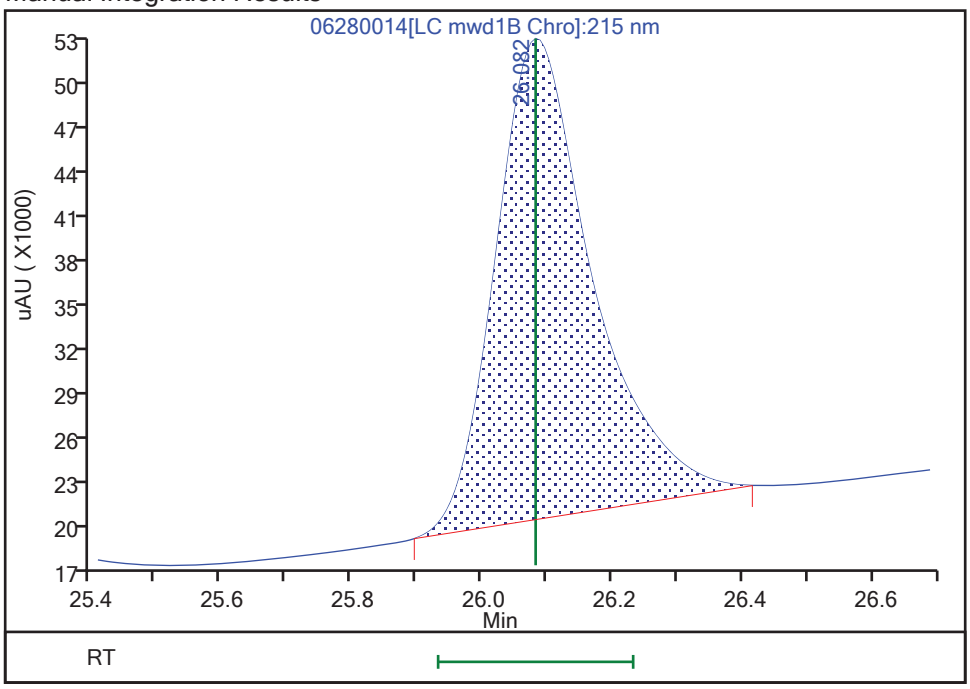
Processing Integration Results

RT: 26.08
Area: 330178
Amount: 2.655399
Amount Units: ug/ml



Manual Integration Results

RT: 26.08
Area: 325677
Amount: 2.520491
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:38:53
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:26 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280015.D
Lims ID: IC INT 4
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 28-Jun-2022 22:20:17 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 4
Misc. Info.: 280-0112178-015
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:26 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 29-Jun-2022 11:54:25

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.849	6.836	0.013	17349	0.1000	0.1002	
7 2,4,6-Trinitrophenol	1	8.369	8.322	0.047	15391	0.1000	0.1037	
8 RDX	1	9.022	8.996	0.026	21098	0.1000	0.1029	
9 Nitrobenzene	1	11.975	11.942	0.033	36936	0.1000	0.1008	
$ 10 1,2-Dinitrobenzene	1	13.195	13.156	0.039	25302	0.1000	0.0994	
12 1,3-Dinitrobenzene	1	15.542	15.509	0.033	57791	0.1000	0.1014	
13 Nitroglycerin	2	15.895	15.862	0.033	132025	1.00	1.03	
14 o-Nitrotoluene	1	16.695	16.669	0.026	21780	0.1000	0.1003	
16 p-Nitrotoluene	1	17.002	16.976	0.026	22135	0.1000	0.0985	
17 4-Amino-2,6-dinitrotoluene	1	17.629	17.602	0.027	24428	0.1000	0.1003	
18 m-Nitrotoluene	1	17.955	17.936	0.019	27918	0.1000	0.1028	
19 2-Amino-4,6-dinitrotoluene	1	18.622	18.602	0.020	28905	0.1000	0.0991	
20 1,3,5-Trinitrobenzene	1	18.802	18.776	0.026	47833	0.1000	0.0985	
21 2,6-Dinitrotoluene	1	20.109	20.076	0.033	26225	0.1000	0.1006	
22 2,4-Dinitrotoluene	1	20.616	20.576	0.039	53739	0.1000	0.1002	
23 Tetryl	1	24.336	24.336	0.000	30569	0.1000	0.0999	
24 2,4,6-Trinitrotoluene	1	25.109	25.116	-0.007	37336	0.1000	0.0986	
25 PETN	2	26.056	26.082	-0.026	126587	1.00	0.99	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 10.00 Units: uL

Report Date: 30-Jun-2022 14:41:26 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280015.D

Injection Date: 28-Jun-2022 22:20:17 Instrument ID: CHHPLC_X5 Operator ID:

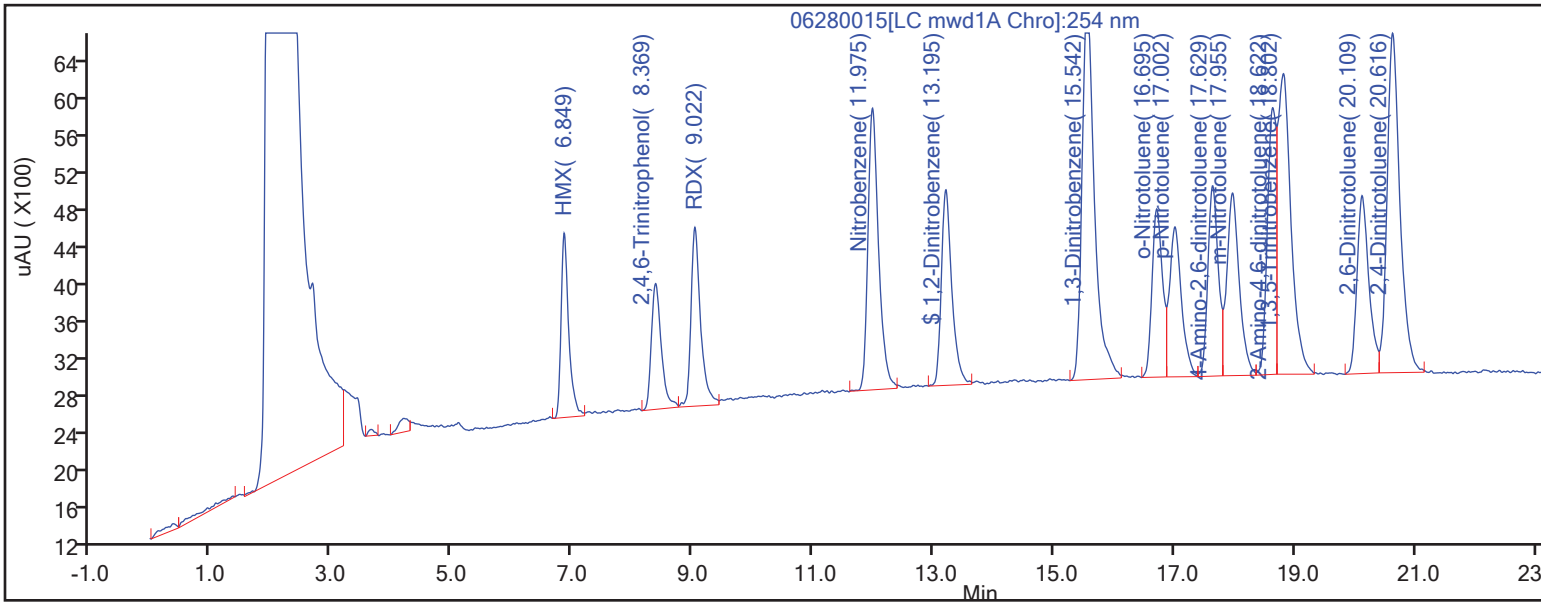
Lims ID: IC INT 4 Worklist Smp#:

Client ID:

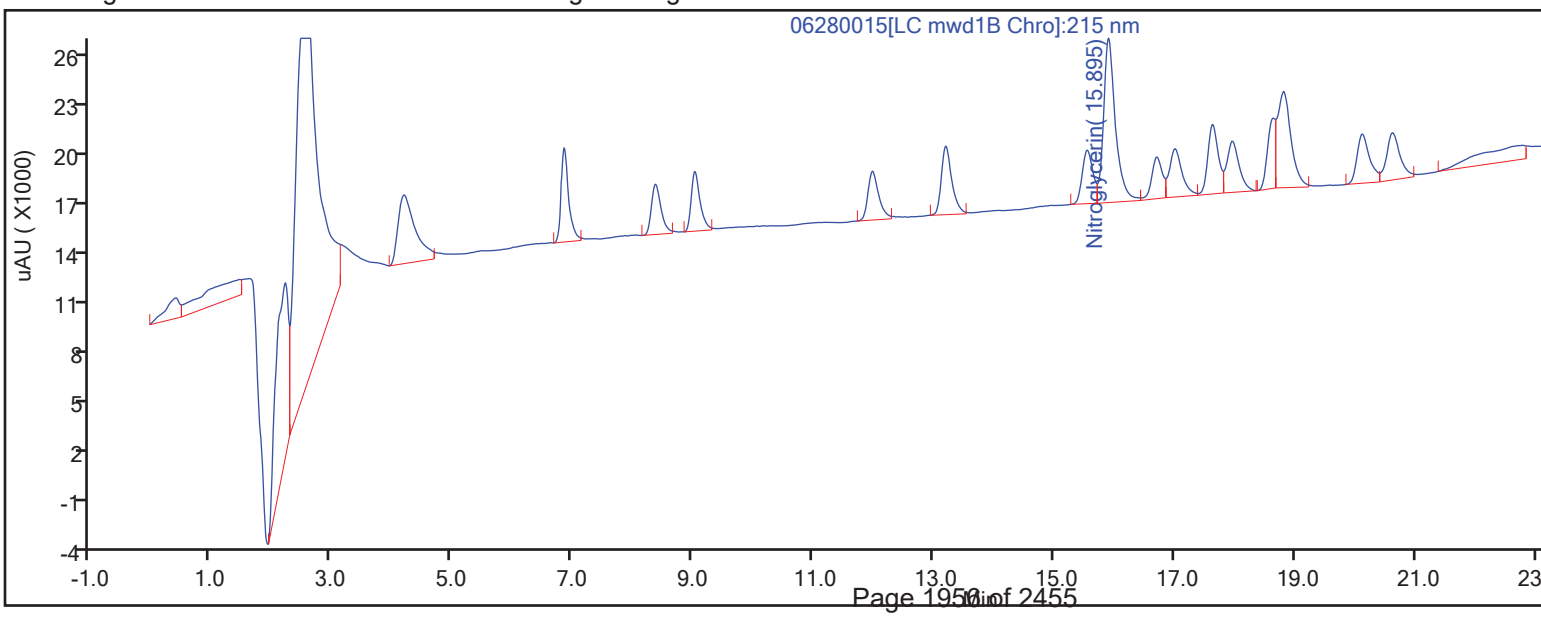
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

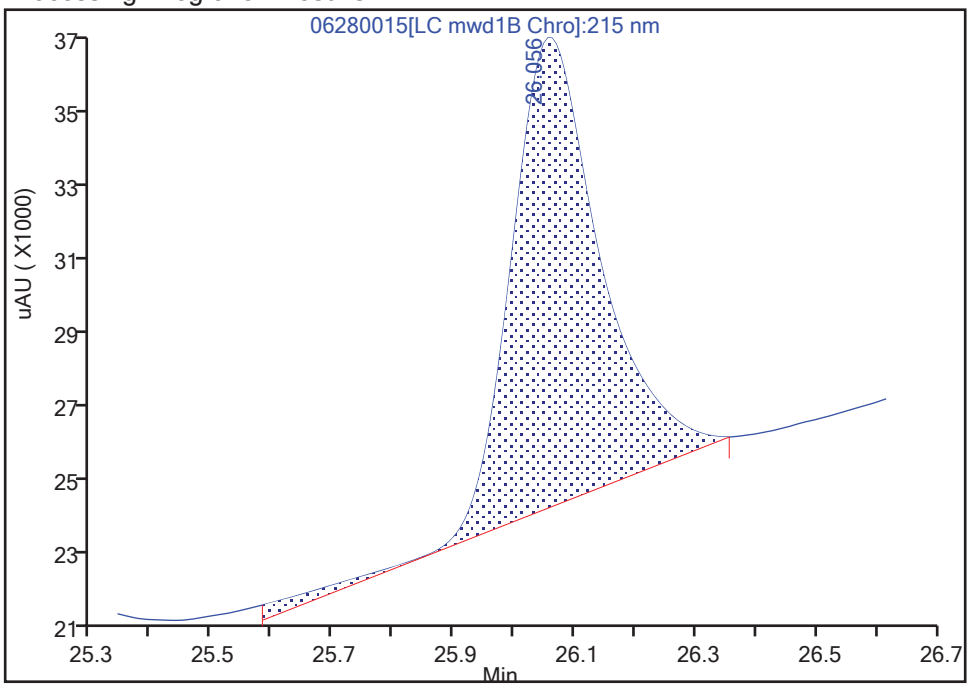
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280015.D
Injection Date: 28-Jun-2022 22:20:17 Instrument ID: CHHPLC_X5
Lims ID: IC INT 4
Client ID:
Operator ID: JZ ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

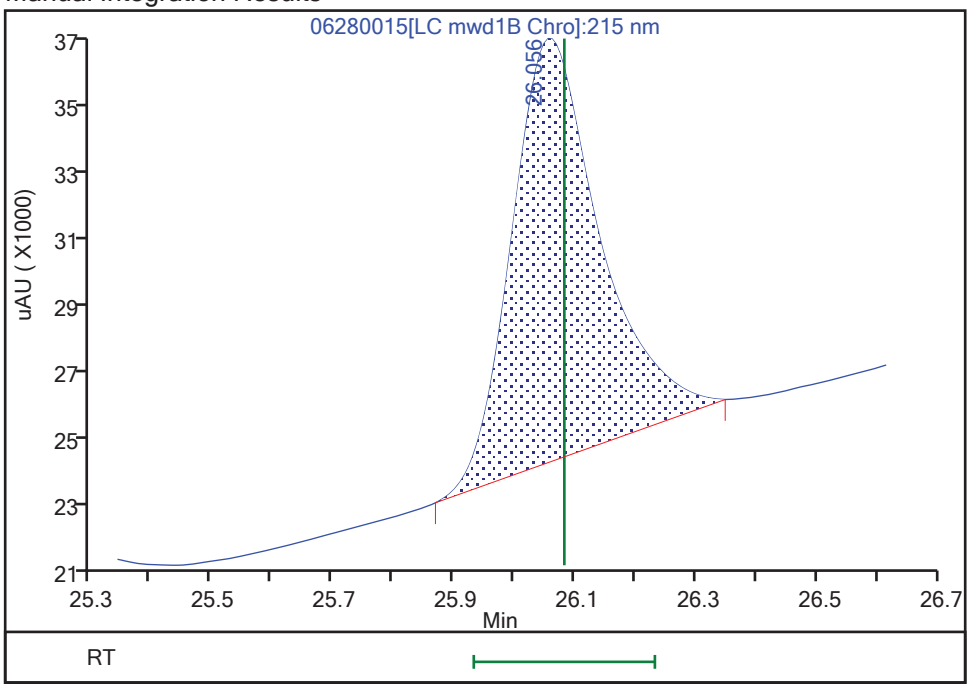
Processing Integration Results

RT: 26.06
Area: 130533
Amount: 0.928878
Amount Units: ug/ml



Manual Integration Results

RT: 26.06
Area: 126587
Amount: 0.993611
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:37:20
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:27 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280016.D
Lims ID: IC INT 3
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 28-Jun-2022 22:55:23 ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 3
Misc. Info.: 280-0112178-016
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:27 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 29-Jun-2022 11:54:27

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.839	6.836	0.003	8817	0.0500	0.0509	
7 2,4,6-Trinitrophenol	1	8.359	8.322	0.037	7203	0.0500	0.0485	
8 RDX	1	9.006	8.996	0.010	10397	0.0500	0.0497	
9 Nitrobenzene	1	11.945	11.942	0.003	18536	0.0500	0.0506	
$ 10 1,2-Dinitrobenzene	1	13.159	13.156	0.003	13025	0.0500	0.0512	
12 1,3-Dinitrobenzene	1	15.505	15.509	-0.004	28419	0.0500	0.0499	
13 Nitroglycerin	2	15.859	15.862	-0.003	64232	0.5000	0.5000	M
14 o-Nitrotoluene	1	16.665	16.669	-0.004	11321	0.0500	0.0521	
16 p-Nitrotoluene	1	16.972	16.976	-0.004	11587	0.0500	0.0516	
17 4-Amino-2,6-dinitrotoluene	1	17.599	17.602	-0.003	12749	0.0500	0.0524	
18 m-Nitrotoluene	1	17.932	17.936	-0.004	14322	0.0500	0.0527	
19 2-Amino-4,6-dinitrotoluene	1	18.599	18.602	-0.003	14638	0.0500	0.0502	
20 1,3,5-Trinitrobenzene	1	18.785	18.776	0.009	24760	0.0500	0.0519	
21 2,6-Dinitrotoluene	1	20.072	20.076	-0.004	13164	0.0500	0.0505	
22 2,4-Dinitrotoluene	1	20.579	20.576	0.003	26773	0.0500	0.0499	
23 Tetryl	1	24.312	24.336	-0.024	15407	0.0500	0.0503	
24 2,4,6-Trinitrotoluene	1	25.106	25.116	-0.010	19121	0.0500	0.0505	
25 PETN	2	26.079	26.082	-0.003	60368	0.5000	0.4858	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00072 Amount Added: 5.00 Units: uL

Report Date: 30-Jun-2022 14:41:27 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280016.D

Injection Date: 28-Jun-2022 22:55:23 Instrument ID: CHHPLC_X5 Operator ID:

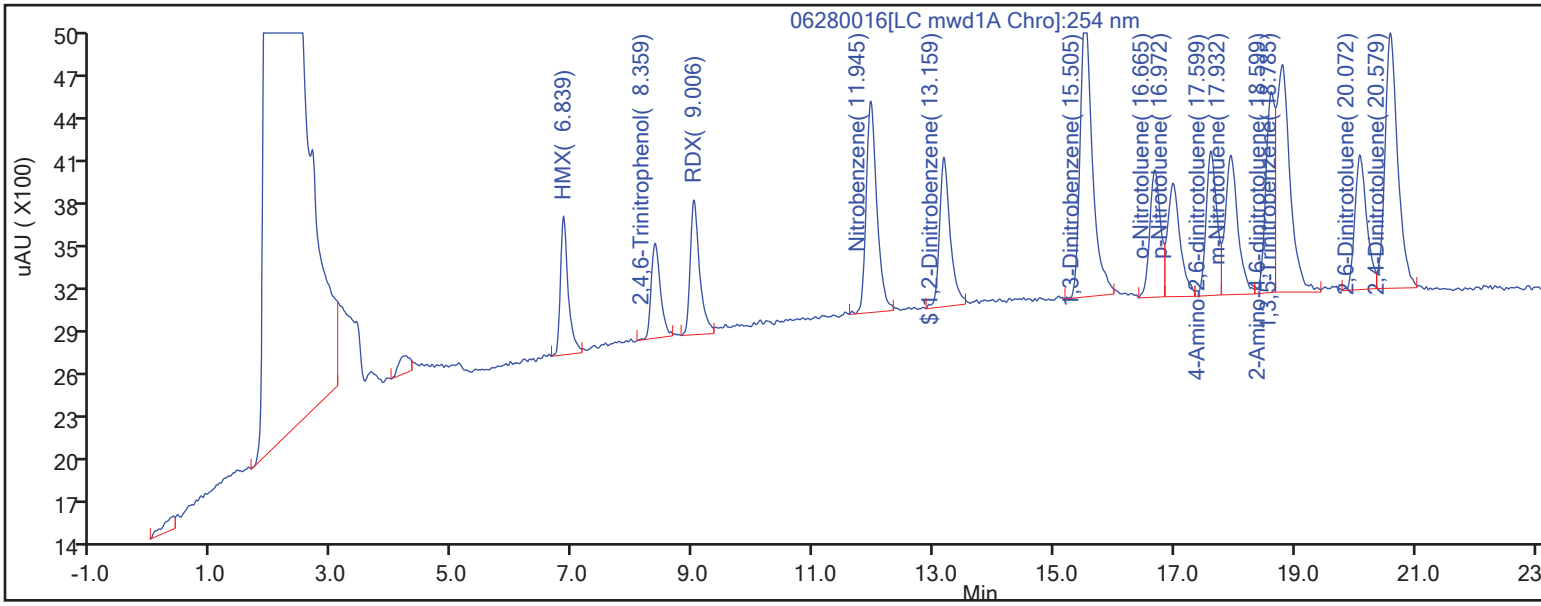
Lims ID: IC INT 3 Worklist Smp#:

Client ID:

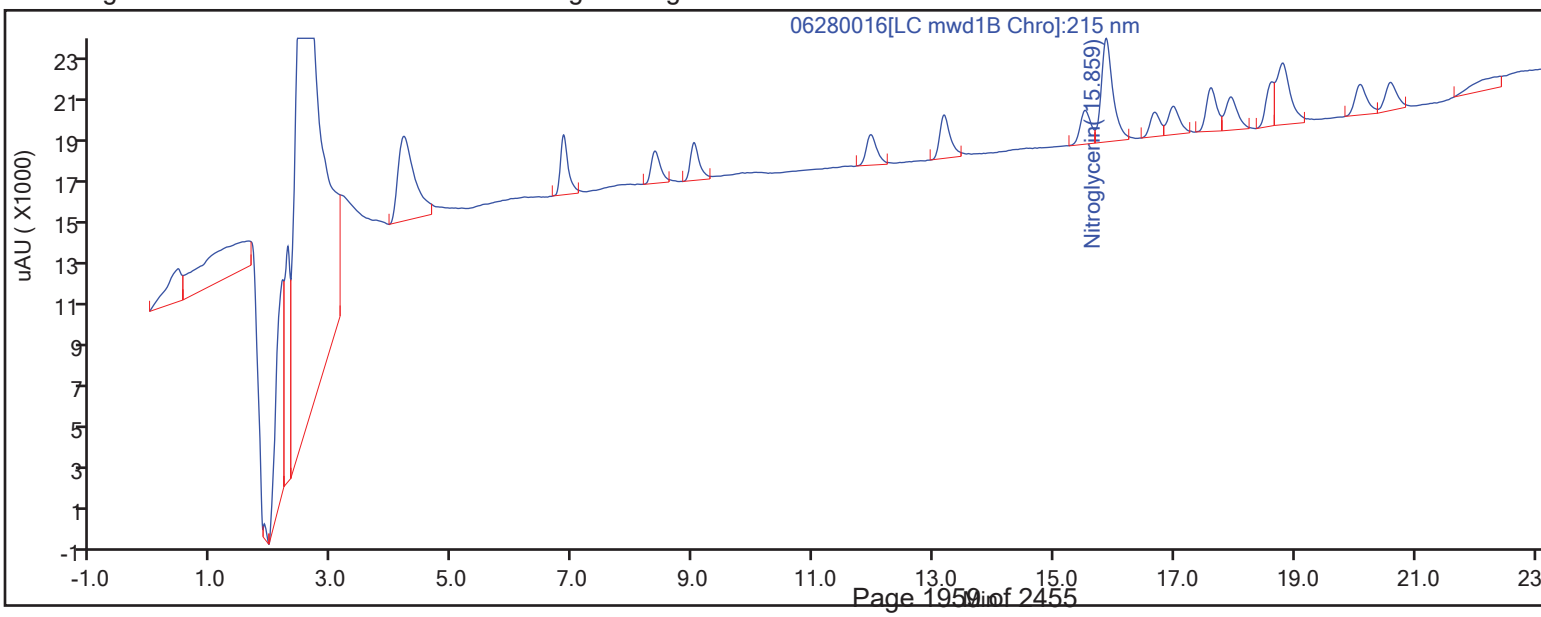
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

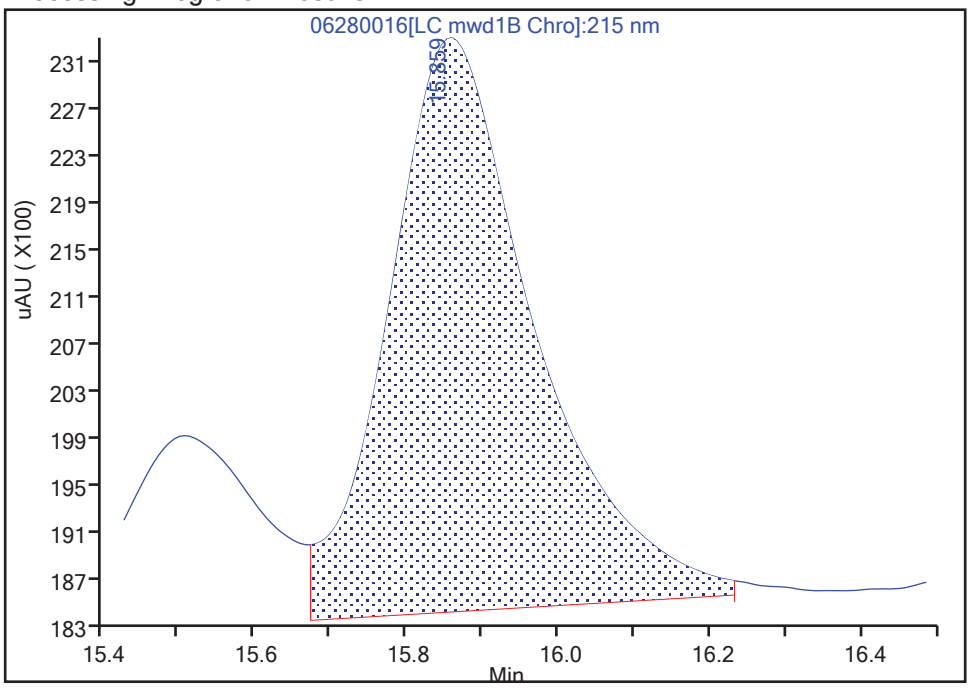
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280016.D
Injection Date: 28-Jun-2022 22:55:23 Instrument ID: CHHPLC_X5
Lims ID: IC INT 3
Client ID:
Operator ID: JZ ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

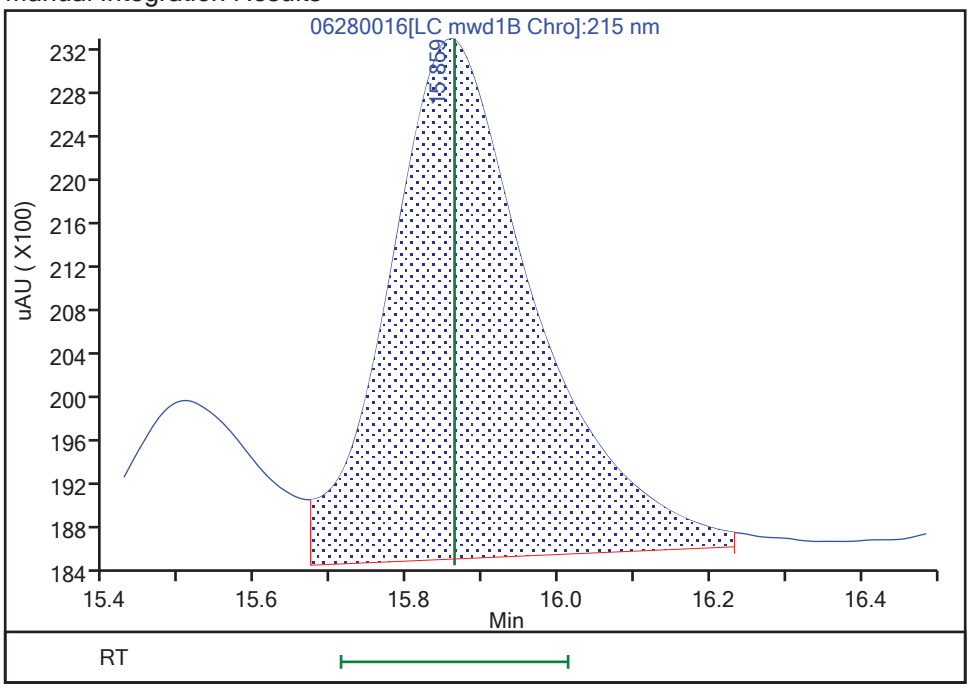
Processing Integration Results

RT: 15.86
Area: 64501
Amount: 0.513923
Amount Units: ug/ml



Manual Integration Results

RT: 15.86
Area: 64232
Amount: 0.500049
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:39:31
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

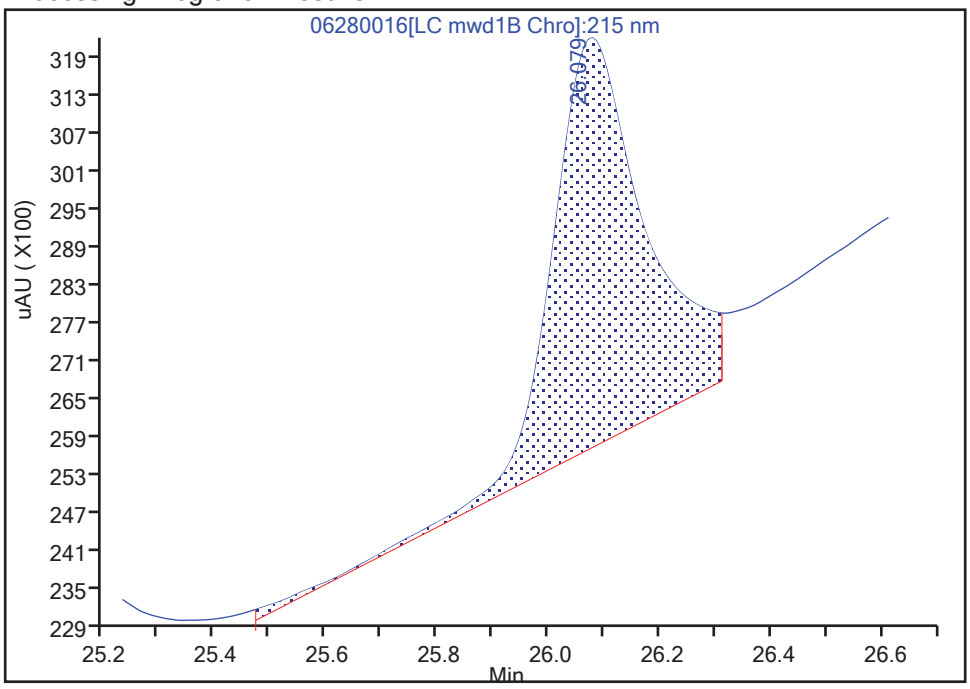
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280016.D
Injection Date: 28-Jun-2022 22:55:23 Instrument ID: CHHPLC_X5
Lims ID: IC INT 3
Client ID:
Operator ID: JZ ALS Bottle#: 16 Worklist Smp#: 16
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

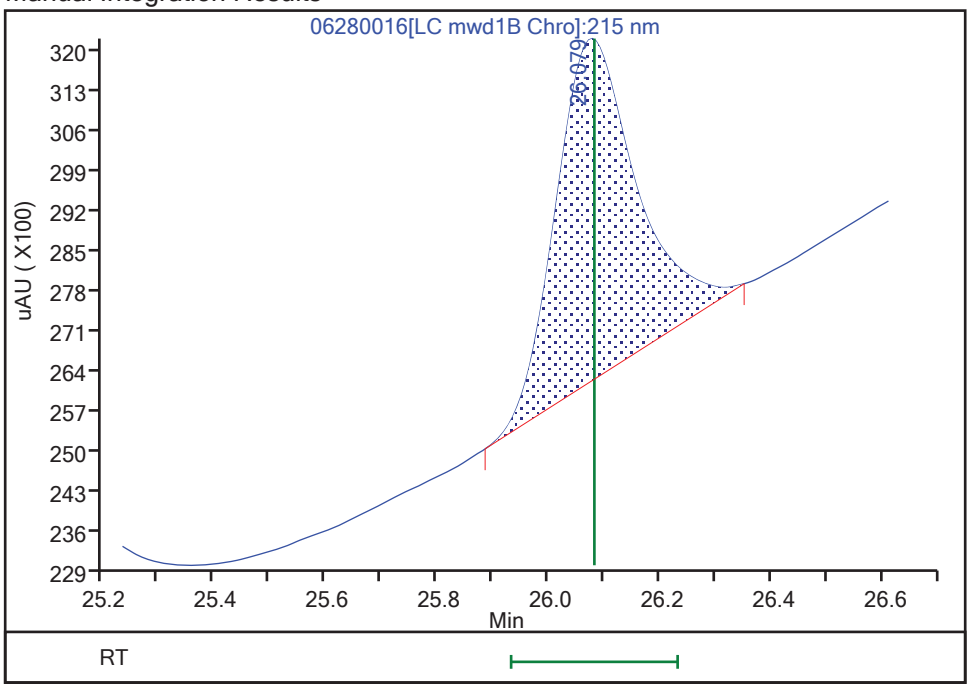
Processing Integration Results

RT: 26.08
Area: 75609
Amount: 0.539720
Amount Units: ug/ml



Manual Integration Results

RT: 26.08
Area: 60368
Amount: 0.485758
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:37:27
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:28 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280017.D
Lims ID: IC INT 2
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 28-Jun-2022 23:30:22 ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 2
Misc. Info.: 280-0112178-017
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:28 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 29-Jun-2022 11:54:30

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.825	6.836	-0.011	3517	0.0200	0.0203	
7 2,4,6-Trinitrophenol	1	8.358	8.322	0.036	3038	0.0200	0.0205	
8 RDX	1	8.985	8.996	-0.011	4474	0.0200	0.0202	
9 Nitrobenzene	1	11.951	11.942	0.009	7144	0.0200	0.0195	
$ 10 1,2-Dinitrobenzene	1	13.171	13.156	0.015	5232	0.0200	0.0206	
12 1,3-Dinitrobenzene	1	15.525	15.509	0.016	10667	0.0200	0.0187	
13 Nitroglycerin	2	15.865	15.862	0.003	25451	0.2000	0.1981	M
14 o-Nitrotoluene	1	16.671	16.669	0.002	4161	0.0200	0.0192	
16 p-Nitrotoluene	1	16.971	16.976	-0.005	4008	0.0200	0.0178	
17 4-Amino-2,6-dinitrotoluene	1	17.605	17.602	0.003	4748	0.0200	0.0195	
18 m-Nitrotoluene	1	17.931	17.936	-0.005	4420	0.0200	0.0163	
19 2-Amino-4,6-dinitrotoluene	1	18.598	18.602	-0.004	5869	0.0200	0.0201	M
20 1,3,5-Trinitrobenzene	1	18.771	18.776	-0.005	8617	0.0200	0.0192	Ma
21 2,6-Dinitrotoluene	1	20.098	20.076	0.022	5223	0.0200	0.0200	
22 2,4-Dinitrotoluene	1	20.592	20.576	0.015	10617	0.0200	0.0198	
23 Tetryl	1	24.312	24.336	-0.024	6442	0.0200	0.0210	
24 2,4,6-Trinitrotoluene	1	25.085	25.116	-0.031	6545	0.0200	0.0173	
25 PETN	2	26.065	26.082	-0.017	22677	0.2000	0.1967	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8330IntermStk_00072 Amount Added: 2.00 Units: uL

Report Date: 30-Jun-2022 14:41:28 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280017.D

Injection Date: 28-Jun-2022 23:30:22 Instrument ID: CHHPLC_X5 Operator ID:

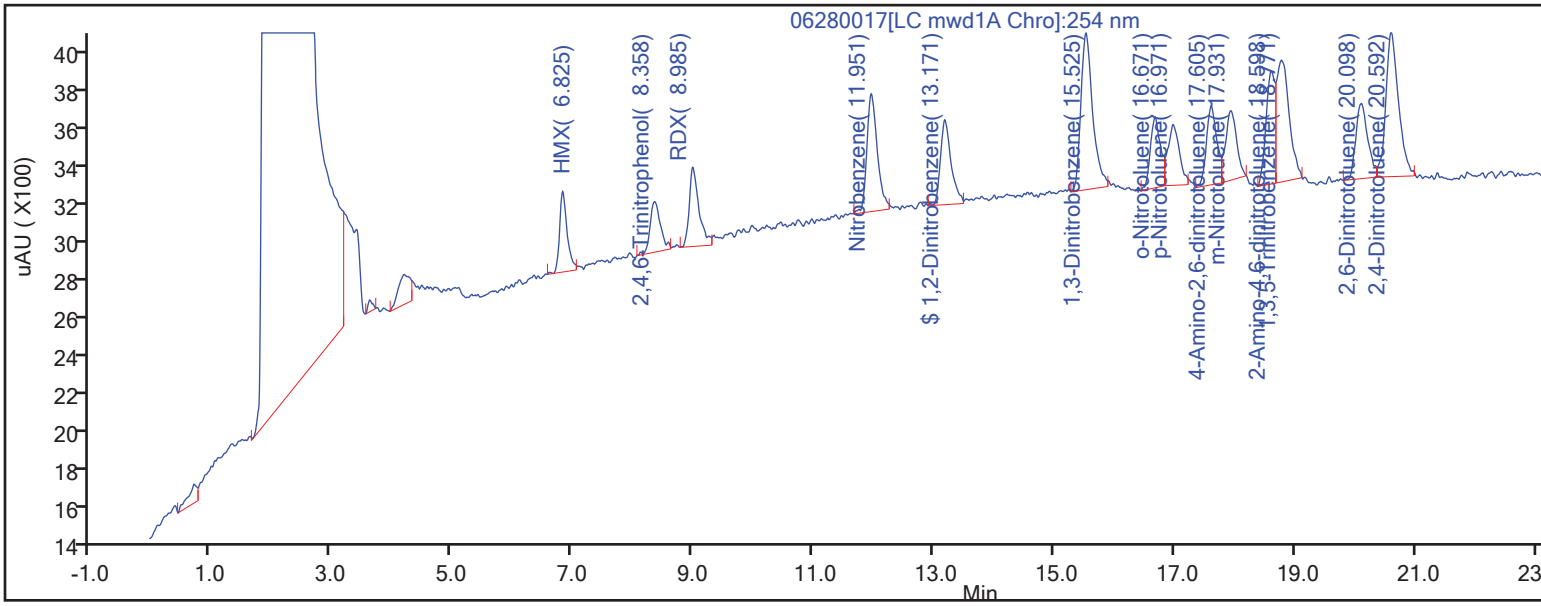
Lims ID: IC INT 2 Worklist Smp#:

Client ID:

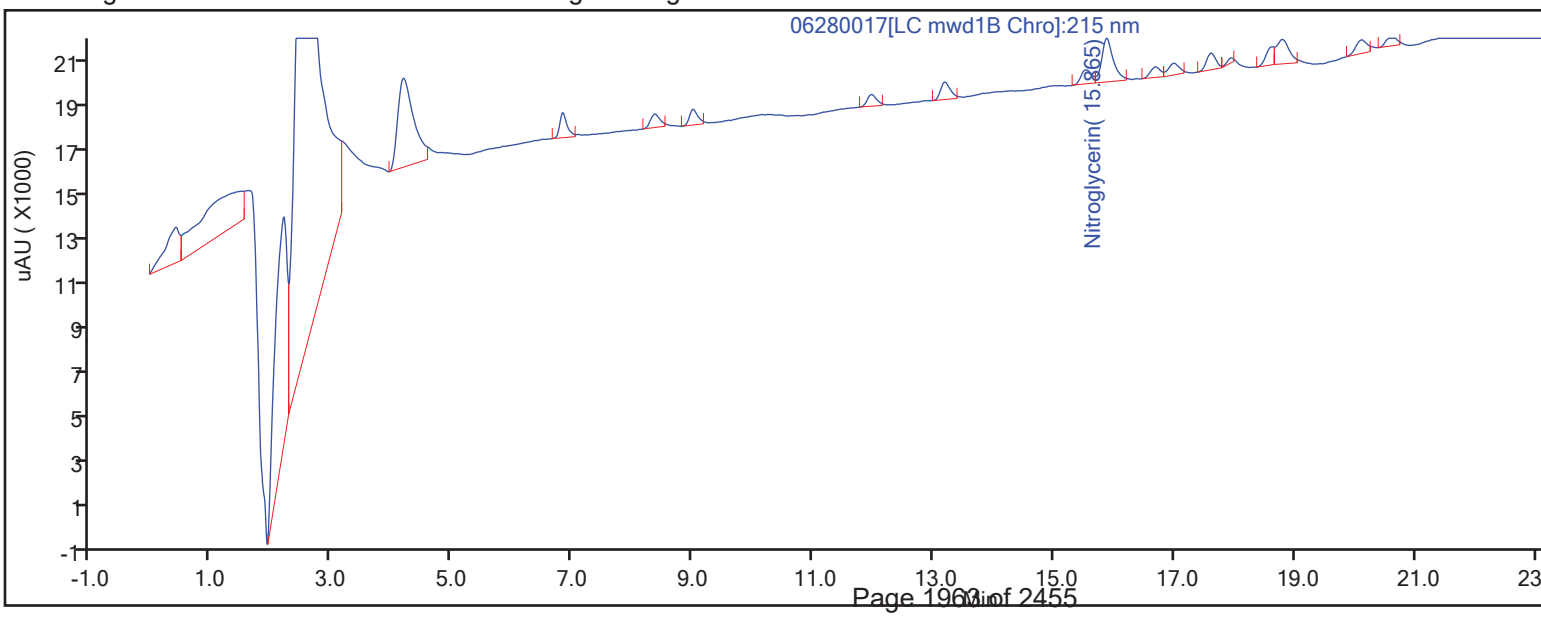
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

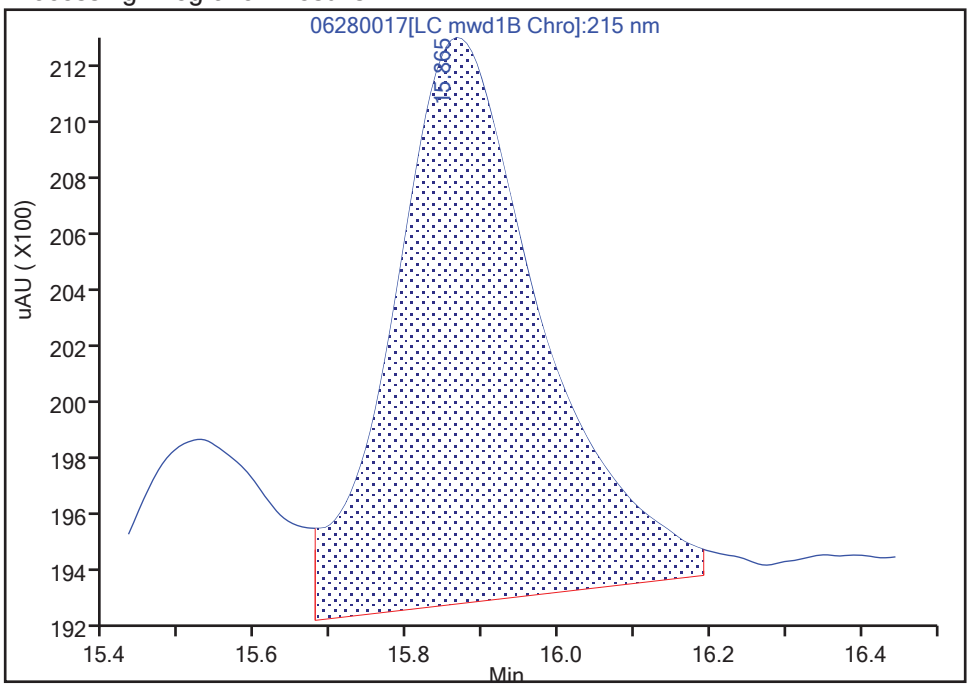
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280017.D
Injection Date: 28-Jun-2022 23:30:22 Instrument ID: CHHPLC_X5
Lims ID: IC INT 2
Client ID:
Operator ID: JZ ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

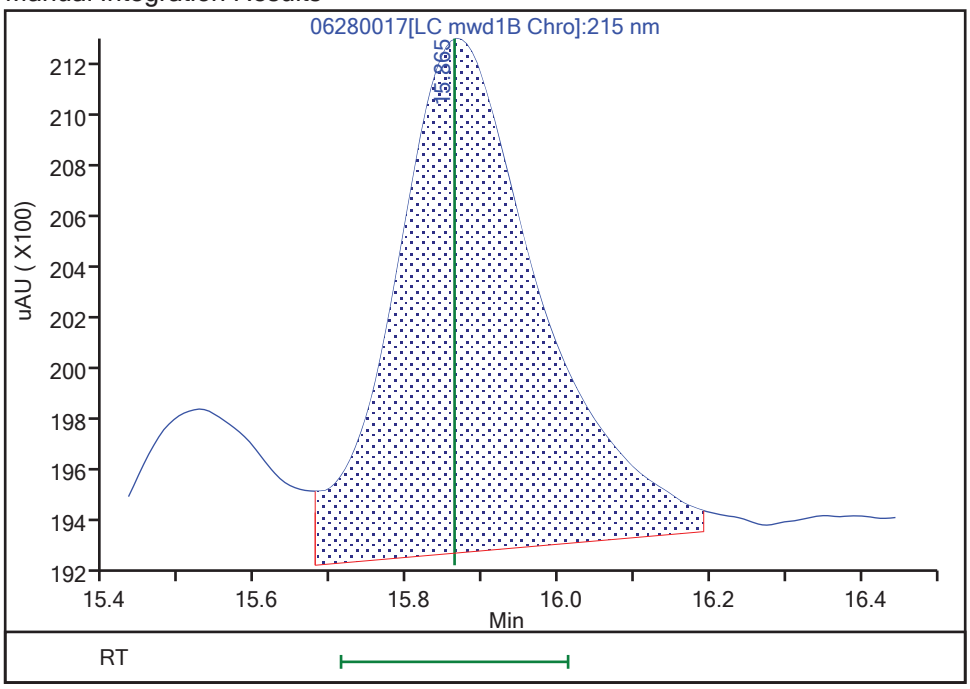
Processing Integration Results

RT: 15.86
Area: 26236
Amount: 0.209139
Amount Units: ug/ml



Manual Integration Results

RT: 15.86
Area: 25451
Amount: 0.198137
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:39:40
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

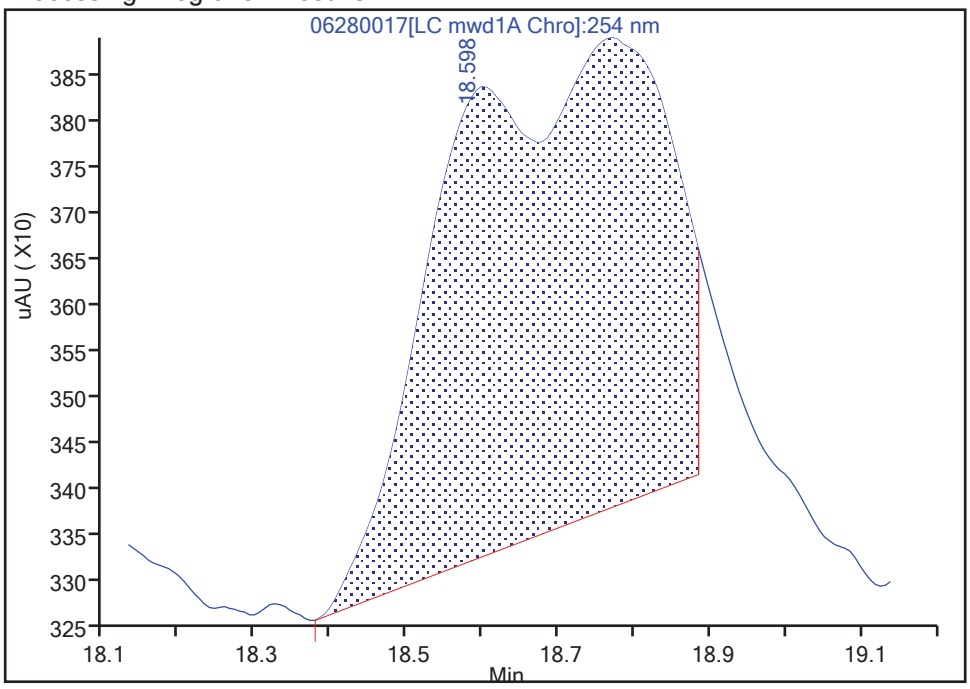
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280017.D
Injection Date: 28-Jun-2022 23:30:22 Instrument ID: CHHPLC_X5
Lims ID: IC INT 2
Client ID:
Operator ID: JZ ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

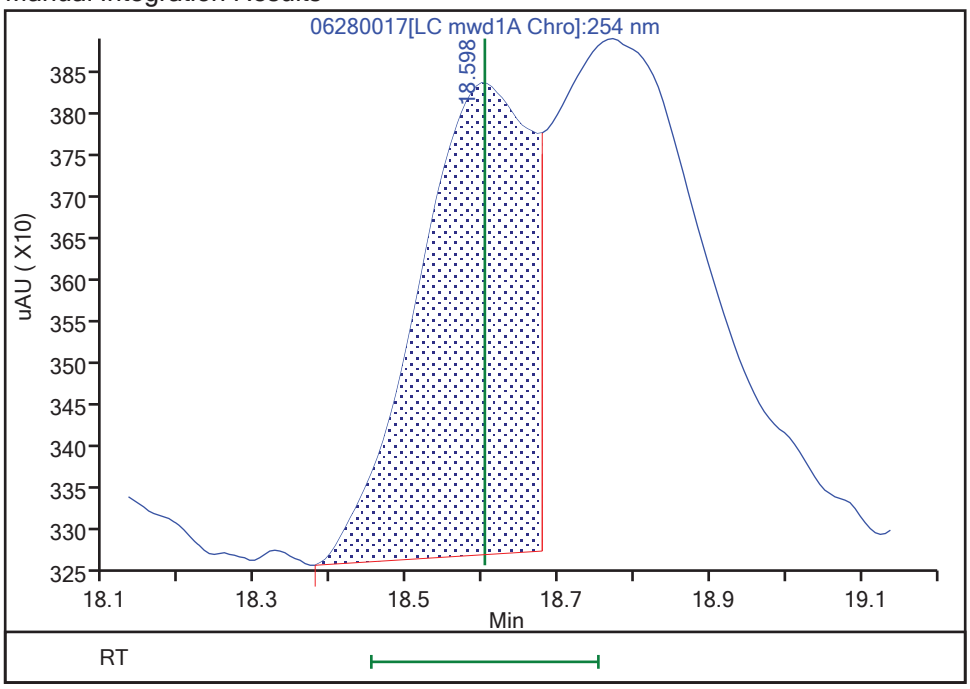
Processing Integration Results

RT: 18.60
Area: 10642
Amount: 0.026403
Amount Units: ug/ml



Manual Integration Results

RT: 18.60
Area: 5869
Amount: 0.020114
Amount Units: ug/ml



Reviewer: LV5D, 29-Jun-2022 12:03:37
Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

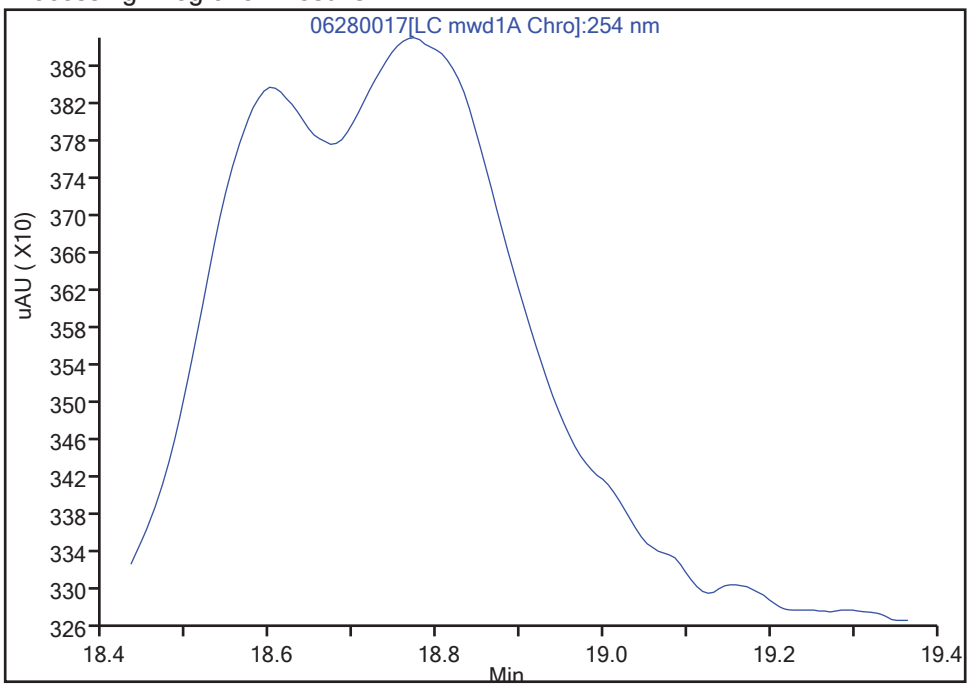
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280017.D				
Injection Date:	28-Jun-2022 23:30:22	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT 2				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	17	Worklist Smp#:	17
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

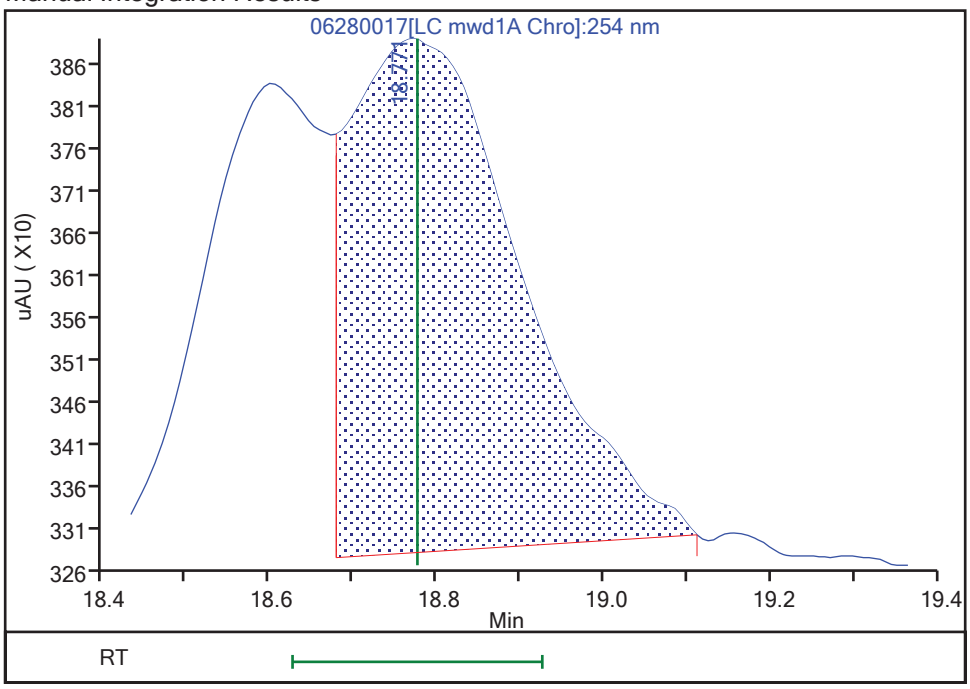
Not Detected
Expected RT: 18.78

Processing Integration Results



Manual Integration Results

RT: 18.77
Area: 8617
Amount: 0.019242
Amount Units: ug/ml



Reviewer: LV5D, 29-Jun-2022 12:03:39
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

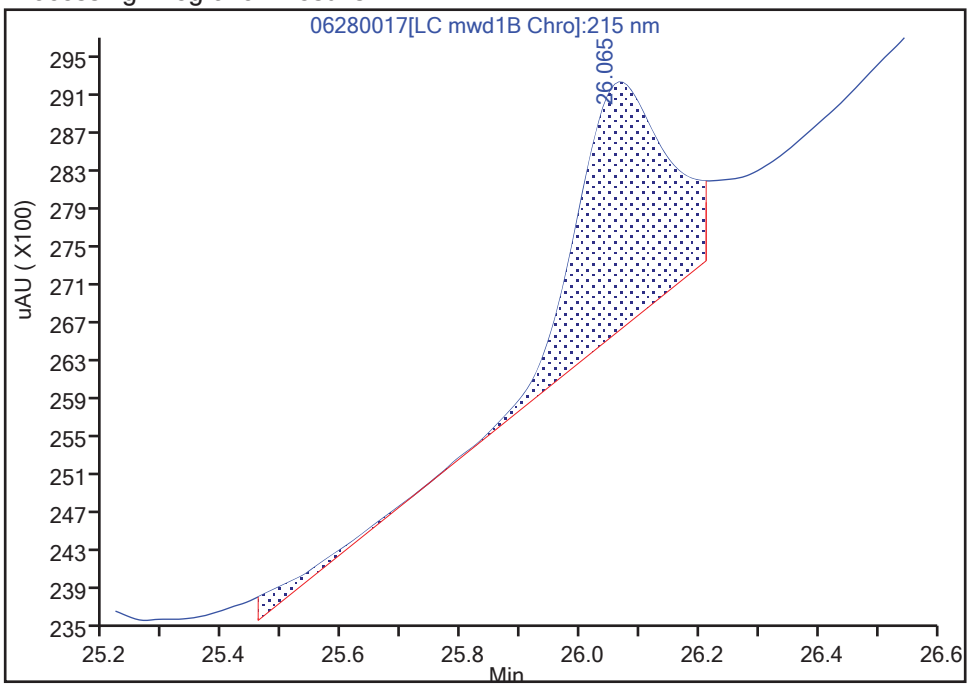
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280017.D
Injection Date: 28-Jun-2022 23:30:22 Instrument ID: CHHPLC_X5
Lims ID: IC INT 2
Client ID:
Operator ID: JZ ALS Bottle#: 17 Worklist Smp#: 17
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

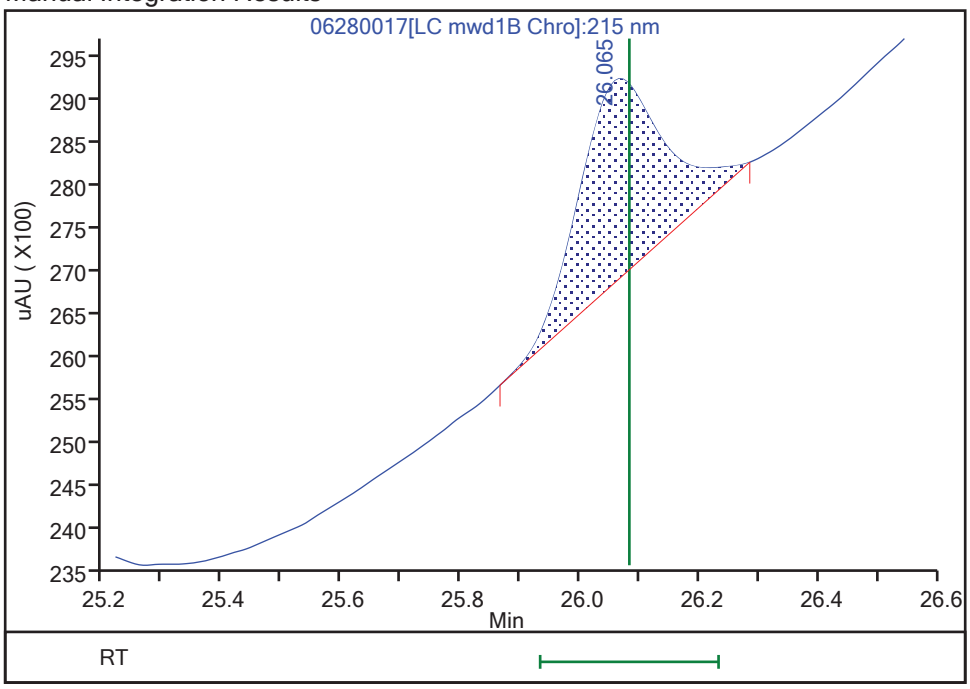
Processing Integration Results

RT: 26.06
Area: 28427
Amount: 0.207948
Amount Units: ug/ml



Manual Integration Results

RT: 26.06
Area: 22677
Amount: 0.196695
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:37:35
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Report Date: 30-Jun-2022 14:41:28 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D
Lims ID: IC INT 1
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 29-Jun-2022 00:05:20 ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: IC INT 1
Misc. Info.: 280-0112178-018
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub4

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:41:28 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 29-Jun-2022 11:54:33

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.845	6.836	0.009	1674	0.0100	0.009673	
7 2,4,6-Trinitrophenol	1	8.371	8.322	0.049	1304	0.0100	0.008786	
8 RDX	1	9.005	8.996	0.009	2410	0.0100	0.0099	
9 Nitrobenzene	1	11.944	11.942	0.002	3624	0.0100	0.009885	
$ 10 1,2-Dinitrobenzene	1	13.144	13.156	-0.012	2575	0.0100	0.0101	
12 1,3-Dinitrobenzene	1	15.504	15.509	-0.005	5394	0.0100	0.009468	
13 Nitroglycerin	2	15.831	15.862	-0.031	12588	0.1000	0.0980	M
14 o-Nitrotoluene	1	16.624	16.669	-0.045	2206	0.0100	0.0102	
16 p-Nitrotoluene	1	16.958	16.976	-0.018	2385	0.0100	0.0106	
17 4-Amino-2,6-dinitrotoluene	1	17.571	17.602	-0.031	2257	0.0100	0.009268	
18 m-Nitrotoluene	1	17.911	17.936	-0.025	2330	0.0100	0.008581	
19 2-Amino-4,6-dinitrotoluene	1	18.571	18.602	-0.031	3249	0.0100	0.0111	M
20 1,3,5-Trinitrobenzene	1	18.764	18.776	-0.012	4111	0.0100	0.0101	Ma
21 2,6-Dinitrotoluene	1	20.064	20.076	-0.012	2661	0.0100	0.0102	
22 2,4-Dinitrotoluene	1	20.565	20.576	-0.012	5153	0.0100	0.009607	
23 Tetryl	1	24.265	24.336	-0.071	2822	0.0100	0.009220	
24 2,4,6-Trinitrotoluene	1	25.058	25.116	-0.058	3720	0.0100	0.009821	
25 PETN	2	26.045	26.082	-0.037	10251	0.1000	0.1014	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

8330IntermStk_00072 Amount Added: 1.00 Units: uL

Report Date: 30-Jun-2022 14:41:28 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Injection Date: 29-Jun-2022 00:05:20 Instrument ID: CHHPLC_X5 Operator ID:

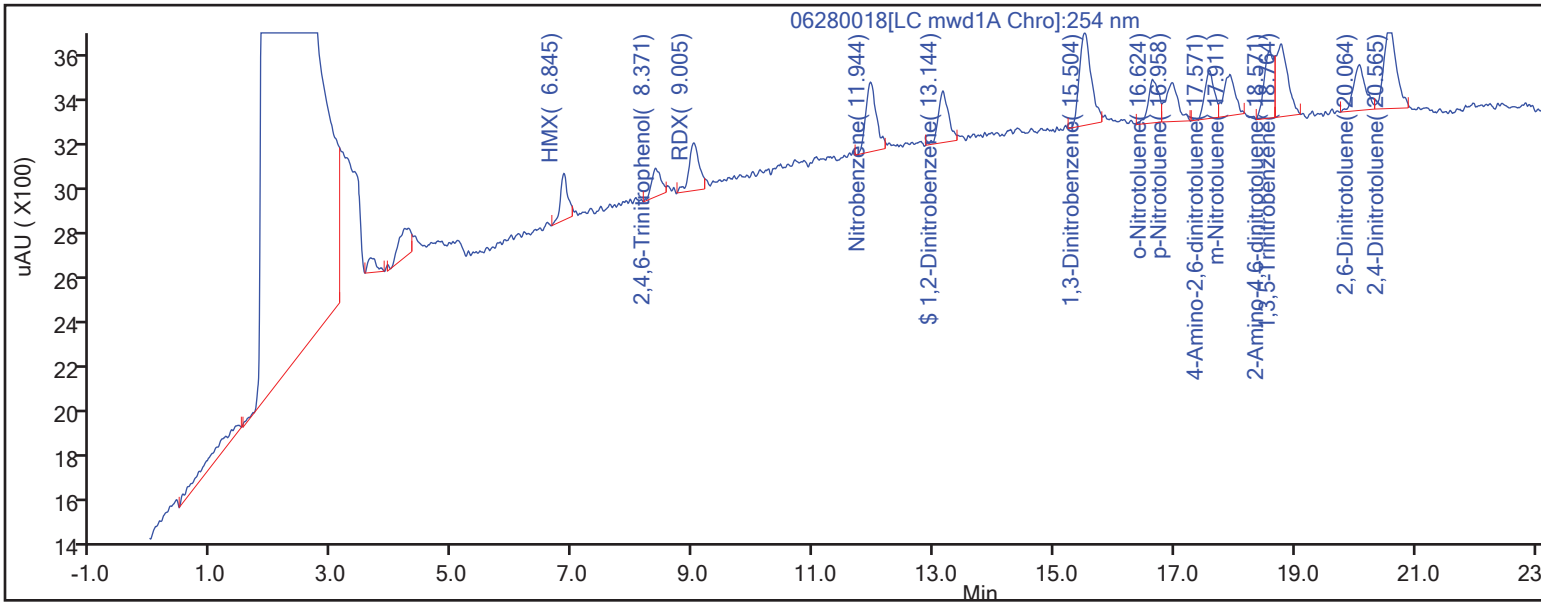
Lims ID: IC INT 1 Worklist Smp#:

Client ID:

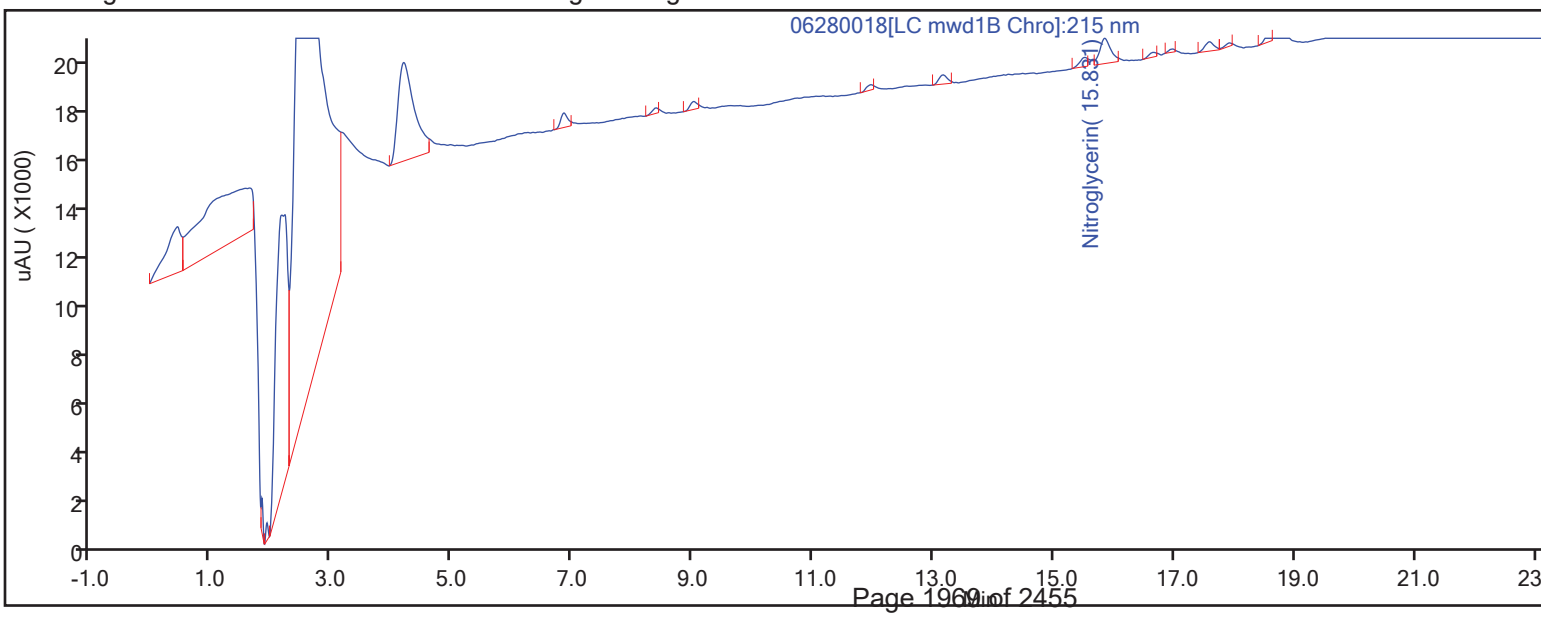
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

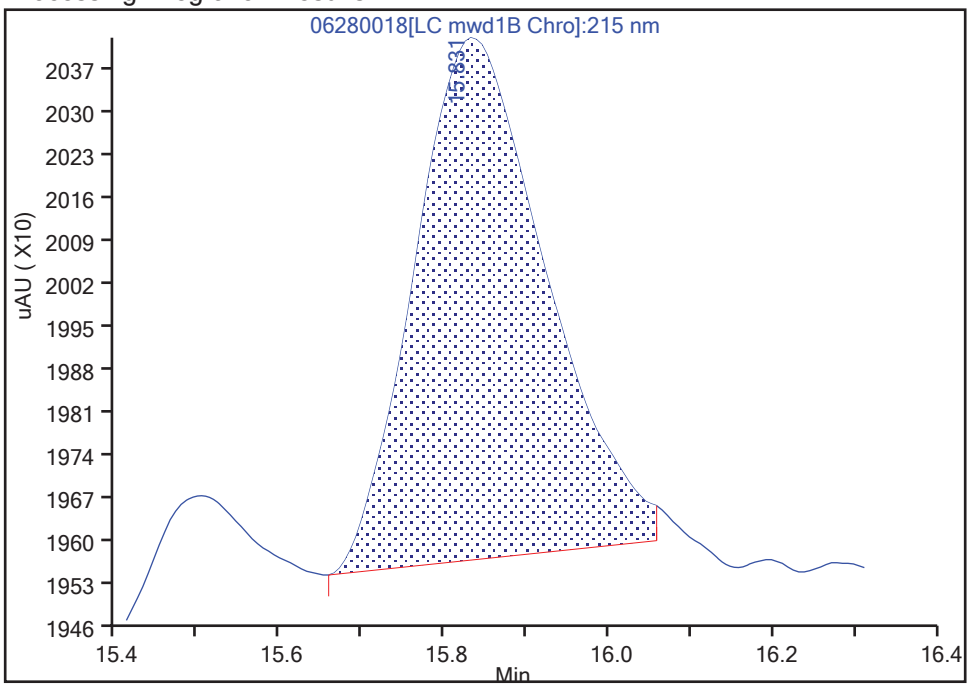
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D
Injection Date: 29-Jun-2022 00:05:20 Instrument ID: CHHPLC_X5
Lims ID: IC INT 1
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

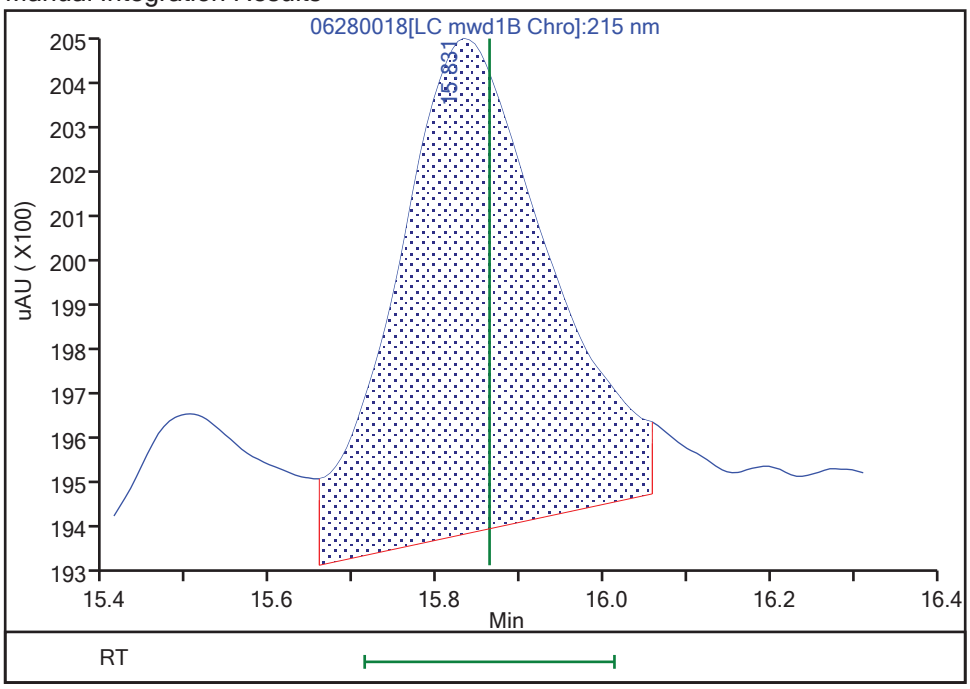
Processing Integration Results

RT: 15.83
Area: 9492
Amount: 0.075929
Amount Units: ug/ml



Manual Integration Results

RT: 15.83
Area: 12588
Amount: 0.097998
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:39:51
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

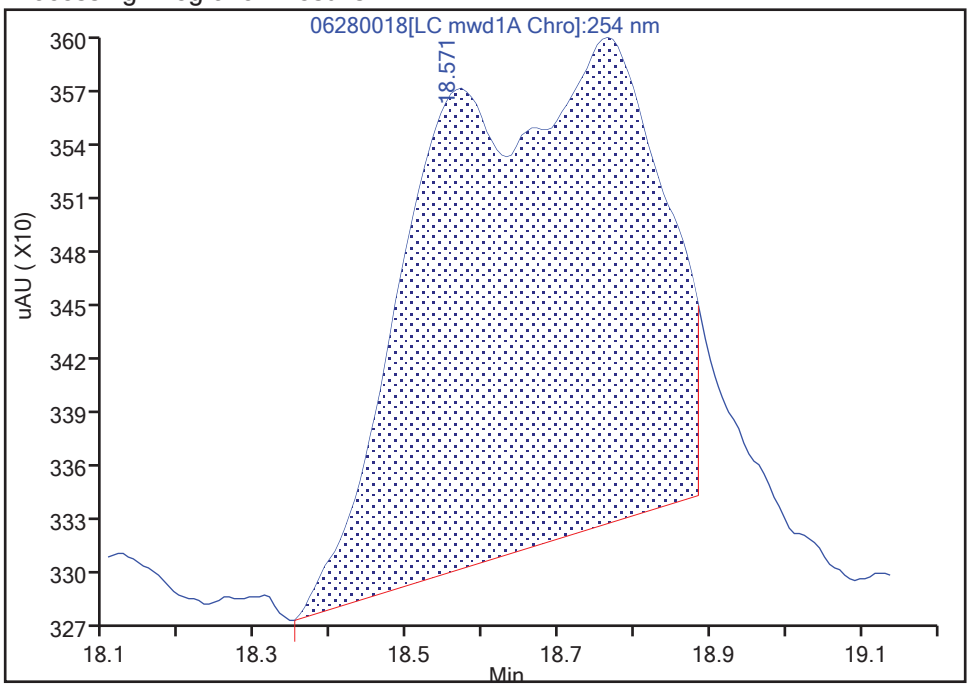
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D				
Injection Date:	29-Jun-2022 00:05:20	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT 1				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

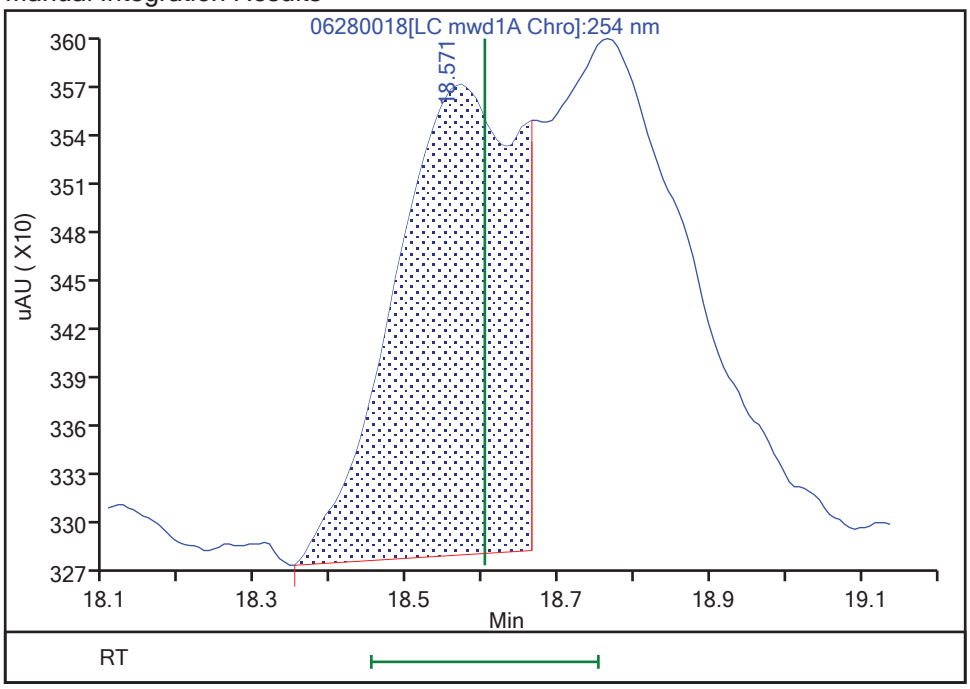
Processing Integration Results

RT: 18.57
Area: 5823
Amount: 0.013719
Amount Units: ug/ml



Manual Integration Results

RT: 18.57
Area: 3249
Amount: 0.011135
Amount Units: ug/ml



Reviewer: LV5D, 29-Jun-2022 12:03:53
Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

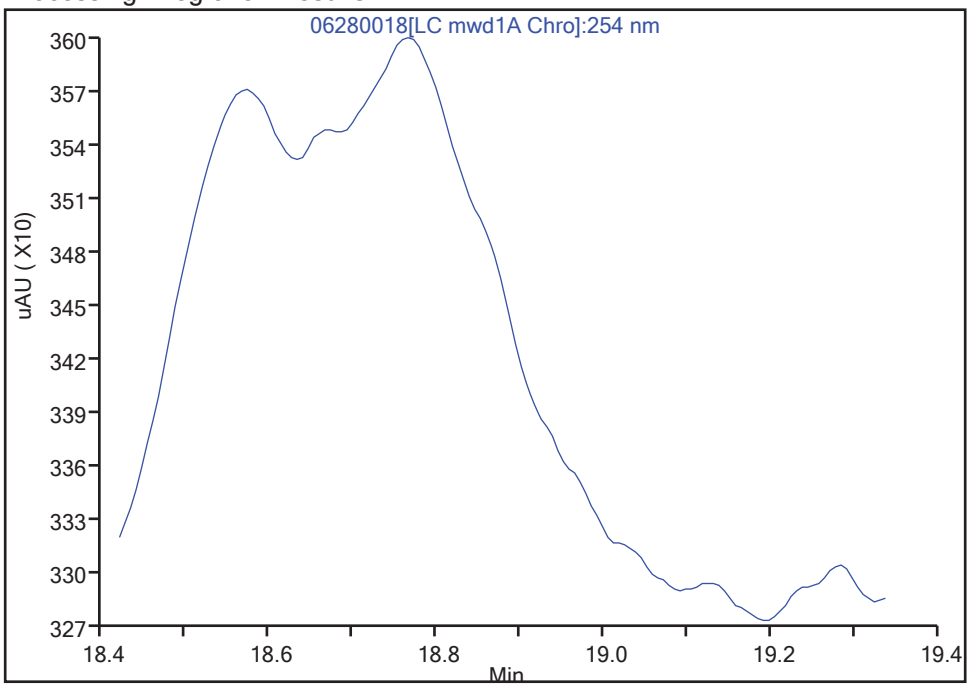
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D				
Injection Date:	29-Jun-2022 00:05:20	Instrument ID:	CHHPLC_X5		
Lims ID:	IC INT 1				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	18	Worklist Smp#:	18
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

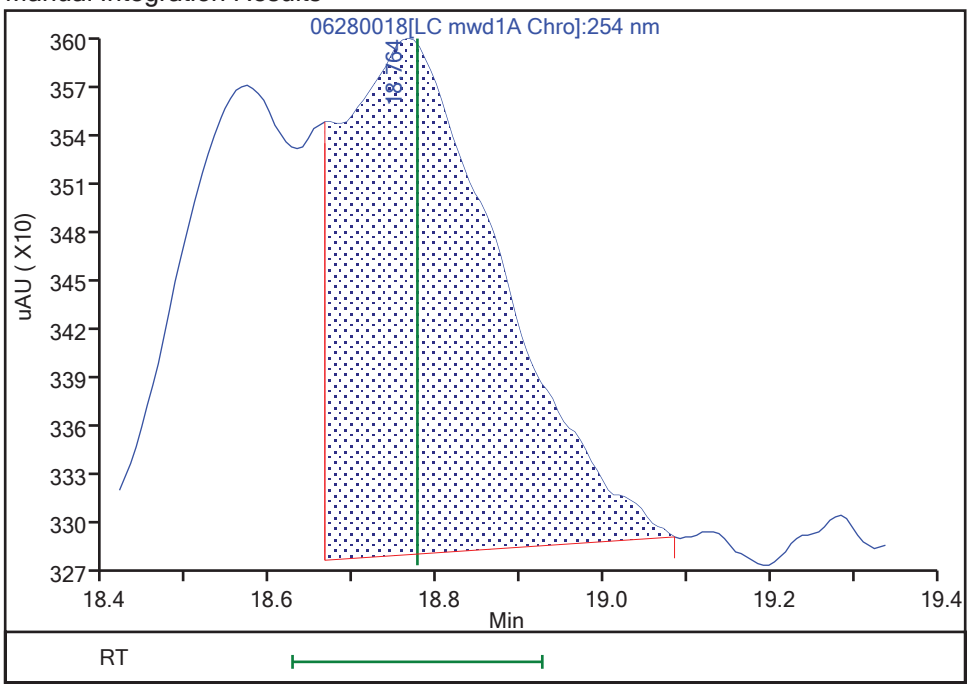
Not Detected
Expected RT: 18.78

Processing Integration Results



Manual Integration Results

RT: 18.76
Area: 4111
Amount: 0.010137
Amount Units: ug/ml



Reviewer: LV5D, 29-Jun-2022 12:03:55
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

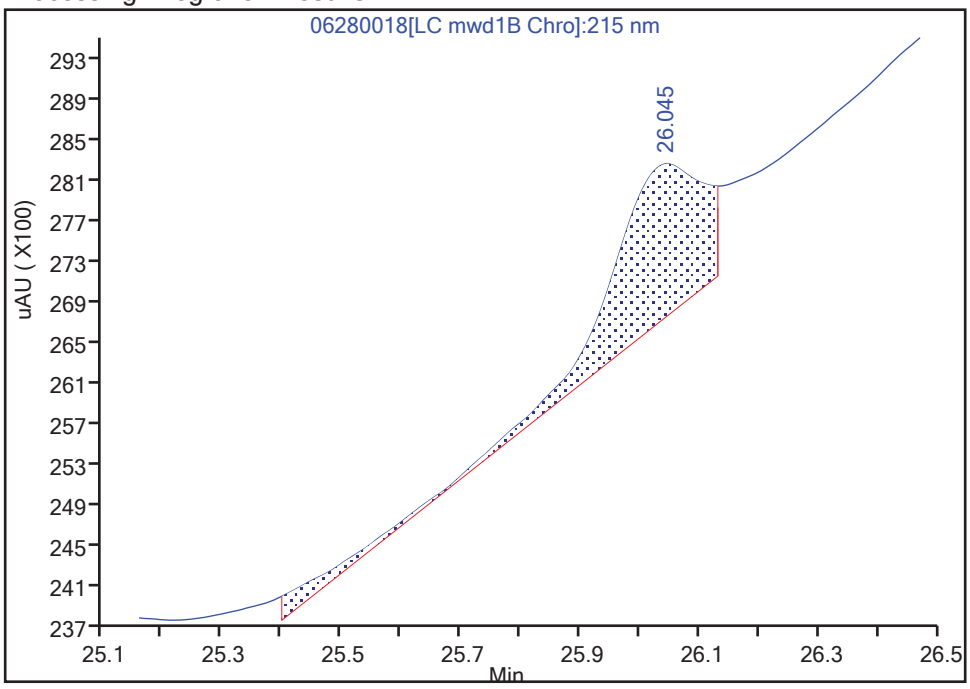
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D
Injection Date: 29-Jun-2022 00:05:20 Instrument ID: CHHPLC_X5
Lims ID: IC INT 1
Client ID:
Operator ID: JZ ALS Bottle#: 18 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

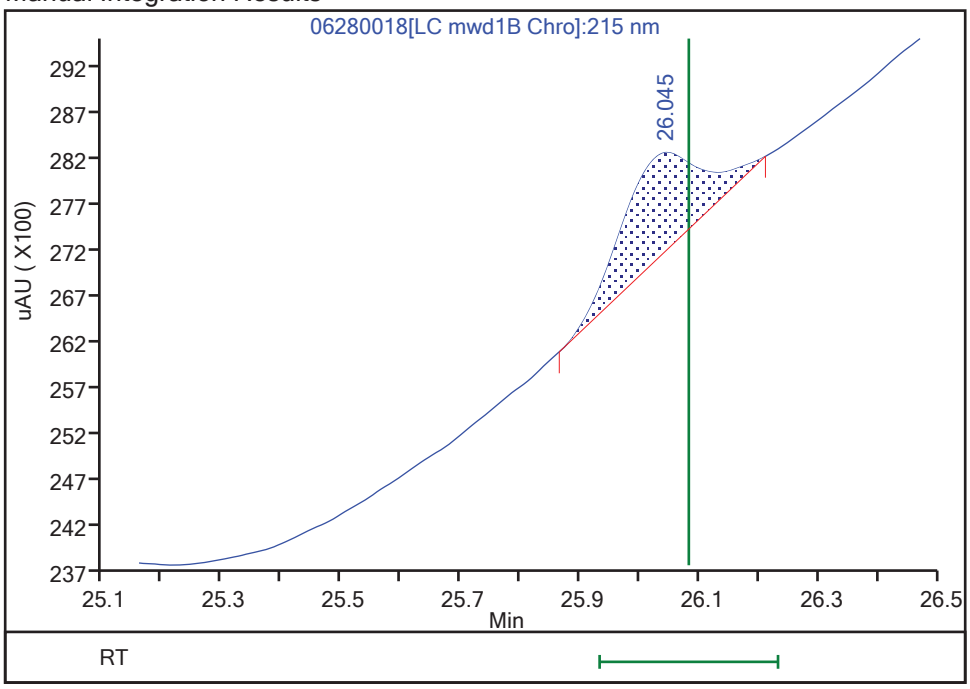
Processing Integration Results

RT: 26.04
Area: 17908
Amount: 0.134134
Amount Units: ug/ml



Manual Integration Results

RT: 26.04
Area: 10251
Amount: 0.101396
Amount Units: ug/ml



Reviewer: LV5D, 30-Jun-2022 14:37:44
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Calibration / HMX

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

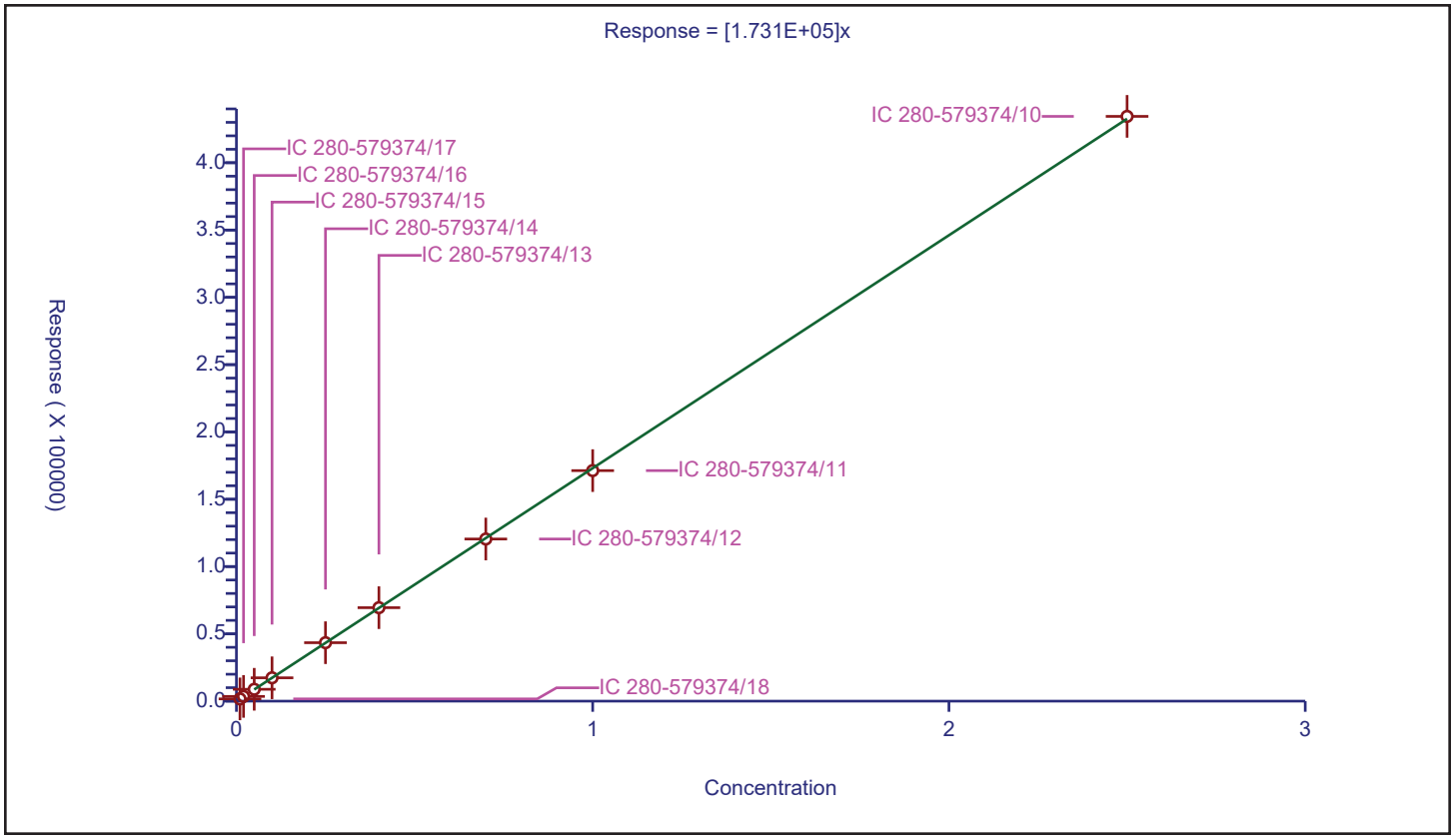
Curve Coefficients

Intercept:	0
Slope:	1.731E+05

Error Coefficients

Standard Error:	937
Relative Standard Error:	1.5
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	1674.0			167400.0	Y
2	IC 280-579374/17	0.02	3517.0			175850.0	Y
3	IC 280-579374/16	0.05	8817.0			176340.0	Y
4	IC 280-579374/15	0.1	17349.0			173490.0	Y
5	IC 280-579374/14	0.25	43425.0			173700.0	Y
6	IC 280-579374/13	0.4	69447.0			173617.5	Y
7	IC 280-579374/12	0.7	120452.0			172074.285714	Y
8	IC 280-579374/11	1.0	171273.0			171273.0	Y
9	IC 280-579374/10	2.5	434447.0			173778.8	Y



Calibration / 2,4,6-Trinitrophenol

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

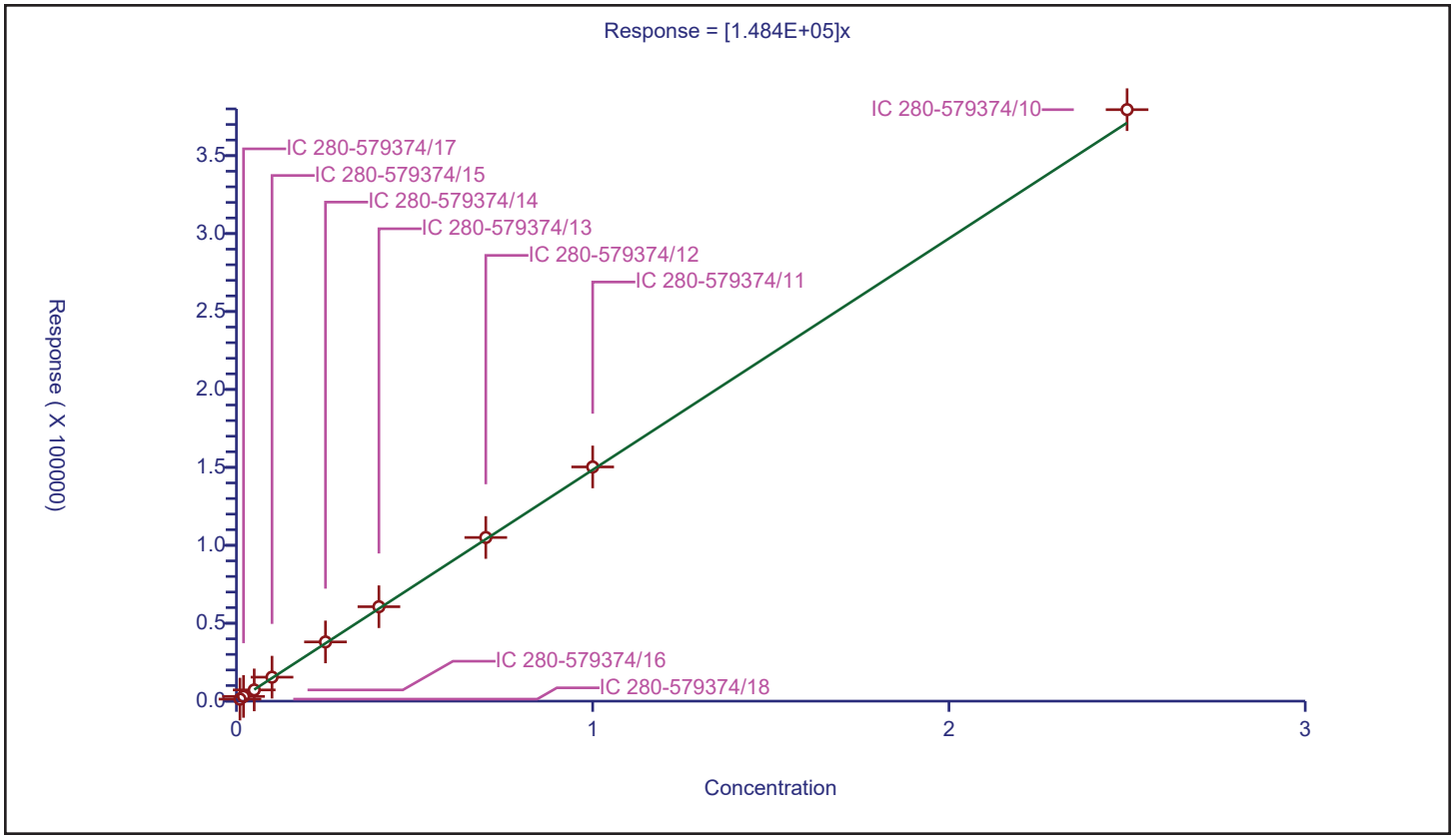
Curve Coefficients

Intercept:	0
Slope:	1.484E+05

Error Coefficients

Standard Error:	3130
Relative Standard Error:	4.9
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	1304.0			130400.0	Y
2	IC 280-579374/17	0.02	3038.0			151900.0	Y
3	IC 280-579374/16	0.05	7203.0			144060.0	Y
4	IC 280-579374/15	0.1	15391.0			153910.0	Y
5	IC 280-579374/14	0.25	37993.0			151972.0	Y
6	IC 280-579374/13	0.4	60596.0			151490.0	Y
7	IC 280-579374/12	0.7	105010.0			150014.285714	Y
8	IC 280-579374/11	1.0	150277.0			150277.0	Y
9	IC 280-579374/10	2.5	379500.0			151800.0	Y



Calibration / RDX

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

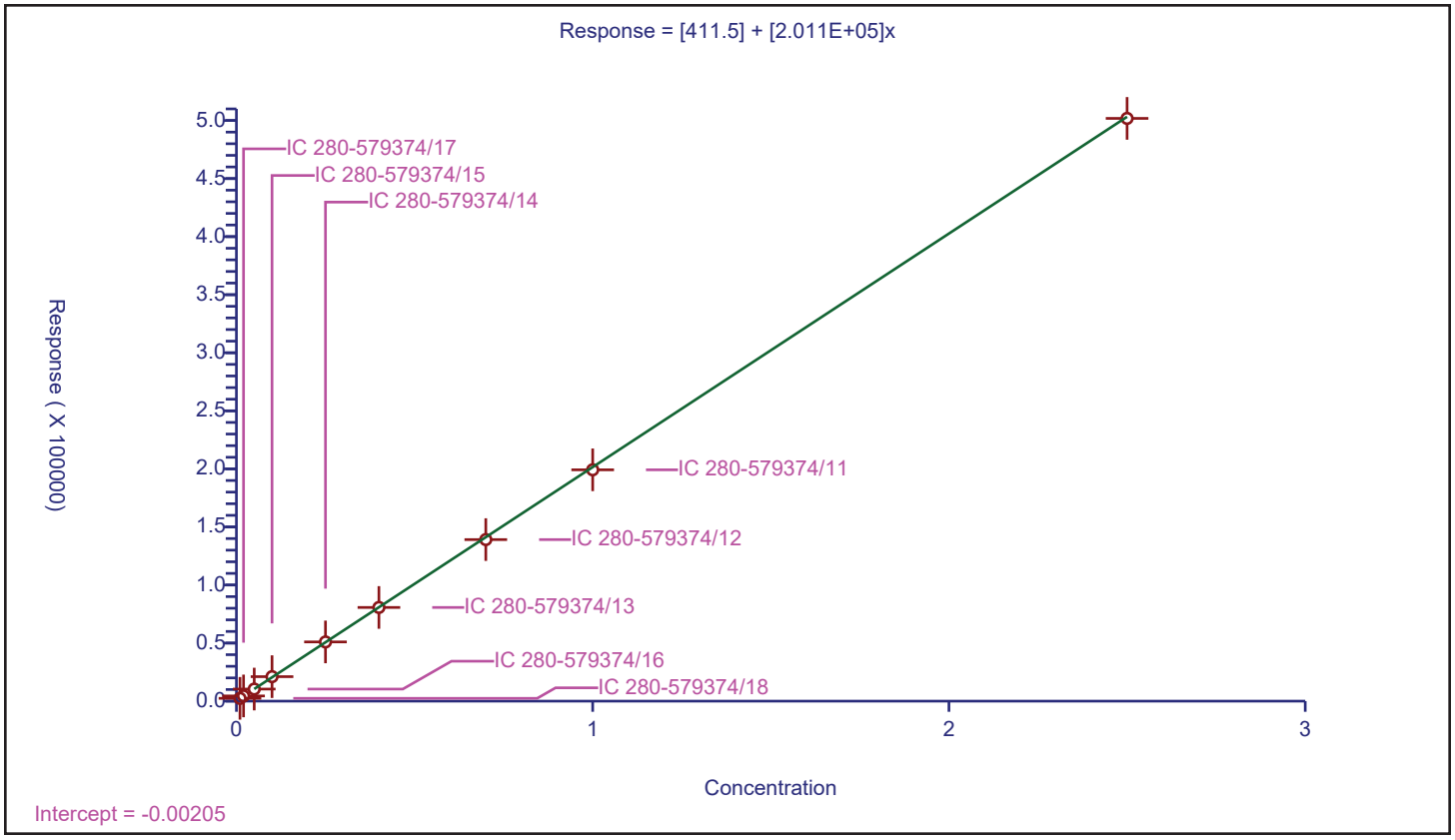
Curve Coefficients

Intercept:	411.5
Slope:	2.011E+05

Error Coefficients

Standard Error:	1310
Relative Standard Error:	1.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2410.0			241000.0	Y
2	IC 280-579374/17	0.02	4474.0			223700.0	Y
3	IC 280-579374/16	0.05	10397.0			207940.0	Y
4	IC 280-579374/15	0.1	21098.0			210980.0	Y
5	IC 280-579374/14	0.25	50985.0			203940.0	Y
6	IC 280-579374/13	0.4	80686.0			201715.0	Y
7	IC 280-579374/12	0.7	139123.0			198747.142857	Y
8	IC 280-579374/11	1.0	199214.0			199214.0	Y
9	IC 280-579374/10	2.5	501807.0			200722.8	Y



Calibration / Nitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

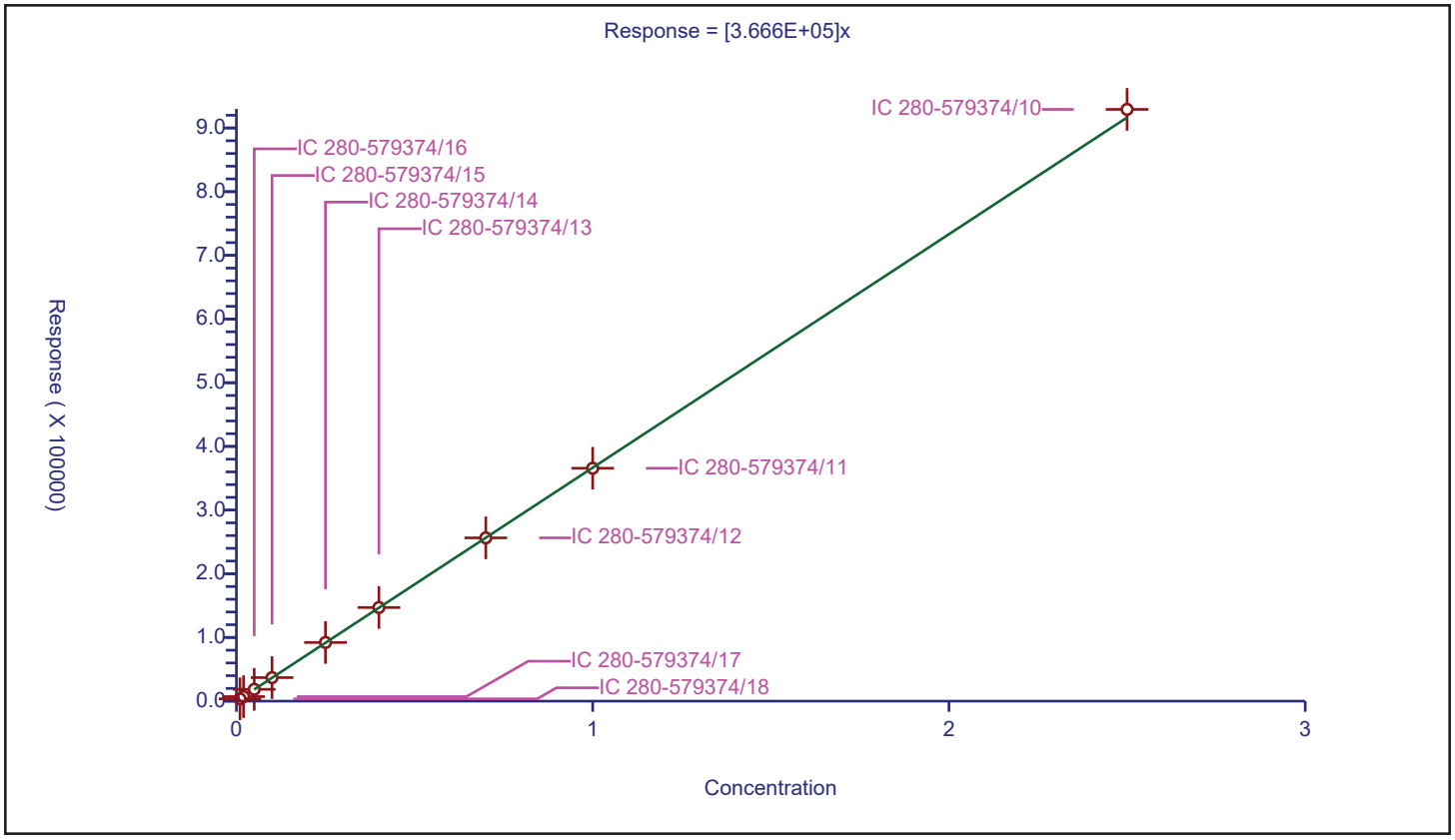
Curve Coefficients

Intercept:	0
Slope:	3.666E+05

Error Coefficients

Standard Error:	4510
Relative Standard Error:	1.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	3624.0			362400.0	Y
2	IC 280-579374/17	0.02	7144.0			357200.0	Y
3	IC 280-579374/16	0.05	18536.0			370720.0	Y
4	IC 280-579374/15	0.1	36936.0			369360.0	Y
5	IC 280-579374/14	0.25	92129.0			368516.0	Y
6	IC 280-579374/13	0.4	147009.0			367522.5	Y
7	IC 280-579374/12	0.7	256416.0			366308.571429	Y
8	IC 280-579374/11	1.0	365717.0			365717.0	Y
9	IC 280-579374/10	2.5	929217.0			371686.8	Y



Calibration / 1,2-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

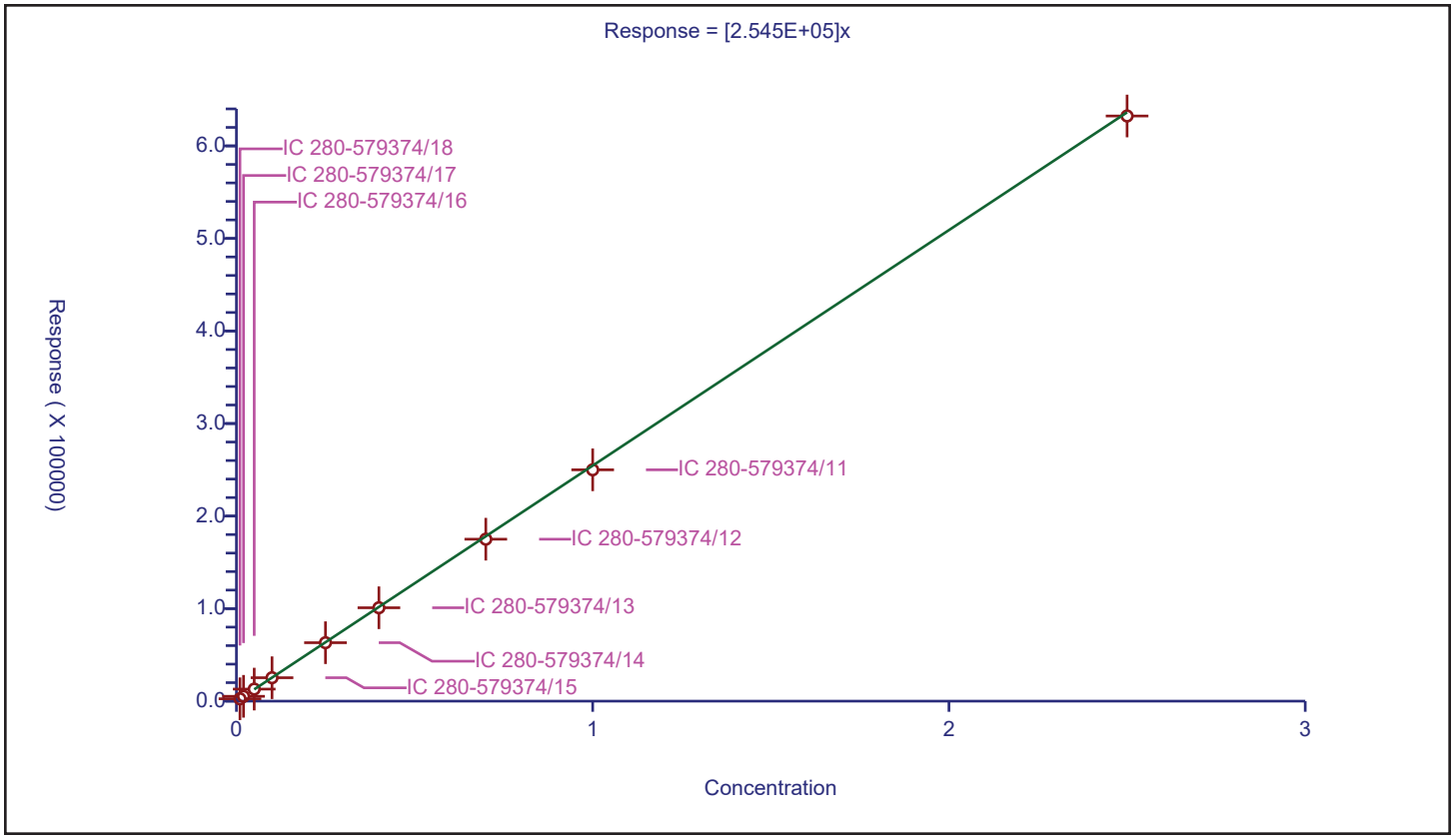
Curve Coefficients

Intercept:	0
Slope:	2.545E+05

Error Coefficients

Standard Error:	2430
Relative Standard Error:	1.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2575.0			257500.0	Y
2	IC 280-579374/17	0.02	5232.0			261600.0	Y
3	IC 280-579374/16	0.05	13025.0			260500.0	Y
4	IC 280-579374/15	0.1	25302.0			253020.0	Y
5	IC 280-579374/14	0.25	63169.0			252676.0	Y
6	IC 280-579374/13	0.4	100936.0			252340.0	Y
7	IC 280-579374/12	0.7	175010.0			250014.285714	Y
8	IC 280-579374/11	1.0	249973.0			249973.0	Y
9	IC 280-579374/10	2.5	632318.0			252927.2	Y



Calibration / 1,3-Dinitrobenzene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

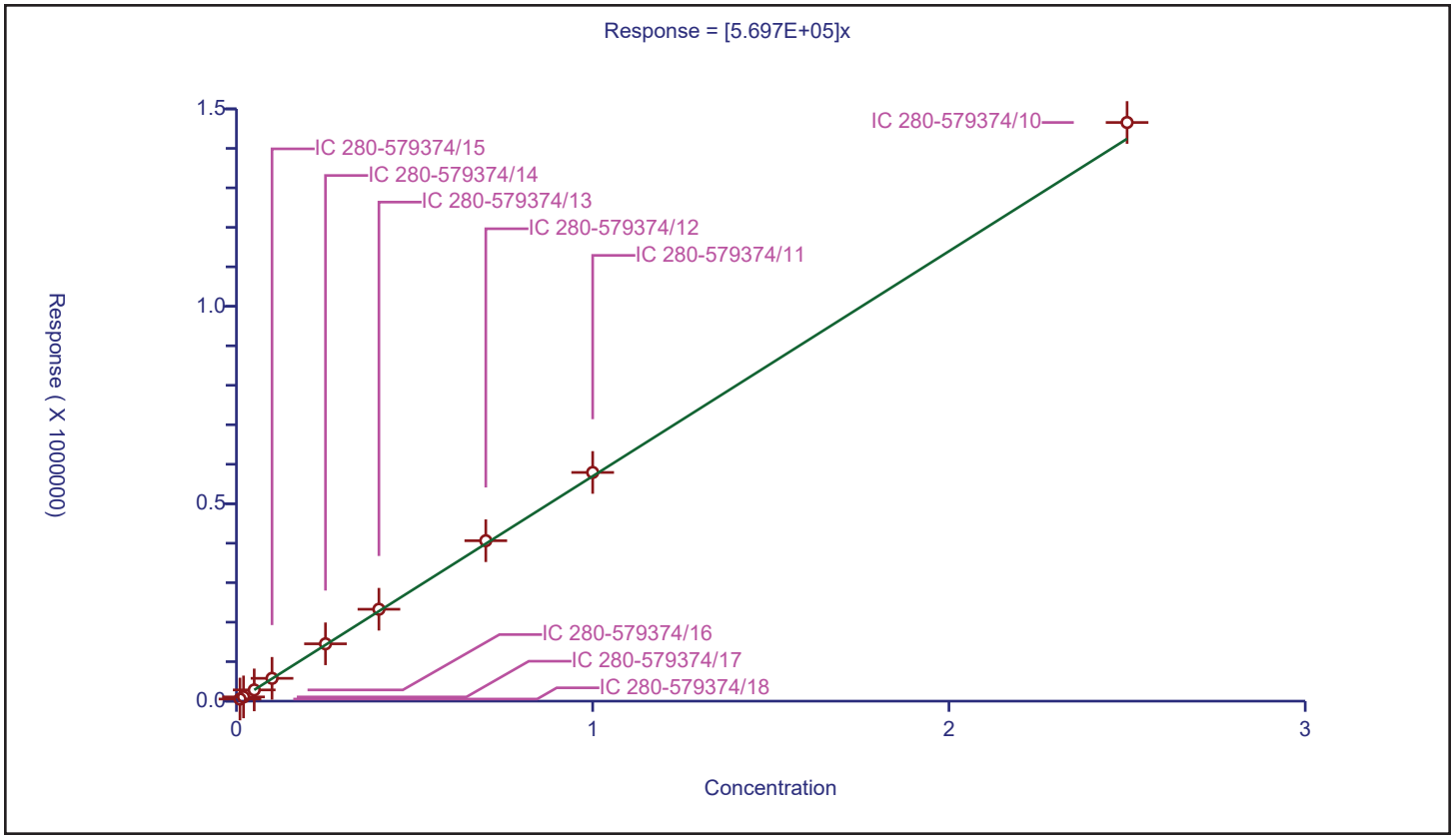
Curve Coefficients

Intercept:	0
Slope:	5.697E+05

Error Coefficients

Standard Error:	15300
Relative Standard Error:	3.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	5394.0			539400.0	Y
2	IC 280-579374/17	0.02	10667.0			533350.0	Y
3	IC 280-579374/16	0.05	28419.0			568380.0	Y
4	IC 280-579374/15	0.1	57791.0			577910.0	Y
5	IC 280-579374/14	0.25	145186.0			580744.0	Y
6	IC 280-579374/13	0.4	232743.0			581857.5	Y
7	IC 280-579374/12	0.7	406342.0			580488.571429	Y
8	IC 280-579374/11	1.0	579205.0			579205.0	Y
9	IC 280-579374/10	2.5	1465582.0			586232.8	Y



Calibration / Nitroglycerin

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

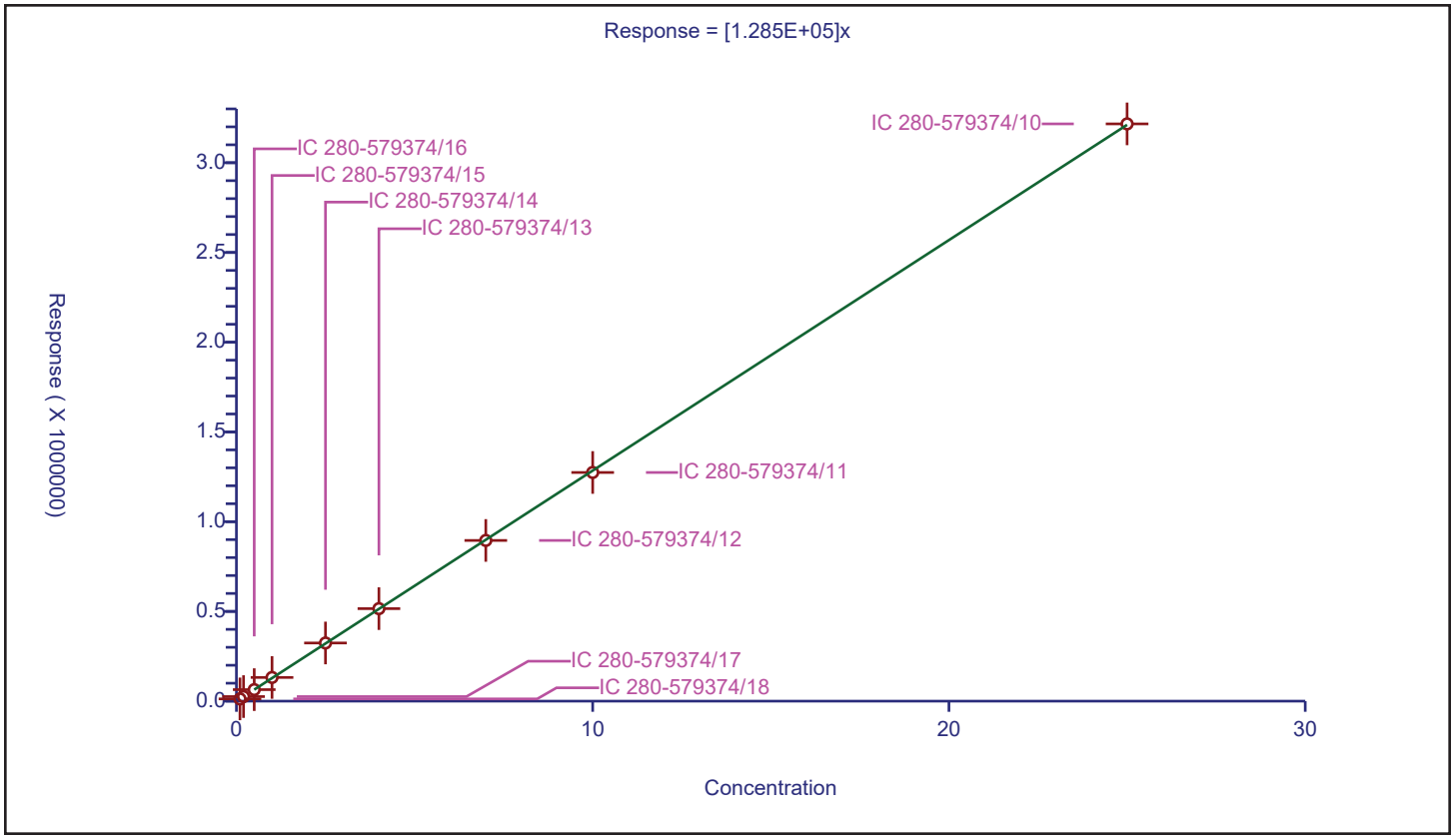
Curve Coefficients

Intercept:	0
Slope:	1.285E+05

Error Coefficients

Standard Error:	4650
Relative Standard Error:	1.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.1	12588.0			125880.0	Y
2	IC 280-579374/17	0.2	25451.0			127255.0	Y
3	IC 280-579374/16	0.5	64232.0			128464.0	Y
4	IC 280-579374/15	1.0	132025.0			132025.0	Y
5	IC 280-579374/14	2.5	324018.0			129607.2	Y
6	IC 280-579374/13	4.0	515422.0			128855.5	Y
7	IC 280-579374/12	7.0	895388.0			127912.571429	Y
8	IC 280-579374/11	10.0	1274078.0			127407.8	Y
9	IC 280-579374/10	25.0	3216378.0			128655.12	Y



Calibration / o-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

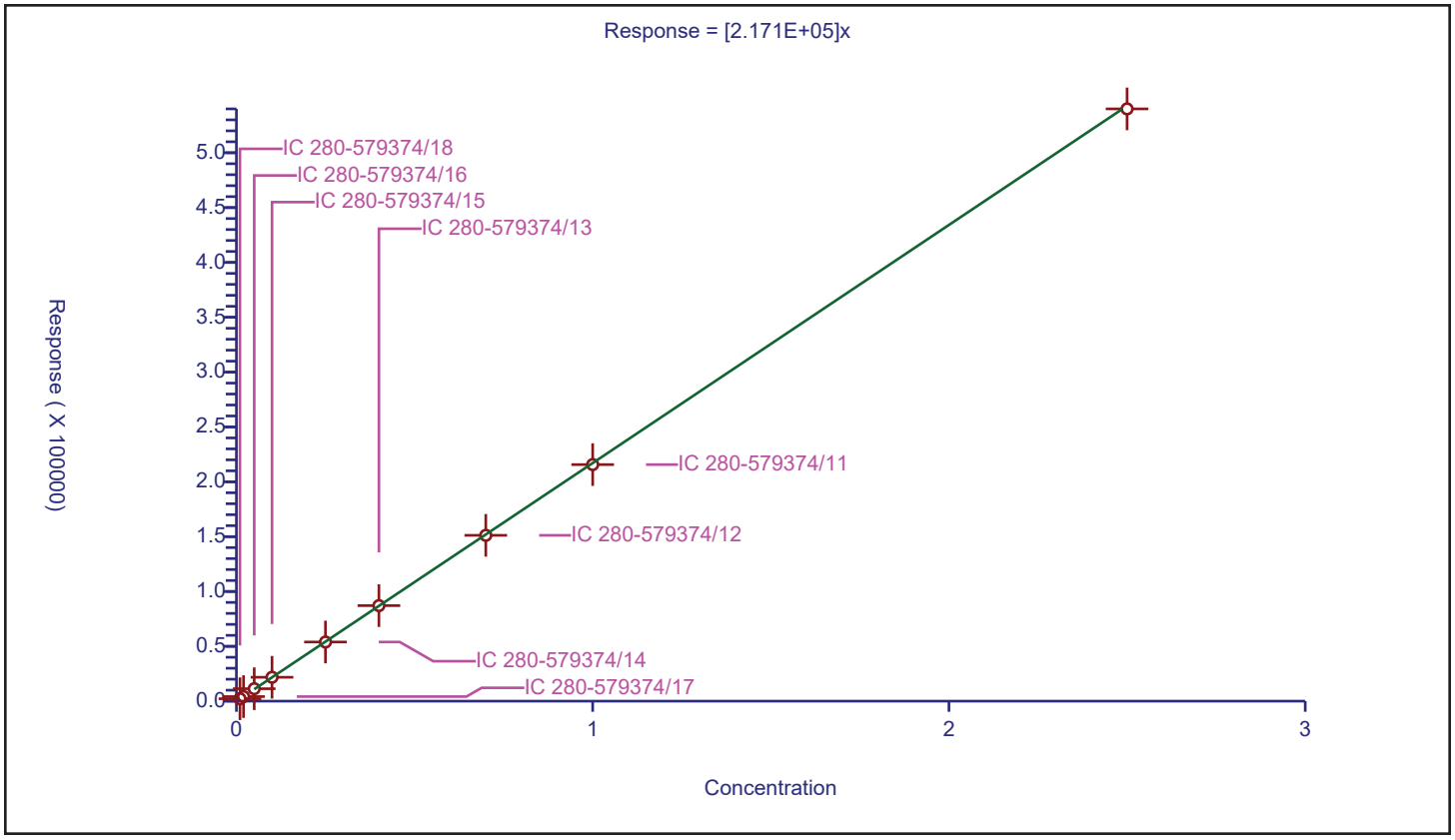
Curve Coefficients

Intercept:	0
Slope:	2.171E+05

Error Coefficients

Standard Error:	1160
Relative Standard Error:	2.2
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2206.0			220600.0	Y
2	IC 280-579374/17	0.02	4161.0			208050.0	Y
3	IC 280-579374/16	0.05	11321.0			226420.0	Y
4	IC 280-579374/15	0.1	21780.0			217800.0	Y
5	IC 280-579374/14	0.25	53916.0			215664.0	Y
6	IC 280-579374/13	0.4	87085.0			217712.5	Y
7	IC 280-579374/12	0.7	151188.0			215982.857143	Y
8	IC 280-579374/11	1.0	215672.0			215672.0	Y
9	IC 280-579374/10	2.5	539988.0			215995.2	Y



Calibration / p-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

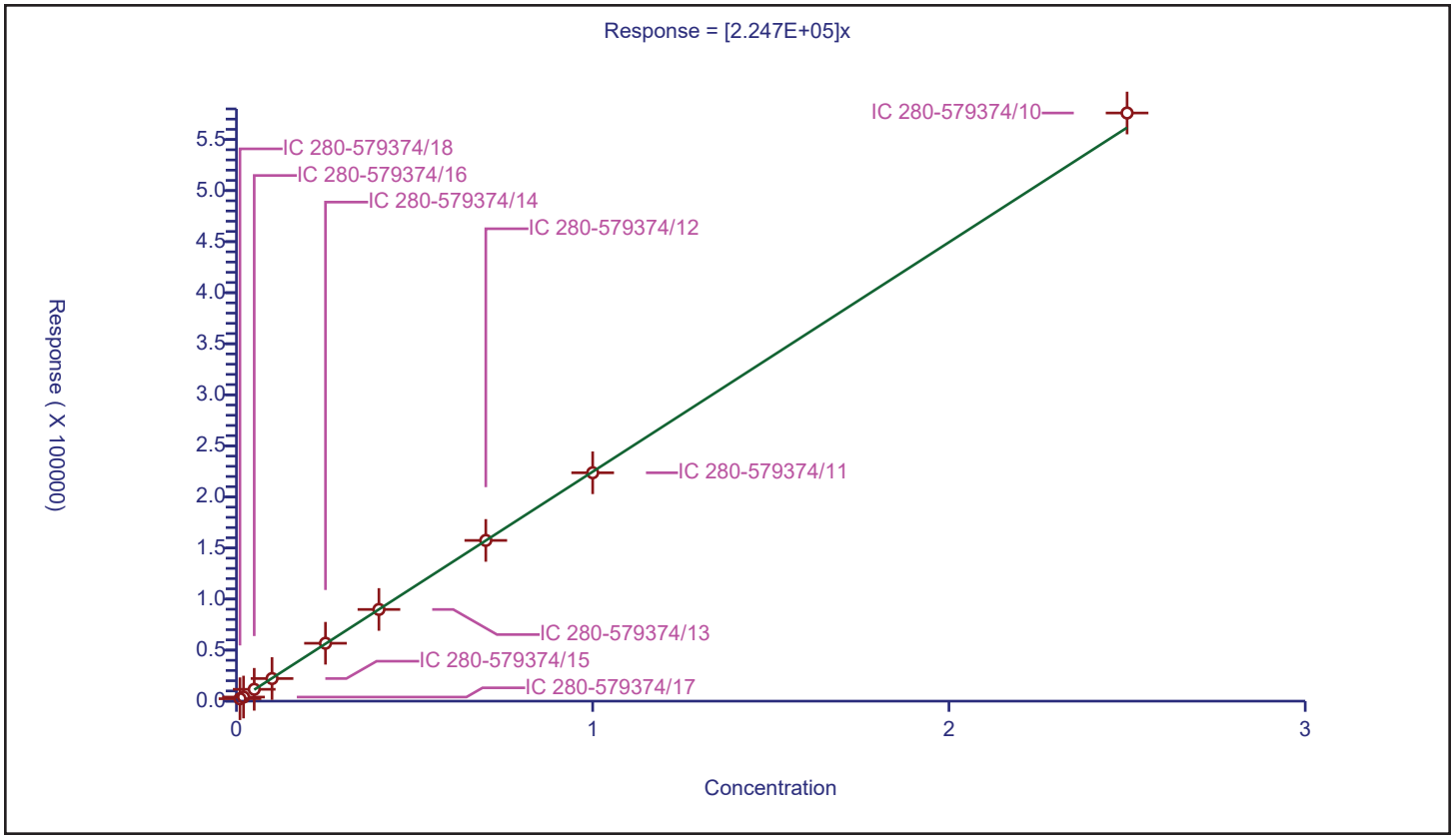
Curve Coefficients

Intercept:	0
Slope:	2.247E+05

Error Coefficients

Standard Error:	5070
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2385.0			238500.0	Y
2	IC 280-579374/17	0.02	4008.0			200400.0	Y
3	IC 280-579374/16	0.05	11587.0			231740.0	Y
4	IC 280-579374/15	0.1	22135.0			221350.0	Y
5	IC 280-579374/14	0.25	56687.0			226748.0	Y
6	IC 280-579374/13	0.4	89790.0			224475.0	Y
7	IC 280-579374/12	0.7	157391.0			224844.285714	Y
8	IC 280-579374/11	1.0	223663.0			223663.0	Y
9	IC 280-579374/10	2.5	575980.0			230392.0	Y



Calibration / 4-Amino-2,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

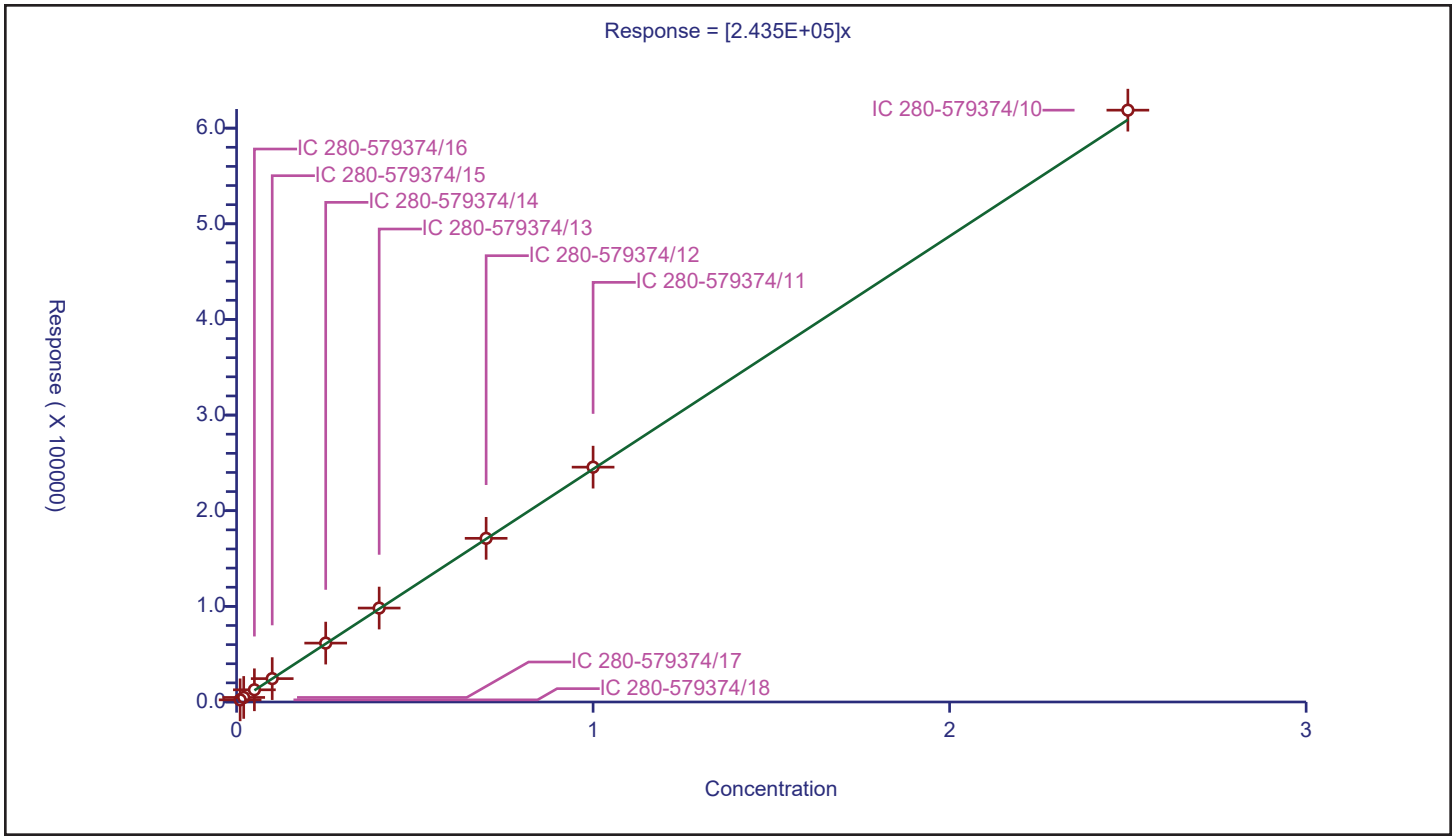
Curve Coefficients

Intercept:	0
Slope:	2.435E+05

Error Coefficients

Standard Error:	3640
Relative Standard Error:	3.3
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2257.0			225700.0	Y
2	IC 280-579374/17	0.02	4748.0			237400.0	Y
3	IC 280-579374/16	0.05	12749.0			254980.0	Y
4	IC 280-579374/15	0.1	24428.0			244280.0	Y
5	IC 280-579374/14	0.25	61571.0			246284.0	Y
6	IC 280-579374/13	0.4	98202.0			245505.0	Y
7	IC 280-579374/12	0.7	171126.0			244465.714286	Y
8	IC 280-579374/11	1.0	245531.0			245531.0	Y
9	IC 280-579374/10	2.5	618806.0			247522.4	Y



Calibration / m-Nitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

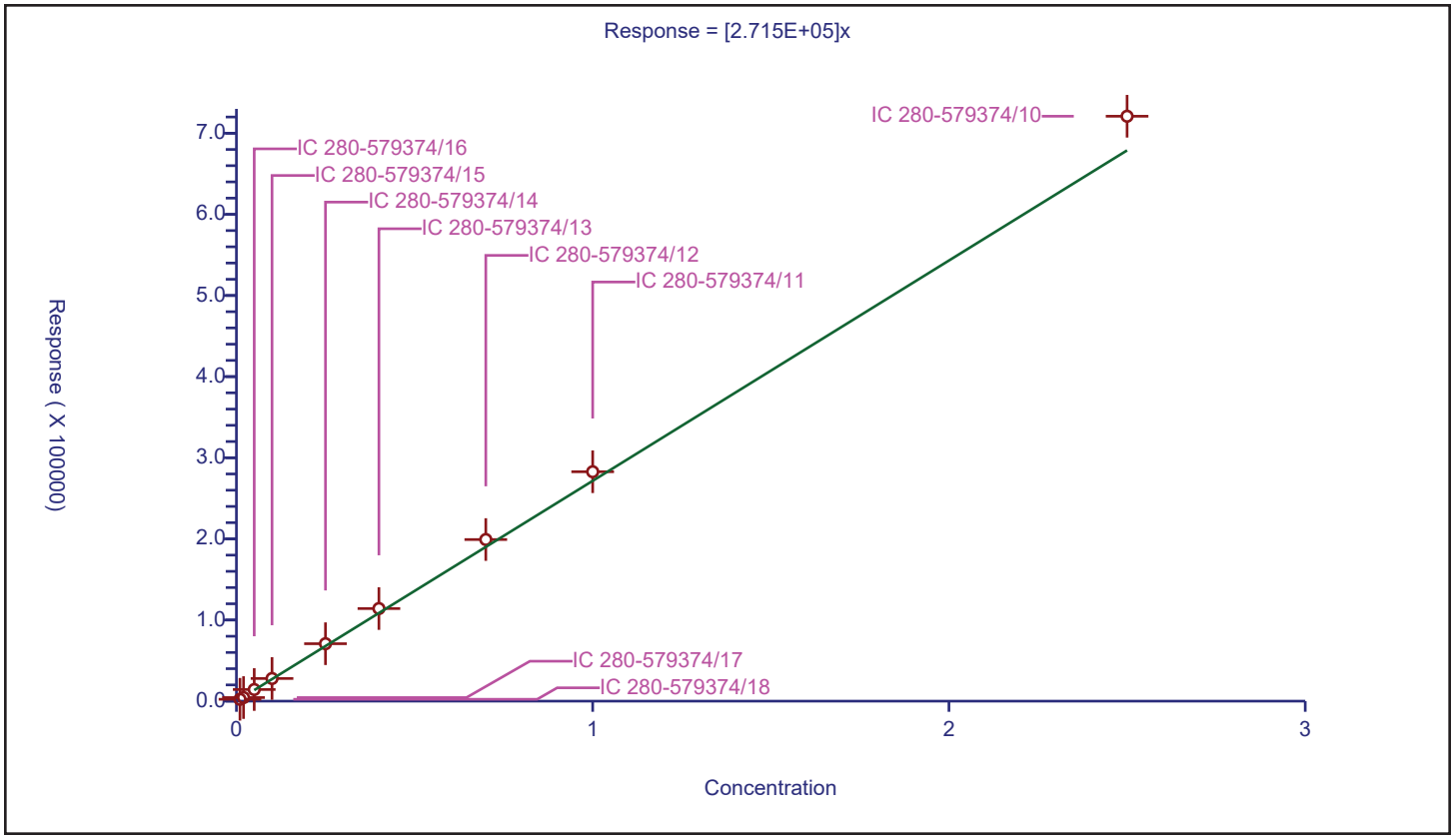
Curve Coefficients

Intercept:	0
Slope:	2.715E+05

Error Coefficients

Standard Error:	15900
Relative Standard Error:	9.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.990

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2330.0			233000.0	Y
2	IC 280-579374/17	0.02	4420.0			221000.0	Y
3	IC 280-579374/16	0.05	14322.0			286440.0	Y
4	IC 280-579374/15	0.1	27918.0			279180.0	Y
5	IC 280-579374/14	0.25	70801.0			283204.0	Y
6	IC 280-579374/13	0.4	114141.0			285352.5	Y
7	IC 280-579374/12	0.7	199190.0			284557.142857	Y
8	IC 280-579374/11	1.0	282769.0			282769.0	Y
9	IC 280-579374/10	2.5	720944.0			288377.6	Y



Calibration / 2-Amino-4,6-dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

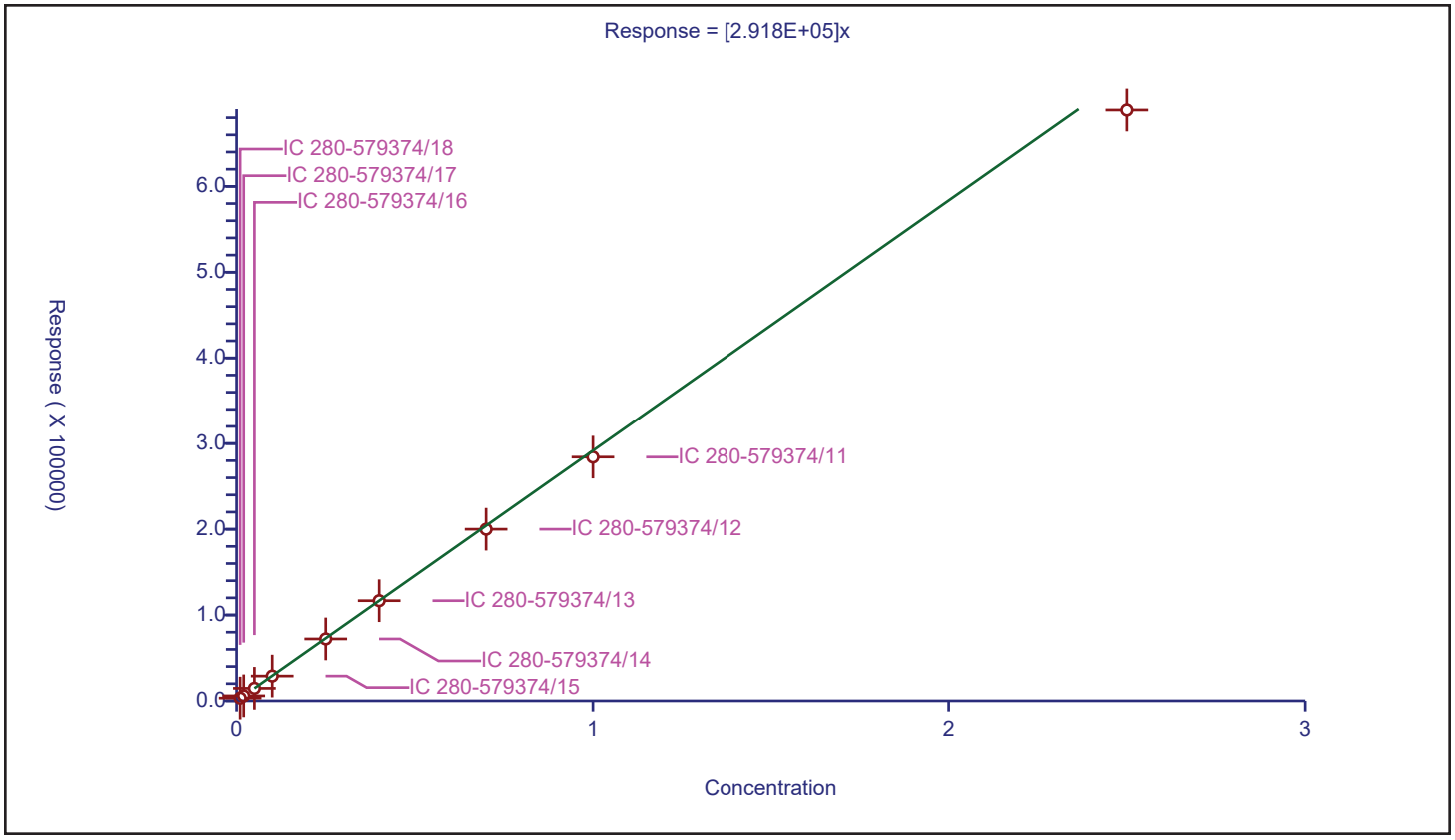
Curve Coefficients

Intercept:	0
Slope:	2.918E+05

Error Coefficients

Standard Error:	14700
Relative Standard Error:	4.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	3249.0			324900.0	Y
2	IC 280-579374/17	0.02	5869.0			293450.0	Y
3	IC 280-579374/16	0.05	14638.0			292760.0	Y
4	IC 280-579374/15	0.1	28905.0			289050.0	Y
5	IC 280-579374/14	0.25	72154.0			288616.0	Y
6	IC 280-579374/13	0.4	116692.0			291730.0	Y
7	IC 280-579374/12	0.7	200033.0			285761.428571	Y
8	IC 280-579374/11	1.0	284212.0			284212.0	Y
9	IC 280-579374/10	2.5	688928.0			275571.2	Y



Calibration / 1,3,5-Trinitrobenzene

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

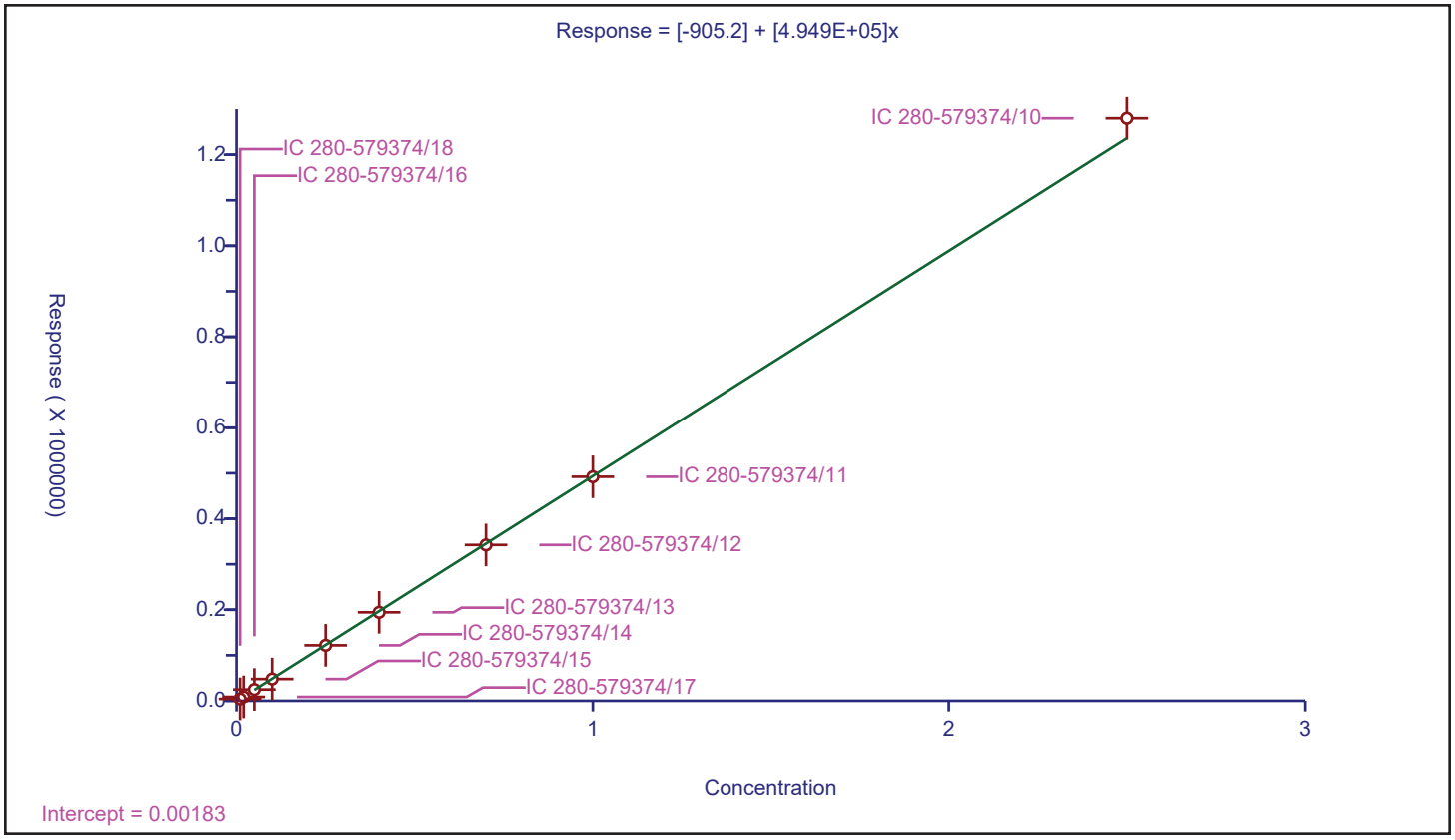
Curve Coefficients

Intercept:	-905.2
Slope:	4.949E+05

Error Coefficients

Standard Error:	16600
Relative Standard Error:	2.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	4111.0			411100.0	Y
2	IC 280-579374/17	0.02	8617.0			430850.0	Y
3	IC 280-579374/16	0.05	24760.0			495200.0	Y
4	IC 280-579374/15	0.1	47833.0			478330.0	Y
5	IC 280-579374/14	0.25	121844.0			487376.0	Y
6	IC 280-579374/13	0.4	194378.0			485945.0	Y
7	IC 280-579374/12	0.7	342474.0			489248.571429	Y
8	IC 280-579374/11	1.0	492330.0			492330.0	Y
9	IC 280-579374/10	2.5	1279862.0			511944.8	Y



Calibration / 2,6-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

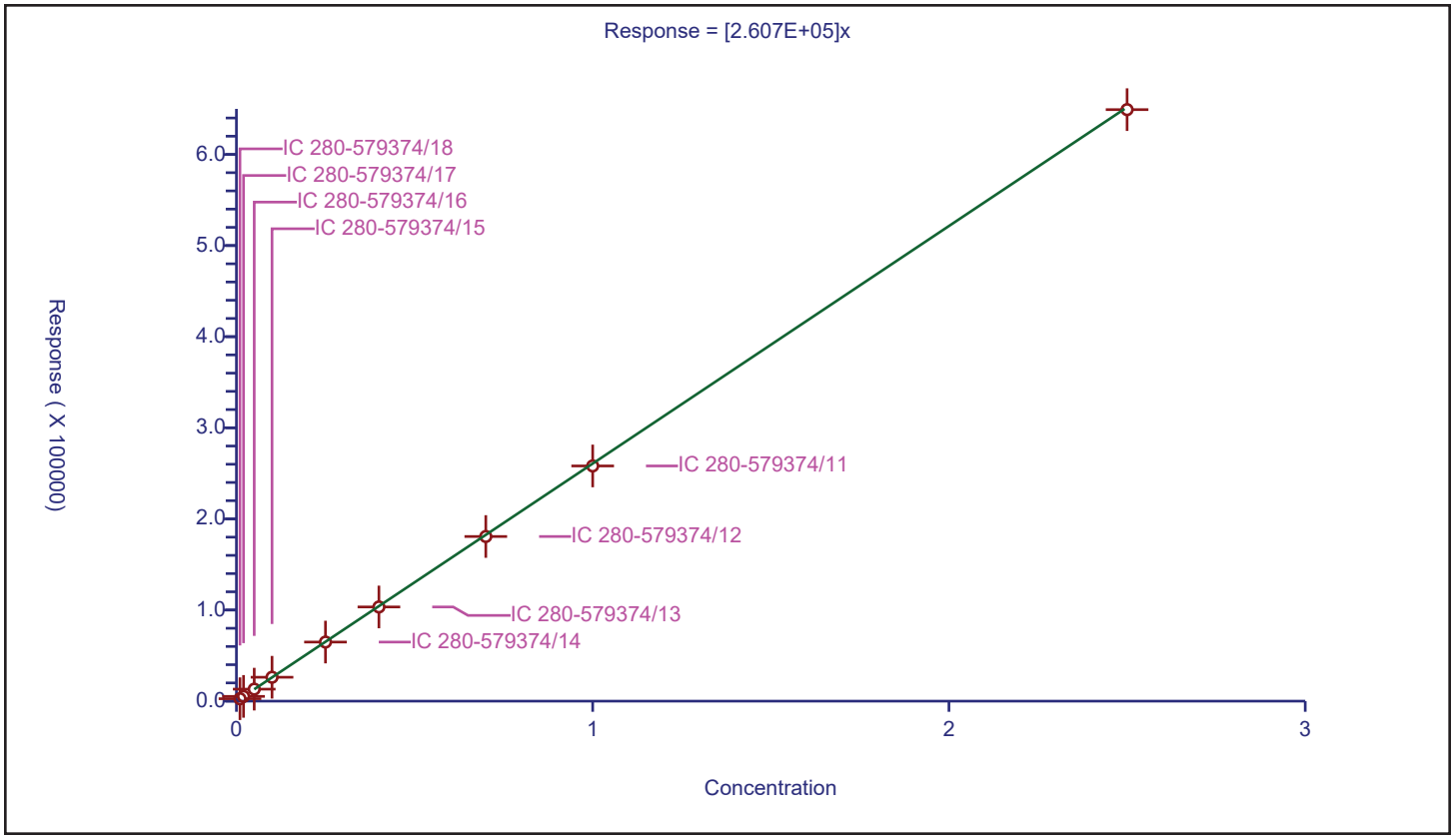
Curve Coefficients

Intercept:	0
Slope:	2.607E+05

Error Coefficients

Standard Error:	1500
Relative Standard Error:	1.0
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2661.0			266100.0	Y
2	IC 280-579374/17	0.02	5223.0			261150.0	Y
3	IC 280-579374/16	0.05	13164.0			263280.0	Y
4	IC 280-579374/15	0.1	26225.0			262250.0	Y
5	IC 280-579374/14	0.25	64858.0			259432.0	Y
6	IC 280-579374/13	0.4	103372.0			258430.0	Y
7	IC 280-579374/12	0.7	180698.0			258140.0	Y
8	IC 280-579374/11	1.0	258115.0			258115.0	Y
9	IC 280-579374/10	2.5	649180.0			259672.0	Y



Calibration / 2,4-Dinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

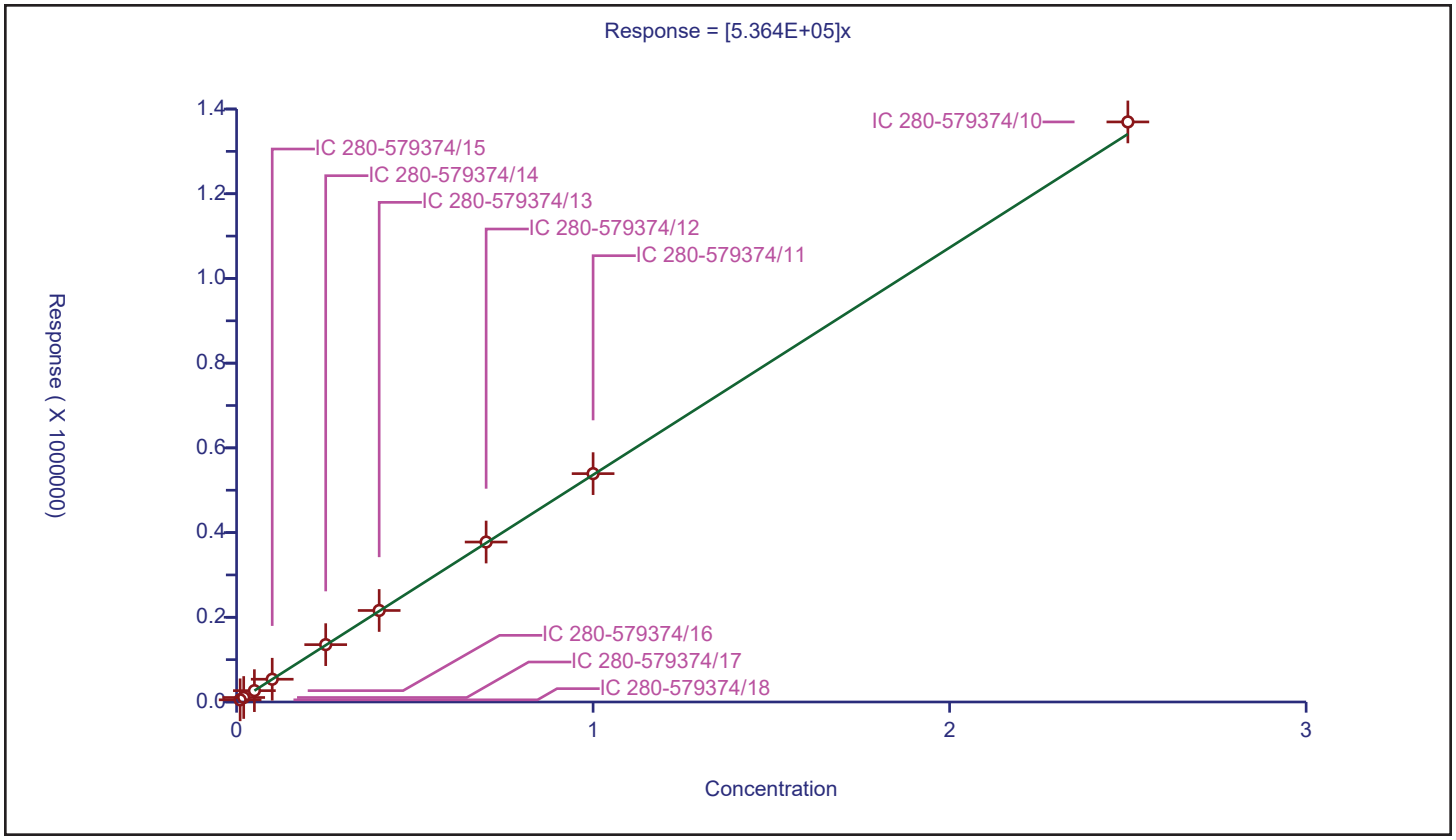
Curve Coefficients

Intercept:	0
Slope:	5.364E+05

Error Coefficients

Standard Error:	10200
Relative Standard Error:	1.7
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	5153.0			515300.0	Y
2	IC 280-579374/17	0.02	10617.0			530850.0	Y
3	IC 280-579374/16	0.05	26773.0			535460.0	Y
4	IC 280-579374/15	0.1	53739.0			537390.0	Y
5	IC 280-579374/14	0.25	135421.0			541684.0	Y
6	IC 280-579374/13	0.4	216076.0			540190.0	Y
7	IC 280-579374/12	0.7	377687.0			539552.857143	Y
8	IC 280-579374/11	1.0	539162.0			539162.0	Y
9	IC 280-579374/10	2.5	1369517.0			547806.8	Y



Calibration / Tetryl

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

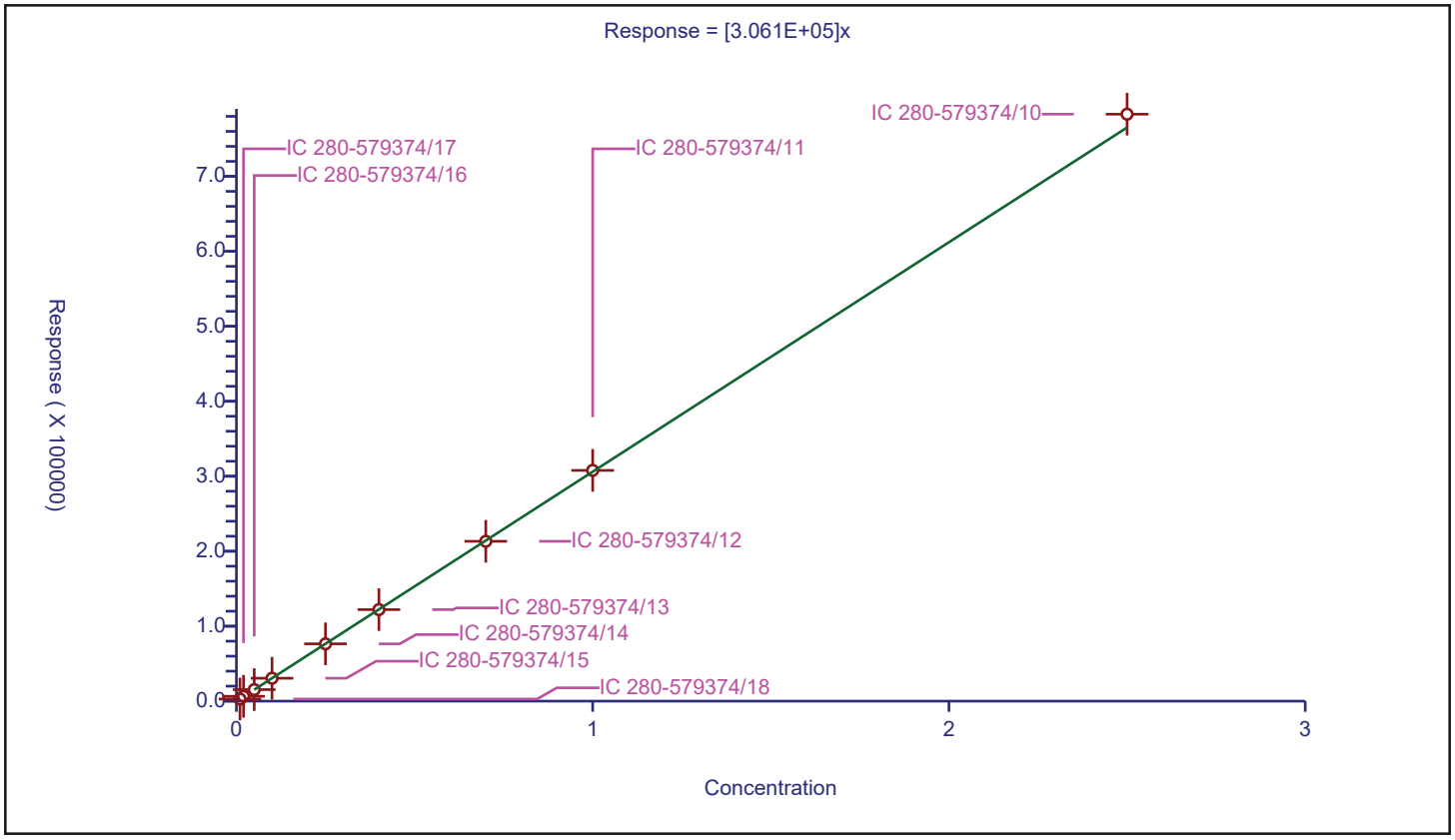
Curve Coefficients

Intercept:	0
Slope:	3.061E+05

Error Coefficients

Standard Error:	6330
Relative Standard Error:	3.4
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.999

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	2822.0			282200.0	Y
2	IC 280-579374/17	0.02	6442.0			322100.0	Y
3	IC 280-579374/16	0.05	15407.0			308140.0	Y
4	IC 280-579374/15	0.1	30569.0			305690.0	Y
5	IC 280-579374/14	0.25	76419.0			305676.0	Y
6	IC 280-579374/13	0.4	122073.0			305182.5	Y
7	IC 280-579374/12	0.7	213230.0			304614.285714	Y
8	IC 280-579374/11	1.0	307786.0			307786.0	Y
9	IC 280-579374/10	2.5	782940.0			313176.0	Y



Calibration / 2,4,6-Trinitrotoluene

Curve Type:	Average
Weighting:	Conc_Sq
Origin:	Force
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

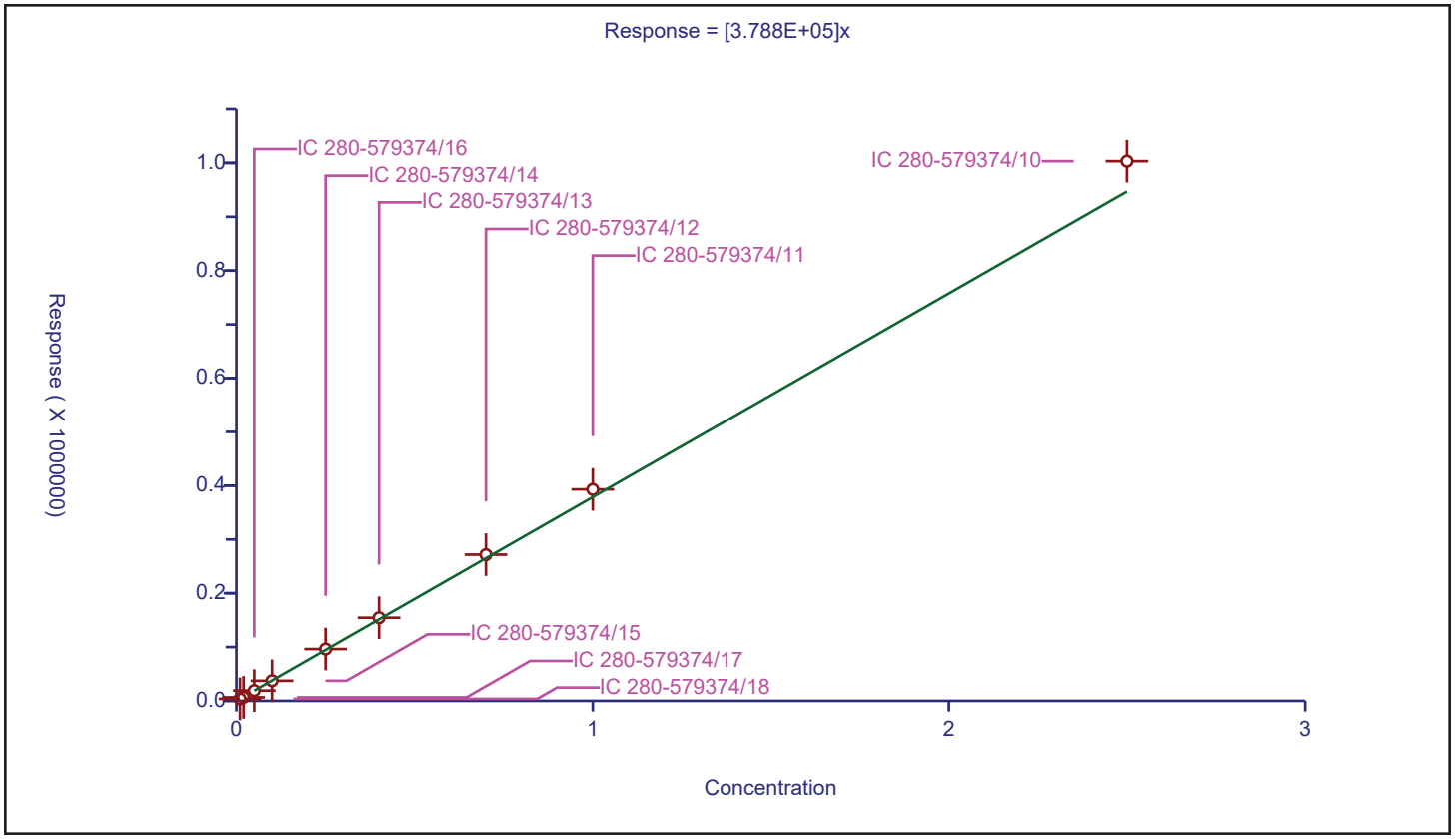
Curve Coefficients

Intercept:	0
Slope:	3.788E+05

Error Coefficients

Standard Error:	20700
Relative Standard Error:	5.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	0.996

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.01	3720.0			372000.0	Y
2	IC 280-579374/17	0.02	6545.0			327250.0	Y
3	IC 280-579374/16	0.05	19121.0			382420.0	Y
4	IC 280-579374/15	0.1	37336.0			373360.0	Y
5	IC 280-579374/14	0.25	96311.0			385244.0	Y
6	IC 280-579374/13	0.4	154499.0			386247.5	Y
7	IC 280-579374/12	0.7	271803.0			388290.0	Y
8	IC 280-579374/11	1.0	393061.0			393061.0	Y
9	IC 280-579374/10	2.5	1003298.0			401319.2	Y



Calibration / PETN

Curve Type:	Linear
Weighting:	Conc_Sq
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

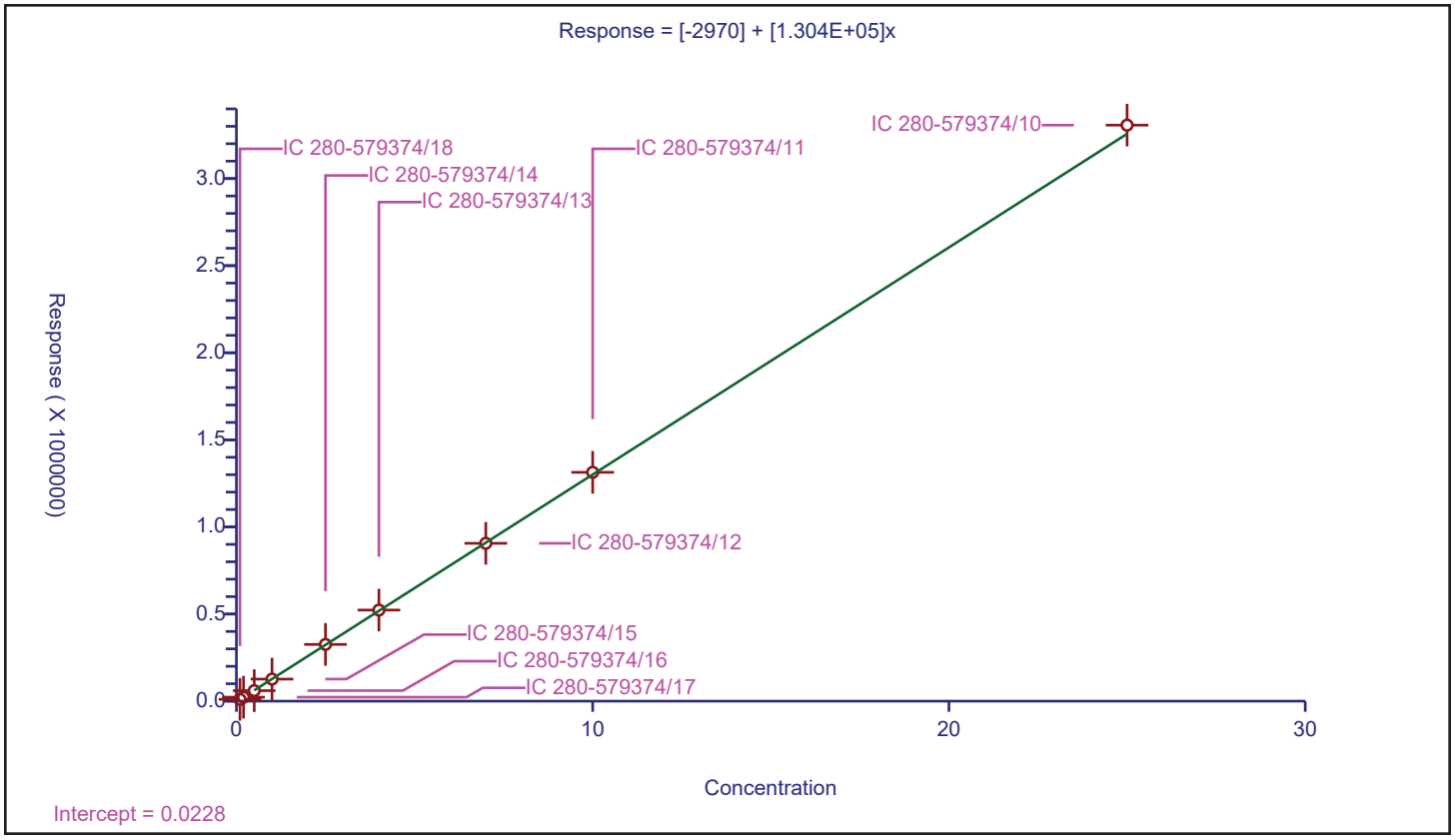
Curve Coefficients

Intercept:	-2970
Slope:	1.304E+05

Error Coefficients

Standard Error:	19600
Relative Standard Error:	1.6
Correlation Coefficient:	1.000
Coefficient of Determination (Adjusted):	1.000

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	IC 280-579374/18	0.1	10251.0			102510.0	Y
2	IC 280-579374/17	0.2	22677.0			113385.0	Y
3	IC 280-579374/16	0.5	60368.0			120736.0	Y
4	IC 280-579374/15	1.0	126587.0			126587.0	Y
5	IC 280-579374/14	2.5	325677.0			130270.8	Y
6	IC 280-579374/13	4.0	522894.0			130723.5	Y
7	IC 280-579374/12	7.0	906035.0			129433.571429	Y
8	IC 280-579374/11	10.0	1313650.0			131365.0	Y
9	IC 280-579374/10	25.0	3306698.0			132267.92	Y



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-562503/29 | Calibration Date: 01/05/2022 01:20

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 01040029.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	217046		0.505	0.500	1.0	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	135314		0.505	0.500	1.0	20.0
3,5-Dinitroaniline	Lin2		240514		525	500	4.9	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-562503/29 Calibration Date: 01/05/2022 01:20

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 01040029.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.47	6.33	6.63
2,4-diamino-6-nitrotoluene	6.66	6.51	6.81
3,5-Dinitroaniline	9.93	9.79	10.09

Eurofins TestAmerica, Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040029.D				
Lims ID:	ICV ADD				
Client ID:					
Sample Type:	ICV				
Inject. Date:	05-Jan-2022 01:20:46	ALS Bottle#:	29	Worklist Smp#:	29
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Sample Info:	ICV ADD				
Misc. Info.:	280-0107731-029				
Operator ID:	JZ	Instrument ID:	CHHPLC_X3		
Sublist:					
Method:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\8330_X3.m				
Limit Group:	GCSV - 8330				
Last Update:	05-Jan-2022 12:18:54	Calib Date:	05-Jan-2022 00:57:50		
Integrator:	Falcon				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\CHHPLC_X\20220104-107731.b\01040028.D				
Column 1 :	UltraCarb5uODS (20) (4.60 mm)		Det: LC DAD1B, 254 nm		
Process Host:	CTX1613				
First Level Reviewer: zhangji		Date:	05-Jan-2022 12:05:43		

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.466	6.476	-0.010	108523	0.5000	0.5052	M
5 2,4-diamino-6-nitrotoluene	1	6.660	6.656	0.004	67657	0.5000	0.5052	M
14 3,5-Dinitroaniline	1	9.926	9.935	-0.009	120257	0.5000	0.5247	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330DiaminLCS_00045	Amount Added:	50.00	Units: uL
3,5-DNA LCS_00039	Amount Added:	50.00	Units: uL

Report Date: 05-Jan-2022 12:19:19 Chrom Revision: 2.3 03-Jan-2022 17:03:12

Eurofins TestAmerica, Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040029.d

Injection Date: 05-Jan-2022 01:20:46 Instrument ID: CHHPLC_X3 Operator ID:

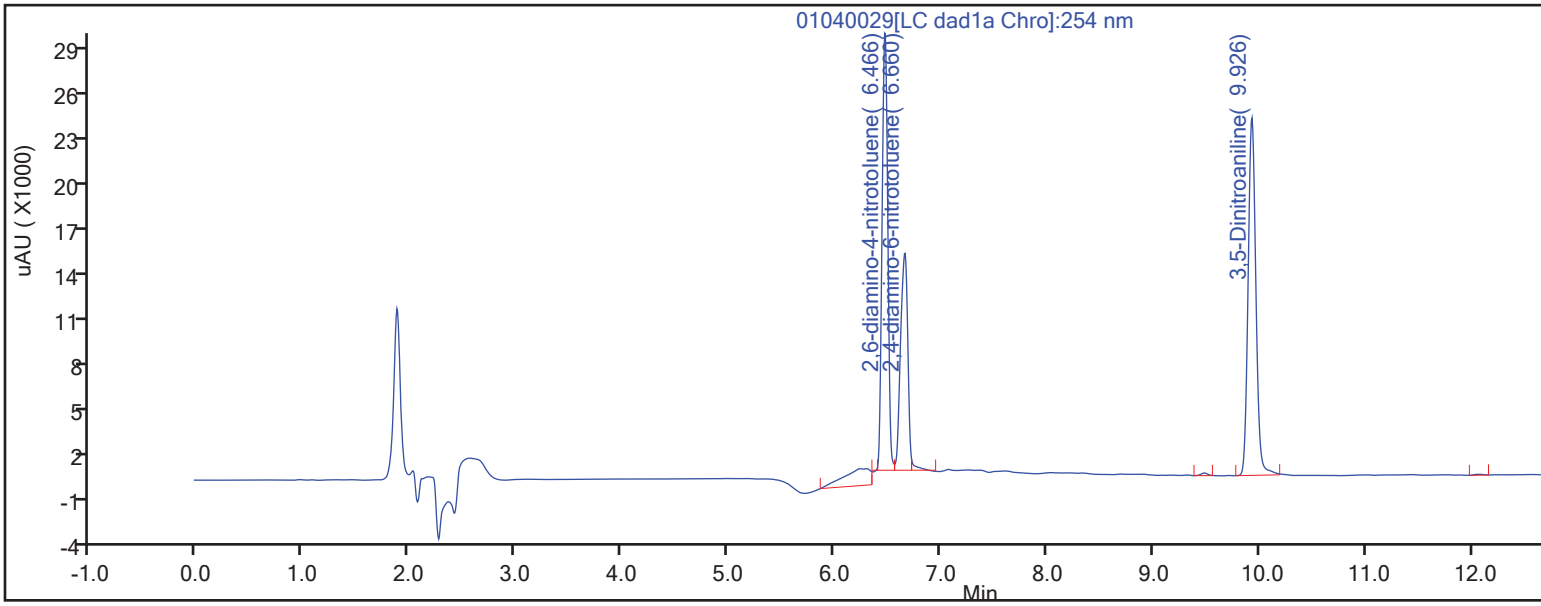
Lims ID: ICV ADD Worklist Smp#:

Client ID:

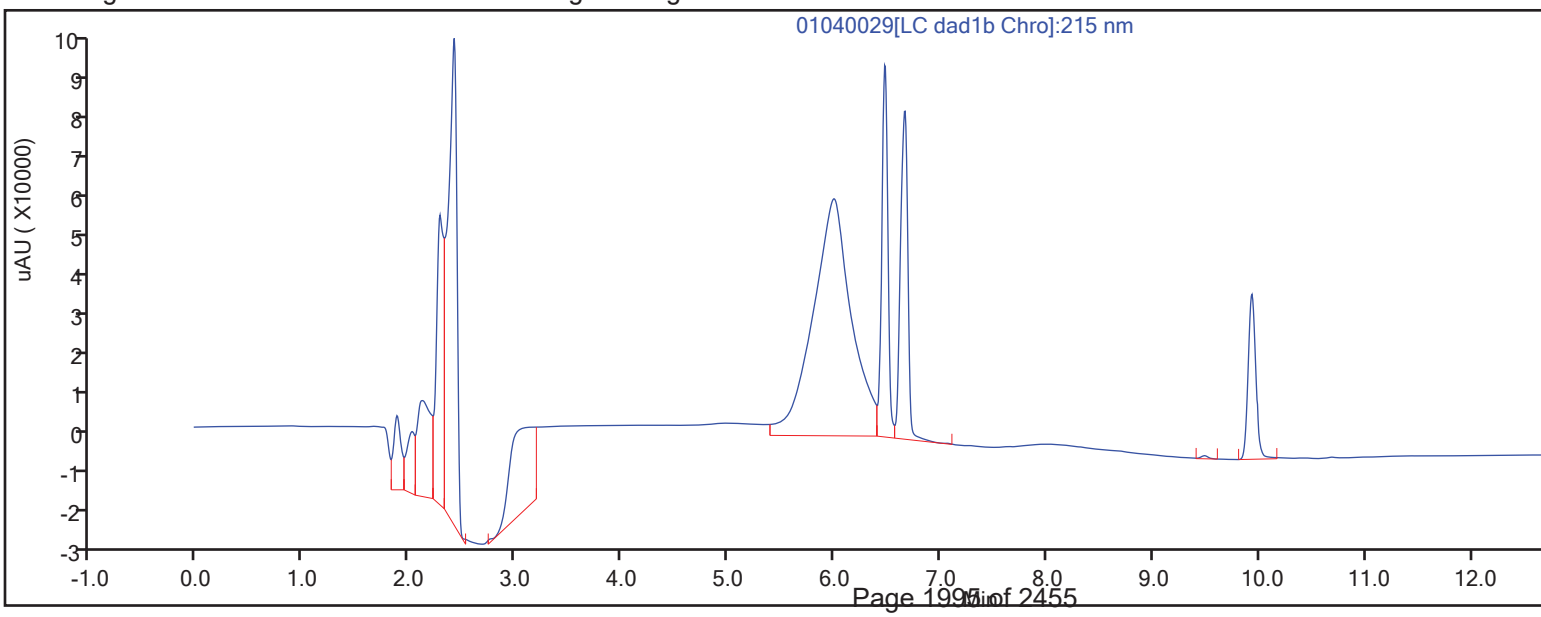
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

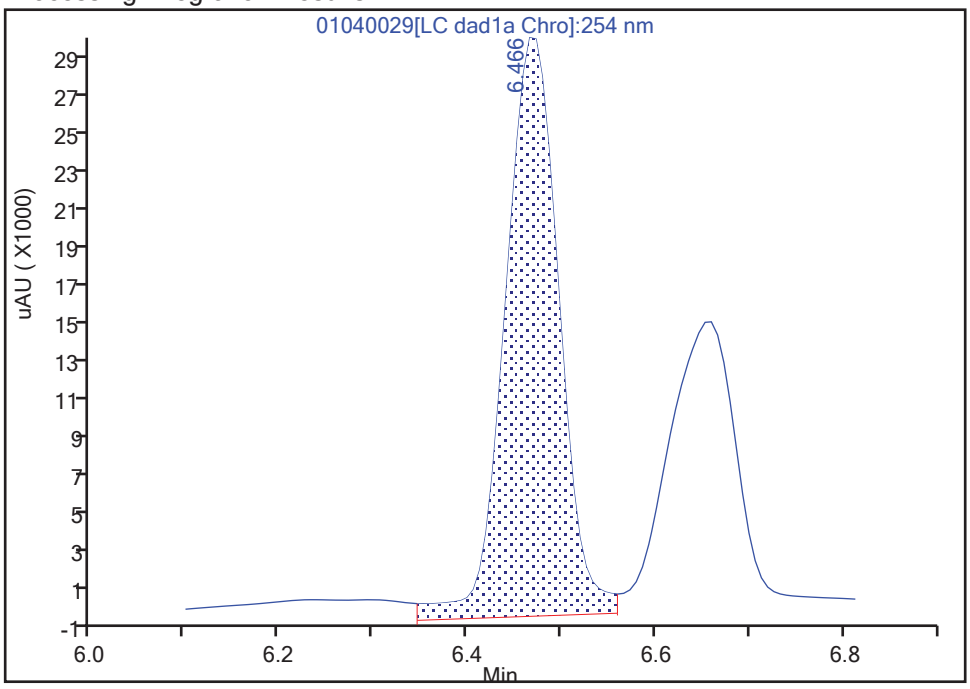
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040029.d				
Injection Date:	05-Jan-2022 01:20:46	Instrument ID:	CHHPLC_X3		
Lims ID:	ICV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	29	Worklist Smp#:	29
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

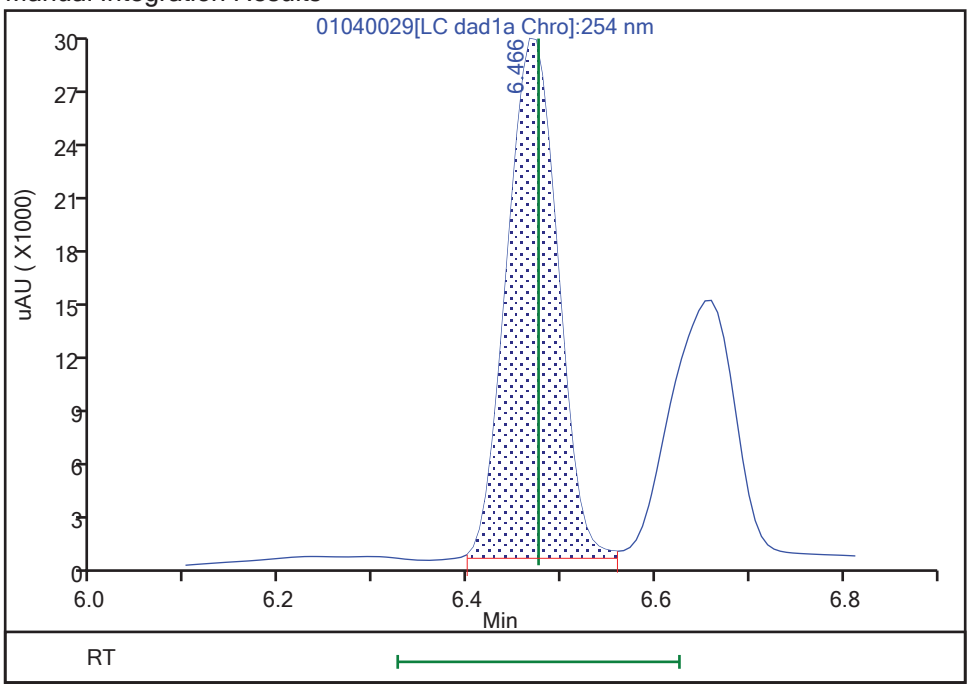
Processing Integration Results

RT: 6.47
Area: 118271
Amount: 0.550617
Amount Units: ug/mL



Manual Integration Results

RT: 6.47
Area: 108523
Amount: 0.505235
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:05:21
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins TestAmerica, Denver

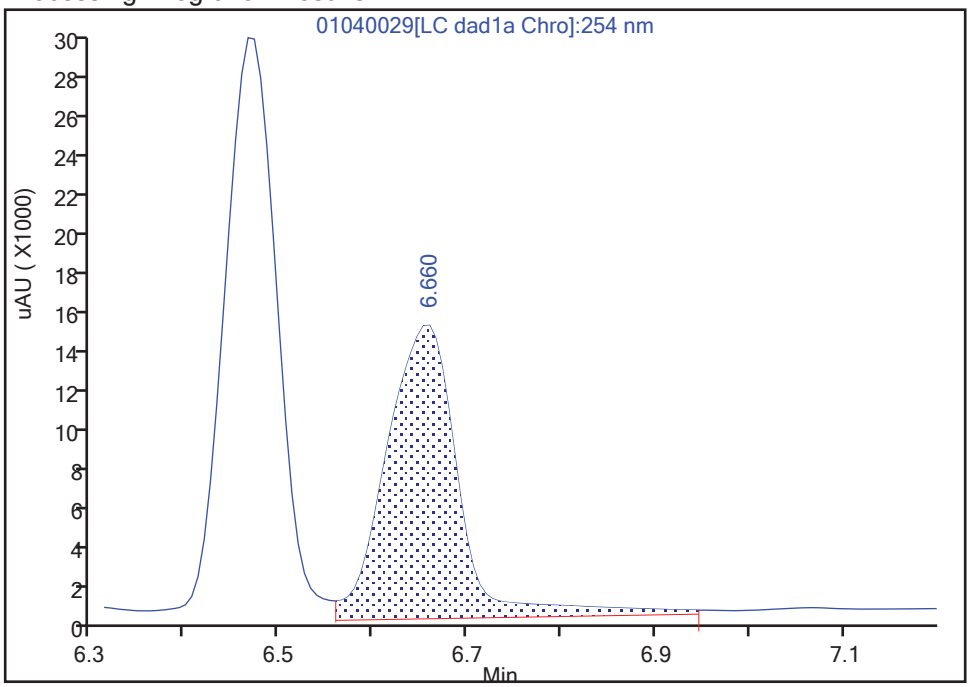
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220104-107731.b\01040029.d		
Injection Date:	05-Jan-2022 01:20:46	Instrument ID:	CHHPLC_X3
Lims ID:	ICV ADD		
Client ID:			
Operator ID:	JZ	ALS Bottle#:	29 Worklist Smp#: 29
Injection Vol:	100.0 ul	Dil. Factor:	1.0000
Method:	8330_X3	Limit Group:	GCSV - 8330
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

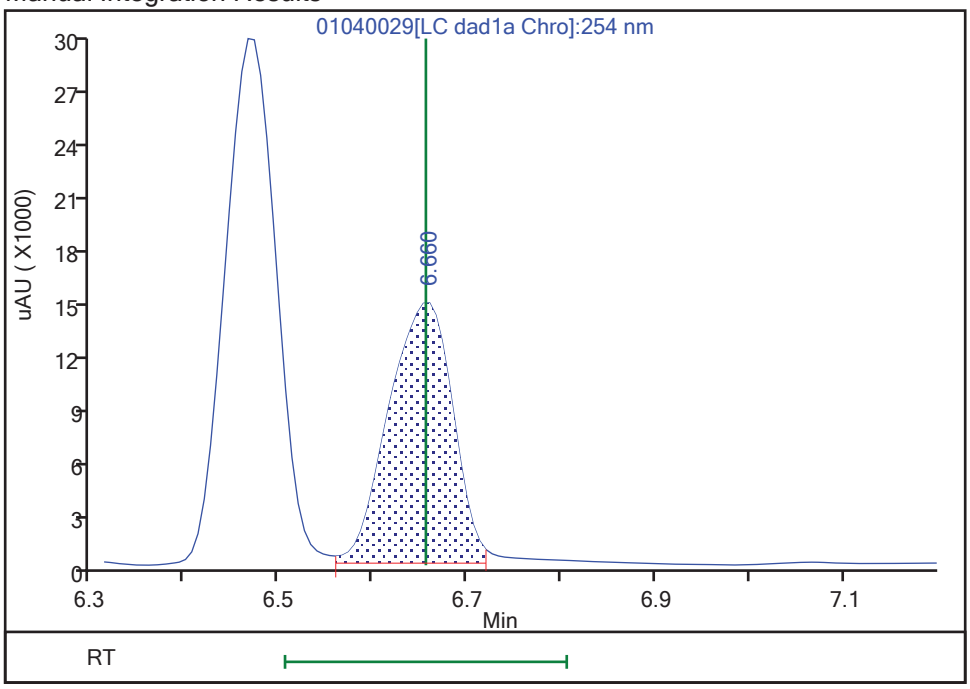
Processing Integration Results

RT: 6.66
Area: 79308
Amount: 0.592234
Amount Units: ug/mL



Manual Integration Results

RT: 6.66
Area: 67657
Amount: 0.505230
Amount Units: ug/mL



Reviewer: zhangji, 05-Jan-2022 12:05:23
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579842/20 | Calibration Date: 07/02/2022 16:33

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 07020020.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	82900		466	500	-6.8	20.0
RDX	Ave	107626	103546		481	500	-3.8	20.0
Picric acid	Ave	77471	83556		539	500	7.9	20.0
1,3,5-Trinitrobenzene	Ave	213642	234486		549	500	9.8	20.0
1,3-Dinitrobenzene	Ave	290541	305032		525	500	5.0	20.0
Nitrobenzene	Ave	193031	200682		520	500	4.0	20.0
Tetryl	Ave	165412	176404		533	500	6.6	20.0
Nitroglycerin	Ave	61733	67688		5480	5000	9.6	20.0
2,4,6-Trinitrotoluene	Ave	210916	211856		502	500	0.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	151352		523	500	4.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	200946		515	500	2.9	20.0
2,6-Dinitrotoluene	Ave	142188	146928		517	500	3.3	20.0
2,4-Dinitrotoluene	Ave	290110	287700		496	500	-0.8	20.0
2-Nitrotoluene	Lin2		126256		506	500	1.1	20.0
4-Nitrotoluene	Ave	111851	109990		492	500	-1.7	20.0
3-Nitrotoluene	Ave	137965	138708		503	500	0.5	20.0
PETN	Lin1		76108		5240	5000	4.7	20.0
1,2-Dinitrobenzene	Ave	125844	127798		508	500	1.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579842/20 Calibration Date: 07/02/2022 16:33

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 07020020.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.43	6.73
RDX	7.58	7.43	7.73
Picric acid	7.92	7.79	8.09
1,3,5-Trinitrobenzene	8.66	8.51	8.81
1,3-Dinitrobenzene	9.28	9.13	9.43
Nitrobenzene	9.67	9.53	9.83
Tetryl	10.00	9.85	10.15
Nitroglycerin	10.45	10.31	10.61
2,4,6-Trinitrotoluene	10.90	10.81	11.01
4-Amino-2,6-dinitrotoluene	11.10	11.01	11.21
2-Amino-4,6-dinitrotoluene	11.36	11.26	11.46
2,6-Dinitrotoluene	11.52	11.43	11.63
2,4-Dinitrotoluene	11.69	11.60	11.80
2-Nitrotoluene	12.55	12.41	12.71
4-Nitrotoluene	12.98	12.83	13.13
3-Nitrotoluene	13.55	13.41	13.71
PETN	14.61	14.46	14.76
1,2-Dinitrobenzene	8.54	8.38	8.68

Report Date: 06-Jul-2022 12:55:47 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020020.D
Lims ID: ICV INT
Client ID:
Sample Type: ICV
Inject. Date: 02-Jul-2022 16:33:01 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV INT
Misc. Info.: 280-0112300-020
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist:

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 06-Jul-2022 12:55:32 Calib Date: 02-Jul-2022 16:09:58
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220702-112300.b\07020019.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1686

First Level Reviewer: LV5D Date: 06-Jul-2022 12:22:00

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.584	6.583	0.001	41450	0.5000	0.4660	M
8 RDX	1	7.584	7.576	0.008	51773	0.5000	0.4810	
9 2,4,6-Trinitrophenol	1	7.918	7.936	-0.018	41778	0.5000	0.5393	M
$ 10 1,2-Dinitrobenzene	1	8.538	8.529	0.009	63899	0.5000	0.5078	
11 1,3,5-Trinitrobenzene	1	8.658	8.656	0.002	117243	0.5000	0.5488	
12 1,3-Dinitrobenzene	1	9.284	9.282	0.002	152516	0.5000	0.5249	
13 Nitrobenzene	1	9.671	9.676	-0.005	100341	0.5000	0.5198	
15 Tetryl	1	9.997	10.002	-0.005	88202	0.5000	0.5332	
16 Nitroglycerin	2	10.451	10.456	-0.005	338438	5.00	5.48	
17 2,4,6-Trinitrotoluene	1	10.904	10.909	-0.005	105928	0.5000	0.5022	
18 4-Amino-2,6-dinitrotoluene	1	11.104	11.109	-0.005	75676	0.5000	0.5226	
19 2-Amino-4,6-dinitrotoluene	1	11.357	11.362	-0.005	100473	0.5000	0.5146	
20 2,6-Dinitrotoluene	1	11.517	11.529	-0.012	73464	0.5000	0.5167	
21 2,4-Dinitrotoluene	1	11.691	11.696	-0.005	143850	0.5000	0.4958	
22 o-Nitrotoluene	1	12.551	12.556	-0.005	63128	0.5000	0.5055	
23 p-Nitrotoluene	1	12.977	12.982	-0.005	54995	0.5000	0.4917	
24 m-Nitrotoluene	1	13.551	13.556	-0.005	69354	0.5000	0.5027	
25 PETN	2	14.611	14.609	0.002	380539	5.00	5.24	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330 LCS_00114 Amount Added: 50.00 Units: uL
8330Surrogate_00129 Amount Added: 50.00 Units: uL

Report Date: 06-Jul-2022 12:55:47 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020020.d

Injection Date: 02-Jul-2022 16:33:01 Instrument ID: CHHPLC_X3 Operator ID:

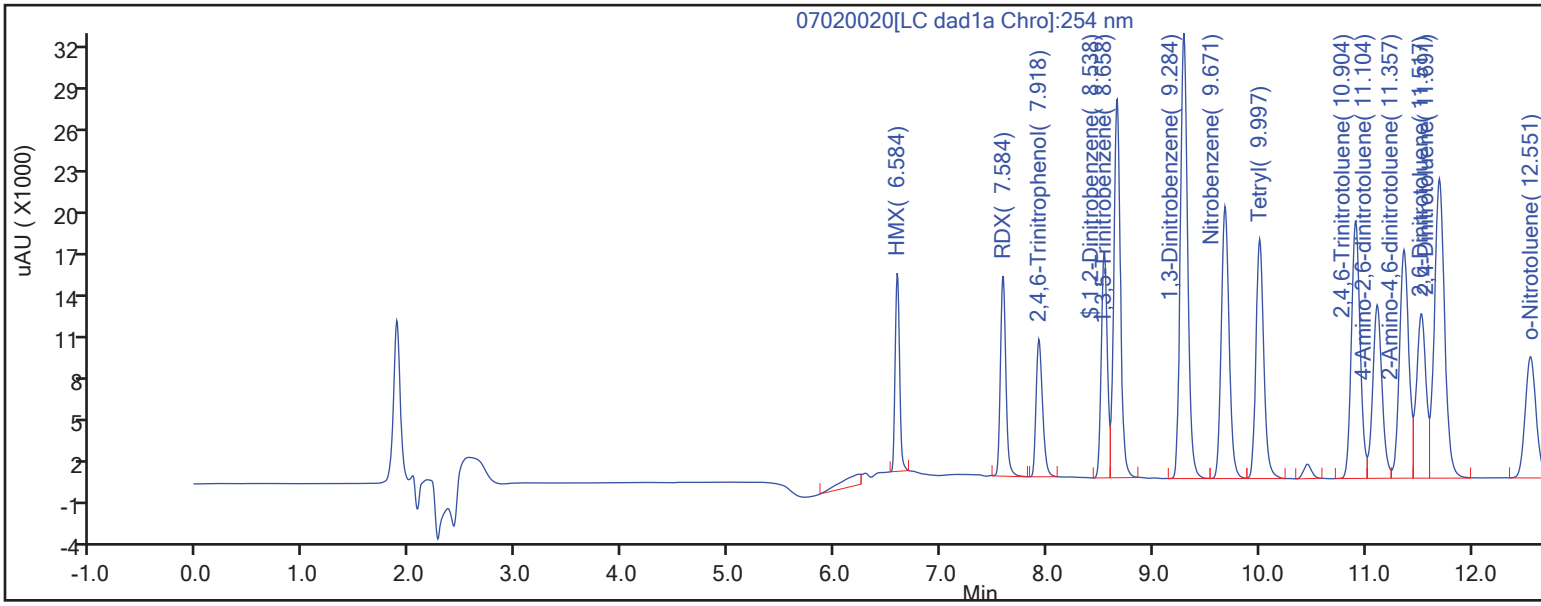
Lims ID: ICV INT Worklist Smp#:

Client ID:

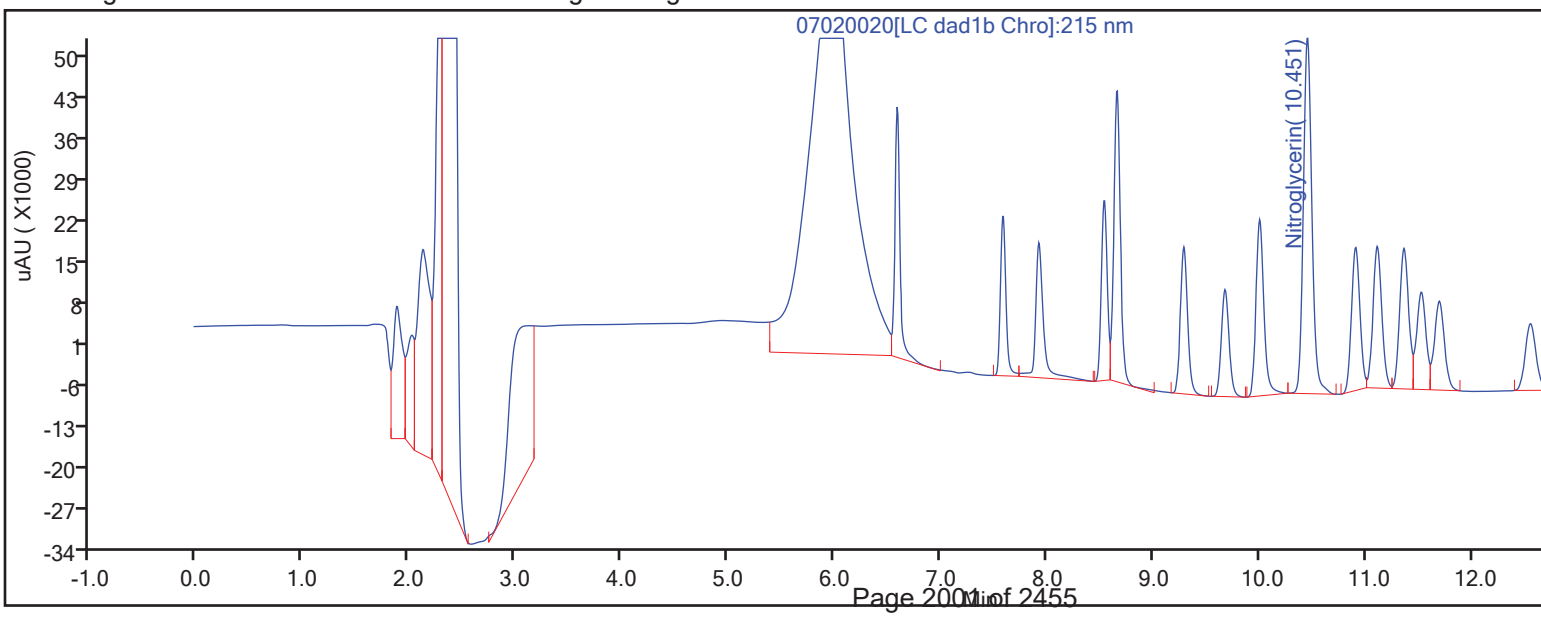
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 1



Manual Integration/User Assign Peak Report

Eurofins Denver

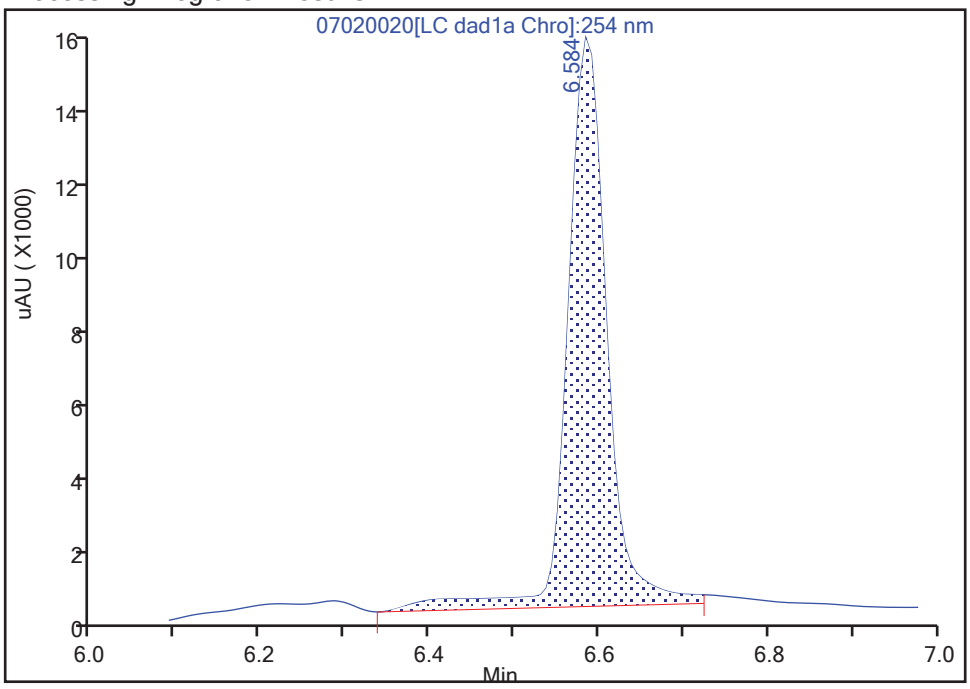
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020020.d				
Injection Date:	02-Jul-2022 16:33:01	Instrument ID:	CHHPLC_X3		
Lims ID:	ICV INT				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

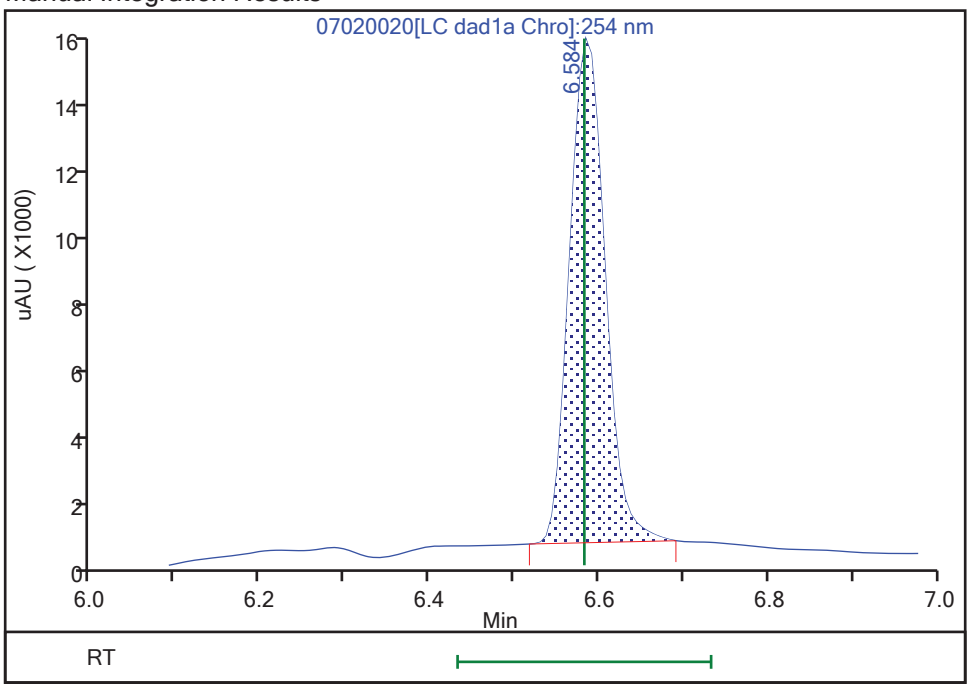
Processing Integration Results

RT: 6.58
Area: 47248
Amount: 0.531127
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 41450
Amount: 0.465950
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:21:56

Audit Action: Manually Integrated Audit Reason: Incomplete Integration

Manual Integration/User Assign Peak Report

Eurofins Denver

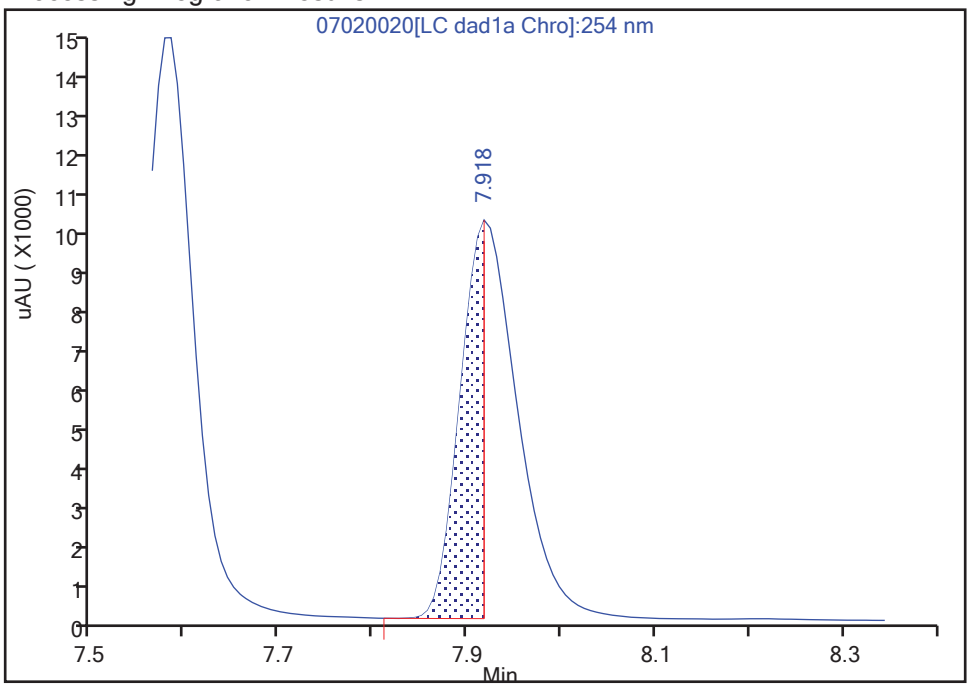
Data File:	\\chromfs\denver\chromdata\chhplc_x\20220702-112300.b\07020020.d				
Injection Date:	02-Jul-2022 16:33:01	Instrument ID:	CHHPLC_X3		
Lims ID:	ICV INT				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

9 2,4,6-Trinitrophenol, CAS: 88-89-1

Signal: 1

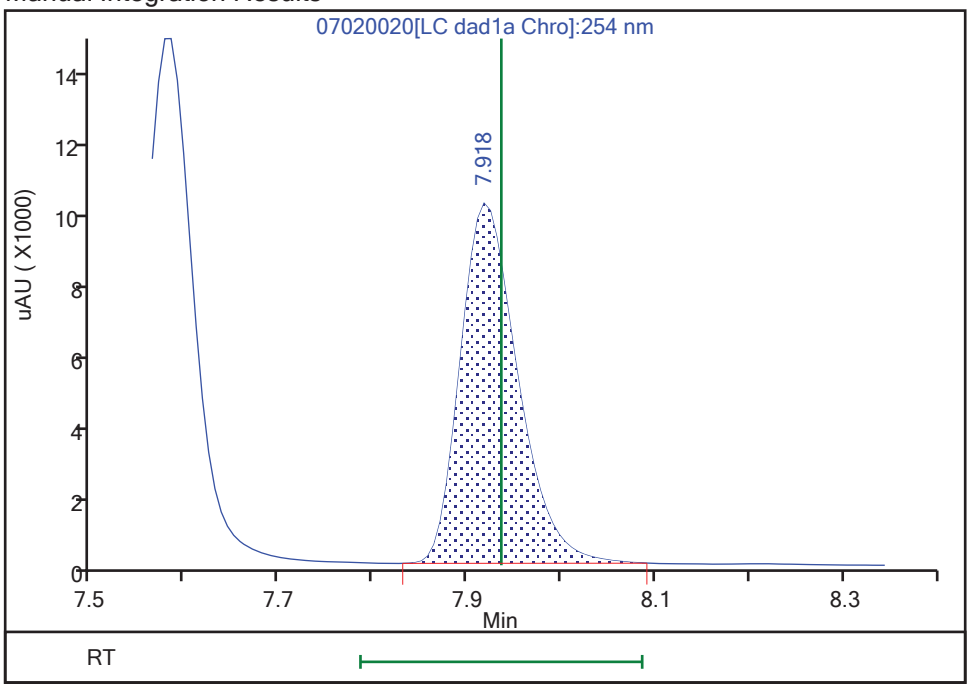
Processing Integration Results

RT: 7.92
Area: 17086
Amount: 0.220546
Amount Units: ug/mL



Manual Integration Results

RT: 7.92
Area: 41778
Amount: 0.539270
Amount Units: ug/mL



Reviewer: LV5D, 06-Jul-2022 12:21:50
Audit Action: Manually Integrated Audit Reason: Incomplete Integration

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/7 | Calibration Date: 11/09/2022 14:53

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090007.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	90288		254	250	1.5	20.0
RDX	Ave	107626	102844		239	250	-4.4	20.0
Picric acid	Ave	77471	77304		249	250	-0.2	20.0
1,3,5-Trinitrobenzene	Ave	213642	218936		256	250	2.5	20.0
1,3-Dinitrobenzene	Ave	290541	293176		252	250	0.9	20.0
Nitrobenzene	Ave	193031	190876		247	250	-1.1	20.0
Tetryl	Ave	165412	146568		222	250	-11.4	20.0
Nitroglycerin	Ave	61733	63555		2570	2500	3.0	20.0
2,4,6-Trinitrotoluene	Ave	210916	192748		228	250	-8.6	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	150312		260	250	3.8	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	188212		241	250	-3.6	20.0
2,6-Dinitrotoluene	Ave	142188	141512		249	250	-0.5	20.0
2,4-Dinitrotoluene	Ave	290110	297328		256	250	2.5	20.0
2-Nitrotoluene	Lin2		124080		247	250	-1.0	20.0
4-Nitrotoluene	Ave	111851	107352		240	250	-4.0	20.0
3-Nitrotoluene	Ave	137965	134664		244	250	-2.4	20.0
PETN	Lin1		73087		2520	2500	0.8	20.0
1,2-Dinitrobenzene	Ave	125844	120368		239	250	-4.4	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/7 Calibration Date: 11/09/2022 14:53

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.27	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.32	12.62
4-Nitrotoluene	12.89	12.74	13.04
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.49	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

Report Date: 10-Nov-2022 12:05:16 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090007.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 09-Nov-2022 14:53:53 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:15 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 15:43:33

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.569	6.569	0.000	22572	0.2500	0.2537	M
8 RDX	1	7.556	7.556	0.000	25711	0.2500	0.2389	
9 2,4,6-Trinitrophenol	1	7.883	7.883	0.000	19326	0.2500	0.2495	
$ 10 1,2-Dinitrobenzene	1	8.509	8.509	0.000	30092	0.2500	0.2391	
11 1,3,5-Trinitrobenzene	1	8.629	8.629	0.000	54734	0.2500	0.2562	
12 1,3-Dinitrobenzene	1	9.249	9.249	0.000	73294	0.2500	0.2523	
13 Nitrobenzene	1	9.636	9.636	0.000	47719	0.2500	0.2472	
15 Tetryl	1	9.943	9.943	0.000	36642	0.2500	0.2215	
16 Nitroglycerin	2	10.396	10.396	0.000	158888	2.50	2.57	
17 2,4,6-Trinitrotoluene	1	10.849	10.849	0.000	48187	0.2500	0.2285	
18 4-Amino-2,6-dinitrotoluene	1	11.023	11.023	0.000	37578	0.2500	0.2595	
19 2-Amino-4,6-dinitrotoluene	1	11.269	11.269	0.000	47053	0.2500	0.2410	
20 2,6-Dinitrotoluene	1	11.449	11.449	0.000	35378	0.2500	0.2488	
21 2,4-Dinitrotoluene	1	11.616	11.616	0.000	74332	0.2500	0.2562	
22 o-Nitrotoluene	1	12.469	12.469	0.000	31020	0.2500	0.2475	
23 p-Nitrotoluene	1	12.889	12.889	0.000	26838	0.2500	0.2399	
24 m-Nitrotoluene	1	13.456	13.456	0.000	33666	0.2500	0.2440	
25 PETN	2	14.489	14.489	0.000	182717	2.50	2.52	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 10-Nov-2022 12:05:16 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090007.d

Injection Date: 09-Nov-2022 14:53:53 Instrument ID: CHHPLC_X3 Operator ID:

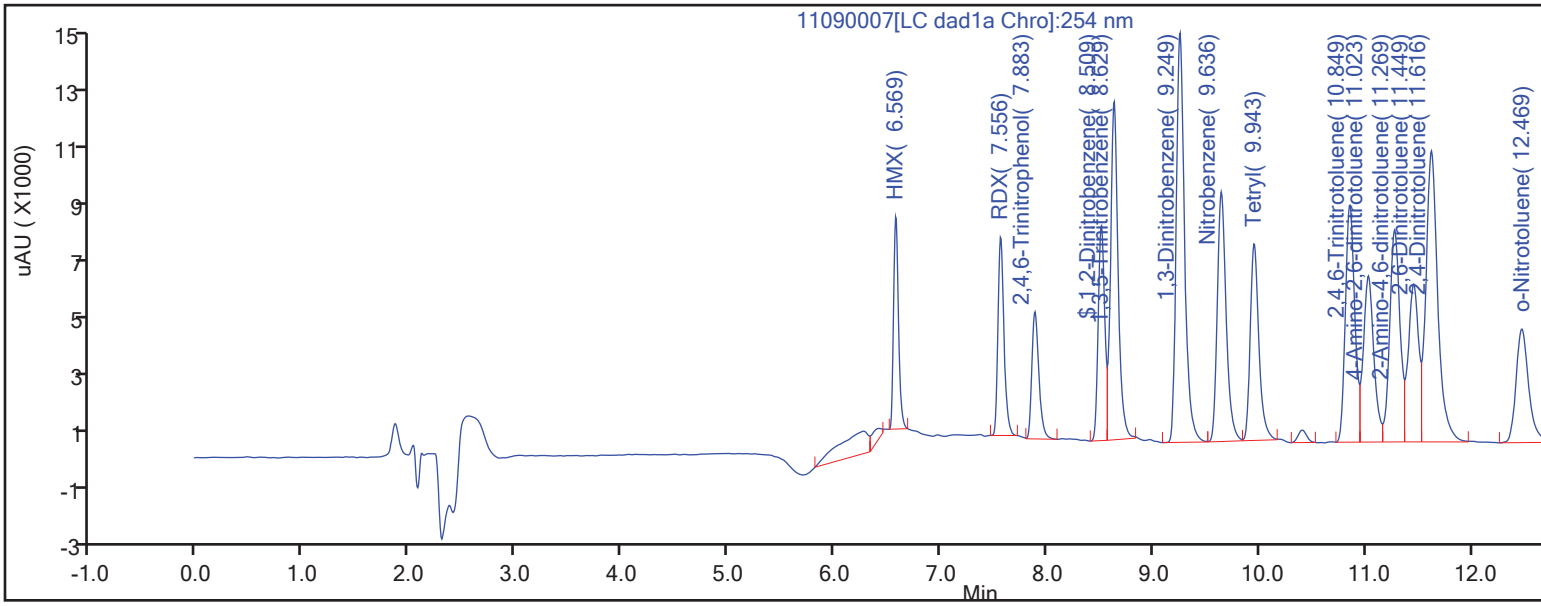
Lims ID: CCV INT Worklist Smp#:

Client ID:

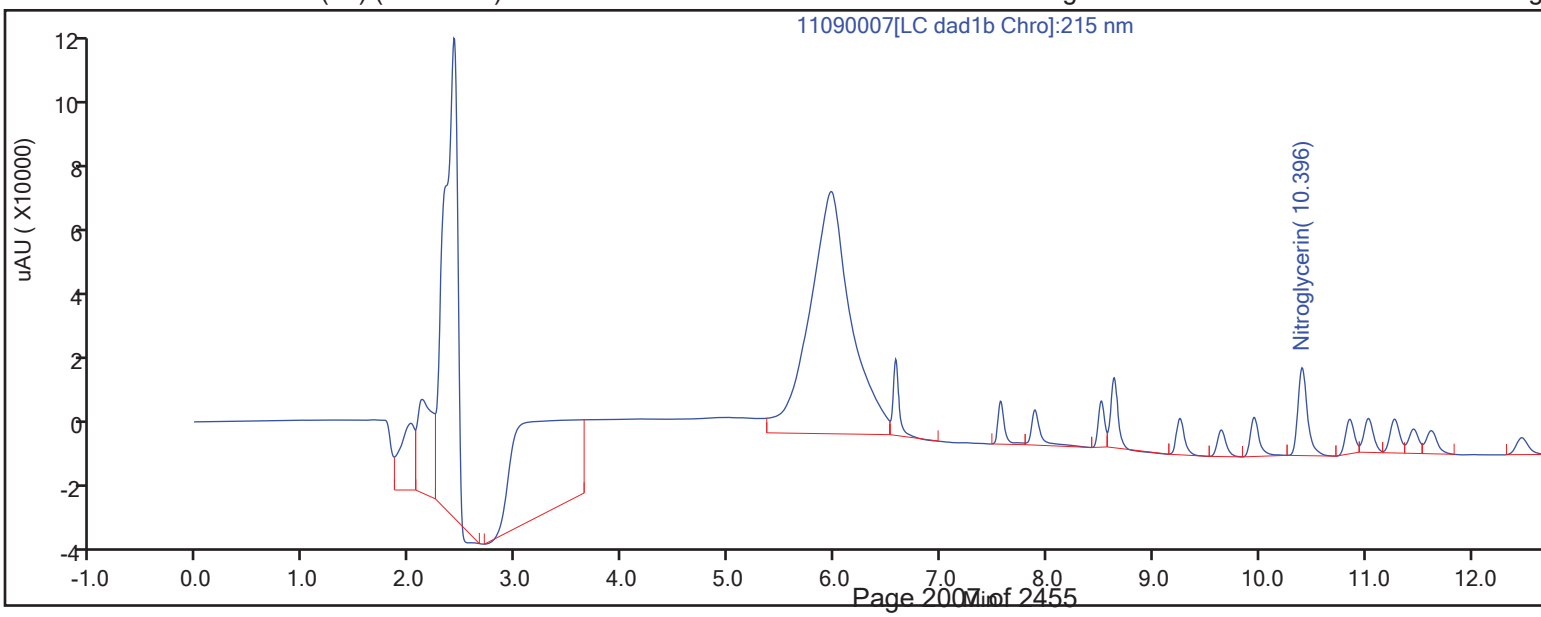
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

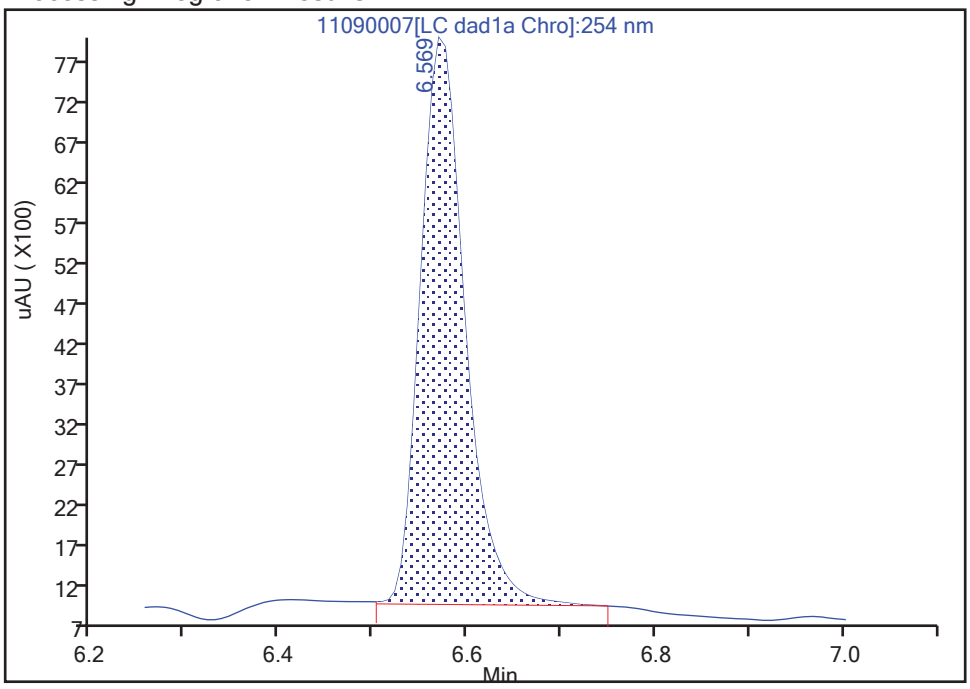
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090007.d				
Injection Date:	09-Nov-2022 14:53:53	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV INT				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

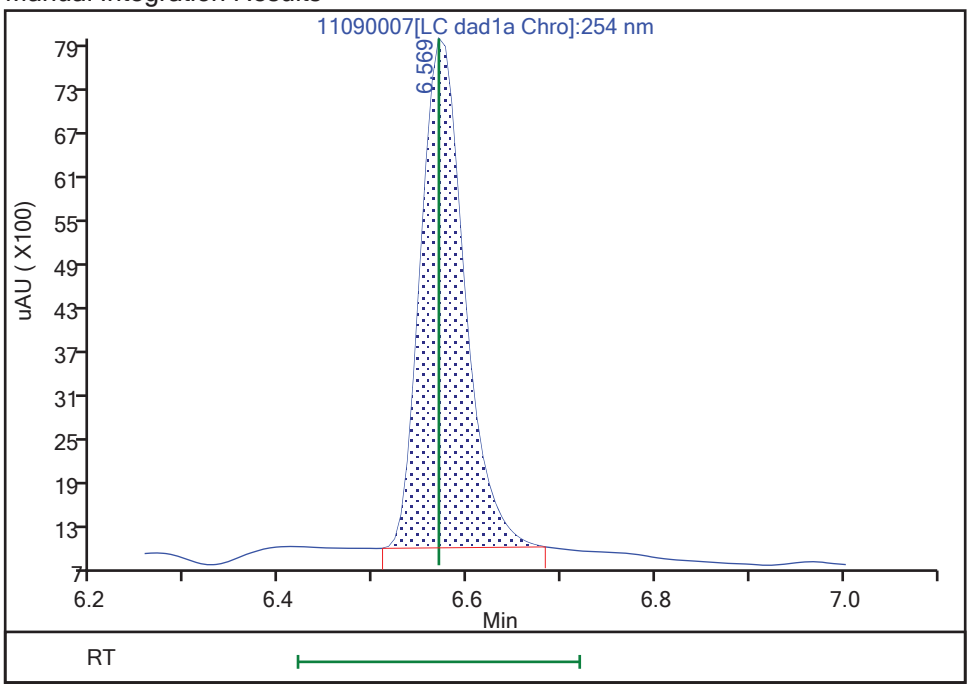
Processing Integration Results

RT: 6.57
Area: 23161
Amount: 0.260359
Amount Units: ug/mL



Manual Integration Results

RT: 6.57
Area: 22572
Amount: 0.253738
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 15:23:02
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/8 | Calibration Date: 11/09/2022 15:16

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090008.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	214160		0.249	0.250	-0.3	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131248		0.245	0.250	-2.0	20.0
3,5-Dinitroaniline	Lin2		229676		251	250	0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/8 Calibration Date: 11/09/2022 15:16

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090008.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.46	6.31	6.61
2,4-diamino-6-nitrotoluene	6.64	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090008.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 09-Nov-2022 15:16:47 ALS Bottle#: 8 Worklist Smp#: 8
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 16:09:27

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.456	6.456	0.000	53540	0.2500	0.2493	M
5 2,4-diamino-6-nitrotoluene	1	6.636	6.636	0.000	32812	0.2500	0.2450	M
14 3,5-Dinitroaniline	1	9.829	9.829	0.000	57419	0.2500	0.2514	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 10-Nov-2022 12:05:17 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090008.d

Injection Date: 09-Nov-2022 15:16:47 Instrument ID: CHHPLC_X3 Operator ID:

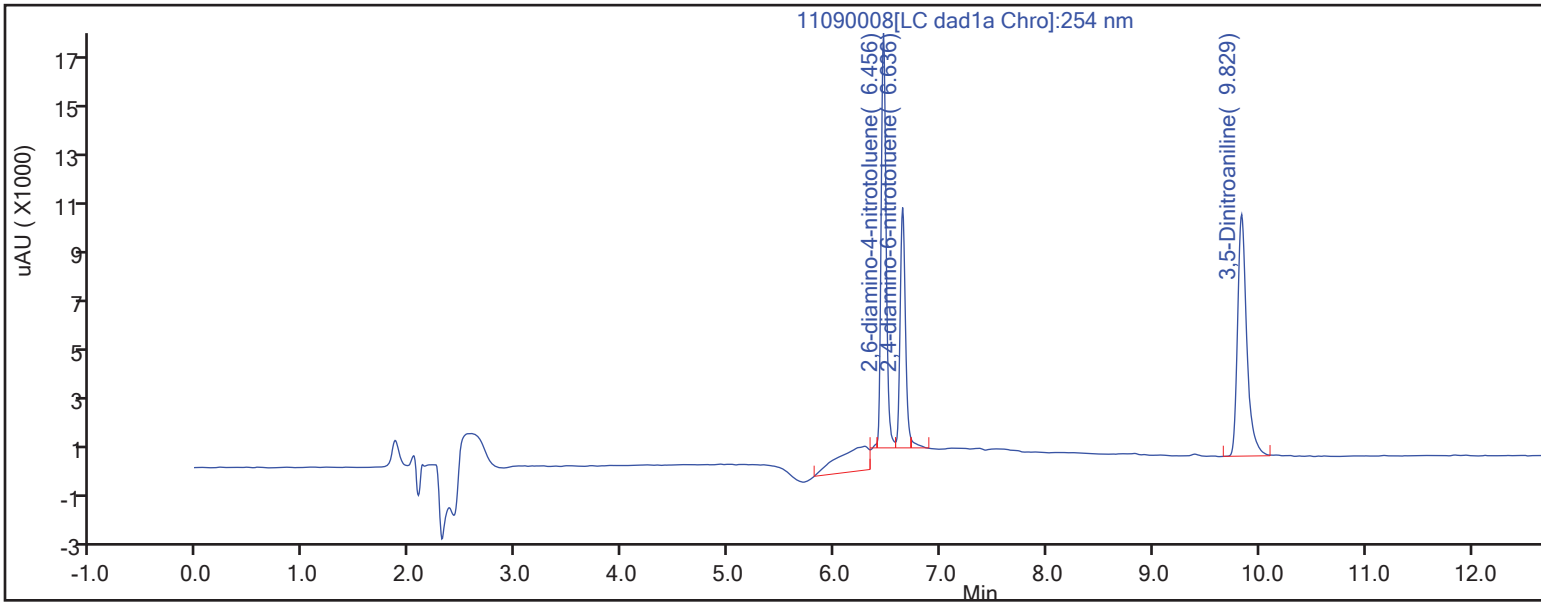
Lims ID: CCV ADD Worklist Smp#:

Client ID:

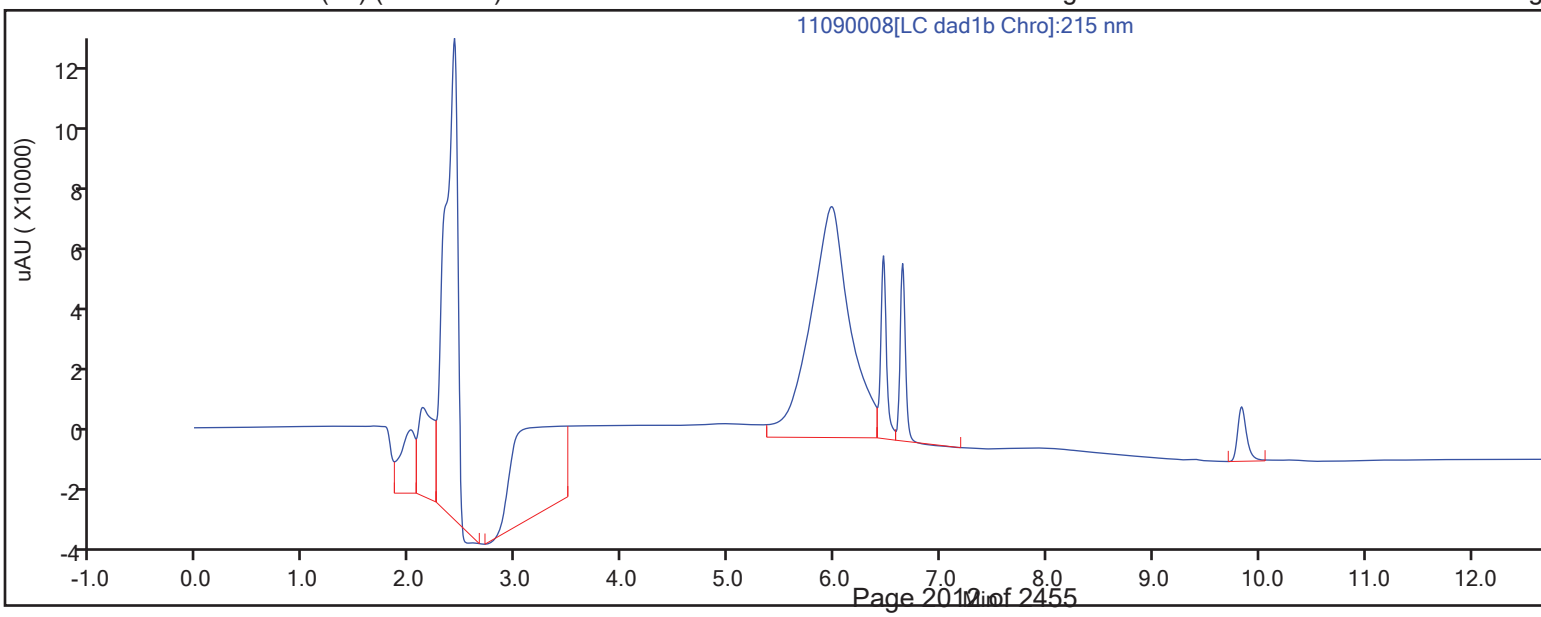
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

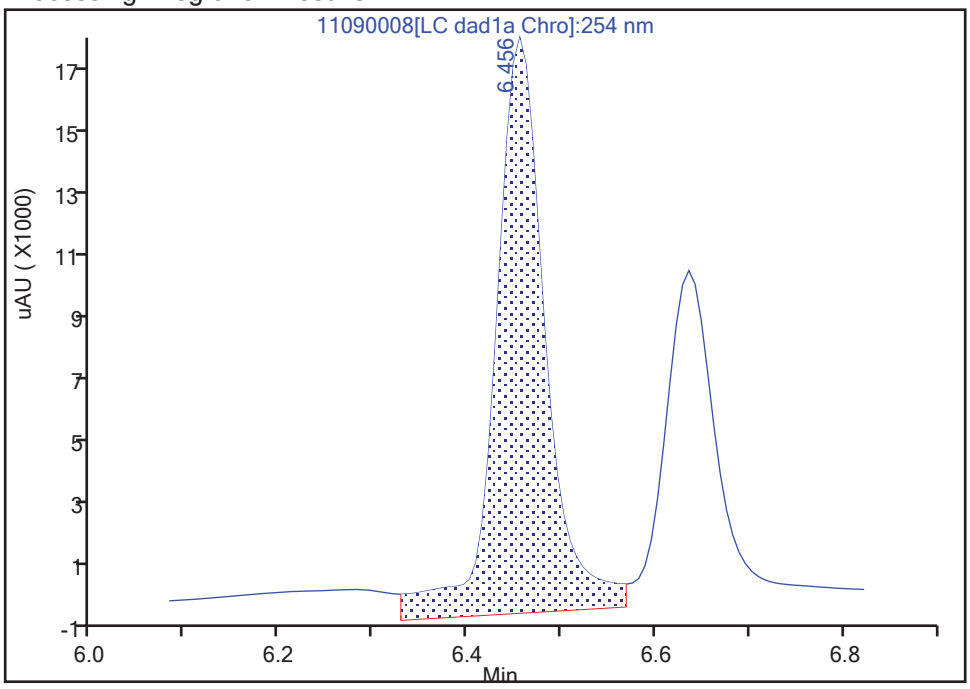
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090008.d				
Injection Date:	09-Nov-2022 15:16:47	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

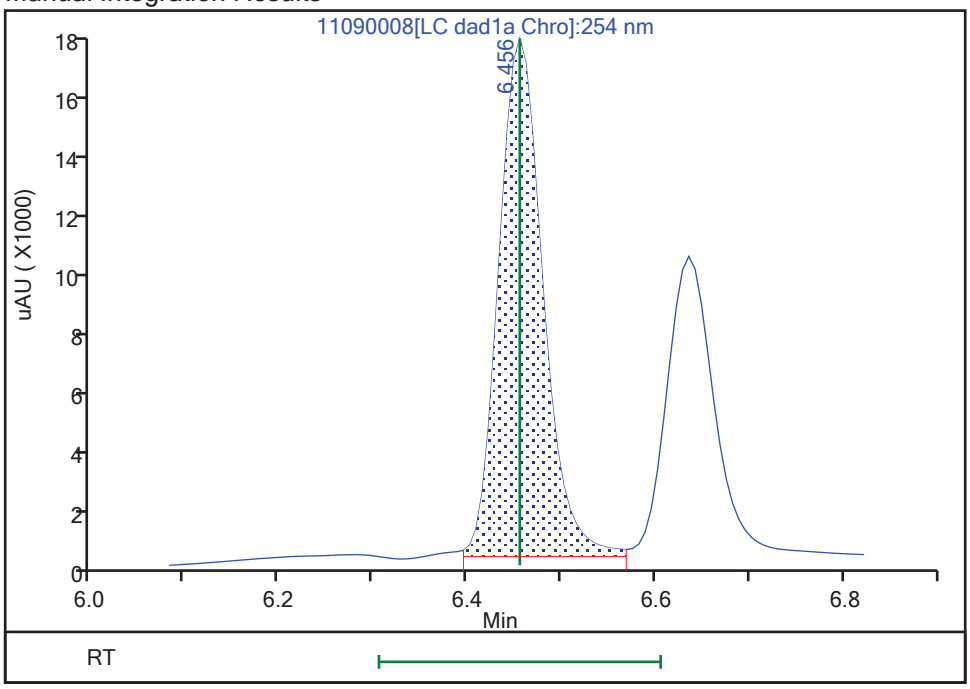
Processing Integration Results

RT: 6.46
Area: 63135
Amount: 0.293928
Amount Units: ug/mL



Manual Integration Results

RT: 6.46
Area: 53540
Amount: 0.249258
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 15:43:46
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

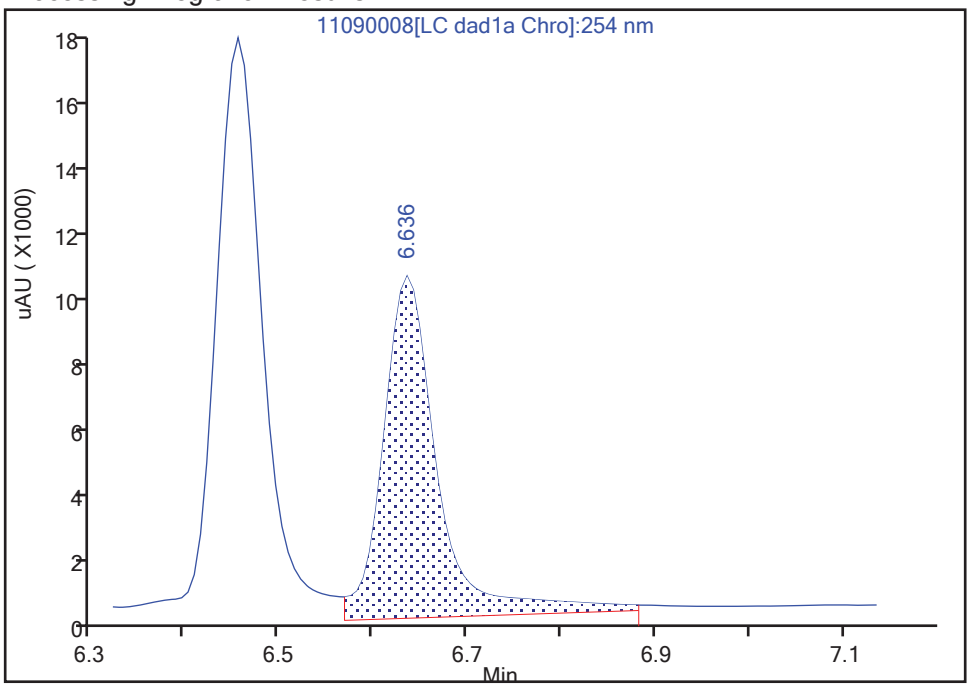
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090008.d				
Injection Date:	09-Nov-2022 15:16:47	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	8
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

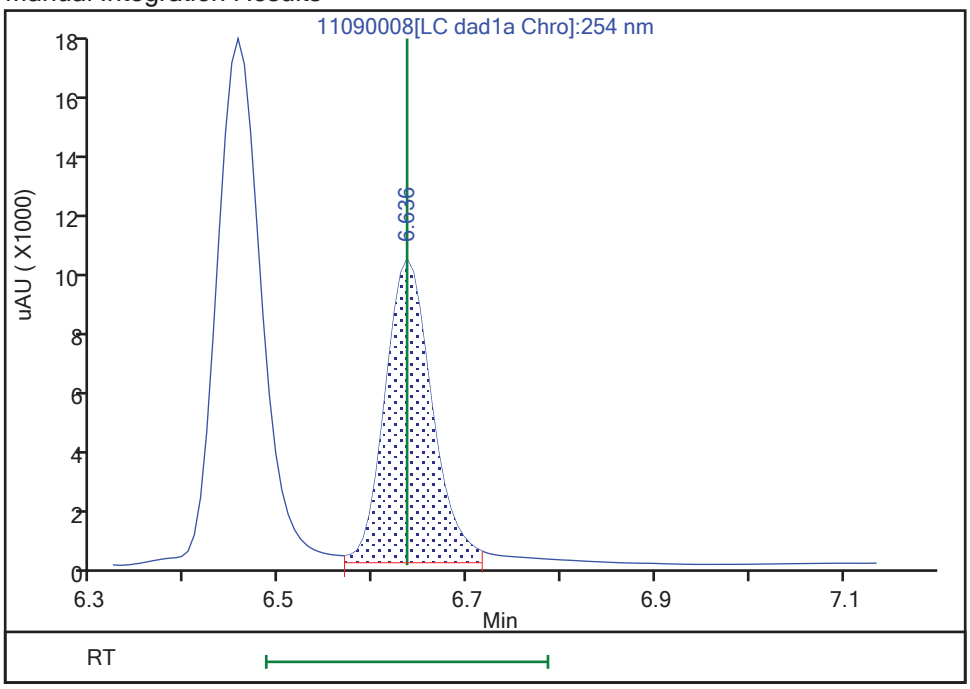
Processing Integration Results

RT: 6.64
Area: 39771
Amount: 0.296991
Amount Units: ug/mL



Manual Integration Results

RT: 6.64
Area: 32812
Amount: 0.245024
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 15:43:47
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/21 | Calibration Date: 11/09/2022 19:29

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090021.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	90604		255	250	1.9	20.0
RDX	Ave	107626	104256		242	250	-3.1	20.0
Picric acid	Ave	77471	77328		250	250	-0.2	20.0
1,3,5-Trinitrobenzene	Ave	213642	218700		256	250	2.4	20.0
1,3-Dinitrobenzene	Ave	290541	292704		252	250	0.7	20.0
Nitrobenzene	Ave	193031	188872		245	250	-2.2	20.0
Tetryl	Ave	165412	146808		222	250	-11.2	20.0
Nitroglycerin	Ave	61733	63720		2580	2500	3.2	20.0
2,4,6-Trinitrotoluene	Ave	210916	192244		228	250	-8.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	151012		261	250	4.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	190428		244	250	-2.5	20.0
2,6-Dinitrotoluene	Ave	142188	138596		244	250	-2.5	20.0
2,4-Dinitrotoluene	Ave	290110	297992		257	250	2.7	20.0
2-Nitrotoluene	Lin2		121668		243	250	-2.9	20.0
4-Nitrotoluene	Ave	111851	105268		235	250	-5.9	20.0
3-Nitrotoluene	Ave	137965	132396		240	250	-4.0	20.0
PETN	Lin1		73014		2520	2500	0.7	20.0
1,2-Dinitrobenzene	Ave	125844	119268		237	250	-5.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/21 Calibration Date: 11/09/2022 19:29

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090021.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.28	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.32	12.62
4-Nitrotoluene	12.89	12.74	13.04
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.49	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090021.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 09-Nov-2022 19:29:02 ALS Bottle#: 7 Worklist Smp#: 21
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:26 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 20:28:23

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.576	6.569	0.007	22651	0.2500	0.2546	M
8 RDX	1	7.556	7.556	0.000	26064	0.2500	0.2422	
9 2,4,6-Trinitrophenol	1	7.889	7.883	0.006	19332	0.2500	0.2495	
$ 10 1,2-Dinitrobenzene	1	8.509	8.509	0.000	29817	0.2500	0.2369	
11 1,3,5-Trinitrobenzene	1	8.629	8.629	0.000	54675	0.2500	0.2559	
12 1,3-Dinitrobenzene	1	9.249	9.249	0.000	73176	0.2500	0.2519	
13 Nitrobenzene	1	9.635	9.636	-0.001	47218	0.2500	0.2446	
15 Tetryl	1	9.949	9.943	0.006	36702	0.2500	0.2219	
16 Nitroglycerin	2	10.395	10.396	-0.001	159301	2.50	2.58	
17 2,4,6-Trinitrotoluene	1	10.849	10.849	0.000	48061	0.2500	0.2279	
18 4-Amino-2,6-dinitrotoluene	1	11.022	11.023	-0.001	37753	0.2500	0.2607	
19 2-Amino-4,6-dinitrotoluene	1	11.275	11.269	0.006	47607	0.2500	0.2438	
20 2,6-Dinitrotoluene	1	11.449	11.449	0.000	34649	0.2500	0.2437	
21 2,4-Dinitrotoluene	1	11.615	11.616	-0.001	74498	0.2500	0.2568	
22 o-Nitrotoluene	1	12.469	12.469	0.000	30417	0.2500	0.2426	
23 p-Nitrotoluene	1	12.889	12.889	0.000	26317	0.2500	0.2353	
24 m-Nitrotoluene	1	13.455	13.456	-0.001	33099	0.2500	0.2399	
25 PETN	2	14.489	14.489	0.000	182535	2.50	2.52	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 10-Nov-2022 12:05:26 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090021.d

Injection Date: 09-Nov-2022 19:29:02 Instrument ID: CHHPLC_X3 Operator ID:

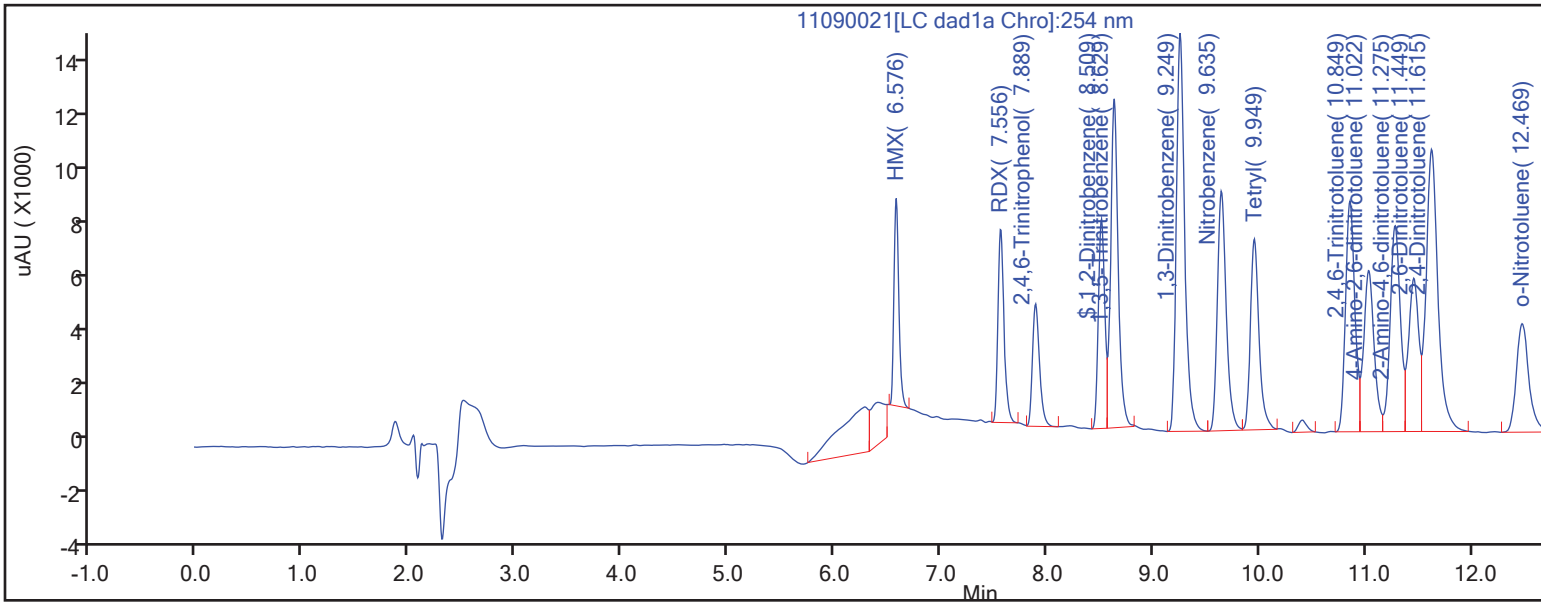
Lims ID: CCV INT Worklist Smp#:

Client ID:

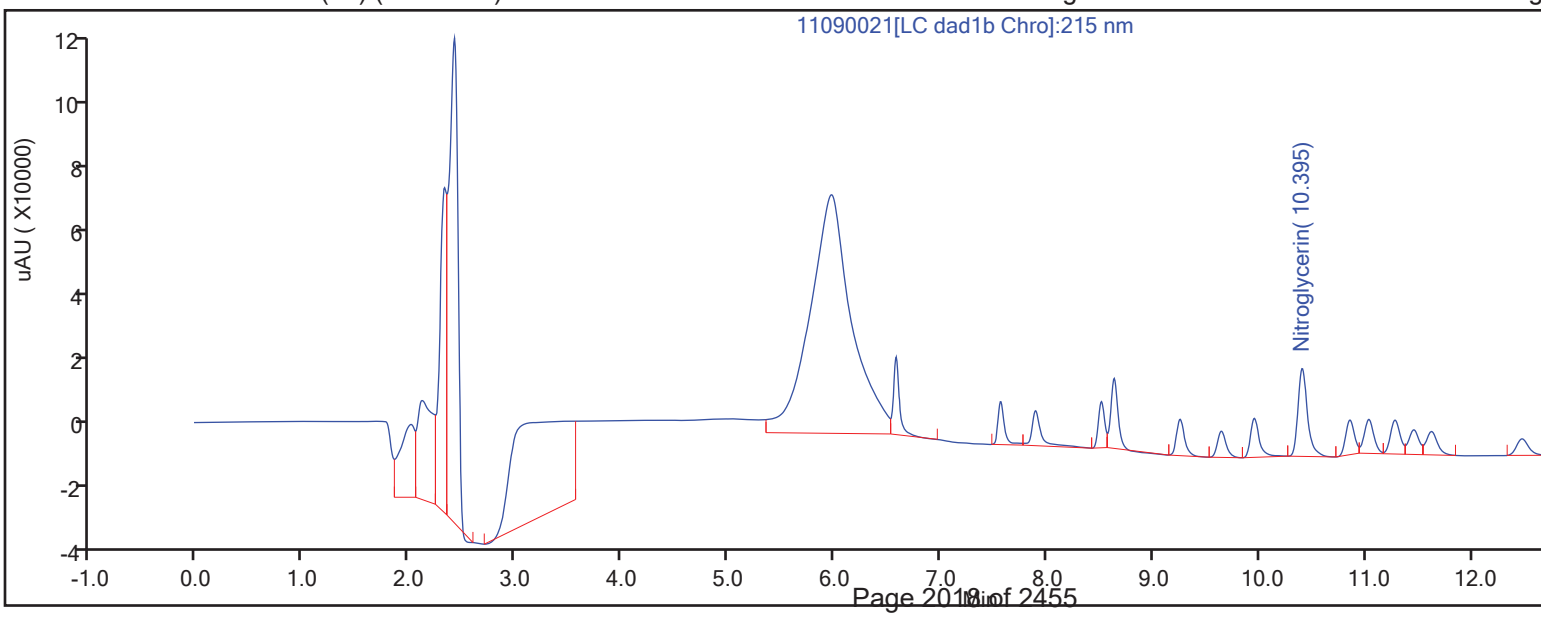
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

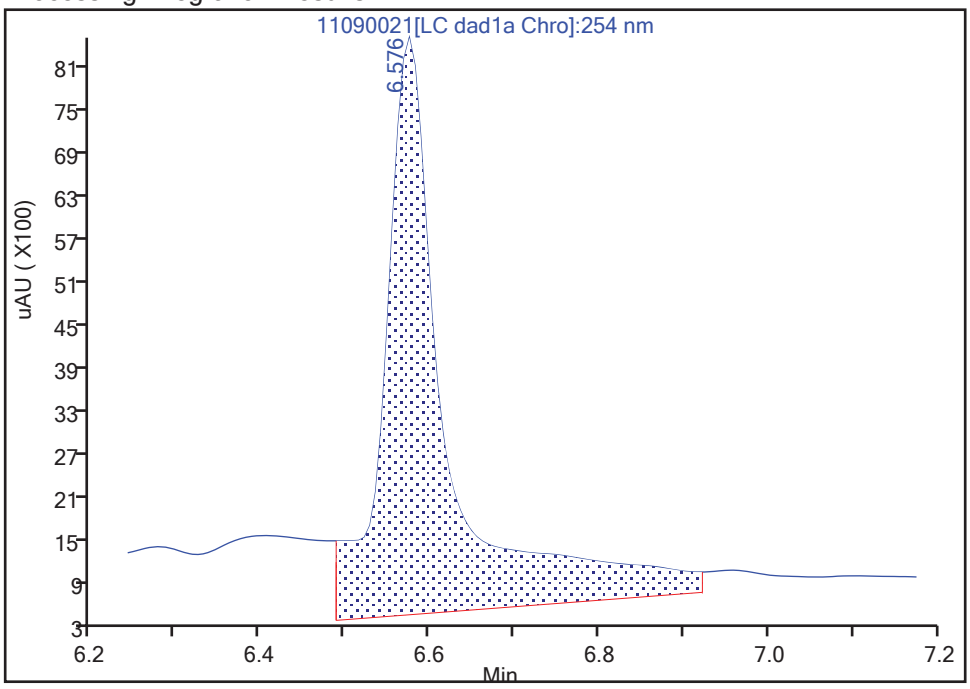
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090021.d				
Injection Date:	09-Nov-2022 19:29:02	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV INT				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

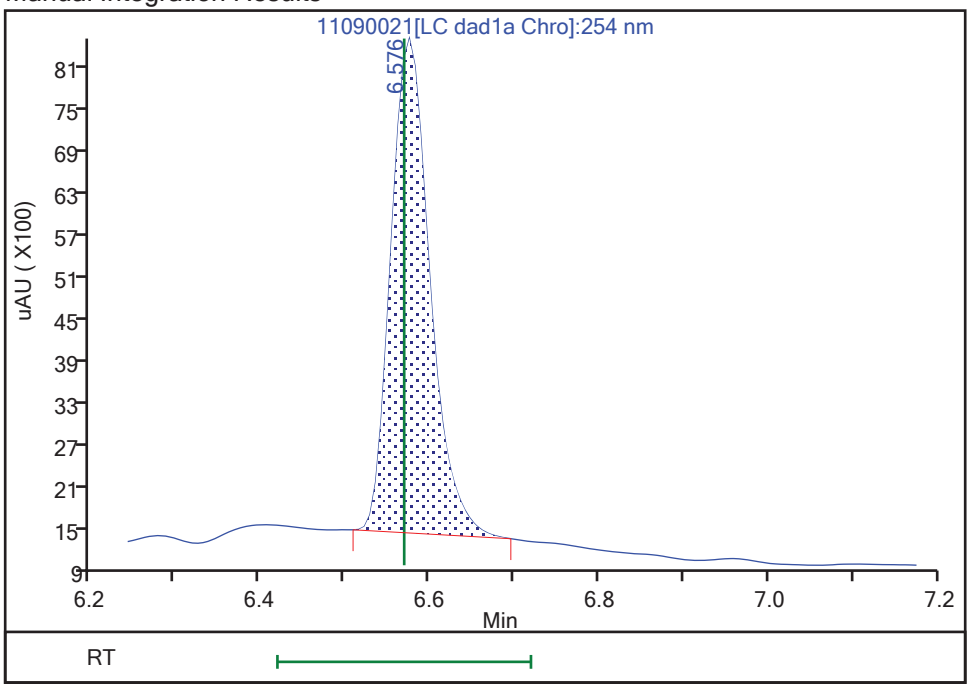
Processing Integration Results

RT: 6.58
Area: 41735
Amount: 0.469154
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 22651
Amount: 0.254626
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 19:53:06
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/22 | Calibration Date: 11/09/2022 19:52

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090022.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	220904		0.257	0.250	2.8	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	137004		0.256	0.250	2.3	20.0
3,5-Dinitroaniline	Lin2		229124		251	250	0.3	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/22 Calibration Date: 11/09/2022 19:52

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090022.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.31	6.61
2,4-diamino-6-nitrotoluene	6.63	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090022.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 09-Nov-2022 19:52:01 ALS Bottle#: 8 Worklist Smp#: 22
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:27 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 20:28:41

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.451	6.456	-0.005	55226	0.2500	0.2571	M
5 2,4-diamino-6-nitrotoluene	1	6.631	6.636	-0.005	34251	0.2500	0.2558	M
14 3,5-Dinitroaniline	1	9.831	9.829	0.002	57281	0.2500	0.2508	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 10-Nov-2022 12:05:27 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090022.d

Injection Date: 09-Nov-2022 19:52:01 Instrument ID: CHHPLC_X3 Operator ID:

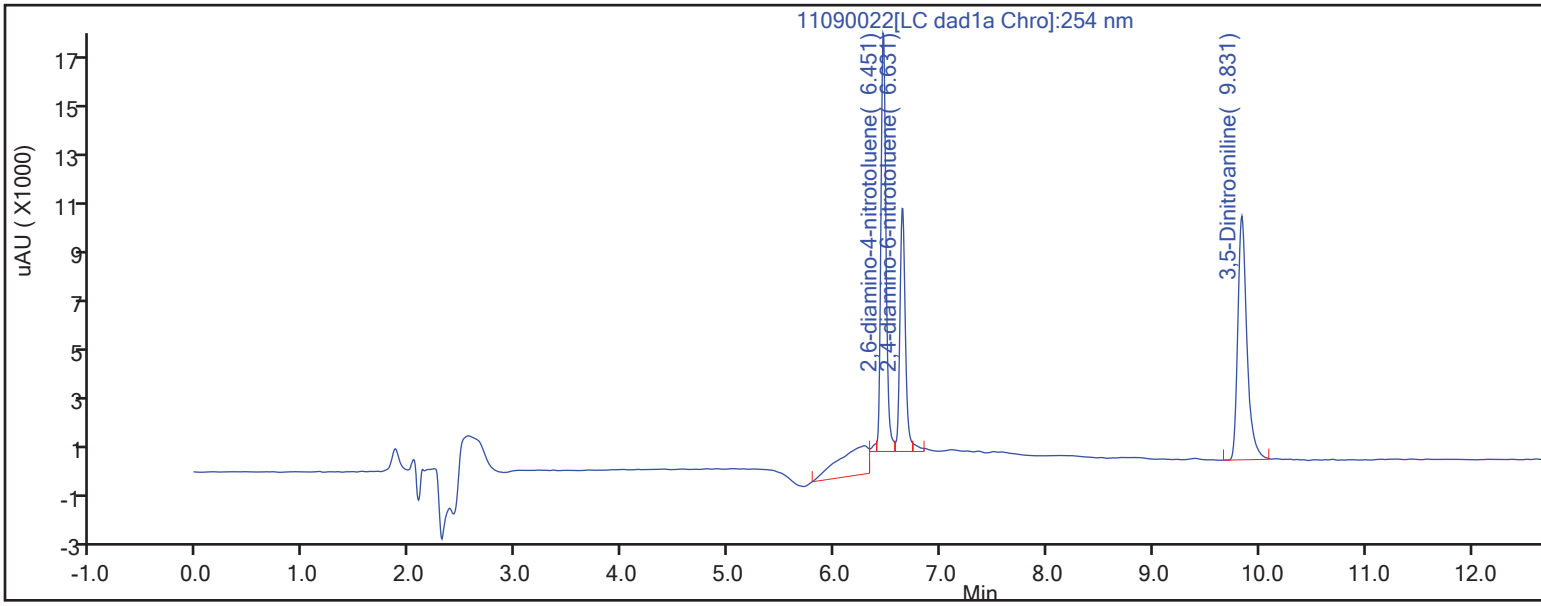
Lims ID: CCV ADD Worklist Smp#:

Client ID:

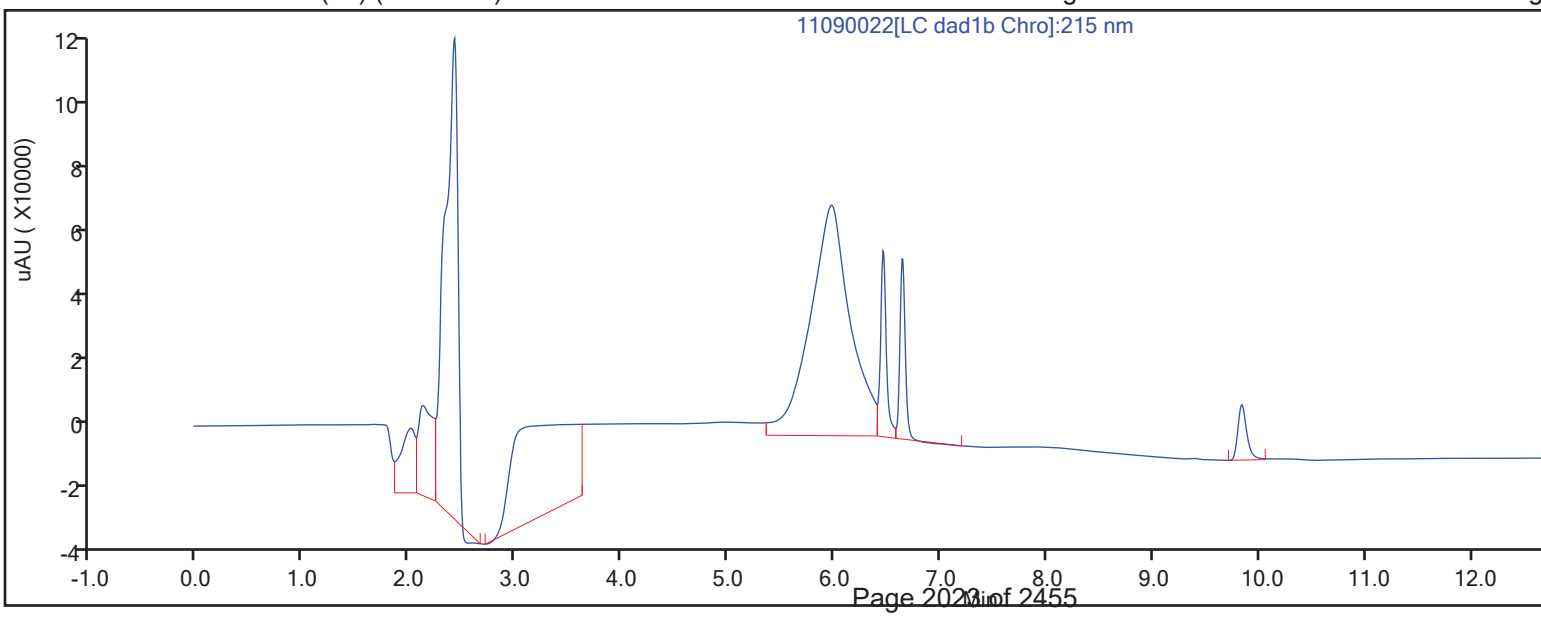
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver

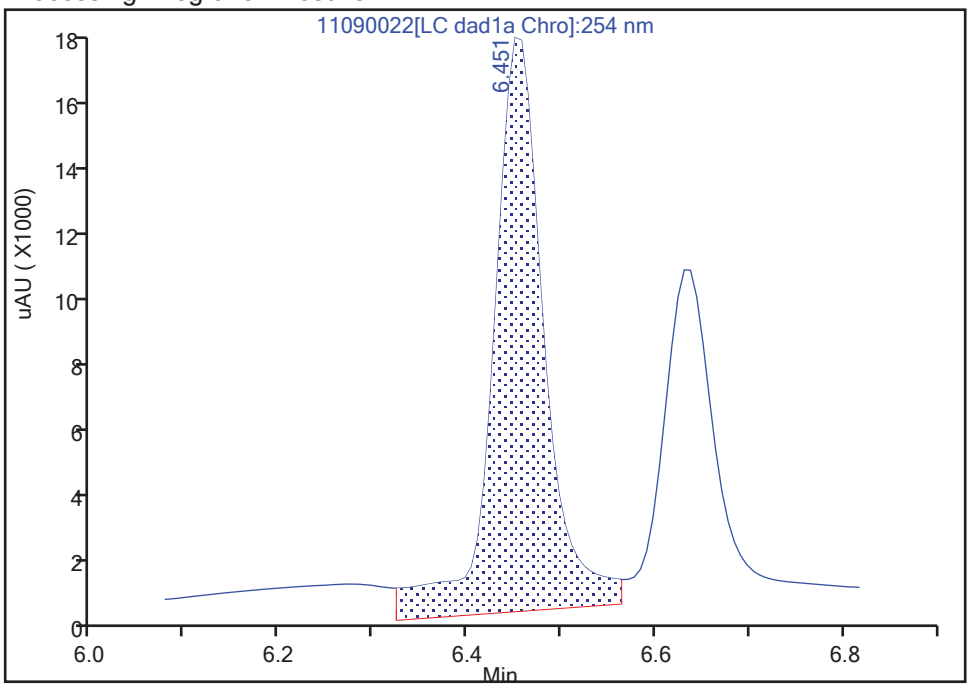
Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090022.d
Injection Date: 09-Nov-2022 19:52:01 Instrument ID: CHHPLC_X3
Lims ID: CCV ADD
Client ID:
Operator ID: JZ ALS Bottle#: 8 Worklist Smp#: 22
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

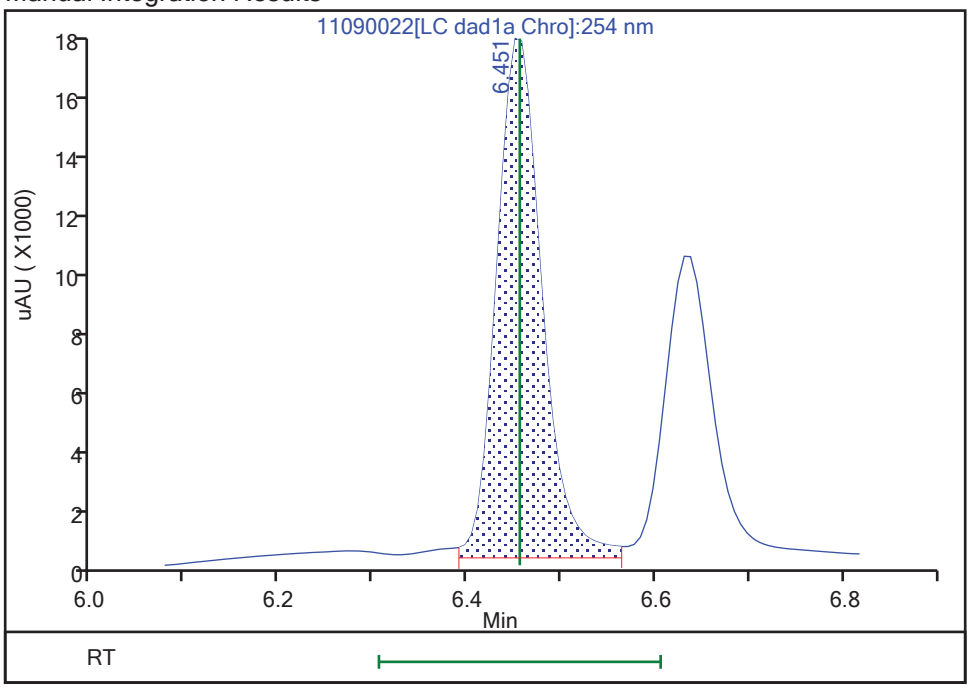
Processing Integration Results

RT: 6.45
Area: 64878
Amount: 0.302043
Amount Units: ug/mL



Manual Integration Results

RT: 6.45
Area: 55226
Amount: 0.257108
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 20:28:38
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

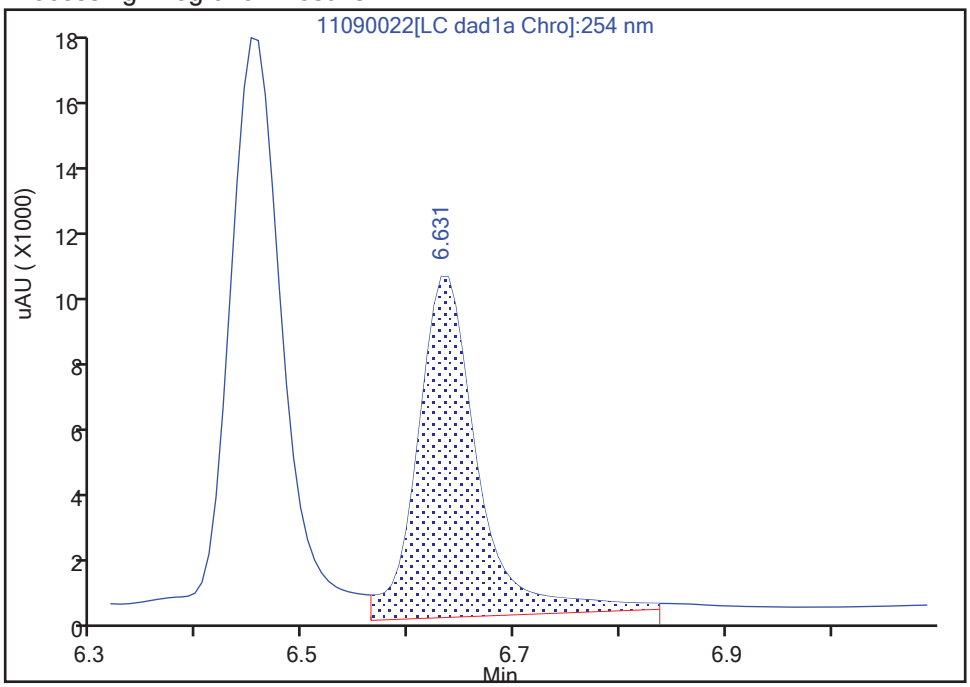
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090022.d				
Injection Date:	09-Nov-2022 19:52:01	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	22
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

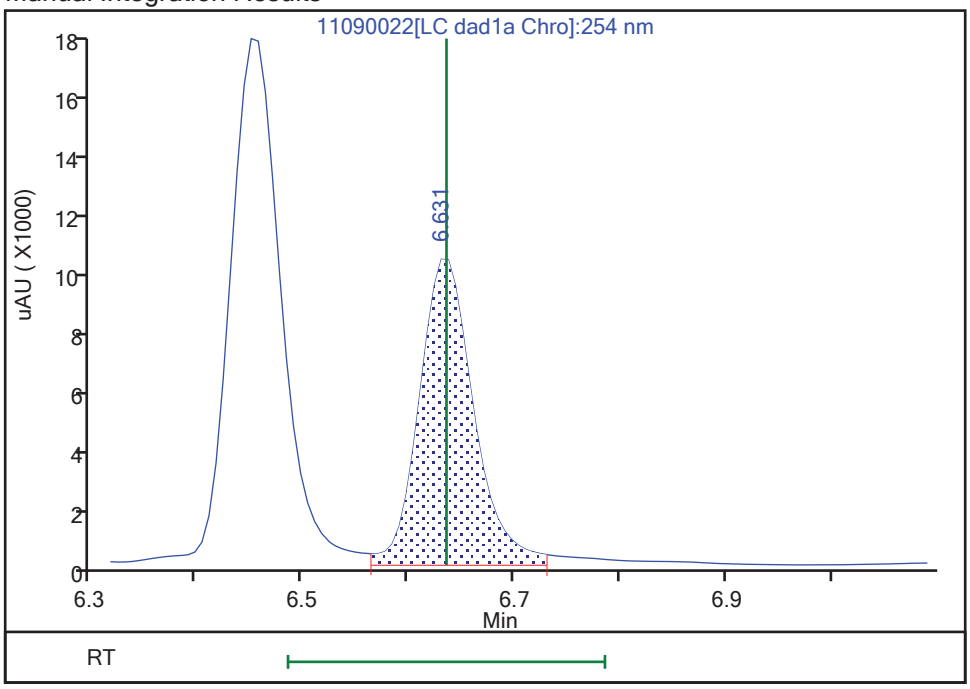
Processing Integration Results

RT: 6.63
Area: 38943
Amount: 0.290808
Amount Units: ug/mL



Manual Integration Results

RT: 6.63
Area: 34251
Amount: 0.255770
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 20:28:39
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/33 | Calibration Date: 11/10/2022 00:04

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090033.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	92136		259	250	3.6	20.0
RDX	Ave	107626	107348		249	250	-0.3	20.0
Picric acid	Ave	77471	76452		247	250	-1.3	20.0
1,3,5-Trinitrobenzene	Ave	213642	218340		255	250	2.2	20.0
1,3-Dinitrobenzene	Ave	290541	294084		253	250	1.2	20.0
Nitrobenzene	Ave	193031	187216		242	250	-3.0	20.0
Tetryl	Ave	165412	146196		221	250	-11.6	20.0
Nitroglycerin	Ave	61733	63772		2580	2500	3.3	20.0
2,4,6-Trinitrotoluene	Ave	210916	193272		229	250	-8.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	152236		263	250	5.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	189676		243	250	-2.9	20.0
2,6-Dinitrotoluene	Ave	142188	139300		245	250	-2.0	20.0
2,4-Dinitrotoluene	Ave	290110	299420		258	250	3.2	20.0
2-Nitrotoluene	Lin2		120052		239	250	-4.2	20.0
4-Nitrotoluene	Ave	111851	105020		235	250	-6.1	20.0
3-Nitrotoluene	Ave	137965	131332		238	250	-4.8	20.0
PETN	Lin1		72578		2500	2500	0.0	20.0
1,2-Dinitrobenzene	Ave	125844	120600		240	250	-4.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/33 Calibration Date: 11/10/2022 00:04

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090033.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.03	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.28	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.32	12.62
4-Nitrotoluene	12.89	12.74	13.04
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.50	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090033.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 10-Nov-2022 00:04:09 ALS Bottle#: 7 Worklist Smp#: 33
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:36 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 10-Nov-2022 12:00:06

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.577	6.569	0.008	23034	0.2500	0.2589	
8 RDX	1	7.557	7.556	0.001	26837	0.2500	0.2494	
9 2,4,6-Trinitrophenol	1	7.891	7.883	0.008	19113	0.2500	0.2467	
$ 10 1,2-Dinitrobenzene	1	8.511	8.509	0.002	30150	0.2500	0.2396	
11 1,3,5-Trinitrobenzene	1	8.631	8.629	0.002	54585	0.2500	0.2555	
12 1,3-Dinitrobenzene	1	9.250	9.249	0.001	73521	0.2500	0.2530	
13 Nitrobenzene	1	9.637	9.636	0.001	46804	0.2500	0.2425	
15 Tetryl	1	9.950	9.943	0.007	36549	0.2500	0.2210	
16 Nitroglycerin	2	10.397	10.396	0.001	159429	2.50	2.58	
17 2,4,6-Trinitrotoluene	1	10.850	10.849	0.001	48318	0.2500	0.2291	
18 4-Amino-2,6-dinitrotoluene	1	11.030	11.023	0.007	38059	0.2500	0.2628	
19 2-Amino-4,6-dinitrotoluene	1	11.277	11.269	0.008	47419	0.2500	0.2429	
20 2,6-Dinitrotoluene	1	11.450	11.449	0.001	34825	0.2500	0.2449	
21 2,4-Dinitrotoluene	1	11.617	11.616	0.001	74855	0.2500	0.2580	
22 o-Nitrotoluene	1	12.470	12.469	0.001	30013	0.2500	0.2394	
23 p-Nitrotoluene	1	12.890	12.889	0.001	26255	0.2500	0.2347	
24 m-Nitrotoluene	1	13.457	13.456	0.001	32833	0.2500	0.2380	
25 PETN	2	14.497	14.489	0.008	181444	2.50	2.50	

QC Flag Legend
Processing Flags

Reagents:
8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 10-Nov-2022 12:05:36 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090033.d

Injection Date: 10-Nov-2022 00:04:09 Instrument ID: CHHPLC_X3 Operator ID:

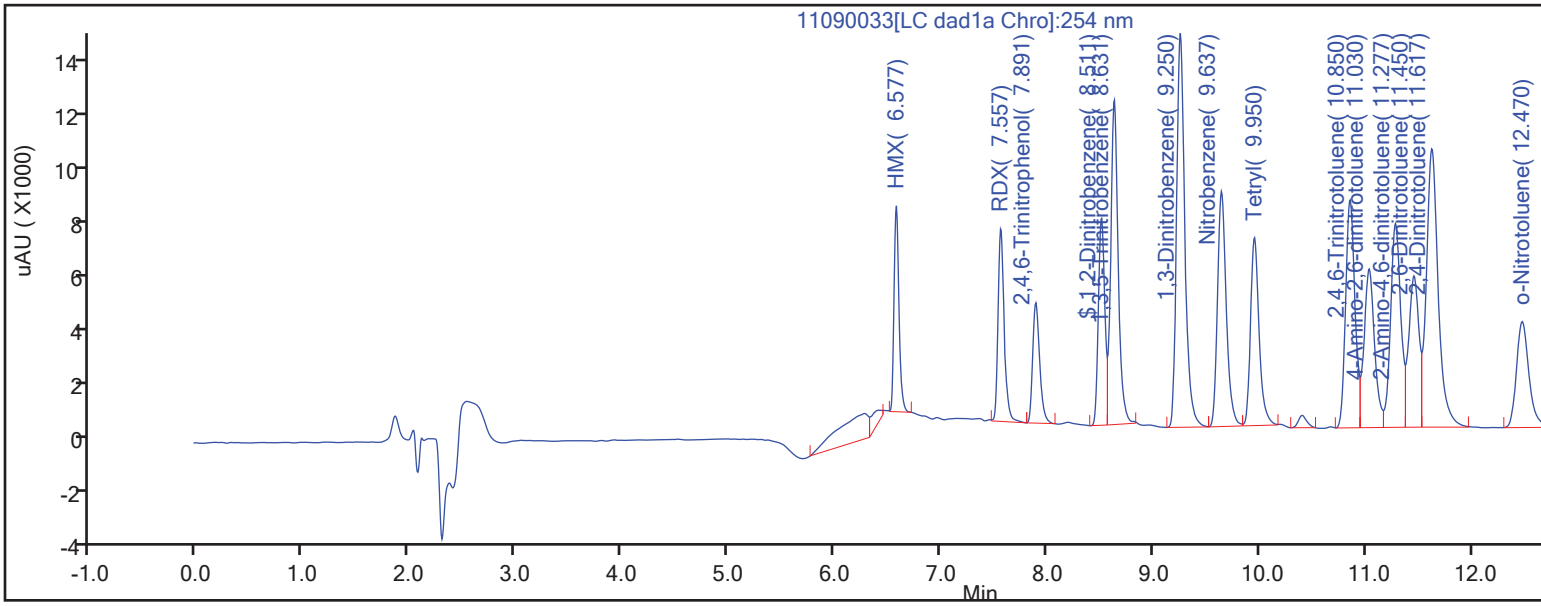
Lims ID: CCV INT Worklist Smp#:

Client ID:

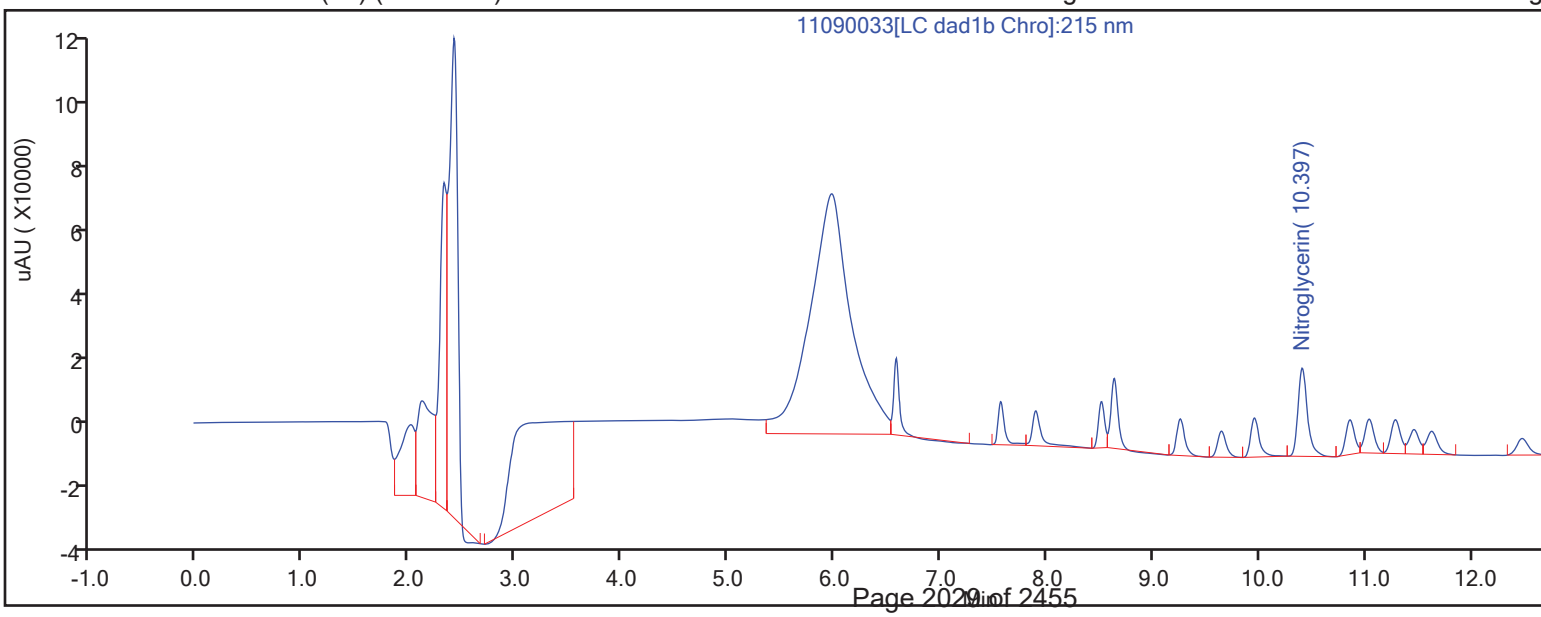
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/34 | Calibration Date: 11/10/2022 00:27

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090034.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	214676		0.250	0.250	-0.0	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131068		0.245	0.250	-2.1	20.0
3,5-Dinitroaniline	Lin2		230116		252	250	0.8	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/34 Calibration Date: 11/10/2022 00:27

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090034.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.46	6.31	6.61
2,4-diamino-6-nitrotoluene	6.64	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090034.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 10-Nov-2022 00:27:00 ALS Bottle#: 8 Worklist Smp#: 34
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:37 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 10-Nov-2022 12:00:20

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.458	6.456	0.002	53669	0.2500	0.2499	M
5 2,4-diamino-6-nitrotoluene	1	6.638	6.636	0.002	32767	0.2500	0.2447	M
14 3,5-Dinitroaniline	1	9.831	9.829	0.002	57529	0.2500	0.2519	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 10-Nov-2022 12:05:37 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090034.d

Injection Date: 10-Nov-2022 00:27:00 Instrument ID: CHHPLC_X3 Operator ID:

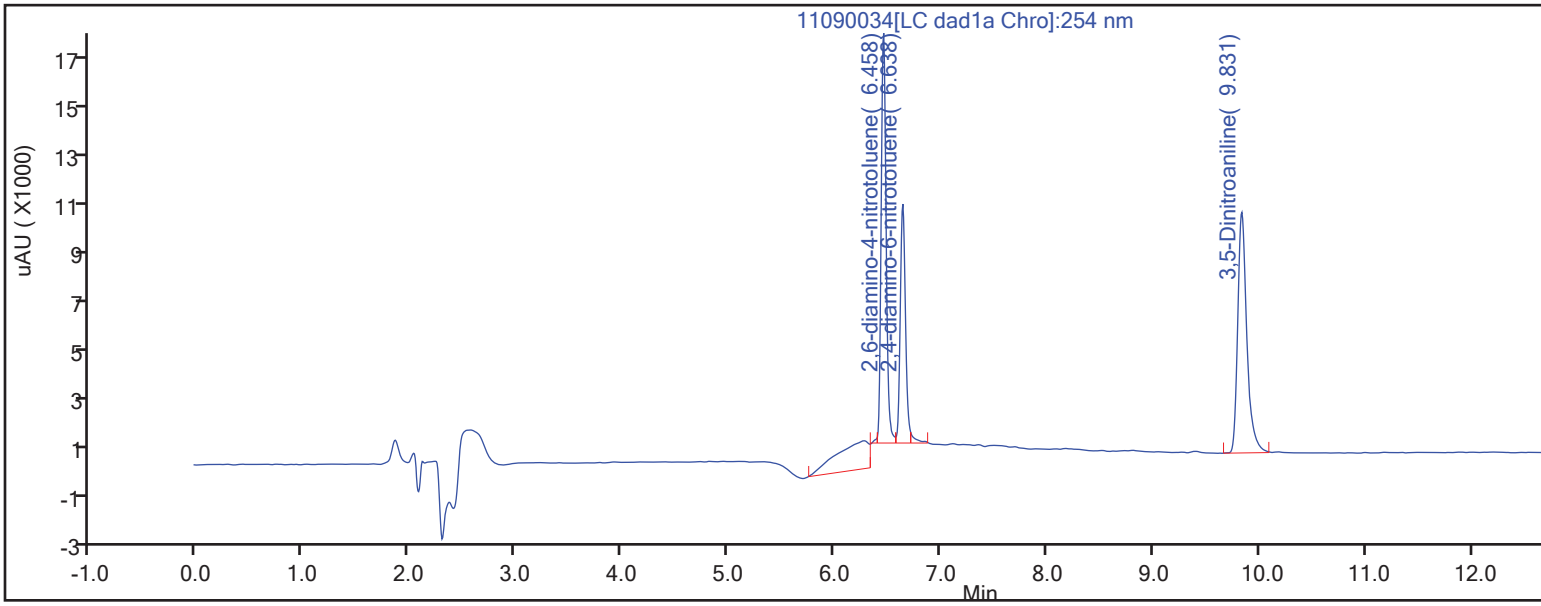
Lims ID: CCV ADD Worklist Smp#:

Client ID:

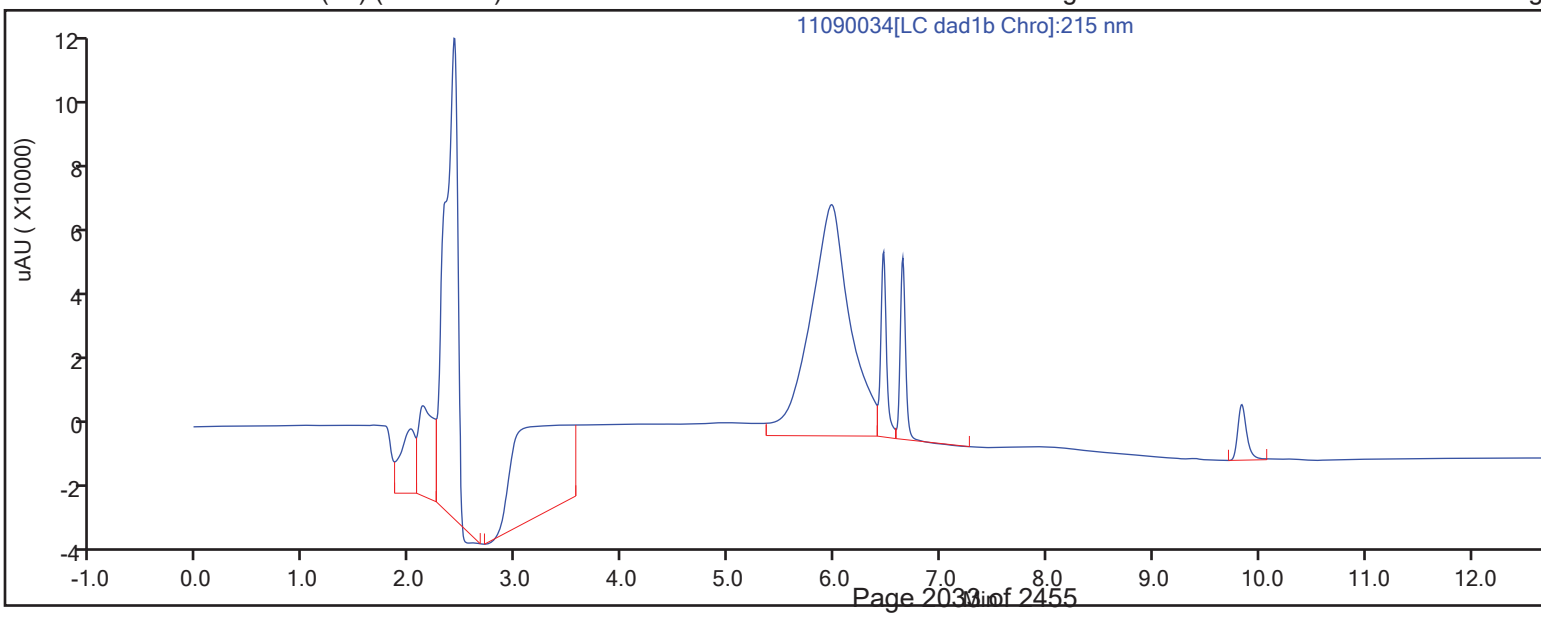
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

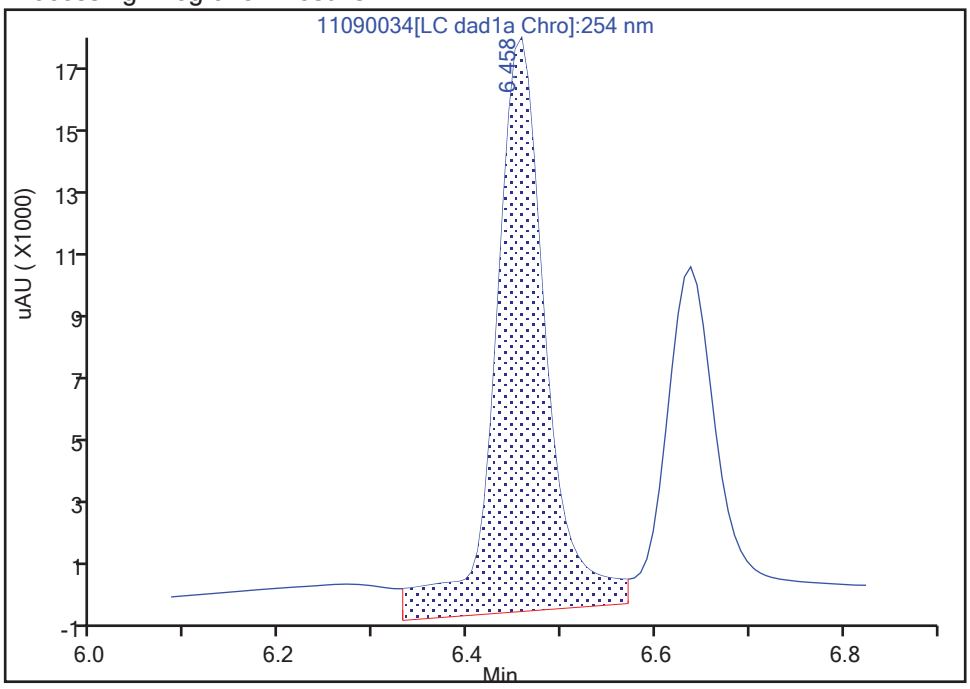
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090034.d				
Injection Date:	10-Nov-2022 00:27:00	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	34
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

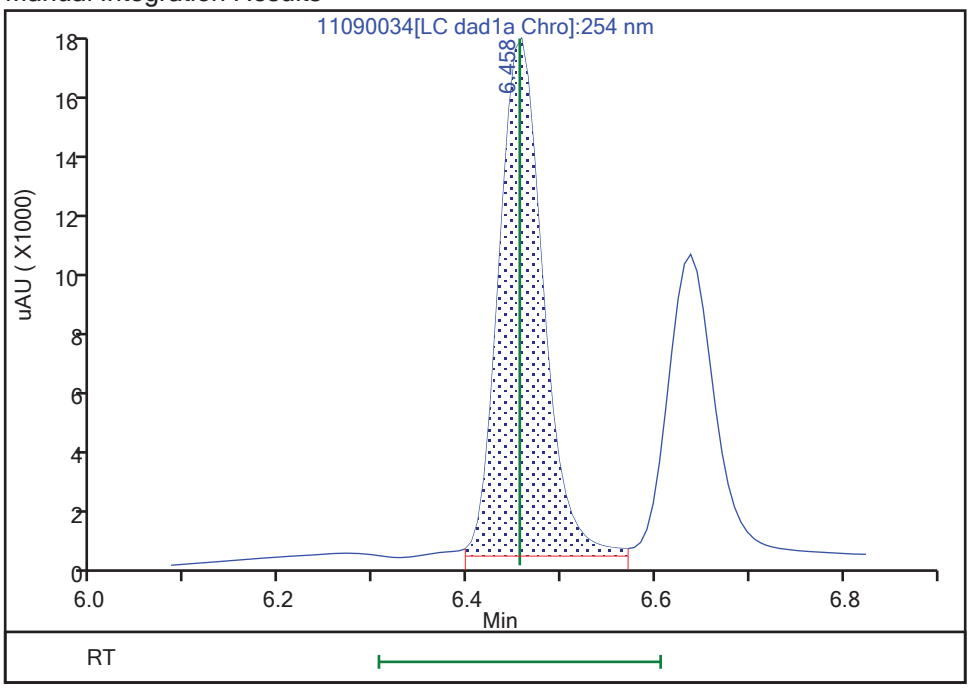
Processing Integration Results

RT: 6.46
Area: 64622
Amount: 0.300851
Amount Units: ug/mL



Manual Integration Results

RT: 6.46
Area: 53669
Amount: 0.249859
Amount Units: ug/mL



Reviewer: LV5D, 10-Nov-2022 12:00:16
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

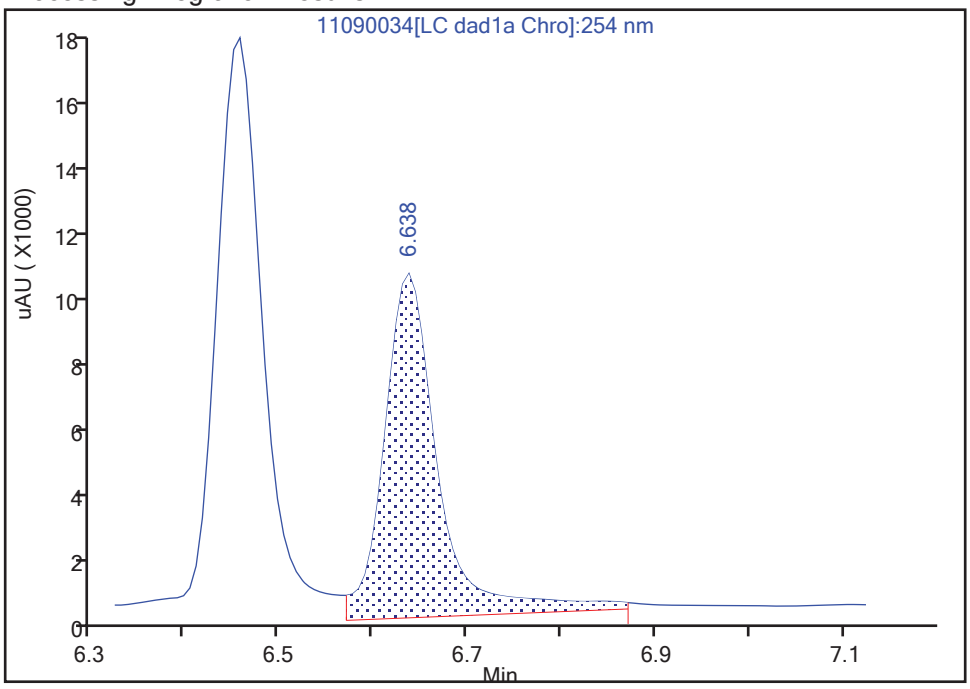
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090034.d				
Injection Date:	10-Nov-2022 00:27:00	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	34
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

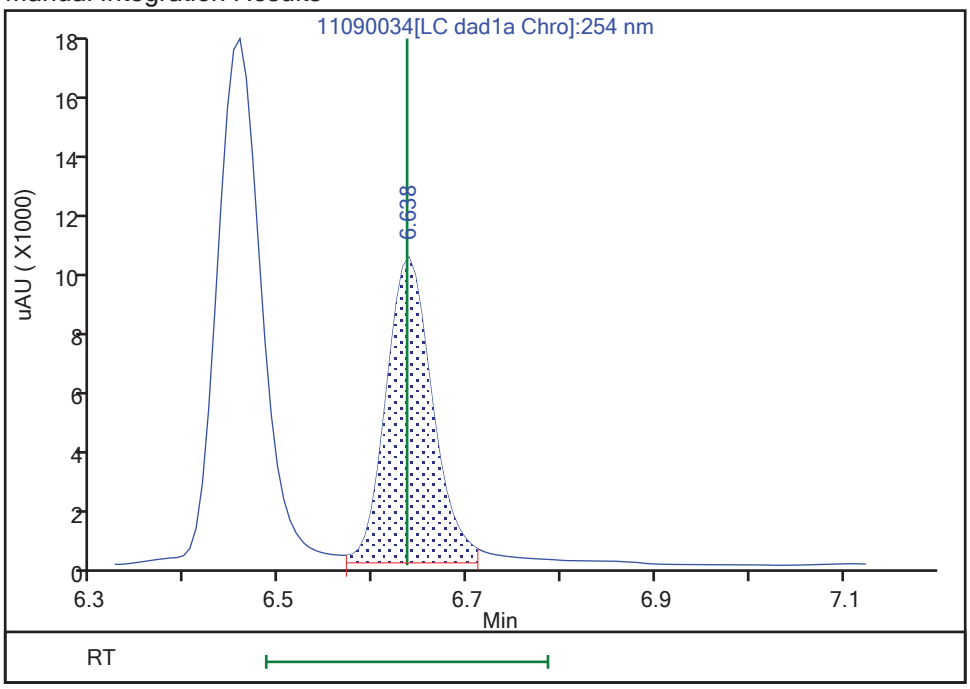
Processing Integration Results

RT: 6.64
Area: 39840
Amount: 0.297506
Amount Units: ug/mL



Manual Integration Results

RT: 6.64
Area: 32767
Amount: 0.244688
Amount Units: ug/mL



Reviewer: LV5D, 10-Nov-2022 12:00:17
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/39 | Calibration Date: 11/10/2022 02:21

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090039.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	216168		0.252	0.250	0.6	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131300		0.245	0.250	-2.0	20.0
3,5-Dinitroaniline	Lin2		229440		251	250	0.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/39 Calibration Date: 11/10/2022 02:21

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090039.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.31	6.61
2,4-diamino-6-nitrotoluene	6.63	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090039.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 10-Nov-2022 02:21:38 ALS Bottle#: 8 Worklist Smp#: 39
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:41 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 10-Nov-2022 12:01:33

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.453	6.456	-0.003	54042	0.2500	0.2516	M
5 2,4-diamino-6-nitrotoluene	1	6.633	6.636	-0.003	32825	0.2500	0.2451	M
14 3,5-Dinitroaniline	1	9.826	9.829	-0.003	57360	0.2500	0.2512	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 10-Nov-2022 12:05:41 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090039.d

Injection Date: 10-Nov-2022 02:21:38 Instrument ID: CHHPLC_X3 Operator ID:

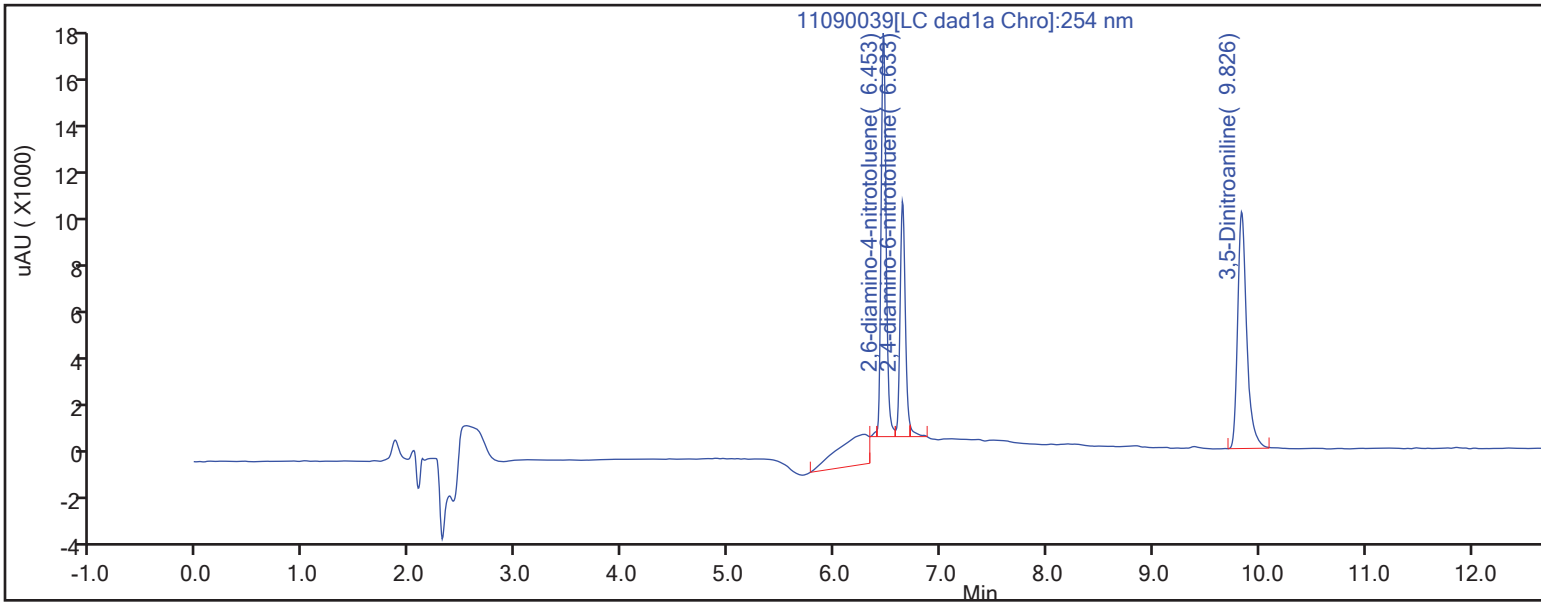
Lims ID: CCV ADD Worklist Smp#:

Client ID:

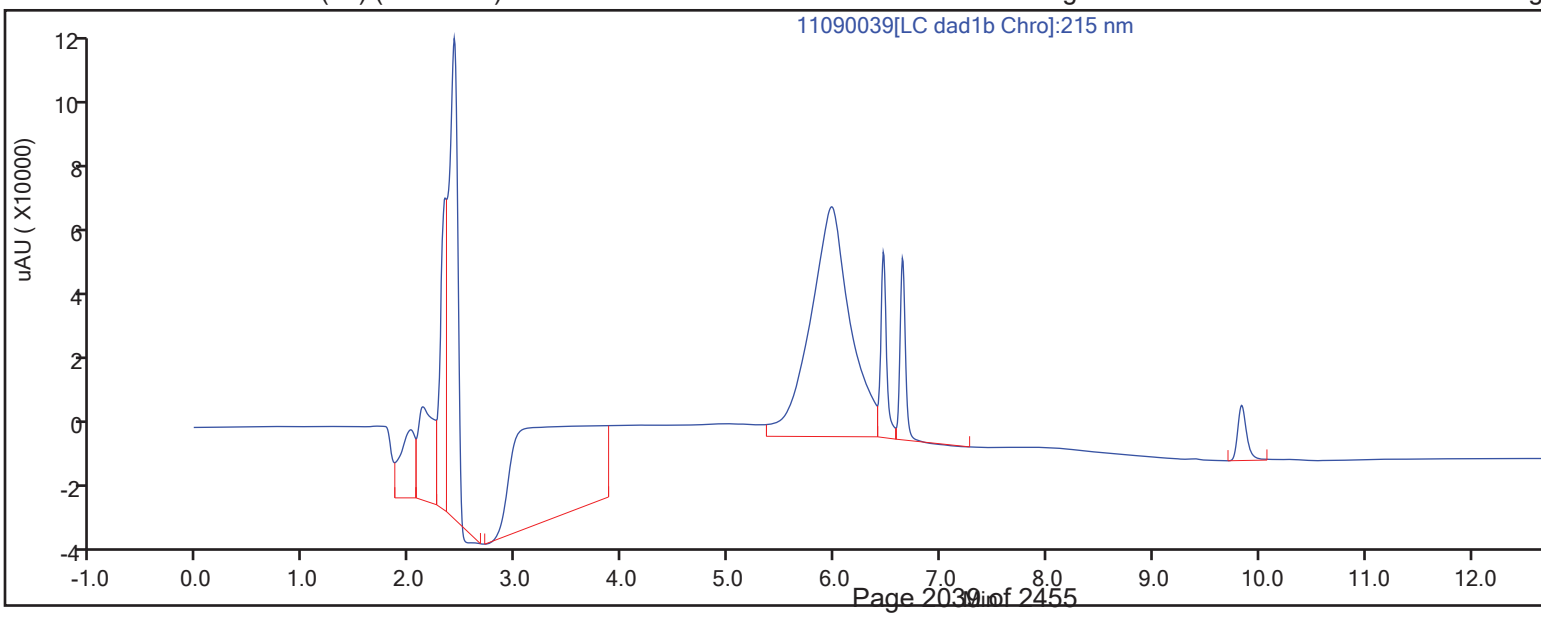
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver

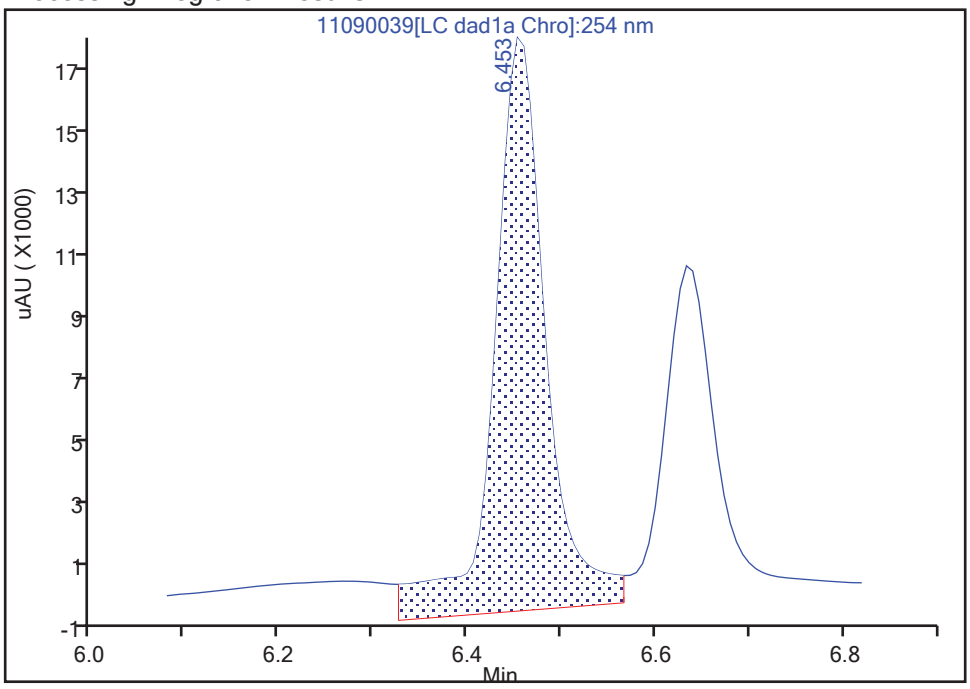
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090039.d				
Injection Date:	10-Nov-2022 02:21:38	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	39
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

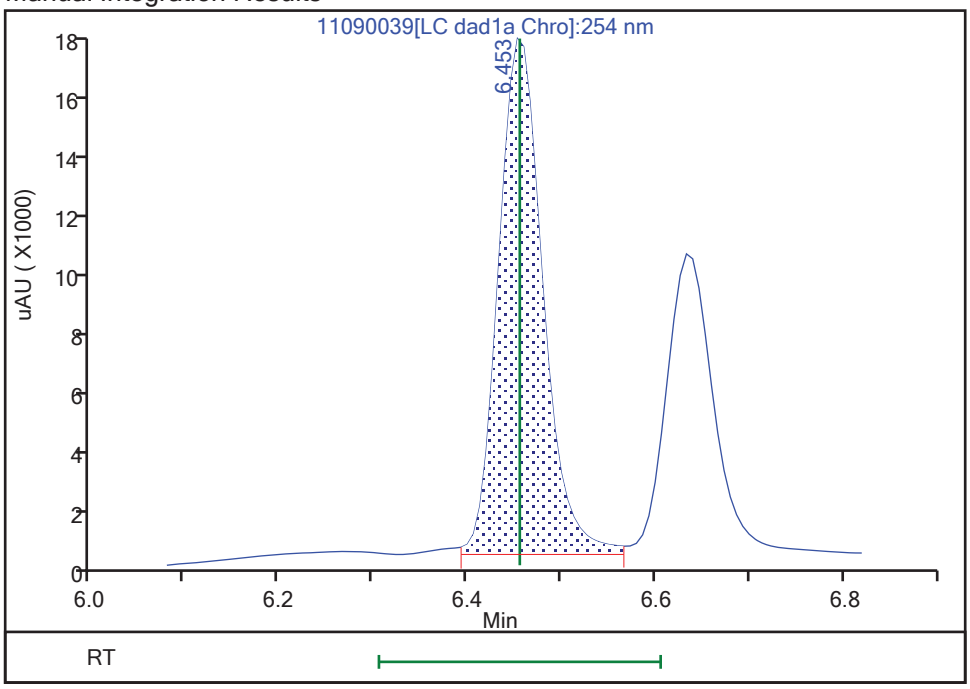
Processing Integration Results

RT: 6.45
Area: 66277
Amount: 0.308556
Amount Units: ug/mL



Manual Integration Results

RT: 6.45
Area: 54042
Amount: 0.251595
Amount Units: ug/mL



Reviewer: LV5D, 10-Nov-2022 12:01:31
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins Denver

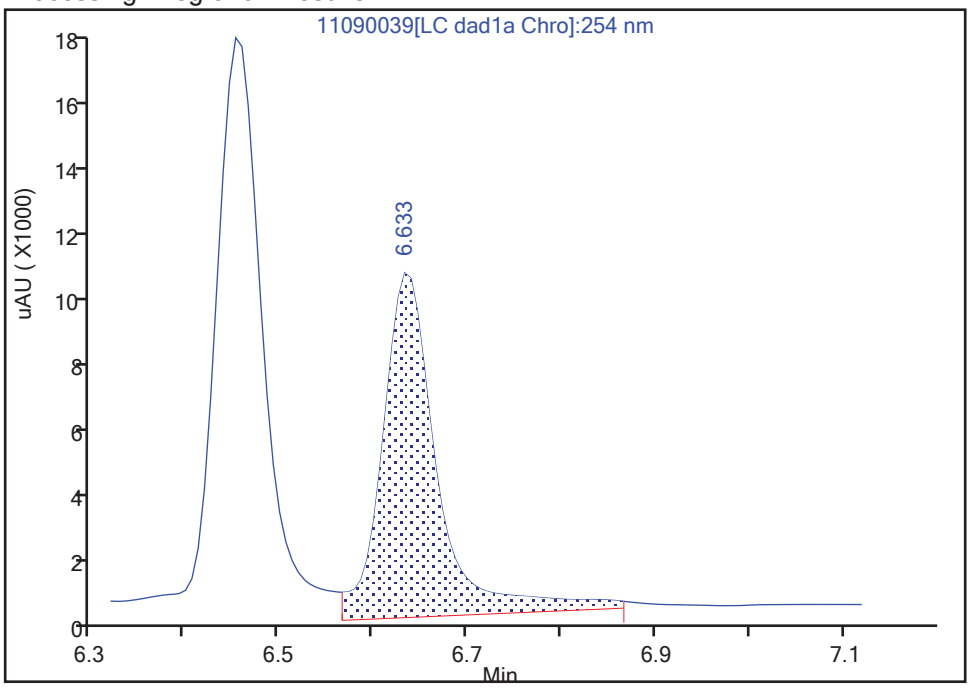
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090039.d				
Injection Date:	10-Nov-2022 02:21:38	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	39
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

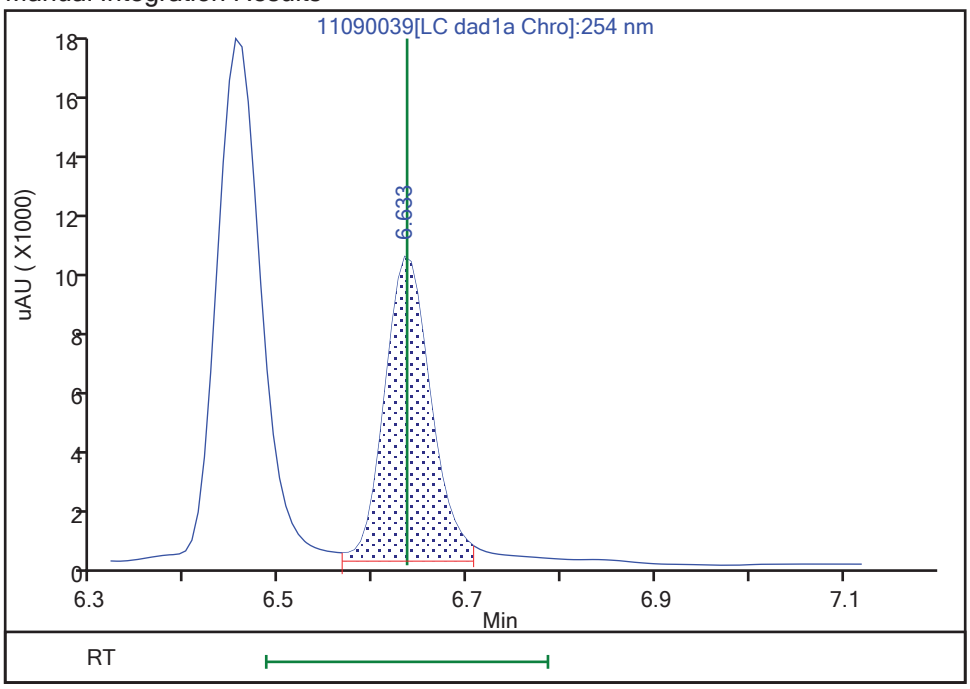
Processing Integration Results

RT: 6.63
Area: 40829
Amount: 0.304891
Amount Units: ug/mL



Manual Integration Results

RT: 6.63
Area: 32825
Amount: 0.245121
Amount Units: ug/mL



Reviewer: LV5D, 10-Nov-2022 12:01:32
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/40 | Calibration Date: 11/10/2022 02:44

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090040.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	90388		254	250	1.6	20.0
RDX	Ave	107626	103272		240	250	-4.0	20.0
Picric acid	Ave	77471	76376		246	250	-1.4	20.0
1,3,5-Trinitrobenzene	Ave	213642	219580		257	250	2.8	20.0
1,3-Dinitrobenzene	Ave	290541	293952		253	250	1.2	20.0
Nitrobenzene	Ave	193031	186764		242	250	-3.2	20.0
Tetryl	Ave	165412	146932		222	250	-11.2	20.0
Nitroglycerin	Ave	61733	63932		2590	2500	3.6	20.0
2,4,6-Trinitrotoluene	Ave	210916	194600		231	250	-7.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	149680		258	250	3.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	188588		241	250	-3.4	20.0
2,6-Dinitrotoluene	Ave	142188	143508		252	250	0.9	20.0
2,4-Dinitrotoluene	Ave	290110	296764		256	250	2.3	20.0
2-Nitrotoluene	Lin2		120472		240	250	-3.9	20.0
4-Nitrotoluene	Ave	111851	103852		232	250	-7.2	20.0
3-Nitrotoluene	Ave	137965	130672		237	250	-5.3	20.0
PETN	Lin1		72918		2510	2500	0.5	20.0
1,2-Dinitrobenzene	Ave	125844	119928		238	250	-4.7	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/40 Calibration Date: 11/10/2022 02:44

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090040.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.84	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.27	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.46	12.32	12.62
4-Nitrotoluene	12.88	12.74	13.04
3-Nitrotoluene	13.45	13.31	13.61
PETN	14.48	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090040.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 10-Nov-2022 02:44:31 ALS Bottle#: 7 Worklist Smp#: 40
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:42 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 10-Nov-2022 12:01:40

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.576	6.569	0.007	22597	0.2500	0.2540	M
8 RDX	1	7.563	7.556	0.007	25818	0.2500	0.2399	
9 2,4,6-Trinitrophenol	1	7.889	7.883	0.006	19094	0.2500	0.2465	
$ 10 1,2-Dinitrobenzene	1	8.509	8.509	0.000	29982	0.2500	0.2382	
11 1,3,5-Trinitrobenzene	1	8.629	8.629	0.000	54895	0.2500	0.2569	
12 1,3-Dinitrobenzene	1	9.249	9.249	0.000	73488	0.2500	0.2529	
13 Nitrobenzene	1	9.636	9.636	0.000	46691	0.2500	0.2419	
15 Tetryl	1	9.949	9.943	0.006	36733	0.2500	0.2221	
16 Nitroglycerin	2	10.396	10.396	0.000	159831	2.50	2.59	
17 2,4,6-Trinitrotoluene	1	10.843	10.849	-0.006	48650	0.2500	0.2307	
18 4-Amino-2,6-dinitrotoluene	1	11.023	11.023	0.000	37420	0.2500	0.2584	
19 2-Amino-4,6-dinitrotoluene	1	11.269	11.269	0.000	47147	0.2500	0.2415	
20 2,6-Dinitrotoluene	1	11.449	11.449	0.000	35877	0.2500	0.2523	
21 2,4-Dinitrotoluene	1	11.616	11.616	0.000	74191	0.2500	0.2557	
22 o-Nitrotoluene	1	12.463	12.469	-0.006	30118	0.2500	0.2402	
23 p-Nitrotoluene	1	12.883	12.889	-0.006	25963	0.2500	0.2321	
24 m-Nitrotoluene	1	13.449	13.456	-0.007	32668	0.2500	0.2368	
25 PETN	2	14.483	14.489	-0.006	182294	2.50	2.51	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 10-Nov-2022 12:05:42 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090040.d

Injection Date: 10-Nov-2022 02:44:31 Instrument ID: CHHPLC_X3 Operator ID:

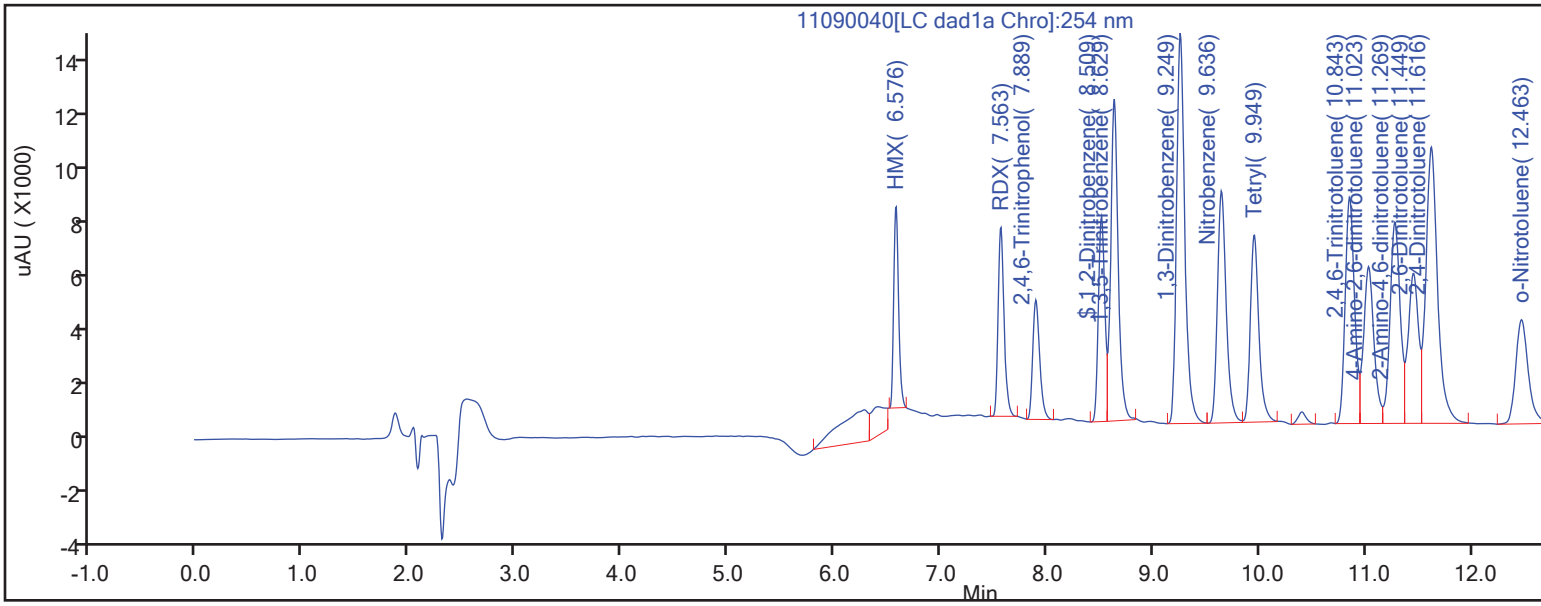
Lims ID: CCV INT Worklist Smp#:

Client ID:

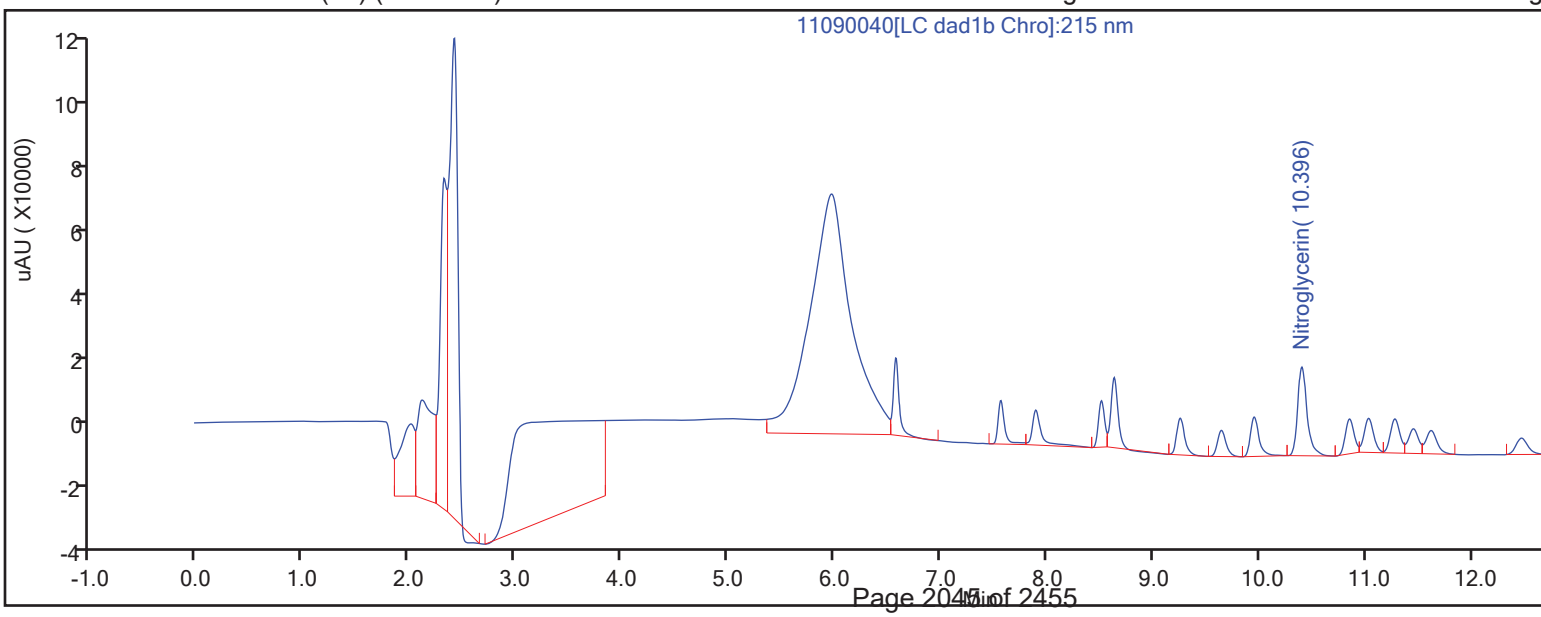
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

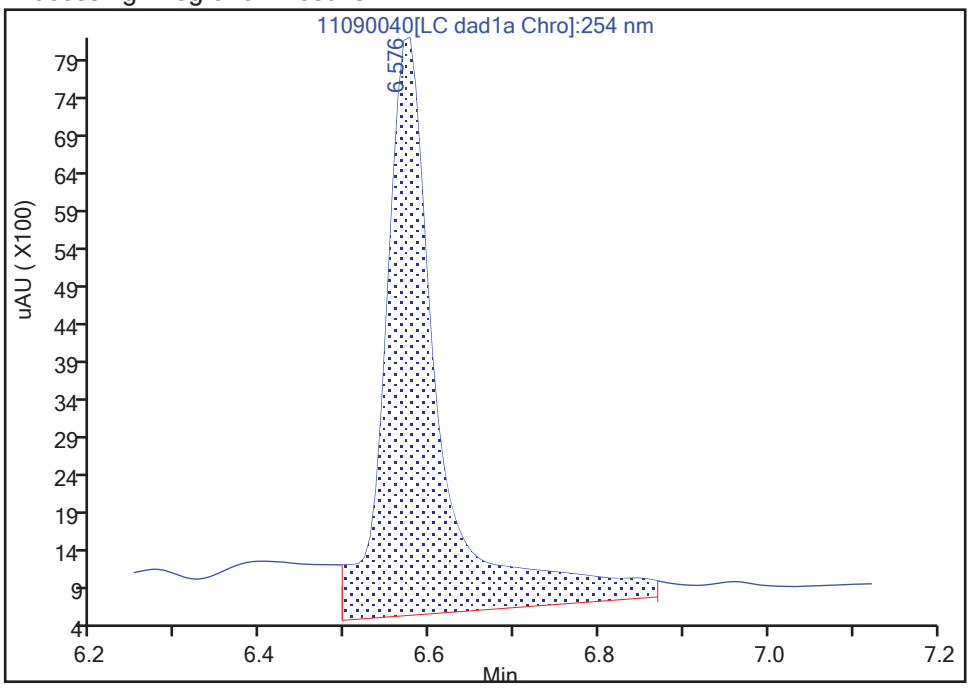
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090040.d				
Injection Date:	10-Nov-2022 02:44:31	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV INT				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	40
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

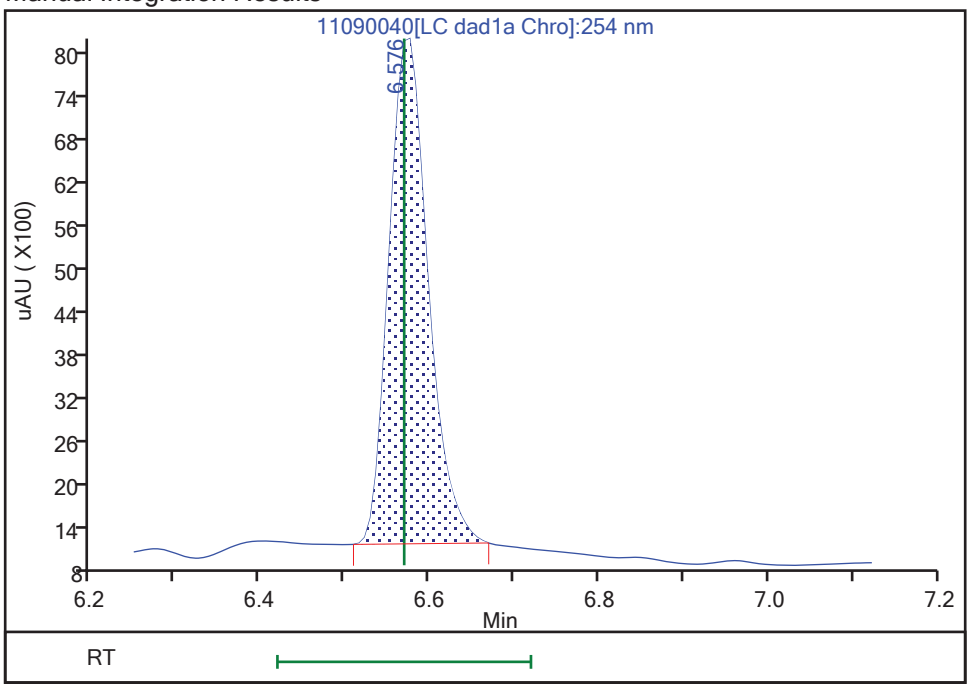
Processing Integration Results

RT: 6.58
Area: 34434
Amount: 0.387082
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 22597
Amount: 0.254019
Amount Units: ug/mL



Reviewer: LV5D, 10-Nov-2022 12:01:39
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/36 | Calibration Date: 11/11/2022 00:12

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100036.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	94248		265	250	5.9	20.0
RDX	Ave	107626	109028		253	250	1.3	20.0
Picric acid	Ave	77471	78076		252	250	0.8	20.0
1,3,5-Trinitrobenzene	Ave	213642	219692		257	250	2.8	20.0
1,3-Dinitrobenzene	Ave	290541	299156		257	250	3.0	20.0
Nitrobenzene	Ave	193031	188096		244	250	-2.6	20.0
Tetryl	Ave	165412	147828		223	250	-10.6	20.0
Nitroglycerin	Ave	61733	64999		2630	2500	5.3	20.0
2,4,6-Trinitrotoluene	Ave	210916	196860		233	250	-6.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	152056		263	250	5.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	192160		246	250	-1.6	20.0
2,6-Dinitrotoluene	Ave	142188	141340		249	250	-0.6	20.0
2,4-Dinitrotoluene	Ave	290110	305912		264	250	5.4	20.0
2-Nitrotoluene	Lin2		122188		244	250	-2.5	20.0
4-Nitrotoluene	Ave	111851	106496		238	250	-4.8	20.0
3-Nitrotoluene	Ave	137965	133716		242	250	-3.1	20.0
PETN	Lin1		73871		2550	2500	1.8	20.0
1,2-Dinitrobenzene	Ave	125844	125632		250	250	-0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/36 Calibration Date: 11/11/2022 00:12

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100036.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.09	9.39
Nitrobenzene	9.65	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.41	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.03	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.28	11.17	11.37
2,6-Dinitrotoluene	11.45	11.36	11.56
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.33	12.63
4-Nitrotoluene	12.89	12.75	13.05
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.50	14.37	14.67
1,2-Dinitrobenzene	8.51	8.36	8.66

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100036.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 00:12:51 ALS Bottle#: 7 Worklist Smp#: 36
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:55 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:09:47

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.573	6.571	0.002	23562	0.2500	0.2649	
8 RDX	1	7.560	7.558	0.002	27257	0.2500	0.2533	
9 2,4,6-Trinitrophenol	1	7.893	7.878	0.015	19519	0.2500	0.2520	
$ 10 1,2-Dinitrobenzene	1	8.513	8.505	0.008	31408	0.2500	0.2496	
11 1,3,5-Trinitrobenzene	1	8.633	8.625	0.008	54923	0.2500	0.2571	
12 1,3-Dinitrobenzene	1	9.253	9.244	0.009	74789	0.2500	0.2574	
13 Nitrobenzene	1	9.647	9.638	0.009	47024	0.2500	0.2436	
15 Tetryl	1	9.953	9.944	0.009	36957	0.2500	0.2234	
16 Nitroglycerin	2	10.407	10.404	0.003	162498	2.50	2.63	
17 2,4,6-Trinitrotoluene	1	10.853	10.851	0.002	49215	0.2500	0.2333	
18 4-Amino-2,6-dinitrotoluene	1	11.033	11.024	0.009	38014	0.2500	0.2625	
19 2-Amino-4,6-dinitrotoluene	1	11.280	11.271	0.009	48040	0.2500	0.2460	
20 2,6-Dinitrotoluene	1	11.453	11.458	-0.005	35335	0.2500	0.2485	
21 2,4-Dinitrotoluene	1	11.620	11.624	-0.004	76478	0.2500	0.2636	
22 o-Nitrotoluene	1	12.473	12.478	-0.005	30547	0.2500	0.2437	
23 p-Nitrotoluene	1	12.893	12.898	-0.005	26624	0.2500	0.2380	
24 m-Nitrotoluene	1	13.460	13.464	-0.004	33429	0.2500	0.2423	
25 PETN	2	14.500	14.518	-0.018	184678	2.50	2.55	

QC Flag Legend
Processing Flags

Reagents:
8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 11-Nov-2022 12:25:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100036.d

Injection Date: 11-Nov-2022 00:12:51 Instrument ID: CHHPLC_X3 Operator ID:

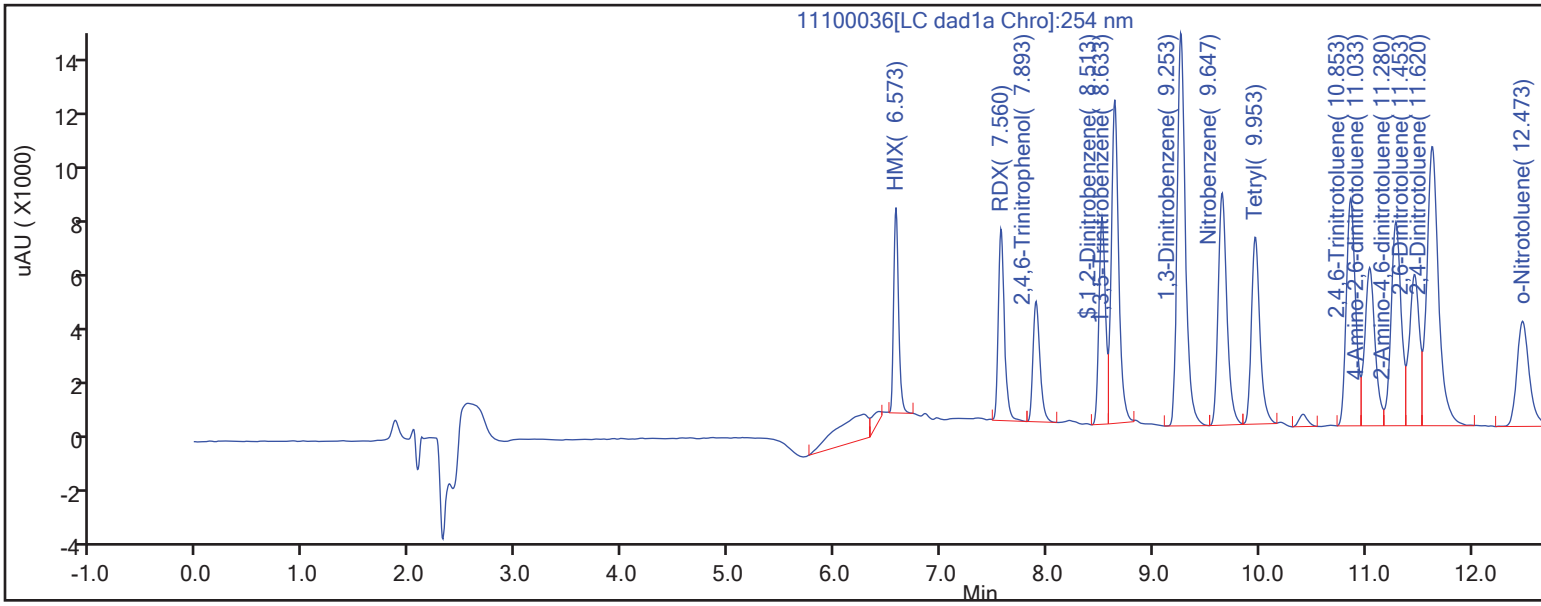
Lims ID: CCV INT Worklist Smp#:

Client ID:

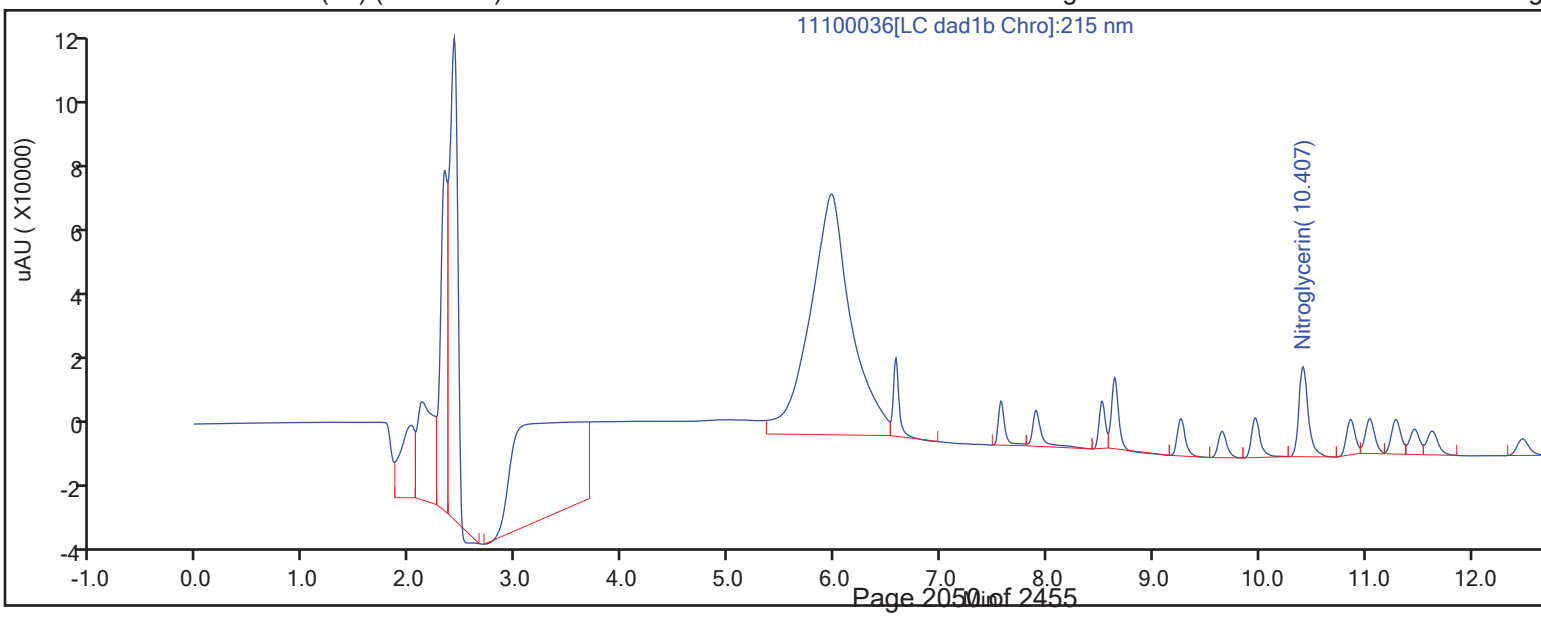
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/37 | Calibration Date: 11/11/2022 00:35

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100037.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	213572		0.249	0.250	-0.6	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131068		0.245	0.250	-2.1	20.0
3,5-Dinitroaniline	Lin2		227860		249	250	-0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/37 Calibration Date: 11/11/2022 00:35

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100037.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.30	6.60
2,4-diamino-6-nitrotoluene	6.63	6.48	6.78
3,5-Dinitroaniline	9.83	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100037.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 00:35:48 ALS Bottle#: 8 Worklist Smp#: 37
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:54 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:10:01

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.452	6.452	0.000	53393	0.2500	0.2486	M
5 2,4-diamino-6-nitrotoluene	1	6.632	6.632	0.000	32767	0.2500	0.2447	M
14 3,5-Dinitroaniline	1	9.832	9.832	0.000	56965	0.2500	0.2495	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 11-Nov-2022 12:25:55 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100037.d

Injection Date: 11-Nov-2022 00:35:48 Instrument ID: CHHPLC_X3 Operator ID:

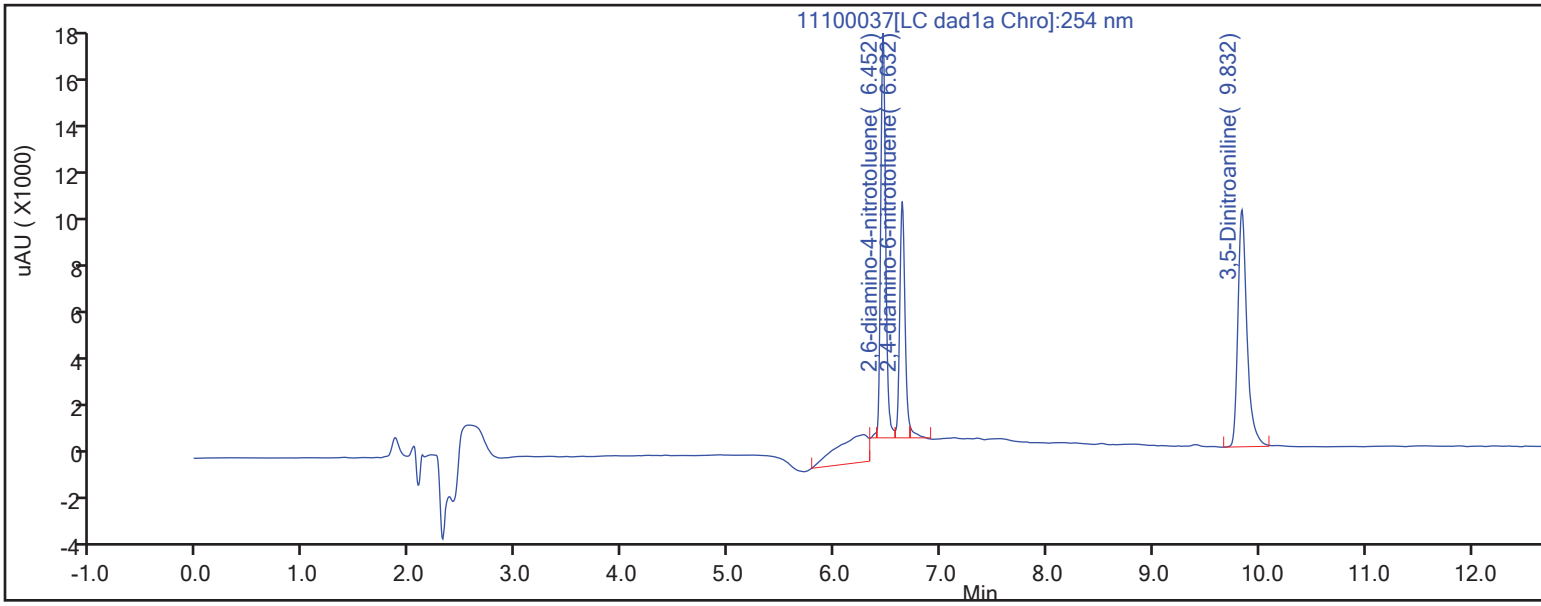
Lims ID: CCV ADD Worklist Smp#:

Client ID:

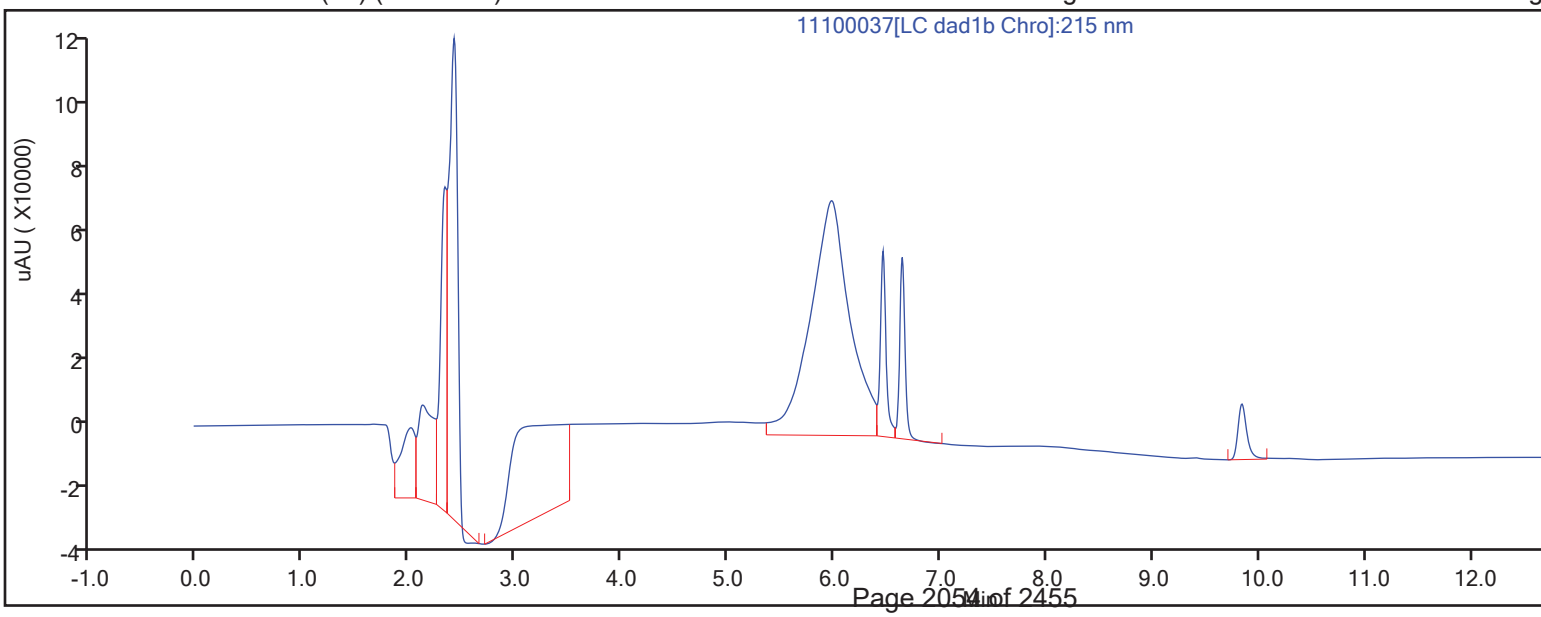
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver

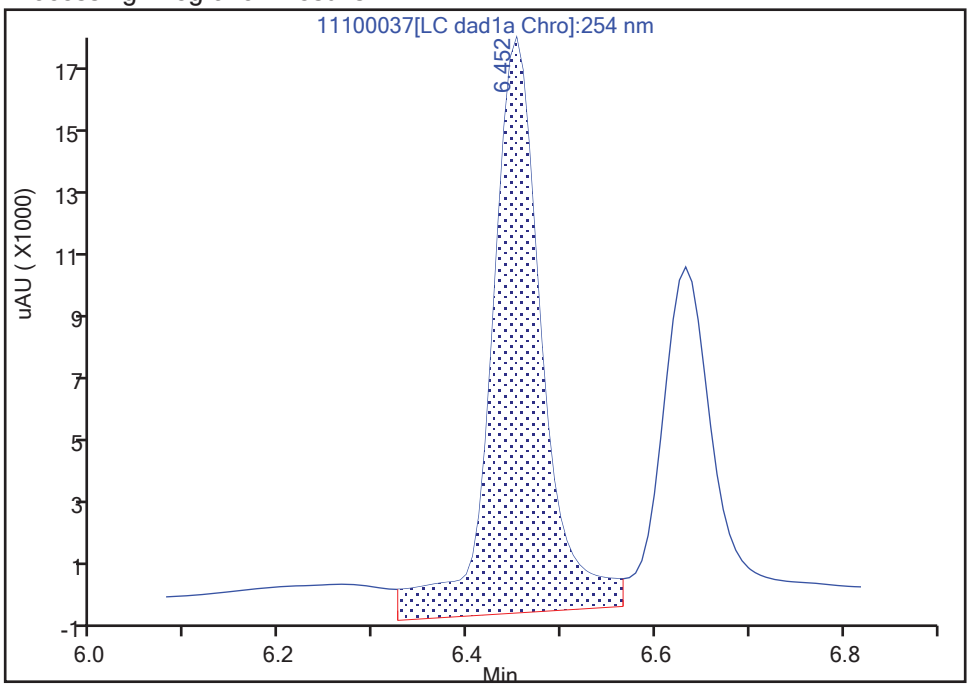
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100037.d
Injection Date: 11-Nov-2022 00:35:48 Instrument ID: CHHPLC_X3
Lims ID: CCV ADD
Client ID:
Operator ID: JZ ALS Bottle#: 8 Worklist Smp#: 37
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

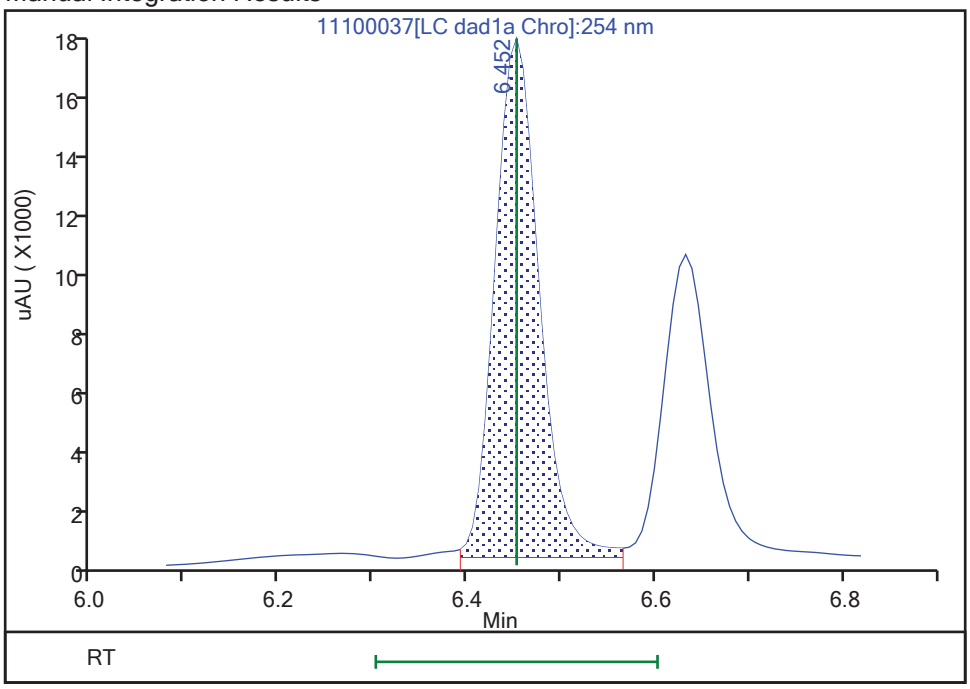
Processing Integration Results

RT: 6.45
Area: 64354
Amount: 0.299603
Amount Units: ug/mL



Manual Integration Results

RT: 6.45
Area: 53393
Amount: 0.248574
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:09:59
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins Denver

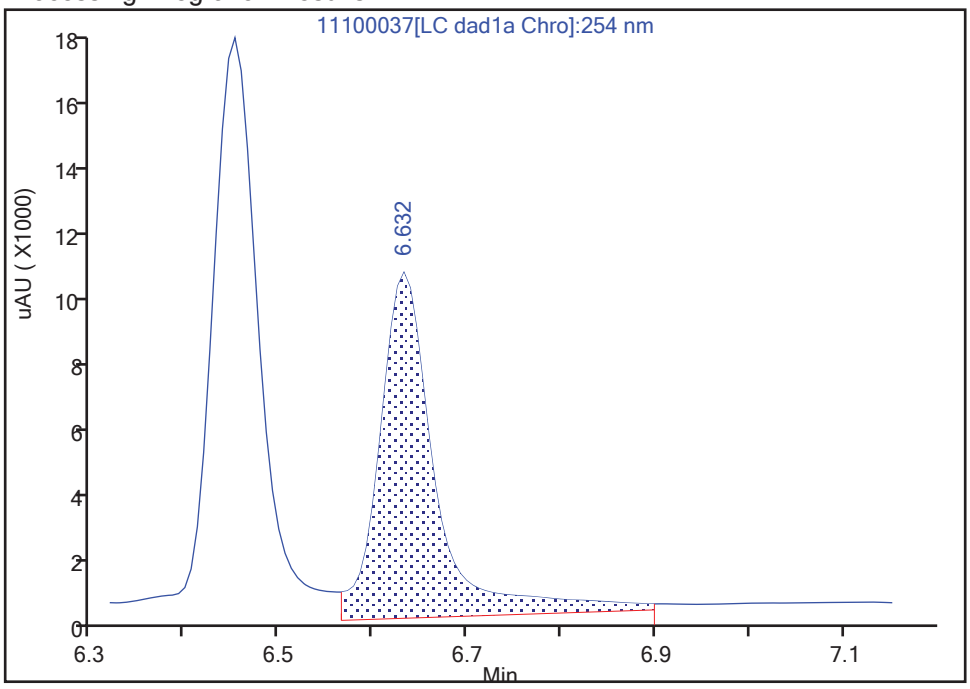
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100037.d				
Injection Date:	11-Nov-2022 00:35:48	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	37
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

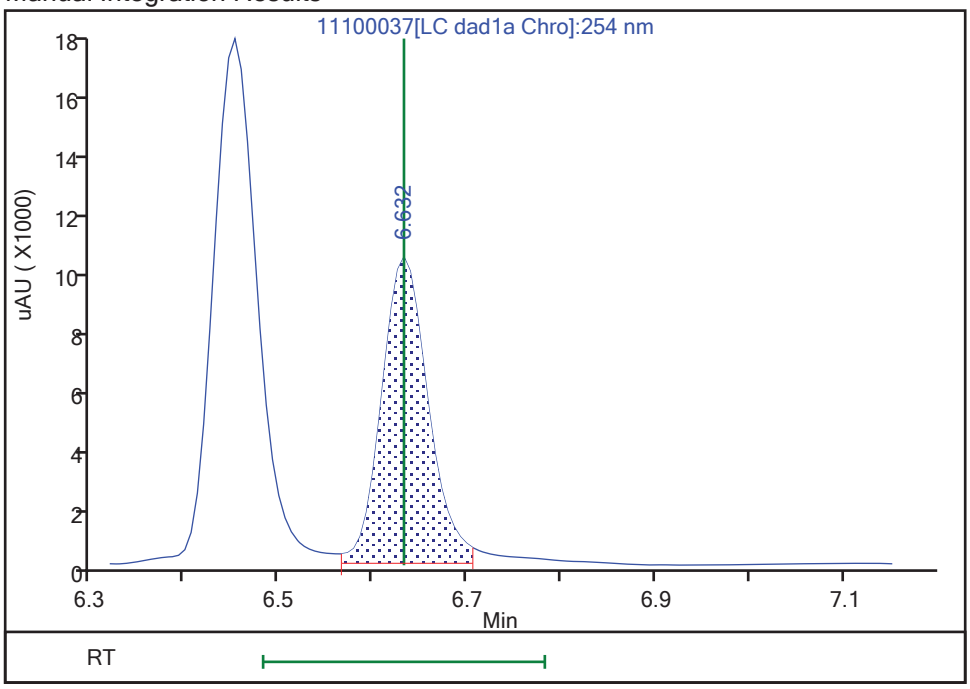
Processing Integration Results

RT: 6.63
Area: 41517
Amount: 0.310029
Amount Units: ug/mL



Manual Integration Results

RT: 6.63
Area: 32767
Amount: 0.244688
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:10:00
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/47 | Calibration Date: 11/11/2022 04:25

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100047.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	94968		267	250	6.8	20.0
RDX	Ave	107626	109656		255	250	1.9	20.0
Picric acid	Ave	77471	77620		250	250	0.2	20.0
1,3,5-Trinitrobenzene	Ave	213642	223216		261	250	4.5	20.0
1,3-Dinitrobenzene	Ave	290541	298728		257	250	2.8	20.0
Nitrobenzene	Ave	193031	185608		240	250	-3.8	20.0
Tetryl	Ave	165412	147612		223	250	-10.8	20.0
Nitroglycerin	Ave	61733	64867		2630	2500	5.1	20.0
2,4,6-Trinitrotoluene	Ave	210916	196444		233	250	-6.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	152452		263	250	5.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	191984		246	250	-1.7	20.0
2,6-Dinitrotoluene	Ave	142188	145948		257	250	2.6	20.0
2,4-Dinitrotoluene	Ave	290110	301720		260	250	4.0	20.0
2-Nitrotoluene	Lin2		119892		239	250	-4.4	20.0
4-Nitrotoluene	Ave	111851	105260		235	250	-5.9	20.0
3-Nitrotoluene	Ave	137965	130592		237	250	-5.3	20.0
PETN	Lin1		74081		2550	2500	2.1	20.0
1,2-Dinitrobenzene	Ave	125844	122664		244	250	-2.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/47 Calibration Date: 11/11/2022 04:25

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100047.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.42	6.72
RDX	7.55	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.48	8.78
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.63	9.49	9.79
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.39	10.25	10.55
2,4,6-Trinitrotoluene	10.84	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.26	11.17	11.37
2,6-Dinitrotoluene	11.44	11.36	11.56
2,4-Dinitrotoluene	11.61	11.52	11.72
2-Nitrotoluene	12.46	12.33	12.63
4-Nitrotoluene	12.88	12.75	13.05
3-Nitrotoluene	13.44	13.31	13.61
PETN	14.48	14.37	14.67
1,2-Dinitrobenzene	8.50	8.36	8.66

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100047.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 04:25:34 ALS Bottle#: 7 Worklist Smp#: 47
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:16:40

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.570	6.571	-0.001	23742	0.2500	0.2669	
8 RDX	1	7.550	7.558	-0.008	27414	0.2500	0.2547	
9 2,4,6-Trinitrophenol	1	7.884	7.878	0.006	19405	0.2500	0.2505	
$ 10 1,2-Dinitrobenzene	1	8.504	8.505	-0.001	30666	0.2500	0.2437	
11 1,3,5-Trinitrobenzene	1	8.624	8.625	-0.001	55804	0.2500	0.2612	
12 1,3-Dinitrobenzene	1	9.243	9.244	-0.001	74682	0.2500	0.2570	
13 Nitrobenzene	1	9.630	9.638	-0.008	46402	0.2500	0.2404	
15 Tetryl	1	9.943	9.944	-0.001	36903	0.2500	0.2231	
16 Nitroglycerin	2	10.390	10.404	-0.014	162167	2.50	2.63	
17 2,4,6-Trinitrotoluene	1	10.837	10.851	-0.014	49111	0.2500	0.2328	
18 4-Amino-2,6-dinitrotoluene	1	11.017	11.024	-0.007	38113	0.2500	0.2632	
19 2-Amino-4,6-dinitrotoluene	1	11.263	11.271	-0.008	47996	0.2500	0.2458	
20 2,6-Dinitrotoluene	1	11.443	11.458	-0.015	36487	0.2500	0.2566	
21 2,4-Dinitrotoluene	1	11.610	11.624	-0.014	75430	0.2500	0.2600	
22 o-Nitrotoluene	1	12.457	12.478	-0.021	29973	0.2500	0.2391	
23 p-Nitrotoluene	1	12.877	12.898	-0.021	26315	0.2500	0.2353	
24 m-Nitrotoluene	1	13.437	13.464	-0.027	32648	0.2500	0.2366	
25 PETN	2	14.477	14.518	-0.041	185203	2.50	2.55	

QC Flag Legend
Processing Flags

Reagents:
8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 11-Nov-2022 12:25:47 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100047.d

Injection Date: 11-Nov-2022 04:25:34 Instrument ID: CHHPLC_X3 Operator ID:

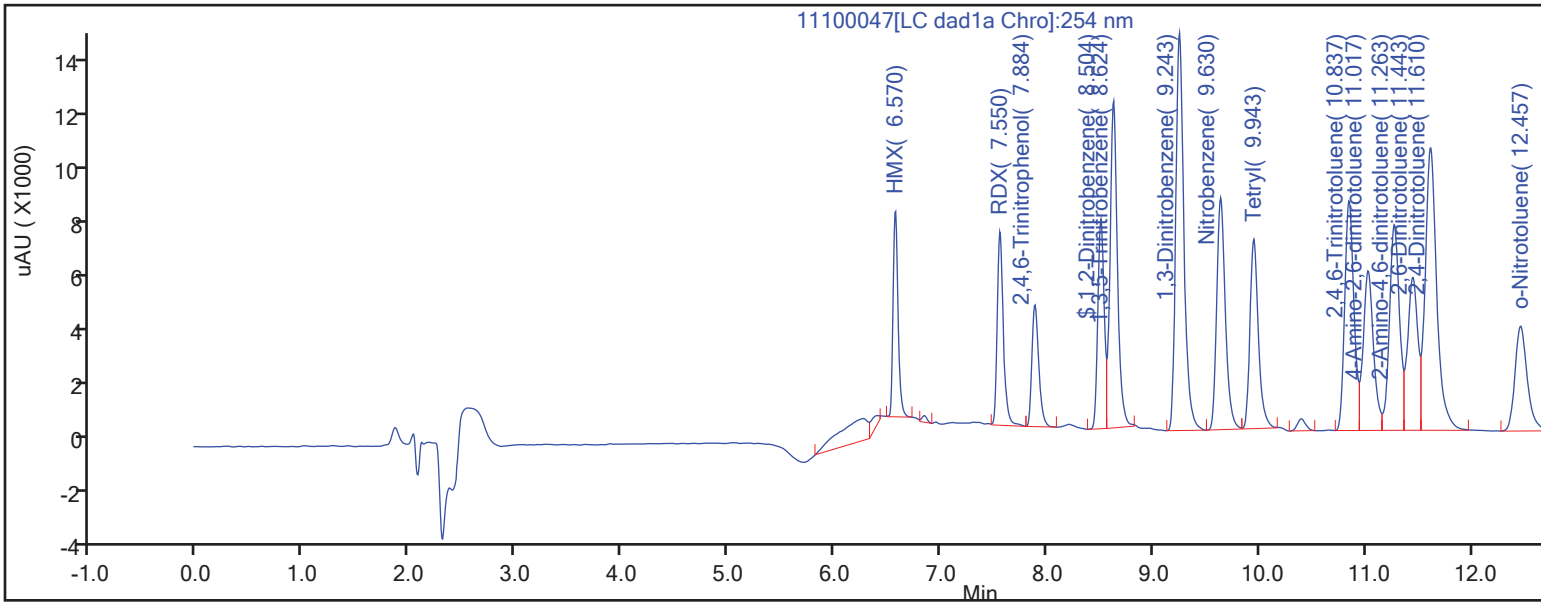
Lims ID: CCV INT Worklist Smp#:

Client ID:

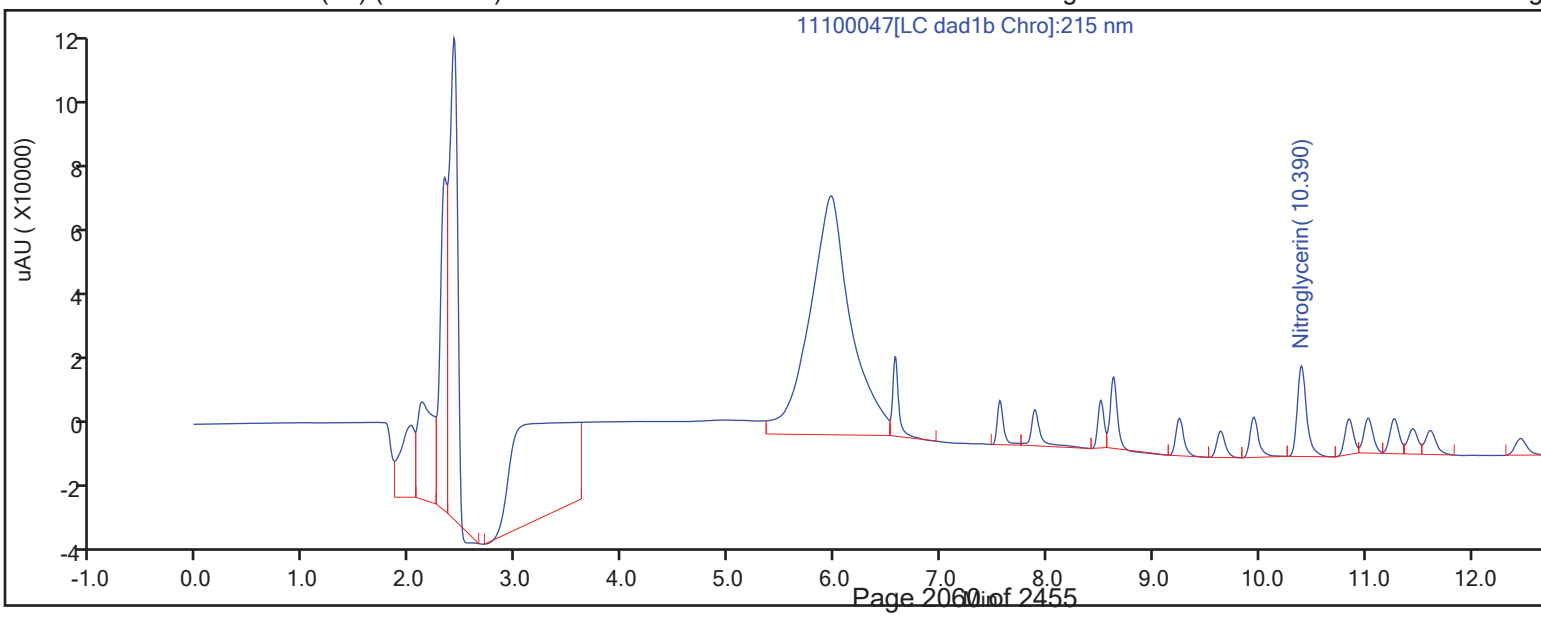
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/48 | Calibration Date: 11/11/2022 04:48

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100048.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	208708		0.243	0.250	-2.8	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	127432		0.238	0.250	-4.8	20.0
3,5-Dinitroaniline	Lin2		226572		248	250	-0.8	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/48 Calibration Date: 11/11/2022 04:48

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100048.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.30	6.60
2,4-diamino-6-nitrotoluene	6.63	6.48	6.78
3,5-Dinitroaniline	9.82	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100048.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 04:48:31 ALS Bottle#: 8 Worklist Smp#: 48
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:45 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:16:52

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.449	6.452	-0.003	52177	0.2500	0.2429	M
5 2,4-diamino-6-nitrotoluene	1	6.629	6.632	-0.003	31858	0.2500	0.2379	M
14 3,5-Dinitroaniline	1	9.822	9.832	-0.010	56643	0.2500	0.2481	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 11-Nov-2022 12:25:46 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100048.d

Injection Date: 11-Nov-2022 04:48:31 Instrument ID: CHHPLC_X3 Operator ID:

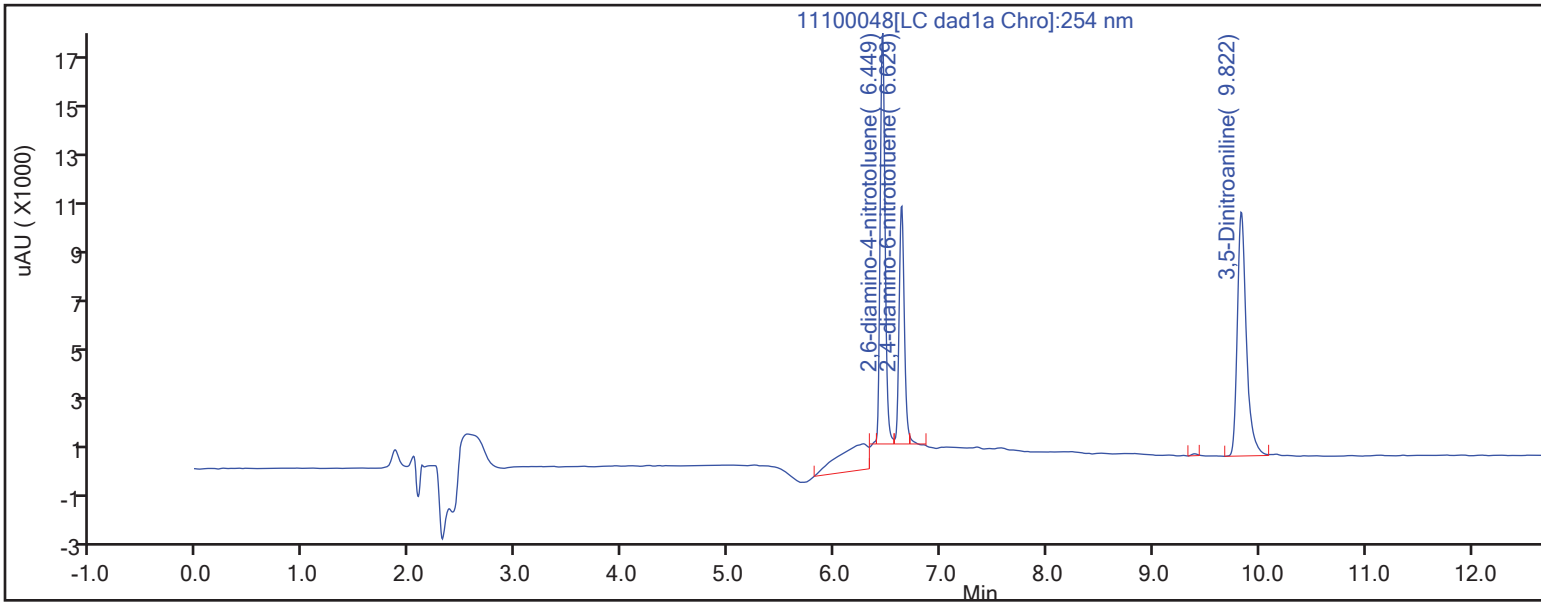
Lims ID: CCV ADD Worklist Smp#:

Client ID:

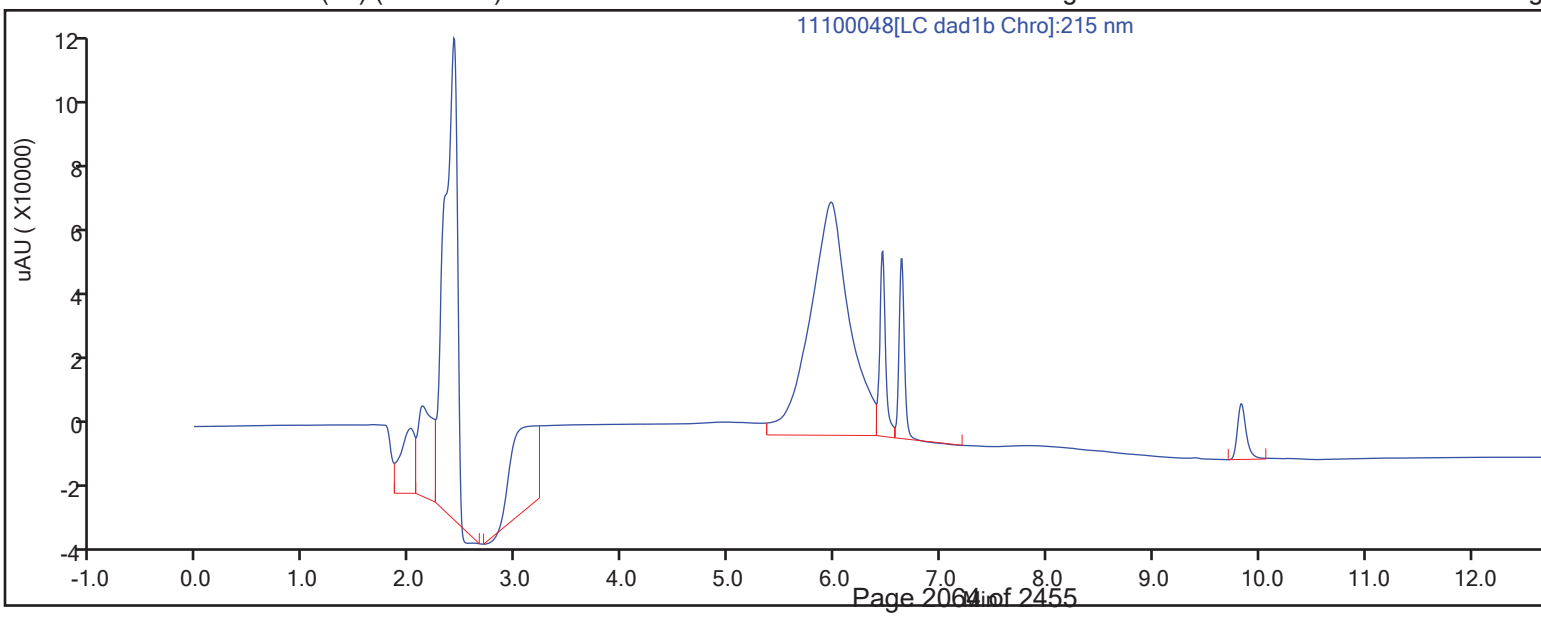
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver

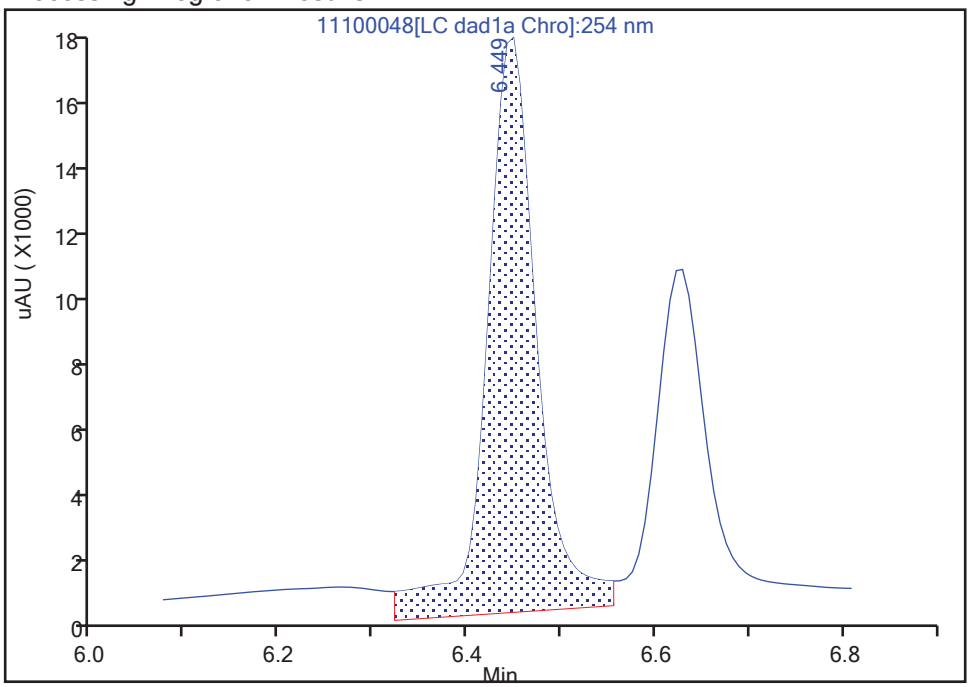
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100048.d
Injection Date: 11-Nov-2022 04:48:31 Instrument ID: CHHPLC_X3
Lims ID: CCV ADD
Client ID:
Operator ID: JZ ALS Bottle#: 8 Worklist Smp#: 48
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

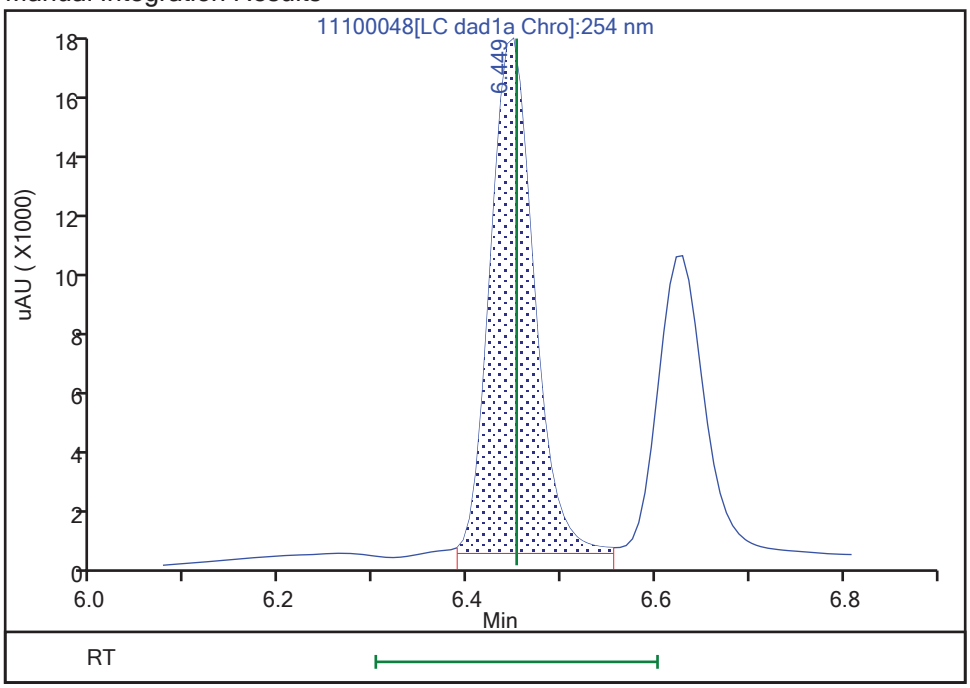
Processing Integration Results

RT: 6.45
Area: 62827
Amount: 0.292494
Amount Units: ug/mL



Manual Integration Results

RT: 6.45
Area: 52177
Amount: 0.242913
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:16:50
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

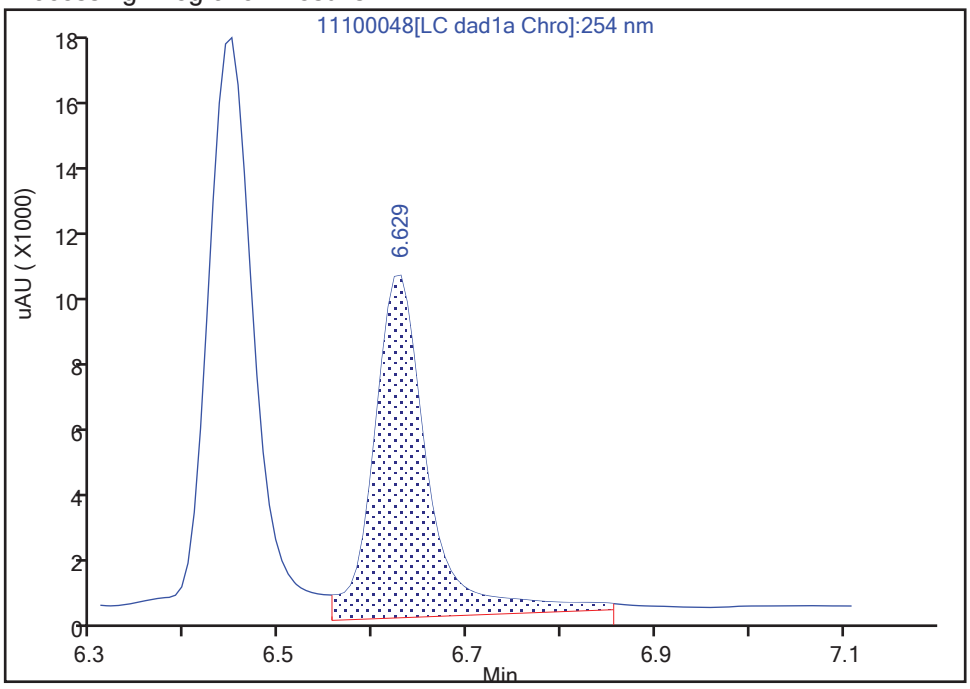
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100048.d				
Injection Date:	11-Nov-2022 04:48:31	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	48
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

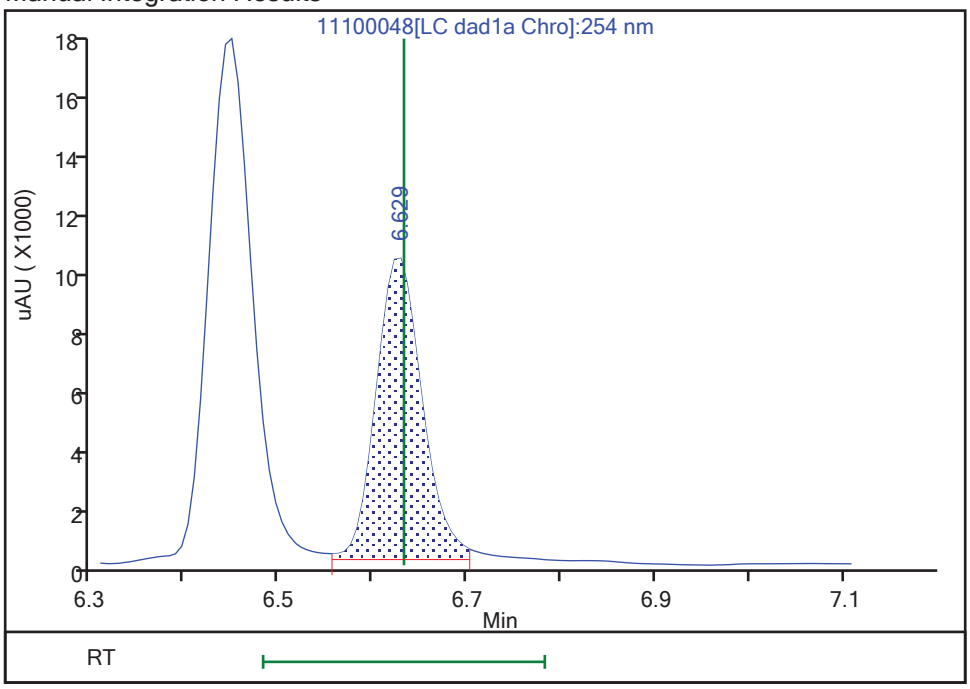
Processing Integration Results

RT: 6.63
Area: 39220
Amount: 0.292876
Amount Units: ug/mL



Manual Integration Results

RT: 6.63
Area: 31858
Amount: 0.237900
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:16:51
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/59 | Calibration Date: 11/11/2022 09:01

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100059.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	92308		259	250	3.8	20.0
RDX	Ave	107626	108844		253	250	1.1	20.0
Picric acid	Ave	77471	78236		252	250	1.0	20.0
1,3,5-Trinitrobenzene	Ave	213642	221308		259	250	3.6	20.0
1,3-Dinitrobenzene	Ave	290541	299488		258	250	3.1	20.0
Nitrobenzene	Ave	193031	183592		238	250	-4.9	20.0
Tetryl	Ave	165412	148052		224	250	-10.5	20.0
Nitroglycerin	Ave	61733	65330		2650	2500	5.8	20.0
2,4,6-Trinitrotoluene	Ave	210916	196840		233	250	-6.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	153636		265	250	6.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	192632		247	250	-1.3	20.0
2,6-Dinitrotoluene	Ave	142188	142680		251	250	0.3	20.0
2,4-Dinitrotoluene	Ave	290110	305864		264	250	5.4	20.0
2-Nitrotoluene	Lin2		117432		234	250	-6.3	20.0
4-Nitrotoluene	Ave	111851	103736		232	250	-7.3	20.0
3-Nitrotoluene	Ave	137965	129108		234	250	-6.4	20.0
PETN	Lin1		74271		2560	2500	2.4	20.0
1,2-Dinitrobenzene	Ave	125844	123044		244	250	-2.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/59 Calibration Date: 11/11/2022 09:01

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100059.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.56	6.42	6.72
RDX	7.55	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.48	8.78
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.63	9.49	9.79
Tetryl	9.93	9.79	10.09
Nitroglycerin	10.39	10.25	10.55
2,4,6-Trinitrotoluene	10.83	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.01	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.25	11.17	11.37
2,6-Dinitrotoluene	11.43	11.36	11.56
2,4-Dinitrotoluene	11.59	11.52	11.72
2-Nitrotoluene	12.44	12.33	12.63
4-Nitrotoluene	12.86	12.75	13.05
3-Nitrotoluene	13.43	13.31	13.61
PETN	14.46	14.37	14.67
1,2-Dinitrobenzene	8.50	8.36	8.66

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100059.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 09:01:43 ALS Bottle#: 7 Worklist Smp#: 59
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:21:45

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.560	6.571	-0.011	23077	0.2500	0.2594	M
8 RDX	1	7.547	7.558	-0.011	27211	0.2500	0.2528	
9 2,4,6-Trinitrophenol	1	7.880	7.878	0.002	19559	0.2500	0.2525	
$ 10 1,2-Dinitrobenzene	1	8.500	8.505	-0.005	30761	0.2500	0.2444	
11 1,3,5-Trinitrobenzene	1	8.620	8.625	-0.005	55327	0.2500	0.2590	
12 1,3-Dinitrobenzene	1	9.240	9.244	-0.004	74872	0.2500	0.2577	
13 Nitrobenzene	1	9.627	9.638	-0.011	45898	0.2500	0.2378	
15 Tetryl	1	9.933	9.944	-0.011	37013	0.2500	0.2238	
16 Nitroglycerin	2	10.387	10.404	-0.017	163324	2.50	2.65	
17 2,4,6-Trinitrotoluene	1	10.833	10.851	-0.018	49210	0.2500	0.2333	
18 4-Amino-2,6-dinitrotoluene	1	11.007	11.024	-0.017	38409	0.2500	0.2652	
19 2-Amino-4,6-dinitrotoluene	1	11.253	11.271	-0.018	48158	0.2500	0.2467	
20 2,6-Dinitrotoluene	1	11.427	11.458	-0.031	35670	0.2500	0.2509	
21 2,4-Dinitrotoluene	1	11.593	11.624	-0.031	76466	0.2500	0.2636	
22 o-Nitrotoluene	1	12.440	12.478	-0.038	29358	0.2500	0.2341	
23 p-Nitrotoluene	1	12.860	12.898	-0.038	25934	0.2500	0.2319	
24 m-Nitrotoluene	1	13.427	13.464	-0.037	32277	0.2500	0.2340	
25 PETN	2	14.460	14.518	-0.058	185678	2.50	2.56	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 11-Nov-2022 12:25:32 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100059.d

Injection Date: 11-Nov-2022 09:01:43 Instrument ID: CHHPLC_X3 Operator ID:

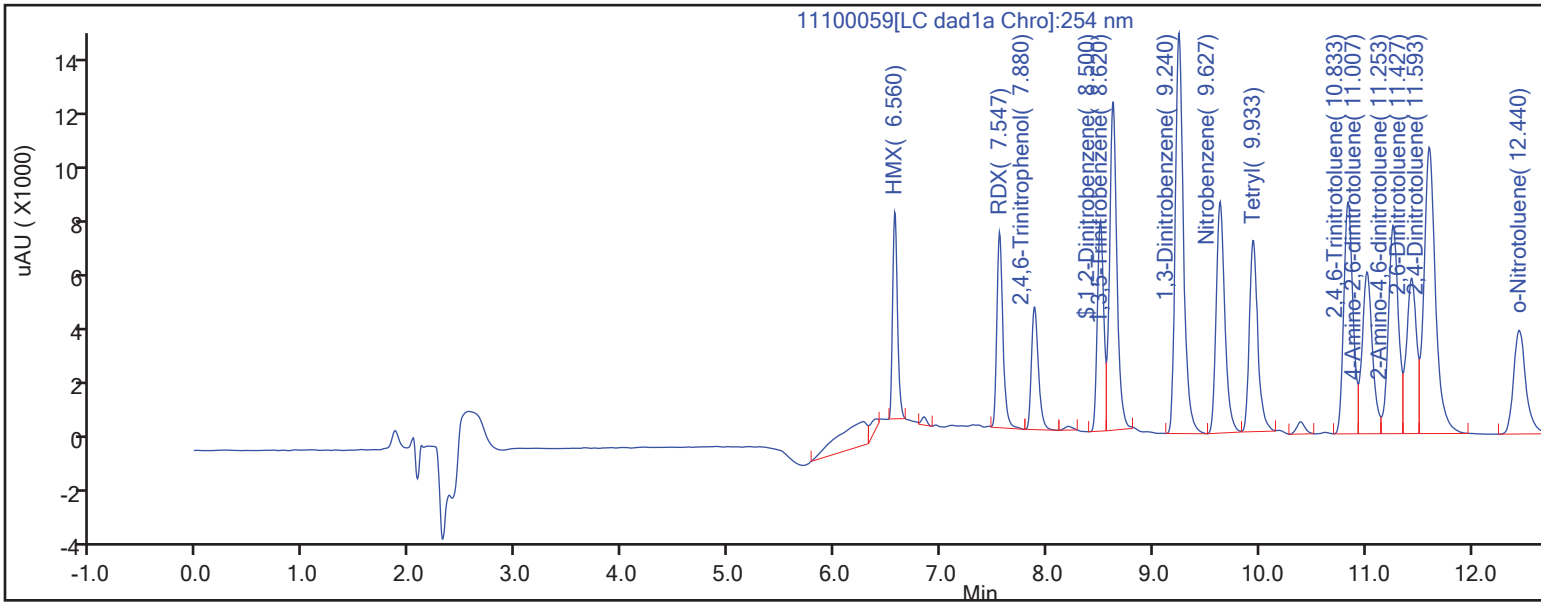
Lims ID: CCV INT Worklist Smp#:

Client ID:

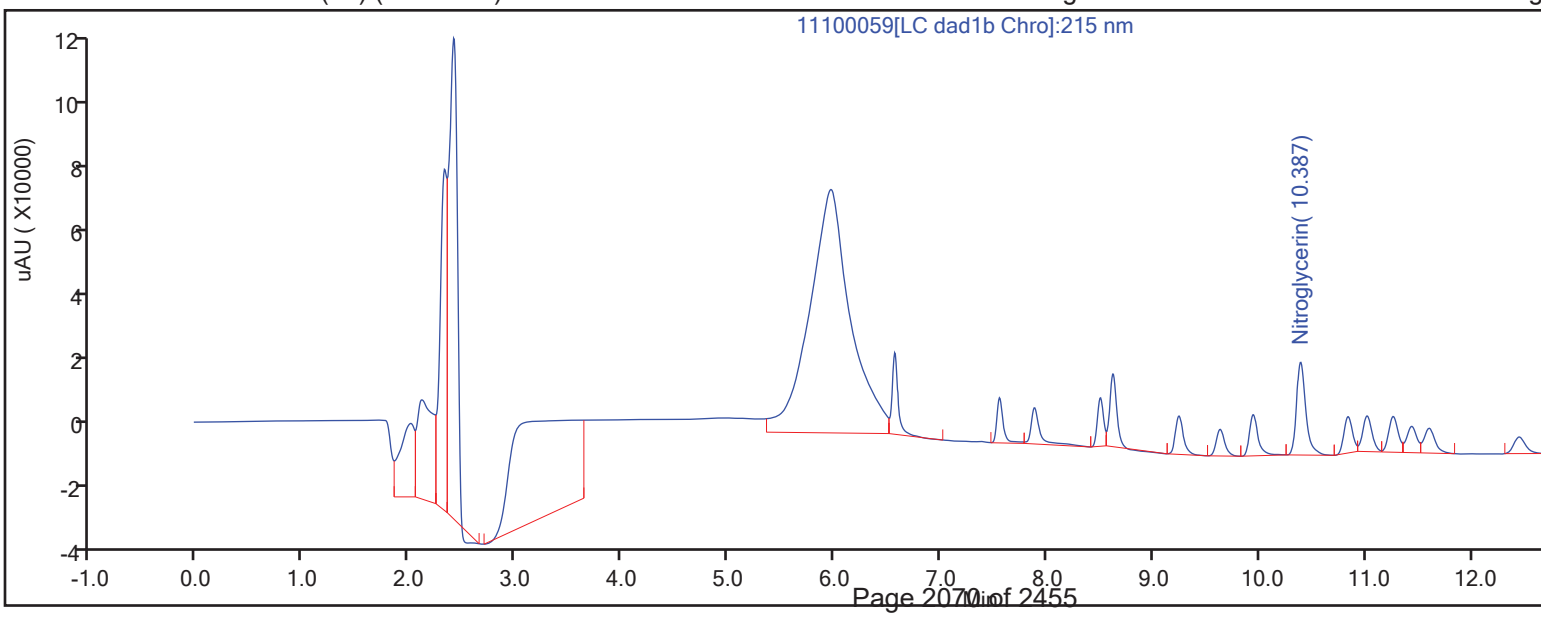
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

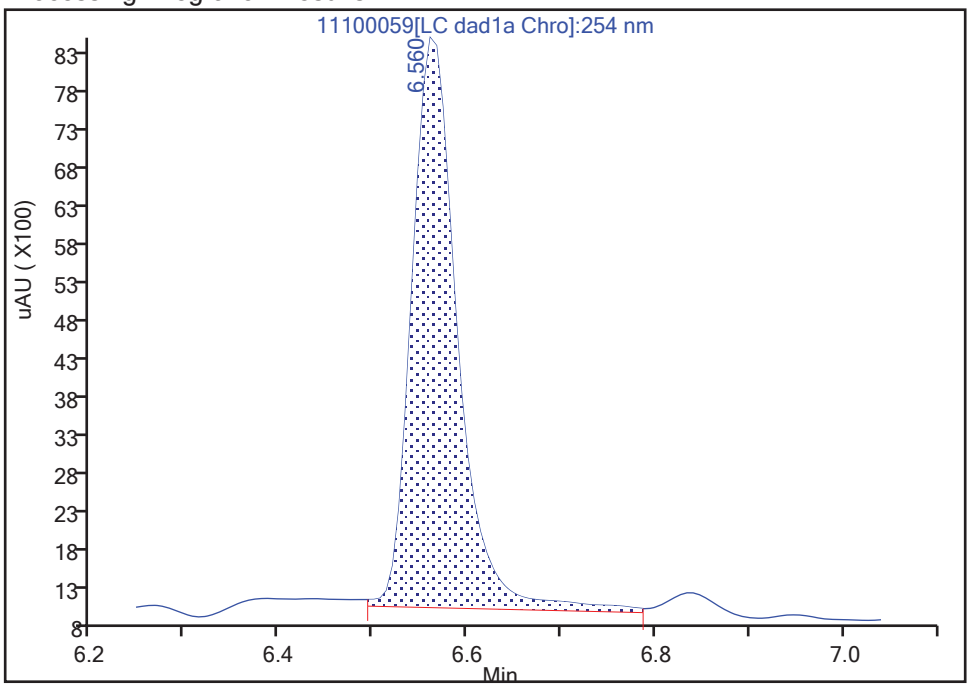
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100059.d
Injection Date: 11-Nov-2022 09:01:43 Instrument ID: CHHPLC_X3
Lims ID: CCV INT
Client ID:
Operator ID: JZ ALS Bottle#: 7 Worklist Smp#: 59
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

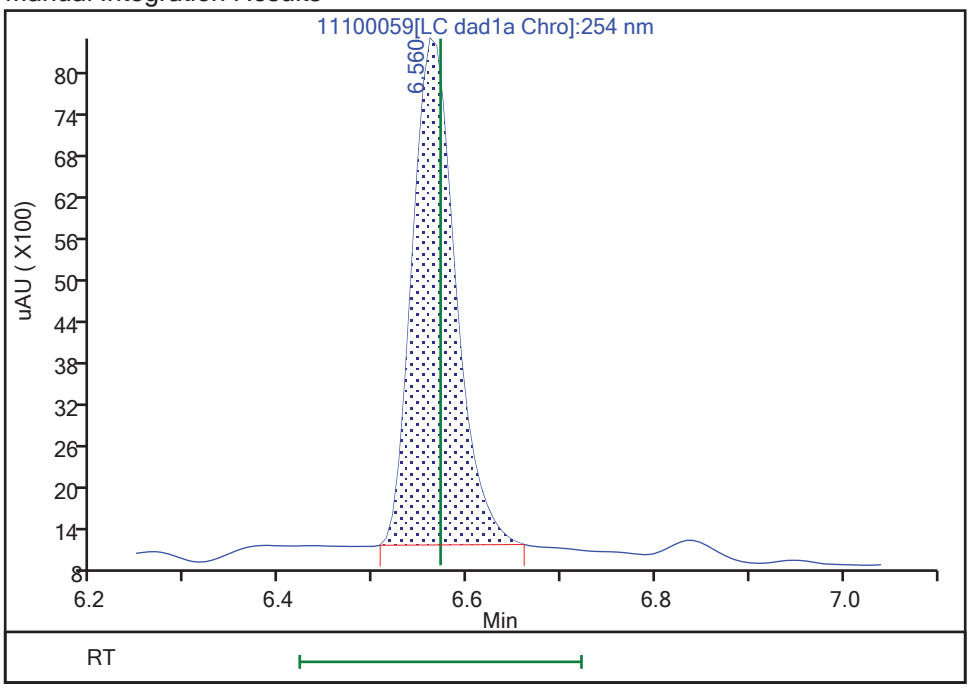
Processing Integration Results

RT: 6.56
Area: 25127
Amount: 0.282459
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 23077
Amount: 0.259415
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:21:44
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/60 | Calibration Date: 11/11/2022 09:24

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100060.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	218768		0.255	0.250	1.8	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	136976		0.256	0.250	2.3	20.0
3,5-Dinitroaniline	Lin2		227000		249	250	-0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/60 Calibration Date: 11/11/2022 09:24

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100060.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.44	6.30	6.60
2,4-diamino-6-nitrotoluene	6.62	6.48	6.78
3,5-Dinitroaniline	9.82	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100060.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 09:24:45 ALS Bottle#: 8 Worklist Smp#: 60
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:30 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:22:00

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.442	6.452	-0.010	54692	0.2500	0.2546	M
5 2,4-diamino-6-nitrotoluene	1	6.622	6.632	-0.010	34244	0.2500	0.2557	M
14 3,5-Dinitroaniline	1	9.815	9.832	-0.017	56750	0.2500	0.2485	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 11-Nov-2022 12:25:30 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100060.d

Injection Date: 11-Nov-2022 09:24:45 Instrument ID: CHHPLC_X3 Operator ID:

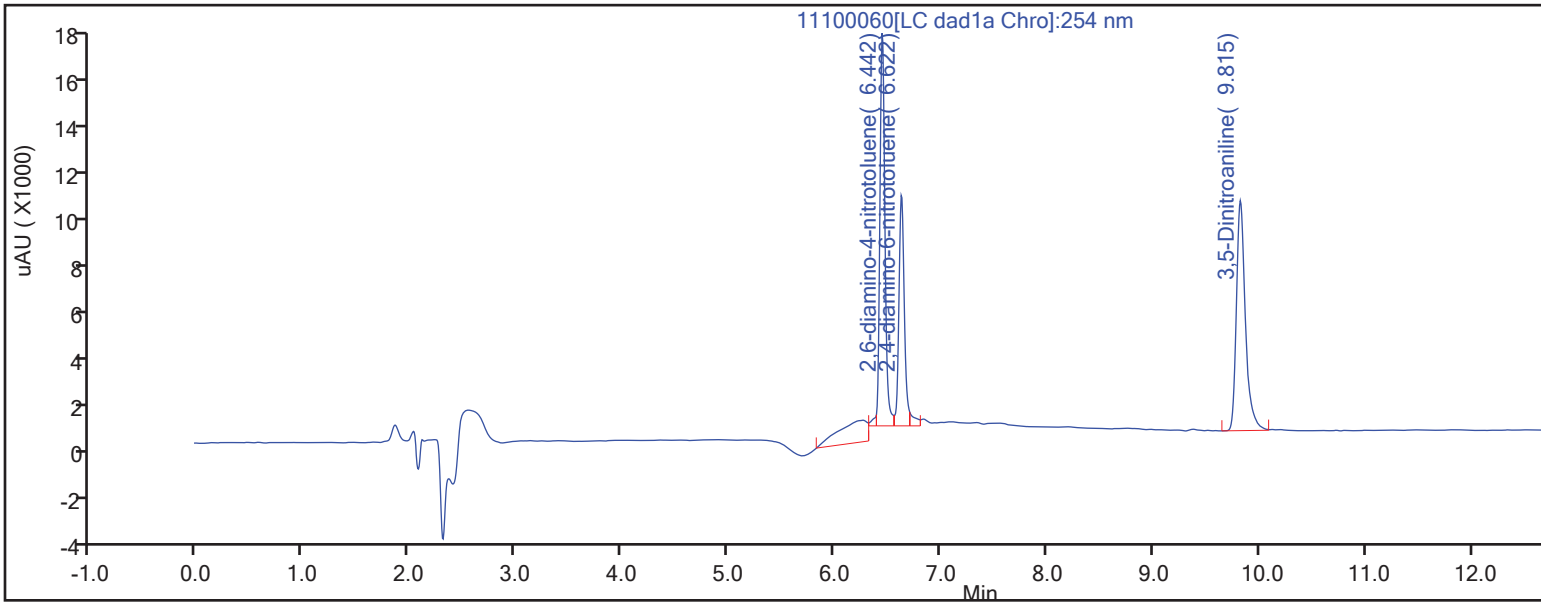
Lims ID: CCV ADD Worklist Smp#:

Client ID:

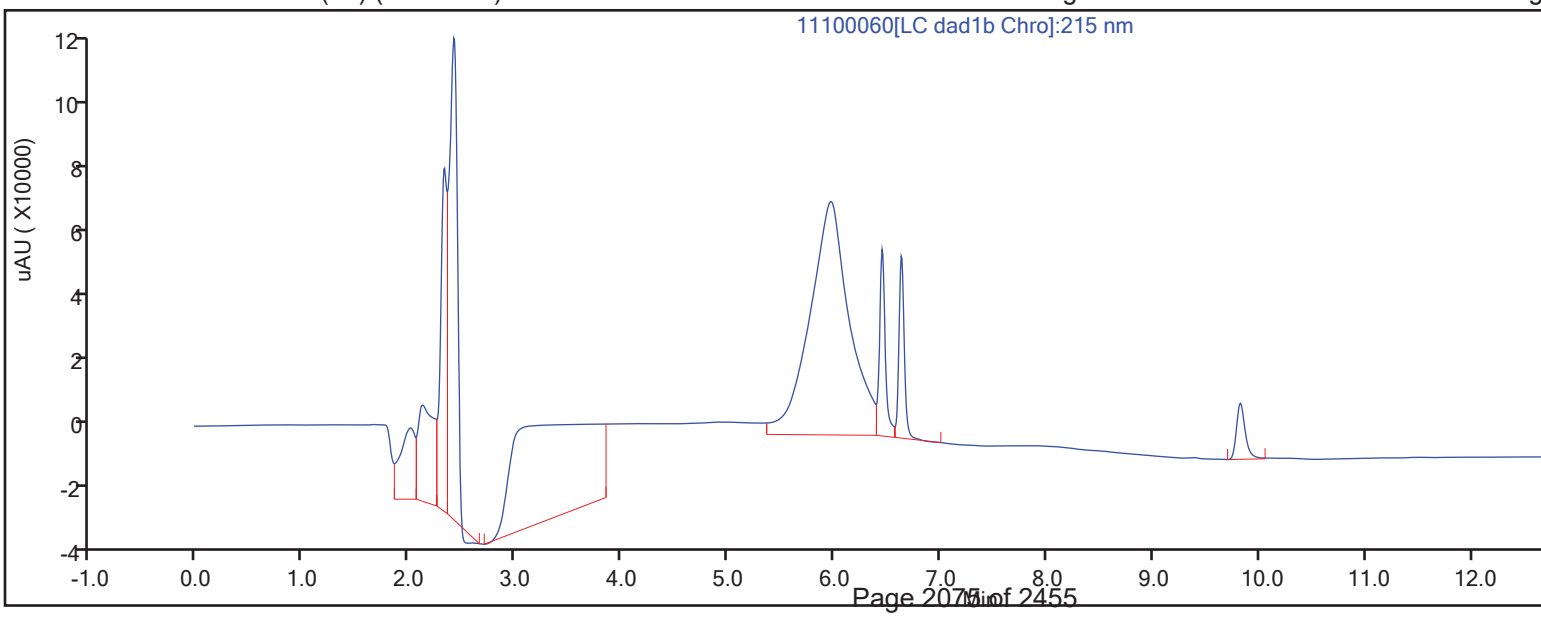
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

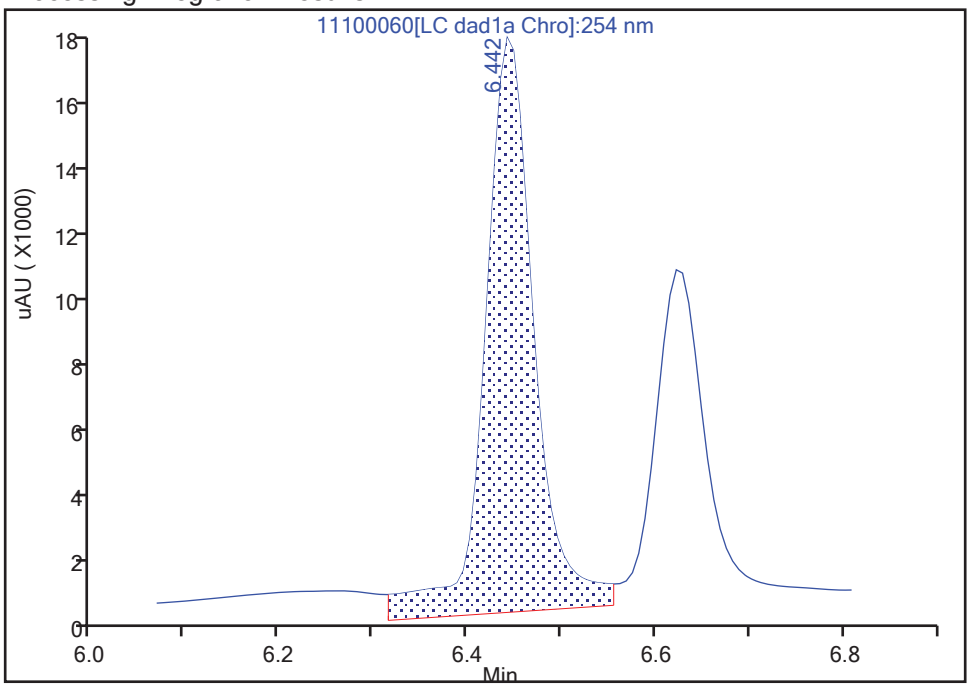
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100060.d
Injection Date: 11-Nov-2022 09:24:45 Instrument ID: CHHPLC_X3
Lims ID: CCV ADD
Client ID:
Operator ID: JZ ALS Bottle#: 8 Worklist Smp#: 60
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

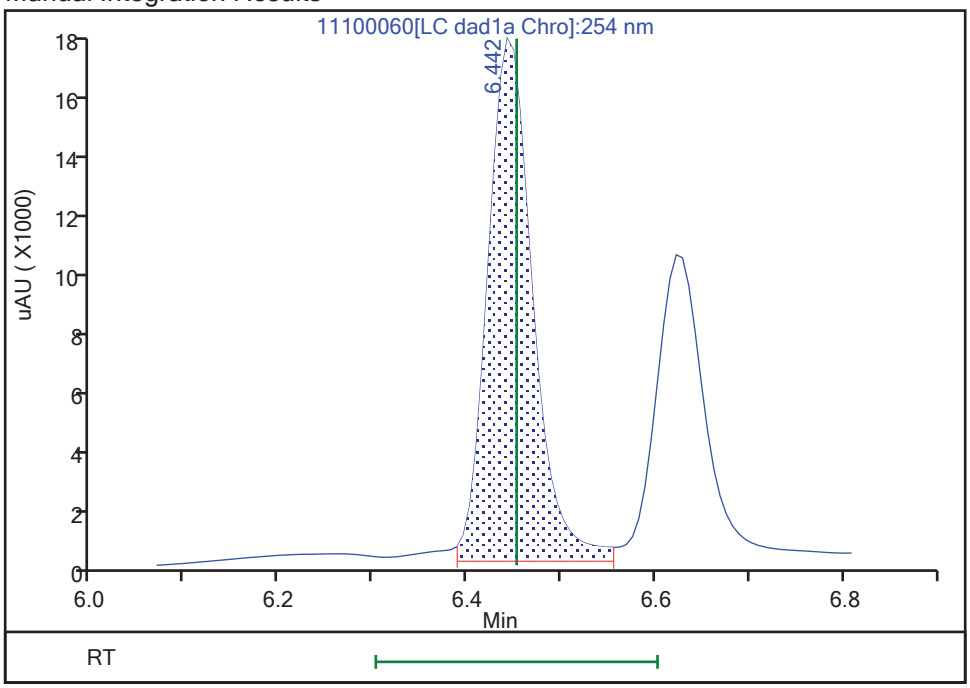
Processing Integration Results

RT: 6.44
Area: 61732
Amount: 0.287397
Amount Units: ug/mL



Manual Integration Results

RT: 6.44
Area: 54692
Amount: 0.254622
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:21:57
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

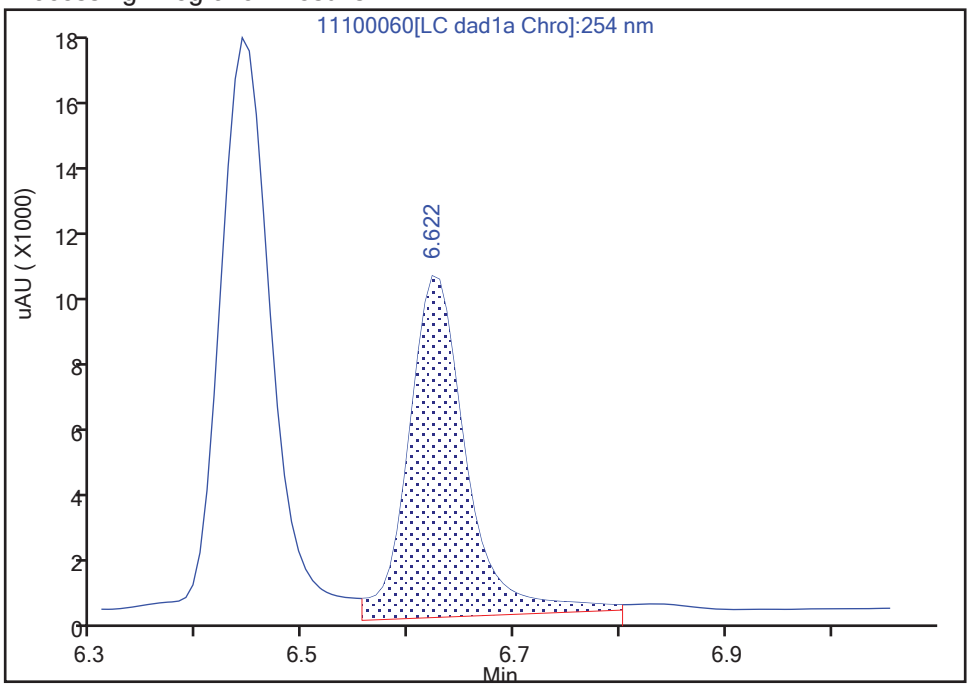
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100060.d				
Injection Date:	11-Nov-2022 09:24:45	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	60
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

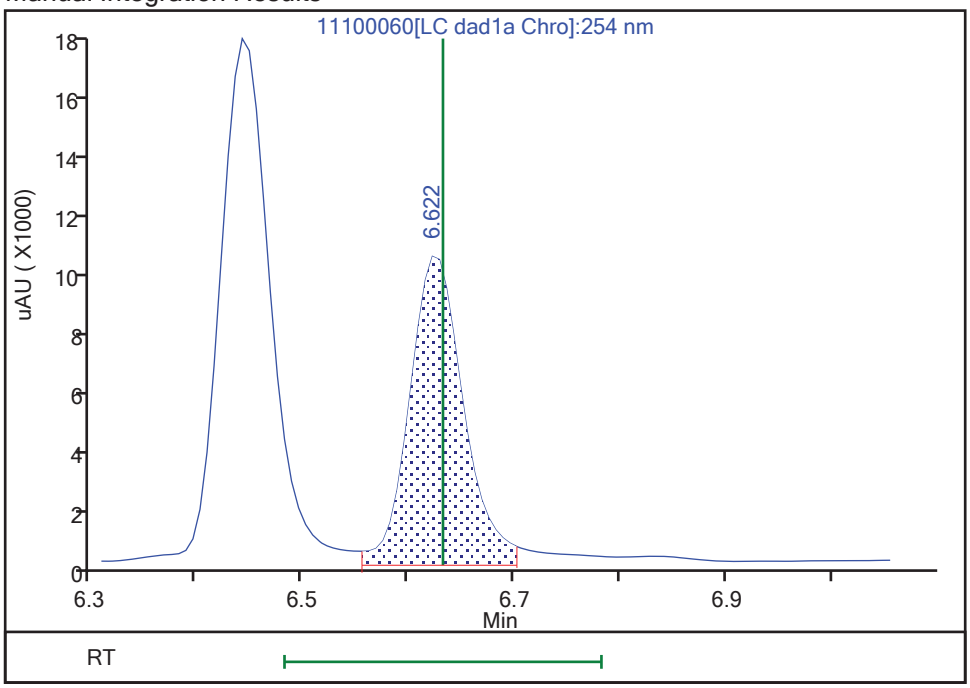
Processing Integration Results

RT: 6.62
Area: 36985
Amount: 0.276186
Amount Units: ug/mL



Manual Integration Results

RT: 6.62
Area: 34244
Amount: 0.255718
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:21:59
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/66 | Calibration Date: 11/11/2022 11:43

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100066.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	92612		260	250	4.1	20.0
RDX	Ave	107626	108984		253	250	1.3	20.0
Picric acid	Ave	77471	78084		252	250	0.8	20.0
1,3,5-Trinitrobenzene	Ave	213642	221016		259	250	3.5	20.0
1,3-Dinitrobenzene	Ave	290541	301316		259	250	3.7	20.0
Nitrobenzene	Ave	193031	183288		237	250	-5.0	20.0
Tetryl	Ave	165412	148796		225	250	-10.0	20.0
Nitroglycerin	Ave	61733	65348		2650	2500	5.9	20.0
2,4,6-Trinitrotoluene	Ave	210916	196524		233	250	-6.8	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	153672		265	250	6.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	195836		251	250	0.3	20.0
2,6-Dinitrotoluene	Ave	142188	142508		251	250	0.2	20.0
2,4-Dinitrotoluene	Ave	290110	303932		262	250	4.8	20.0
2-Nitrotoluene	Lin2		117296		234	250	-6.5	20.0
4-Nitrotoluene	Ave	111851	104540		234	250	-6.5	20.0
3-Nitrotoluene	Ave	137965	128968		234	250	-6.5	20.0
PETN	Lin1		74022		2550	2500	2.0	20.0
1,2-Dinitrobenzene	Ave	125844	126068		250	250	0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/66 Calibration Date: 11/11/2022 11:43

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100066.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.56	6.42	6.72
RDX	7.55	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.48	8.78
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.63	9.49	9.79
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.39	10.25	10.55
2,4,6-Trinitrotoluene	10.83	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.01	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.25	11.17	11.37
2,6-Dinitrotoluene	11.43	11.36	11.56
2,4-Dinitrotoluene	11.60	11.52	11.72
2-Nitrotoluene	12.45	12.33	12.63
4-Nitrotoluene	12.86	12.75	13.05
3-Nitrotoluene	13.43	13.31	13.61
PETN	14.46	14.37	14.67
1,2-Dinitrobenzene	8.50	8.36	8.66

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100066.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 11:43:01 ALS Bottle#: 7 Worklist Smp#: 66
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:35:24 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:35:01

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.560	6.571	-0.011	23153	0.2500	0.2603	M
8 RDX	1	7.554	7.558	-0.004	27246	0.2500	0.2532	
9 2,4,6-Trinitrophenol	1	7.880	7.878	0.002	19521	0.2500	0.2520	
$ 10 1,2-Dinitrobenzene	1	8.500	8.505	-0.005	31517	0.2500	0.2504	
11 1,3,5-Trinitrobenzene	1	8.620	8.625	-0.005	55254	0.2500	0.2586	
12 1,3-Dinitrobenzene	1	9.240	9.244	-0.004	75329	0.2500	0.2593	
13 Nitrobenzene	1	9.627	9.638	-0.011	45822	0.2500	0.2374	
15 Tetryl	1	9.940	9.944	-0.004	37199	0.2500	0.2249	
16 Nitroglycerin	2	10.387	10.404	-0.017	163371	2.50	2.65	
17 2,4,6-Trinitrotoluene	1	10.834	10.851	-0.017	49131	0.2500	0.2329	
18 4-Amino-2,6-dinitrotoluene	1	11.007	11.024	-0.017	38418	0.2500	0.2653	
19 2-Amino-4,6-dinitrotoluene	1	11.254	11.271	-0.017	48959	0.2500	0.2508	
20 2,6-Dinitrotoluene	1	11.434	11.458	-0.024	35627	0.2500	0.2506	
21 2,4-Dinitrotoluene	1	11.600	11.624	-0.024	75983	0.2500	0.2619	
22 o-Nitrotoluene	1	12.447	12.478	-0.031	29324	0.2500	0.2339	
23 p-Nitrotoluene	1	12.860	12.898	-0.038	26135	0.2500	0.2337	
24 m-Nitrotoluene	1	13.427	13.464	-0.037	32242	0.2500	0.2337	
25 PETN	2	14.460	14.518	-0.058	185055	2.50	2.55	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 11-Nov-2022 12:35:24 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100066.d

Injection Date: 11-Nov-2022 11:43:01 Instrument ID: CHHPLC_X3 Operator ID:

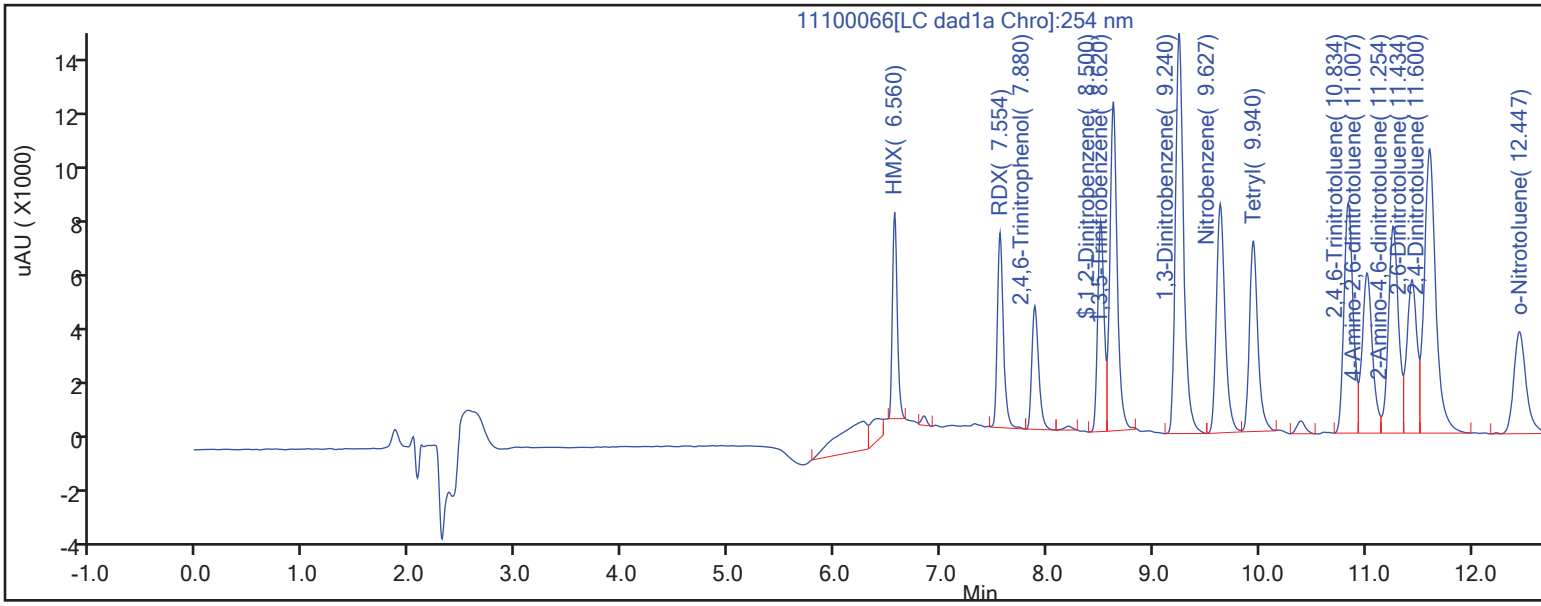
Lims ID: CCV INT Worklist Smp#:

Client ID:

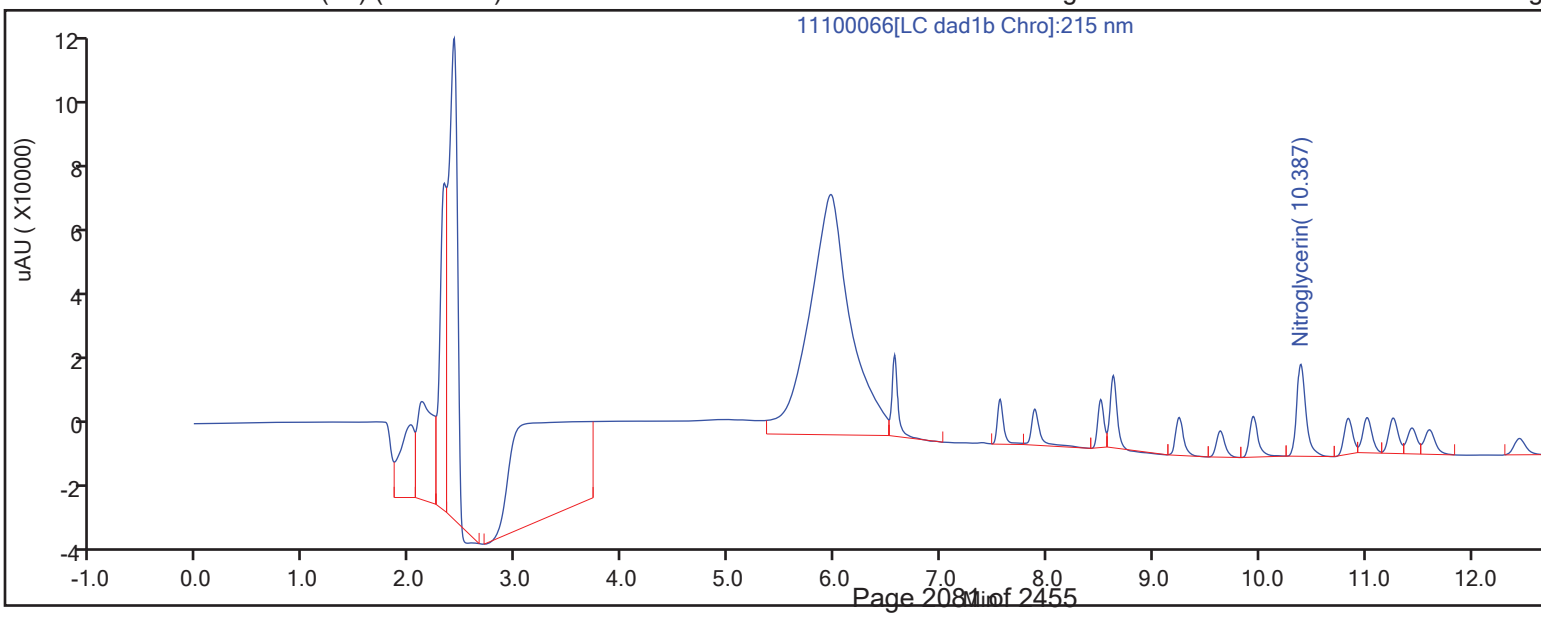
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

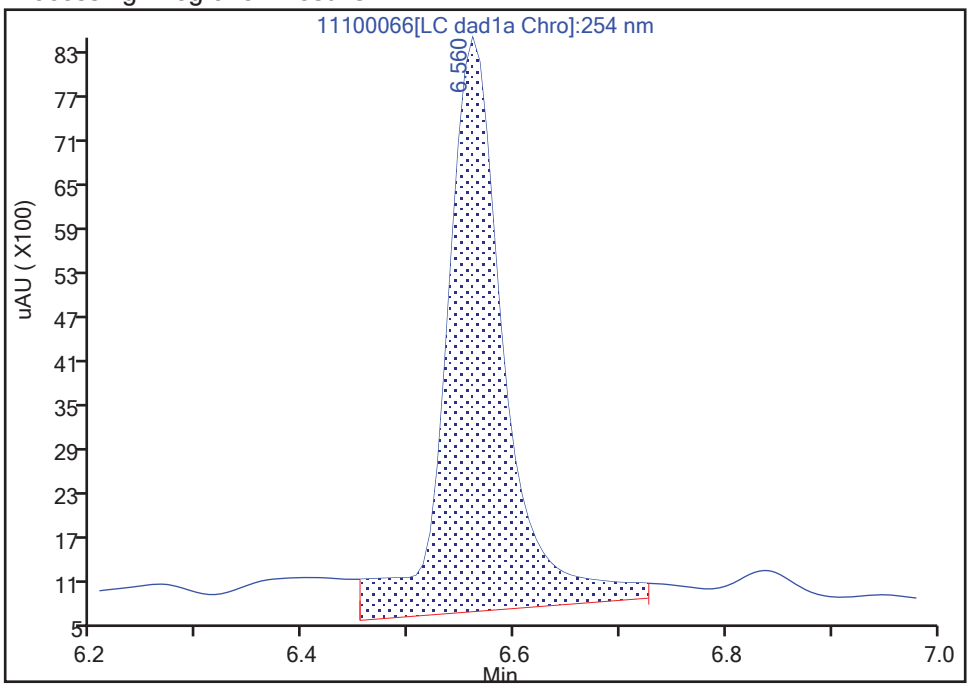
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100066.d
Injection Date: 11-Nov-2022 11:43:01 Instrument ID: CHHPLC_X3
Lims ID: CCV INT
Client ID:
Operator ID: JZ ALS Bottle#: 7 Worklist Smp#: 66
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

4 HMX, CAS: 2691-41-0

Signal: 1

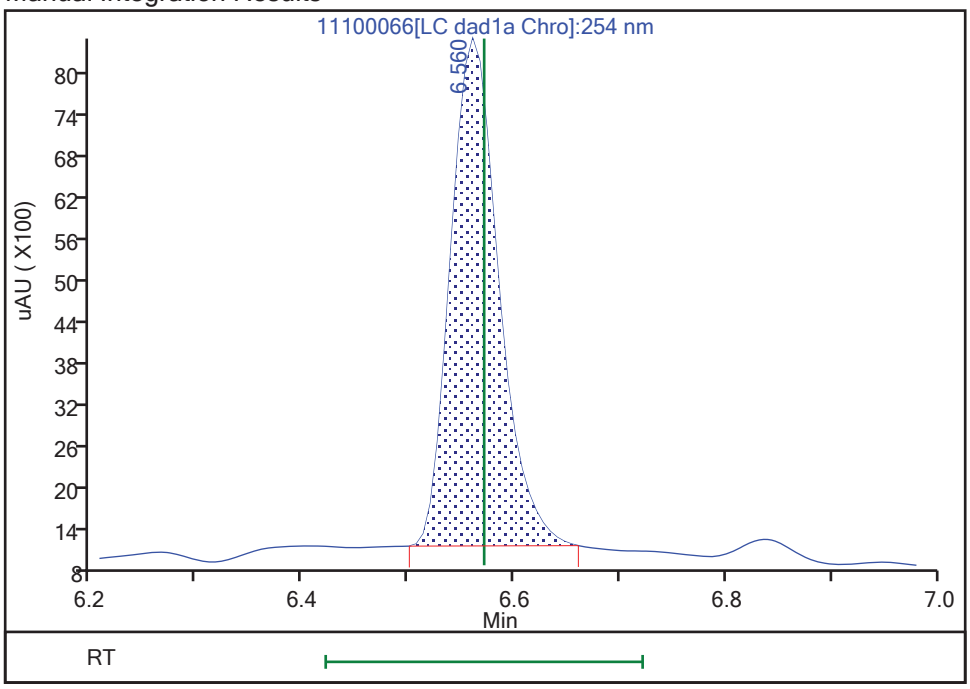
Processing Integration Results

RT: 6.56
Area: 29959
Amount: 0.336777
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 23153
Amount: 0.260269
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:25:14
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/67 | Calibration Date: 11/11/2022 12:06

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100067.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	219004		0.255	0.250	2.0	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	136736		0.255	0.250	2.1	20.0
3,5-Dinitroaniline	Lin2		227084		249	250	-0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/67 Calibration Date: 11/11/2022 12:06

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100067.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.44	6.30	6.60
2,4-diamino-6-nitrotoluene	6.62	6.48	6.78
3,5-Dinitroaniline	9.82	9.68	9.98

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100067.D
Lims ID: CCV ADD
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 12:06:05 ALS Bottle#: 8 Worklist Smp#: 67
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV ADD
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub10

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:35:25 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:35:20

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2 2,6-diamino-4-nitrotoluene	1	6.443	6.452	-0.009	54751	0.2500	0.2549	M
5 2,4-diamino-6-nitrotoluene	1	6.623	6.632	-0.009	34184	0.2500	0.2553	M
14 3,5-Dinitroaniline	1	9.816	9.832	-0.016	56771	0.2500	0.2486	

QC Flag Legend

Review Flags
M - Manually Integrated

Reagents:

8330_ADDs_00033 Amount Added: 12.50 Units: uL

Report Date: 11-Nov-2022 12:35:25 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100067.d

Injection Date: 11-Nov-2022 12:06:05 Instrument ID: CHHPLC_X3 Operator ID:

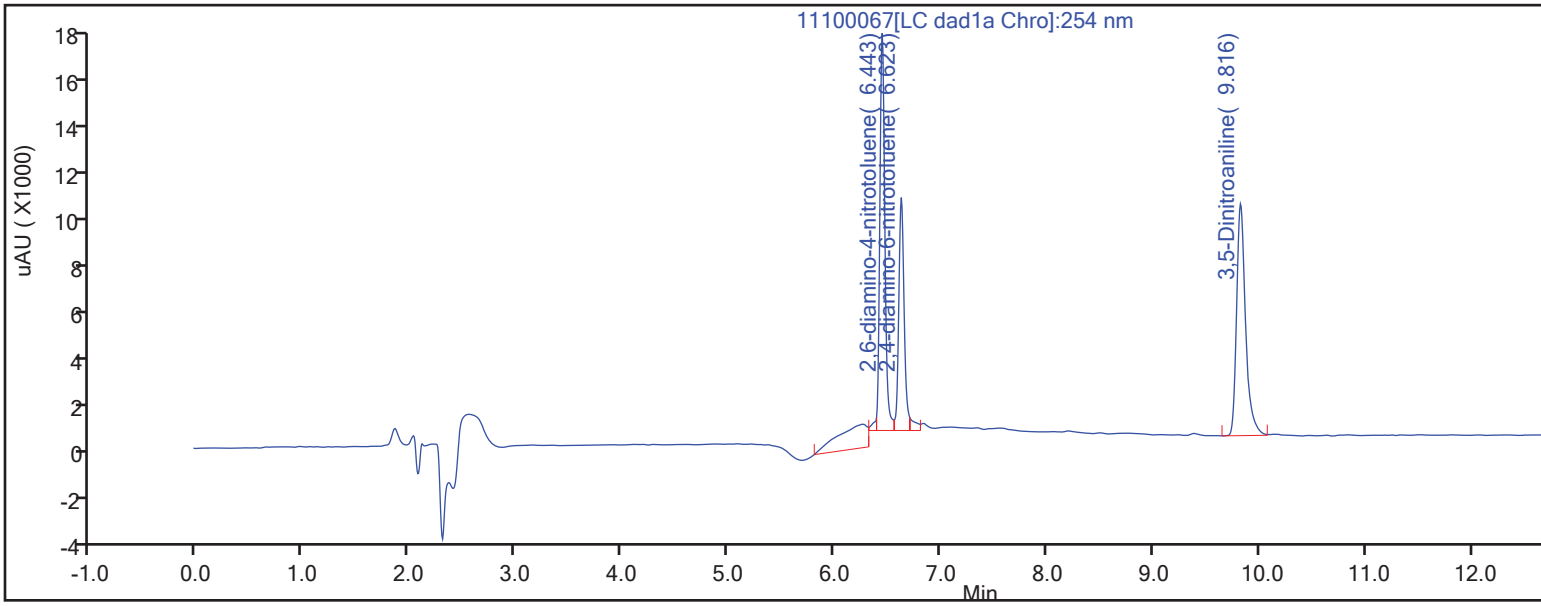
Lims ID: CCV ADD Worklist Smp#:

Client ID:

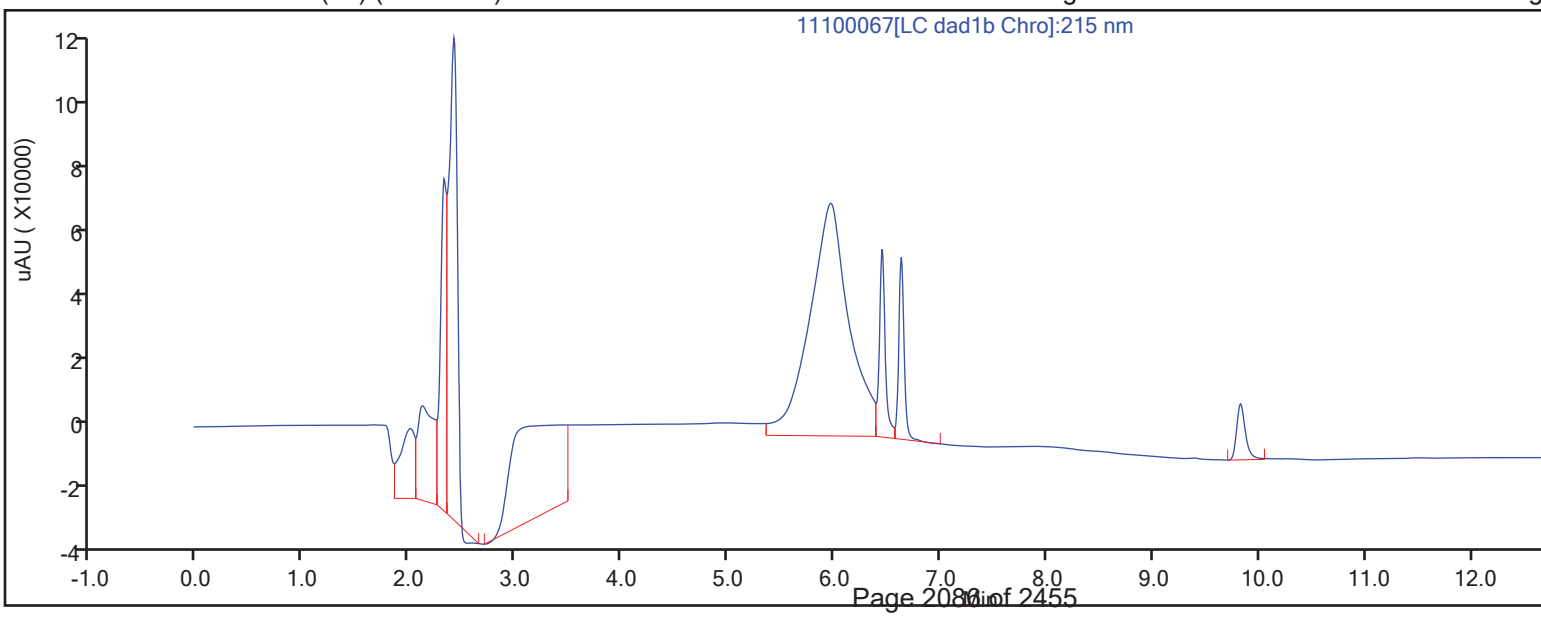
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

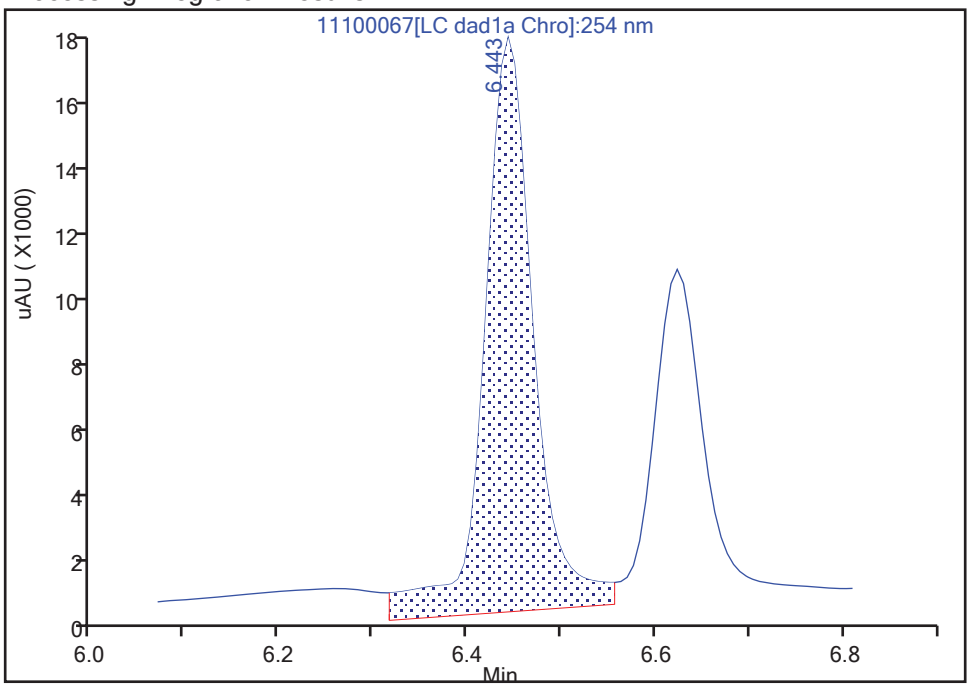
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100067.d				
Injection Date:	11-Nov-2022 12:06:05	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	67
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

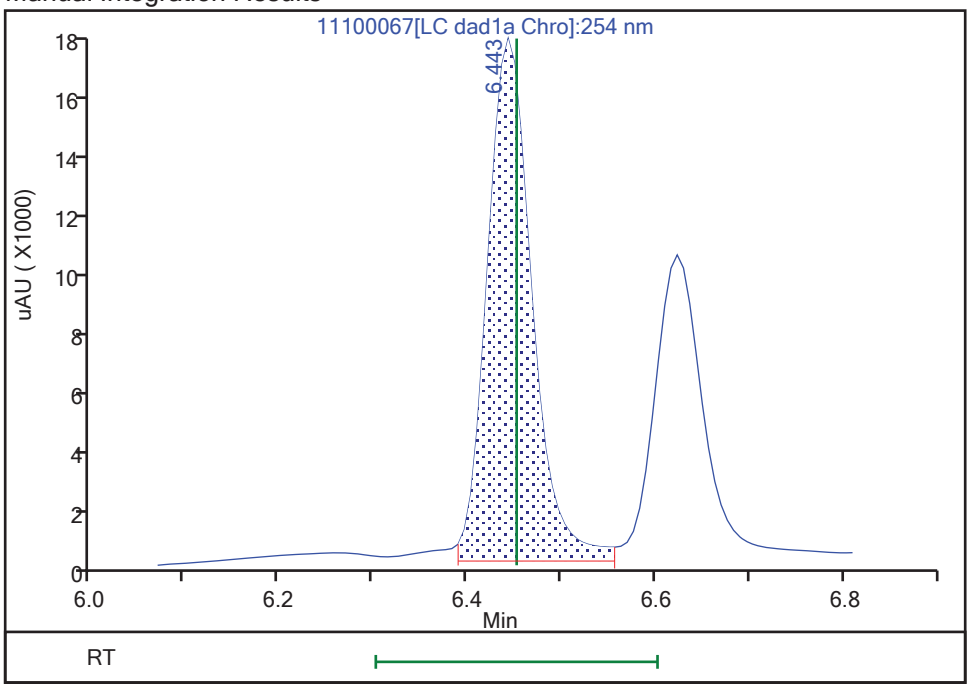
Processing Integration Results

RT: 6.44
Area: 62350
Amount: 0.290274
Amount Units: ug/mL



Manual Integration Results

RT: 6.44
Area: 54751
Amount: 0.254896
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:35:13
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

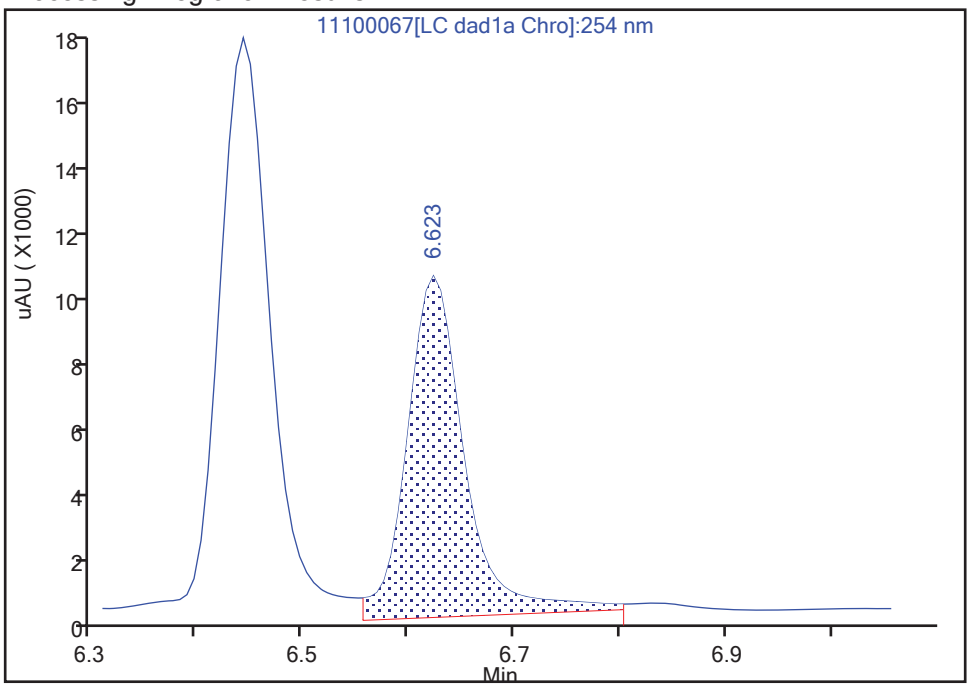
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100067.d				
Injection Date:	11-Nov-2022 12:06:05	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV ADD				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	8	Worklist Smp#:	67
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

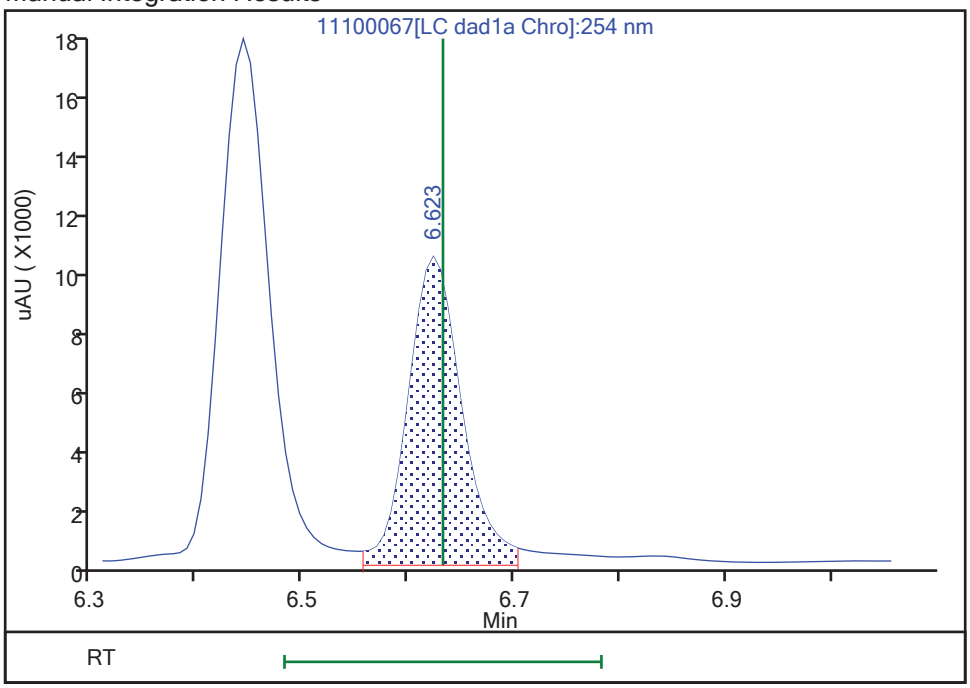
Processing Integration Results

RT: 6.62
Area: 37038
Amount: 0.276582
Amount Units: ug/mL



Manual Integration Results

RT: 6.62
Area: 34184
Amount: 0.255270
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:35:14
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/7 | Calibration Date: 11/11/2022 15:47

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11110007.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	89076		250	250	0.1	20.0
RDX	Ave	107626	101344		235	250	-5.8	20.0
Picric acid	Ave	77471	74320		240	250	-4.1	20.0
1,3,5-Trinitrobenzene	Ave	213642	211364		247	250	-1.1	20.0
1,3-Dinitrobenzene	Ave	290541	288344		248	250	-0.8	20.0
Nitrobenzene	Ave	193031	190216		246	250	-1.5	20.0
Tetryl	Ave	165412	150784		228	250	-8.8	20.0
Nitroglycerin	Ave	61733	62442		2530	2500	1.1	20.0
2,4,6-Trinitrotoluene	Ave	210916	189076		224	250	-10.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	146728		253	250	1.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	185512		238	250	-5.0	20.0
2,6-Dinitrotoluene	Ave	142188	134608		237	250	-5.3	20.0
2,4-Dinitrotoluene	Ave	290110	293208		253	250	1.1	20.0
2-Nitrotoluene	Lin2		120508		240	250	-3.9	20.0
4-Nitrotoluene	Ave	111851	104584		234	250	-6.5	20.0
3-Nitrotoluene	Ave	137965	131360		238	250	-4.8	20.0
PETN	Lin1		70604		2430	2500	-2.6	20.0
1,2-Dinitrobenzene	Ave	125844	120184		239	250	-4.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/7 Calibration Date: 11/11/2022 15:47

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11110007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.56	6.41	6.71
RDX	7.55	7.40	7.70
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.47	8.77
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.62	9.47	9.77
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.38	10.23	10.53
2,4,6-Trinitrotoluene	10.83	10.73	10.93
4-Amino-2,6-dinitrotoluene	11.01	10.91	11.11
2-Amino-4,6-dinitrotoluene	11.26	11.16	11.36
2,6-Dinitrotoluene	11.44	11.34	11.54
2,4-Dinitrotoluene	11.60	11.50	11.70
2-Nitrotoluene	12.45	12.30	12.60
4-Nitrotoluene	12.86	12.71	13.01
3-Nitrotoluene	13.43	13.28	13.58
PETN	14.46	14.31	14.61
1,2-Dinitrobenzene	8.50	8.35	8.65

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110007.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 15:47:23 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:56 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 16:39:40

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.563	6.563	0.000	22269	0.2500	0.2503	M
8 RDX	1	7.549	7.549	0.000	25336	0.2500	0.2354	
9 2,4,6-Trinitrophenol	1	7.876	7.876	0.000	18580	0.2500	0.2398	
$ 10 1,2-Dinitrobenzene	1	8.496	8.496	0.000	30046	0.2500	0.2388	
11 1,3,5-Trinitrobenzene	1	8.616	8.616	0.000	52841	0.2500	0.2473	
12 1,3-Dinitrobenzene	1	9.236	9.236	0.000	72086	0.2500	0.2481	
13 Nitrobenzene	1	9.622	9.622	0.000	47554	0.2500	0.2464	
15 Tetryl	1	9.936	9.936	0.000	37696	0.2500	0.2279	
16 Nitroglycerin	2	10.382	10.382	0.000	156104	2.50	2.53	
17 2,4,6-Trinitrotoluene	1	10.829	10.829	0.000	47269	0.2500	0.2241	
18 4-Amino-2,6-dinitrotoluene	1	11.009	11.009	0.000	36682	0.2500	0.2533	
19 2-Amino-4,6-dinitrotoluene	1	11.256	11.256	0.000	46378	0.2500	0.2375	
20 2,6-Dinitrotoluene	1	11.436	11.436	0.000	33652	0.2500	0.2367	
21 2,4-Dinitrotoluene	1	11.602	11.602	0.000	73302	0.2500	0.2527	
22 o-Nitrotoluene	1	12.449	12.449	0.000	30127	0.2500	0.2403	
23 p-Nitrotoluene	1	12.862	12.862	0.000	26146	0.2500	0.2338	
24 m-Nitrotoluene	1	13.429	13.429	0.000	32840	0.2500	0.2380	
25 PETN	2	14.462	14.462	0.000	176509	2.50	2.43	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 12-Nov-2022 10:55:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110007.d

Injection Date: 11-Nov-2022 15:47:23 Instrument ID: CHHPLC_X3 Operator ID:

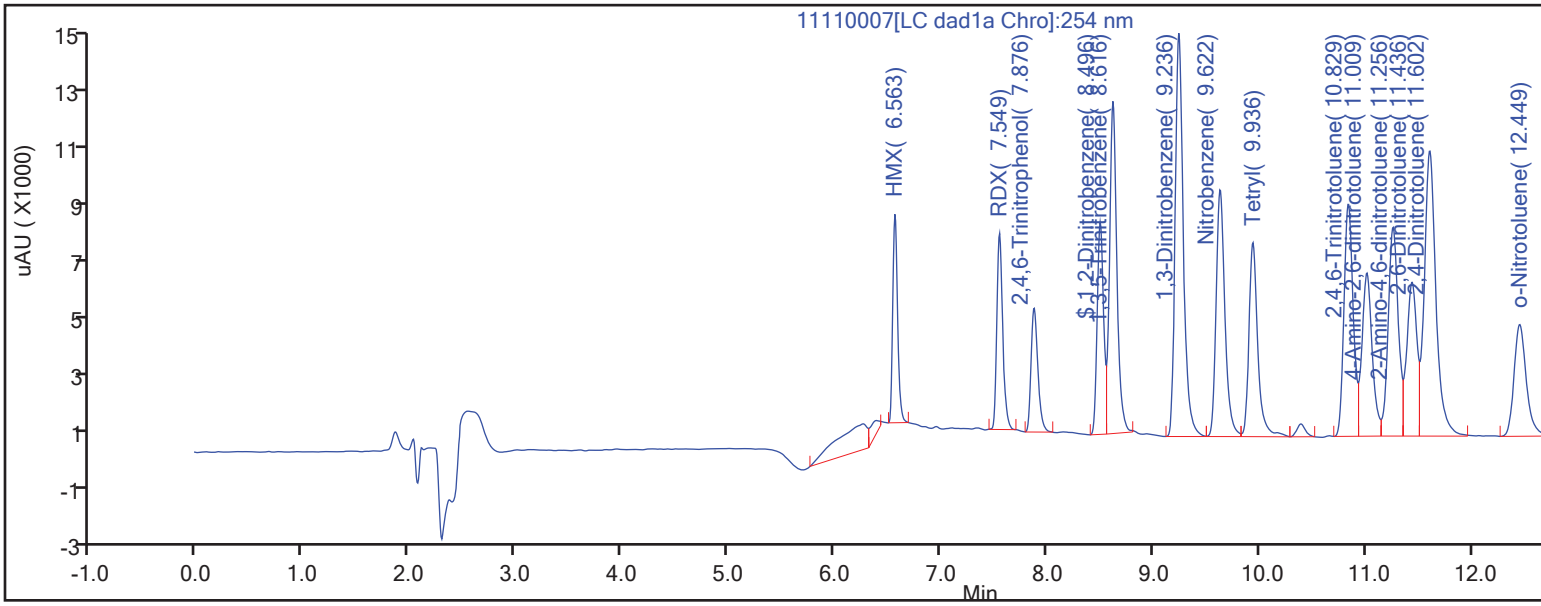
Lims ID: CCV INT Worklist Smp#:

Client ID:

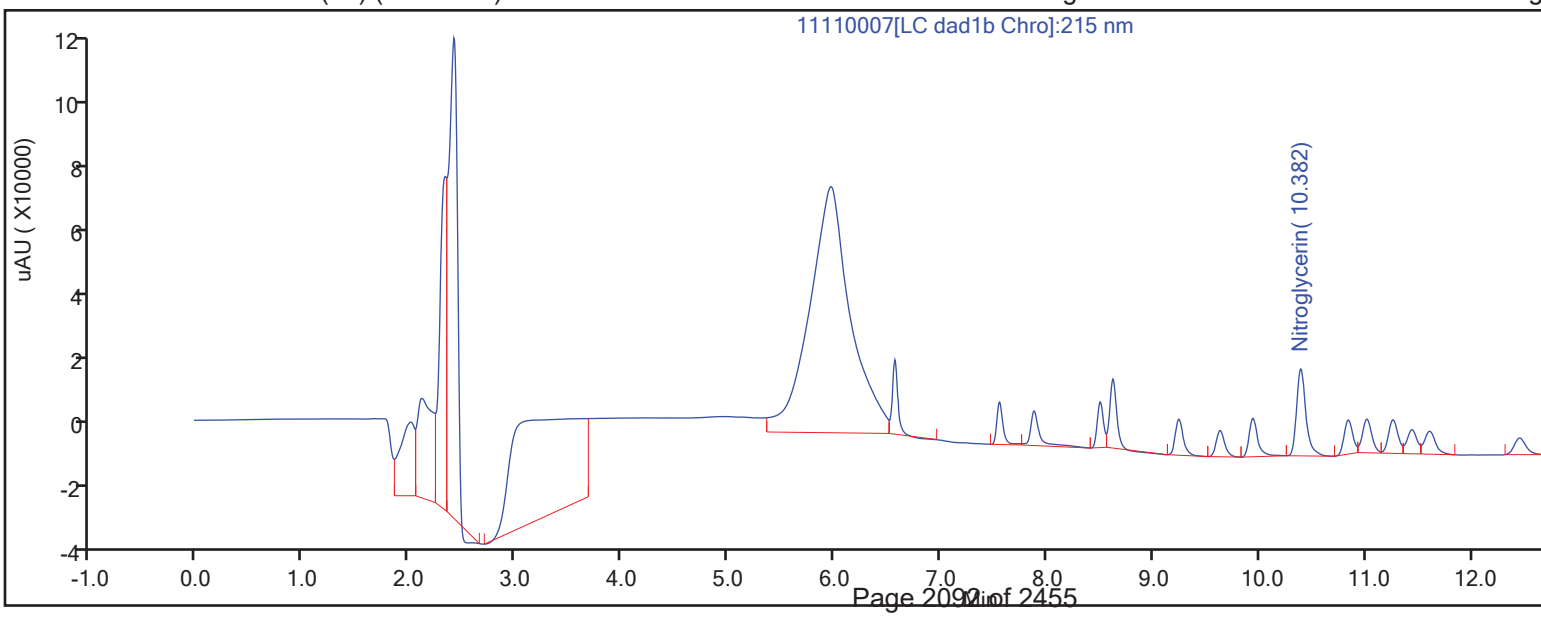
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

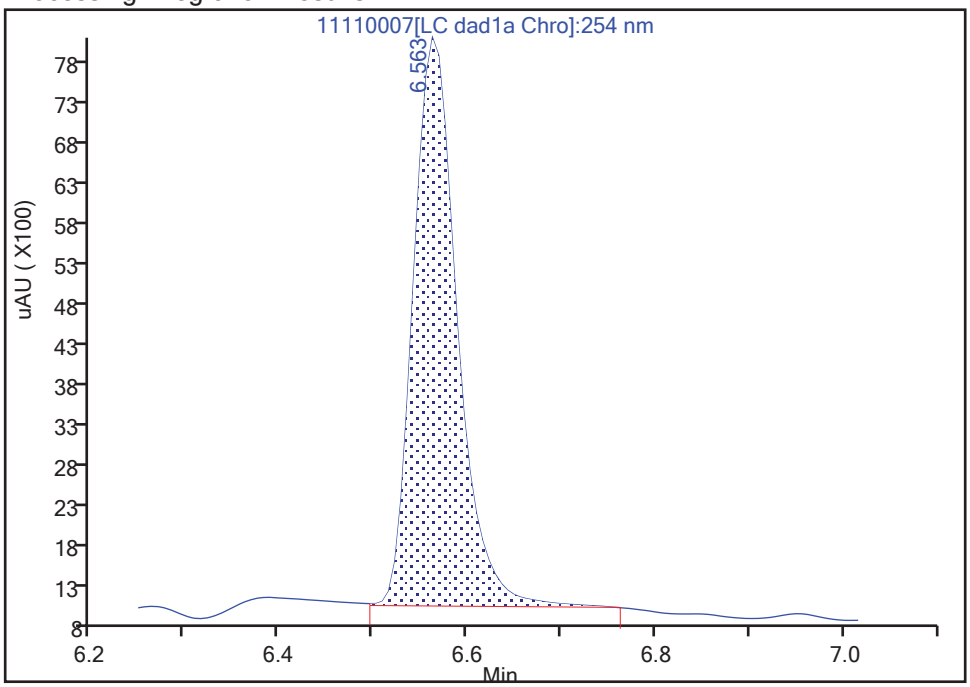
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110007.d				
Injection Date:	11-Nov-2022 15:47:23	Instrument ID:	CHHPLC_X3		
Lims ID:	CCV INT				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	7
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

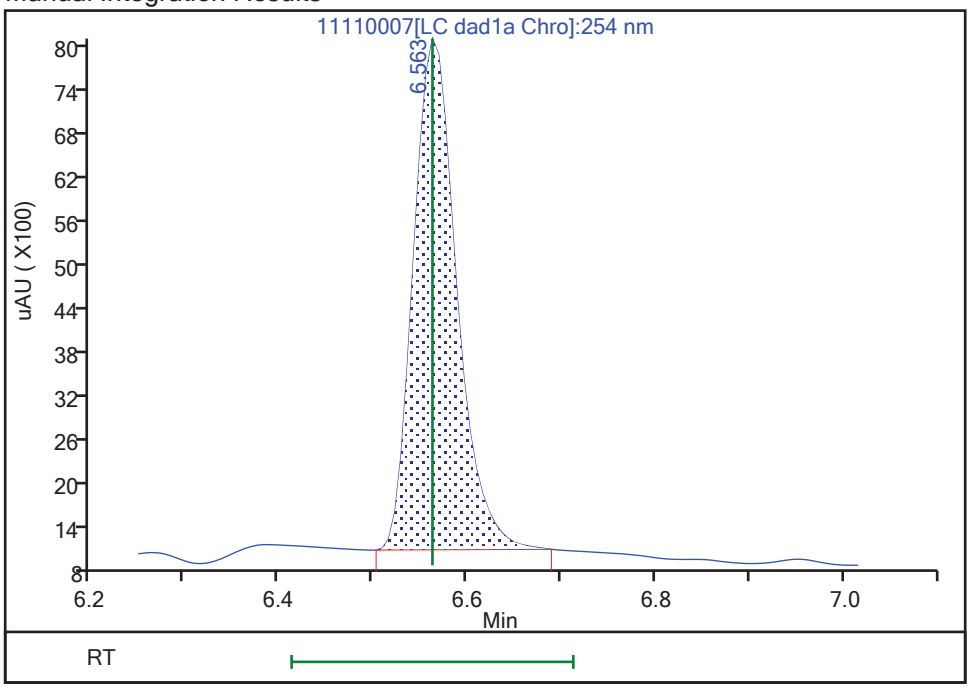
Processing Integration Results

RT: 6.56
Area: 22798
Amount: 0.256278
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 22269
Amount: 0.250332
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 16:17:57
Audit Action: Manually Integrated Audit Reason: Baseline

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/14 | Calibration Date: 11/11/2022 17:19

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11110014.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	91132		256	250	2.4	20.0
RDX	Ave	107626	101280		235	250	-5.9	20.0
Picric acid	Ave	77471	75284		243	250	-2.8	20.0
1,3,5-Trinitrobenzene	Ave	213642	212324		248	250	-0.6	20.0
1,3-Dinitrobenzene	Ave	290541	288864		249	250	-0.6	20.0
Nitrobenzene	Ave	193031	190240		246	250	-1.4	20.0
Tetryl	Ave	165412	150856		228	250	-8.8	20.0
Nitroglycerin	Ave	61733	62318		2520	2500	0.9	20.0
2,4,6-Trinitrotoluene	Ave	210916	185820		220	250	-11.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	149544		258	250	3.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	186160		238	250	-4.7	20.0
2,6-Dinitrotoluene	Ave	142188	134316		236	250	-5.5	20.0
2,4-Dinitrotoluene	Ave	290110	291792		251	250	0.6	20.0
2-Nitrotoluene	Lin2		119644		239	250	-4.6	20.0
4-Nitrotoluene	Ave	111851	104704		234	250	-6.4	20.0
3-Nitrotoluene	Ave	137965	131432		238	250	-4.7	20.0
PETN	Lin1		70220		2420	2500	-3.2	20.0
1,2-Dinitrobenzene	Ave	125844	118056		235	250	-6.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/14 Calibration Date: 11/11/2022 17:19

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11110014.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.41	6.71
RDX	7.55	7.40	7.70
Picric acid	7.87	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.47	8.77
1,3-Dinitrobenzene	9.23	9.09	9.39
Nitrobenzene	9.63	9.47	9.77
Tetryl	9.93	9.79	10.09
Nitroglycerin	10.38	10.23	10.53
2,4,6-Trinitrotoluene	10.83	10.73	10.93
4-Amino-2,6-dinitrotoluene	11.01	10.91	11.11
2-Amino-4,6-dinitrotoluene	11.25	11.16	11.36
2,6-Dinitrotoluene	11.43	11.34	11.54
2,4-Dinitrotoluene	11.59	11.50	11.70
2-Nitrotoluene	12.44	12.30	12.60
4-Nitrotoluene	12.86	12.71	13.01
3-Nitrotoluene	13.42	13.28	13.58
PETN	14.45	14.31	14.61
1,2-Dinitrobenzene	8.50	8.35	8.65

Report Date: 12-Nov-2022 10:55:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\11110014.D
Lims ID: CCV INT
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 17:19:28 ALS Bottle#: 7 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV INT
Operator ID: JZ Instrument ID: CHHPLC_X3
Sublist: chrom-8330_X3*sub9

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221111-116024.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 10:55:58 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 18:14:33

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.565	6.563	0.002	22783	0.2500	0.2561	
8 RDX	1	7.552	7.549	0.003	25320	0.2500	0.2353	
9 2,4,6-Trinitrophenol	1	7.872	7.876	-0.004	18821	0.2500	0.2429	
$ 10 1,2-Dinitrobenzene	1	8.498	8.496	0.002	29514	0.2500	0.2345	
11 1,3,5-Trinitrobenzene	1	8.618	8.616	0.002	53081	0.2500	0.2485	
12 1,3-Dinitrobenzene	1	9.232	9.236	-0.004	72216	0.2500	0.2486	
13 Nitrobenzene	1	9.625	9.622	0.003	47560	0.2500	0.2464	
15 Tetryl	1	9.932	9.936	-0.004	37714	0.2500	0.2280	
16 Nitroglycerin	2	10.378	10.382	-0.004	155796	2.50	2.52	
17 2,4,6-Trinitrotoluene	1	10.825	10.829	-0.004	46455	0.2500	0.2203	
18 4-Amino-2,6-dinitrotoluene	1	11.005	11.009	-0.004	37386	0.2500	0.2582	
19 2-Amino-4,6-dinitrotoluene	1	11.252	11.256	-0.004	46540	0.2500	0.2384	
20 2,6-Dinitrotoluene	1	11.425	11.436	-0.011	33579	0.2500	0.2362	
21 2,4-Dinitrotoluene	1	11.592	11.602	-0.010	72948	0.2500	0.2514	
22 o-Nitrotoluene	1	12.438	12.449	-0.011	29911	0.2500	0.2386	
23 p-Nitrotoluene	1	12.858	12.862	-0.004	26176	0.2500	0.2340	
24 m-Nitrotoluene	1	13.418	13.429	-0.011	32858	0.2500	0.2382	
25 PETN	2	14.452	14.462	-0.010	175550	2.50	2.42	

QC Flag Legend
Processing Flags

Reagents:
8330IntermStk_00074 Amount Added: 25.00 Units: uL

Report Date: 12-Nov-2022 10:55:58 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221111-116024.b\11110014.d

Injection Date: 11-Nov-2022 17:19:28 Instrument ID: CHHPLC_X3 Operator ID:

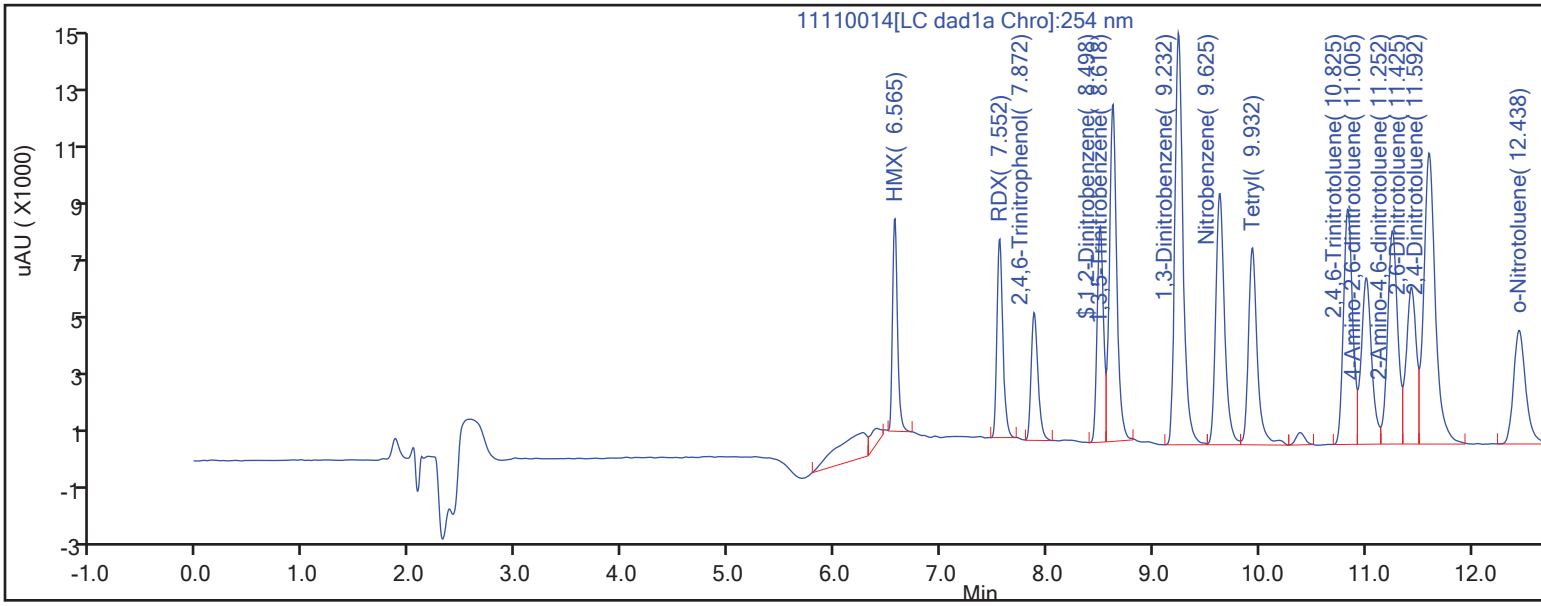
Lims ID: CCV INT Worklist Smp#:

Client ID:

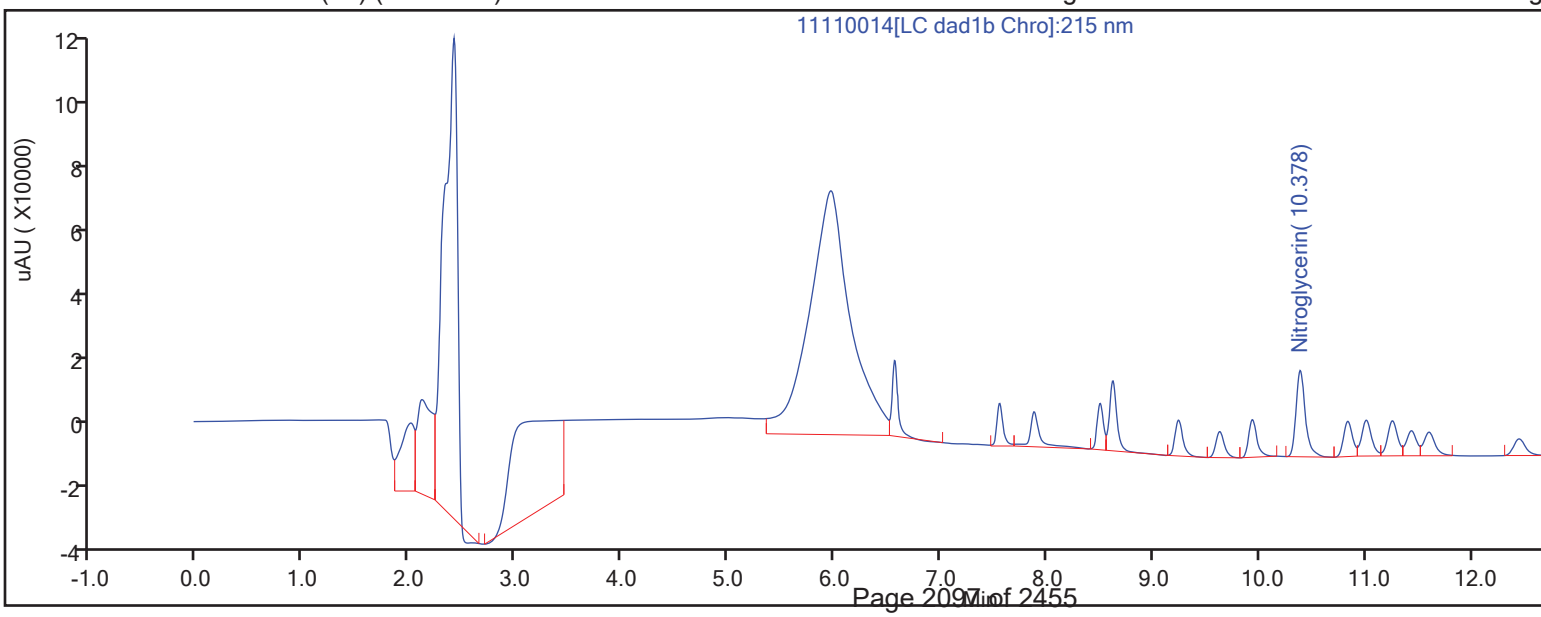
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-567560/19 | Calibration Date: 03/03/2022 02:38

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 03020019.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	447786		0.551	0.500	10.2	20.0
2,4-diamino-6-nitrotoluene	Lin2		221164		0.481	0.500	-3.7	20.0
HMX	Ave	166135	152908		460	500	-8.0	20.0
Picric acid	Ave	132885	149388		562	500	12.4	20.0
RDX	Ave	194331	186788		481	500	-3.9	20.0
Nitrobenzene	Ave	368293	368460		500	500	0.0	20.0
3,5-Dinitroaniline	Lin2		450826		548	500	9.6	20.0
1,3-Dinitrobenzene	Ave	571666	563218		493	500	-1.5	20.0
Nitroglycerin	Ave	122518	128779		5260	5000	5.1	20.0
o-Nitrotoluene	Ave	234672	232836		496	500	-0.8	20.0
p-Nitrotoluene	Ave	210817	216650		514	500	2.8	20.0
4-Amino-2,6-dinitrotoluene	Lin2		269688		505	500	1.0	20.0
m-Nitrotoluene	Lin2		254816		480	500	-4.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	360536	361200		501	500	0.2	20.0
1,3,5-Trinitrobenzene	Ave	415464	433072		521	500	4.2	20.0
2,6-Dinitrotoluene	Ave	265662	266814		502	500	0.4	20.0
2,4-Dinitrotoluene	Lin2		522322		470	500	-5.9	20.0
Tetryl	Ave	342171	323254		472	500	-5.5	20.0
2,4,6-Trinitrotoluene	Ave	369179	384614		521	500	4.2	20.0
PETN	Ave	129329	137808		5330	5000	6.6	20.0
1,2-Dinitrobenzene	Ave	249753	254466		509	500	1.9	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-567560/19 Calibration Date: 03/03/2022 02:38

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 03020019.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.14	3.99	4.29
2,4-diamino-6-nitrotoluene	4.75	4.52	4.82
HMX	6.87	6.74	7.04
Picric acid	7.62	7.45	7.75
RDX	9.08	8.97	9.27
Nitrobenzene	12.01	11.91	12.21
3,5-Dinitroaniline	15.23	15.12	15.42
1,3-Dinitrobenzene	15.60	15.49	15.79
Nitroglycerin	16.04	15.91	16.21
o-Nitrotoluene	16.78	16.67	16.97
p-Nitrotoluene	17.08	16.98	17.28
4-Amino-2,6-dinitrotoluene	17.72	17.61	17.91
m-Nitrotoluene	18.06	17.95	18.25
2-Amino-4,6-dinitrotoluene	18.72	18.59	18.89
1,3,5-Trinitrobenzene	18.92	18.80	19.10
2,6-Dinitrotoluene	20.22	20.11	20.41
2,4-Dinitrotoluene	20.73	20.61	20.91
Tetryl	24.48	24.34	24.64
2,4,6-Trinitrotoluene	25.24	25.11	25.41
PETN	26.21	26.07	26.37
1,2-Dinitrobenzene	13.24	13.13	13.43

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020019.D
Lims ID: ICV INT
Client ID:
Sample Type: ICV
Inject. Date: 03-Mar-2022 02:38:50 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV INT
Misc. Info.: 280-0108949-019
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist:

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 03-Mar-2022 12:52:22 Calib Date: 03-Mar-2022 02:03:29
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1618

First Level Reviewer: zhangji Date: 03-Mar-2022 12:42:44
Second Level Reviewer: zhangji Date: 03-Mar-2022 12:52:22

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.143	4.142	0.001	223893	0.5000	0.5509	
	2 2,4-diamino-6-nitrotoluene	1	4.749	4.669	0.080	110582	0.5000	0.4814	M
	5 HMX	1	6.869	6.889	-0.020	76454	0.5000	0.4602	
	7 2,4,6-Trinitrophenol	1	7.623	7.602	0.021	74694	0.5000	0.5621	
	8 RDX	1	9.076	9.115	-0.039	93394	0.5000	0.4806	
	9 Nitrobenzene	1	12.009	12.062	-0.053	184230	0.5000	0.5002	
$	10 1,2-Dinitrobenzene	1	13.236	13.282	-0.046	127233	0.5000	0.5094	
	11 3,5-Dinitroaniline	1	15.229	15.269	-0.040	225413	0.5000	0.5479	
	12 1,3-Dinitrobenzene	1	15.596	15.635	-0.039	281609	0.5000	0.4926	
	13 Nitroglycerin	2	16.036	16.055	-0.019	643894	5.00	5.26	
	14 o-Nitrotoluene	1	16.776	16.822	-0.046	116418	0.5000	0.4961	
	16 p-Nitrotoluene	1	17.083	17.129	-0.046	108325	0.5000	0.5138	
	17 4-Amino-2,6-dinitrotoluene	1	17.716	17.755	-0.039	134844	0.5000	0.5048	
	18 m-Nitrotoluene	1	18.056	18.102	-0.046	127408	0.5000	0.4797	
	19 2-Amino-4,6-dinitrotoluene	1	18.716	18.742	-0.026	180600	0.5000	0.5009	
	20 1,3,5-Trinitrobenzene	1	18.916	18.949	-0.033	216536	0.5000	0.5212	
	21 2,6-Dinitrotoluene	1	20.223	20.255	-0.032	133407	0.5000	0.5022	
	22 2,4-Dinitrotoluene	1	20.729	20.762	-0.033	261161	0.5000	0.4704	
	23 Tetryl	1	24.476	24.489	-0.013	161627	0.5000	0.4724	
	24 2,4,6-Trinitrotoluene	1	25.243	25.262	-0.019	192307	0.5000	0.5209	
	25 PETN	2	26.209	26.215	-0.006	689039	5.00	5.33	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330 LCS_00111	Amount Added:	50.00	Units: uL
8330Surrogate_00127	Amount Added:	50.00	Units: uL
3,5-DNA LCS_00040	Amount Added:	50.00	Units: uL
8330DiaminLCS_00047	Amount Added:	50.00	Units: uL

Report Date: 03-Mar-2022 12:52:29 Chrom Revision: 2.3 16-Feb-2022 17:52:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020019.D

Injection Date: 03-Mar-2022 02:38:50 Instrument ID: CHHPLC_X5 Operator ID:

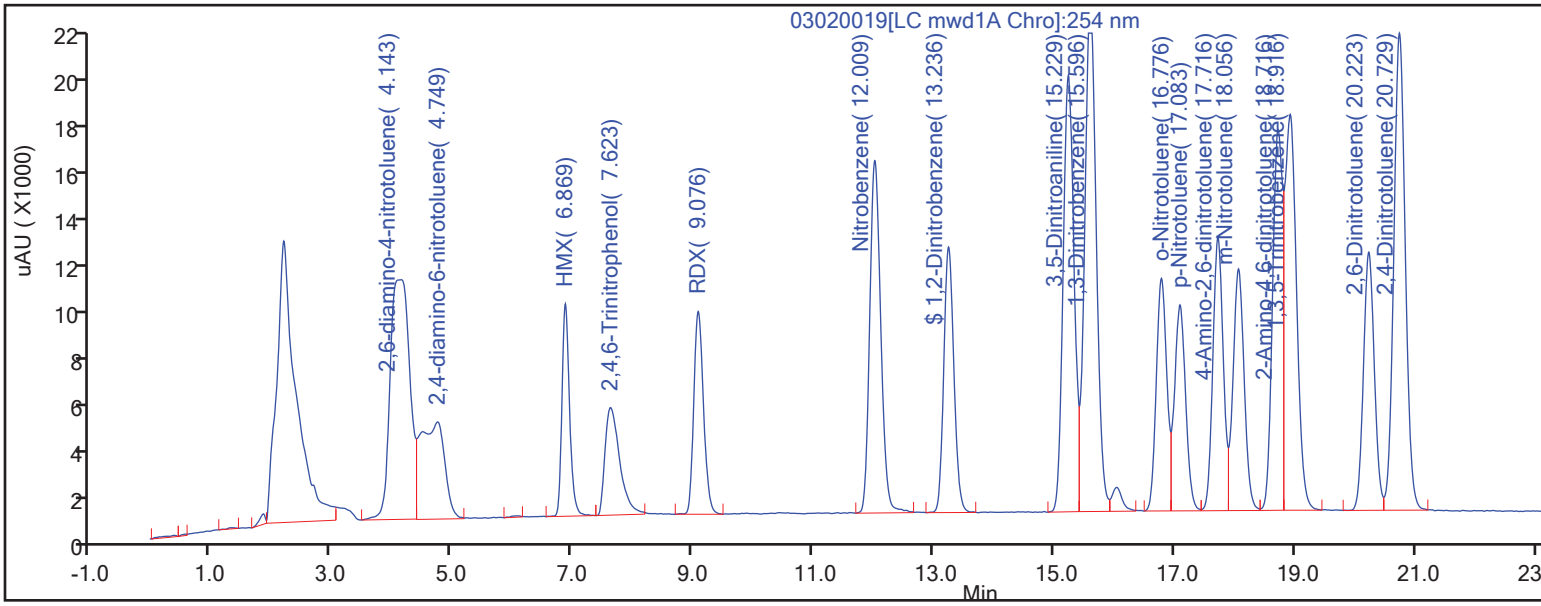
Lims ID: ICV INT Worklist Smp#:

Client ID:

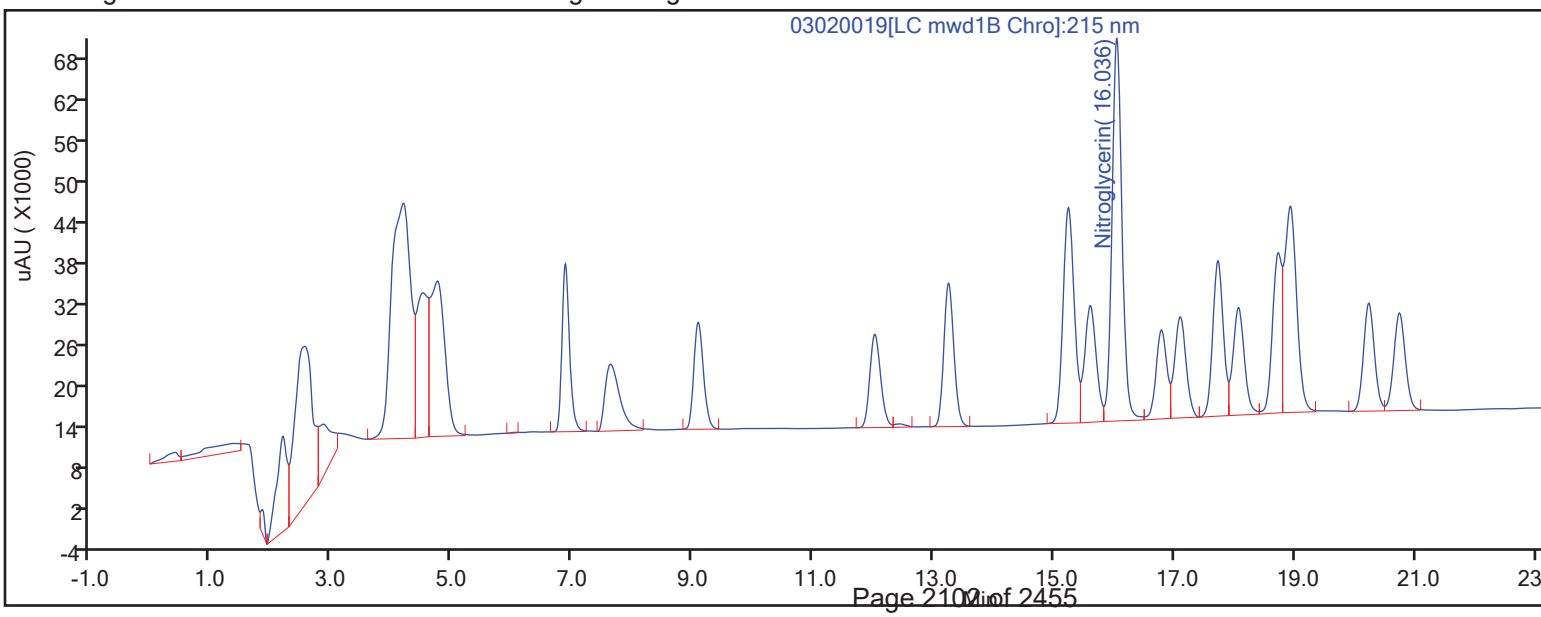
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



Manual Integration/User Assign Peak Report

Eurofins Denver

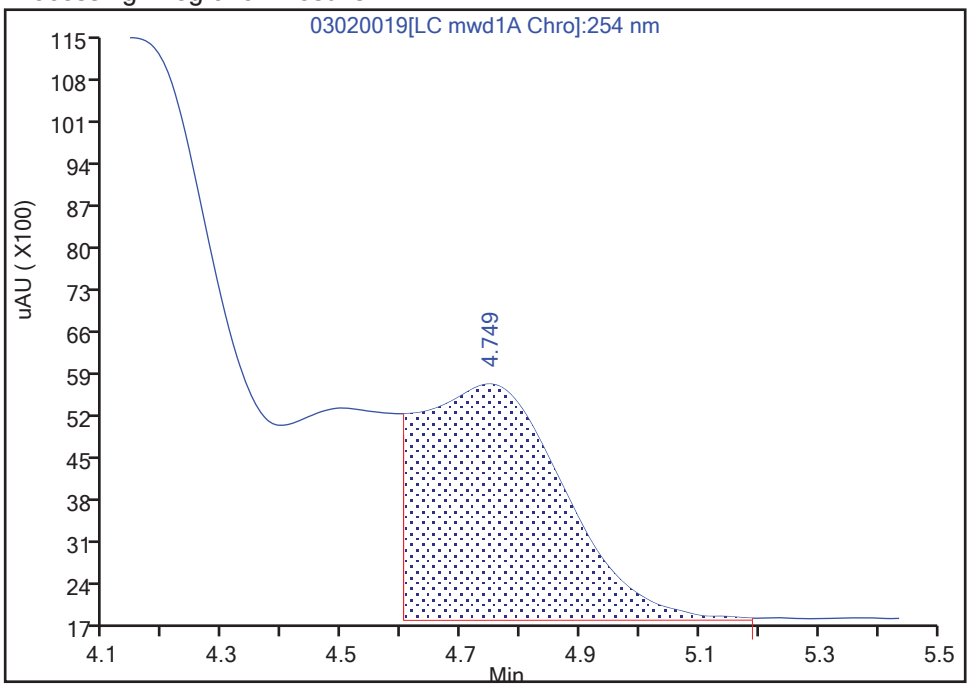
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20220302-108949.b\03020019.D				
Injection Date:	03-Mar-2022 02:38:50	Instrument ID:	CHHPLC_X5		
Lims ID:	ICV INT				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	19	Worklist Smp#:	19
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

2 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

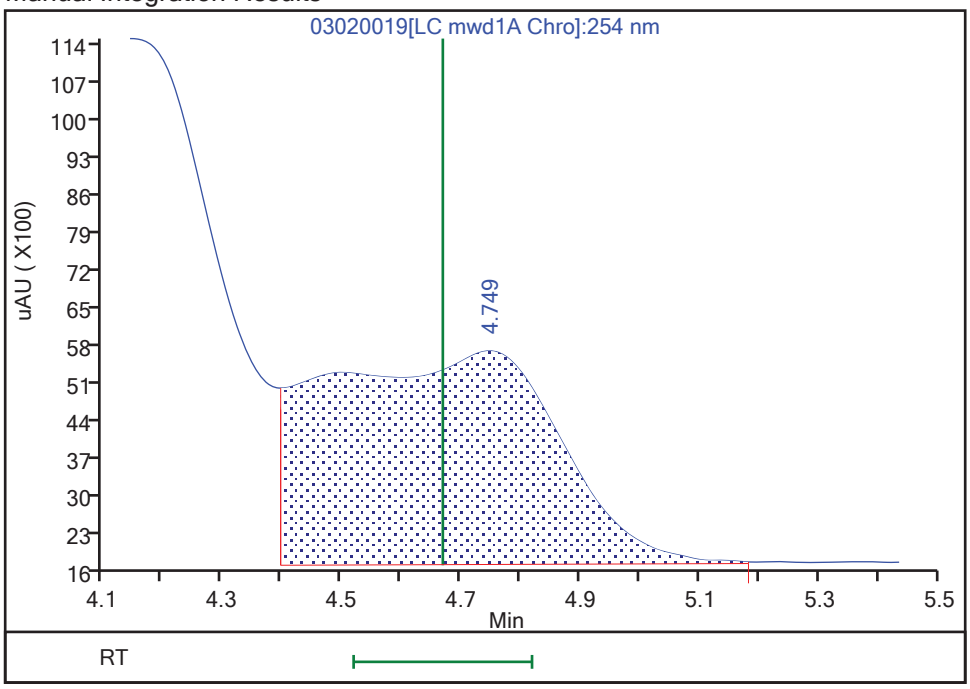
Processing Integration Results

RT: 4.75
Area: 67159
Amount: 0.289459
Amount Units: ug/ml



Manual Integration Results

RT: 4.75
Area: 110582
Amount: 0.481377
Amount Units: ug/ml



Reviewer: zhangji, 03-Mar-2022 12:11:03
Audit Action: Manually Integrated Audit Reason: Incomplete Integration
Second Level Reviewer: zhangji, Date: 03-Mar-2022 12:52:22

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579374/19 | Calibration Date: 06/29/2022 00:40

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 06280019.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	155752		450	500	-10.0	20.0
Picric acid	Ave	148425	156320		527	500	5.3	20.0
RDX	Lin2		192266		476	500	-4.8	20.0
Nitrobenzene	Ave	366603	373244		509	500	1.8	20.0
1,3-Dinitrobenzene	Ave	569730	586362		515	500	2.9	20.0
Nitroglycerin	Ave	128451	130952		5100	5000	1.9	20.0
2-Nitrotoluene	Ave	217100	213290		491	500	-1.8	20.0
4-Nitrotoluene	Ave	224679	226682		504	500	0.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	250382		514	500	2.8	20.0
3-Nitrotoluene	Ave	271542	282518		520	500	4.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	284054		487	500	-2.6	20.0
1,3,5-Trinitrobenzene	Lin2		516702		524	500	4.8	20.0
2,6-Dinitrotoluene	Ave	260730	259724		498	500	-0.4	20.0
2,4-Dinitrotoluene	Ave	536377	523300		488	500	-2.4	20.0
Tetryl	Ave	306063	313434		512	500	2.4	20.0
2,4,6-Trinitrotoluene	Ave	378799	379928		501	500	0.3	20.0
PETN	Lin2		136738		5270	5000	5.3	20.0
1,2-Dinitrobenzene	Ave	254506	250076		491	500	-1.7	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579374/19 Calibration Date: 06/29/2022 00:40

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 06280019.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.83	6.69	6.99
Picric acid	8.23	8.17	8.47
RDX	8.98	8.85	9.15
Nitrobenzene	11.91	11.79	12.09
1,3-Dinitrobenzene	15.48	15.36	15.66
Nitroglycerin	15.83	15.71	16.01
2-Nitrotoluene	16.63	16.52	16.82
4-Nitrotoluene	16.93	16.83	17.13
4-Amino-2,6-dinitrotoluene	17.57	17.45	17.75
3-Nitrotoluene	17.89	17.79	18.09
2-Amino-4,6-dinitrotoluene	18.56	18.45	18.75
1,3,5-Trinitrobenzene	18.75	18.63	18.93
2,6-Dinitrotoluene	20.05	19.93	20.23
2,4-Dinitrotoluene	20.55	20.43	20.73
Tetryl	24.27	24.19	24.49
2,4,6-Trinitrotoluene	25.06	24.97	25.27
PETN	26.04	25.93	26.23
1,2-Dinitrobenzene	13.11	13.01	13.31

Report Date: 30-Jun-2022 14:43:54 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280019.D
Lims ID: ICV INT
Client ID:
Sample Type: ICV
Inject. Date: 29-Jun-2022 00:40:32 ALS Bottle#: 19 Worklist Smp#: 19
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: ICV INT
Misc. Info.: 280-0112178-019
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist:

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 30-Jun-2022 14:43:41 Calib Date: 29-Jun-2022 00:05:20
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280018.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1636

First Level Reviewer: LV5D Date: 30-Jun-2022 14:43:41

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.825	6.836	-0.011	77876	0.5000	0.4500	
7 2,4,6-Trinitrophenol	1	8.225	8.322	-0.097	78160	0.5000	0.5266	
8 RDX	1	8.979	8.996	-0.017	96133	0.5000	0.4759	
9 Nitrobenzene	1	11.905	11.942	-0.037	186622	0.5000	0.5091	
$ 10 1,2-Dinitrobenzene	1	13.112	13.156	-0.044	125038	0.5000	0.4913	
12 1,3-Dinitrobenzene	1	15.479	15.509	-0.030	293181	0.5000	0.5146	
13 Nitroglycerin	2	15.825	15.862	-0.037	654759	5.00	5.10	
14 o-Nitrotoluene	1	16.632	16.669	-0.037	106645	0.5000	0.4912	
16 p-Nitrotoluene	1	16.932	16.976	-0.044	113341	0.5000	0.5045	
17 4-Amino-2,6-dinitrotoluene	1	17.565	17.602	-0.037	125191	0.5000	0.5141	
18 m-Nitrotoluene	1	17.892	17.936	-0.044	141259	0.5000	0.5202	
19 2-Amino-4,6-dinitrotoluene	1	18.559	18.602	-0.043	142027	0.5000	0.4868	
20 1,3,5-Trinitrobenzene	1	18.745	18.776	-0.031	258351	0.5000	0.5239	
21 2,6-Dinitrotoluene	1	20.045	20.076	-0.031	129862	0.5000	0.4981	
22 2,4-Dinitrotoluene	1	20.552	20.576	-0.024	261650	0.5000	0.4878	
23 Tetryl	1	24.265	24.336	-0.071	156717	0.5000	0.5120	
24 2,4,6-Trinitrotoluene	1	25.059	25.116	-0.057	189964	0.5000	0.5015	
25 PETN	2	26.039	26.082	-0.043	683689	5.00	5.27	

QC Flag Legend

Processing Flags

Reagents:

8330Surrogate_00128 Amount Added: 50.00 Units: uL
8330 LCS_00114 Amount Added: 50.00 Units: uL

Report Date: 30-Jun-2022 14:43:54 Chrom Revision: 2.3 20-Jun-2022 20:10:40

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220628-112178.b\06280019.D

Injection Date: 29-Jun-2022 00:40:32 Instrument ID: CHHPLC_X5 Operator ID:

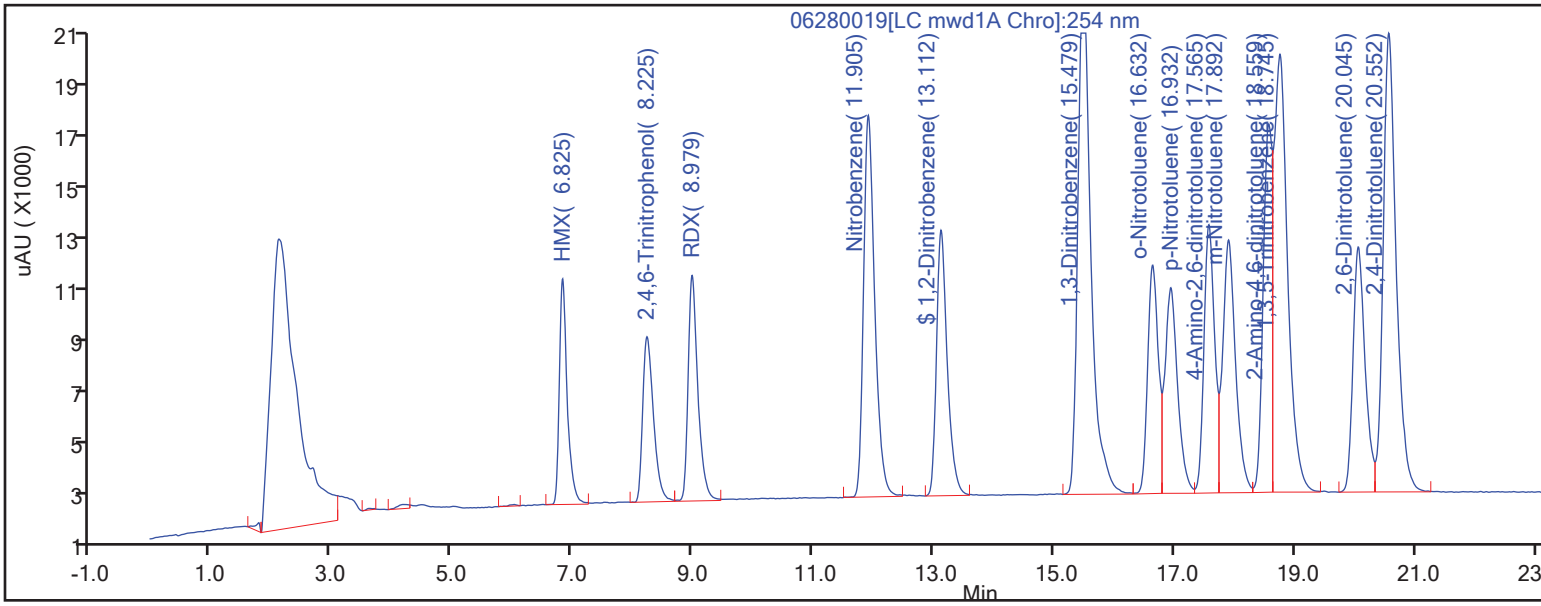
Lims ID: ICV INT Worklist Smp#:

Client ID:

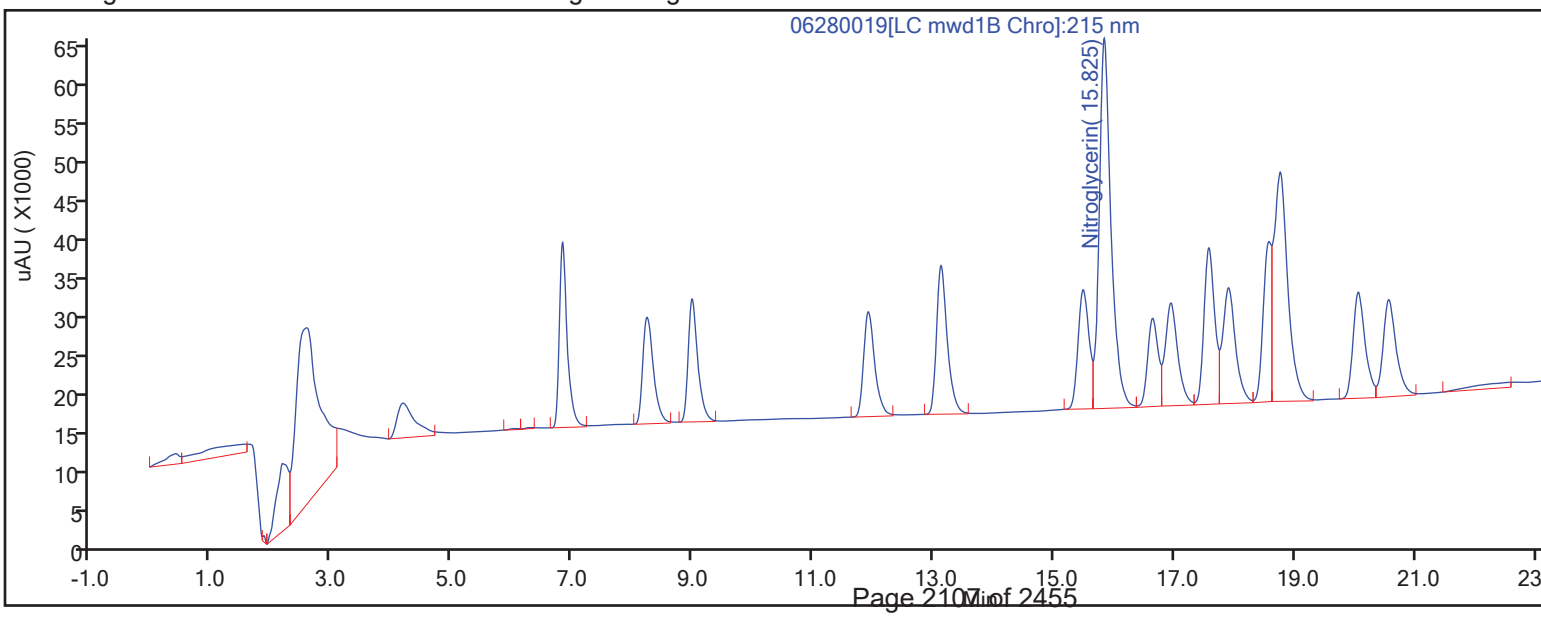
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Y Scaling: Method Defined: Scale to the Nth Largest Target: 2



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110007.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	414752		0.255	0.250	2.0	20.0
2,4-diamino-6-nitrotoluene	Lin2		252284		0.271	0.250	8.6	20.0
3,5-Dinitroaniline	Lin2		412328		250	250	0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 | Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110007.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.12	3.95	4.25
2,4-diamino-6-nitrotoluene	4.64	4.47	4.77
3,5-Dinitroaniline	14.88	14.65	14.95

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110007.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 15:51:36 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:26:50

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.123	4.104	0.019	103688	0.2500	0.2551	
	2 2,4-diamino-6-nitrotoluene	1	4.636	4.617	0.019	63071	0.2500	0.2714	
	5 HMX	1	6.683	6.657	0.026	43888	0.2500	0.2536	
	7 2,4,6-Trinitrophenol	1	8.056	7.904	0.152	38222	0.2500	0.2575	
	8 RDX	1	8.796	8.757	0.039	51194	0.2500	0.2525	
	9 Nitrobenzene	1	11.743	11.684	0.059	93753	0.2500	0.2557	
$	10 1,2-Dinitrobenzene	1	12.923	12.837	0.086	63828	0.2500	0.2508	
	11 3,5-Dinitroaniline	1	14.876	14.797	0.079	103082	0.2500	0.2504	
	12 1,3-Dinitrobenzene	1	15.243	15.177	0.066	160751	0.2500	0.2822	
	13 Nitroglycerin	2	15.576	15.497	0.079	341585	2.50	2.66	M
	14 o-Nitrotoluene	1	16.403	16.344	0.059	55088	0.2500	0.2537	
	16 p-Nitrotoluene	1	16.703	16.644	0.059	58832	0.2500	0.2618	
	17 4-Amino-2,6-dinitrotoluene	1	17.309	17.250	0.059	63903	0.2500	0.2624	
	18 m-Nitrotoluene	1	17.663	17.610	0.053	73475	0.2500	0.2706	
	19 2-Amino-4,6-dinitrotoluene	1	18.289	18.230	0.059	77347	0.2500	0.2651	
	20 1,3,5-Trinitrobenzene	1	18.483	18.437	0.046	121340	0.2500	0.2470	
	21 2,6-Dinitrotoluene	1	19.783	19.724	0.059	65001	0.2500	0.2493	
	22 2,4-Dinitrotoluene	1	20.283	20.230	0.053	138557	0.2500	0.2583	
	23 Tetryl	1	23.936	23.884	0.052	69731	0.2500	0.2278	
	24 2,4,6-Trinitrotoluene	1	24.743	24.684	0.059	97072	0.2500	0.2563	
	25 PETN	2	25.763	25.697	0.066	327710	2.50	2.54	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:45 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110007.D

Injection Date: 11-Nov-2022 15:51:36 Instrument ID: CHHPLC_X5 Operator ID:

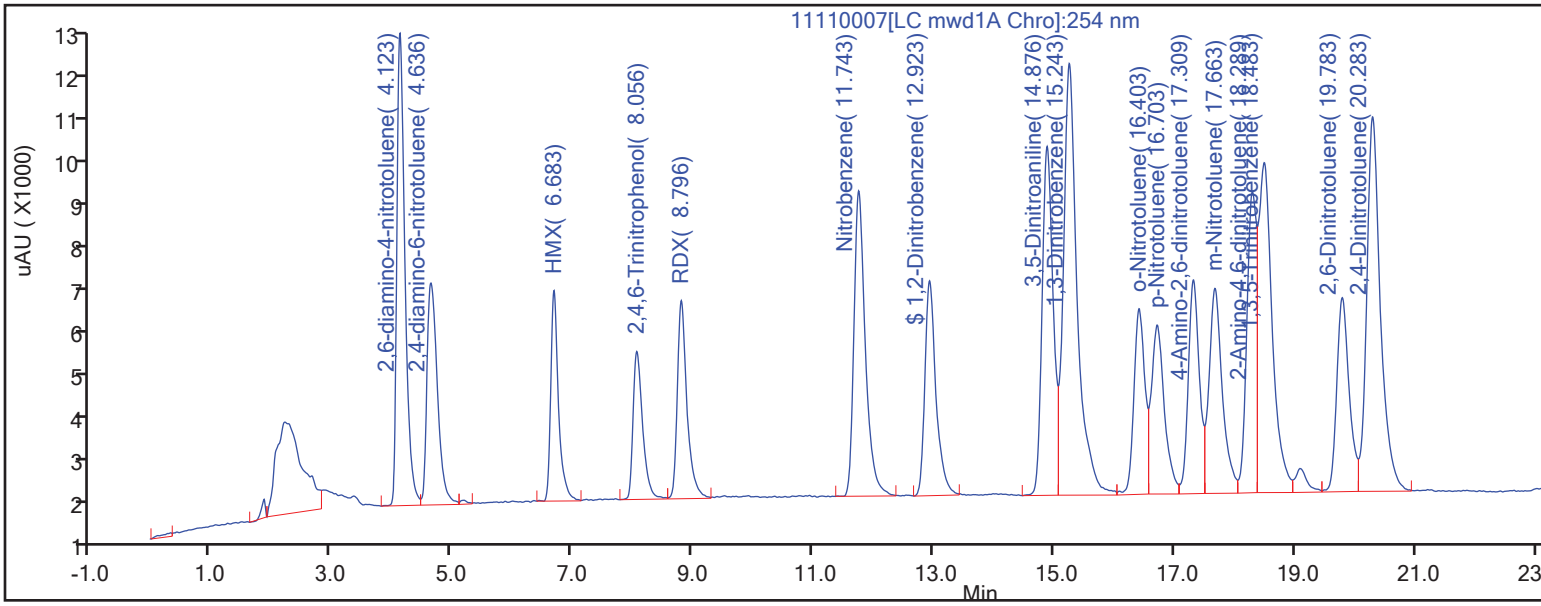
Lims ID: CCV Worklist Smp#:

Client ID:

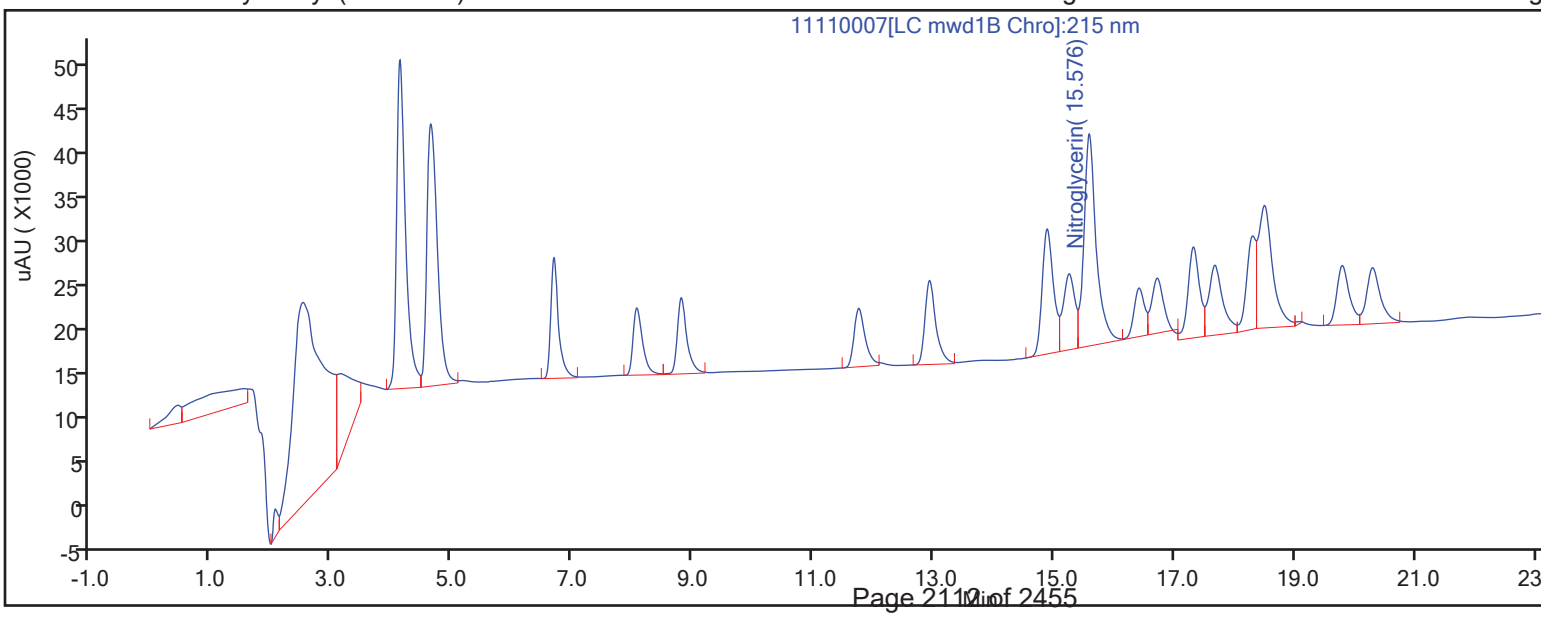
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 | Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110007.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	175552		254	250	1.4	20.0
Picric acid	Ave	148425	152888		258	250	3.0	20.0
RDX	Lin2		204776		253	250	1.0	20.0
Nitrobenzene	Ave	366603	375012		256	250	2.3	20.0
1,3-Dinitrobenzene	Ave	569730	643004		282	250	12.9	20.0
Nitroglycerin	Ave	128451	136634		2660	2500	6.4	20.0
2-Nitrotoluene	Ave	217100	220352		254	250	1.5	20.0
4-Nitrotoluene	Ave	224679	235328		262	250	4.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	255612		262	250	5.0	20.0
3-Nitrotoluene	Ave	271542	293900		271	250	8.2	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	309388		265	250	6.0	20.0
1,3,5-Trinitrobenzene	Lin2		485360		247	250	-1.2	20.0
2,6-Dinitrotoluene	Ave	260730	260004		249	250	-0.3	20.0
2,4-Dinitrotoluene	Ave	536377	554228		258	250	3.3	20.0
Tetryl	Ave	306063	278924		228	250	-8.9	20.0
2,4,6-Trinitrotoluene	Ave	378799	388288		256	250	2.5	20.0
PETN	Lin2		131084		2540	2500	1.4	20.0
1,2-Dinitrobenzene	Ave	254506	255312		251	250	0.3	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.68	6.51	6.81
Picric acid	8.06	7.75	8.05
RDX	8.80	8.61	8.91
Nitrobenzene	11.74	11.53	11.83
1,3-Dinitrobenzene	15.24	15.03	15.33
Nitroglycerin	15.58	15.35	15.65
2-Nitrotoluene	16.40	16.19	16.49
4-Nitrotoluene	16.70	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.31	17.10	17.40
3-Nitrotoluene	17.66	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.29	18.08	18.38
1,3,5-Trinitrobenzene	18.48	18.29	18.59
2,6-Dinitrotoluene	19.78	19.57	19.87
2,4-Dinitrotoluene	20.28	20.08	20.38
Tetryl	23.94	23.73	24.03
2,4,6-Trinitrotoluene	24.74	24.53	24.83
PETN	25.76	25.55	25.85
1,2-Dinitrobenzene	12.92	12.69	12.99

Report Date: 12-Nov-2022 11:05:44 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110007.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 15:51:36 ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:43 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 11-Nov-2022 17:26:50

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.123	4.104	0.019	103688	0.2500	0.2551	
	2 2,4-diamino-6-nitrotoluene	1	4.636	4.617	0.019	63071	0.2500	0.2714	
	5 HMX	1	6.683	6.657	0.026	43888	0.2500	0.2536	
	7 2,4,6-Trinitrophenol	1	8.056	7.904	0.152	38222	0.2500	0.2575	
	8 RDX	1	8.796	8.757	0.039	51194	0.2500	0.2525	
	9 Nitrobenzene	1	11.743	11.684	0.059	93753	0.2500	0.2557	
$	10 1,2-Dinitrobenzene	1	12.923	12.837	0.086	63828	0.2500	0.2508	
	11 3,5-Dinitroaniline	1	14.876	14.797	0.079	103082	0.2500	0.2504	
	12 1,3-Dinitrobenzene	1	15.243	15.177	0.066	160751	0.2500	0.2822	
	13 Nitroglycerin	2	15.576	15.497	0.079	341585	2.50	2.66	M
	14 o-Nitrotoluene	1	16.403	16.344	0.059	55088	0.2500	0.2537	
	16 p-Nitrotoluene	1	16.703	16.644	0.059	58832	0.2500	0.2618	
	17 4-Amino-2,6-dinitrotoluene	1	17.309	17.250	0.059	63903	0.2500	0.2624	
	18 m-Nitrotoluene	1	17.663	17.610	0.053	73475	0.2500	0.2706	
	19 2-Amino-4,6-dinitrotoluene	1	18.289	18.230	0.059	77347	0.2500	0.2651	
	20 1,3,5-Trinitrobenzene	1	18.483	18.437	0.046	121340	0.2500	0.2470	
	21 2,6-Dinitrotoluene	1	19.783	19.724	0.059	65001	0.2500	0.2493	
	22 2,4-Dinitrotoluene	1	20.283	20.230	0.053	138557	0.2500	0.2583	
	23 Tetryl	1	23.936	23.884	0.052	69731	0.2500	0.2278	
	24 2,4,6-Trinitrotoluene	1	24.743	24.684	0.059	97072	0.2500	0.2563	
	25 PETN	2	25.763	25.697	0.066	327710	2.50	2.54	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:45 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110007.D

Injection Date: 11-Nov-2022 15:51:36 Instrument ID: CHHPLC_X5 Operator ID:

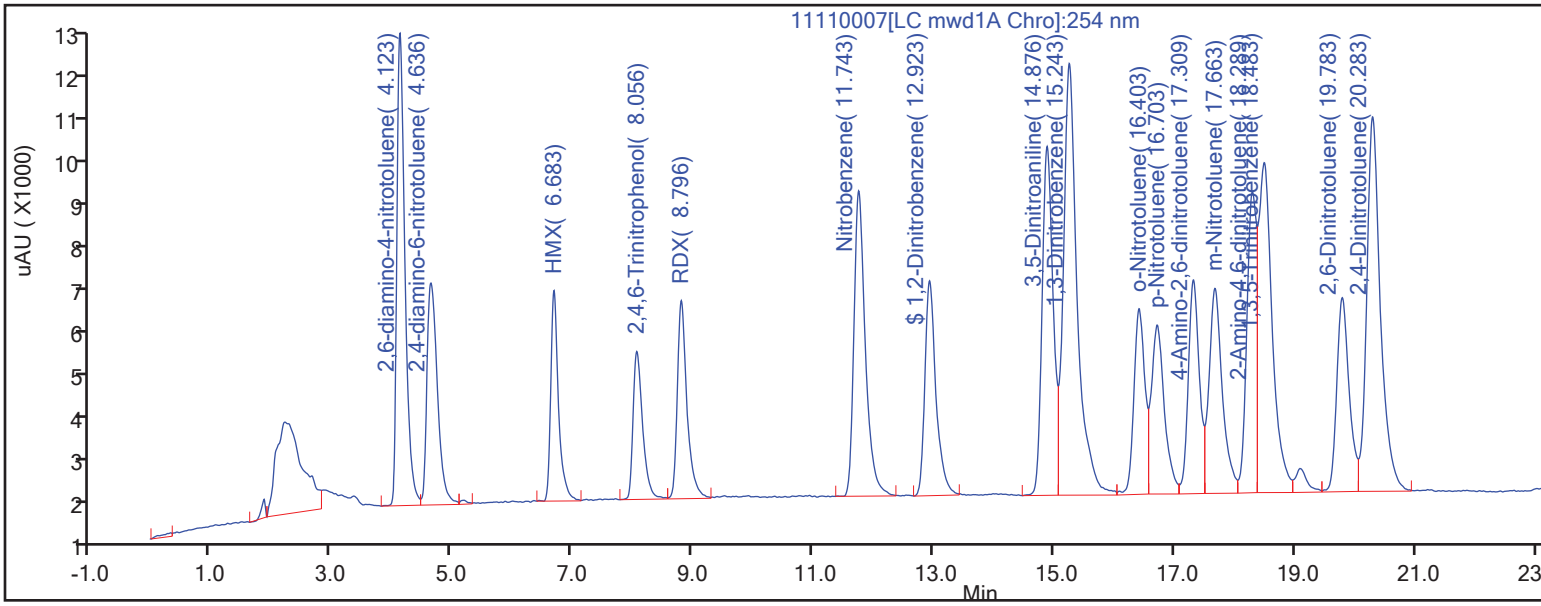
Lims ID: CCV Worklist Smp#:

Client ID:

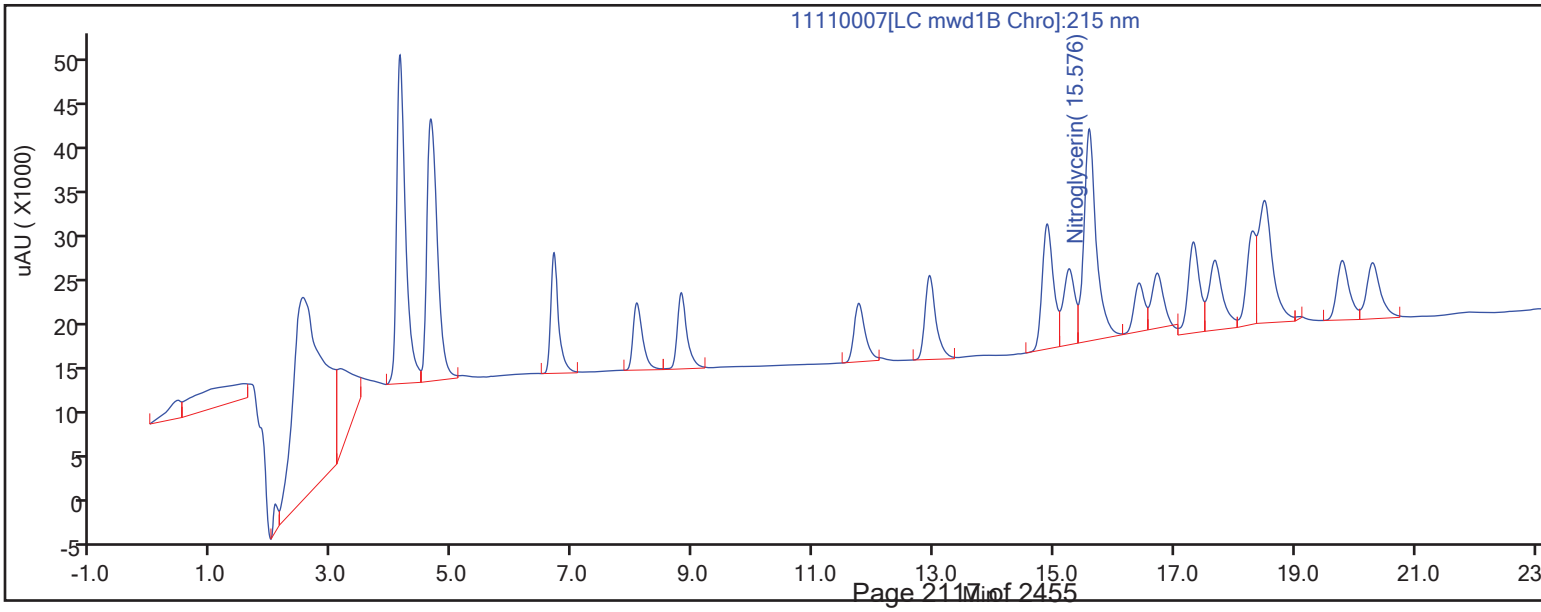
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

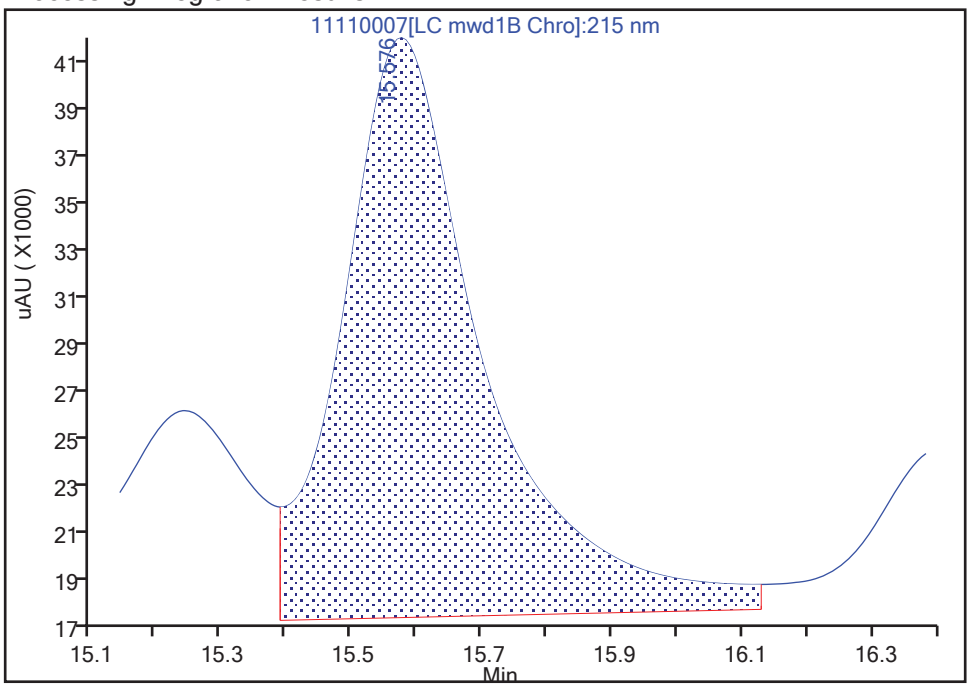
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110007.D
Injection Date: 11-Nov-2022 15:51:36 Instrument ID: CHHPLC_X5
Lims ID: CCV
Client ID:
Operator ID: JZ ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1B, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

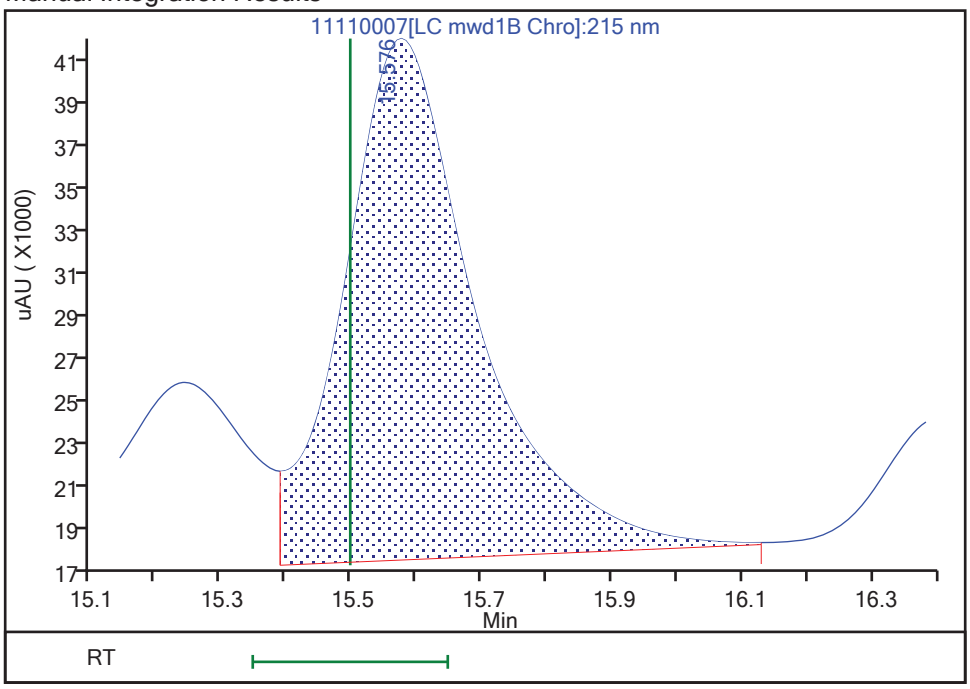
Processing Integration Results

RT: 15.58
Area: 373864
Amount: 2.910549
Amount Units: ug/ml



Manual Integration Results

RT: 15.58
Area: 341585
Amount: 2.659256
Amount Units: ug/ml



Reviewer: LV5D, 11-Nov-2022 16:34:38
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

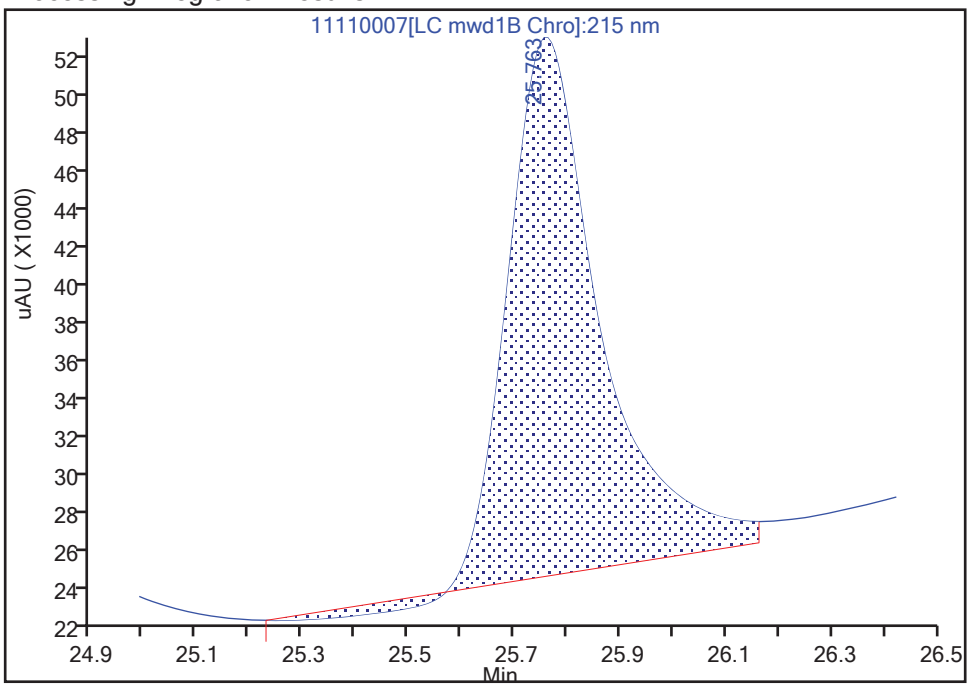
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110007.D
Injection Date: 11-Nov-2022 15:51:36 Instrument ID: CHHPLC_X5
Lims ID: CCV
Client ID:
Operator ID: JZ ALS Bottle#: 7 Worklist Smp#: 7
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1B, 215 nm

25 PETN, CAS: 78-11-5

Signal: 1

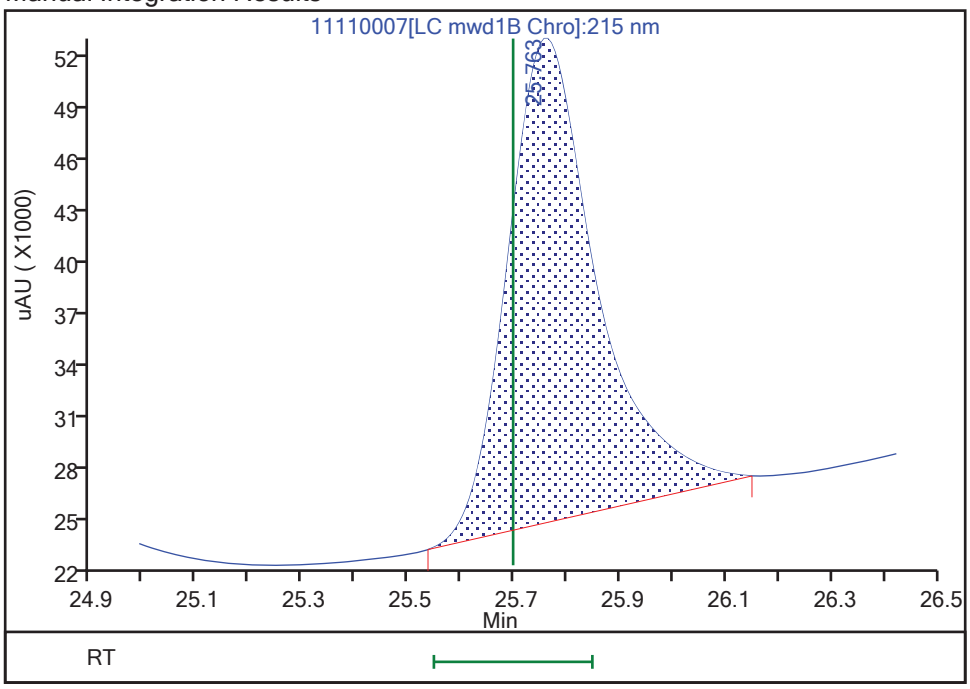
Processing Integration Results

RT: 25.76
Area: 335034
Amount: 2.592253
Amount Units: ug/ml



Manual Integration Results

RT: 25.76
Area: 327710
Amount: 2.536083
Amount Units: ug/ml



Reviewer: LV5D, 11-Nov-2022 16:34:43
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 | Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110018.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	411576		0.253	0.250	1.3	20.0
2,4-diamino-6-nitrotoluene	Lin2		246416		0.265	0.250	6.0	20.0
3,5-Dinitroaniline	Lin2		411168		250	250	-0.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110018.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.10	3.95	4.25
2,4-diamino-6-nitrotoluene	4.62	4.47	4.77
3,5-Dinitroaniline	14.80	14.65	14.95

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110018.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 21:05:53 ALS Bottle#: 7 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:42

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.104	4.104	0.000	102894	0.2500	0.2532	
	2 2,4-diamino-6-nitrotoluene	1	4.617	4.617	0.000	61604	0.2500	0.2649	
	5 HMX	1	6.657	6.657	0.000	44224	0.2500	0.2555	
	7 2,4,6-Trinitrophenol	1	7.904	7.904	0.000	38096	0.2500	0.2567	
	8 RDX	1	8.757	8.757	0.000	51415	0.2500	0.2536	
	9 Nitrobenzene	1	11.684	11.684	0.000	93484	0.2500	0.2550	
$	10 1,2-Dinitrobenzene	1	12.837	12.837	0.000	63977	0.2500	0.2514	
	11 3,5-Dinitroaniline	1	14.797	14.797	0.000	102792	0.2500	0.2497	
	12 1,3-Dinitrobenzene	1	15.177	15.177	0.000	160896	0.2500	0.2824	
	13 Nitroglycerin	2	15.497	15.497	0.000	345887	2.50	2.69	M
	14 o-Nitrotoluene	1	16.344	16.344	0.000	53373	0.2500	0.2458	
	16 p-Nitrotoluene	1	16.644	16.644	0.000	58510	0.2500	0.2604	
	17 4-Amino-2,6-dinitrotoluene	1	17.250	17.250	0.000	63082	0.2500	0.2590	
	18 m-Nitrotoluene	1	17.610	17.610	0.000	72245	0.2500	0.2661	
	19 2-Amino-4,6-dinitrotoluene	1	18.230	18.230	0.000	79450	0.2500	0.2723	
	20 1,3,5-Trinitrobenzene	1	18.437	18.437	0.000	116787	0.2500	0.2378	
	21 2,6-Dinitrotoluene	1	19.724	19.724	0.000	64448	0.2500	0.2472	
	22 2,4-Dinitrotoluene	1	20.230	20.230	0.000	138643	0.2500	0.2585	
	23 Tetryl	1	23.884	23.884	0.000	69501	0.2500	0.2271	
	24 2,4,6-Trinitrotoluene	1	24.684	24.684	0.000	97486	0.2500	0.2574	
	25 PETN	2	25.697	25.697	0.000	326148	2.50	2.52	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:49 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110018.D

Injection Date: 11-Nov-2022 21:05:53 Instrument ID: CHHPLC_X5 Operator ID:

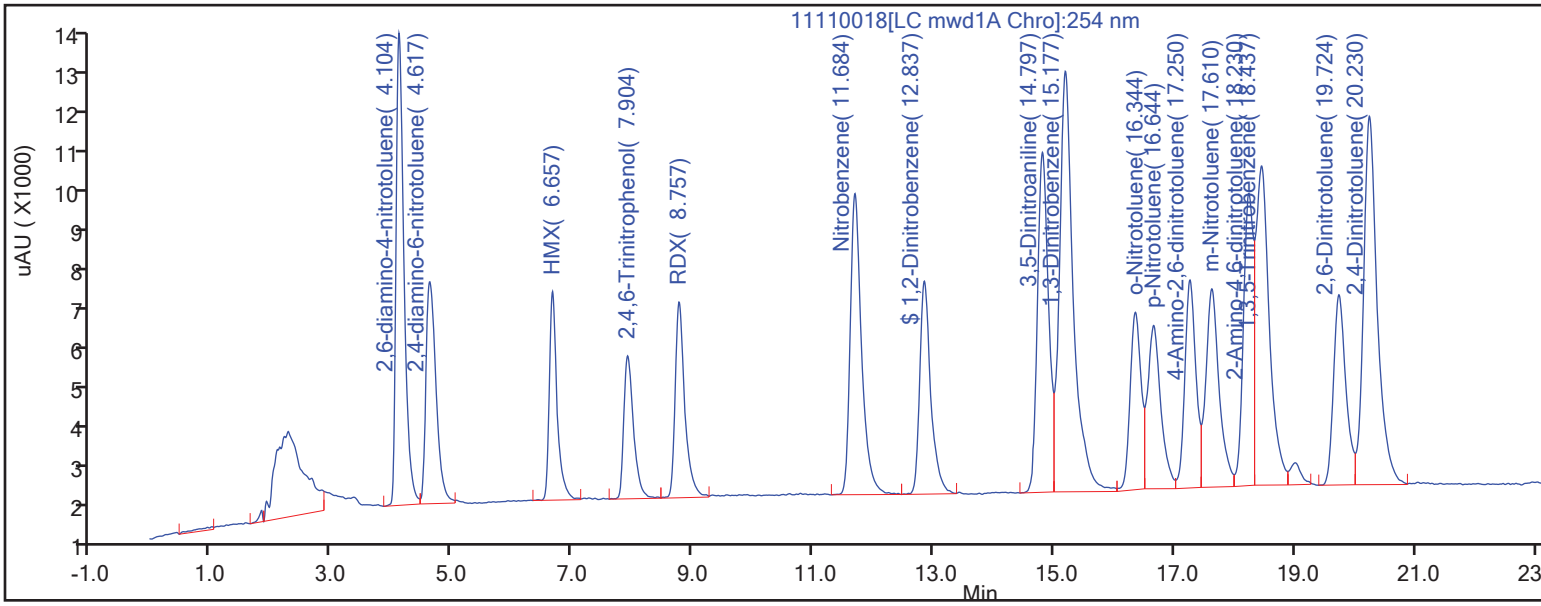
Lims ID: CCV Worklist Smp#:

Client ID:

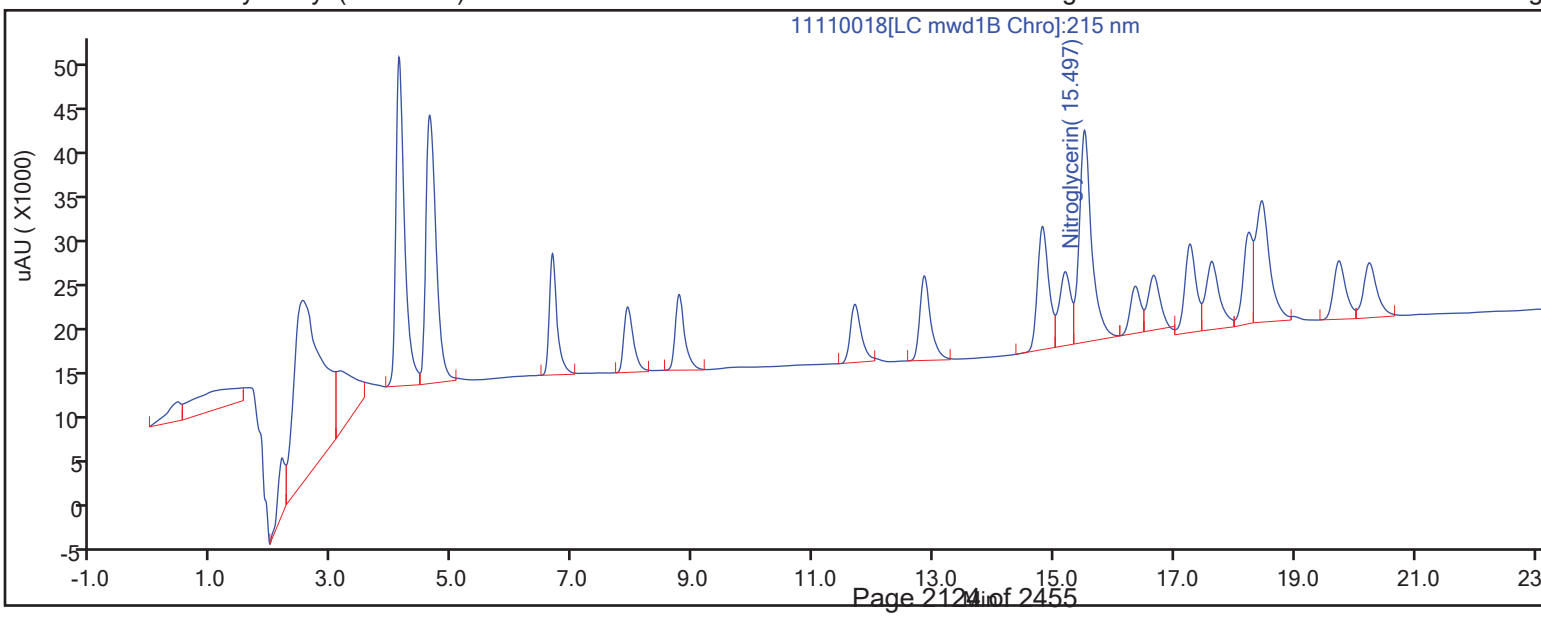
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 | Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110018.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	176896		256	250	2.2	20.0
Picric acid	Ave	148425	152384		257	250	2.7	20.0
RDX	Lin2		205660		254	250	1.4	20.0
Nitrobenzene	Ave	366603	373936		255	250	2.0	20.0
1,3-Dinitrobenzene	Ave	569730	643584		282	250	13.0	20.0
Nitroglycerin	Ave	128451	138355		2690	2500	7.7	20.0
2-Nitrotoluene	Ave	217100	213492		246	250	-1.7	20.0
4-Nitrotoluene	Ave	224679	234040		260	250	4.2	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	252328		259	250	3.6	20.0
3-Nitrotoluene	Ave	271542	288980		266	250	6.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	317800		272	250	8.9	20.0
1,3,5-Trinitrobenzene	Lin2		467148		238	250	-4.9	20.0
2,6-Dinitrotoluene	Ave	260730	257792		247	250	-1.1	20.0
2,4-Dinitrotoluene	Ave	536377	554572		258	250	3.4	20.0
Tetryl	Ave	306063	278004		227	250	-9.2	20.0
2,4,6-Trinitrotoluene	Ave	378799	389944		257	250	2.9	20.0
PETN	Lin2		130459		2520	2500	1.0	20.0
1,2-Dinitrobenzene	Ave	254506	255908		251	250	0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110018.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.51	6.81
Picric acid	7.90	7.75	8.05
RDX	8.76	8.61	8.91
Nitrobenzene	11.68	11.53	11.83
1,3-Dinitrobenzene	15.18	15.03	15.33
Nitroglycerin	15.50	15.35	15.65
2-Nitrotoluene	16.34	16.19	16.49
4-Nitrotoluene	16.64	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.25	17.10	17.40
3-Nitrotoluene	17.61	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.23	18.08	18.38
1,3,5-Trinitrobenzene	18.44	18.29	18.59
2,6-Dinitrotoluene	19.72	19.57	19.87
2,4-Dinitrotoluene	20.23	20.08	20.38
Tetryl	23.88	23.73	24.03
2,4,6-Trinitrotoluene	24.68	24.53	24.83
PETN	25.70	25.55	25.85
1,2-Dinitrobenzene	12.84	12.69	12.99

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110018.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 11-Nov-2022 21:05:53 ALS Bottle#: 7 Worklist Smp#: 18
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:42

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	2,6-diamino-4-nitrotoluene	1	4.104	4.104	0.000	102894	0.2500	0.2532	
2	2,4-diamino-6-nitrotoluene	1	4.617	4.617	0.000	61604	0.2500	0.2649	
5	HMX	1	6.657	6.657	0.000	44224	0.2500	0.2555	
7	2,4,6-Trinitrophenol	1	7.904	7.904	0.000	38096	0.2500	0.2567	
8	RDX	1	8.757	8.757	0.000	51415	0.2500	0.2536	
9	Nitrobenzene	1	11.684	11.684	0.000	93484	0.2500	0.2550	
$ 10	1,2-Dinitrobenzene	1	12.837	12.837	0.000	63977	0.2500	0.2514	
11	3,5-Dinitroaniline	1	14.797	14.797	0.000	102792	0.2500	0.2497	
12	1,3-Dinitrobenzene	1	15.177	15.177	0.000	160896	0.2500	0.2824	
13	Nitroglycerin	2	15.497	15.497	0.000	345887	2.50	2.69	M
14	o-Nitrotoluene	1	16.344	16.344	0.000	53373	0.2500	0.2458	
16	p-Nitrotoluene	1	16.644	16.644	0.000	58510	0.2500	0.2604	
17	4-Amino-2,6-dinitrotoluene	1	17.250	17.250	0.000	63082	0.2500	0.2590	
18	m-Nitrotoluene	1	17.610	17.610	0.000	72245	0.2500	0.2661	
19	2-Amino-4,6-dinitrotoluene	1	18.230	18.230	0.000	79450	0.2500	0.2723	
20	1,3,5-Trinitrobenzene	1	18.437	18.437	0.000	116787	0.2500	0.2378	
21	2,6-Dinitrotoluene	1	19.724	19.724	0.000	64448	0.2500	0.2472	
22	2,4-Dinitrotoluene	1	20.230	20.230	0.000	138643	0.2500	0.2585	
23	Tetryl	1	23.884	23.884	0.000	69501	0.2500	0.2271	
24	2,4,6-Trinitrotoluene	1	24.684	24.684	0.000	97486	0.2500	0.2574	
25	PETN	2	25.697	25.697	0.000	326148	2.50	2.52	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:49 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110018.D

Injection Date: 11-Nov-2022 21:05:53 Instrument ID: CHHPLC_X5 Operator ID:

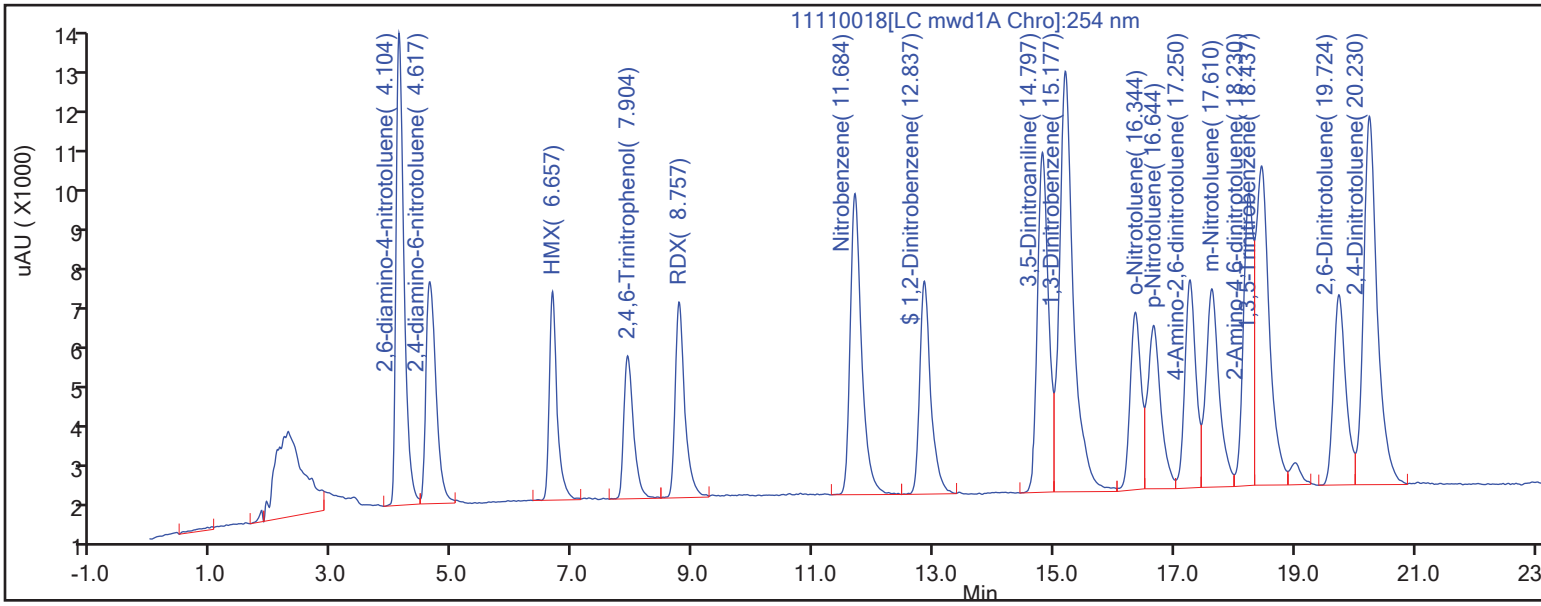
Lims ID: CCV Worklist Smp#:

Client ID:

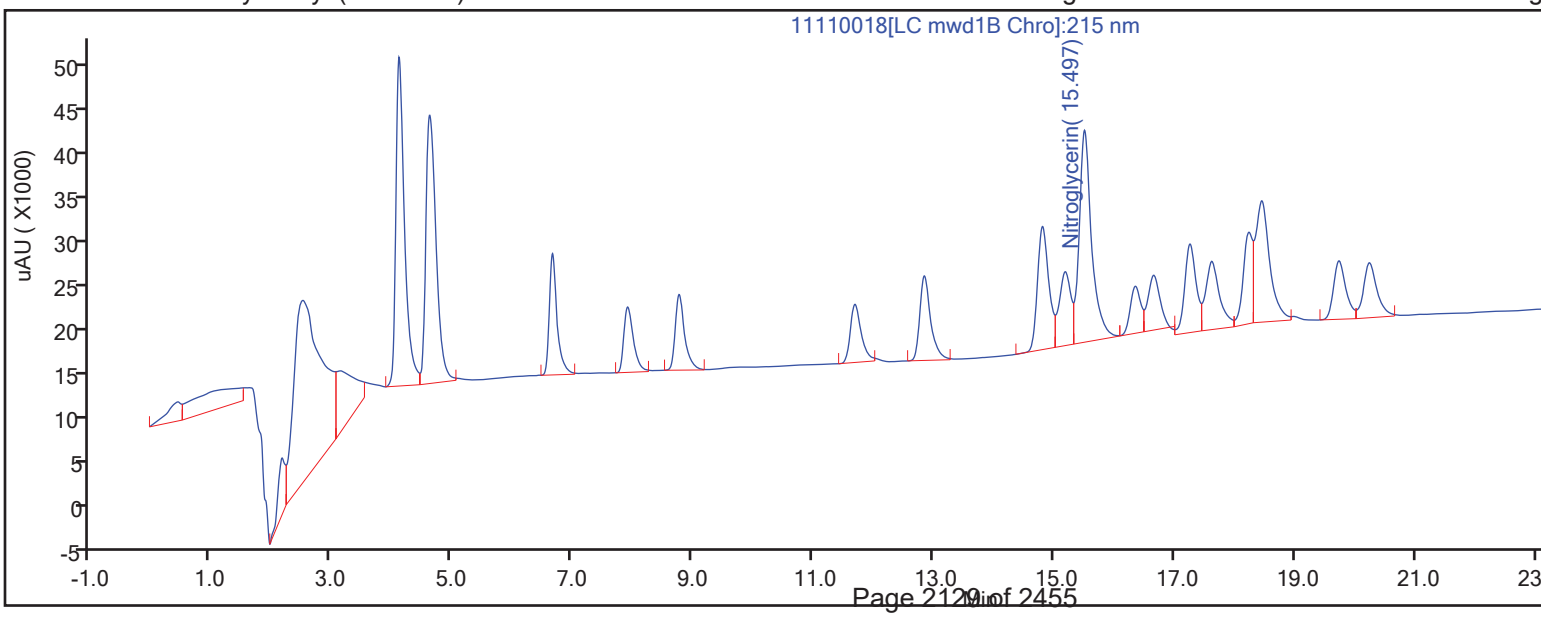
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

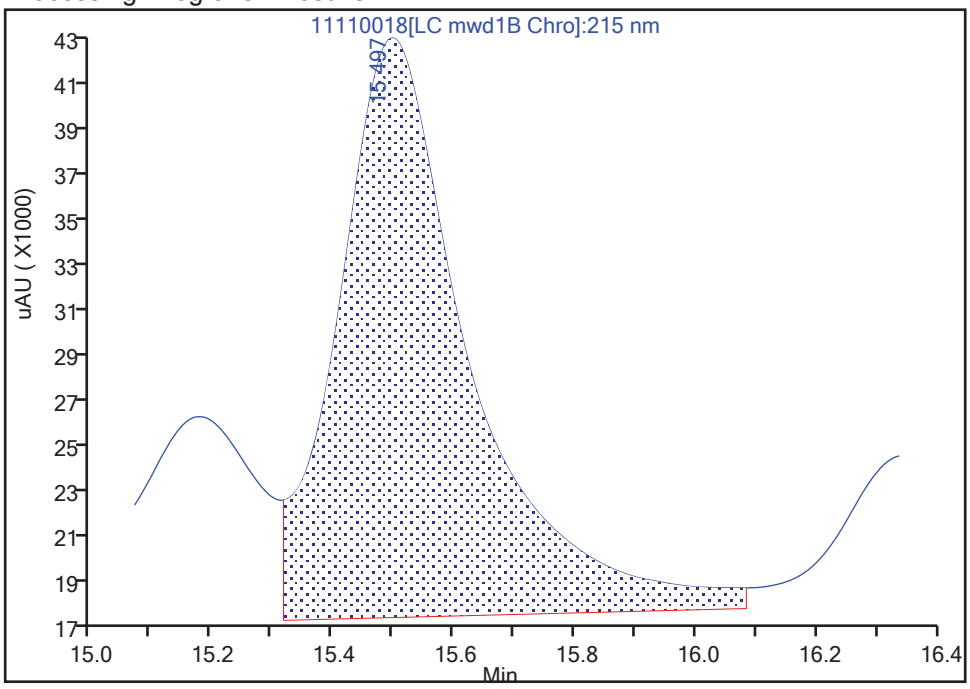
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110018.D				
Injection Date:	11-Nov-2022 21:05:53	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	18
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

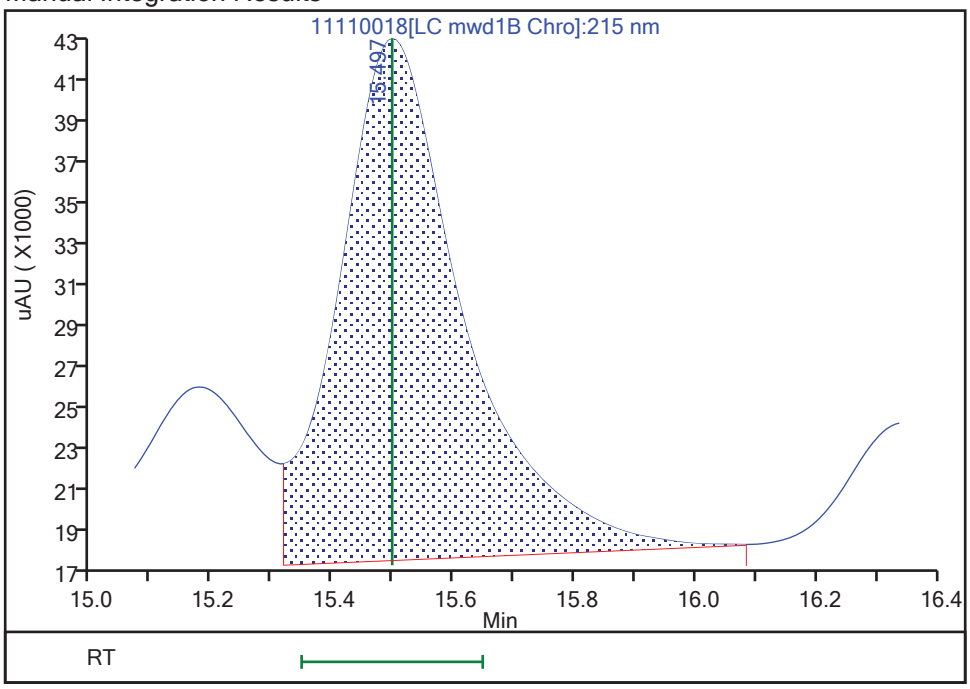
Processing Integration Results

RT: 15.50
Area: 374752
Amount: 2.917462
Amount Units: ug/ml



Manual Integration Results

RT: 15.50
Area: 345887
Amount: 2.692747
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 10:59:37
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

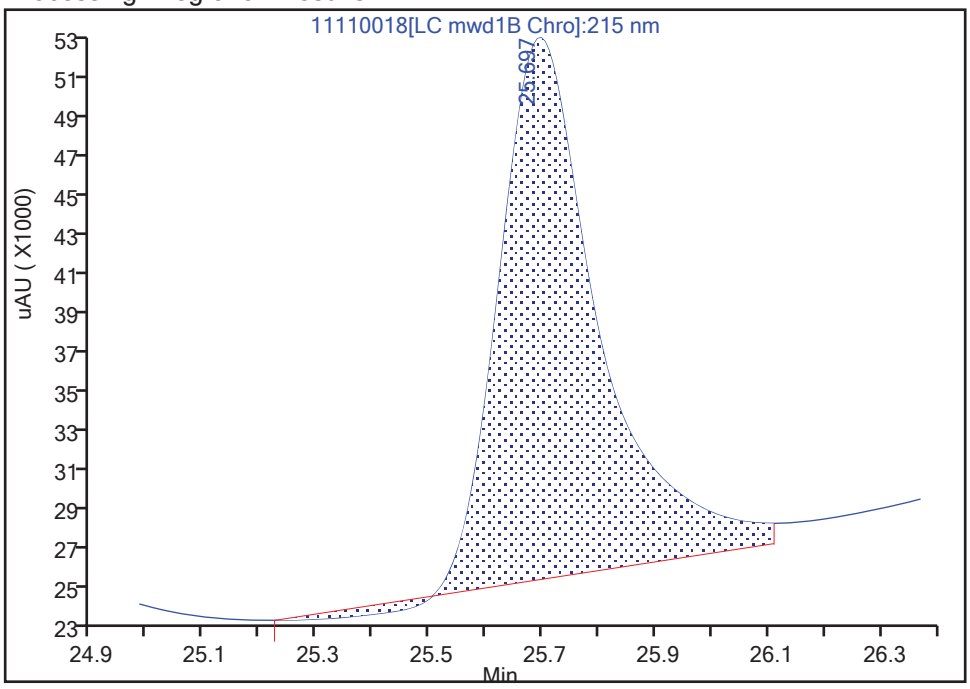
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110018.D				
Injection Date:	11-Nov-2022 21:05:53	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	18
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

25 PETN, CAS: 78-11-5

Signal: 1

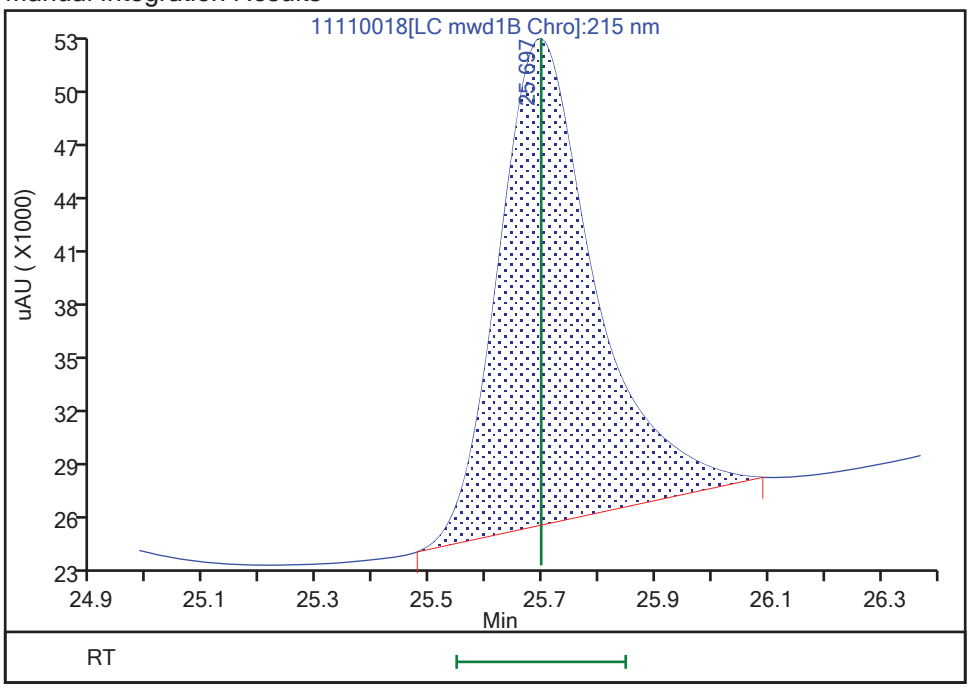
Processing Integration Results

RT: 25.70
Area: 336463
Amount: 2.603212
Amount Units: ug/ml



Manual Integration Results

RT: 25.70
Area: 326148
Amount: 2.524103
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 10:59:41

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 | Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110029.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	411284		0.253	0.250	1.2	20.0
2,4-diamino-6-nitrotoluene	Lin2		245124		0.263	0.250	5.4	20.0
3,5-Dinitroaniline	Lin2		411104		250	250	-0.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110029.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.11	3.95	4.25
2,4-diamino-6-nitrotoluene	4.62	4.47	4.77
3,5-Dinitroaniline	14.76	14.65	14.95

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110029.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2022 03:29:56 ALS Bottle#: 7 Worklist Smp#: 29
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:45

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.111	4.104	0.007	102821	0.2500	0.2530	
	2 2,4-diamino-6-nitrotoluene	1	4.624	4.617	0.007	61281	0.2500	0.2635	
	5 HMX	1	6.651	6.657	-0.006	43939	0.2500	0.2539	
	7 2,4,6-Trinitrophenol	1	7.837	7.904	-0.067	38242	0.2500	0.2577	
	8 RDX	1	8.751	8.757	-0.006	51425	0.2500	0.2537	
	9 Nitrobenzene	1	11.657	11.684	-0.027	92653	0.2500	0.2527	
$	10 1,2-Dinitrobenzene	1	12.804	12.837	-0.033	64912	0.2500	0.2551	
	11 3,5-Dinitroaniline	1	14.757	14.797	-0.040	102776	0.2500	0.2497	
	12 1,3-Dinitrobenzene	1	15.137	15.177	-0.040	158157	0.2500	0.2776	
	13 Nitroglycerin	2	15.431	15.497	-0.066	345672	2.50	2.69	M
	14 o-Nitrotoluene	1	16.277	16.344	-0.067	51032	0.2500	0.2351	
	16 p-Nitrotoluene	1	16.571	16.644	-0.073	57214	0.2500	0.2546	
	17 4-Amino-2,6-dinitrotoluene	1	17.164	17.250	-0.086	61559	0.2500	0.2528	
	18 m-Nitrotoluene	1	17.524	17.610	-0.086	69169	0.2500	0.2547	
	19 2-Amino-4,6-dinitrotoluene	1	18.144	18.230	-0.086	78113	0.2500	0.2677	
	20 1,3,5-Trinitrobenzene	1	18.377	18.437	-0.060	117116	0.2500	0.2385	
	21 2,6-Dinitrotoluene	1	19.644	19.724	-0.080	64743	0.2500	0.2483	
	22 2,4-Dinitrotoluene	1	20.151	20.230	-0.079	139721	0.2500	0.2605	
	23 Tetryl	1	23.784	23.884	-0.100	69295	0.2500	0.2264	
	24 2,4,6-Trinitrotoluene	1	24.604	24.684	-0.080	97250	0.2500	0.2567	
	25 PETN	2	25.611	25.697	-0.086	319687	2.50	2.47	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110029.D

Injection Date: 12-Nov-2022 03:29:56 Instrument ID: CHHPLC_X5 Operator ID:

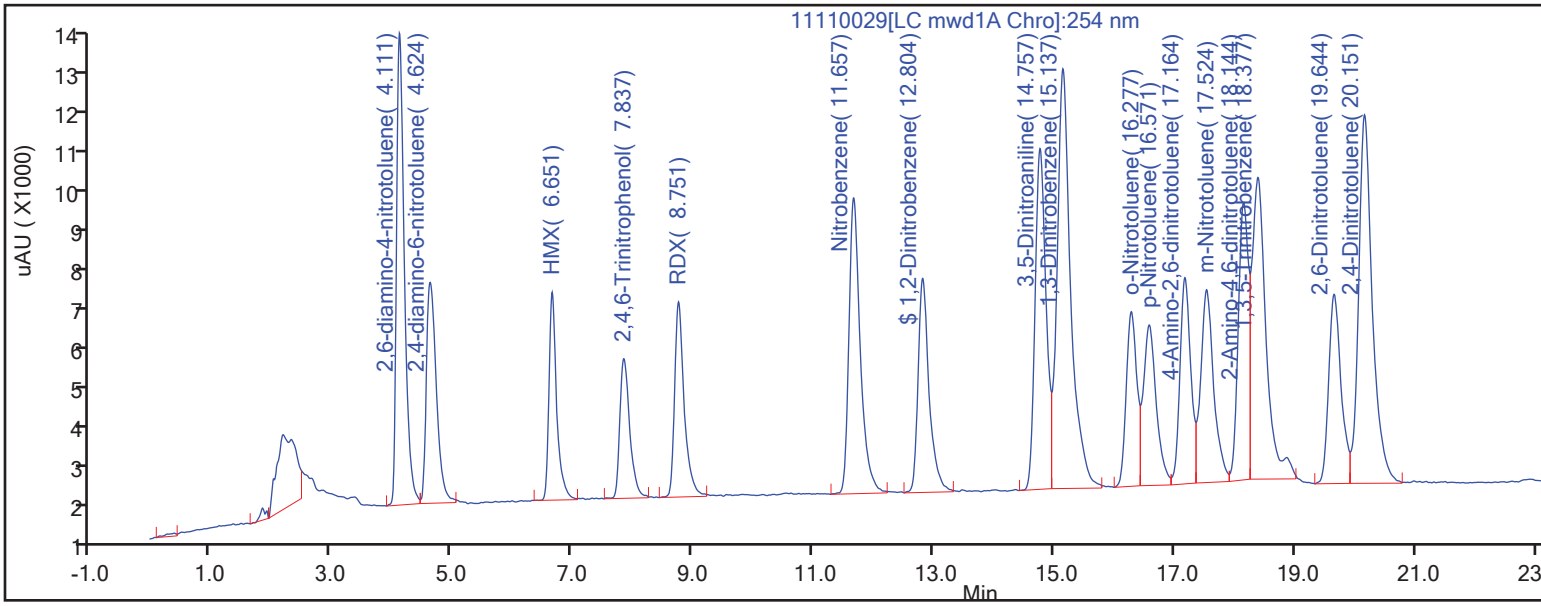
Lims ID: CCV Worklist Smp#:

Client ID:

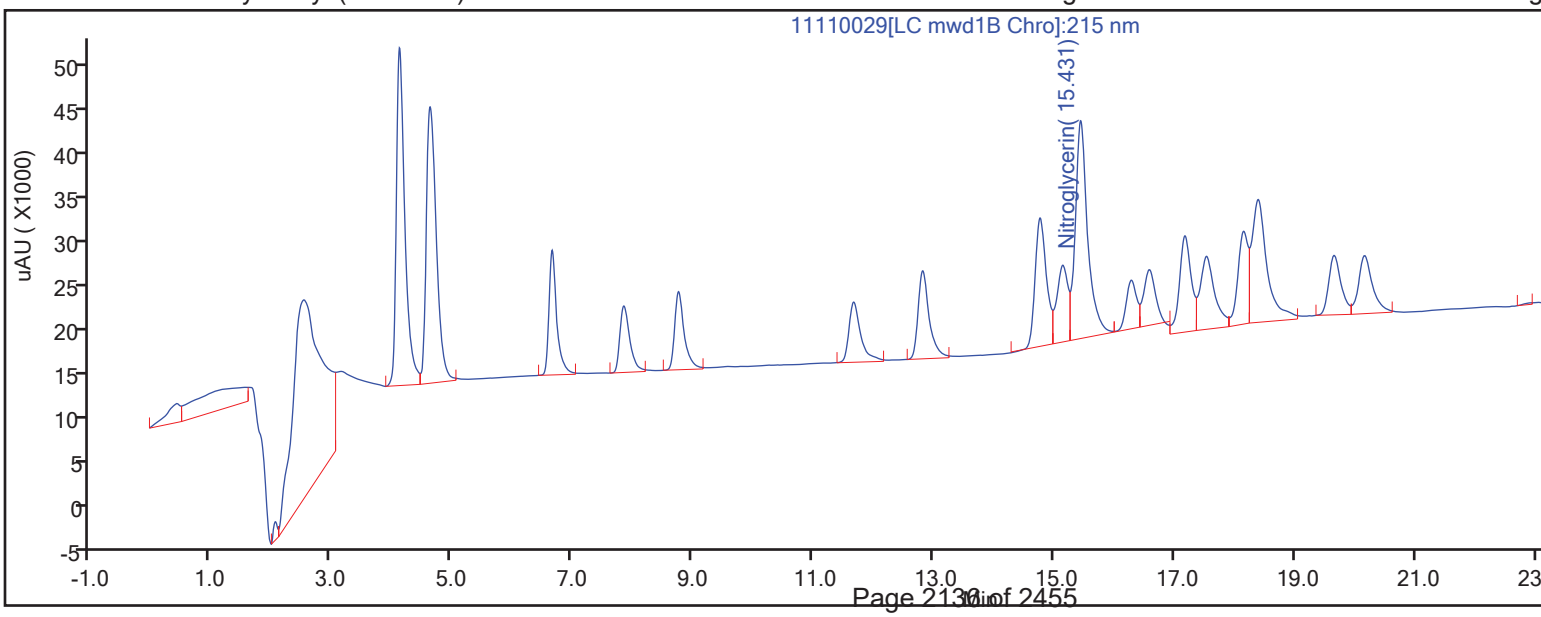
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 | Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110029.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	175756		254	250	1.6	20.0
Picric acid	Ave	148425	152968		258	250	3.1	20.0
RDX	Lin2		205700		254	250	1.5	20.0
Nitrobenzene	Ave	366603	370612		253	250	1.1	20.0
1,3-Dinitrobenzene	Ave	569730	632628		278	250	11.0	20.0
Nitroglycerin	Ave	128451	138269		2690	2500	7.6	20.0
2-Nitrotoluene	Ave	217100	204128		235	250	-6.0	20.0
4-Nitrotoluene	Ave	224679	228856		255	250	1.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	246236		253	250	1.1	20.0
3-Nitrotoluene	Ave	271542	276676		255	250	1.9	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	312452		268	250	7.1	20.0
1,3,5-Trinitrobenzene	Lin2		468464		238	250	-4.6	20.0
2,6-Dinitrotoluene	Ave	260730	258972		248	250	-0.7	20.0
2,4-Dinitrotoluene	Ave	536377	558884		260	250	4.2	20.0
Tetryl	Ave	306063	277180		226	250	-9.4	20.0
2,4,6-Trinitrotoluene	Ave	378799	389000		257	250	2.7	20.0
PETN	Lin2		127875		2470	2500	-1.0	20.0
1,2-Dinitrobenzene	Ave	254506	259648		255	250	2.0	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110029.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.65	6.51	6.81
Picric acid	7.84	7.75	8.05
RDX	8.75	8.61	8.91
Nitrobenzene	11.66	11.53	11.83
1,3-Dinitrobenzene	15.14	15.03	15.33
Nitroglycerin	15.43	15.35	15.65
2-Nitrotoluene	16.28	16.19	16.49
4-Nitrotoluene	16.57	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.16	17.10	17.40
3-Nitrotoluene	17.52	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.14	18.08	18.38
1,3,5-Trinitrobenzene	18.38	18.29	18.59
2,6-Dinitrotoluene	19.64	19.57	19.87
2,4-Dinitrotoluene	20.15	20.08	20.38
Tetryl	23.78	23.73	24.03
2,4,6-Trinitrotoluene	24.60	24.53	24.83
PETN	25.61	25.55	25.85
1,2-Dinitrobenzene	12.80	12.69	12.99

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110029.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2022 03:29:56 ALS Bottle#: 7 Worklist Smp#: 29
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:55 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:03:45

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.111	4.104	0.007	102821	0.2500	0.2530	
	2 2,4-diamino-6-nitrotoluene	1	4.624	4.617	0.007	61281	0.2500	0.2635	
	5 HMX	1	6.651	6.657	-0.006	43939	0.2500	0.2539	
	7 2,4,6-Trinitrophenol	1	7.837	7.904	-0.067	38242	0.2500	0.2577	
	8 RDX	1	8.751	8.757	-0.006	51425	0.2500	0.2537	
	9 Nitrobenzene	1	11.657	11.684	-0.027	92653	0.2500	0.2527	
$	10 1,2-Dinitrobenzene	1	12.804	12.837	-0.033	64912	0.2500	0.2551	
	11 3,5-Dinitroaniline	1	14.757	14.797	-0.040	102776	0.2500	0.2497	
	12 1,3-Dinitrobenzene	1	15.137	15.177	-0.040	158157	0.2500	0.2776	
	13 Nitroglycerin	2	15.431	15.497	-0.066	345672	2.50	2.69	M
	14 o-Nitrotoluene	1	16.277	16.344	-0.067	51032	0.2500	0.2351	
	16 p-Nitrotoluene	1	16.571	16.644	-0.073	57214	0.2500	0.2546	
	17 4-Amino-2,6-dinitrotoluene	1	17.164	17.250	-0.086	61559	0.2500	0.2528	
	18 m-Nitrotoluene	1	17.524	17.610	-0.086	69169	0.2500	0.2547	
	19 2-Amino-4,6-dinitrotoluene	1	18.144	18.230	-0.086	78113	0.2500	0.2677	
	20 1,3,5-Trinitrobenzene	1	18.377	18.437	-0.060	117116	0.2500	0.2385	
	21 2,6-Dinitrotoluene	1	19.644	19.724	-0.080	64743	0.2500	0.2483	
	22 2,4-Dinitrotoluene	1	20.151	20.230	-0.079	139721	0.2500	0.2605	
	23 Tetryl	1	23.784	23.884	-0.100	69295	0.2500	0.2264	
	24 2,4,6-Trinitrotoluene	1	24.604	24.684	-0.080	97250	0.2500	0.2567	
	25 PETN	2	25.611	25.697	-0.086	319687	2.50	2.47	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:56 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110029.D

Injection Date: 12-Nov-2022 03:29:56 Instrument ID: CHHPLC_X5 Operator ID:

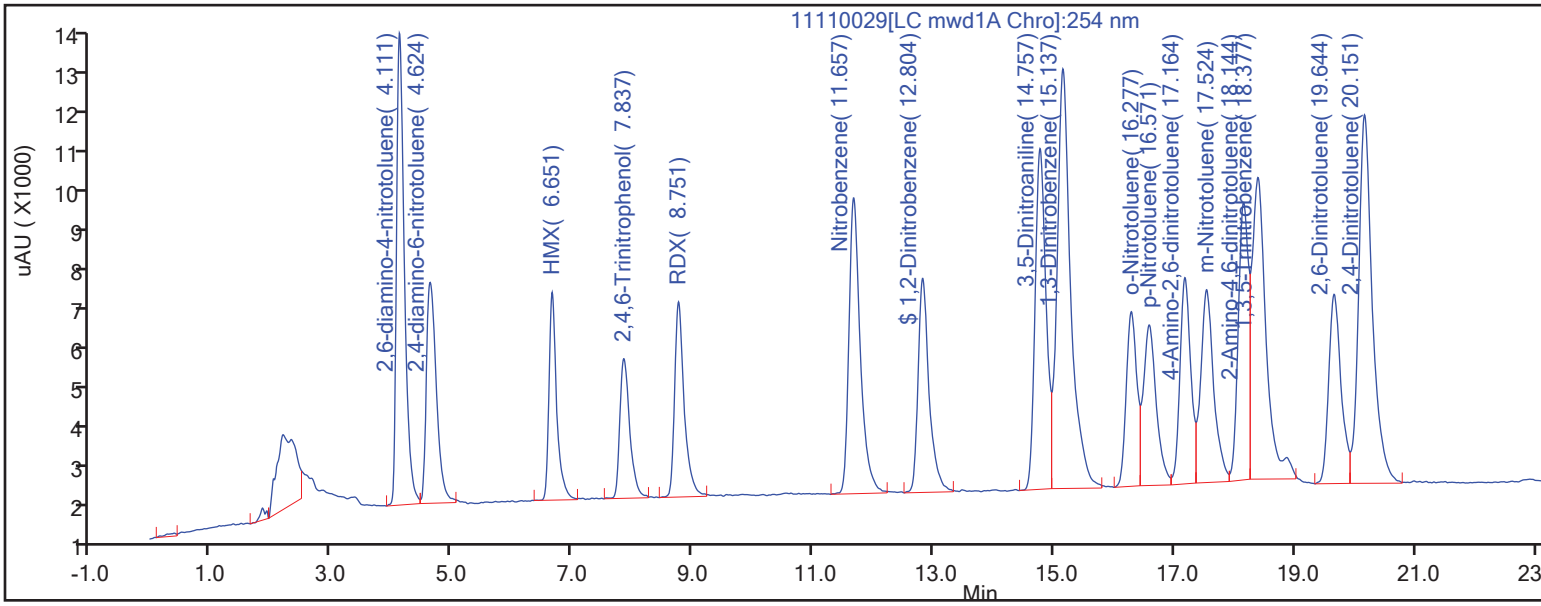
Lims ID: CCV Worklist Smp#:

Client ID:

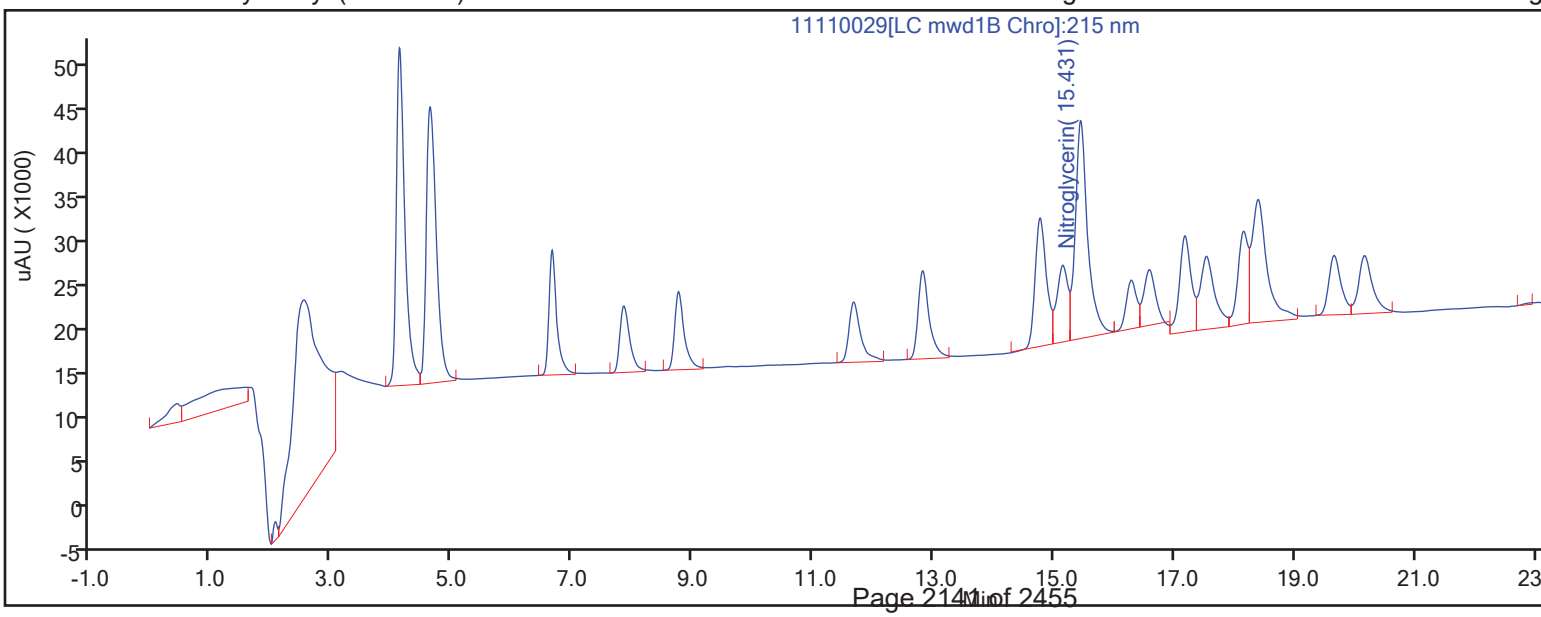
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

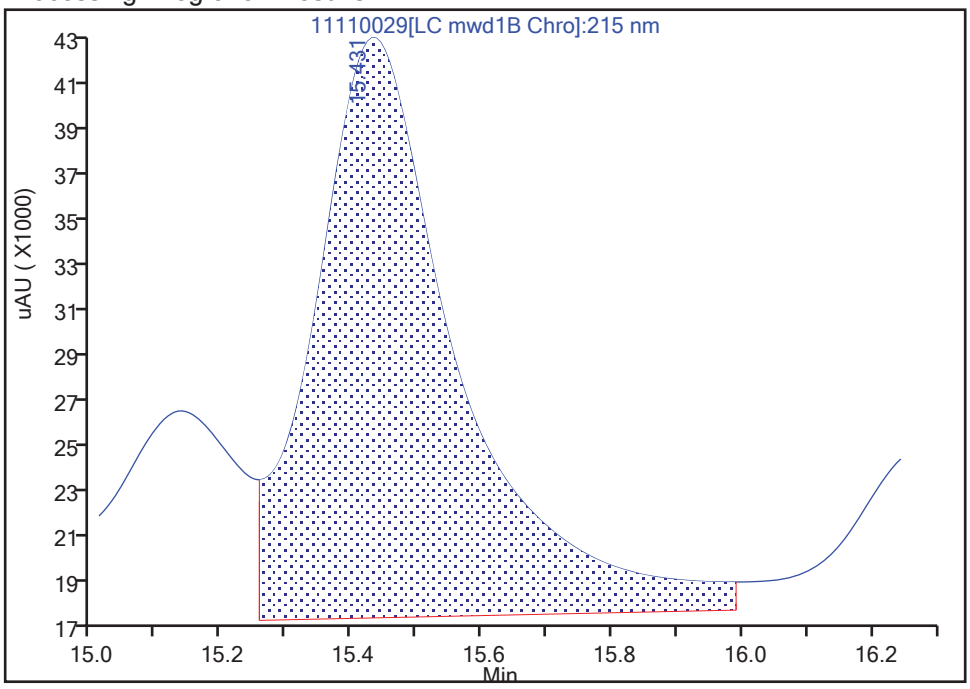
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110029.D				
Injection Date:	12-Nov-2022 03:29:56	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	29
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

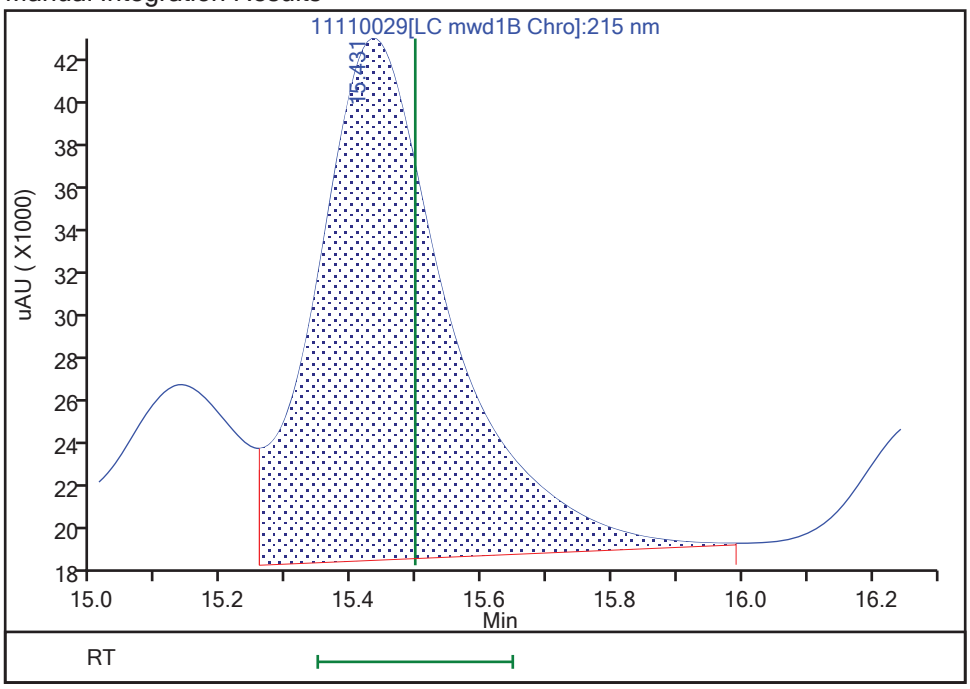
Processing Integration Results

RT: 15.43
Area: 384480
Amount: 2.993195
Amount Units: ug/ml



Manual Integration Results

RT: 15.43
Area: 345672
Amount: 2.691073
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:03:39
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

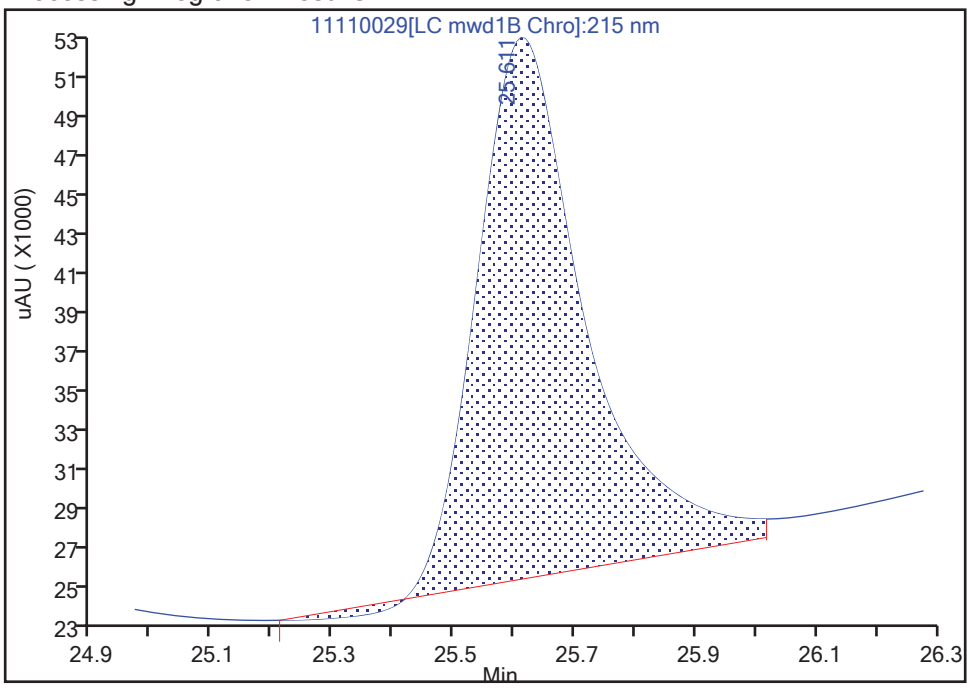
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110029.D				
Injection Date:	12-Nov-2022 03:29:56	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	29
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

25 PETN, CAS: 78-11-5

Signal: 1

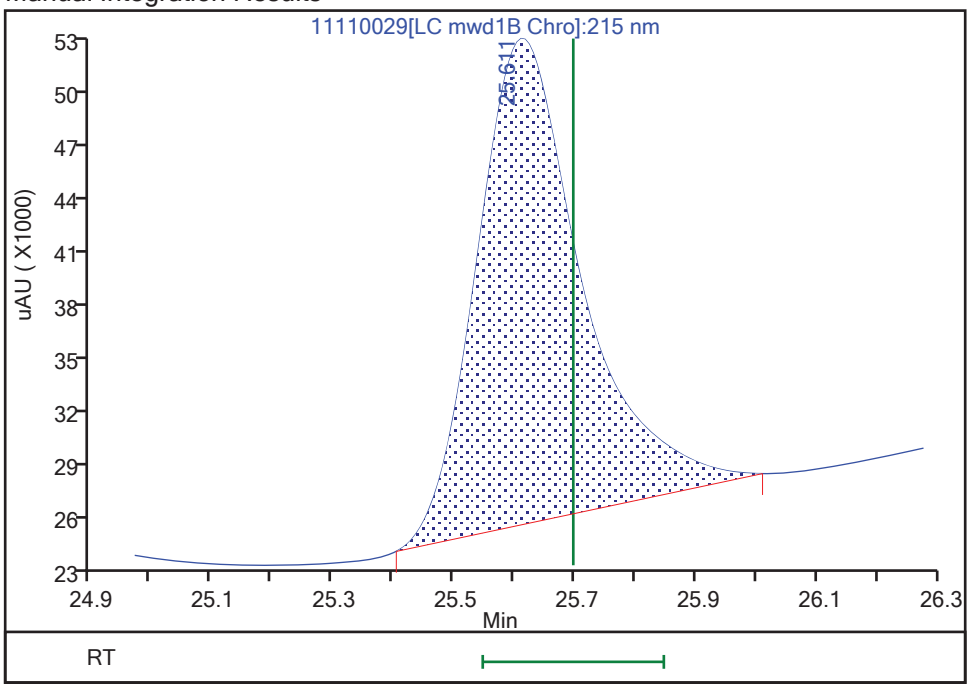
Processing Integration Results

RT: 25.61
Area: 329684
Amount: 2.551222
Amount Units: ug/ml



Manual Integration Results

RT: 25.61
Area: 319687
Amount: 2.474552
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:03:43

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 | Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110035.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	412220		0.254	0.250	1.4	20.0
2,4-diamino-6-nitrotoluene	Lin2		244608		0.263	0.250	5.2	20.0
3,5-Dinitroaniline	Lin2		410684		249	250	-0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110035.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.12	3.95	4.25
2,4-diamino-6-nitrotoluene	4.62	4.47	4.77
3,5-Dinitroaniline	14.78	14.65	14.95

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2022 06:59:33 ALS Bottle#: 7 Worklist Smp#: 35
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:58 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:05:40

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1	2,6-diamino-4-nitrotoluene	1	4.117	4.104	0.013	103055	0.2500	0.2535	
2	2,4-diamino-6-nitrotoluene	1	4.623	4.617	0.006	61152	0.2500	0.2629	
5	HMX	1	6.657	6.657	0.000	44253	0.2500	0.2557	
7	2,4,6-Trinitrophenol	1	7.823	7.904	-0.081	38678	0.2500	0.2606	
8	RDX	1	8.763	8.757	0.006	51340	0.2500	0.2532	
9	Nitrobenzene	1	11.676	11.684	-0.008	91212	0.2500	0.2488	
$ 10	1,2-Dinitrobenzene	1	12.836	12.837	-0.001	64534	0.2500	0.2536	
11	3,5-Dinitroaniline	1	14.783	14.797	-0.014	102671	0.2500	0.2494	
12	1,3-Dinitrobenzene	1	15.163	15.177	-0.014	159498	0.2500	0.2800	
13	Nitroglycerin	2	15.463	15.497	-0.034	350712	2.50	2.73	M
14	o-Nitrotoluene	1	16.310	16.344	-0.034	52251	0.2500	0.2407	M
16	p-Nitrotoluene	1	16.610	16.644	-0.034	58280	0.2500	0.2594	M
17	4-Amino-2,6-dinitrotoluene	1	17.210	17.250	-0.040	63824	0.2500	0.2621	M
18	m-Nitrotoluene	1	17.576	17.610	-0.034	71139	0.2500	0.2620	M
19	2-Amino-4,6-dinitrotoluene	1	18.196	18.230	-0.034	79765	0.2500	0.2734	M
20	1,3,5-Trinitrobenzene	1	18.423	18.437	-0.014	118150	0.2500	0.2406	M
21	2,6-Dinitrotoluene	1	19.710	19.724	-0.014	65220	0.2500	0.2501	
22	2,4-Dinitrotoluene	1	20.210	20.230	-0.020	139965	0.2500	0.2609	
23	Tetryl	1	23.837	23.884	-0.047	68916	0.2500	0.2252	
24	2,4,6-Trinitrotoluene	1	24.650	24.684	-0.034	96836	0.2500	0.2556	
25	PETN	2	25.630	25.697	-0.067	321864	2.50	2.49	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:59 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D

Injection Date: 12-Nov-2022 06:59:33 Instrument ID: CHHPLC_X5 Operator ID:

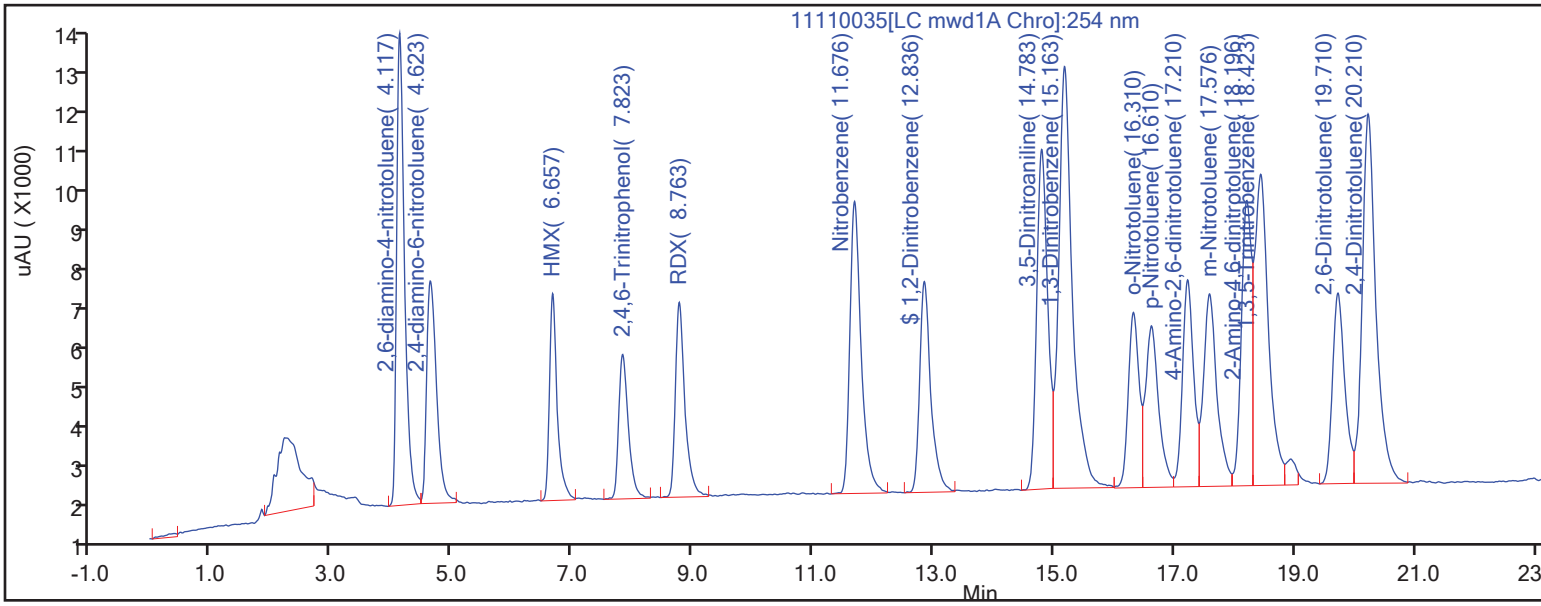
Lims ID: CCV Worklist Smp#:

Client ID:

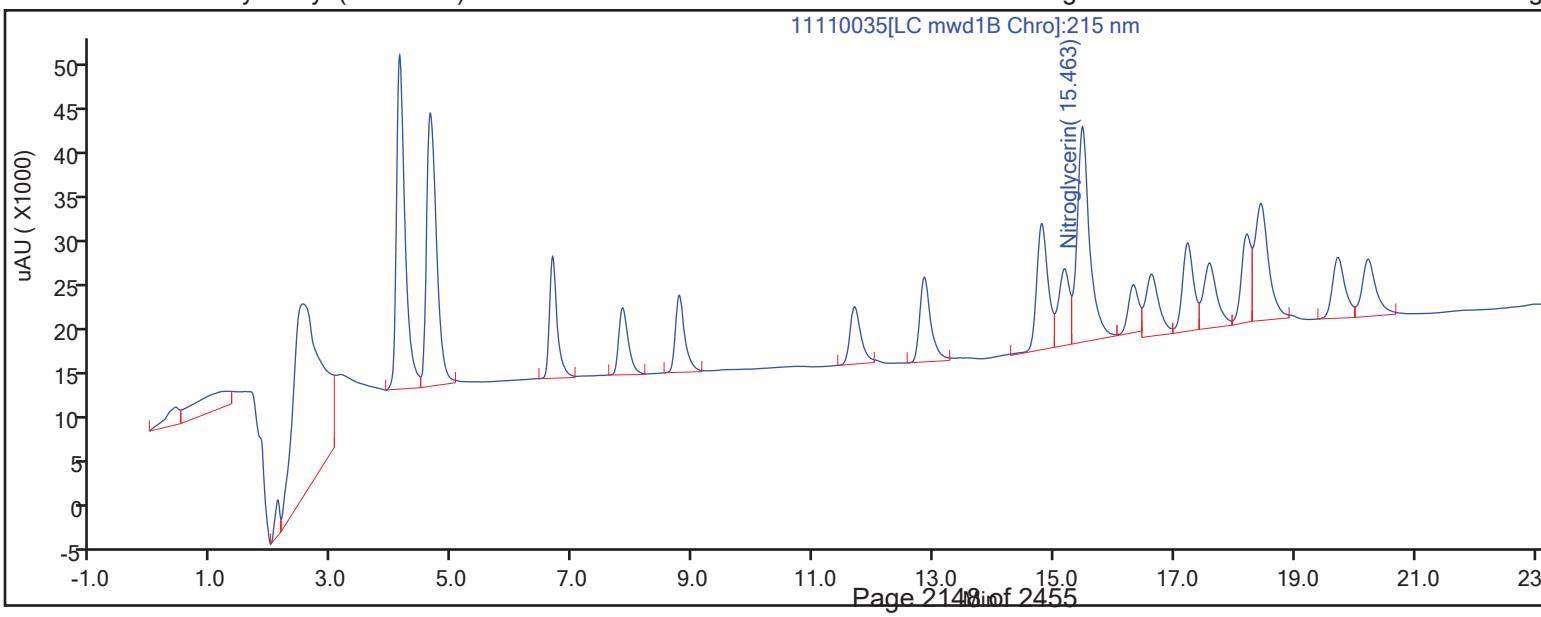
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 | Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110035.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	177012		256	250	2.3	20.0
Picric acid	Ave	148425	154712		261	250	4.2	20.0
RDX	Lin2		205360		253	250	1.3	20.0
Nitrobenzene	Ave	366603	364848		249	250	-0.5	20.0
1,3-Dinitrobenzene	Ave	569730	637992		280	250	12.0	20.0
Nitroglycerin	Ave	128451	140285		2730	2500	9.2	20.0
2-Nitrotoluene	Ave	217100	209004		241	250	-3.7	20.0
4-Nitrotoluene	Ave	224679	233120		259	250	3.8	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	255296		262	250	4.8	20.0
3-Nitrotoluene	Ave	271542	284556		262	250	4.8	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	319060		273	250	9.3	20.0
1,3,5-Trinitrobenzene	Lin2		472600		241	250	-3.8	20.0
2,6-Dinitrotoluene	Ave	260730	260880		250	250	0.0	20.0
2,4-Dinitrotoluene	Ave	536377	559860		261	250	4.4	20.0
Tetryl	Ave	306063	275664		225	250	-9.9	20.0
2,4,6-Trinitrotoluene	Ave	378799	387344		256	250	2.3	20.0
PETN	Lin2		128746		2490	2500	-0.4	20.0
1,2-Dinitrobenzene	Ave	254506	258136		254	250	1.4	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110035.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.51	6.81
Picric acid	7.82	7.75	8.05
RDX	8.76	8.61	8.91
Nitrobenzene	11.68	11.53	11.83
1,3-Dinitrobenzene	15.16	15.03	15.33
Nitroglycerin	15.46	15.35	15.65
2-Nitrotoluene	16.31	16.19	16.49
4-Nitrotoluene	16.61	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.21	17.10	17.40
3-Nitrotoluene	17.58	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.20	18.08	18.38
1,3,5-Trinitrobenzene	18.42	18.29	18.59
2,6-Dinitrotoluene	19.71	19.57	19.87
2,4-Dinitrotoluene	20.21	20.08	20.38
Tetryl	23.84	23.73	24.03
2,4,6-Trinitrotoluene	24.65	24.53	24.83
PETN	25.63	25.55	25.85
1,2-Dinitrobenzene	12.84	12.69	12.99

Report Date: 12-Nov-2022 11:05:59 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 12-Nov-2022 06:59:33 ALS Bottle#: 7 Worklist Smp#: 35
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Operator ID: JZ Instrument ID: CHHPLC_X5
Sublist: chrom-8330_X5_Luna*sub1

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:58 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:05:40

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
	1 2,6-diamino-4-nitrotoluene	1	4.117	4.104	0.013	103055	0.2500	0.2535	
	2 2,4-diamino-6-nitrotoluene	1	4.623	4.617	0.006	61152	0.2500	0.2629	
	5 HMX	1	6.657	6.657	0.000	44253	0.2500	0.2557	
	7 2,4,6-Trinitrophenol	1	7.823	7.904	-0.081	38678	0.2500	0.2606	
	8 RDX	1	8.763	8.757	0.006	51340	0.2500	0.2532	
	9 Nitrobenzene	1	11.676	11.684	-0.008	91212	0.2500	0.2488	
$	10 1,2-Dinitrobenzene	1	12.836	12.837	-0.001	64534	0.2500	0.2536	
	11 3,5-Dinitroaniline	1	14.783	14.797	-0.014	102671	0.2500	0.2494	
	12 1,3-Dinitrobenzene	1	15.163	15.177	-0.014	159498	0.2500	0.2800	
	13 Nitroglycerin	2	15.463	15.497	-0.034	350712	2.50	2.73	M
	14 o-Nitrotoluene	1	16.310	16.344	-0.034	52251	0.2500	0.2407	M
	16 p-Nitrotoluene	1	16.610	16.644	-0.034	58280	0.2500	0.2594	M
	17 4-Amino-2,6-dinitrotoluene	1	17.210	17.250	-0.040	63824	0.2500	0.2621	M
	18 m-Nitrotoluene	1	17.576	17.610	-0.034	71139	0.2500	0.2620	M
	19 2-Amino-4,6-dinitrotoluene	1	18.196	18.230	-0.034	79765	0.2500	0.2734	M
	20 1,3,5-Trinitrobenzene	1	18.423	18.437	-0.014	118150	0.2500	0.2406	M
	21 2,6-Dinitrotoluene	1	19.710	19.724	-0.014	65220	0.2500	0.2501	
	22 2,4-Dinitrotoluene	1	20.210	20.230	-0.020	139965	0.2500	0.2609	
	23 Tetryl	1	23.837	23.884	-0.047	68916	0.2500	0.2252	
	24 2,4,6-Trinitrotoluene	1	24.650	24.684	-0.034	96836	0.2500	0.2556	
	25 PETN	2	25.630	25.697	-0.067	321864	2.50	2.49	M

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Reagents:

8330IntermStk_00074	Amount Added: 25.00	Units: uL
8330_ADDs_00033	Amount Added: 12.50	Units: uL

Report Date: 12-Nov-2022 11:05:59 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D

Injection Date: 12-Nov-2022 06:59:33 Instrument ID: CHHPLC_X5 Operator ID:

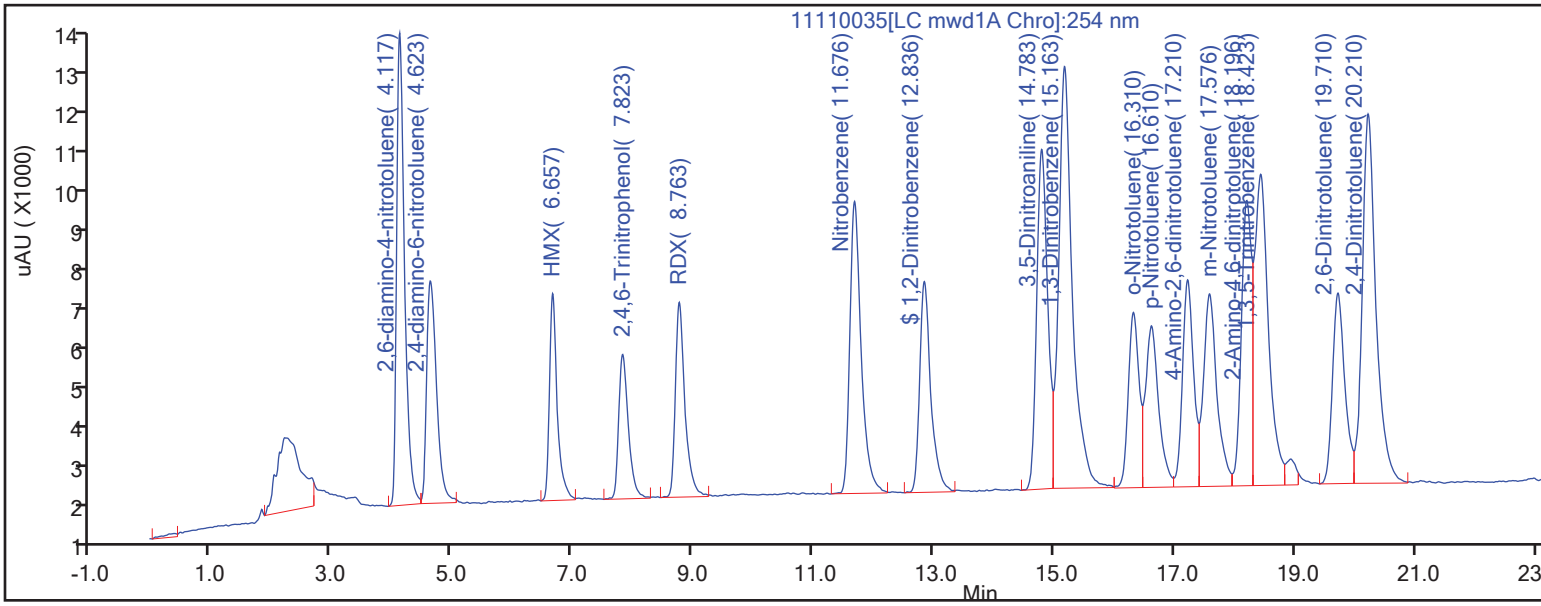
Lims ID: CCV Worklist Smp#:

Client ID:

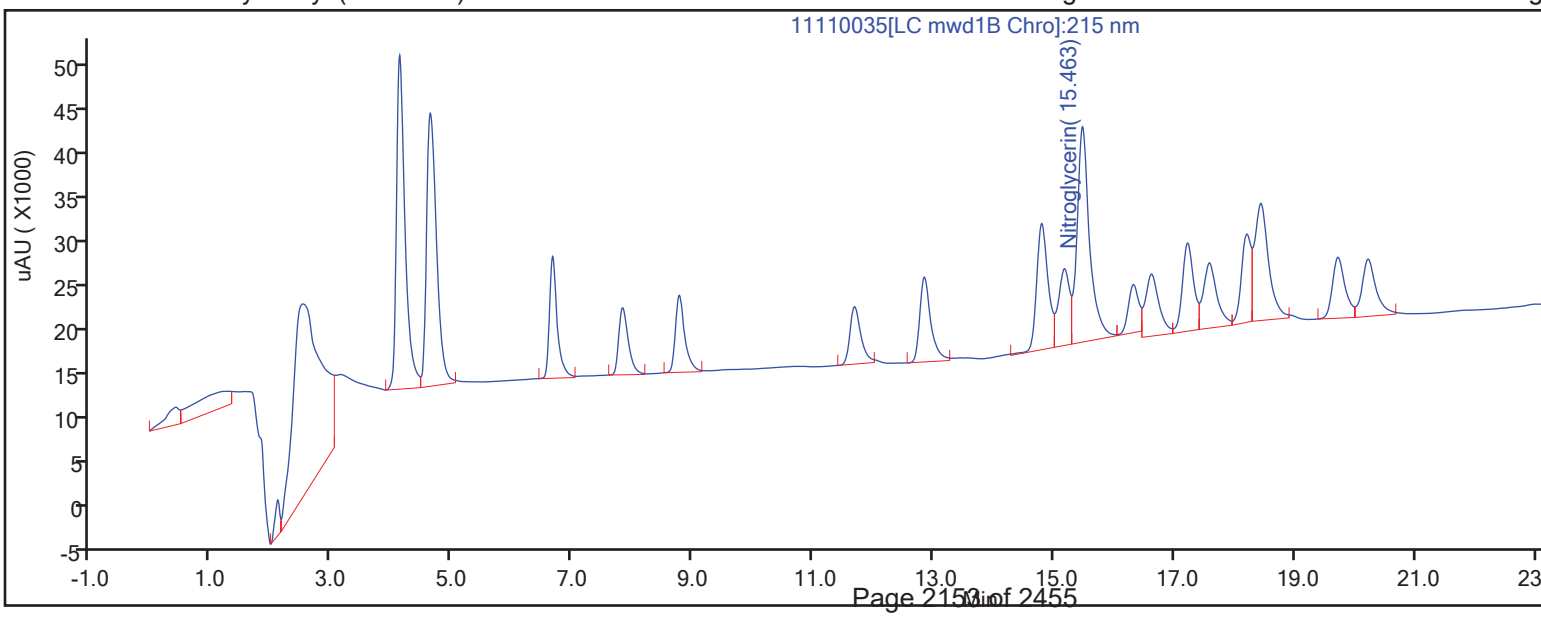
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Manual Integration/User Assign Peak Report

Eurofins Denver

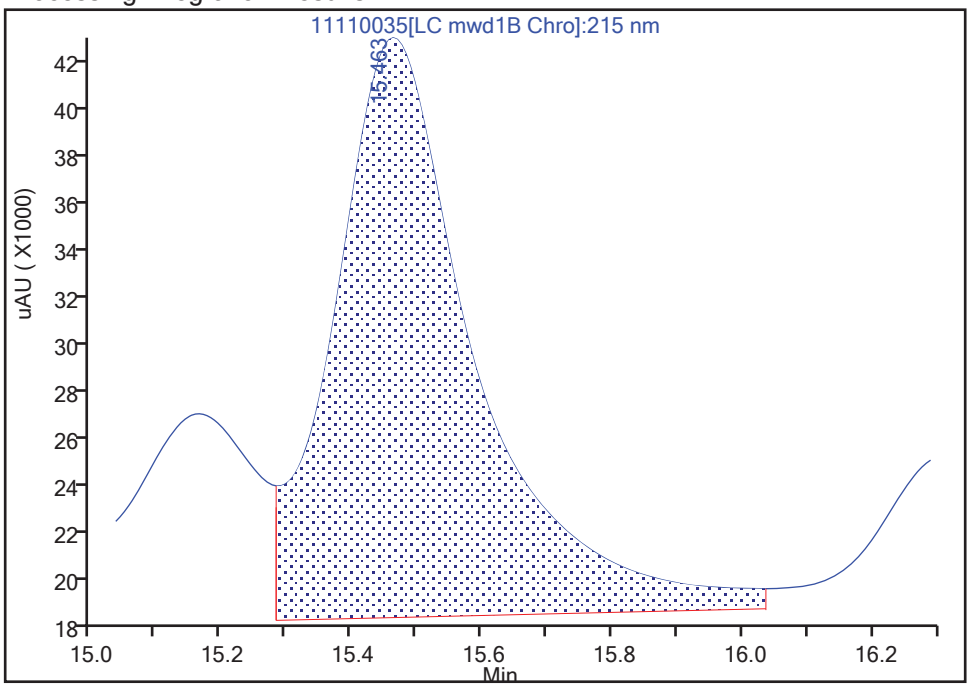
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D
Injection Date: 12-Nov-2022 06:59:33 Instrument ID: CHHPLC_X5
Lims ID: CCV
Client ID:
Operator ID: JZ ALS Bottle#: 7 Worklist Smp#: 35
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1B, 215 nm

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

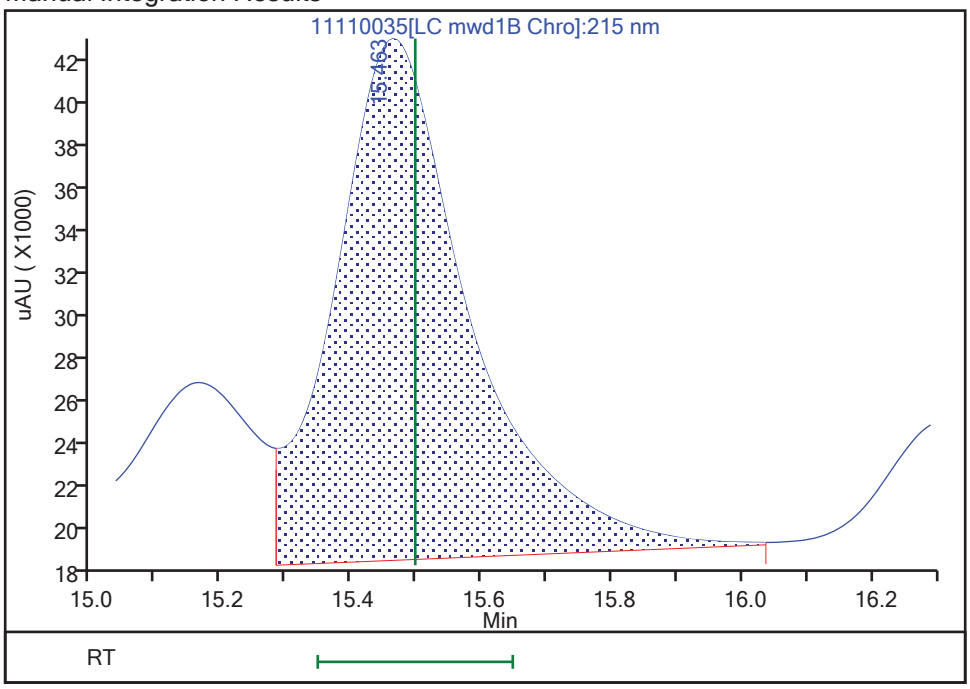
Processing Integration Results

RT: 15.46
Area: 374035
Amount: 2.911881
Amount Units: ug/ml



Manual Integration Results

RT: 15.46
Area: 350712
Amount: 2.730310
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:14
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

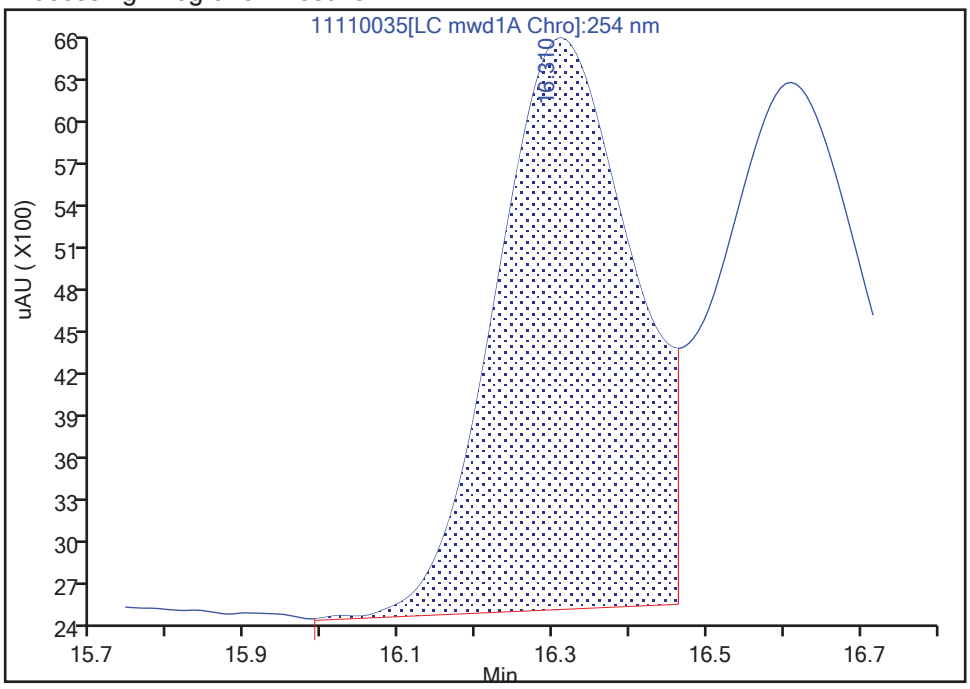
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D				
Injection Date:	12-Nov-2022 06:59:33	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	35
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

14 o-Nitrotoluene, CAS: 88-72-2

Signal: 1

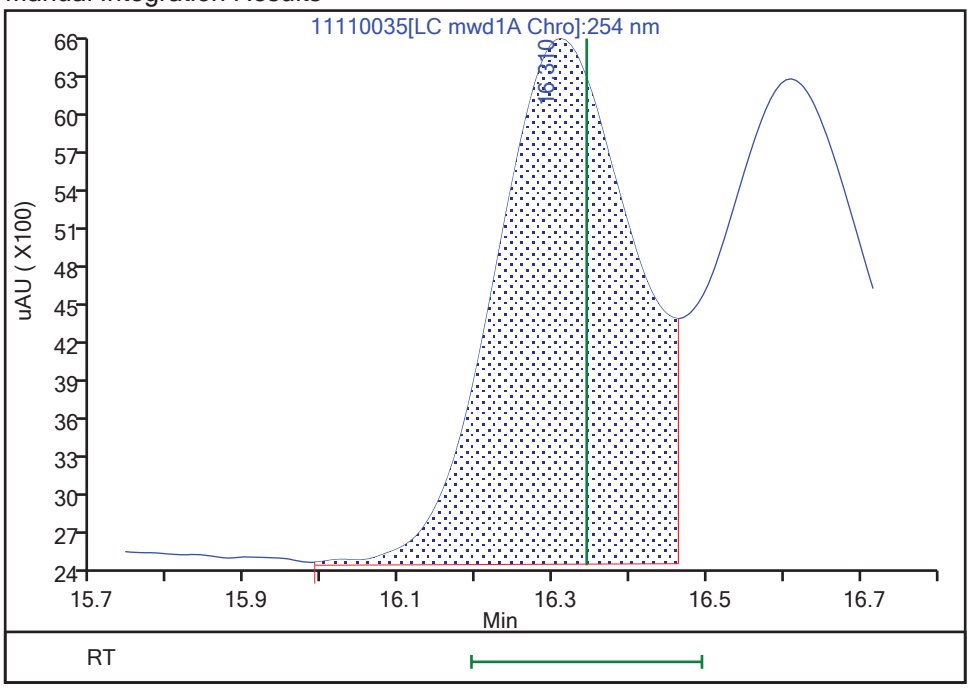
Processing Integration Results

RT: 16.31
Area: 50448
Amount: 0.232373
Amount Units: ug/ml



Manual Integration Results

RT: 16.31
Area: 52251
Amount: 0.240678
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

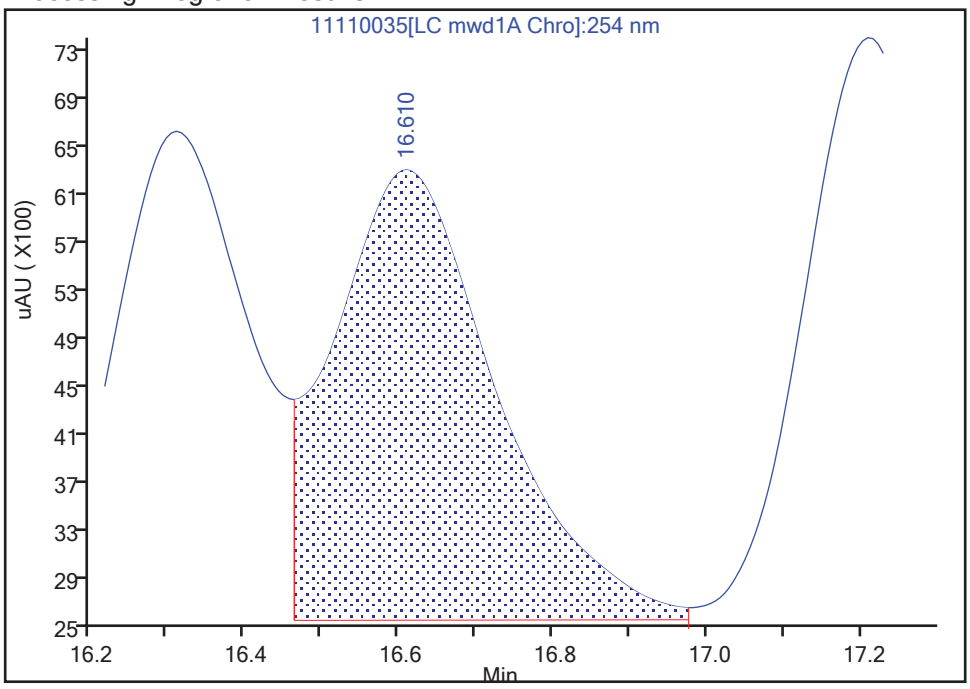
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D
Injection Date: 12-Nov-2022 06:59:33 Instrument ID: CHHPLC_X5
Lims ID: CCV
Client ID:
Operator ID: JZ ALS Bottle#: 7 Worklist Smp#: 35
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

16 p-Nitrotoluene, CAS: 99-99-0

Signal: 1

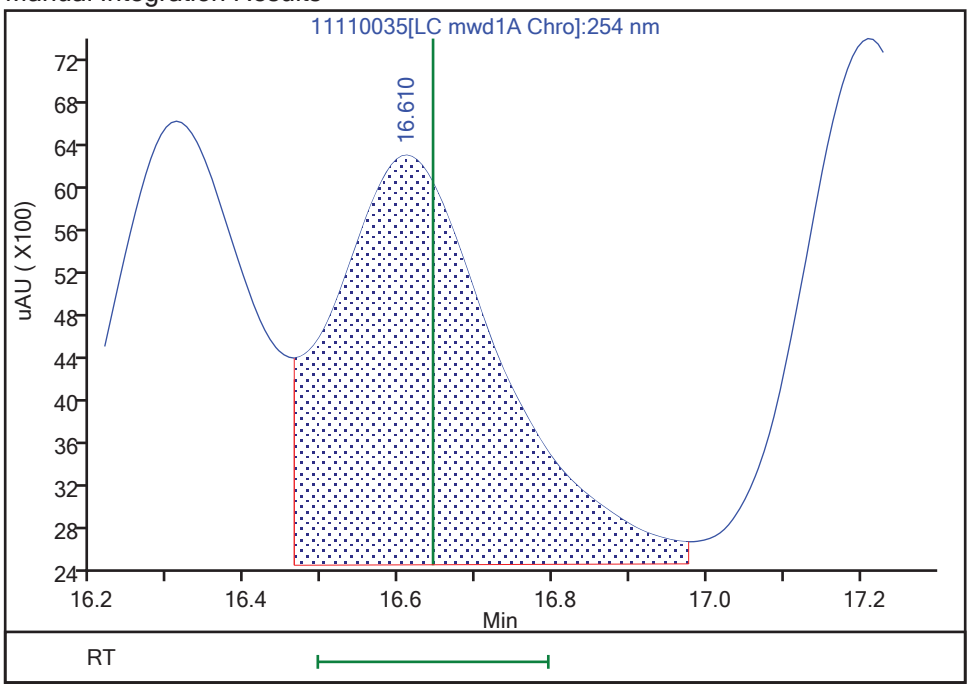
Processing Integration Results

RT: 16.61
Area: 54861
Amount: 0.244175
Amount Units: ug/ml



Manual Integration Results

RT: 16.61
Area: 58280
Amount: 0.259392
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Eurofins Denver

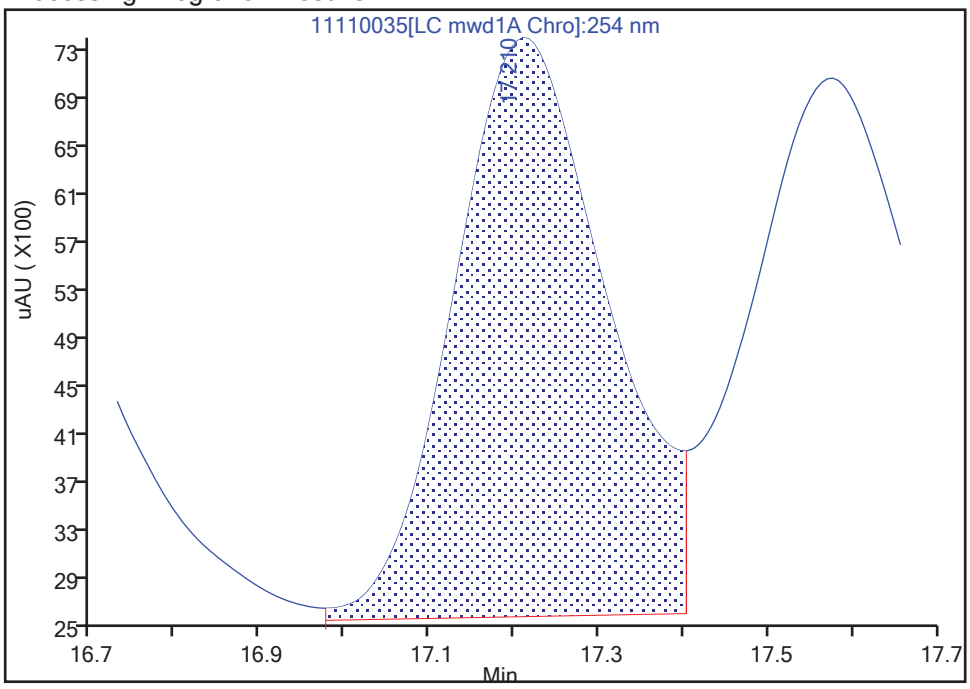
Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D
Injection Date: 12-Nov-2022 06:59:33 Instrument ID: CHHPLC_X5
Lims ID: CCV
Client ID:
Operator ID: JZ ALS Bottle#: 7 Worklist Smp#: 35
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X5_Luna Limit Group: GCSV - 8330
Column: Luna-Phenyl hexyl (4.60 mm) Detector LC mwd1A, 254 nm

17 4-Amino-2,6-dinitrotoluene, CAS: 19406-51-0

Signal: 1

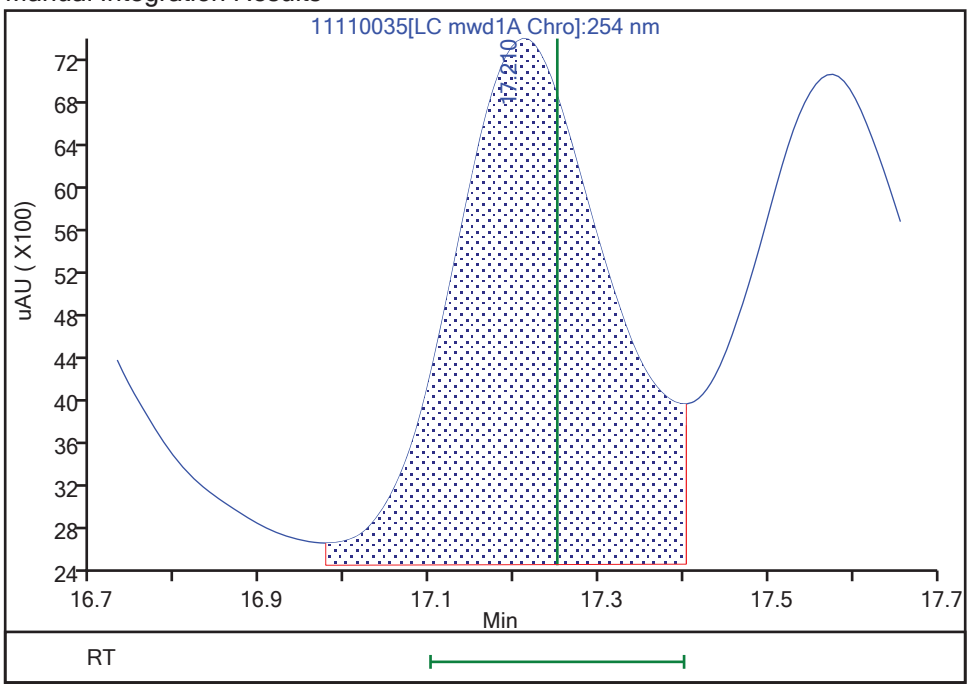
Processing Integration Results

RT: 17.21
Area: 60496
Amount: 0.248424
Amount Units: ug/ml



Manual Integration Results

RT: 17.21
Area: 63824
Amount: 0.262091
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

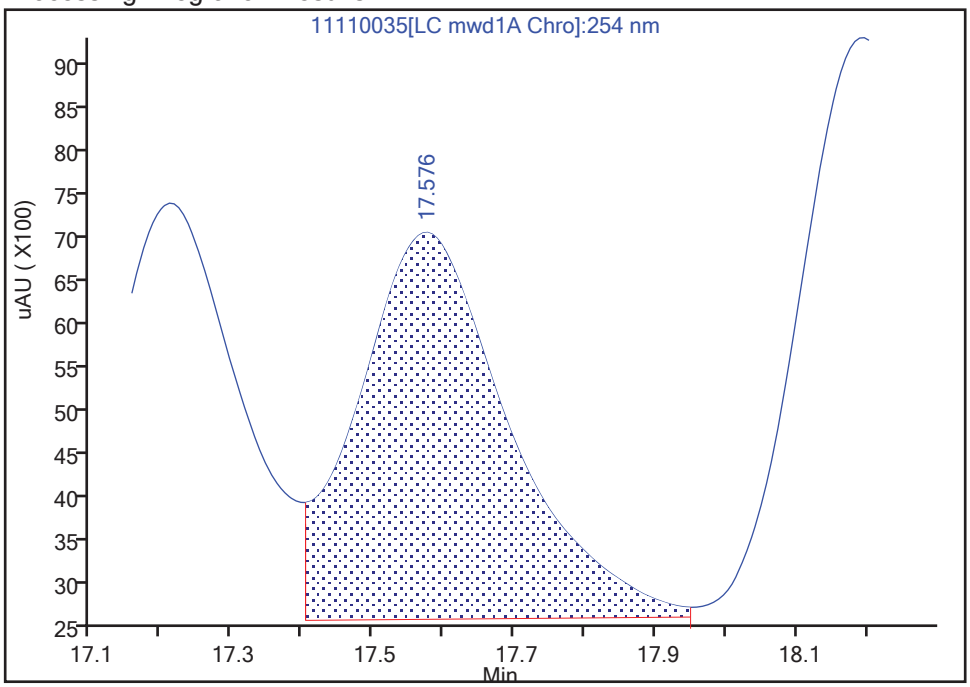
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D				
Injection Date:	12-Nov-2022 06:59:33	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	35
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

18 m-Nitrotoluene, CAS: 99-08-1

Signal: 1

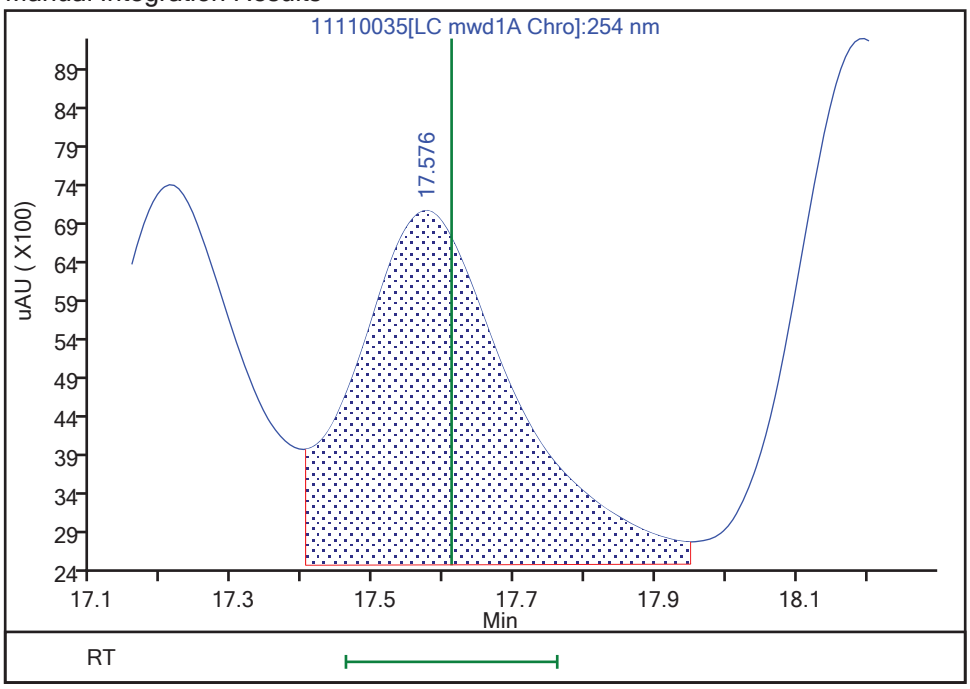
Processing Integration Results

RT: 17.58
Area: 65727
Amount: 0.242051
Amount Units: ug/ml



Manual Integration Results

RT: 17.58
Area: 71139
Amount: 0.261981
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

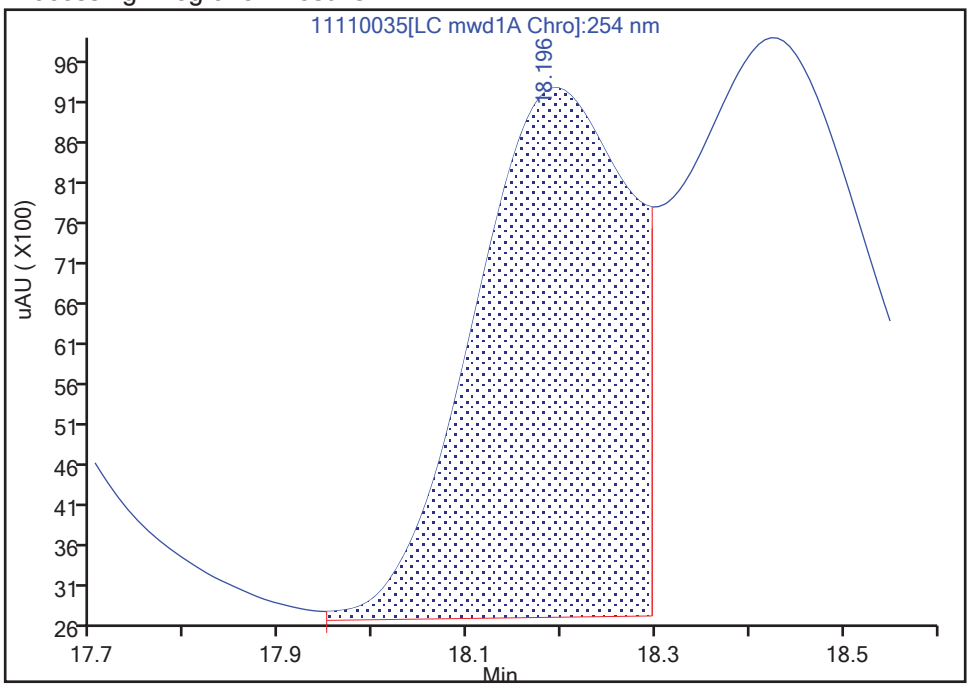
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D				
Injection Date:	12-Nov-2022 06:59:33	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	35
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

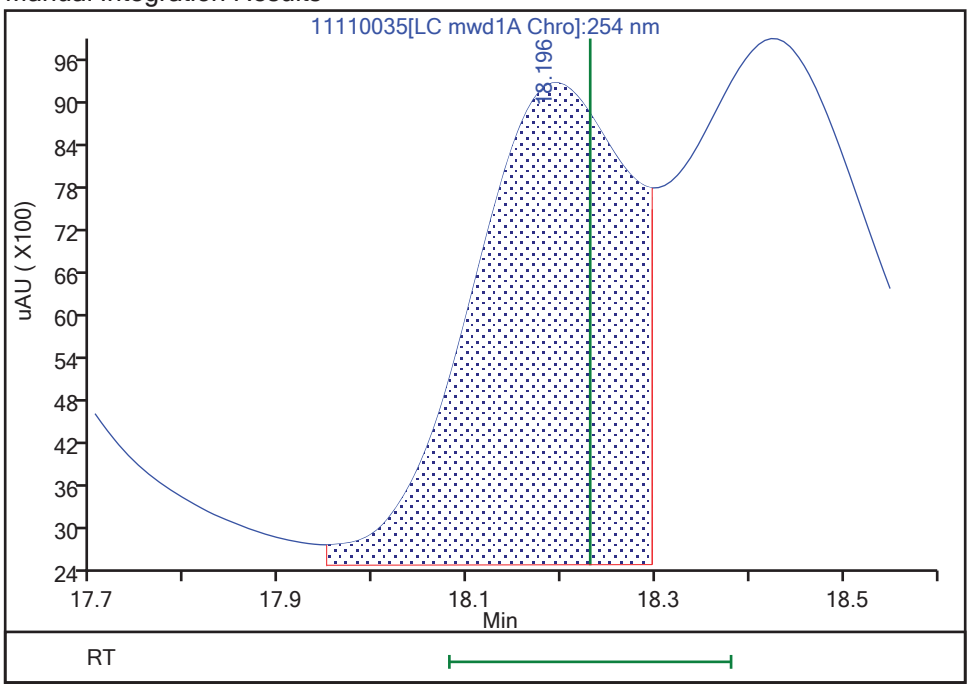
Processing Integration Results

RT: 18.20
Area: 75605
Amount: 0.259113
Amount Units: ug/ml



Manual Integration Results

RT: 18.20
Area: 79765
Amount: 0.273371
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:20
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

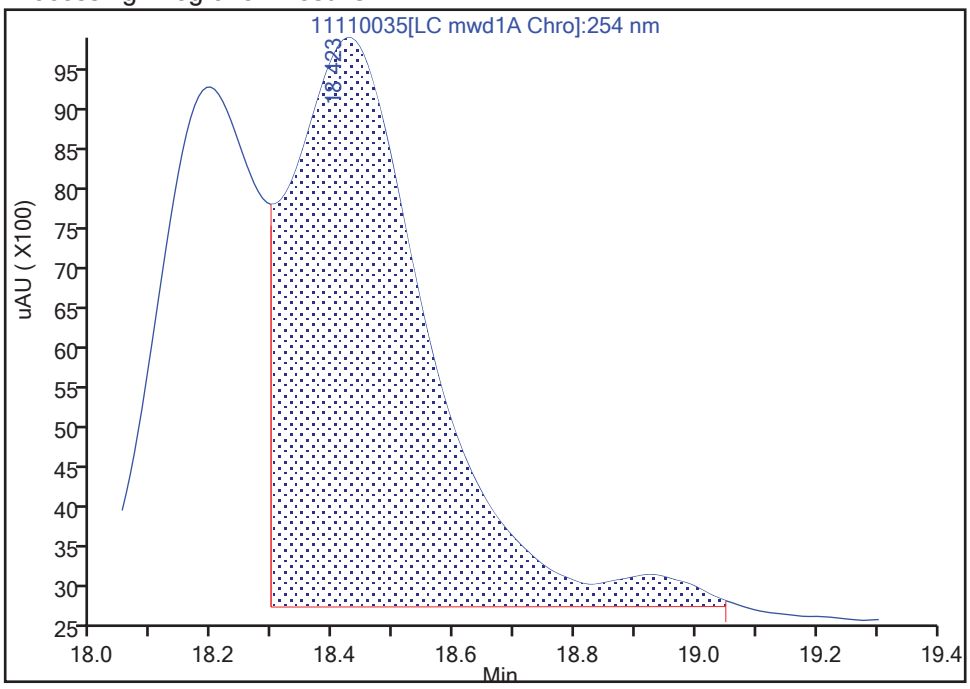
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D				
Injection Date:	12-Nov-2022 06:59:33	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	35
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

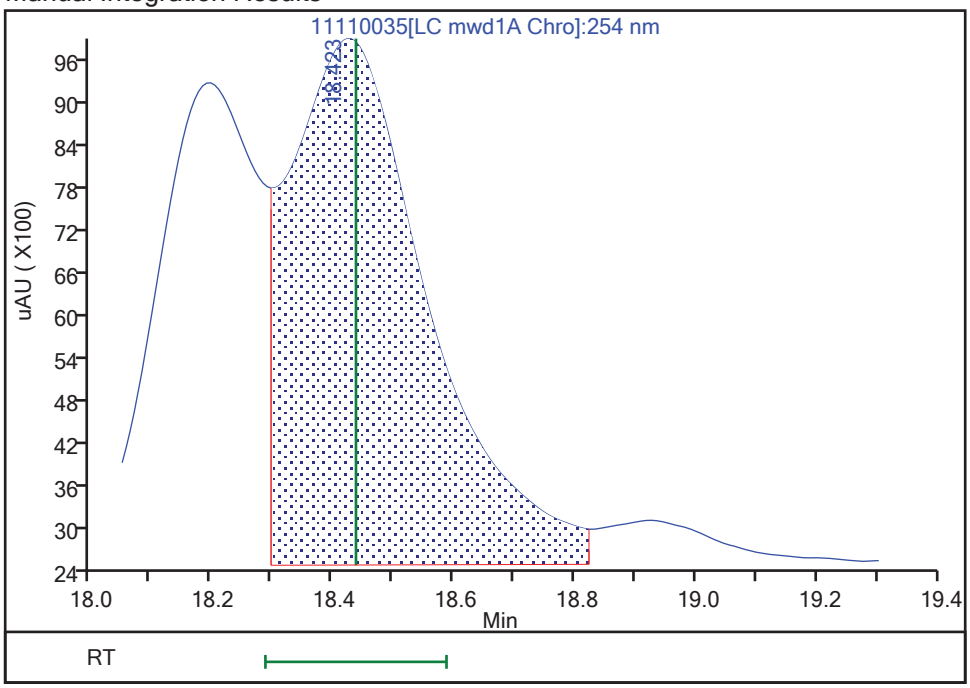
Processing Integration Results

RT: 18.42
Area: 115326
Amount: 0.234879
Amount Units: ug/ml



Manual Integration Results

RT: 18.42
Area: 118150
Amount: 0.240586
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:30

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

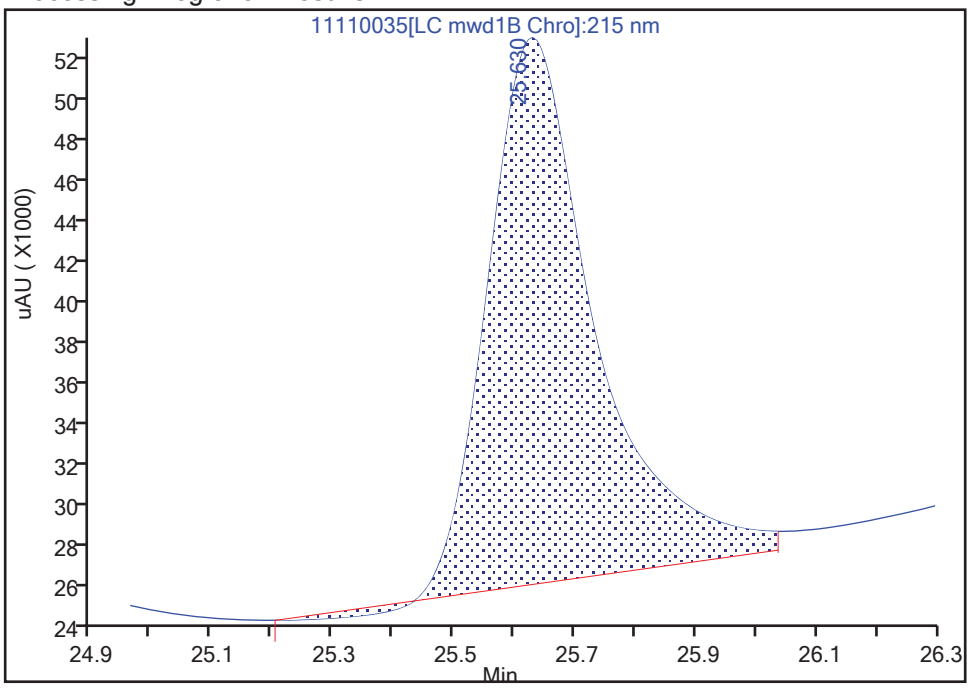
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110035.D				
Injection Date:	12-Nov-2022 06:59:33	Instrument ID:	CHHPLC_X5		
Lims ID:	CCV				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	7	Worklist Smp#:	35
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

25 PETN, CAS: 78-11-5

Signal: 1

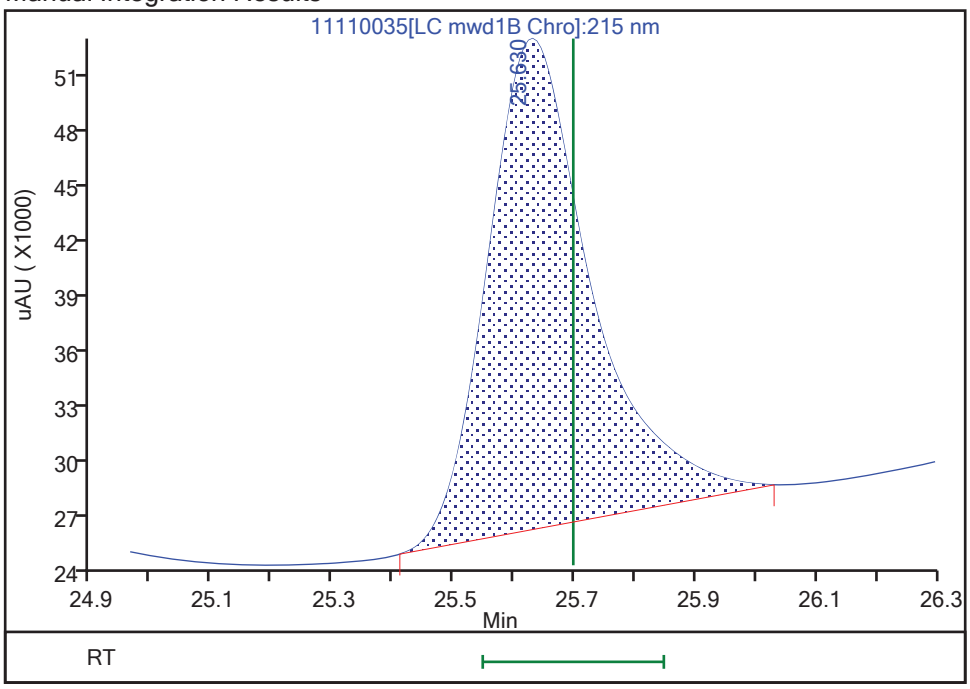
Processing Integration Results

RT: 25.63
Area: 332152
Amount: 2.570150
Amount Units: ug/ml



Manual Integration Results

RT: 25.63
Area: 321864
Amount: 2.491248
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:05:37
Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-592716/1-A

Matrix: Water | Lab File ID: 11090011.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 500(mL) | Date Analyzed: 11/09/2022 15:39

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.20	U	0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	0.10	U	0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	0.10	U	0.11	0.10	0.045
618-87-1	3,5-Dinitroaniline	0.30	U	0.40	0.30	0.13
121-14-2	2,4-Dinitrotoluene	0.080	U	0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	0.080	U	0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	0.10	U	0.11	0.10	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.21	0.20	0.086
99-08-1	3-Nitrotoluene	0.40	U	0.40	0.40	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.15	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	0.41	0.40	0.10
98-95-3	Nitrobenzene	0.20	U	0.21	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	2.1	2.0	0.92
2691-41-0	HMX	0.20	U	0.21	0.20	0.088
78-11-5	PETN	1.0	U	1.1	1.0	0.45
88-89-1	Picric acid	0.12	U	0.40	0.12	0.044
121-82-4	RDX	0.20	U	0.21	0.20	0.052
479-45-8	Tetryl	0.10	U	0.11	0.10	0.032
6629-29-4	2,4-diamino-6-nitrotoluene	0.90	U	1.0	0.90	0.43
59229-75-3	2,6-diamino-4-nitrotoluene	0.90	U	1.0	0.90	0.22

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	96	M	83-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090011.D
Lims ID: MB 280-592716/1-A
Client ID:
Sample Type: MB
Inject. Date: 09-Nov-2022 15:39:43 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-592716/1-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 16:31:36

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
1	Triamine Trinitrobenzene	1		2.447				ND	
2	2,6-diamino-4-nitrotoluene	1		6.456				ND	
3	TNX	1		6.463				ND	U
4	HMX	1		6.569				ND	
5	2,4-diamino-6-nitrotoluene	1		6.636				ND	
6	DNX	1		6.776				ND	
7	MNX	1	7.166	7.196	-0.030	1628		0.0129	M
8	RDX	1		7.556				ND	
9	2,4,6-Trinitrophenol	1		7.883				ND	
$ 10	1,2-Dinitrobenzene	1	8.506	8.509	-0.003	24058	0.2000	0.1912	M
11	1,3,5-Trinitrobenzene	1		8.629				ND	
12	1,3-Dinitrobenzene	1		9.249				ND	
13	Nitrobenzene	1		9.636				ND	
14	3,5-Dinitroaniline	1		9.829				ND	
15	Tetryl	1		9.943				ND	
16	Nitroglycerin	2		10.396				ND	
17	2,4,6-Trinitrotoluene	1		10.849				ND	
18	4-Amino-2,6-dinitrotoluene	1		11.023				ND	
19	2-Amino-4,6-dinitrotoluene	1		11.269				ND	
20	2,6-Dinitrotoluene	1		11.449				ND	
21	2,4-Dinitrotoluene	1		11.616				ND	
22	o-Nitrotoluene	1		12.469				ND	
23	p-Nitrotoluene	1		12.889				ND	
24	m-Nitrotoluene	1		13.456				ND	
25	PETN	2		14.489				ND	
26	Ammonium Picrate	1		0.000				ND	

QC Flag Legend
Processing Flags

Review Flags
M - Manually Integrated
U - Marked Undetected

Report Date: 10-Nov-2022 12:05:18 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090011.d

Injection Date: 09-Nov-2022 15:39:43 Instrument ID: CHHPLC_X3 Operator ID:

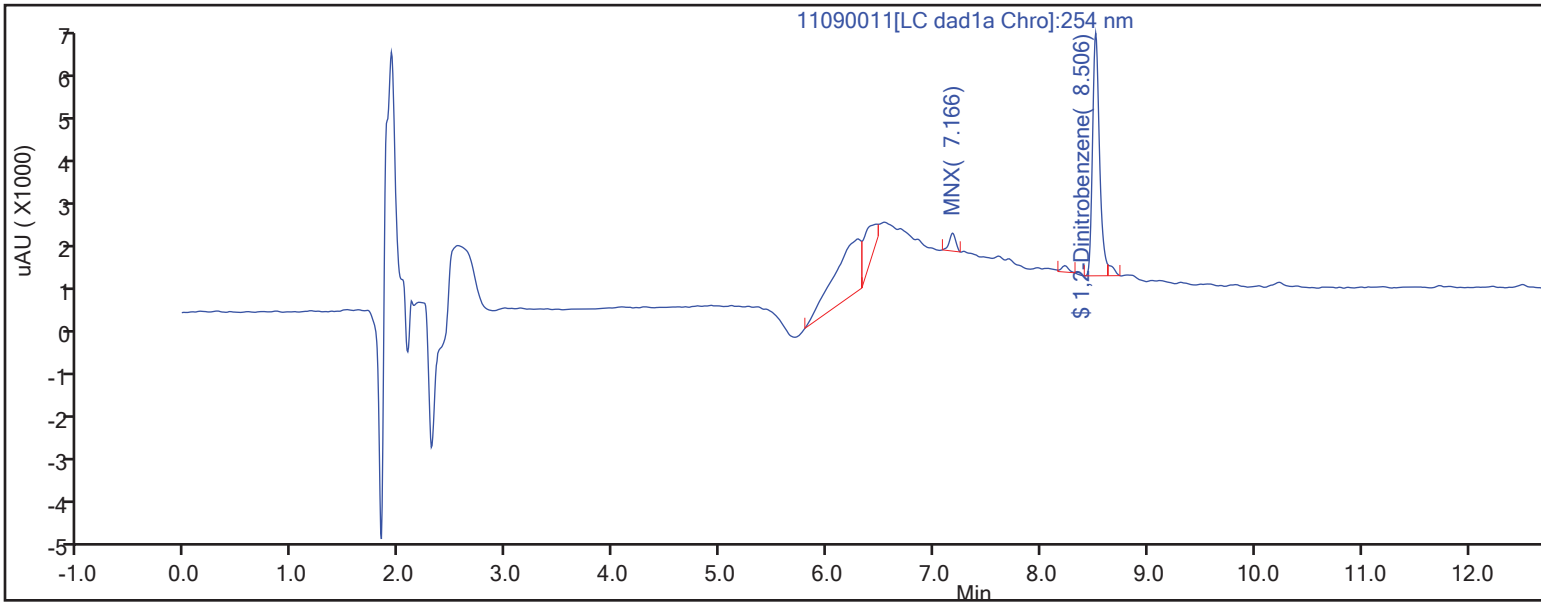
Lims ID: MB 280-592716/1-A Worklist Smp#:

Client ID:

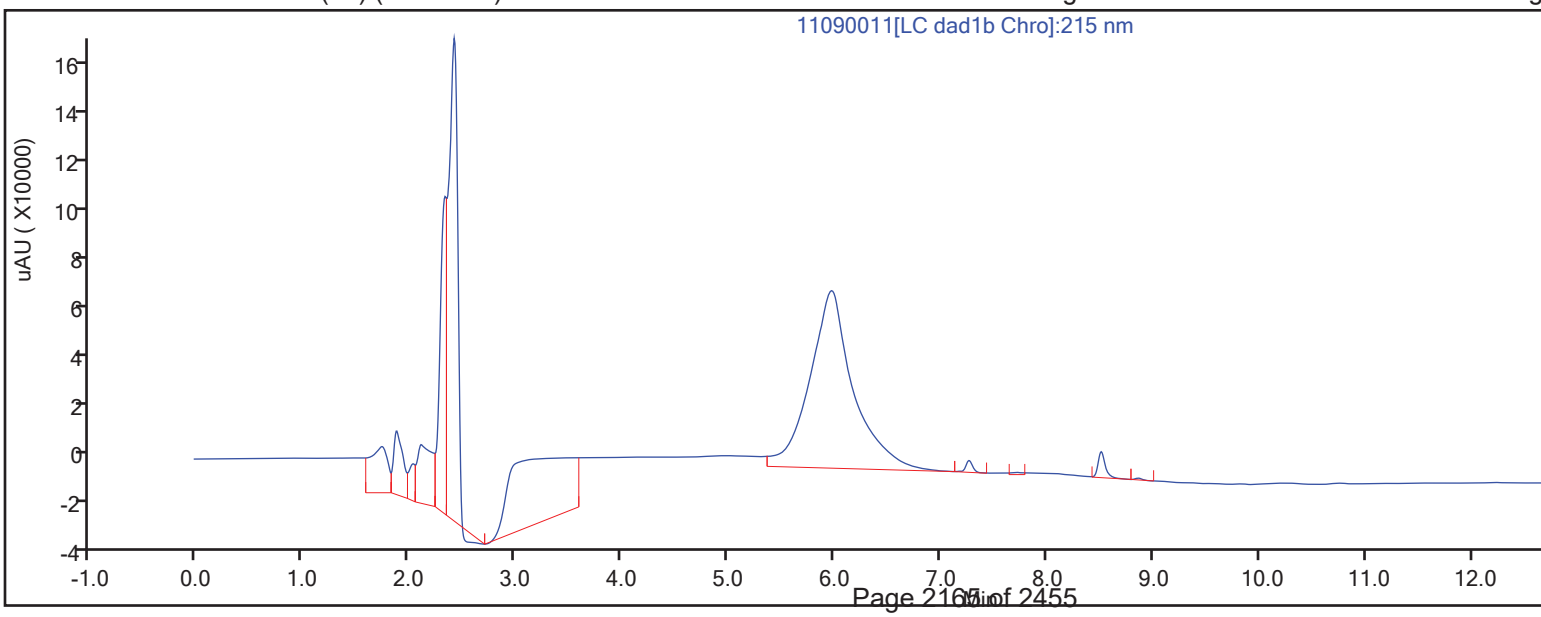
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090011.D
Lims ID: MB 280-592716/1-A
Client ID:
Sample Type: MB
Inject. Date: 09-Nov-2022 15:39:43 ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-592716/1-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 16:31:36

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2000	0.1912	95.59

Manual Integration/User Assign Peak Report

Eurofins Denver

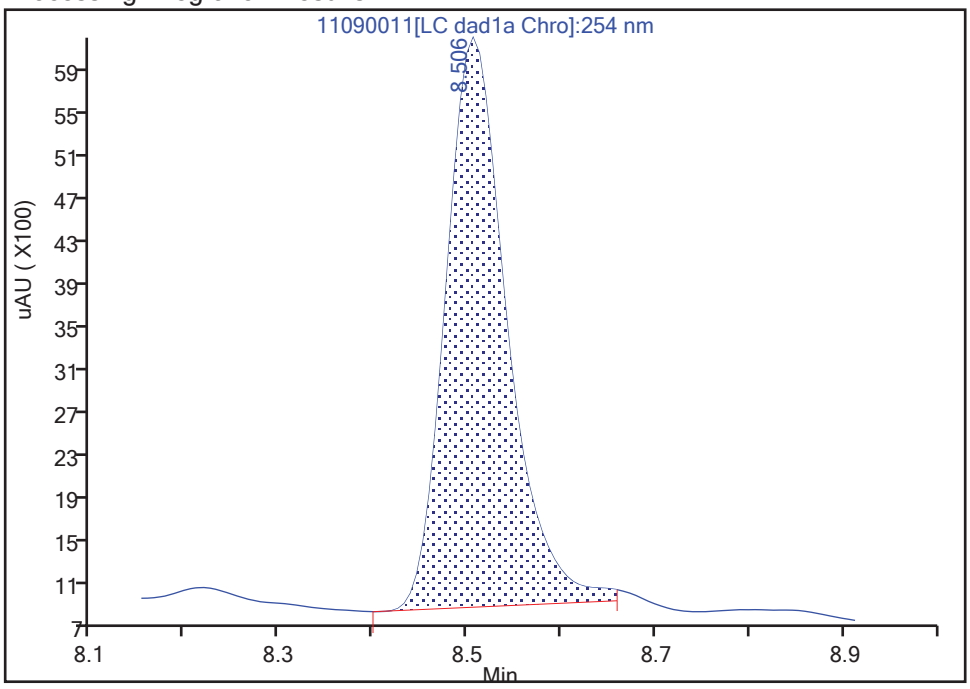
Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090011.d
Injection Date: 09-Nov-2022 15:39:43 Instrument ID: CHHPLC_X3
Lims ID: MB 280-592716/1-A
Client ID:
Operator ID: JZ ALS Bottle#: 11 Worklist Smp#: 11
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

$ 10 1,2-Dinitrobenzene, CAS: 528-29-0

Signal: 1

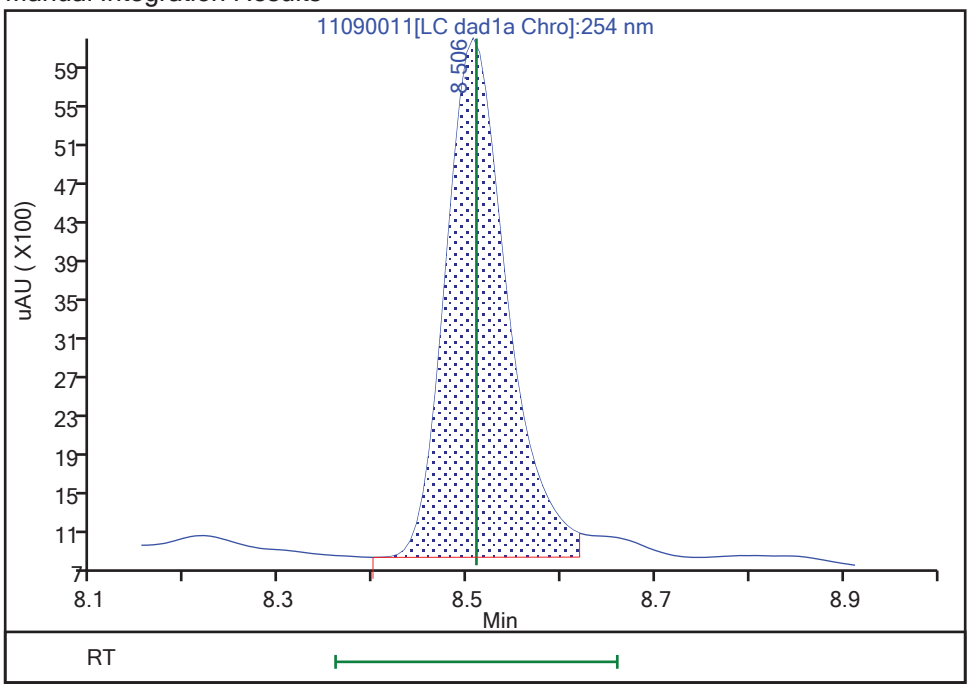
Processing Integration Results

RT: 8.51
Area: 23820
Amount: 0.189283
Amount Units: ug/mL



Manual Integration Results

RT: 8.51
Area: 24058
Amount: 0.191174
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 16:09:45
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: Lab Sample ID: MX 280-3x2x2c/1-A

Matrid: Solih Lab File ID: 111000B8.D

Anal5sis MetVoh: 8BB0X Date Colleyteh:

Edtraytion MetVoh: 8BB0X Date Edtrayteh: 11/0x/2022 17:13

Sample 4t/vol: 10)wz Date Anal59eh: 11/11/2022 00:38

Con. Edtrayt jol.: c0)mLz Dilution Faytor: 1

In(eytion jolume: 100)uLz GC Column: %ltraCarb3uODS ID: c.6)mmz

g Moisture: g Solihs: GPC Cleanup:)Y/Nz N

Cleanup Faytor:

Anal5sis XatyV No.: 3xB0c2 %nits: uw/Kw

CAS NO.	COMPO%ND NAME	RES%LT	U	LOU	LOD	DL
xx-B3-c	1QBQ3-Trinitroben9ene	c0	%	100	c0	1c
xx-63-0	1QB-Dinitroben9ene	c0	%	100	c0	17
118-x6-7	2QcQ6-Trinitrotoluene	70	%	100	70	B1
618-87-1	BQ3-Dinitroaniline	20	%	100	20	x.0
121-1c-2	2Qc-Dinitrotoluene	c0	%	100	c0	13
606-20-2	2Q6-Dinitrotoluene	c0	%	100	c0	1x
B3372-78-2	2-Amino-cQ6-hinitrotoluene	70	%	100	70	BB
88-72-2	2-Nitrotoluene	100	%	200	100	c7
xx-08-1	B-Nitrotoluene	130	%	200	130	6c
1xc06-31-0	c-Amino-2Q6-hinitrotoluene	70	%	100	70	B0
xx-xx-0	c-Nitrotoluene	100	%	200	100	B7
x8-x3-B	Nitroben9ene	200	%	B00	200	83
33-6B-0	Nitrowl5yerin	700	%	2000	700	220
26x1-c1-0	HM,	70	%	100	70	2B
78-11-3	PETN	1000	%	2000	1000	cx0
88-8x-1	Piyriy ayih	100	%	100	100	36
121-82-c	RD,	100	%	200	100	cB
c7x-c3-8	Tetr5l	100	%	200	100	cc
662x-2x-c	2Qc-hiamino-6-nitrotoluene	1000	%	2000	1000	320
3x22x-73-B	2Q6-hiamino-c-nitrotoluene	1000	%	2000	1000	BB0

CAS NO.	S%RROGATE	gREC	U	LIMITS
328-2x-0	1Q2-Dinitroben9ene	112		78-11x

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100038.D
Lims ID: MB 280-592924/1-A
Client ID:
Sample Type: MB
Inject. Date: 11-Nov-2022 00:58:46 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-592924/1-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
1	Triamine Trinitrobenzene	1		2.447				ND	
2	2,6-diamino-4-nitrotoluene	1		6.452				ND	7
3	TNX	1		6.463				ND	
4	HMX	1		6.571				ND	
5	2,4-diamino-6-nitrotoluene	1		6.632				ND	
6	DNX	1		6.776				ND	
7	MNX	1		7.196				ND	
8	RDX	1		7.558				ND	
9	2,4,6-Trinitrophenol	1		7.878				ND	
$ 10	1,2-Dinitrobenzene	1	8.507	8.505	0.002	35162	0.2500	0.2794	
11	1,3,5-Trinitrobenzene	1		8.625				ND	
12	1,3-Dinitrobenzene	1		9.244				ND	
13	Nitrobenzene	1		9.638				ND	
14	3,5-Dinitroaniline	1		9.832				ND	
15	Tetryl	1		9.944				ND	
16	Nitroglycerin	2		10.404				ND	
17	2,4,6-Trinitrotoluene	1		10.851				ND	
18	4-Amino-2,6-dinitrotoluene	1		11.024				ND	
19	2-Amino-4,6-dinitrotoluene	1		11.271				ND	
20	2,6-Dinitrotoluene	1		11.458				ND	
21	2,4-Dinitrotoluene	1		11.624				ND	
22	o-Nitrotoluene	1		12.478				ND	
23	p-Nitrotoluene	1		12.898				ND	
24	m-Nitrotoluene	1		13.464				ND	
25	PETN	2		14.518				ND	
26	Ammonium Picrate	1		0.000				ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Report Date: 11-Nov-2022 12:25:54 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100038.d

Injection Date: 11-Nov-2022 00:58:46 Instrument ID: CHHPLC_X3 Operator ID:

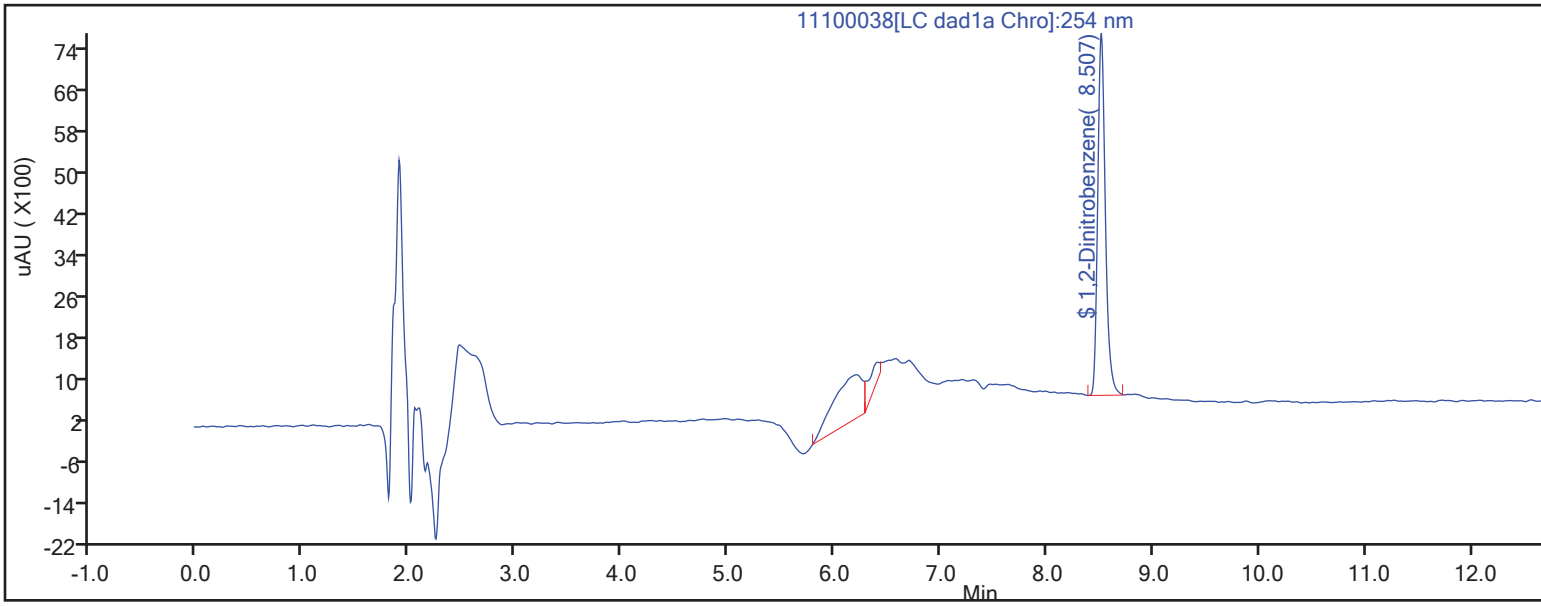
Lims ID: MB 280-592924/1-A Worklist Smp#:

Client ID:

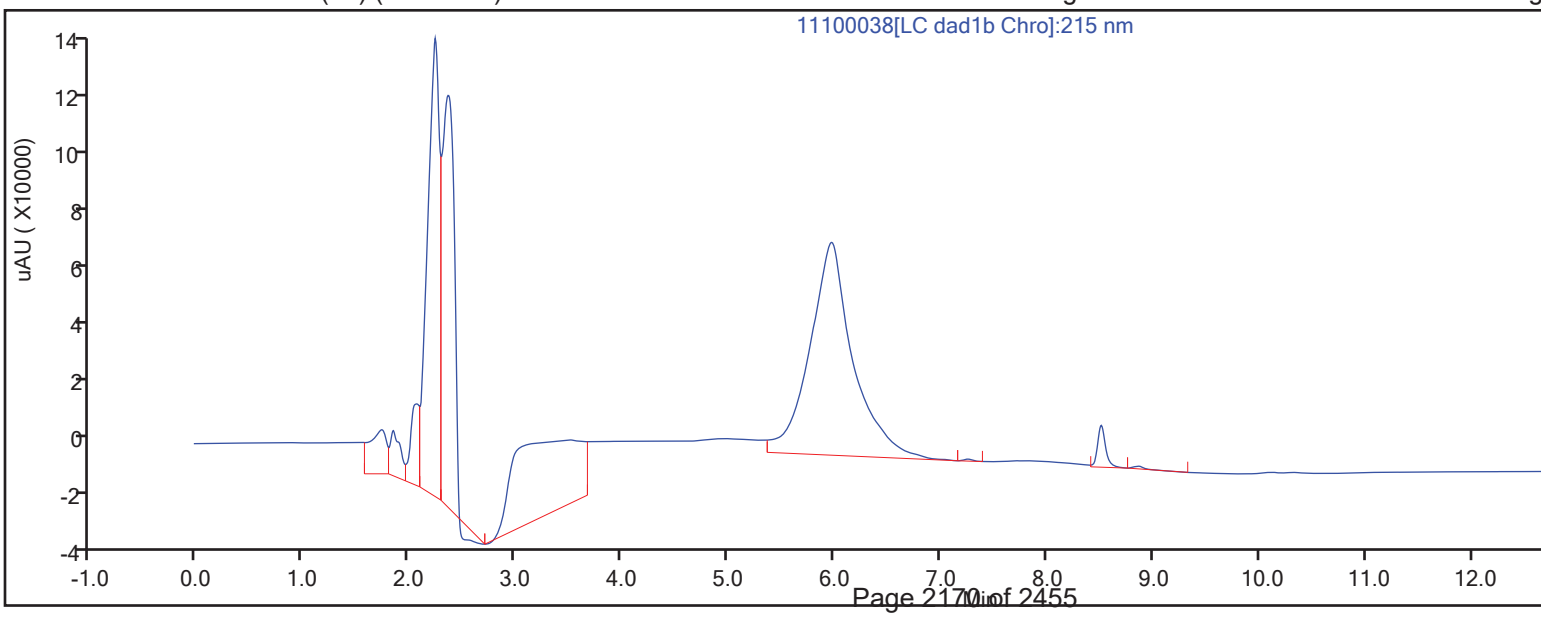
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100038.D
Lims ID: MB 280-592924/1-A
Client ID:
Sample Type: MB
Inject. Date: 11-Nov-2022 00:58:46 ALS Bottle#: 38 Worklist Smp#: 38
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: MB 280-592924/1-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2794	111.76

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-592716/2-A

Matrix: Water | Lab File ID: 11090012.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 500(mL) | Date Analyzed: 11/09/2022 16:02

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.23		0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	2.05		0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	1.85		0.11	0.10	0.045
121-14-2	2,4-Dinitrotoluene	2.01		0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	2.00		0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	2.03		0.11	0.10	0.051
88-72-2	2-Nitrotoluene	1.56		0.21	0.20	0.086
99-08-1	3-Nitrotoluene	1.57		0.40	0.40	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	2.15		0.15	0.12	0.058
99-99-0	4-Nitrotoluene	1.58		0.41	0.40	0.10
98-95-3	Nitrobenzene	1.71		0.21	0.20	0.091
55-63-0	Nitroglycerin	20.6		2.1	2.0	0.92
2691-41-0	HMX	1.88		0.21	0.20	0.088
78-11-5	PETN	20.0		1.1	1.0	0.45
88-89-1	Picric acid	2.07		0.40	0.12	0.044
121-82-4	RDX	2.01		0.21	0.20	0.052
479-45-8	Tetryl	2.03		0.11	0.10	0.032

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	90		83-119

Report Date: 10-Nov-2022 12:05:19 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090012.D
Lims ID: LCS 280-592716/2-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Nov-2022 16:02:42 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592716/2-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:19:39

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	4 HMX	1	6.577	6.569	0.008	16701	0.2000	0.1877	
	8 RDX	1	7.563	7.556	0.007	21582	0.2000	0.2005	
	9 2,4,6-Trinitrophenol	1	7.877	7.883	-0.006	16050	0.2000	0.2072	
$	10 1,2-Dinitrobenzene	1	8.510	8.509	0.001	22556	0.2000	0.1792	
	11 1,3,5-Trinitrobenzene	1	8.630	8.629	0.001	47718	0.2000	0.2234	
	12 1,3-Dinitrobenzene	1	9.250	9.249	0.001	59587	0.2000	0.2051	
	13 Nitrobenzene	1	9.643	9.636	0.007	32956	0.2000	0.1707	
	15 Tetryl	1	9.950	9.943	0.007	33656	0.2000	0.2035	
	16 Nitroglycerin	2	10.403	10.396	0.007	127171	2.00	2.06	
	17 2,4,6-Trinitrotoluene	1	10.850	10.849	0.001	39058	0.2000	0.1852	
	18 4-Amino-2,6-dinitrotoluene	1	11.023	11.023	0.000	31130	0.2000	0.2150	
	19 2-Amino-4,6-dinitrotoluene	1	11.270	11.269	0.001	39666	0.2000	0.2032	
	20 2,6-Dinitrotoluene	1	11.450	11.449	0.001	28432	0.2000	0.2000	
	21 2,4-Dinitrotoluene	1	11.616	11.616	0.000	58263	0.2000	0.2008	
	22 o-Nitrotoluene	1	12.470	12.469	0.001	19591	0.2000	0.1556	
	23 p-Nitrotoluene	1	12.890	12.889	0.001	17649	0.2000	0.1578	
	24 m-Nitrotoluene	1	13.456	13.456	0.000	21728	0.2000	0.1575	
	25 PETN	2	14.496	14.489	0.007	144585	2.00	2.00	

QC Flag Legend
Processing Flags

Report Date: 10-Nov-2022 12:05:19 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090012.d

Injection Date: 09-Nov-2022 16:02:42 Instrument ID: CHHPLC_X3 Operator ID:

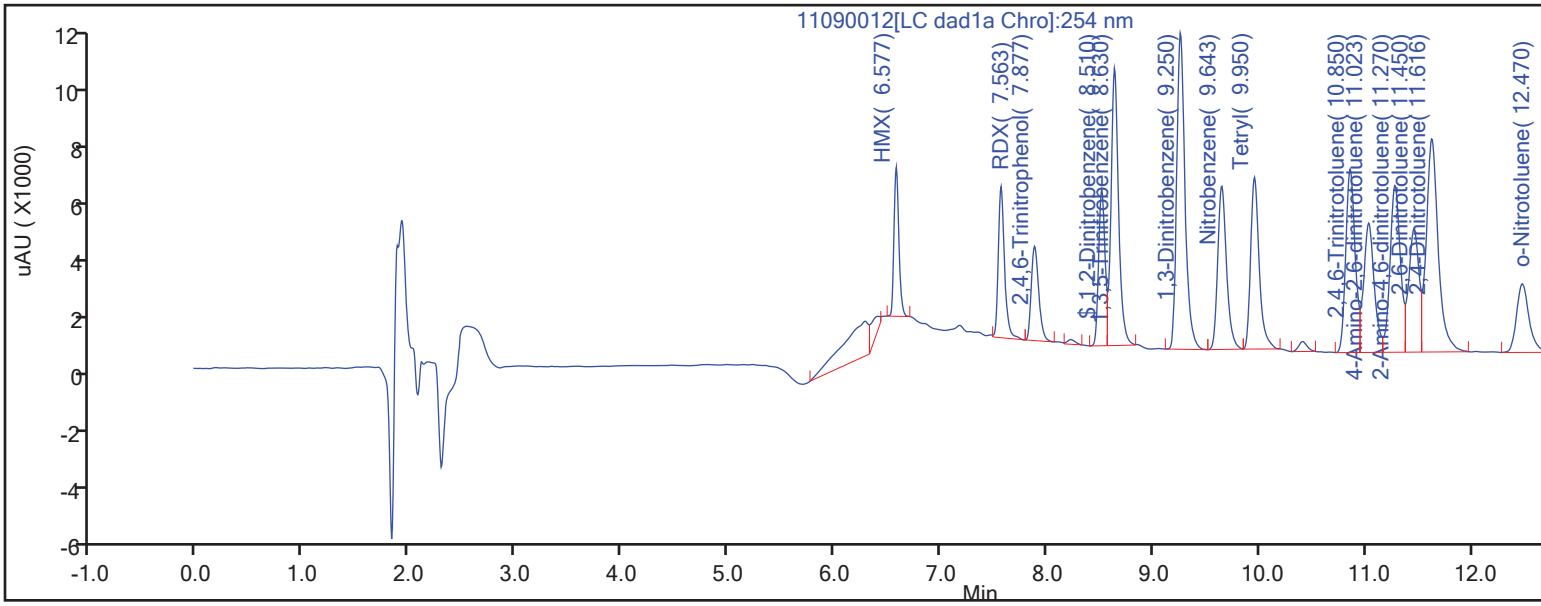
Lims ID: LCS 280-592716/2-A Worklist Smp#:

Client ID:

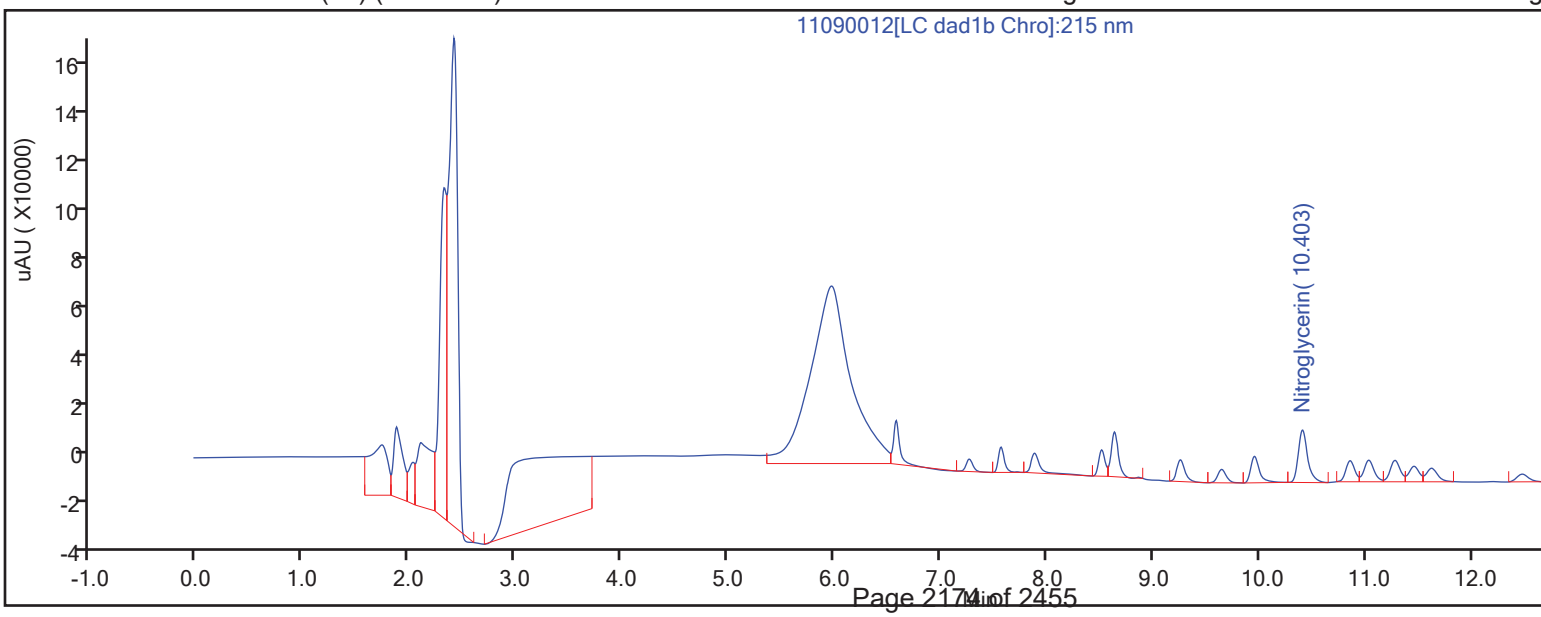
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 10-Nov-2022 12:05:19 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090012.D
Lims ID: LCS 280-592716/2-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Nov-2022 16:02:42 ALS Bottle#: 12 Worklist Smp#: 12
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592716/2-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:19:39

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2000	0.1792	89.62

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-592716/4-A

Matrix: Water | Lab File ID: 11090014.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 500(mL) | Date Analyzed: 11/09/2022 16:48

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
618-87-1	3,5-Dinitroaniline	1.48		0.40	0.30	0.13
6629-29-4	2,4-diamino-6-nitrotoluene	1.62	M	1.0	0.90	0.43
59229-75-3	2,6-diamino-4-nitrotoluene	1.74	M	1.0	0.90	0.22

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	87		83-119

Report Date: 10-Nov-2022 12:05:20 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090014.D
Lims ID: LCS 280-592716/4-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Nov-2022 16:48:42 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592716/4-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:43:40

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
2	2,6-diamino-4-nitrotoluene	1	6.443	6.456	-0.013	37289	0.2000	0.1736	M
5	2,4-diamino-6-nitrotoluene	1	6.623	6.636	-0.013	21728	0.2000	0.1623	M
$ 10	1,2-Dinitrobenzene	1	8.503	8.509	-0.006	21868	0.2000	0.1738	
14	3,5-Dinitroaniline	1	9.817	9.829	-0.012	33568	0.2000	0.1477	

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 10-Nov-2022 12:05:20 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090014.d

Injection Date: 09-Nov-2022 16:48:42 Instrument ID: CHHPLC_X3 Operator ID:

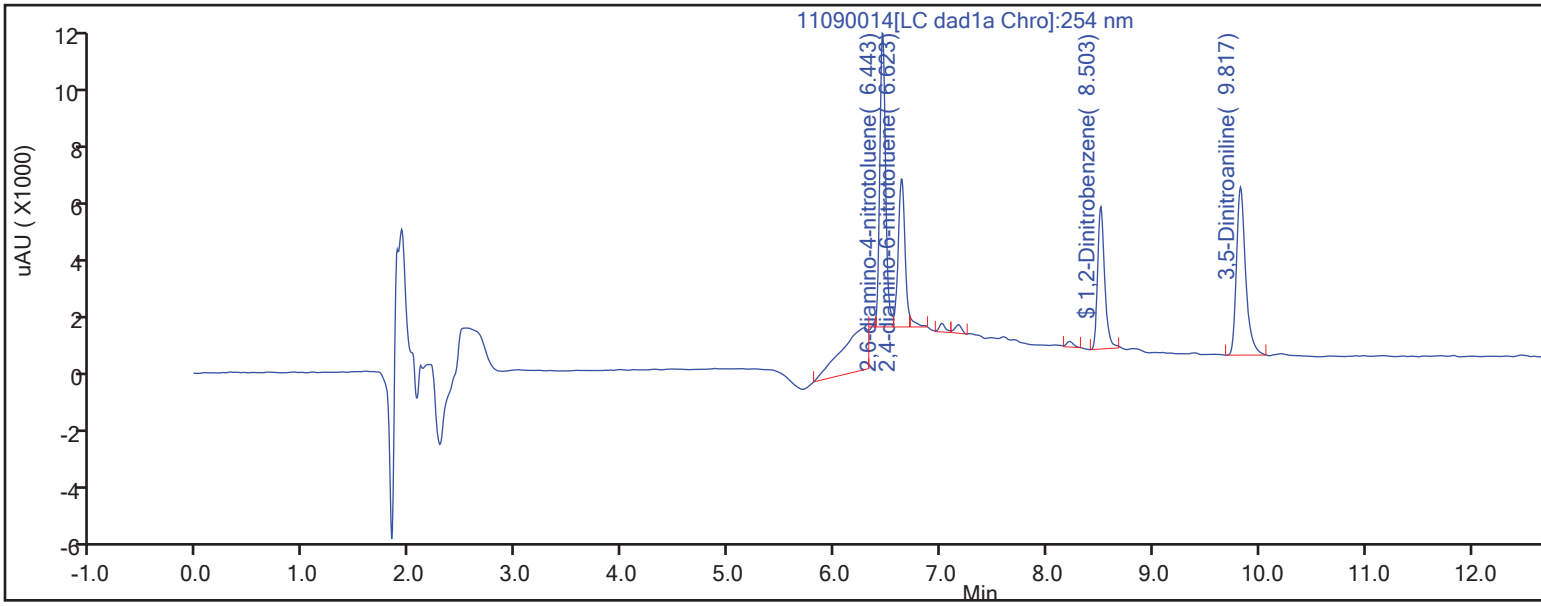
Lims ID: LCS 280-592716/4-A Worklist Smp#:

Client ID:

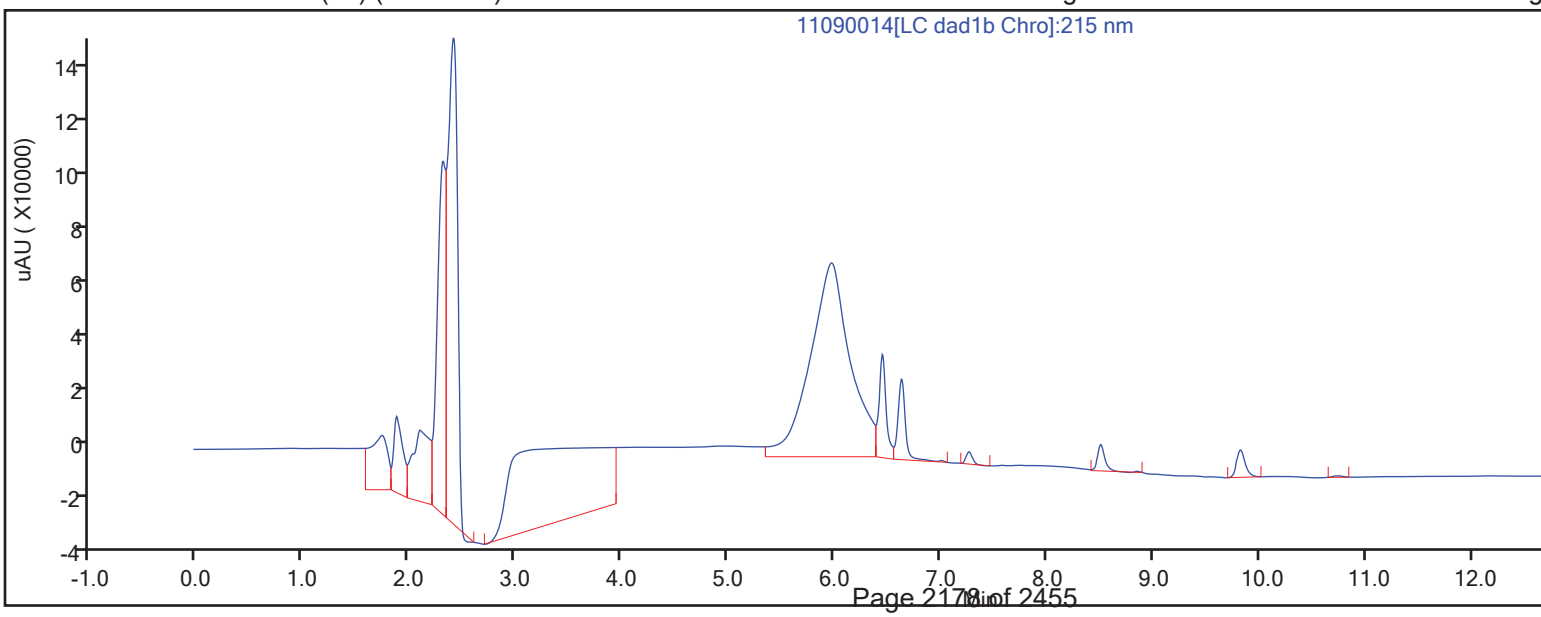
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 10-Nov-2022 12:05:20 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090014.D
Lims ID: LCS 280-592716/4-A
Client ID:
Sample Type: LCS
Inject. Date: 09-Nov-2022 16:48:42 ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592716/4-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:43:40

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2000	0.1738	86.89

Manual Integration/User Assign Peak Report

Eurofins Denver

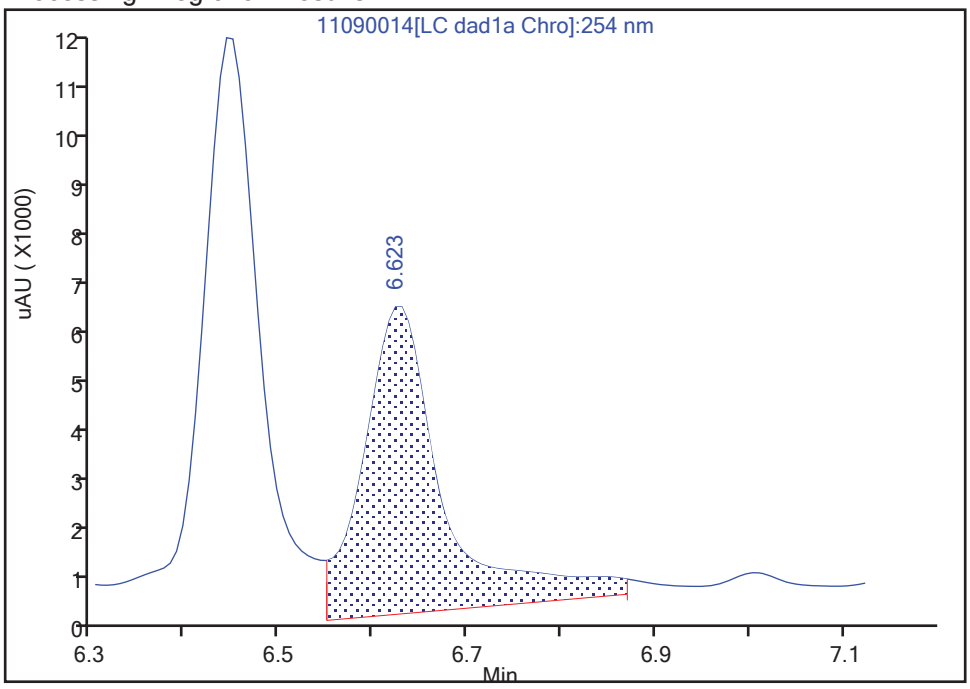
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090014.d				
Injection Date:	09-Nov-2022 16:48:42	Instrument ID:	CHHPLC_X3		
Lims ID:	LCS 280-592716/4-A				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	14	Worklist Smp#:	14
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

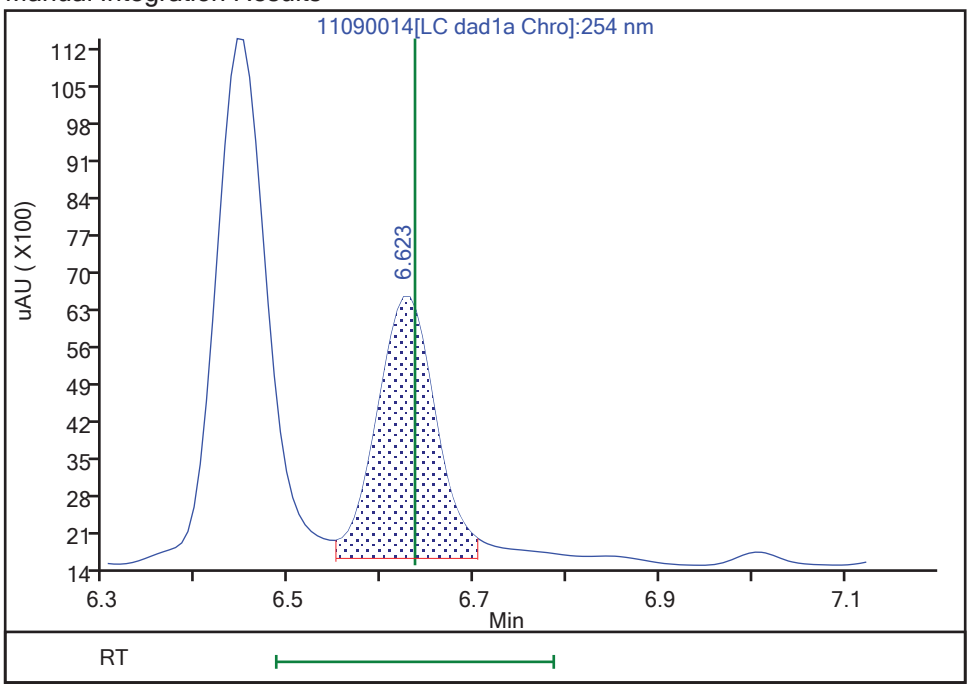
Processing Integration Results

RT: 6.62
Area: 32596
Amount: 0.243411
Amount Units: ug/mL



Manual Integration Results

RT: 6.62
Area: 21728
Amount: 0.162254
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 17:20:15
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins Denver

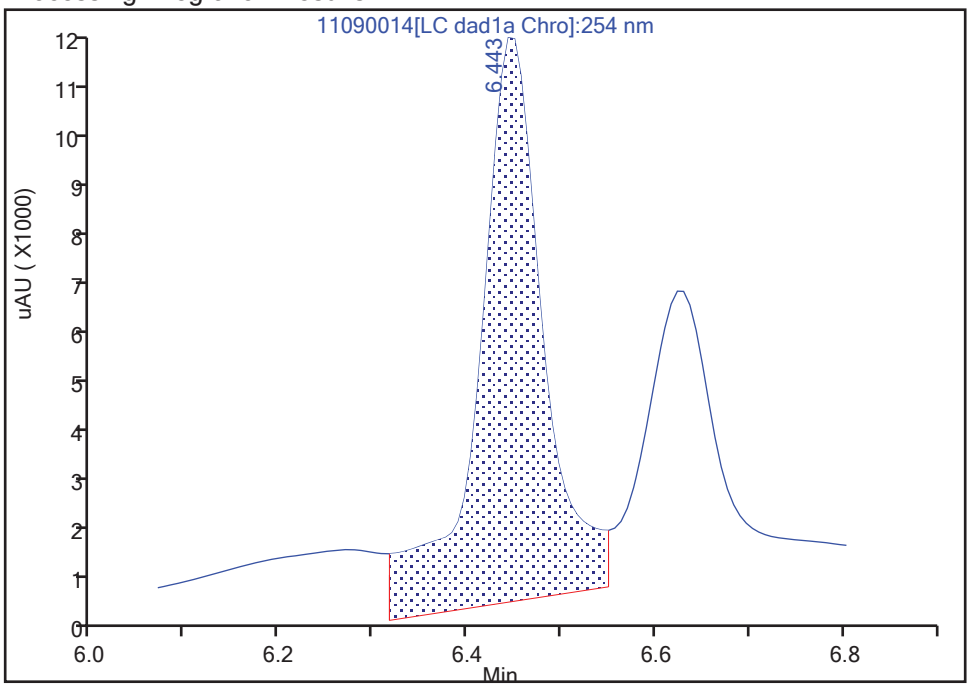
Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090014.d
Injection Date: 09-Nov-2022 16:48:42 Instrument ID: CHHPLC_X3
Lims ID: LCS 280-592716/4-A
Client ID:
Operator ID: JZ ALS Bottle#: 14 Worklist Smp#: 14
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

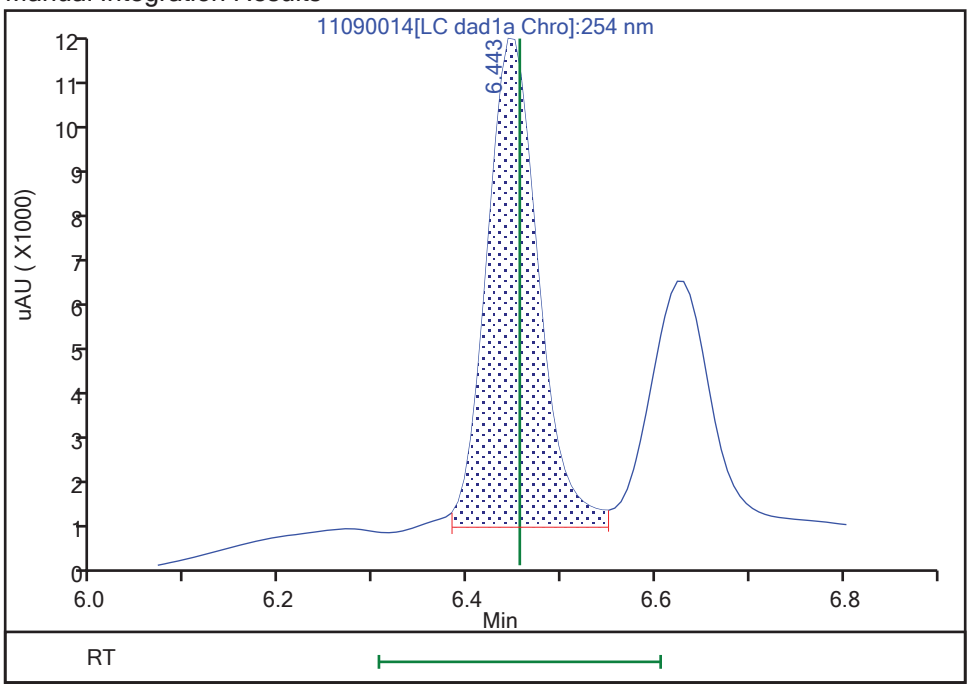
Processing Integration Results

RT: 6.44
Area: 52383
Amount: 0.243872
Amount Units: ug/mL



Manual Integration Results

RT: 6.44
Area: 37289
Amount: 0.173601
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 17:20:13
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-592924/2-A

Matrix: Solid | Lab File ID: 11100039.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10(g) | Date Analyzed: 11/11/2022 01:21

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	1130		100	40	14
99-65-0	1,3-Dinitrobenzene	1060		100	40	17
118-96-7	2,4,6-Trinitrotoluene	959		100	70	31
121-14-2	2,4-Dinitrotoluene	1060		100	40	15
606-20-2	2,6-Dinitrotoluene	1000		100	40	19
35572-78-2	2-Amino-4,6-dinitrotoluene	1010		100	70	33
88-72-2	2-Nitrotoluene	1020		200	100	47
99-08-1	3-Nitrotoluene	1030		200	150	64
19406-51-0	4-Amino-2,6-dinitrotoluene	1060		100	70	30
99-99-0	4-Nitrotoluene	1000		200	100	37
98-95-3	Nitrobenzene	1050		300	200	85
55-63-0	Nitroglycerin	10800		2000	700	220
2691-41-0	HMX	952	M	100	70	23
78-11-5	PETN	10300		2000	1000	490
88-89-1	Picric acid	1060		100	100	56
121-82-4	RDX	985		200	100	43
479-45-8	Tetryl	1050		200	100	44

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	98		78-119

Report Date: 11-Nov-2022 12:25:53 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100039.D
Lims ID: LCS 280-592924/2-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2022 01:21:44 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592924/2-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:10:12

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.565	6.571	-0.006	21170	0.2500	0.2380	M
8 RDX	1	7.552	7.558	-0.006	26513	0.2500	0.2463	
9 2,4,6-Trinitrophenol	1	7.878	7.878	0.000	20463	0.2500	0.2641	
$ 10 1,2-Dinitrobenzene	1	8.505	8.505	0.000	30738	0.2500	0.2443	
11 1,3,5-Trinitrobenzene	1	8.625	8.625	0.000	60473	0.2500	0.2831	
12 1,3-Dinitrobenzene	1	9.245	9.244	0.001	76947	0.2500	0.2648	
13 Nitrobenzene	1	9.631	9.638	-0.007	50489	0.2500	0.2616	
15 Tetryl	1	9.945	9.944	0.001	43347	0.2500	0.2621	
16 Nitroglycerin	2	10.398	10.404	-0.006	167081	2.50	2.71	
17 2,4,6-Trinitrotoluene	1	10.845	10.851	-0.006	50549	0.2500	0.2397	
18 4-Amino-2,6-dinitrotoluene	1	11.018	11.024	-0.006	38476	0.2500	0.2657	
19 2-Amino-4,6-dinitrotoluene	1	11.265	11.271	-0.006	49233	0.2500	0.2522	
20 2,6-Dinitrotoluene	1	11.445	11.458	-0.013	35658	0.2500	0.2508	
21 2,4-Dinitrotoluene	1	11.611	11.624	-0.013	76685	0.2500	0.2643	
22 o-Nitrotoluene	1	12.458	12.478	-0.020	31924	0.2500	0.2548	
23 p-Nitrotoluene	1	12.878	12.898	-0.020	27997	0.2500	0.2503	
24 m-Nitrotoluene	1	13.445	13.464	-0.019	35657	0.2500	0.2585	
25 PETN	2	14.491	14.518	-0.027	186220	2.50	2.57	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Report Date: 11-Nov-2022 12:25:53 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100039.d

Injection Date: 11-Nov-2022 01:21:44 Instrument ID: CHHPLC_X3 Operator ID:

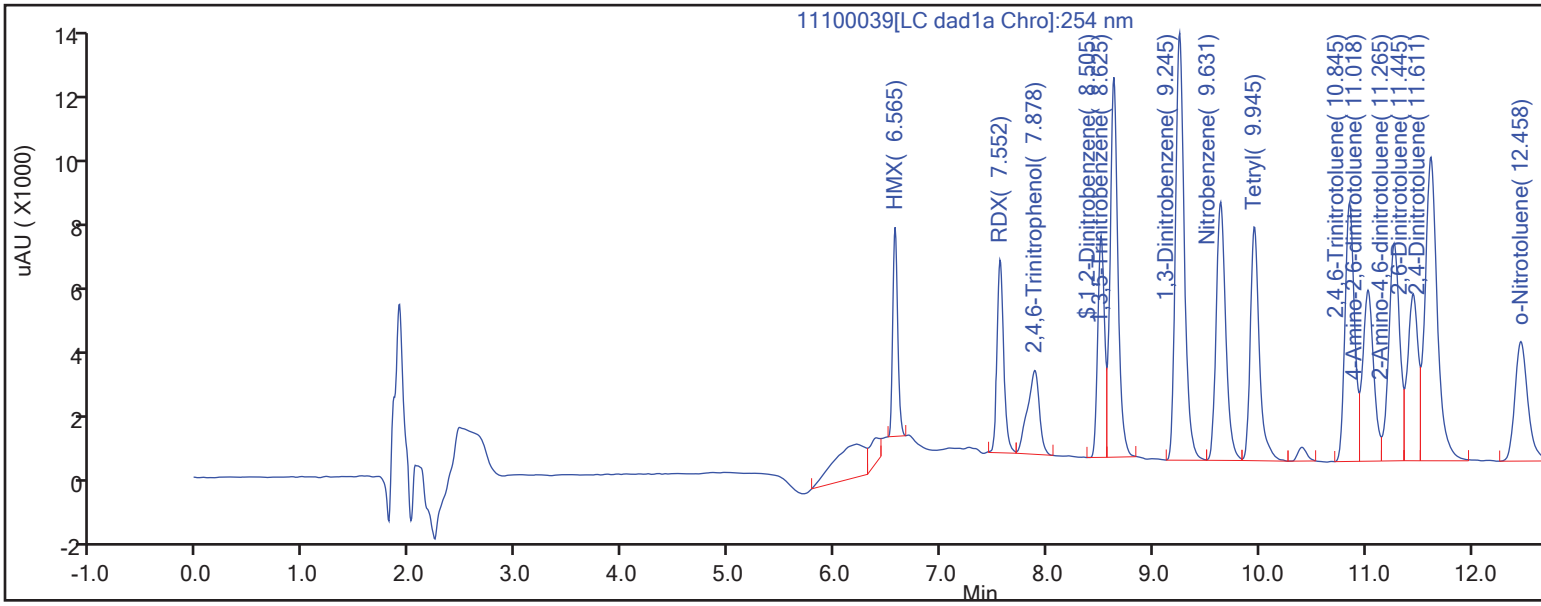
Lims ID: LCS 280-592924/2-A Worklist Smp#:

Client ID:

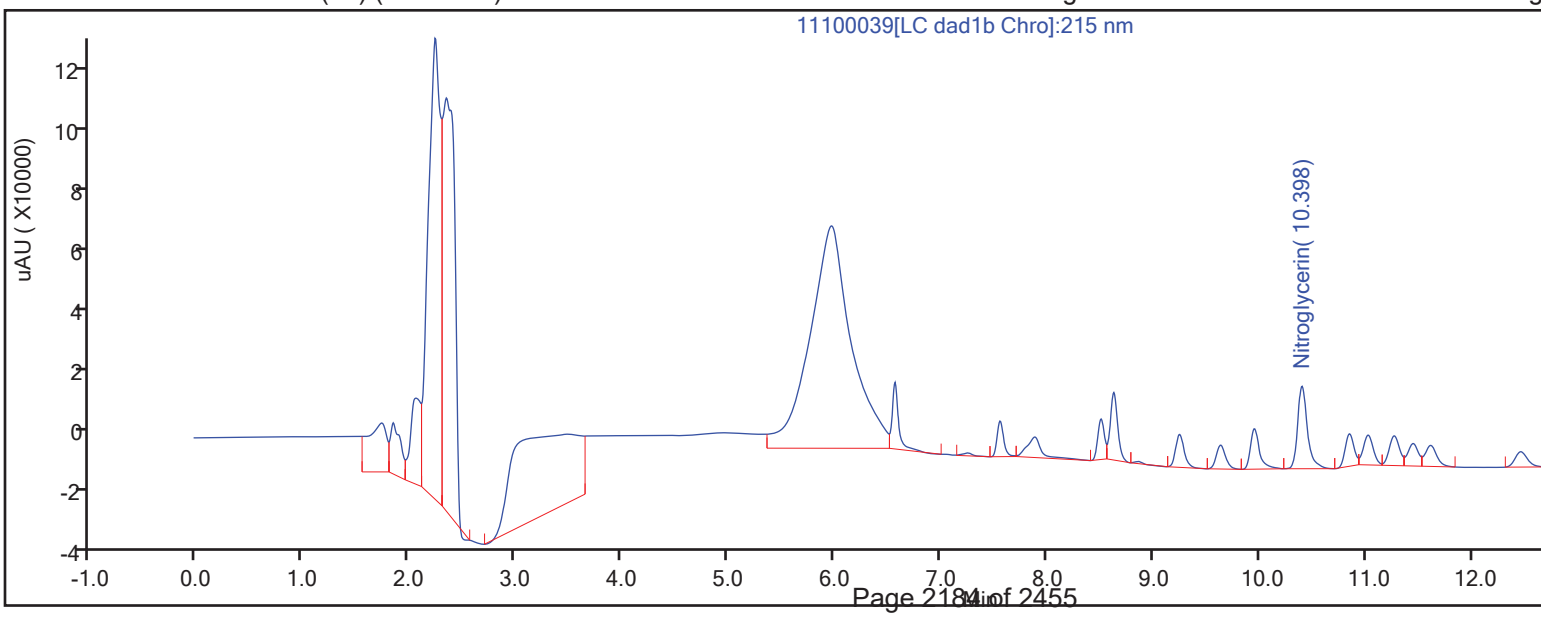
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 11-Nov-2022 12:25:53 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100039.D
Lims ID: LCS 280-592924/2-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2022 01:21:44 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592924/2-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:10:12

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2443	97.70

Manual Integration/User Assign Peak Report

Eurofins Denver

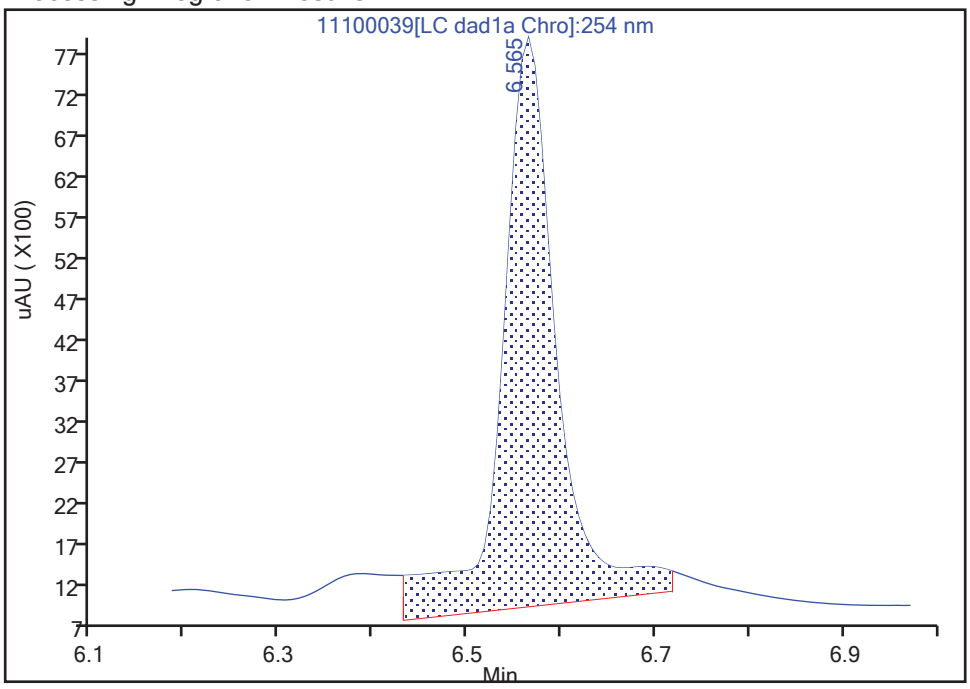
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100039.d				
Injection Date:	11-Nov-2022 01:21:44	Instrument ID:	CHHPLC_X3		
Lims ID:	LCS 280-592924/2-A				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	39	Worklist Smp#:	39
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

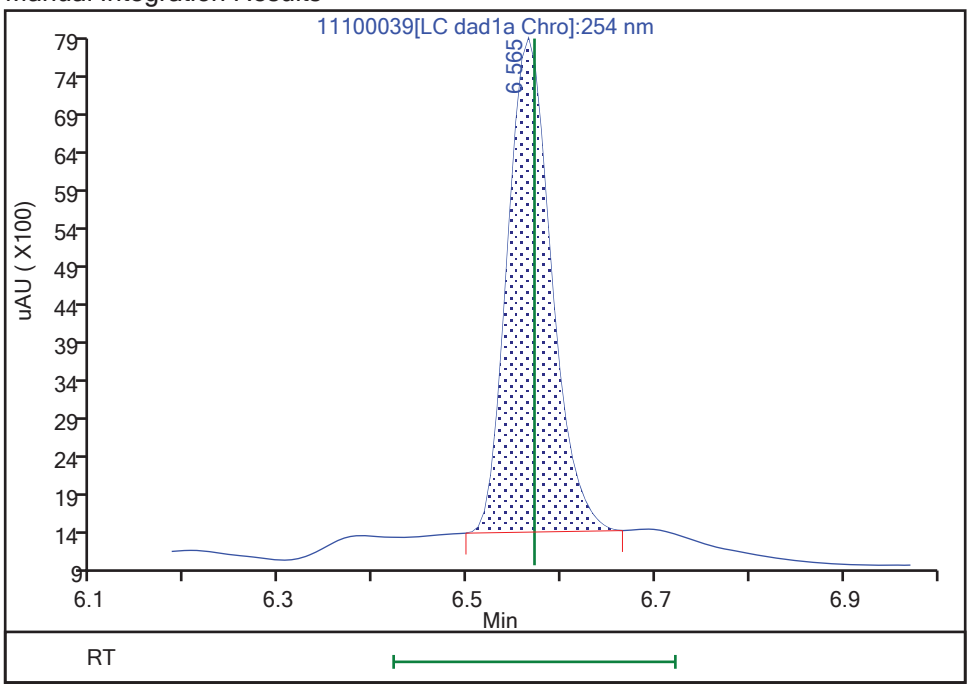
Processing Integration Results

RT: 6.56
Area: 28728
Amount: 0.322939
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 21170
Amount: 0.237978
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:10:11
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-592924/3-A

Matrix: Solid | Lab File ID: 11100040.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10(g) | Date Analyzed: 11/11/2022 01:44

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
618-87-1	3,5-Dinitroaniline	998		100	20	9.0
6629-29-4	2,4-diamino-6-nitrotoluene	783	J M	2000	1000	520
59229-75-3	2,6-diamino-4-nitrotoluene	1040	J M	2000	1000	330

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	111		78-119

Report Date: 11-Nov-2022 12:25:52 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100040.D
Lims ID: LCS 280-592924/3-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2022 01:44:46 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592924/3-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:11:14

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1	6.441	6.452	-0.011	56097	0.2500	0.2612	M
	5 2,4-diamino-6-nitrotoluene	1	6.627	6.632	-0.005	26214	0.2500	0.1958	M
$	10 1,2-Dinitrobenzene	1	8.494	8.505	-0.011	34952	0.2500	0.2777	
	14 3,5-Dinitroaniline	1	9.814	9.832	-0.018	56992	0.2500	0.2496	

QC Flag Legend

Review Flags
M - Manually Integrated

Report Date: 11-Nov-2022 12:25:52 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100040.d

Injection Date: 11-Nov-2022 01:44:46 Instrument ID: CHHPLC_X3 Operator ID:

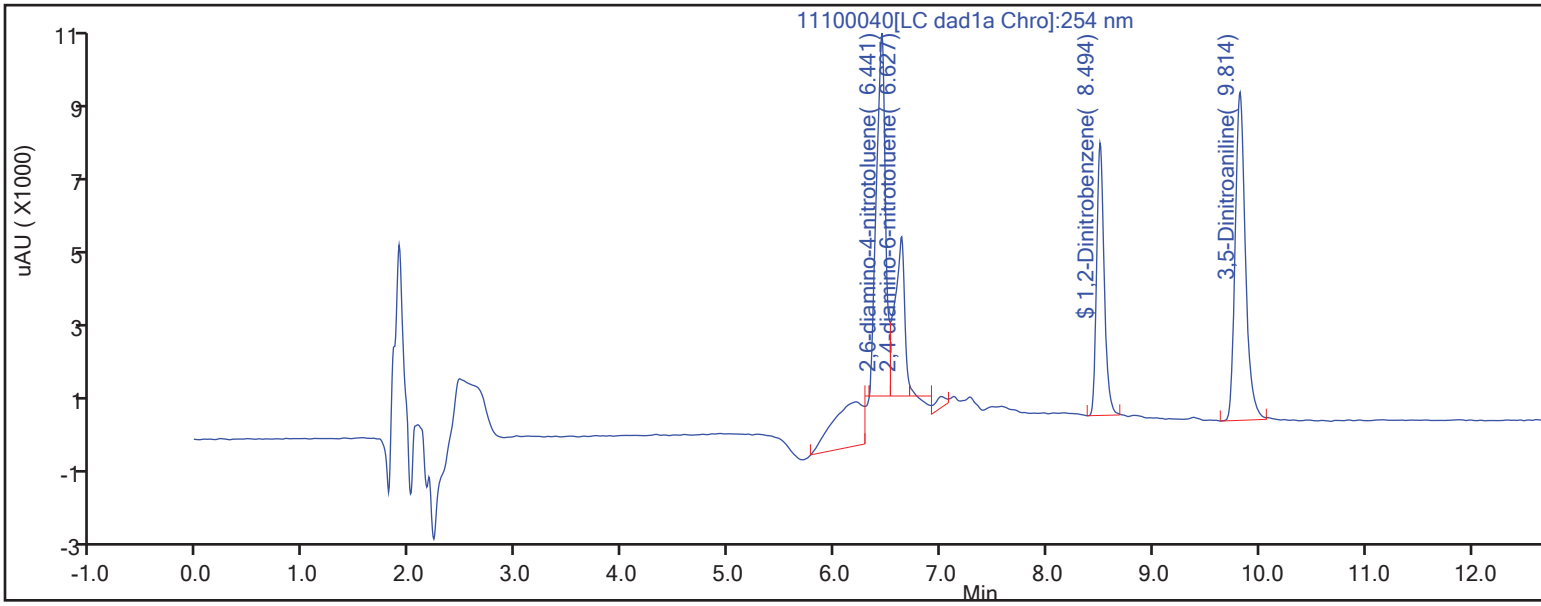
Lims ID: LCS 280-592924/3-A Worklist Smp#:

Client ID:

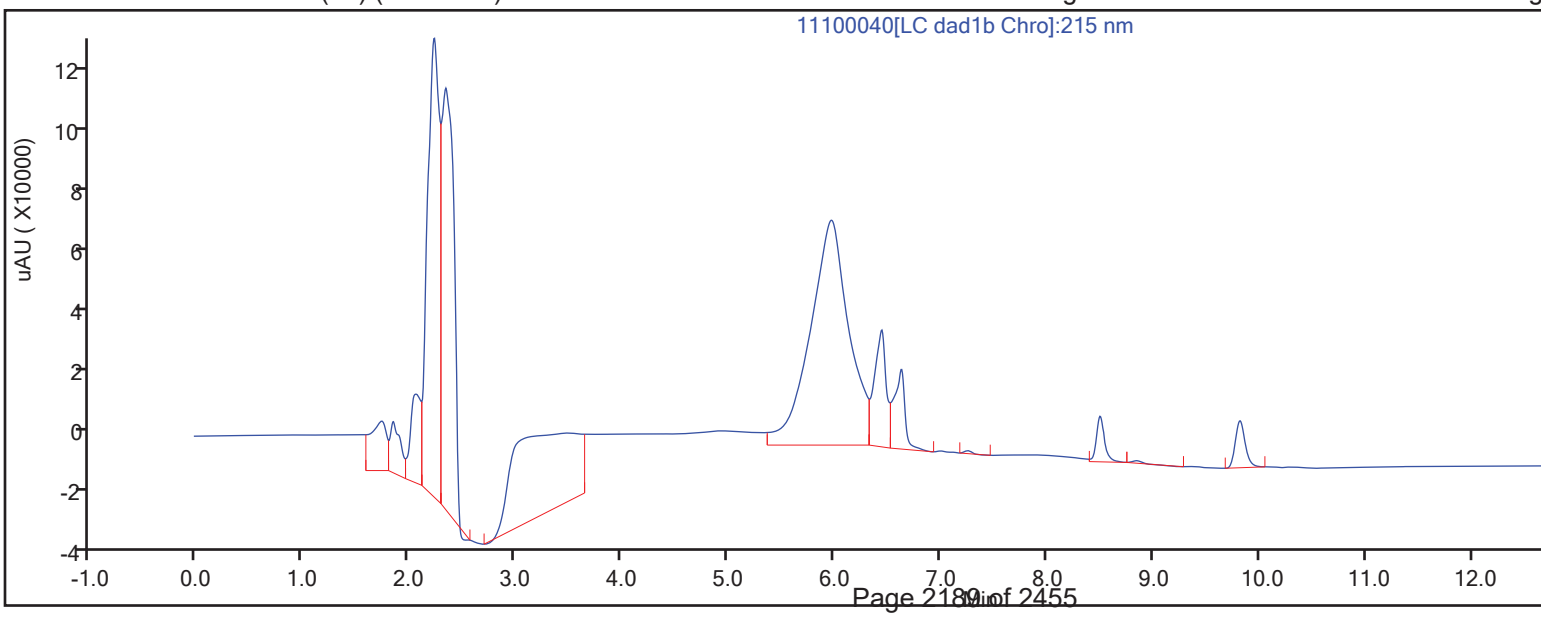
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100040.D
Lims ID: LCS 280-592924/3-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2022 01:44:46 ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592924/3-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:11:14

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2777	111.10

Manual Integration/User Assign Peak Report

Eurofins Denver

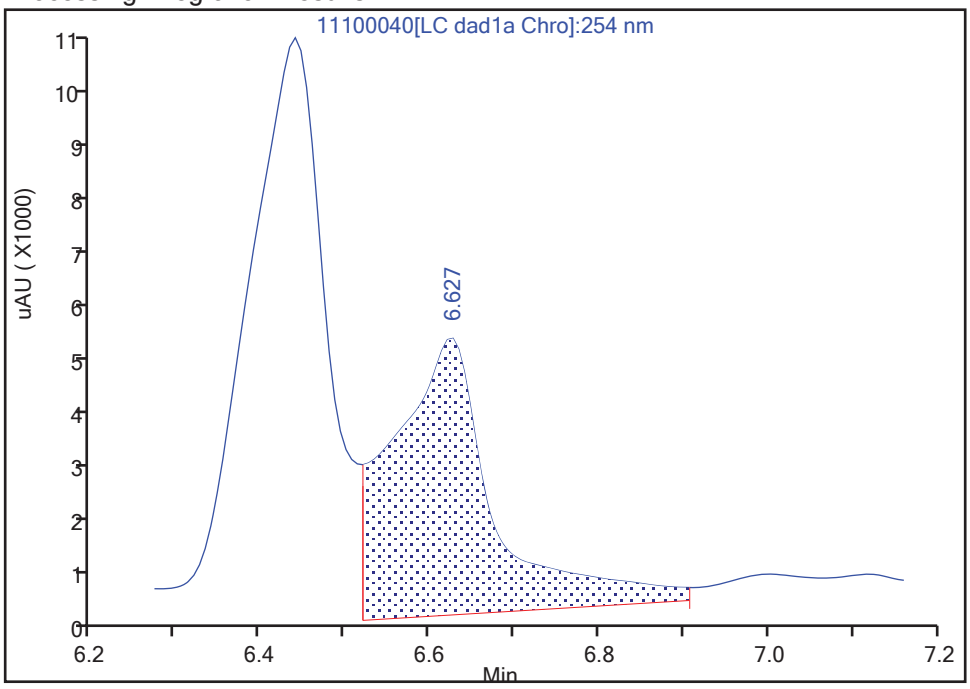
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100040.d
Injection Date: 11-Nov-2022 01:44:46 Instrument ID: CHHPLC_X3
Lims ID: LCS 280-592924/3-A
Client ID:
Operator ID: JZ ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

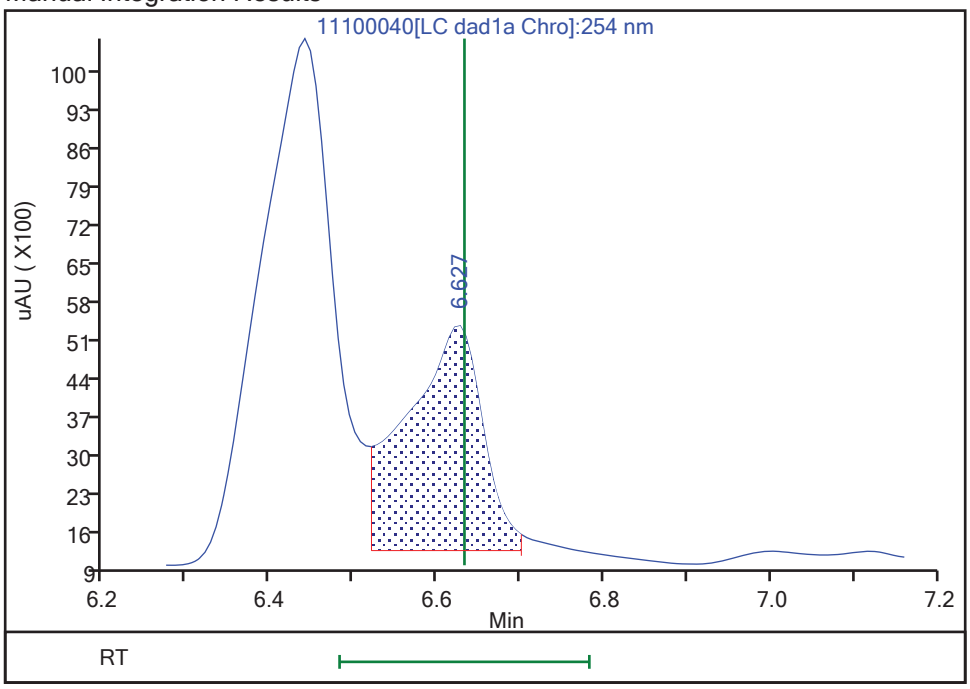
Processing Integration Results

RT: 6.63
Area: 40536
Amount: 0.302703
Amount Units: ug/mL



Manual Integration Results

RT: 6.63
Area: 26214
Amount: 0.195754
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:11:13
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

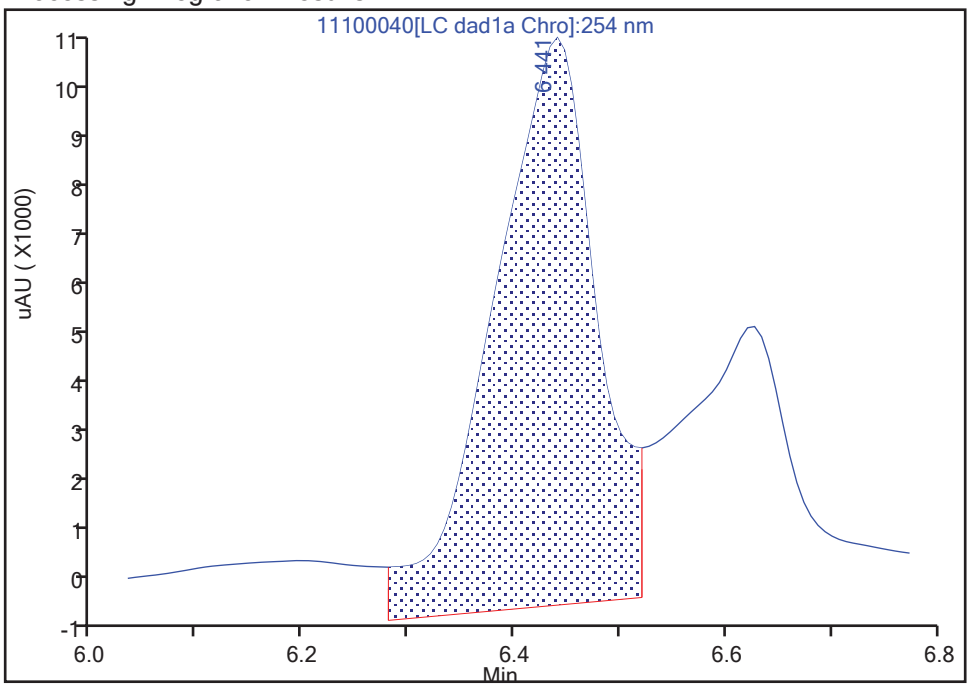
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100040.d
Injection Date: 11-Nov-2022 01:44:46 Instrument ID: CHHPLC_X3
Lims ID: LCS 280-592924/3-A
Client ID:
Operator ID: JZ ALS Bottle#: 40 Worklist Smp#: 40
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

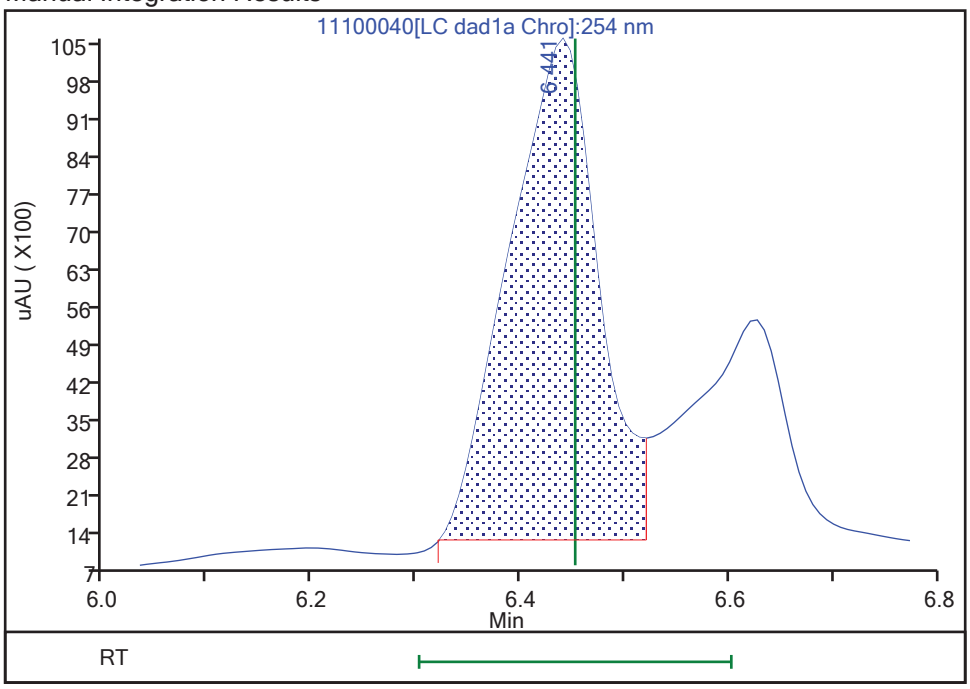
Processing Integration Results

RT: 6.44
Area: 70453
Amount: 0.327998
Amount Units: ug/mL



Manual Integration Results

RT: 6.44
Area: 56097
Amount: 0.261163
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:11:11
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-592716/3-A

Matrix: Water | Lab File ID: 11090013.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 500(mL) | Date Analyzed: 11/09/2022 16:25

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	2.22		0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	2.07		0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	1.86		0.11	0.10	0.045
121-14-2	2,4-Dinitrotoluene	2.01		0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	2.08		0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	2.06		0.11	0.10	0.051
88-72-2	2-Nitrotoluene	1.61		0.21	0.20	0.086
99-08-1	3-Nitrotoluene	1.66		0.40	0.40	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	2.20		0.15	0.12	0.058
99-99-0	4-Nitrotoluene	1.64		0.41	0.40	0.10
98-95-3	Nitrobenzene	1.74		0.21	0.20	0.091
55-63-0	Nitroglycerin	20.6		2.1	2.0	0.92
2691-41-0	HMX	1.82	M	0.21	0.20	0.088
78-11-5	PETN	20.0		1.1	1.0	0.45
88-89-1	Picric acid	2.04		0.40	0.12	0.044
121-82-4	RDX	1.98		0.21	0.20	0.052
479-45-8	Tetryl	2.04		0.11	0.10	0.032

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	91		83-119

Report Date: 10-Nov-2022 12:05:20 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090013.D
Lims ID: LCSD 280-592716/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 09-Nov-2022 16:25:42 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-592716/3-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:19:52

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	4 HMX	1	6.579	6.569	0.010	16231	0.2000	0.1825	M
	8 RDX	1	7.559	7.556	0.003	21341	0.2000	0.1983	
	9 2,4,6-Trinitrophenol	1	7.872	7.883	-0.011	15775	0.2000	0.2036	
$	10 1,2-Dinitrobenzene	1	8.499	8.509	-0.010	22847	0.2000	0.1816	
	11 1,3,5-Trinitrobenzene	1	8.625	8.629	-0.004	47424	0.2000	0.2220	
	12 1,3-Dinitrobenzene	1	9.245	9.249	-0.004	60130	0.2000	0.2070	
	13 Nitrobenzene	1	9.632	9.636	-0.004	33497	0.2000	0.1735	
	15 Tetryl	1	9.939	9.943	-0.004	33790	0.2000	0.2043	
	16 Nitroglycerin	2	10.392	10.396	-0.004	127302	2.00	2.06	
	17 2,4,6-Trinitrotoluene	1	10.839	10.849	-0.010	39230	0.2000	0.1860	
	18 4-Amino-2,6-dinitrotoluene	1	11.012	11.023	-0.011	31843	0.2000	0.2199	
	19 2-Amino-4,6-dinitrotoluene	1	11.265	11.269	-0.004	40307	0.2000	0.2064	
	20 2,6-Dinitrotoluene	1	11.439	11.449	-0.010	29562	0.2000	0.2079	
	21 2,4-Dinitrotoluene	1	11.612	11.616	-0.004	58396	0.2000	0.2013	
	22 o-Nitrotoluene	1	12.459	12.469	-0.010	20201	0.2000	0.1605	
	23 p-Nitrotoluene	1	12.879	12.889	-0.010	18295	0.2000	0.1636	
	24 m-Nitrotoluene	1	13.445	13.456	-0.011	22958	0.2000	0.1664	
	25 PETN	2	14.485	14.489	-0.004	144614	2.00	2.00	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Report Date: 10-Nov-2022 12:05:20 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090013.d

Injection Date: 09-Nov-2022 16:25:42 Instrument ID: CHHPLC_X3 Operator ID:

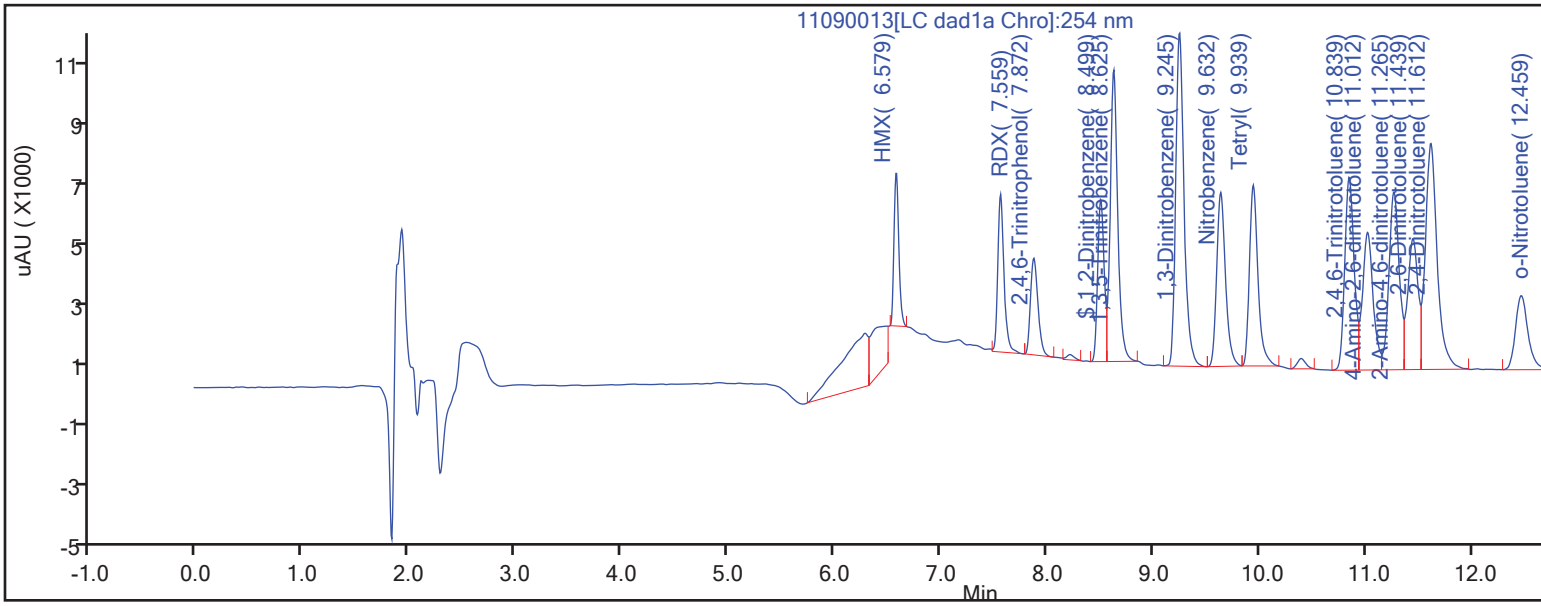
Lims ID: LCSD 280-592716/3-A Worklist Smp#:

Client ID:

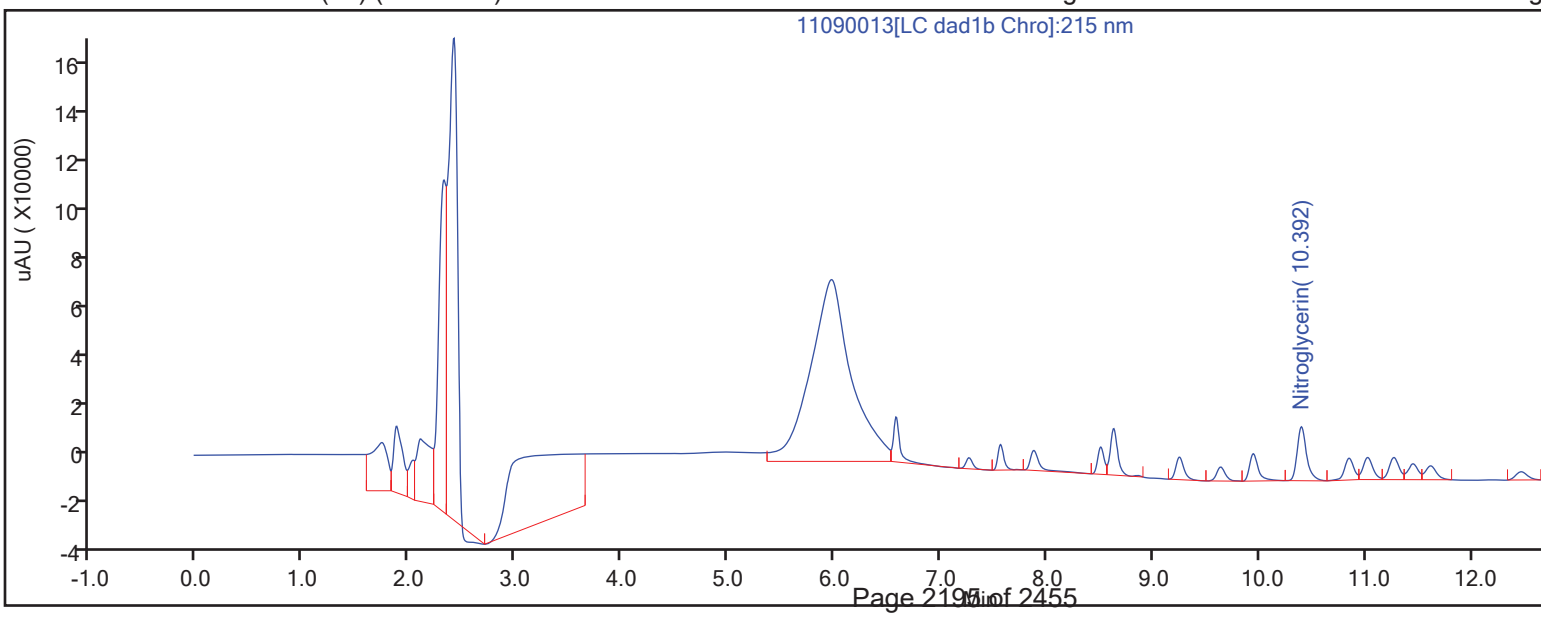
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 10-Nov-2022 12:05:20 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090013.D
Lims ID: LCSD 280-592716/3-A
Client ID:
Sample Type: LCSD
Inject. Date: 09-Nov-2022 16:25:42 ALS Bottle#: 13 Worklist Smp#: 13
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-592716/3-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:19:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2000	0.1816	90.78

Manual Integration/User Assign Peak Report

Eurofins Denver

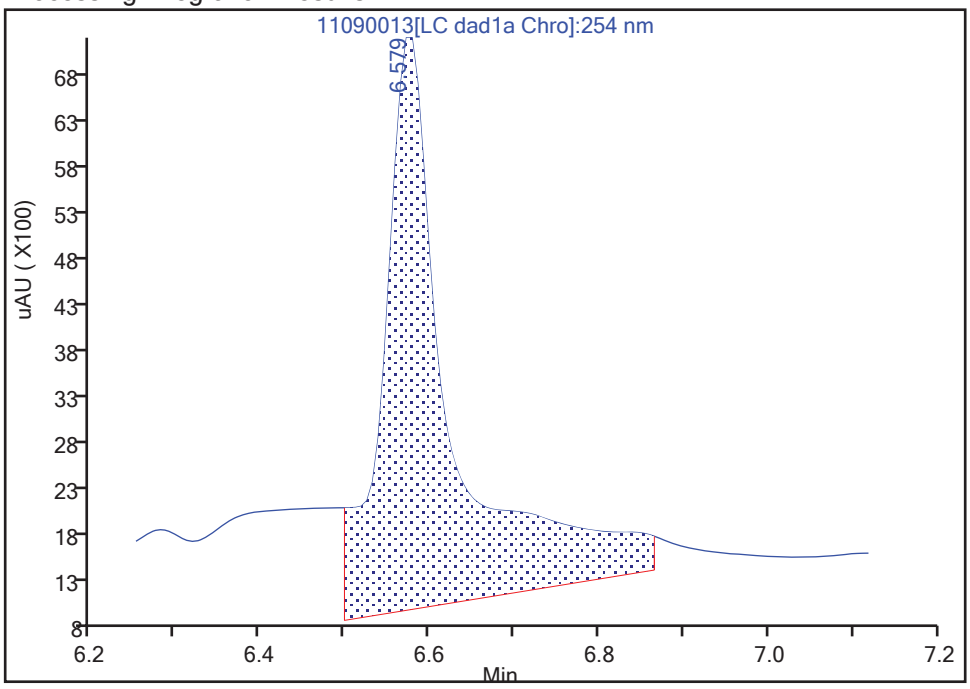
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090013.d				
Injection Date:	09-Nov-2022 16:25:42	Instrument ID:	CHHPLC_X3		
Lims ID:	LCSD 280-592716/3-A				
Client ID:					
Operator ID:	JZ	ALS Bottle#:	13	Worklist Smp#:	13
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

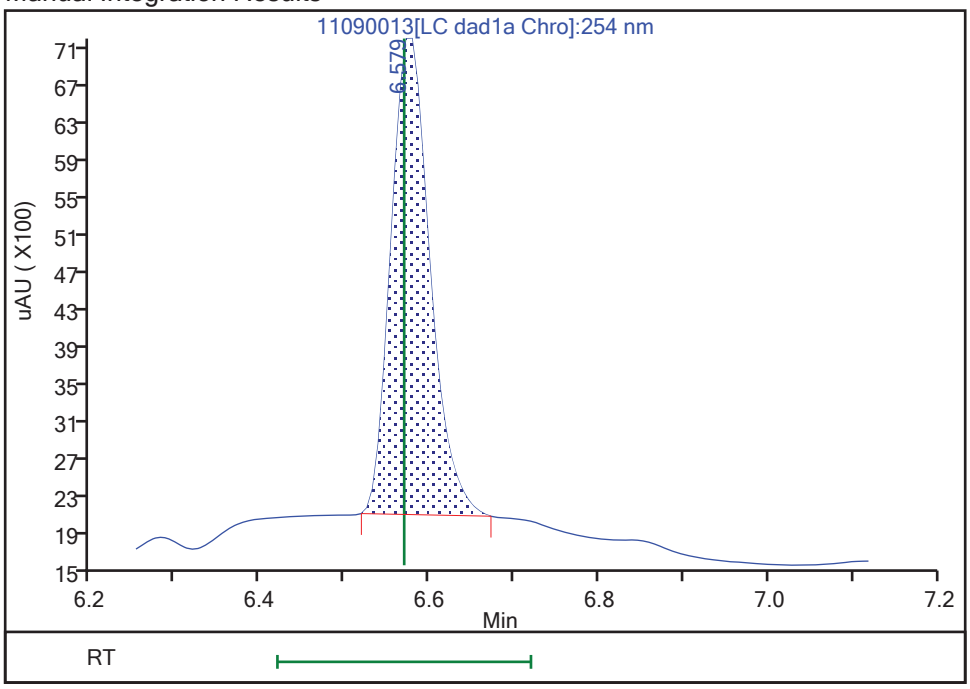
Processing Integration Results

RT: 6.58
Area: 34978
Amount: 0.393197
Amount Units: ug/mL



Manual Integration Results

RT: 6.58
Area: 16231
Amount: 0.182457
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 17:19:49
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCSD 280-592716/5-A

Matrix: Water | Lab File ID: 11090015.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 500(mL) | Date Analyzed: 11/09/2022 17:11

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
618-87-1	3,5-Dinitroaniline	1.72		0.40	0.30	0.13
6629-29-4	2,4-diamino-6-nitrotoluene	1.67	M	1.0	0.90	0.43
59229-75-3	2,6-diamino-4-nitrotoluene	1.77	M	1.0	0.90	0.22

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	95		83-119

Report Date: 10-Nov-2022 12:05:21 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090015.D
Lims ID: LCSD 280-592716/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 09-Nov-2022 17:11:36 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-592716/5-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:43:53

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1	6.449	6.456	-0.007	38079	0.2000	0.1773	M
	5 2,4-diamino-6-nitrotoluene	1	6.623	6.636	-0.013	22342	0.2000	0.1668	M
$	10 1,2-Dinitrobenzene	1	8.509	8.509	0.000	23889	0.2000	0.1898	
	14 3,5-Dinitroaniline	1	9.822	9.829	-0.007	39182	0.2000	0.1721	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Report Date: 10-Nov-2022 12:05:21 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090015.d

Injection Date: 09-Nov-2022 17:11:36 Instrument ID: CHHPLC_X3 Operator ID:

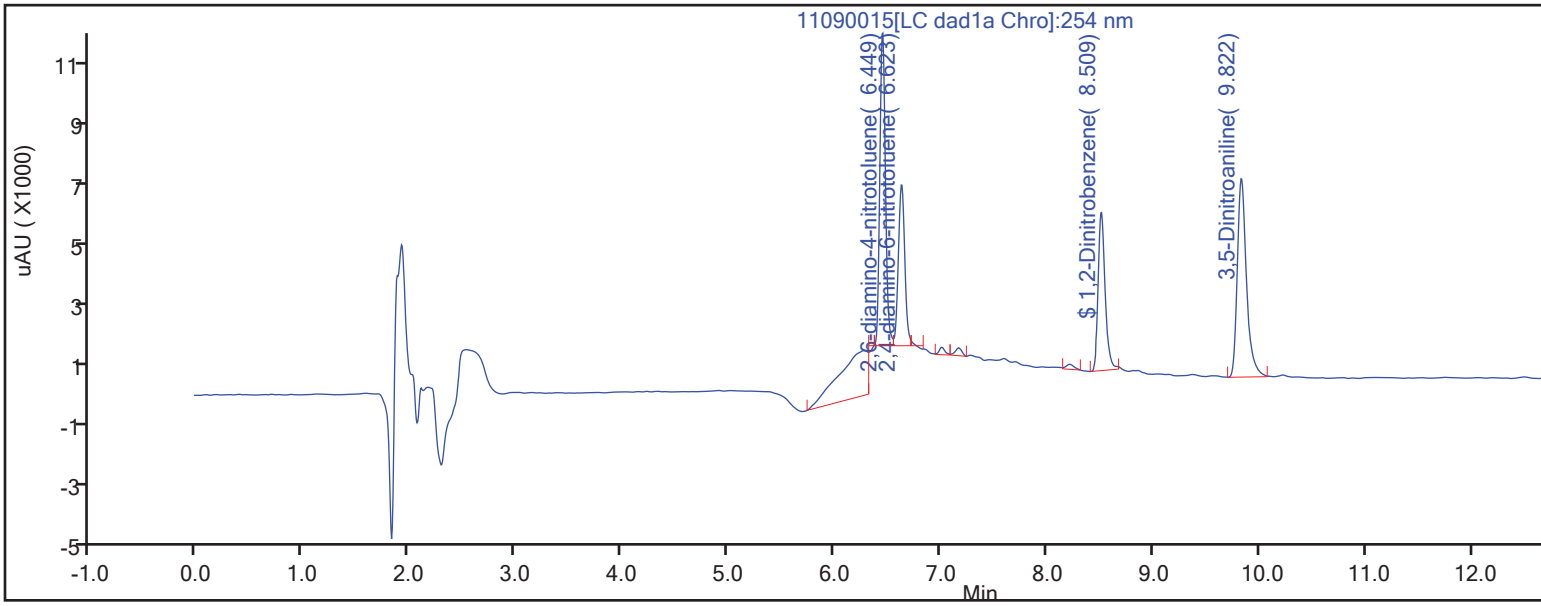
Lims ID: LCSD 280-592716/5-A Worklist Smp#:

Client ID:

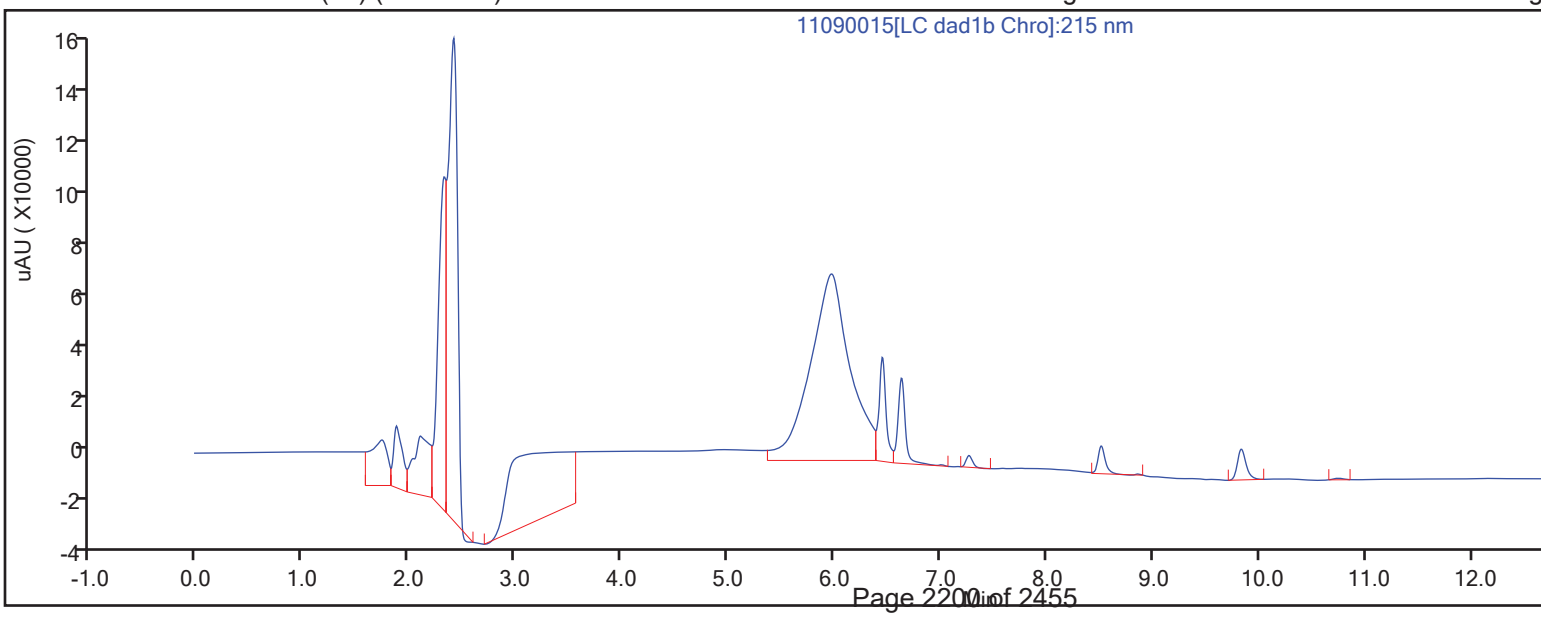
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 10-Nov-2022 12:05:21 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\11090015.D
Lims ID: LCSD 280-592716/5-A
Client ID:
Sample Type: LCSD
Inject. Date: 09-Nov-2022 17:11:36 ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCSD 280-592716/5-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221109-115946.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 10-Nov-2022 12:05:17 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1632

First Level Reviewer: LV5D Date: 09-Nov-2022 17:43:53

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2000	0.1898	94.92

Manual Integration/User Assign Peak Report

Eurofins Denver

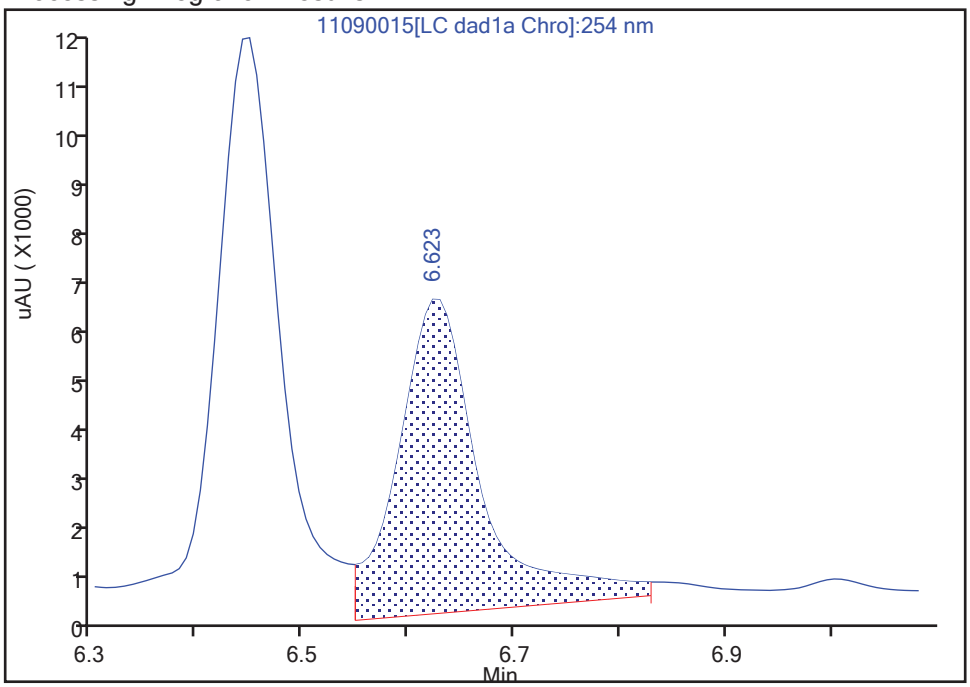
Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090015.d
Injection Date: 09-Nov-2022 17:11:36 Instrument ID: CHHPLC_X3
Lims ID: LCSD 280-592716/5-A
Client ID:
Operator ID: JZ ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

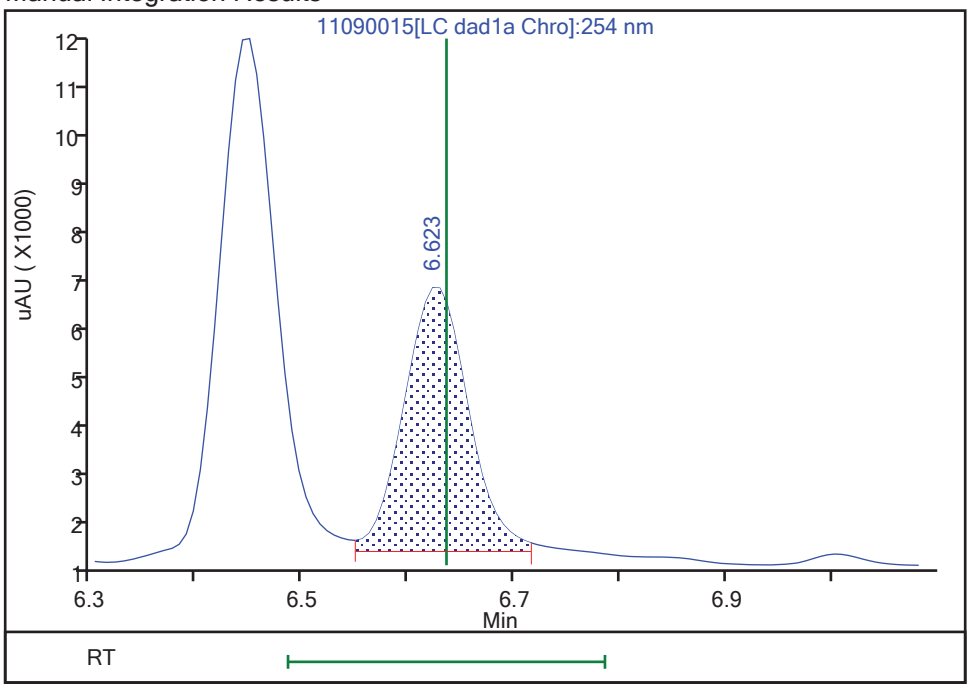
Processing Integration Results

RT: 6.62
Area: 32427
Amount: 0.242149
Amount Units: ug/mL



Manual Integration Results

RT: 6.62
Area: 22342
Amount: 0.166839
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 17:43:50
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Eurofins Denver

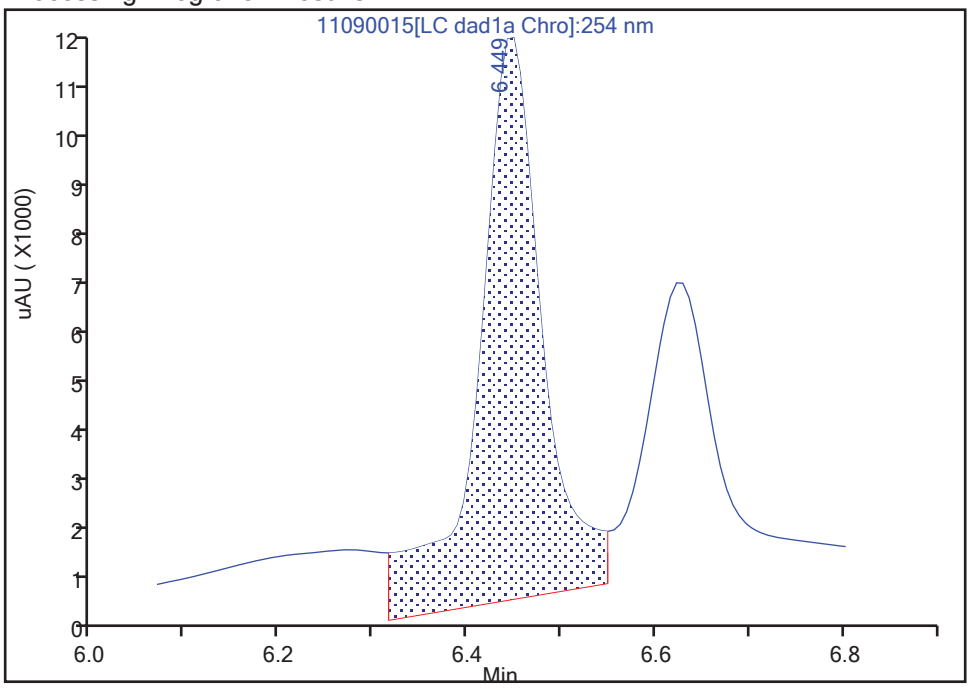
Data File: \\chromfs\denver\chromdata\chhplc_x\20221109-115946.b\11090015.d
Injection Date: 09-Nov-2022 17:11:36 Instrument ID: CHHPLC_X3
Lims ID: LCSD 280-592716/5-A
Client ID:
Operator ID: JZ ALS Bottle#: 15 Worklist Smp#: 15
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330
Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

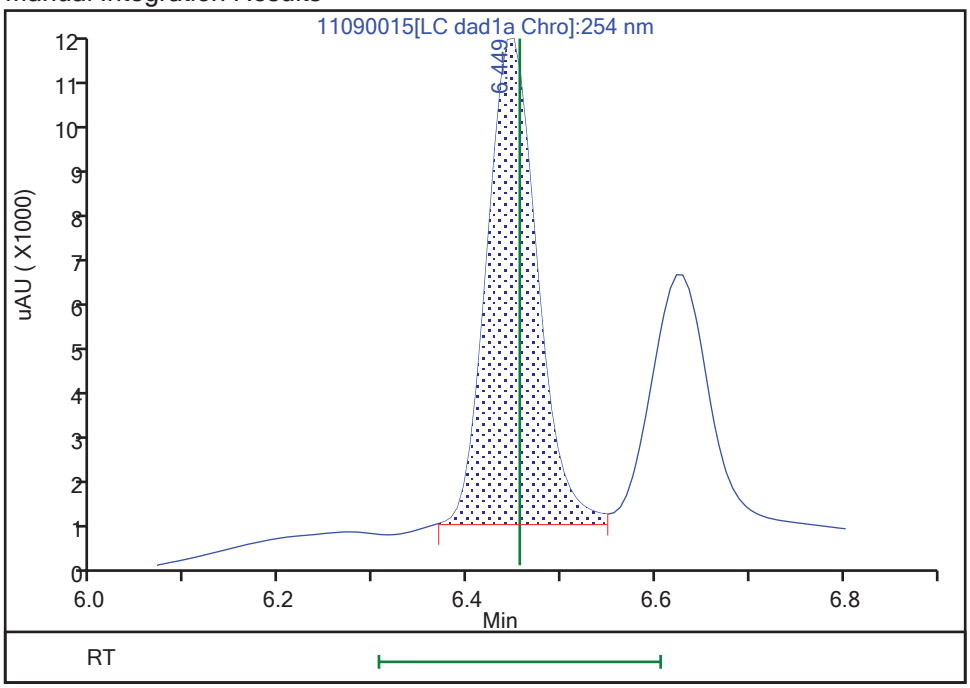
Processing Integration Results

RT: 6.45
Area: 54662
Amount: 0.254482
Amount Units: ug/mL



Manual Integration Results

RT: 6.45
Area: 38079
Amount: 0.177279
Amount Units: ug/mL



Reviewer: LV5D, 09-Nov-2022 17:43:49
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MS | Lab Sample ID: 280-168718-9 MS

Matrix: Solid | Lab File ID: 11100050.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.0292(g) | Date Analyzed: 11/11/2022 05:34

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	1170	J1	100	40	14
118-96-7	2,4,6-Trinitrotoluene	1020		100	70	31
121-14-2	2,4-Dinitrotoluene	1070		100	40	15
606-20-2	2,6-Dinitrotoluene	1040		100	40	19
35572-78-2	2-Amino-4,6-dinitrotoluene	1020		100	70	33
88-72-2	2-Nitrotoluene	1070		200	100	47
99-08-1	3-Nitrotoluene	1050		200	150	64
19406-51-0	4-Amino-2,6-dinitrotoluene	1050		100	70	30
99-99-0	4-Nitrotoluene	1050		200	100	36
98-95-3	Nitrobenzene	1060		300	200	85
55-63-0	Nitroglycerin	11100		2000	700	210
2691-41-0	HMX	940	M	100	70	23
78-11-5	PETN	10700		2000	1000	490
88-89-1	Picric acid	243	J1	100	100	56
121-82-4	RDX	988		200	100	43
479-45-8	Tetryl	1000		200	100	44

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	99		78-119

Report Date: 11-Nov-2022 12:25:43 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100050.D
Lims ID: 280-168718-B-9-G MS
Client ID: X3-SS-CO6-0006
Sample Type: MS
Inject. Date: 11-Nov-2022 05:34:36 ALS Bottle#: 50 Worklist Smp#: 50
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-G MS
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:17:15

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.562	6.571	-0.009	20973	0.2500	0.2358	M
8 RDX	1	7.542	7.558	-0.016	26664	0.2500	0.2477	
9 2,4,6-Trinitrophenol	1	7.882	7.878	0.004	4726	0.2500	0.0610	
$ 10 1,2-Dinitrobenzene	1	8.495	8.505	-0.010	31099	0.2500	0.2471	
11 1,3,5-Trinitrobenzene	1	8.615	8.625	-0.010	62695	0.2500	0.2935	
12 1,3-Dinitrobenzene	1	9.228	9.244	-0.016	101506	0.2500	0.3494	
13 Nitrobenzene	1	9.622	9.638	-0.016	51158	0.2500	0.2650	
15 Tetryl	1	9.935	9.944	-0.009	41593	0.2500	0.2515	
16 Nitroglycerin	2	10.382	10.404	-0.022	171413	2.50	2.78	
17 2,4,6-Trinitrotoluene	1	10.828	10.851	-0.023	54028	0.2500	0.2562	
18 4-Amino-2,6-dinitrotoluene	1	11.008	11.024	-0.016	38291	0.2500	0.2644	
19 2-Amino-4,6-dinitrotoluene	1	11.255	11.271	-0.016	49852	0.2500	0.2553	
20 2,6-Dinitrotoluene	1	11.428	11.458	-0.030	36995	0.2500	0.2602	
21 2,4-Dinitrotoluene	1	11.595	11.624	-0.029	77503	0.2500	0.2672	
22 o-Nitrotoluene	1	12.442	12.478	-0.036	33699	0.2500	0.2690	
23 p-Nitrotoluene	1	12.862	12.898	-0.036	29397	0.2500	0.2628	
24 m-Nitrotoluene	1	13.428	13.464	-0.036	36355	0.2500	0.2635	
25 PETN	2	14.468	14.518	-0.050	195299	2.50	2.69	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Report Date: 11-Nov-2022 12:25:44 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100050.d

Injection Date: 11-Nov-2022 05:34:36 Instrument ID: CHHPLC_X3 Operator ID:

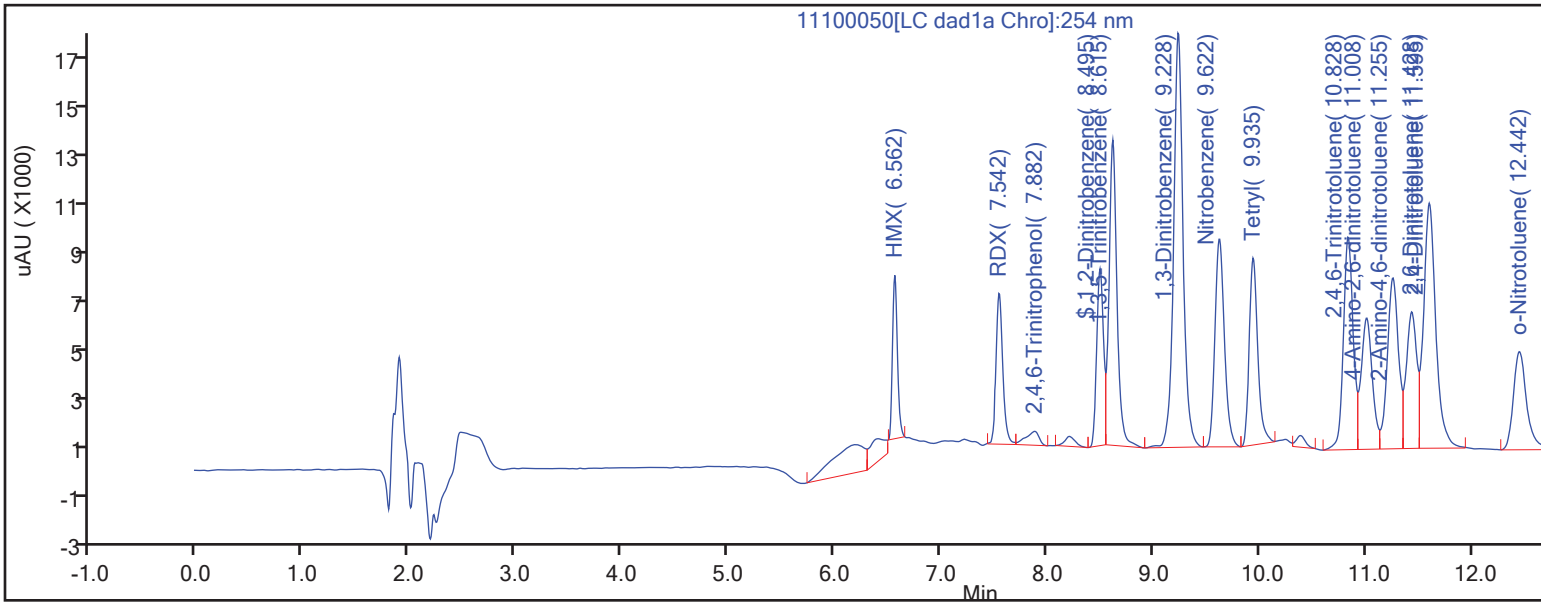
Lims ID: 280-168718-B-9-G MS Worklist Smp#:

Client ID: X3-SS-CO6-0006

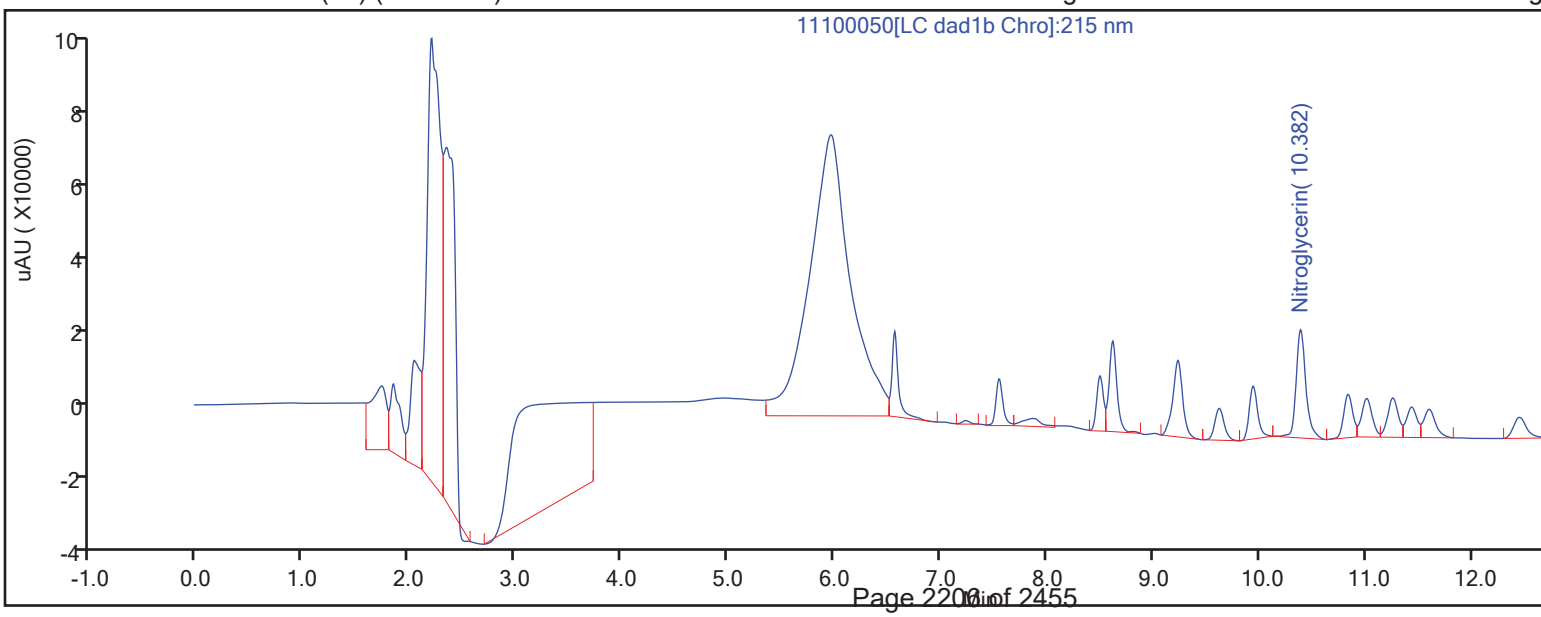
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100050.D
Lims ID: 280-168718-B-9-G MS
Client ID: X3-SS-CO6-0006
Sample Type: MS
Inject. Date: 11-Nov-2022 05:34:36 ALS Bottle#: 50 Worklist Smp#: 50
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-G MS
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:17:15

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2471	98.85

Manual Integration/User Assign Peak Report

Eurofins Denver

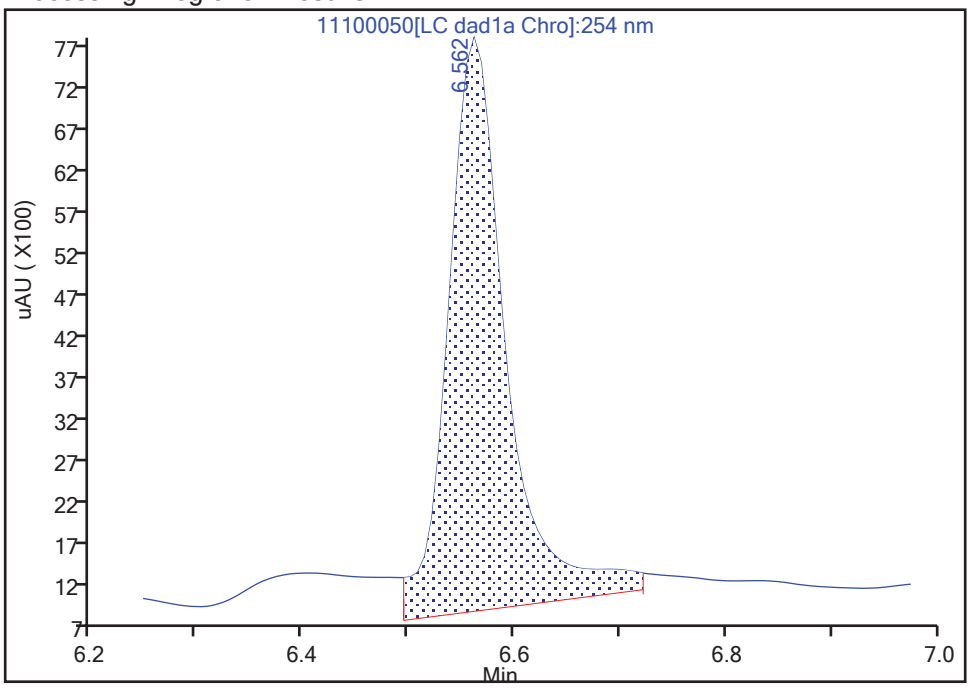
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100050.d				
Injection Date:	11-Nov-2022 05:34:36	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-9-G MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	50	Worklist Smp#:	50
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

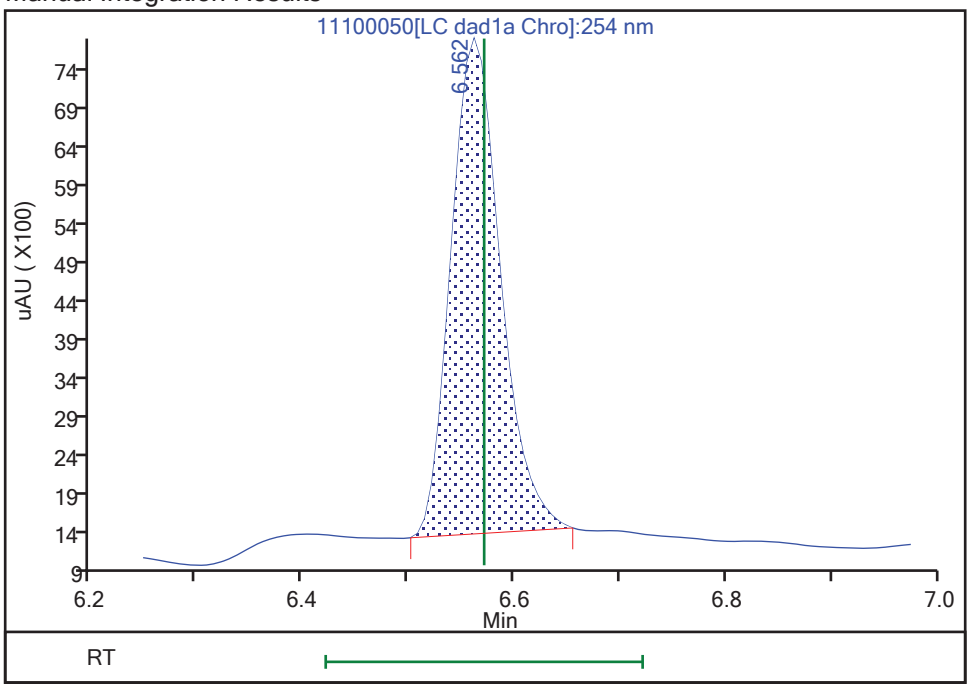
Processing Integration Results

RT: 6.56
Area: 26527
Amount: 0.298197
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 20973
Amount: 0.235763
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:17:14
Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MS | Lab Sample ID: 280-168718-9 MS

Matrix: Solid | Lab File ID: 11100052.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.5191(g) | Date Analyzed: 11/11/2022 06:20

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
618-87-1	3,5-Dinitroaniline	876		95	19	8.6
6629-29-4	2,4-diamino-6-nitrotoluene	950	U M J1	1900	950	490
59229-75-3	2,6-diamino-4-nitrotoluene	950	U M J1	1900	950	310

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	113		78-119

Report Date: 11-Nov-2022 12:25:41 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100052.D
Lims ID: 280-168718-B-9-K MS
Client ID: X3-SS-CO6-0006
Sample Type: MS
Inject. Date: 11-Nov-2022 06:20:36 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-K MS
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:19:52

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1	6.434	6.452	-0.018	12630	0.2500	0.0588	M
	5 2,4-diamino-6-nitrotoluene	1	6.620	6.632	-0.012	2774	0.2500	0.0207	M
$	10 1,2-Dinitrobenzene	1	8.487	8.505	-0.018	35553	0.2500	0.2825	
	14 3,5-Dinitroaniline	1	9.807	9.832	-0.025	52587	0.2500	0.2304	

QC Flag Legend

Review Flags

M - Manually Integrated

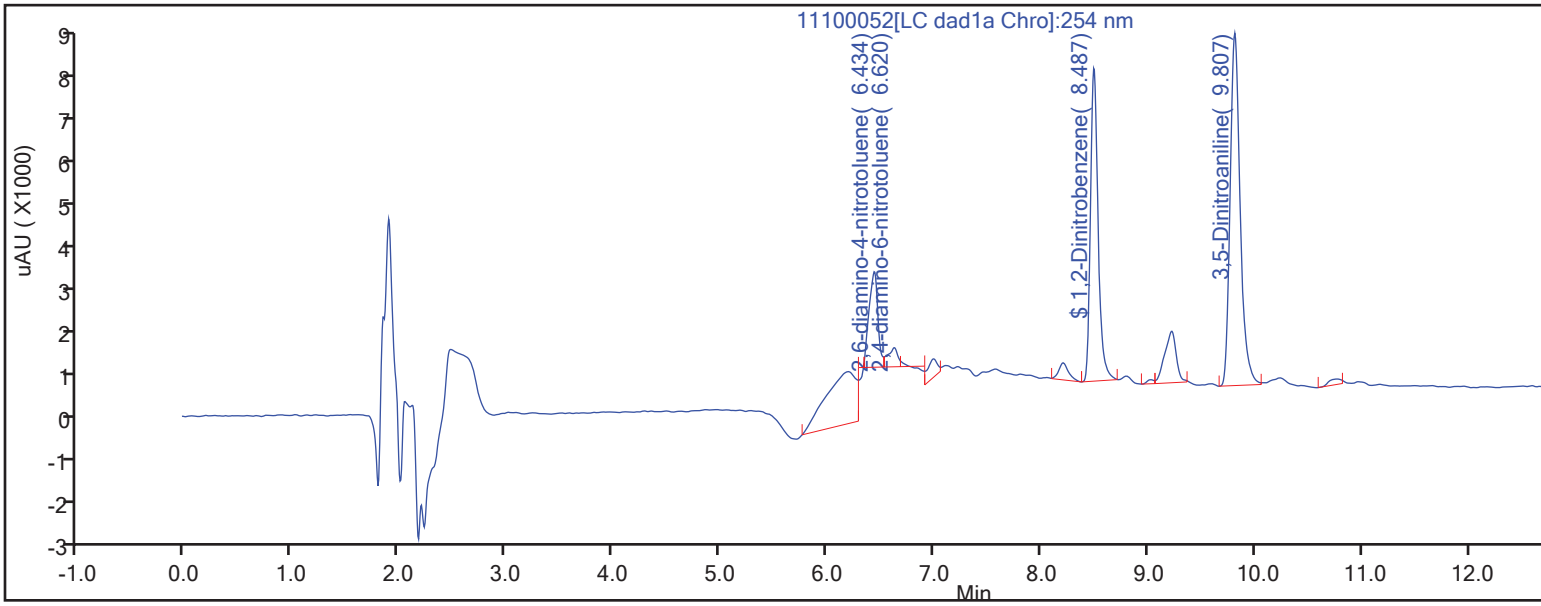
Report Date: 11-Nov-2022 12:25:41 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

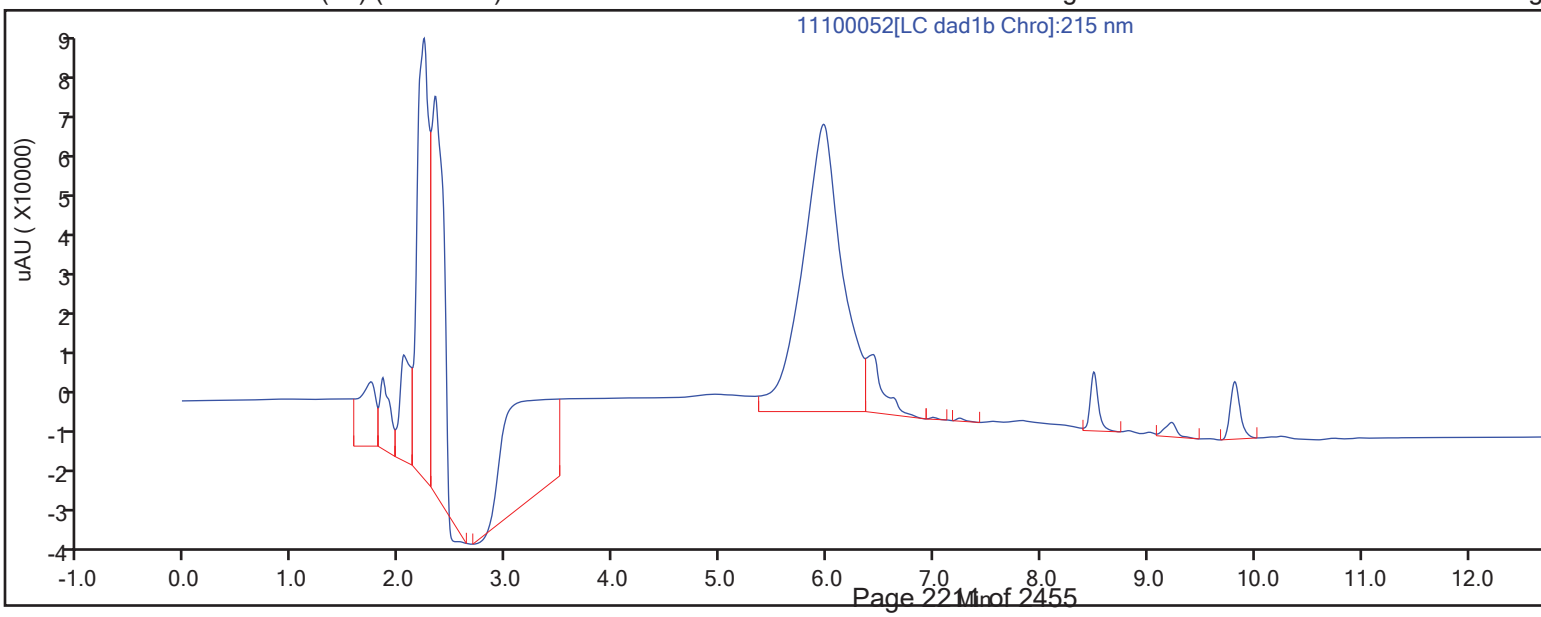
Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100052.d

Injection Date:	11-Nov-2022 06:20:36	Instrument ID:	CHHPLC_X3	Operator ID:
Lims ID:	280-168718-B-9-K MS			Worklist Smp#:
Client ID:	X3-SS-CO6-0006			
Injection Vol:	100.0 ul	Dil. Factor:	1.0000	ALS Bottle#:
Method:	8330_X3	Limit Group:	GCSV - 8330	

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100052.D
Lims ID: 280-168718-B-9-K MS
Client ID: X3-SS-CO6-0006
Sample Type: MS
Inject. Date: 11-Nov-2022 06:20:36 ALS Bottle#: 52 Worklist Smp#: 52
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-K MS
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:19:52

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2825	113.01

Manual Integration/User Assign Peak Report

Eurofins Denver

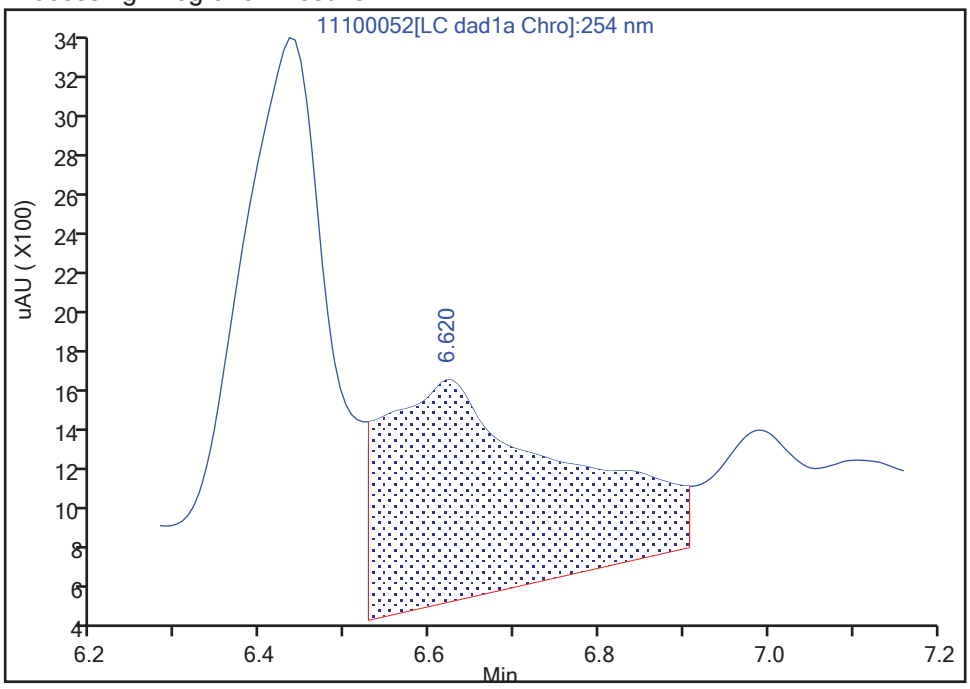
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100052.d				
Injection Date:	11-Nov-2022 06:20:36	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-9-K MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

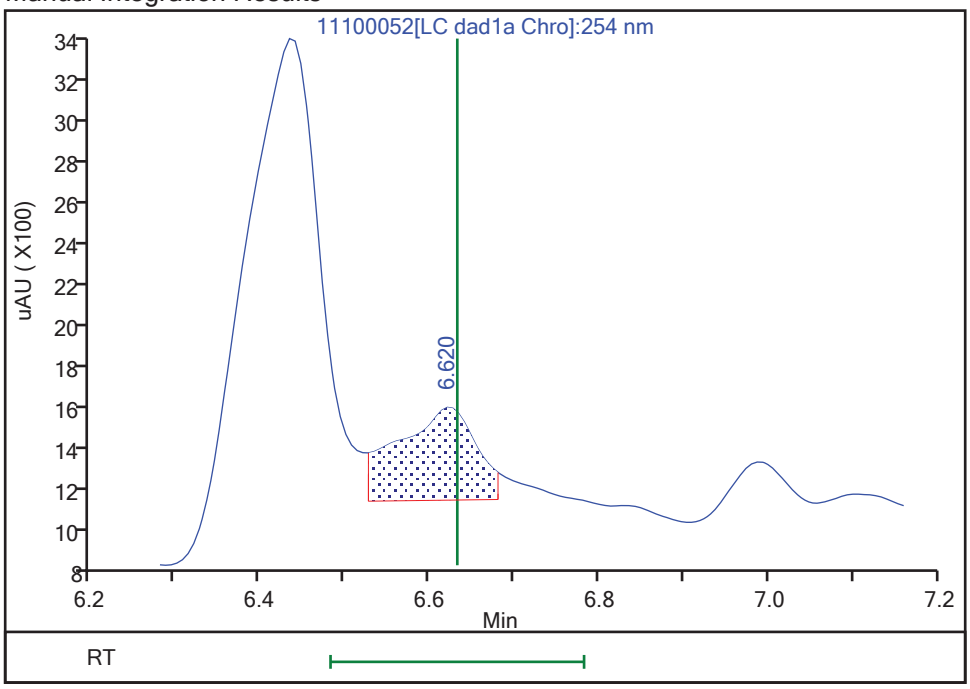
Processing Integration Results

RT: 6.62
Area: 16392
Amount: 0.122408
Amount Units: ug/mL



Manual Integration Results

RT: 6.62
Area: 2774
Amount: 0.020715
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:19:50
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

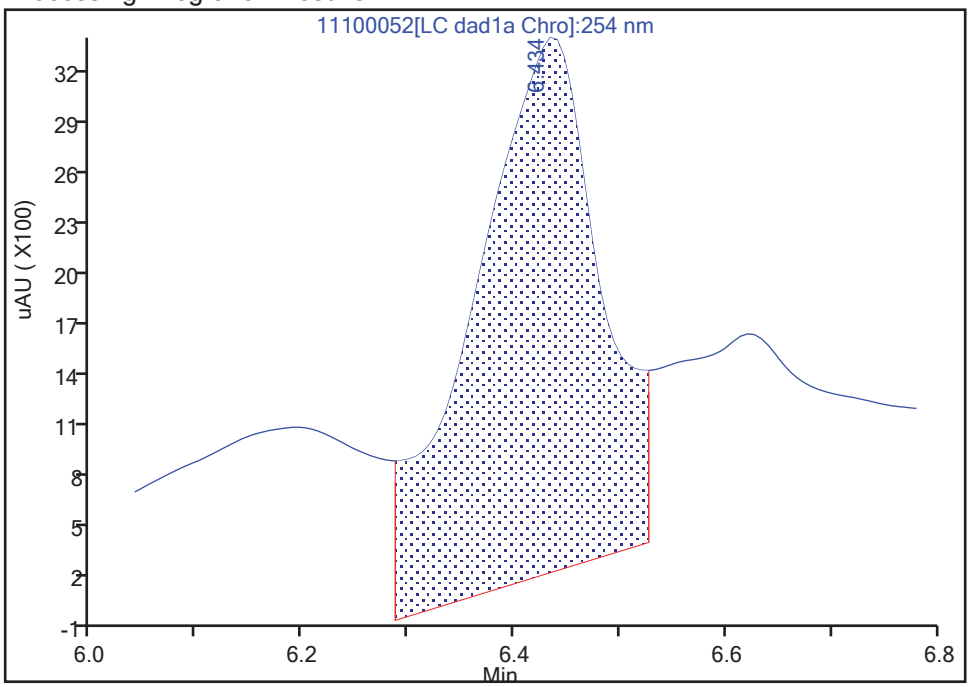
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100052.d				
Injection Date:	11-Nov-2022 06:20:36	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-9-K MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	52	Worklist Smp#:	52
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

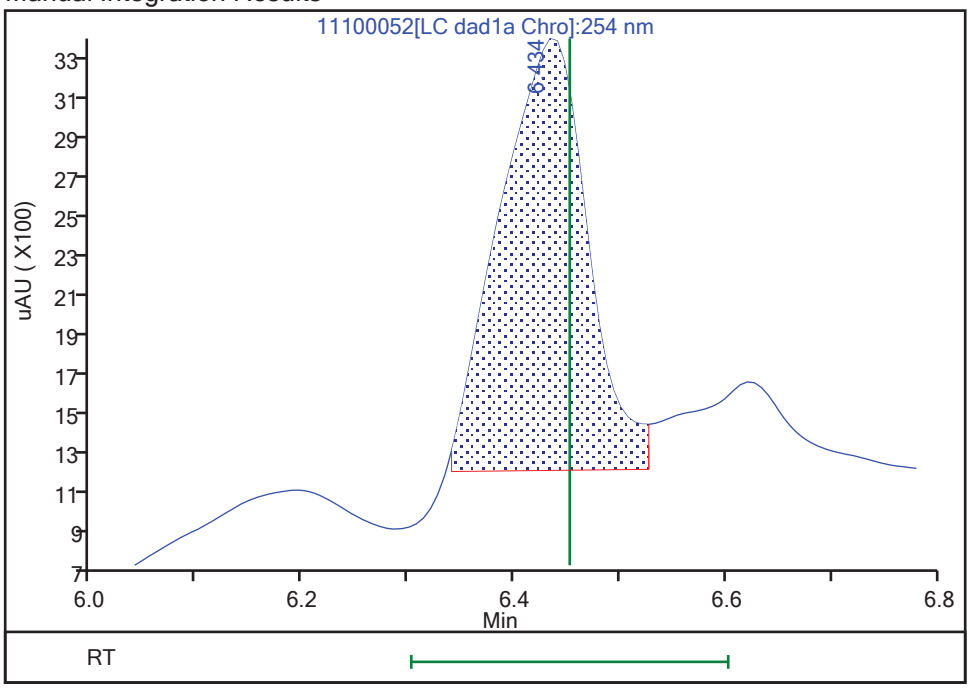
Processing Integration Results

RT: 6.43
Area: 26439
Amount: 0.123088
Amount Units: ug/mL



Manual Integration Results

RT: 6.43
Area: 12630
Amount: 0.058800
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:19:49
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MS | Lab Sample ID: 280-168718-9 MS

Matrix: Solid | Lab File ID: 11110020.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.0292(g) | Date Analyzed: 11/11/2022 22:15

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	1130		100	40	17

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	106		78-119

Report Date: 12-Nov-2022 11:05:50 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D
Lims ID: 280-168718-B-9-G MS
Client ID: X3-SS-CO6-0006
Sample Type: MS
Inject. Date: 11-Nov-2022 22:15:43 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-G MS
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:00:10

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.609	6.657	-0.048	41066	0.2500	0.2373	
7 2,4,6-Trinitrophenol	1		7.904			ND	ND	
8 RDX	1	8.695	8.757	-0.062	50018	0.2500	0.2467	
9 Nitrobenzene	1	11.595	11.684	-0.089	118156	0.2500	0.3223	
$ 10 1,2-Dinitrobenzene	1	12.762	12.837	-0.075	67205	0.2500	0.2641	
12 1,3-Dinitrobenzene	1	15.102	15.177	-0.075	161250	0.2500	0.2830	
13 Nitroglycerin	2	15.422	15.497	-0.075	365300	2.50	2.84	M
14 o-Nitrotoluene	1	16.248	16.344	-0.096	56419	0.2500	0.2599	
16 p-Nitrotoluene	1	16.515	16.644	-0.129	62668	0.2500	0.2789	
17 4-Amino-2,6-dinitrotoluene	1	17.142	17.250	-0.108	59790	0.2500	0.2455	
18 m-Nitrotoluene	1	17.502	17.610	-0.108	77518	0.2500	0.2855	
19 2-Amino-4,6-dinitrotoluene	1	18.195	18.230	-0.035	78551	0.2500	0.2692	Ma
20 1,3,5-Trinitrobenzene	1	18.342	18.437	-0.095	132340	0.2500	0.2693	M
21 2,6-Dinitrotoluene	1	19.615	19.724	-0.109	67031	0.2500	0.2571	
22 2,4-Dinitrotoluene	1	20.115	20.230	-0.115	142935	0.2500	0.2665	
23 Tetryl	1	23.762	23.884	-0.122	81160	0.2500	0.2652	M
24 2,4,6-Trinitrotoluene	1	24.562	24.684	-0.122	131124	0.2500	0.3462	M
25 PETN	2	25.602	25.697	-0.095	328756	2.50	2.54	M

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 12-Nov-2022 11:05:50 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D

Injection Date: 11-Nov-2022 22:15:43 Instrument ID: CHHPLC_X5 Operator ID:

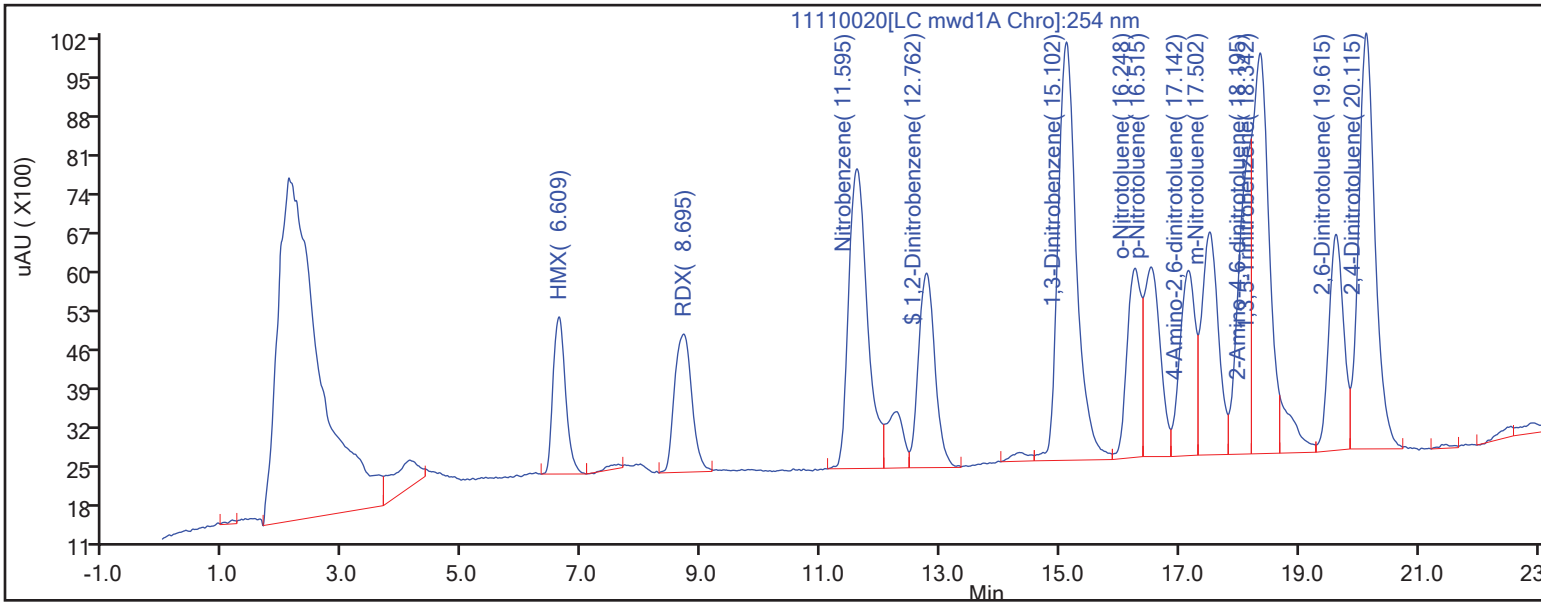
Lims ID: 280-168718-B-9-G MS Worklist Smp#:

Client ID: X3-SS-CO6-0006

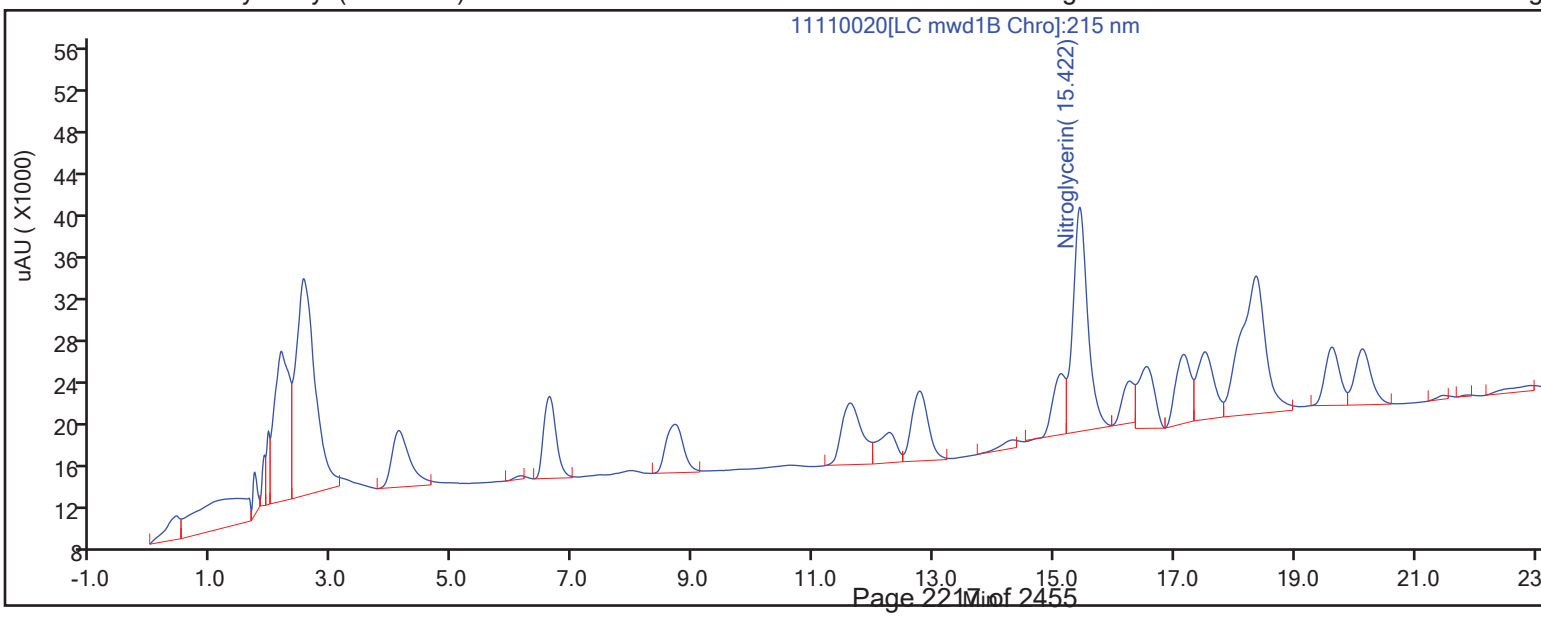
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D
Lims ID: 280-168718-B-9-G MS
Client ID: X3-SS-CO6-0006
Sample Type: MS
Inject. Date: 11-Nov-2022 22:15:43 ALS Bottle#: 20 Worklist Smp#: 20
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-G MS
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:00:10

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2641	105.62

Manual Integration/User Assign Peak Report

Eurofins Denver

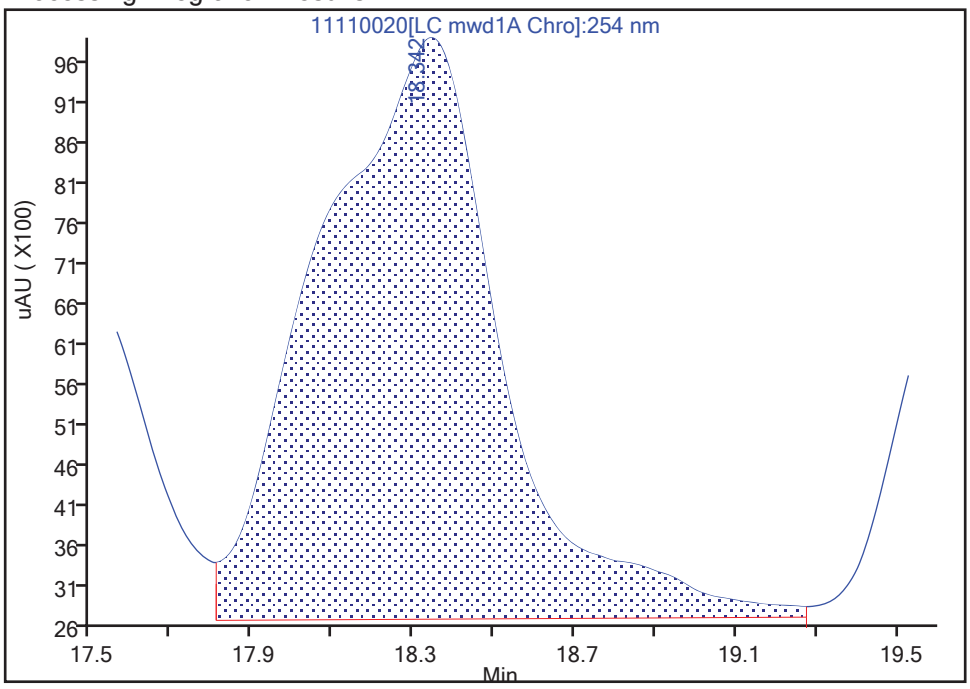
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D				
Injection Date:	11-Nov-2022 22:15:43	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-G MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

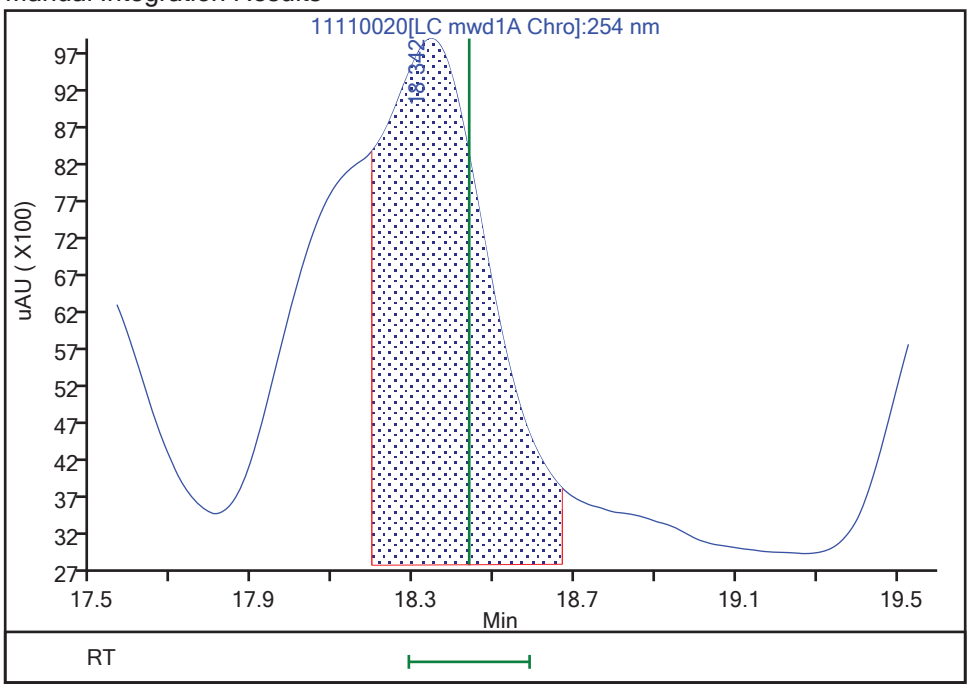
Processing Integration Results

RT: 18.34
Area: 227492
Amount: 0.461544
Amount Units: ug/ml



Manual Integration Results

RT: 18.34
Area: 132340
Amount: 0.269261
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:02:04
Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

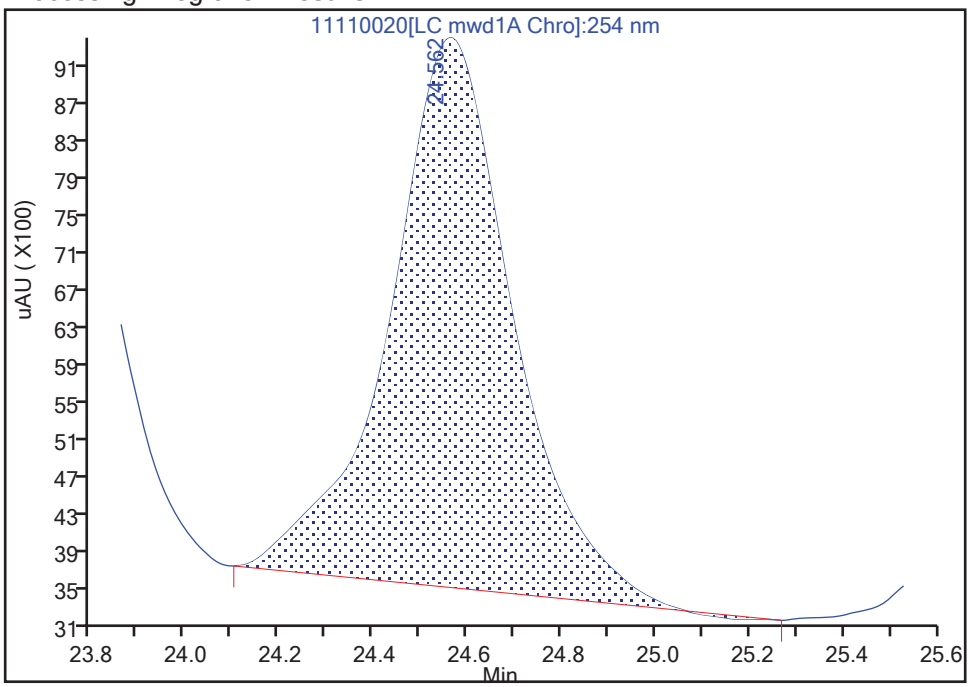
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D				
Injection Date:	11-Nov-2022 22:15:43	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-G MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

24 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

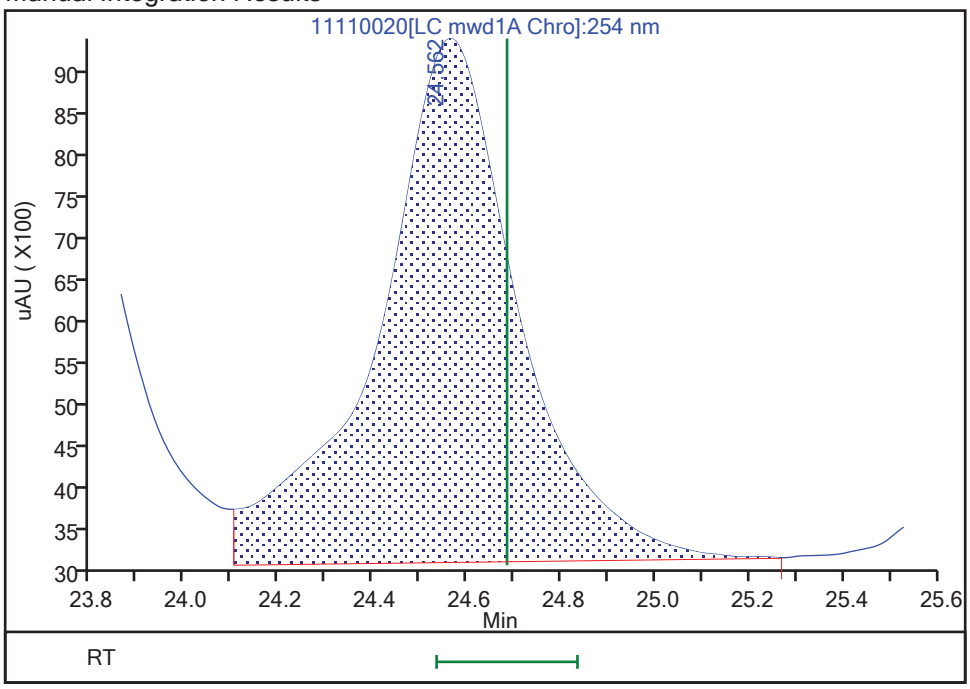
Processing Integration Results

RT: 24.56
Area: 108942
Amount: 0.287598
Amount Units: ug/ml



Manual Integration Results

RT: 24.56
Area: 131124
Amount: 0.346157
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:37
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

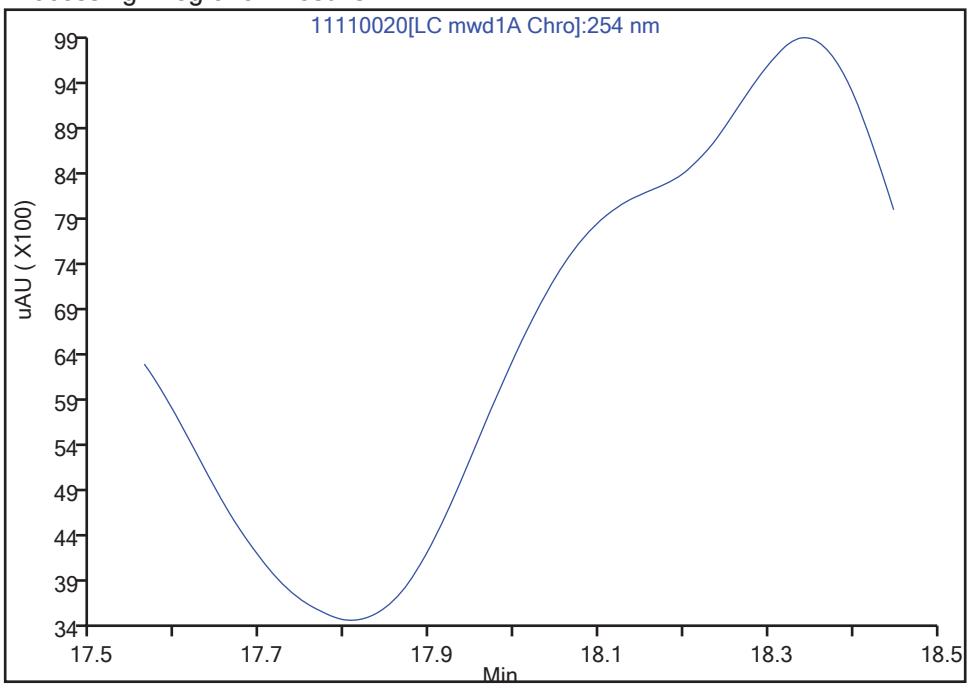
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D				
Injection Date:	11-Nov-2022 22:15:43	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-G MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

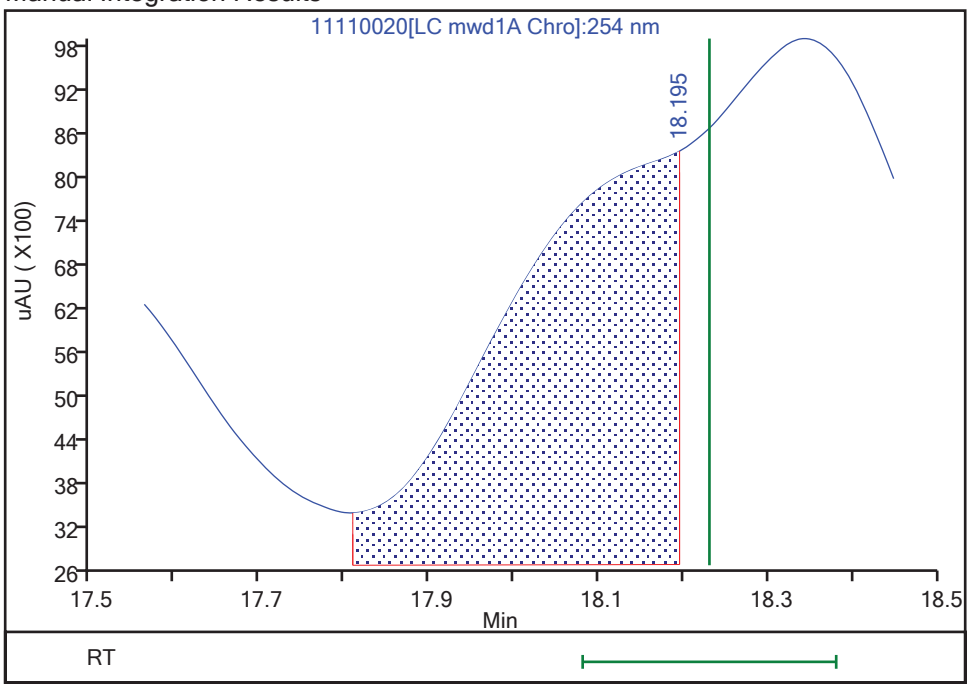
Not Detected
Expected RT: 18.23

Processing Integration Results



Manual Integration Results

RT: 18.20
Area: 78551
Amount: 0.269210
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:30
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

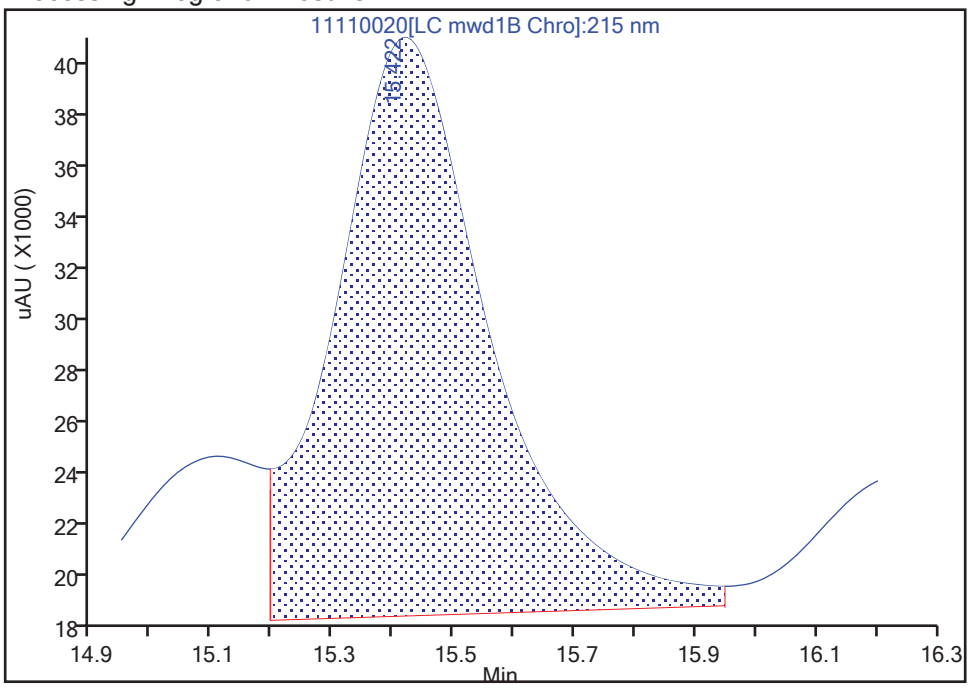
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D				
Injection Date:	11-Nov-2022 22:15:43	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-G MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

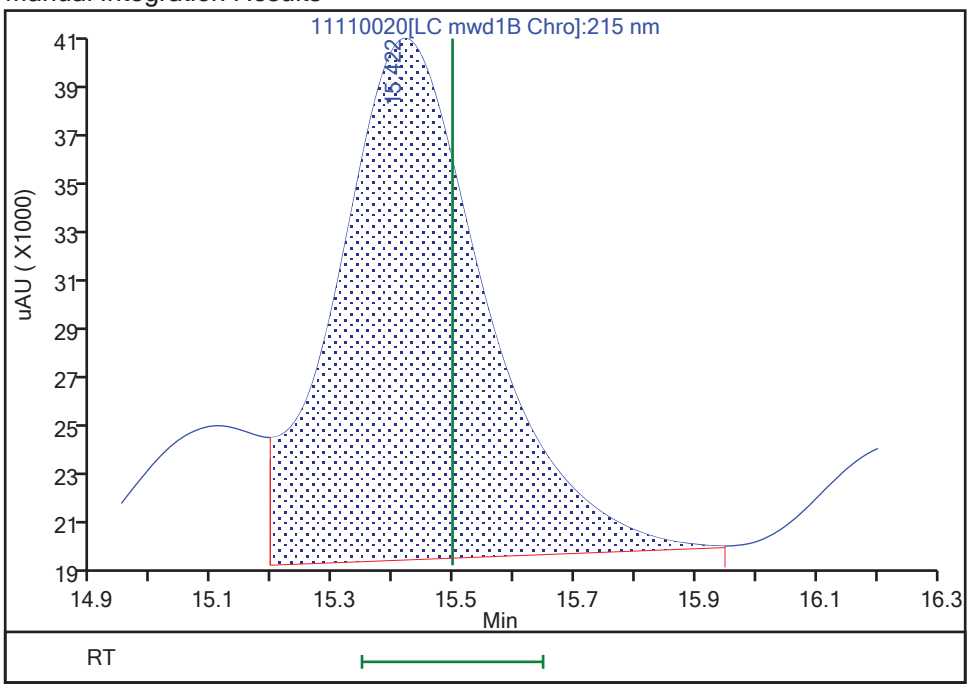
Processing Integration Results

RT: 15.42
Area: 391787
Amount: 3.050081
Amount Units: ug/ml



Manual Integration Results

RT: 15.42
Area: 365300
Amount: 2.843878
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:47

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

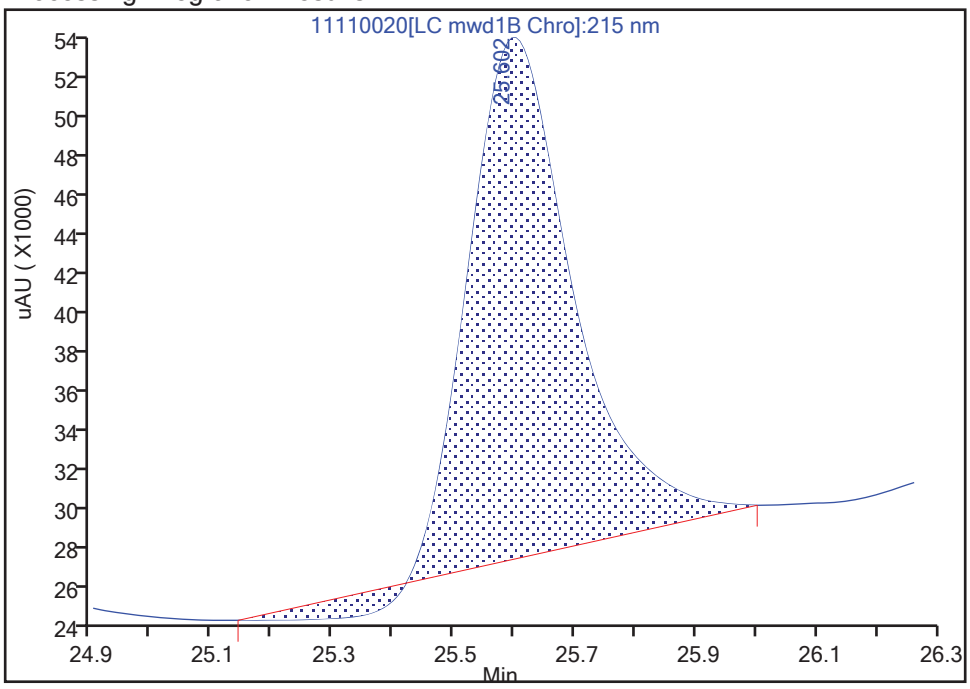
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D				
Injection Date:	11-Nov-2022 22:15:43	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-G MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

25 PETN, CAS: 78-11-5

Signal: 1

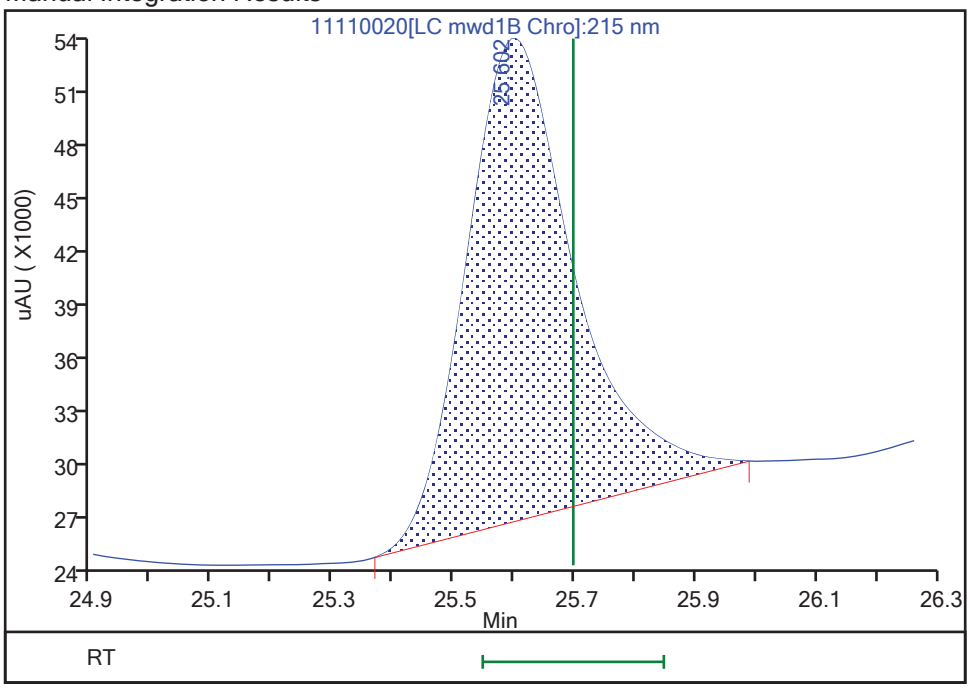
Processing Integration Results

RT: 25.60
Area: 301600
Amount: 2.335838
Amount Units: ug/ml



Manual Integration Results

RT: 25.60
Area: 328756
Amount: 2.544105
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:42

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

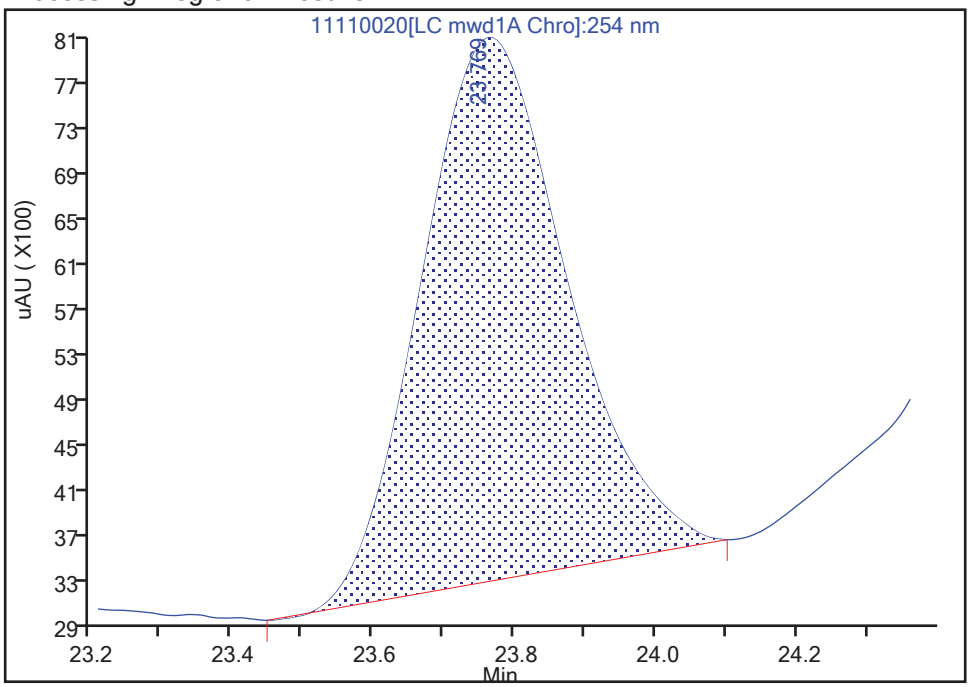
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110020.D				
Injection Date:	11-Nov-2022 22:15:43	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-G MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	20	Worklist Smp#:	20
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

23 Tetryl, CAS: 479-45-8

Signal: 1

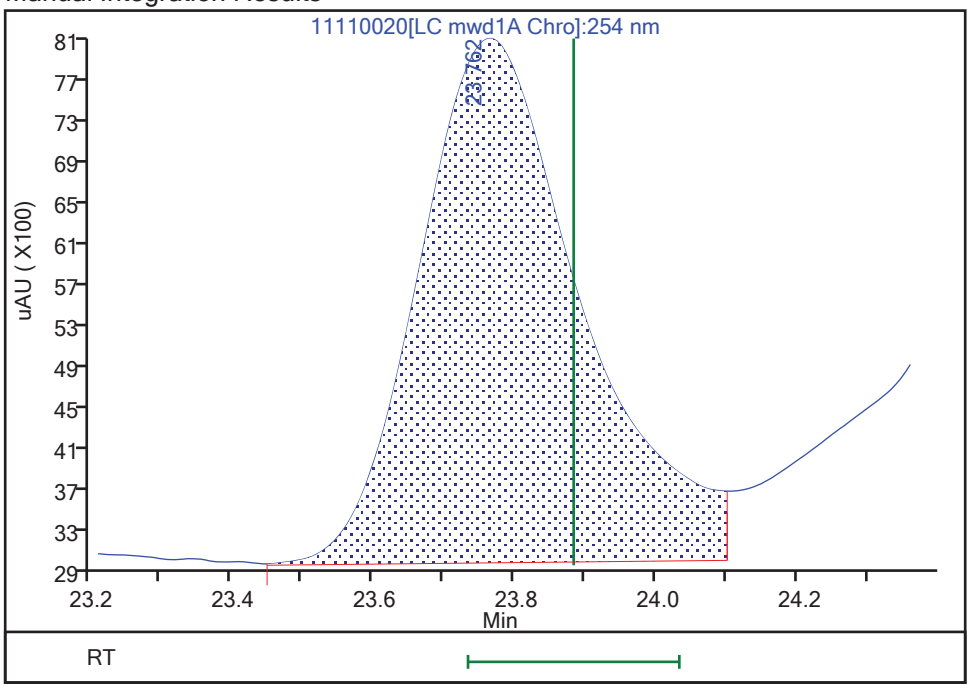
Processing Integration Results

RT: 23.77
Area: 67852
Amount: 0.221693
Amount Units: ug/ml



Manual Integration Results

RT: 23.76
Area: 81160
Amount: 0.265174
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:37
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MSD | Lab Sample ID: 280-168718-9 MSD

Matrix: Solid | Lab File ID: 11100051.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.097(g) | Date Analyzed: 11/11/2022 05:57

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	1180	J1	99	40	14
118-96-7	2,4,6-Trinitrotoluene	1010		99	69	30
121-14-2	2,4-Dinitrotoluene	1060		99	40	15
606-20-2	2,6-Dinitrotoluene	1030		99	40	19
35572-78-2	2-Amino-4,6-dinitrotoluene	1000		99	69	33
88-72-2	2-Nitrotoluene	1040		200	99	47
99-08-1	3-Nitrotoluene	1020		200	150	63
19406-51-0	4-Amino-2,6-dinitrotoluene	1020		99	69	30
99-99-0	4-Nitrotoluene	1010		200	99	36
98-95-3	Nitrobenzene	1050		300	200	84
55-63-0	Nitroglycerin	11400		2000	690	210
2691-41-0	HMX	939	M	99	69	22
78-11-5	PETN	10500		2000	990	490
88-89-1	Picric acid	163	M J1	99	99	56
121-82-4	RDX	957		200	99	43
479-45-8	Tetryl	1010		200	99	43

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	100		78-119

Report Date: 11-Nov-2022 12:25:43 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100051.D
Lims ID: 280-168718-B-9-H MSD
Client ID: X3-SS-CO6-0006
Sample Type: MSD
Inject. Date: 11-Nov-2022 05:57:38 ALS Bottle#: 51 Worklist Smp#: 51
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-H MSD
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:17:30

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.559	6.571	-0.012	21086	0.2500	0.2370	M
8 RDX	1	7.545	7.558	-0.013	25992	0.2500	0.2415	
9 2,4,6-Trinitrophenol	1	7.879	7.878	0.001	3188	0.2500	0.0412	M
$ 10 1,2-Dinitrobenzene	1	8.492	8.505	-0.013	31413	0.2500	0.2496	
11 1,3,5-Trinitrobenzene	1	8.612	8.625	-0.013	63703	0.2500	0.2982	
12 1,3-Dinitrobenzene	1	9.232	9.244	-0.012	85747	0.2500	0.2951	
13 Nitrobenzene	1	9.619	9.638	-0.019	51000	0.2500	0.2642	
15 Tetryl	1	9.932	9.944	-0.012	42344	0.2500	0.2560	
16 Nitroglycerin	2	10.379	10.404	-0.025	178284	2.50	2.89	
17 2,4,6-Trinitrotoluene	1	10.832	10.851	-0.019	53834	0.2500	0.2552	
18 4-Amino-2,6-dinitrotoluene	1	11.005	11.024	-0.019	37419	0.2500	0.2584	
19 2-Amino-4,6-dinitrotoluene	1	11.252	11.271	-0.019	49399	0.2500	0.2530	
20 2,6-Dinitrotoluene	1	11.425	11.458	-0.033	36899	0.2500	0.2595	
21 2,4-Dinitrotoluene	1	11.592	11.624	-0.032	77283	0.2500	0.2664	
22 o-Nitrotoluene	1	12.439	12.478	-0.039	32927	0.2500	0.2628	
23 p-Nitrotoluene	1	12.859	12.898	-0.039	28550	0.2500	0.2553	
24 m-Nitrotoluene	1	13.425	13.464	-0.039	35605	0.2500	0.2581	
25 PETN	2	14.465	14.518	-0.053	192139	2.50	2.65	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

Report Date: 11-Nov-2022 12:25:43 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100051.d

Injection Date: 11-Nov-2022 05:57:38 Instrument ID: CHHPLC_X3 Operator ID:

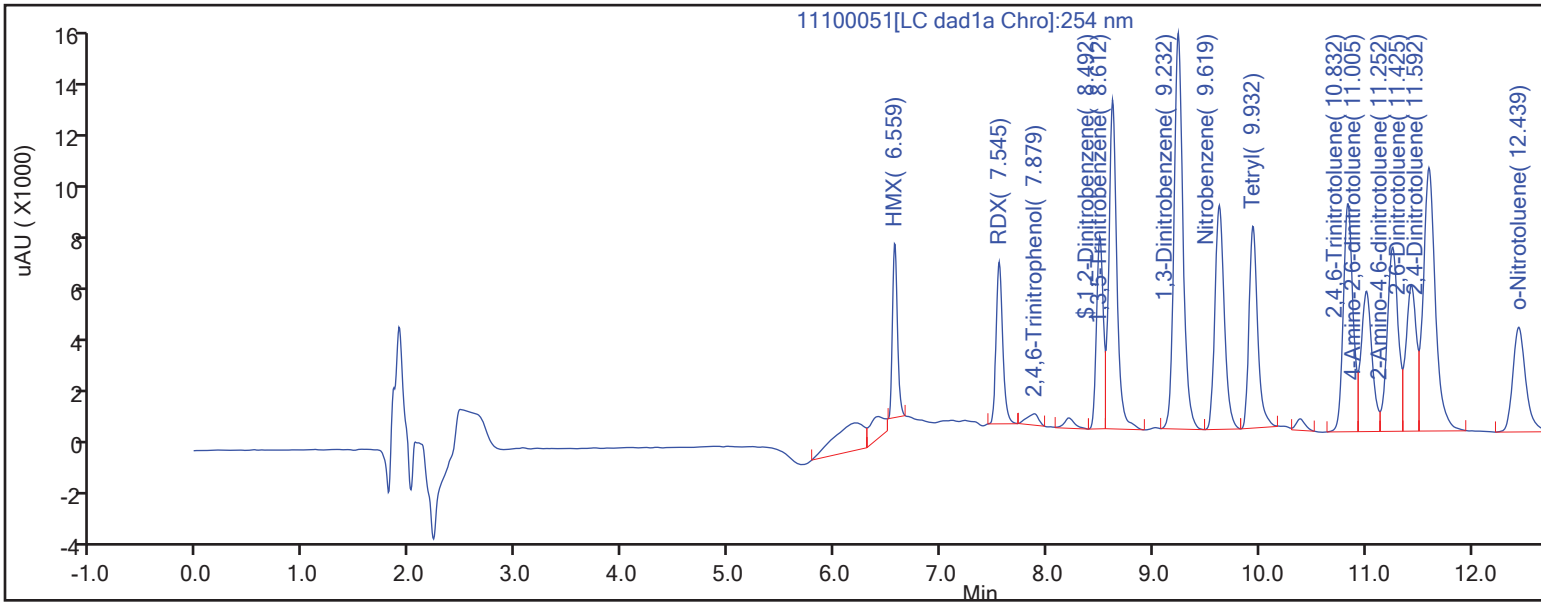
Lims ID: 280-168718-B-9-H MSD Worklist Smp#:

Client ID: X3-SS-CO6-0006

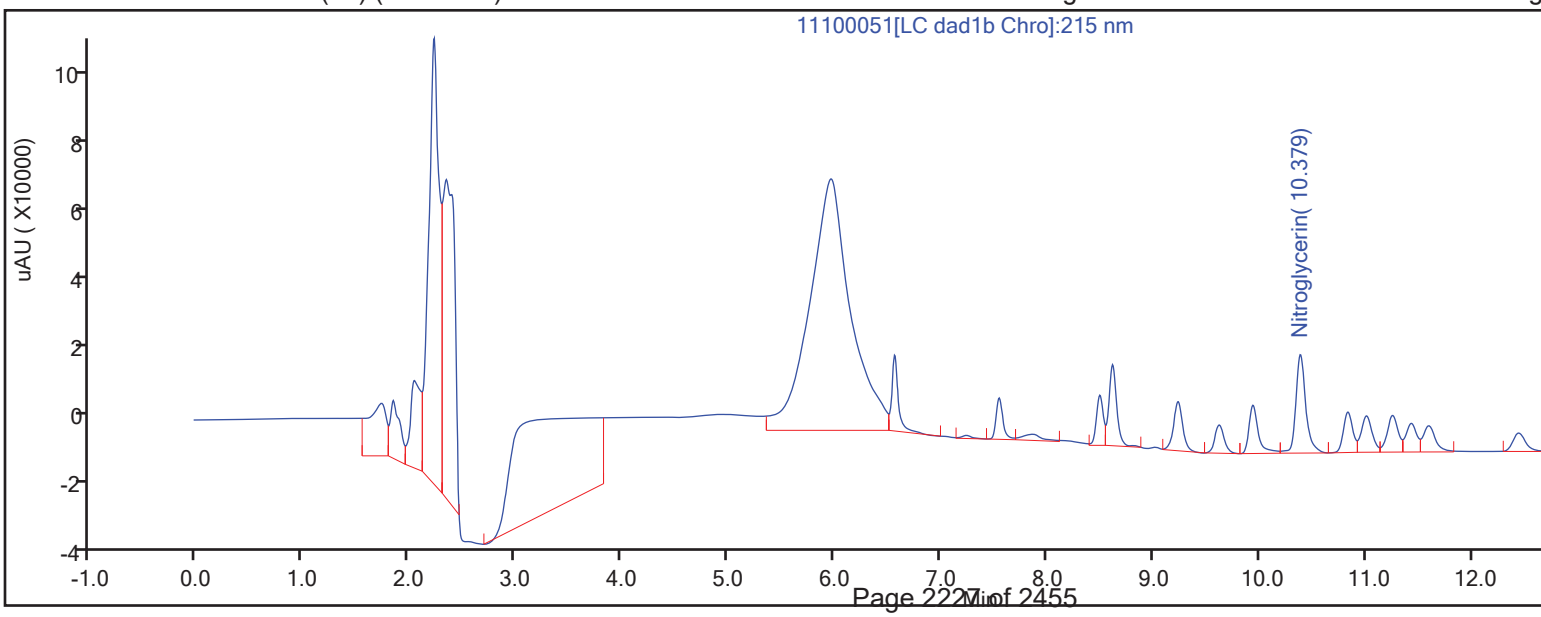
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100051.D
Lims ID: 280-168718-B-9-H MSD
Client ID: X3-SS-CO6-0006
Sample Type: MSD
Inject. Date: 11-Nov-2022 05:57:38 ALS Bottle#: 51 Worklist Smp#: 51
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-H MSD
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:17:30

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2496	99.85

Manual Integration/User Assign Peak Report

Eurofins Denver

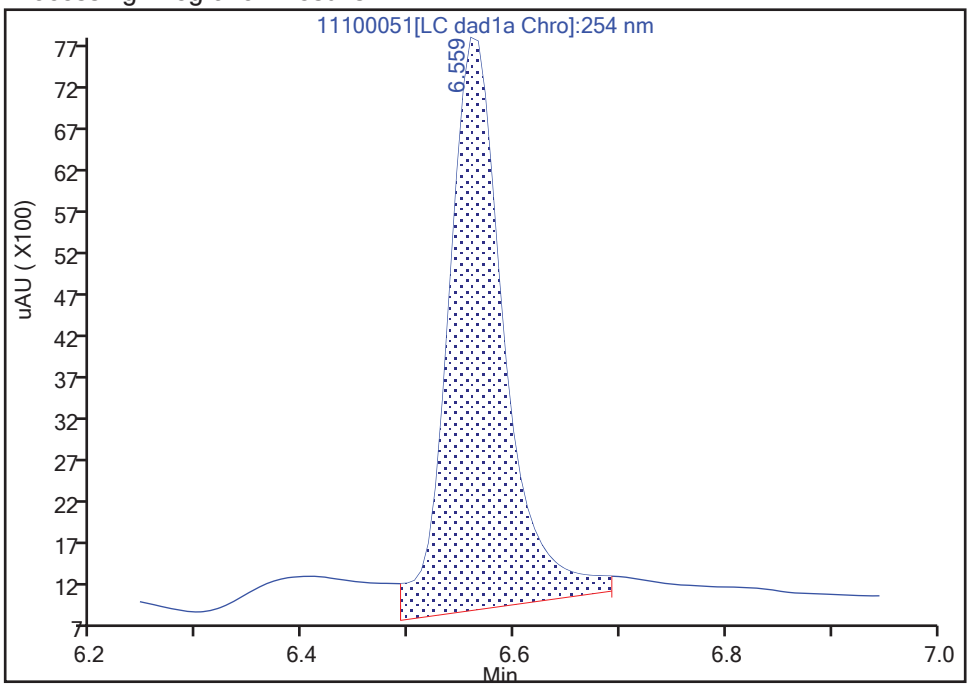
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100051.d				
Injection Date:	11-Nov-2022 05:57:38	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	51	Worklist Smp#:	51
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

4 HMX, CAS: 2691-41-0

Signal: 1

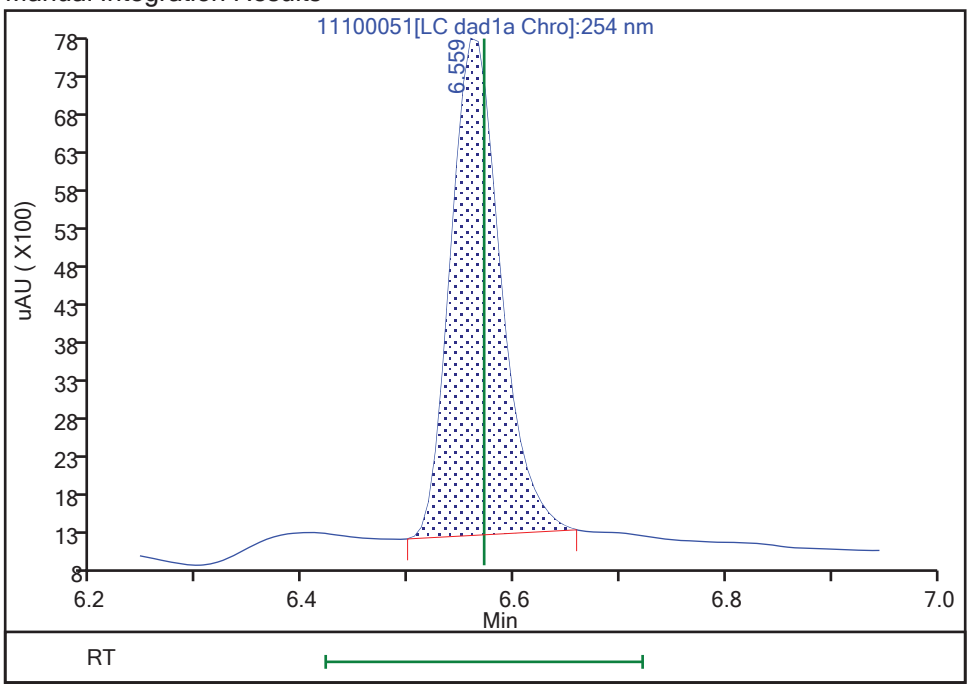
Processing Integration Results

RT: 6.56
Area: 25043
Amount: 0.281515
Amount Units: ug/mL



Manual Integration Results

RT: 6.56
Area: 21086
Amount: 0.237033
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:17:22

Audit Action: Manually Integrated Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MSD | Lab Sample ID: 280-168718-9 MSD

Matrix: Solid | Lab File ID: 11100053.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.0423(g) | Date Analyzed: 11/11/2022 06:43

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
618-87-1	3,5-Dinitroaniline	951		100	20	9.0
6629-29-4	2,4-diamino-6-nitrotoluene	1000	U M J1	2000	1000	510
59229-75-3	2,6-diamino-4-nitrotoluene	1000	U M J1	2000	1000	330

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

Report Date: 11-Nov-2022 12:25:41 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100053.D
Lims ID: 280-168718-B-9-L MSD
Client ID: X3-SS-CO6-0006
Sample Type: MSD
Inject. Date: 11-Nov-2022 06:43:38 ALS Bottle#: 53 Worklist Smp#: 53
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-L MSD
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:03

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1	6.435	6.452	-0.017	13007	0.2500	0.0606	M
	5 2,4-diamino-6-nitrotoluene	1	6.622	6.632	-0.010	2939	0.2500	0.0219	M
$	10 1,2-Dinitrobenzene	1	8.489	8.505	-0.016	35150	0.2500	0.2793	
	14 3,5-Dinitroaniline	1	9.808	9.832	-0.024	54519	0.2500	0.2388	

QC Flag Legend

Review Flags

M - Manually Integrated

Report Date: 11-Nov-2022 12:25:41 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100053.d

Injection Date: 11-Nov-2022 06:43:38 Instrument ID: CHHPLC_X3 Operator ID:

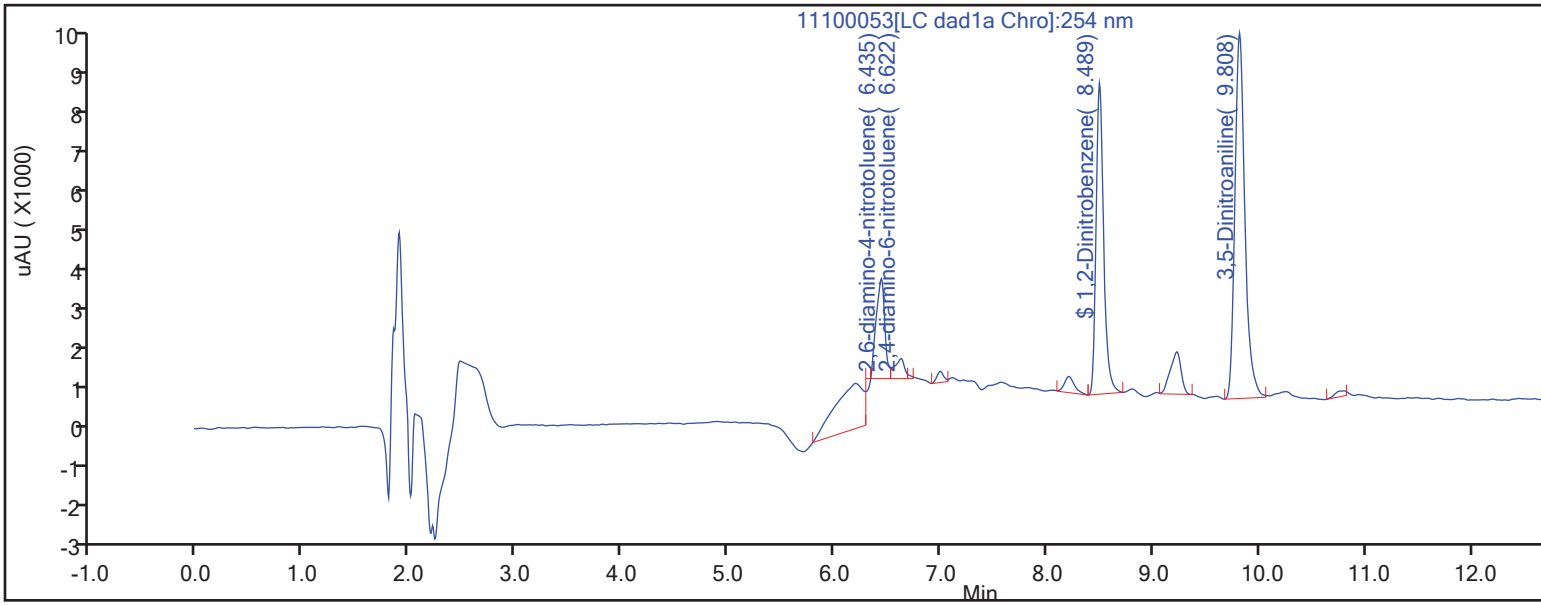
Lims ID: 280-168718-B-9-L MSD Worklist Smp#:

Client ID: X3-SS-CO6-0006

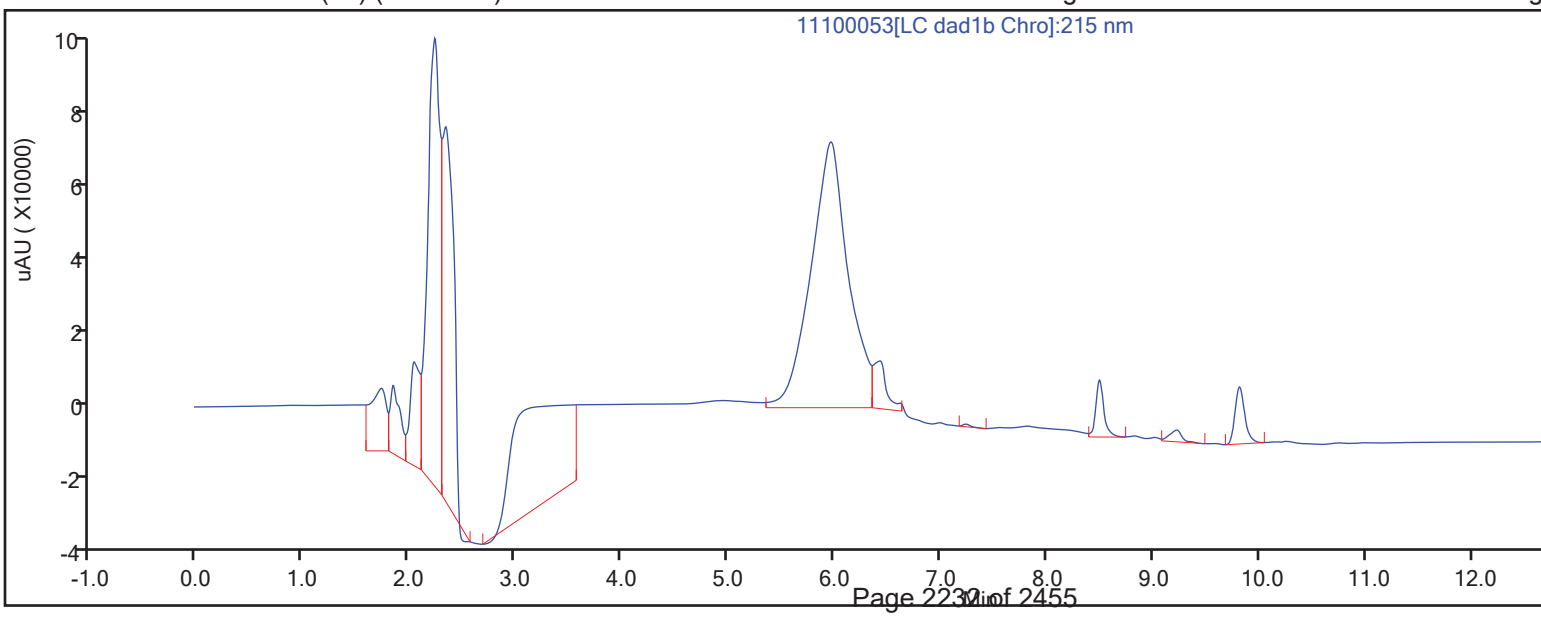
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100053.D
Lims ID: 280-168718-B-9-L MSD
Client ID: X3-SS-CO6-0006
Sample Type: MSD
Inject. Date: 11-Nov-2022 06:43:38 ALS Bottle#: 53 Worklist Smp#: 53
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-L MSD
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:03

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2793	111.73

Manual Integration/User Assign Peak Report

Eurofins Denver

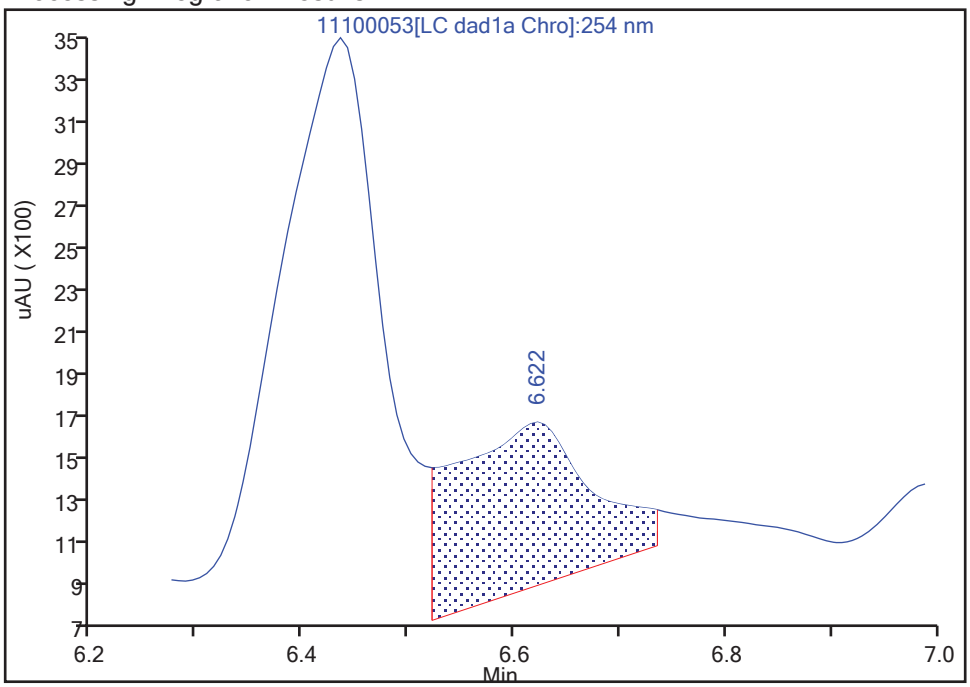
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100053.d				
Injection Date:	11-Nov-2022 06:43:38	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-9-L MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

5 2,4-diamino-6-nitrotoluene, CAS: 6629-29-4

Signal: 1

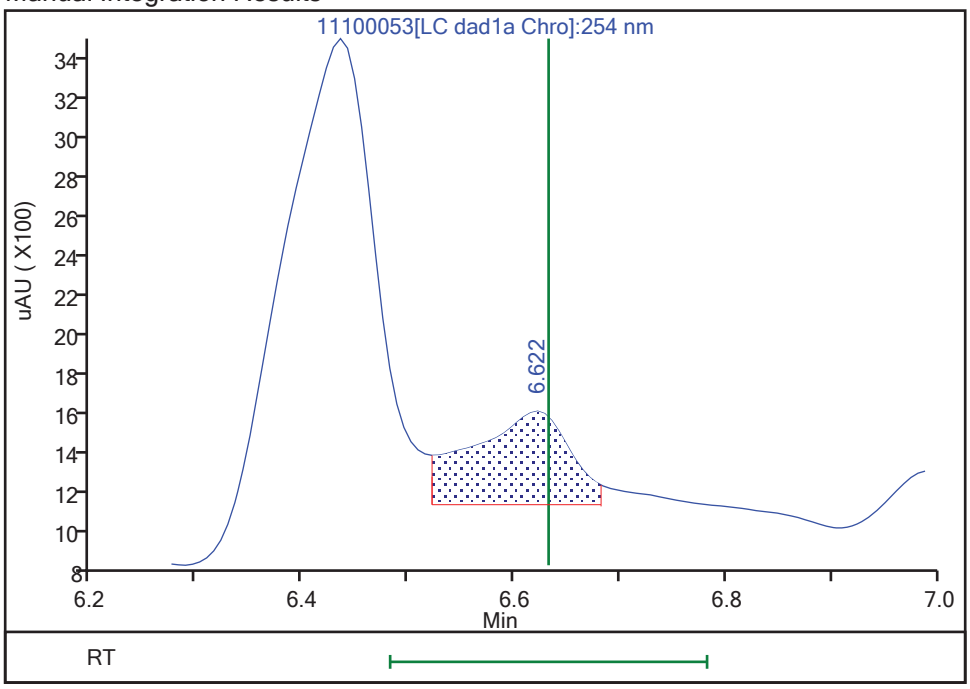
Processing Integration Results

RT: 6.62
Area: 7047
Amount: 0.052624
Amount Units: ug/mL



Manual Integration Results

RT: 6.62
Area: 2939
Amount: 0.021947
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:20:01
Audit Action: Split an Integrated Peak Audit Reason: Baseline

Manual Integration/User Assign Peak Report

Eurofins Denver

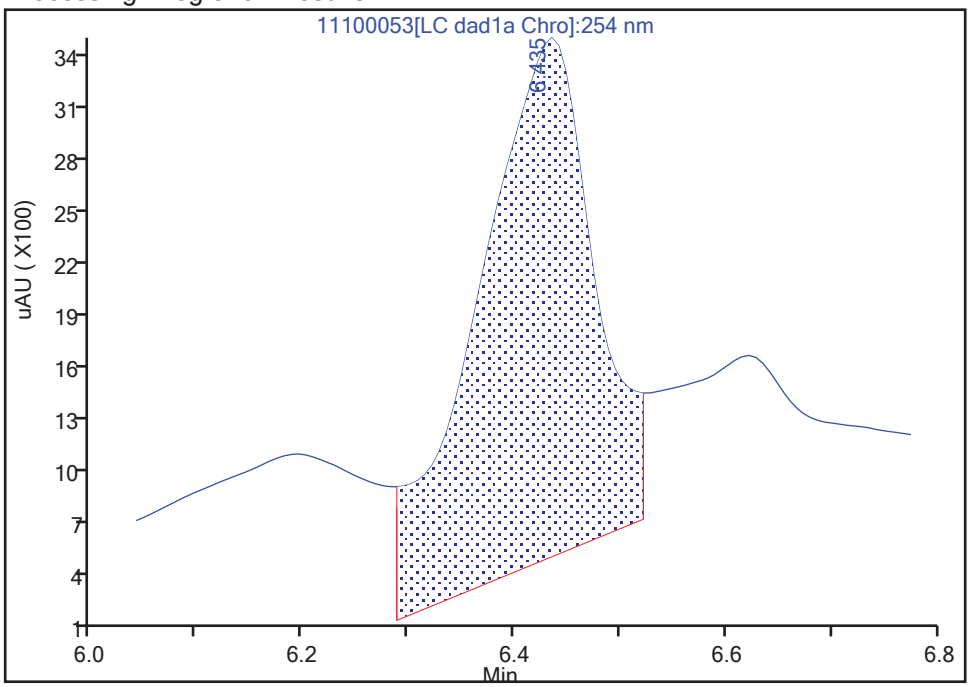
Data File:	\\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100053.d				
Injection Date:	11-Nov-2022 06:43:38	Instrument ID:	CHHPLC_X3		
Lims ID:	280-168718-B-9-L MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	53	Worklist Smp#:	53
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X3	Limit Group:	GCSV - 8330		
Column:	UltraCarb5uODS (20) (4.60 mm)	Detector	LC DAD1B, 254 nm		

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3

Signal: 1

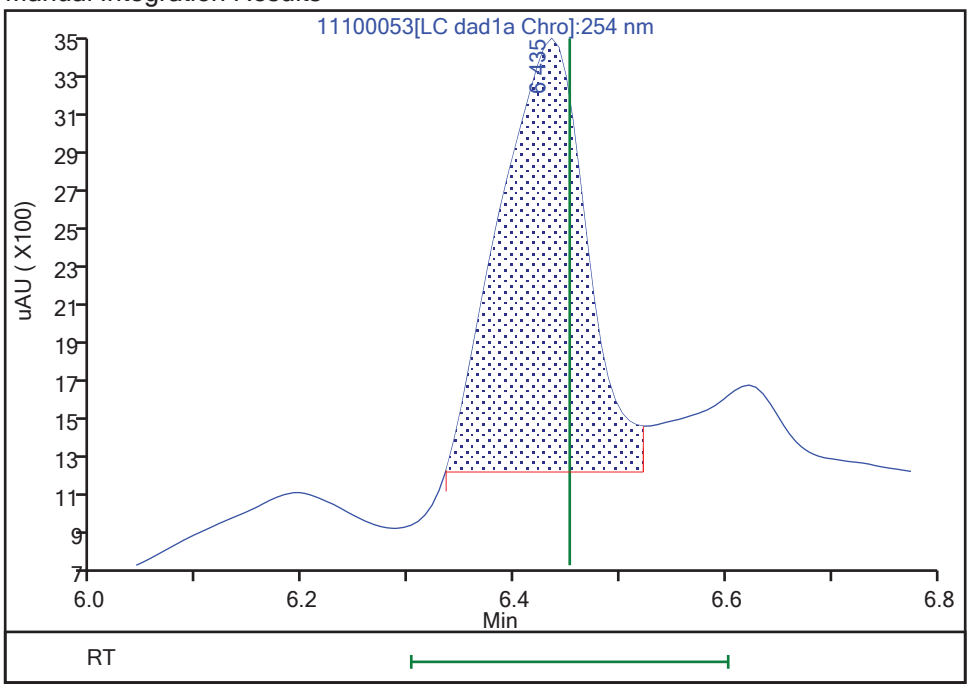
Processing Integration Results

RT: 6.44
Area: 23227
Amount: 0.108135
Amount Units: ug/mL



Manual Integration Results

RT: 6.44
Area: 13007
Amount: 0.060555
Amount Units: ug/mL



Reviewer: LV5D, 11-Nov-2022 12:20:00
Audit Action: Split an Integrated Peak Audit Reason: Baseline

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MSD | Lab Sample ID: 280-168718-9 MSD

Matrix: Solid | Lab File ID: 11110021.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.097(g) | Date Analyzed: 11/11/2022 22:50

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	1080		99	40	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	105		78-119

Report Date: 12-Nov-2022 11:05:51 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D
Lims ID: 280-168718-B-9-H MSD
Client ID: X3-SS-CO6-0006
Sample Type: MSD
Inject. Date: 11-Nov-2022 22:50:40 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-H MSD
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:00:15

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
5 HMX	1	6.608	6.657	-0.049	41153	0.2500	0.2378	
7 2,4,6-Trinitrophenol	1		7.904			ND	ND	
8 RDX	1	8.701	8.757	-0.056	49228	0.2500	0.2427	
9 Nitrobenzene	1	11.614	11.684	-0.070	106878	0.2500	0.2915	
$ 10 1,2-Dinitrobenzene	1	12.774	12.837	-0.063	66845	0.2500	0.2626	
12 1,3-Dinitrobenzene	1	15.114	15.177	-0.063	154675	0.2500	0.2715	
13 Nitroglycerin	2	15.441	15.497	-0.056	362224	2.50	2.82	M
14 o-Nitrotoluene	1	16.268	16.344	-0.076	54200	0.2500	0.2497	M
16 p-Nitrotoluene	1	16.541	16.644	-0.103	61852	0.2500	0.2753	M
17 4-Amino-2,6-dinitrotoluene	1	17.168	17.250	-0.082	59273	0.2500	0.2434	M
18 m-Nitrotoluene	1	17.521	17.610	-0.089	75425	0.2500	0.2778	M
19 2-Amino-4,6-dinitrotoluene	1	18.214	18.230	-0.016	74925	0.2500	0.2568	Ma
20 1,3,5-Trinitrobenzene	1	18.361	18.437	-0.076	133893	0.2500	0.2724	M
21 2,6-Dinitrotoluene	1	19.634	19.724	-0.090	64828	0.2500	0.2486	
22 2,4-Dinitrotoluene	1	20.141	20.230	-0.089	141234	0.2500	0.2633	
23 Tetryl	1	23.808	23.884	-0.076	81938	0.2500	0.2677	M
24 2,4,6-Trinitrotoluene	1	24.608	24.684	-0.076	117248	0.2500	0.3095	M
25 PETN	2	25.634	25.697	-0.063	344861	2.50	2.67	M

QC Flag Legend

Processing Flags
ND - Not Detected or Marked ND
Review Flags
M - Manually Integrated
a - User Assigned ID

Report Date: 12-Nov-2022 11:05:51 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D

Injection Date: 11-Nov-2022 22:50:40 Instrument ID: CHHPLC_X5 Operator ID:

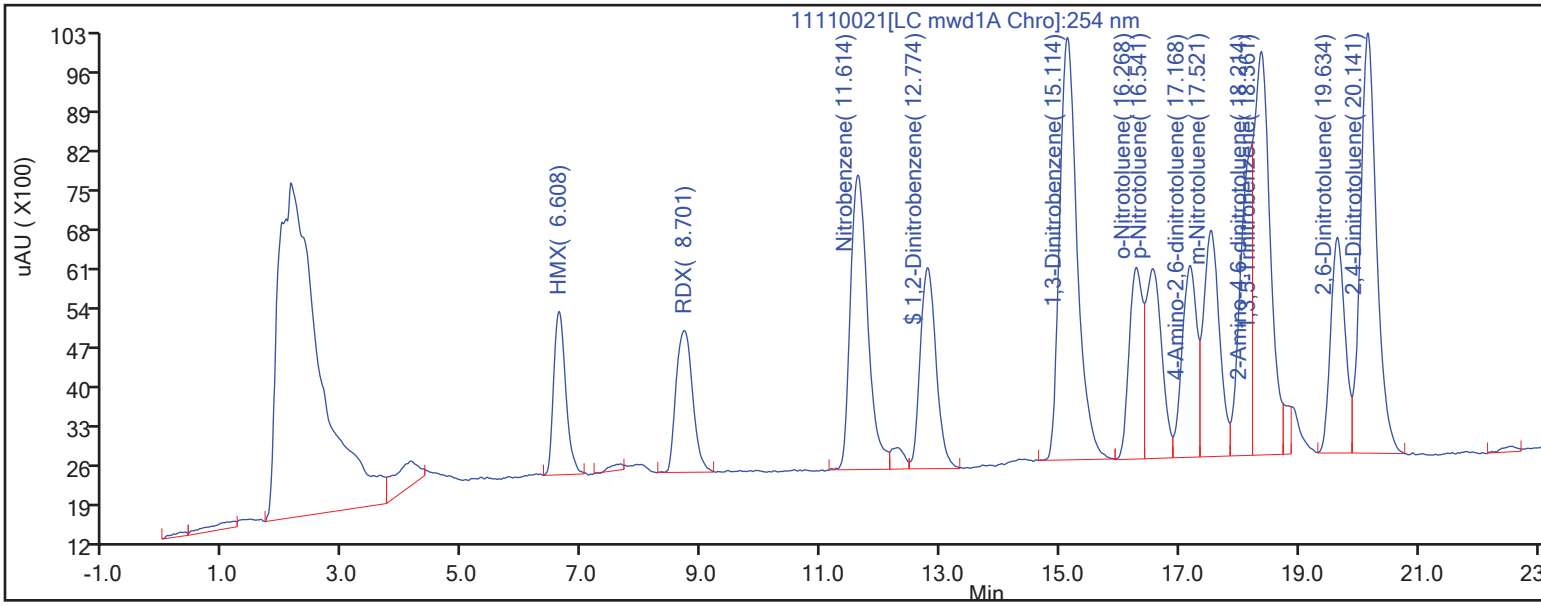
Lims ID: 280-168718-B-9-H MSD Worklist Smp#:

Client ID: X3-SS-CO6-0006

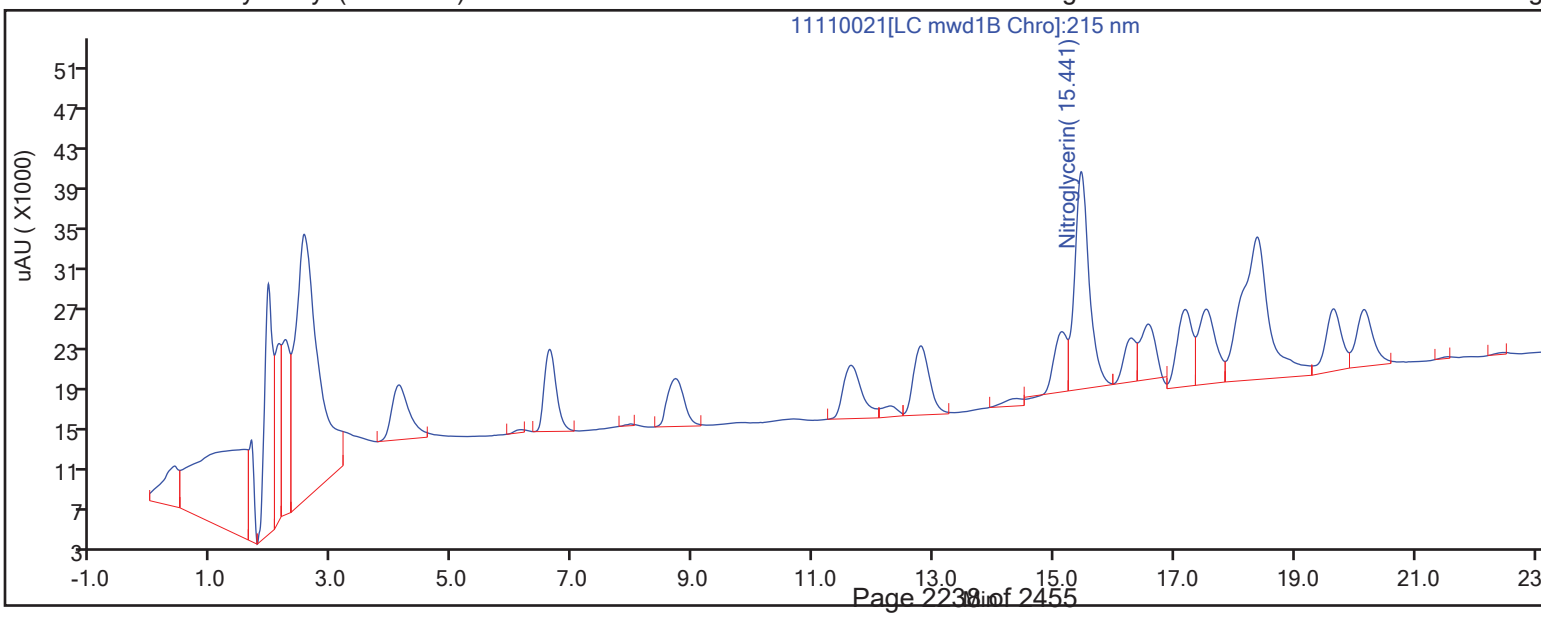
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D
Lims ID: 280-168718-B-9-H MSD
Client ID: X3-SS-CO6-0006
Sample Type: MSD
Inject. Date: 11-Nov-2022 22:50:40 ALS Bottle#: 21 Worklist Smp#: 21
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-H MSD
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:00:15

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2626	105.06

Manual Integration/User Assign Peak Report

Eurofins Denver

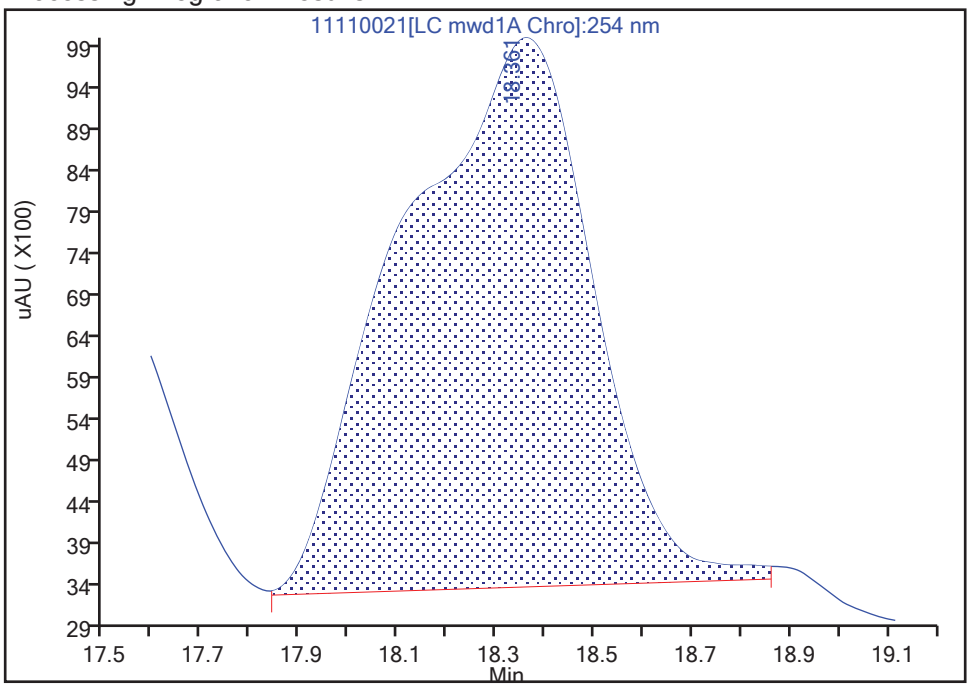
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

20 1,3,5-Trinitrobenzene, CAS: 99-35-4

Signal: 1

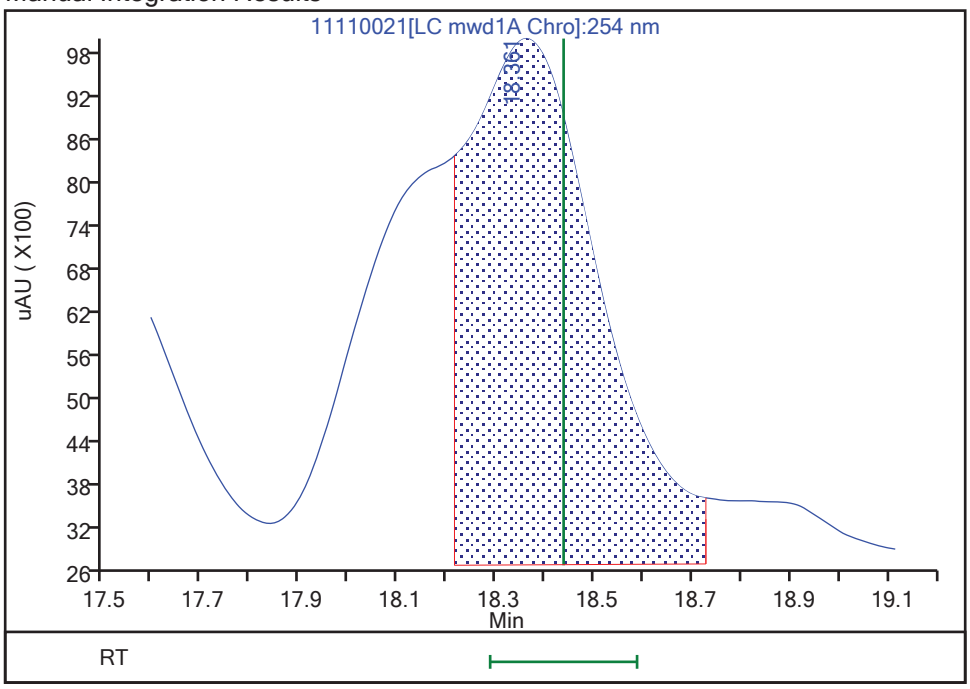
Processing Integration Results

RT: 18.36
Area: 178083
Amount: 0.361698
Amount Units: ug/ml



Manual Integration Results

RT: 18.36
Area: 133893
Amount: 0.272399
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:01:11

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

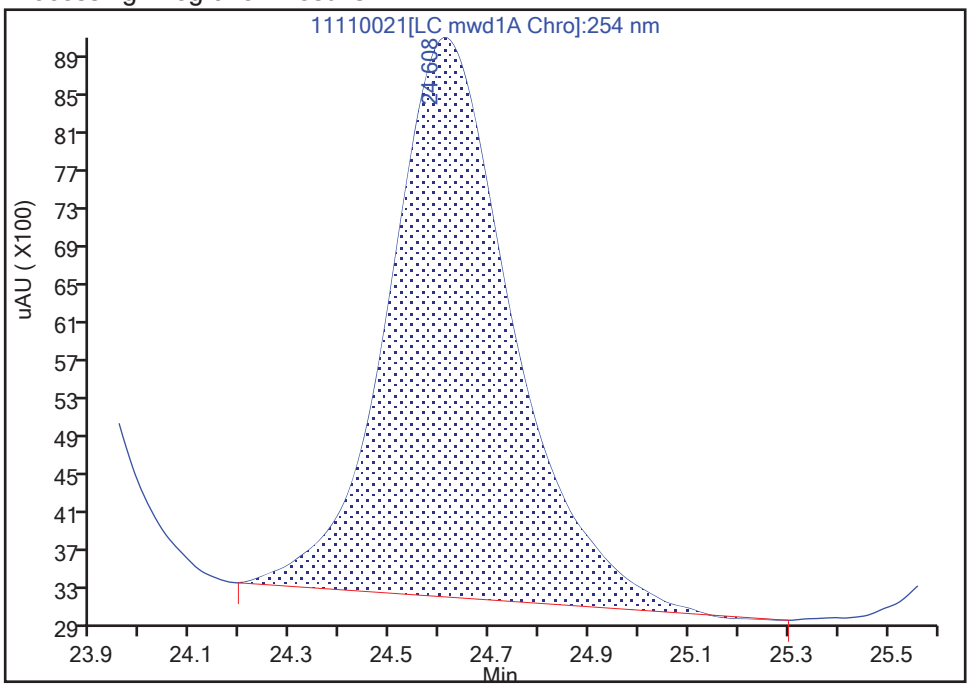
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

24 2,4,6-Trinitrotoluene, CAS: 118-96-7

Signal: 1

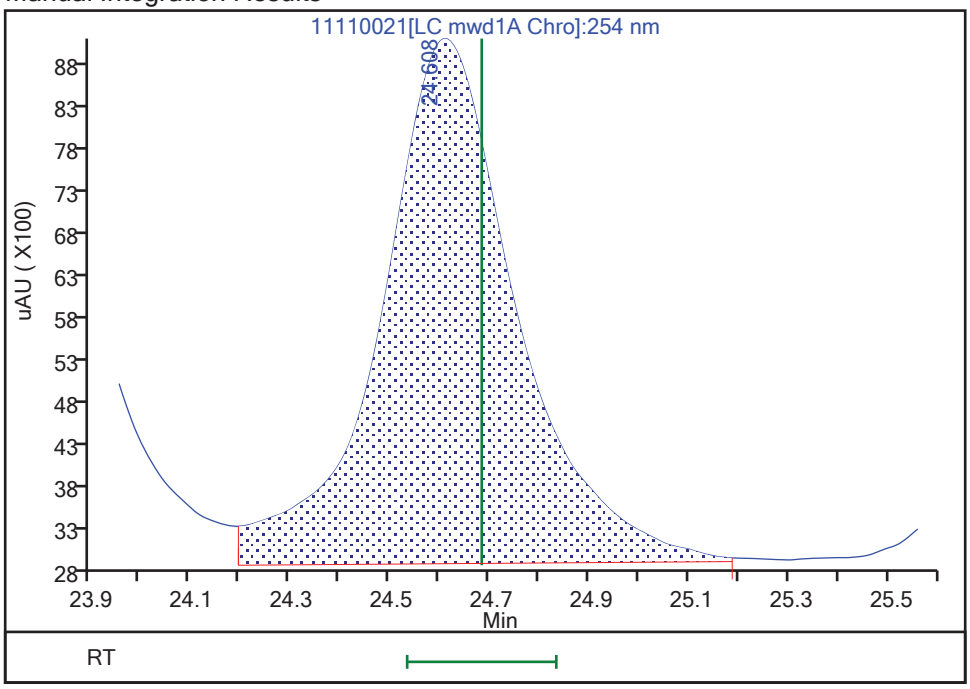
Processing Integration Results

RT: 24.61
Area: 102480
Amount: 0.270539
Amount Units: ug/ml



Manual Integration Results

RT: 24.61
Area: 117248
Amount: 0.309526
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:01:28

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

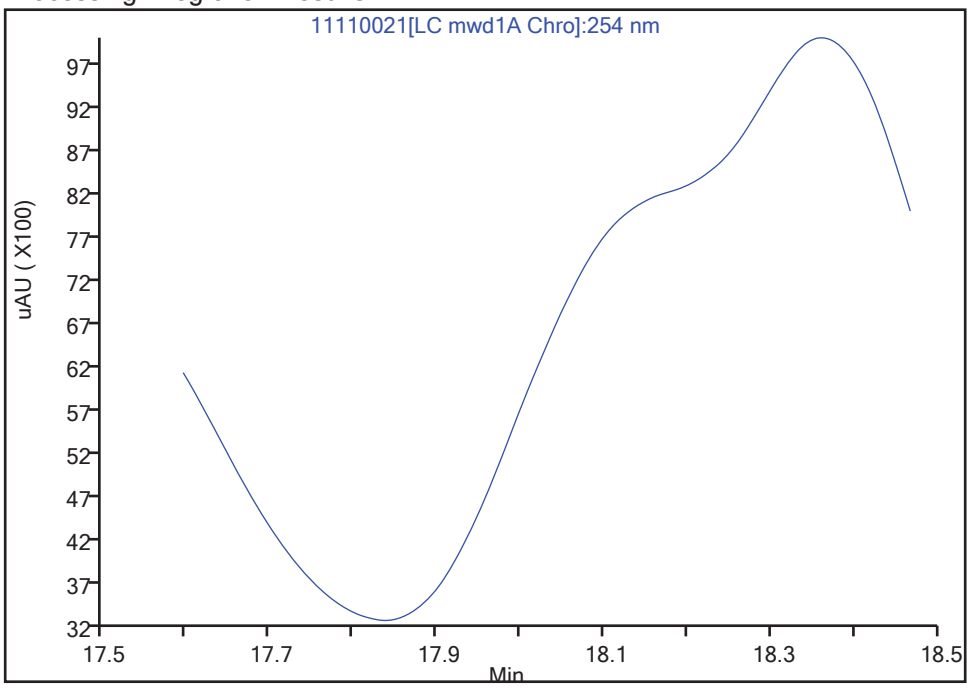
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

19 2-Amino-4,6-dinitrotoluene, CAS: 35572-78-2

Signal: 1

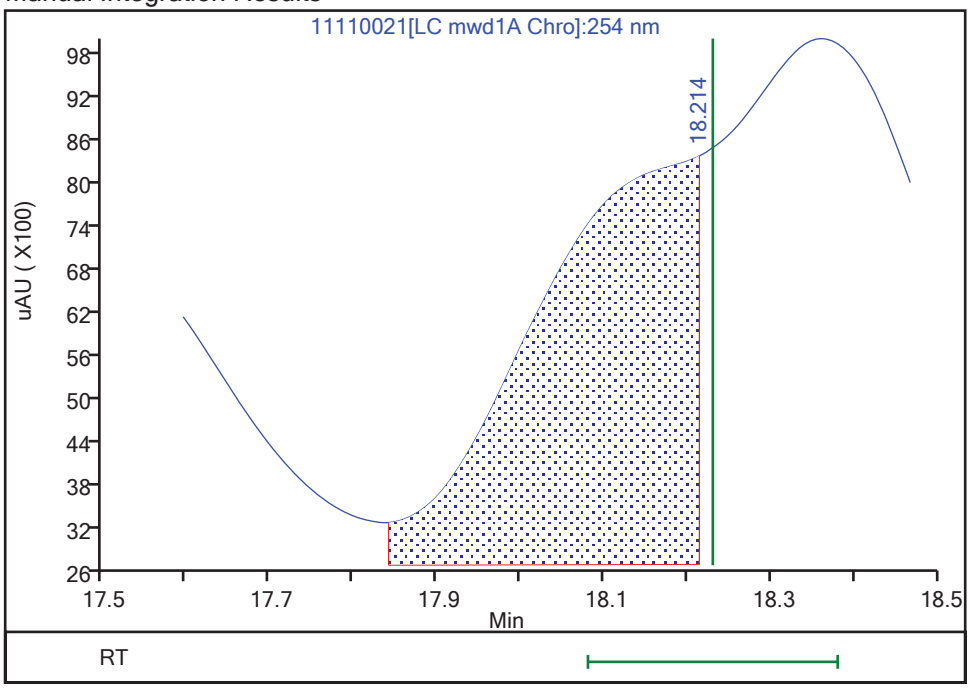
Not Detected
Expected RT: 18.23

Processing Integration Results



Manual Integration Results

RT: 18.21
Area: 74925
Amount: 0.256783
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:01:06
Audit Action: Manually Integrated/Assigned Compound ID Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

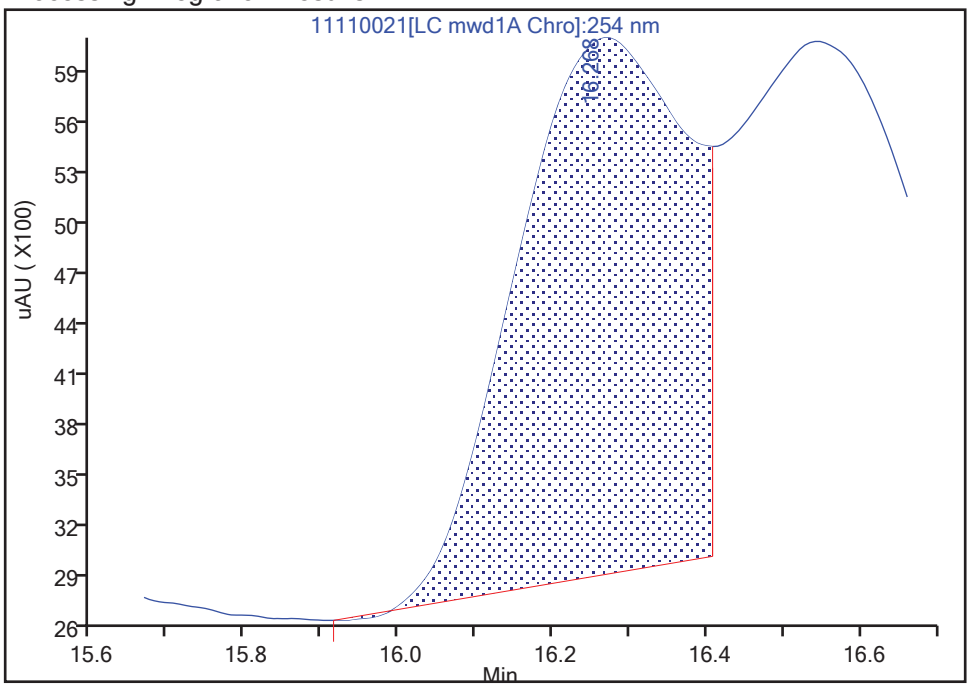
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

14 o-Nitrotoluene, CAS: 88-72-2

Signal: 1

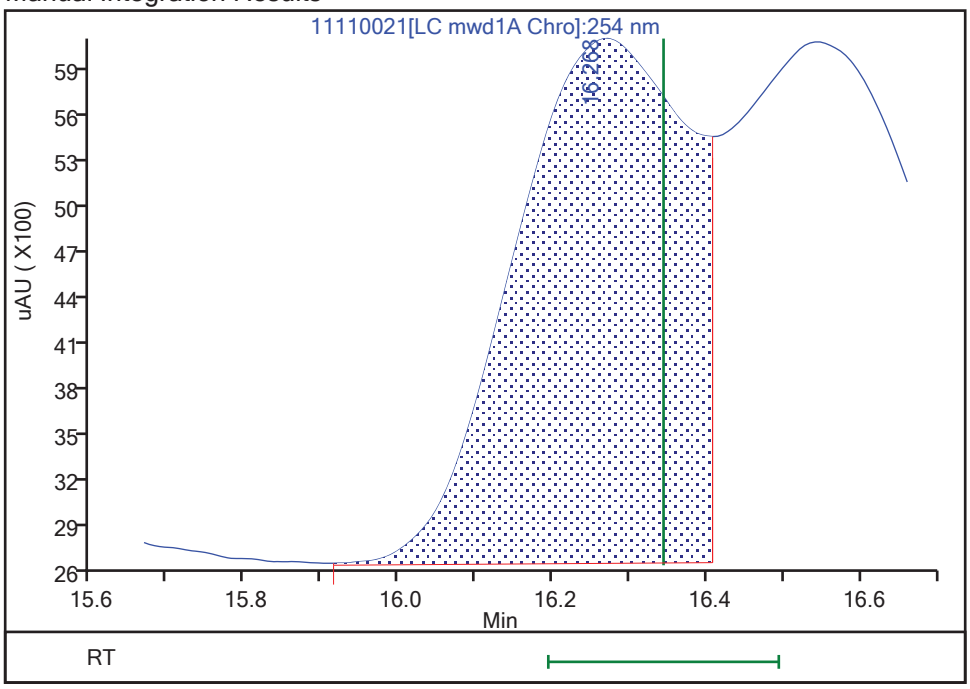
Processing Integration Results

RT: 16.27
Area: 48502
Amount: 0.223409
Amount Units: ug/ml



Manual Integration Results

RT: 16.27
Area: 54200
Amount: 0.249655
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:59
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

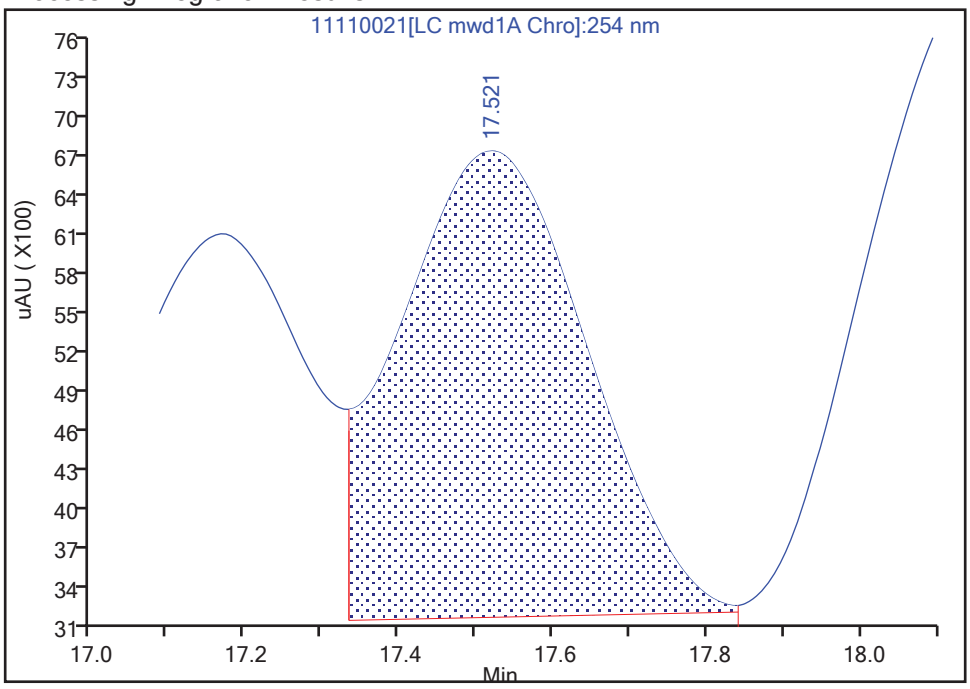
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

18 m-Nitrotoluene, CAS: 99-08-1

Signal: 1

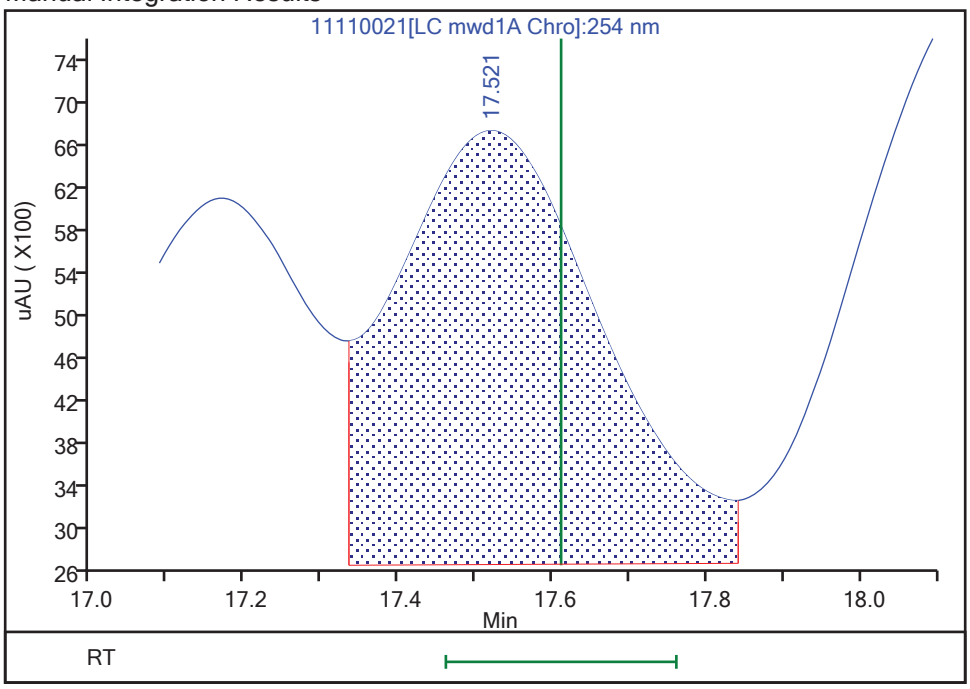
Processing Integration Results

RT: 17.52
Area: 59815
Amount: 0.220279
Amount Units: ug/ml



Manual Integration Results

RT: 17.52
Area: 75425
Amount: 0.277765
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:59
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

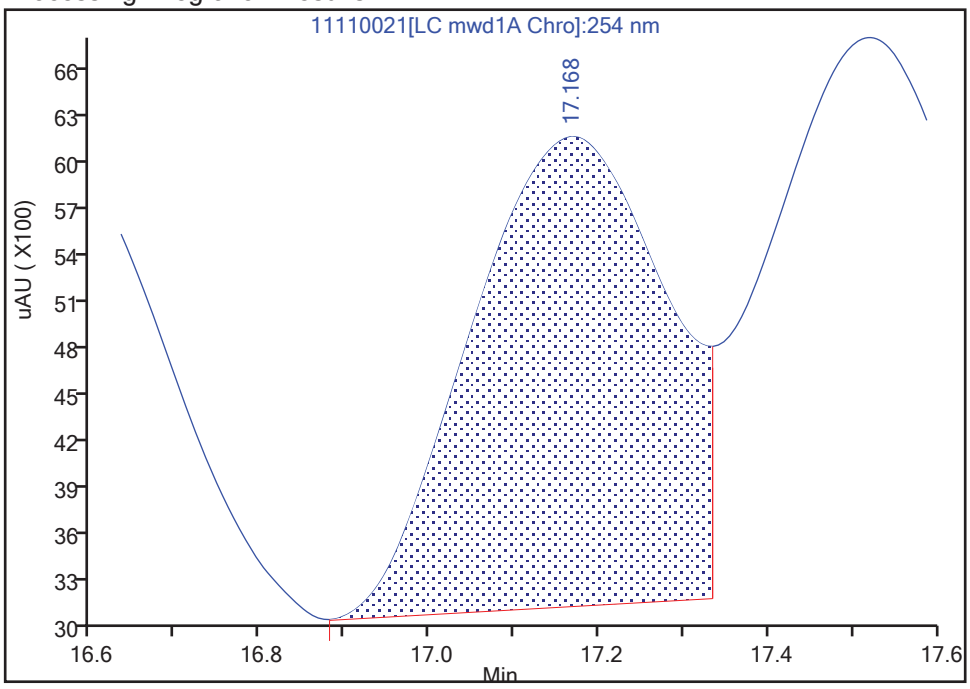
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

17 4-Amino-2,6-dinitrotoluene, CAS: 19406-51-0

Signal: 1

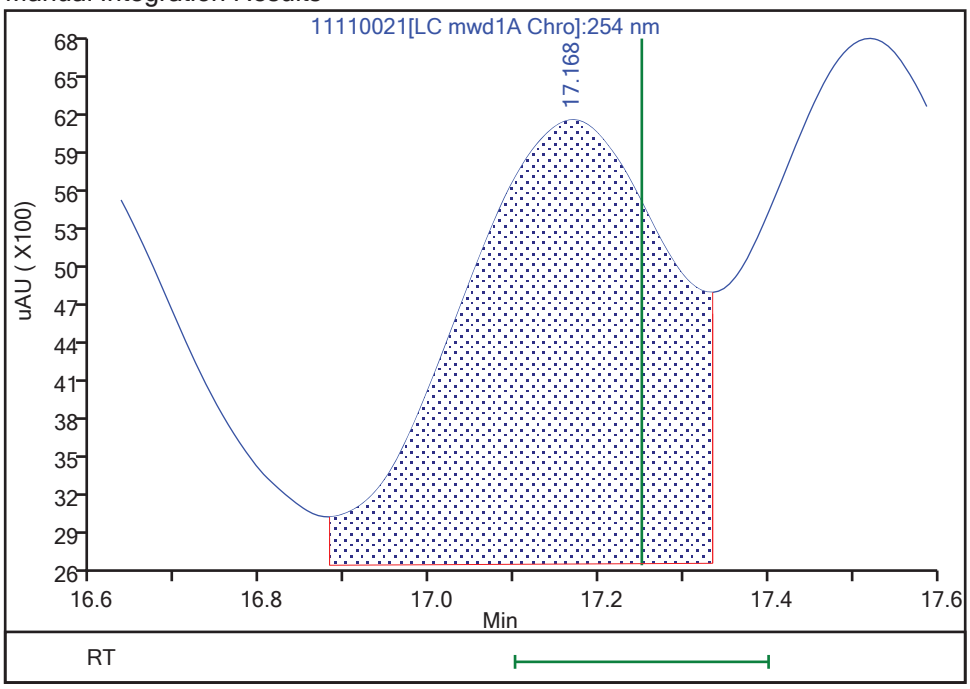
Processing Integration Results

RT: 17.17
Area: 47590
Amount: 0.195426
Amount Units: ug/ml



Manual Integration Results

RT: 17.17
Area: 59273
Amount: 0.243402
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:59
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

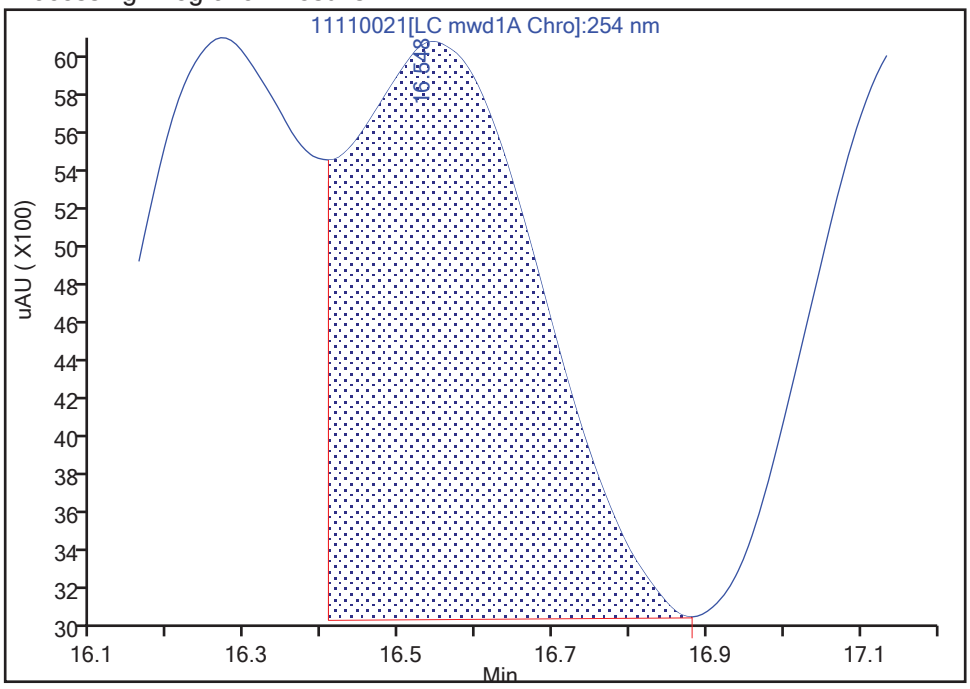
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

16 p-Nitrotoluene, CAS: 99-99-0

Signal: 1

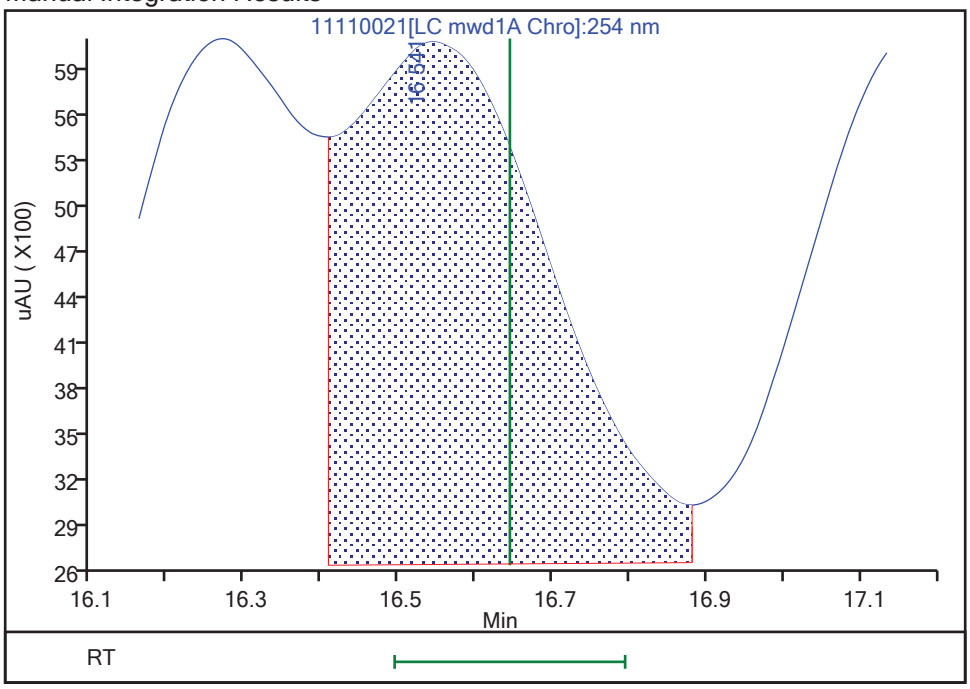
Processing Integration Results

RT: 16.55
Area: 51344
Amount: 0.228521
Amount Units: ug/ml



Manual Integration Results

RT: 16.54
Area: 61852
Amount: 0.275290
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:00:59

Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

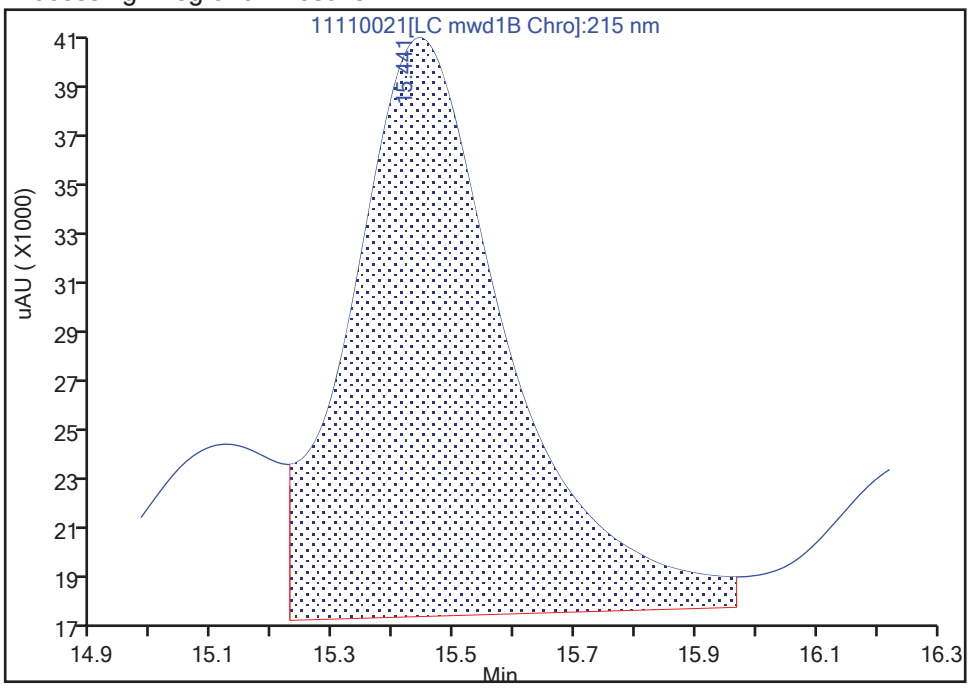
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

13 Nitroglycerin, CAS: 55-63-0

Signal: 1

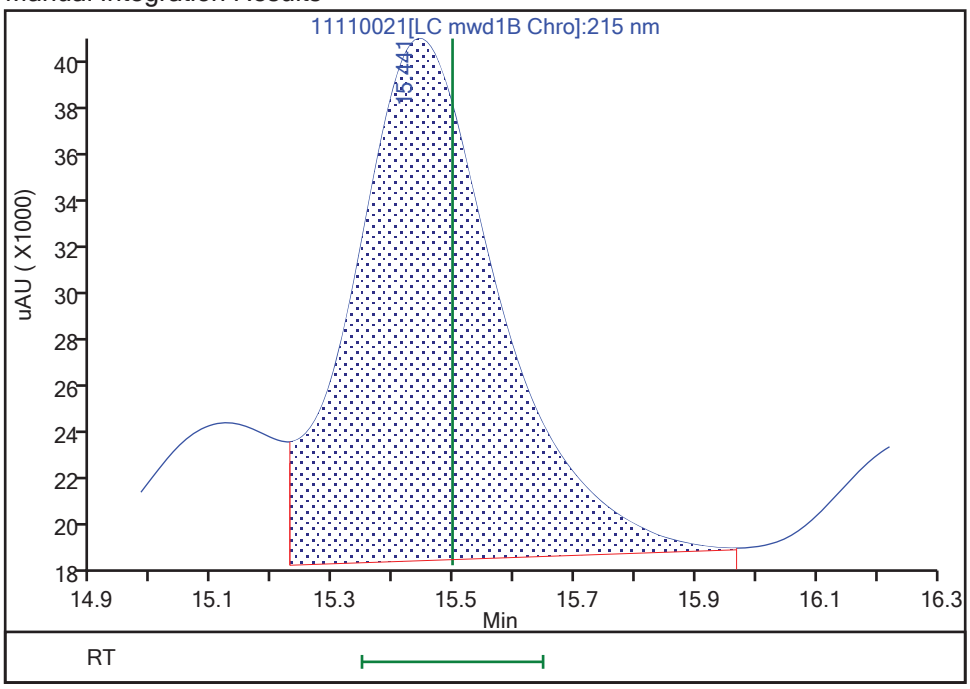
Processing Integration Results

RT: 15.44
Area: 409088
Amount: 3.184770
Amount Units: ug/ml



Manual Integration Results

RT: 15.44
Area: 362224
Amount: 2.819931
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:01:40
Audit Action: Assigned New Baseline Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

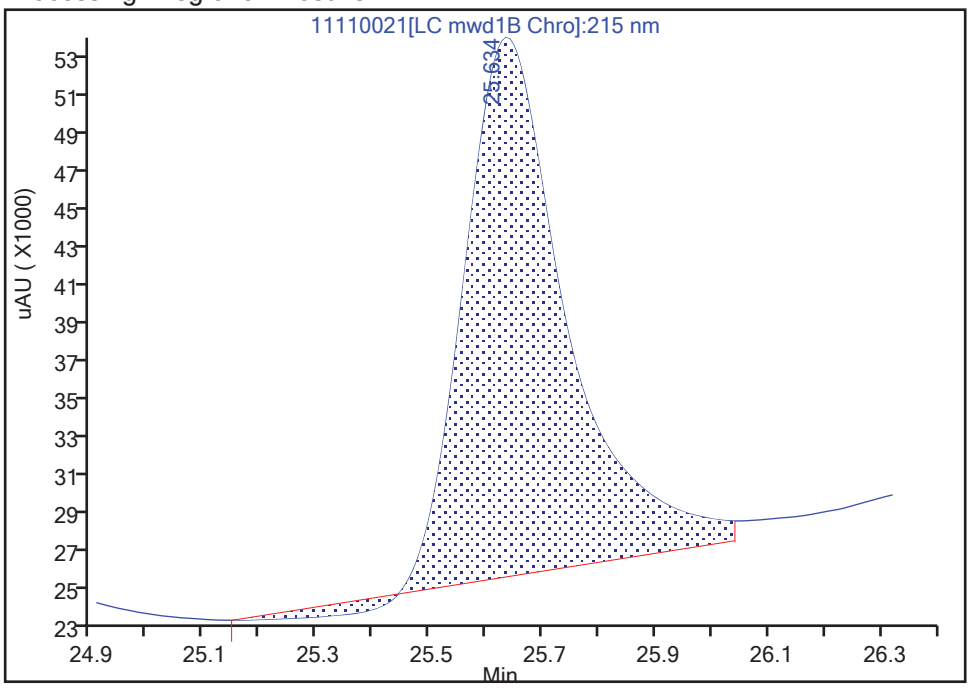
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1B, 215 nm		

25 PETN, CAS: 78-11-5

Signal: 1

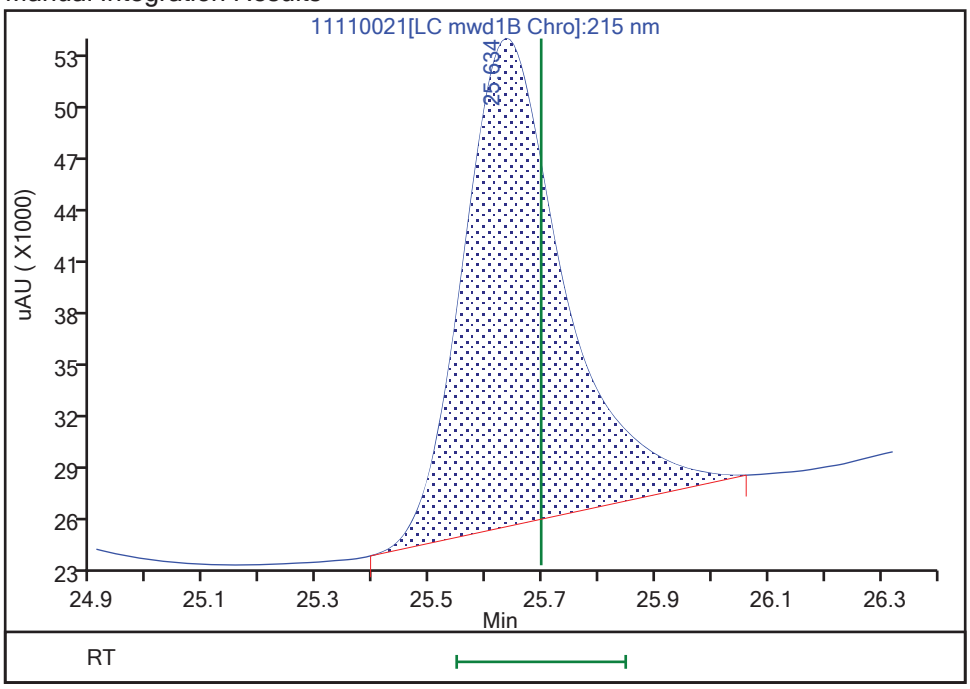
Processing Integration Results

RT: 25.63
Area: 344578
Amount: 2.665448
Amount Units: ug/ml



Manual Integration Results

RT: 25.63
Area: 344861
Amount: 2.667619
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:01:34

Audit Action: Manually Integrated Audit Reason: Baseline Smoothing

Manual Integration/User Assign Peak Report

Eurofins Denver

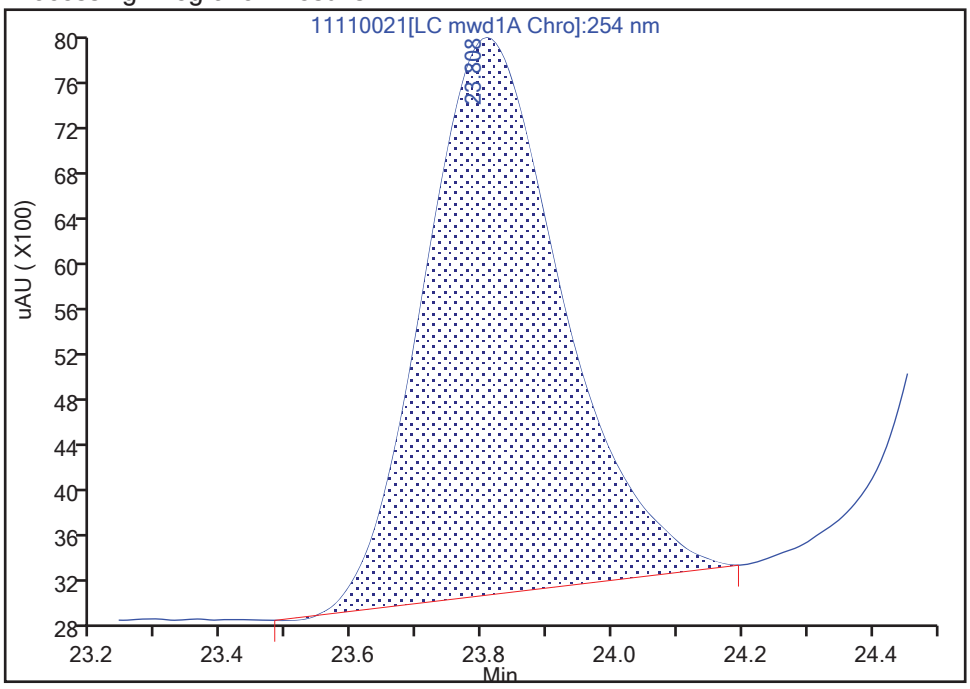
Data File:	\\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110021.D				
Injection Date:	11-Nov-2022 22:50:40	Instrument ID:	CHHPLC_X5		
Lims ID:	280-168718-B-9-H MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	JZ	ALS Bottle#:	21	Worklist Smp#:	21
Injection Vol:	100.0 ul	Dil. Factor:	1.0000		
Method:	8330_X5_Luna	Limit Group:	GCSV - 8330		
Column:	Luna-Phenyl hexyl (4.60 mm)	Detector	LC mwd1A, 254 nm		

23 Tetryl, CAS: 479-45-8

Signal: 1

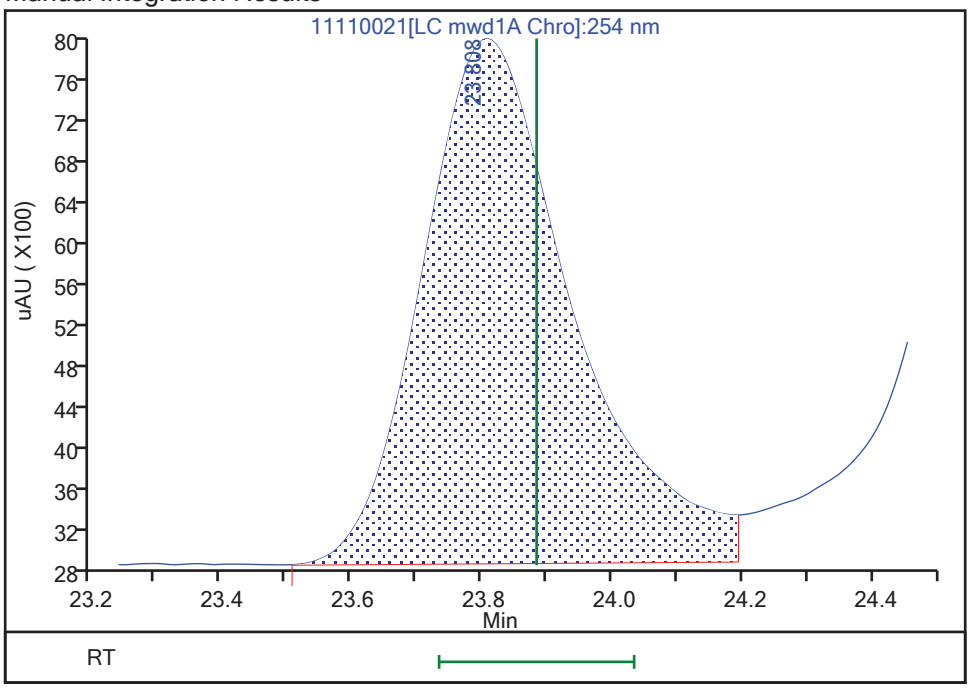
Processing Integration Results

RT: 23.81
Area: 72100
Amount: 0.235573
Amount Units: ug/ml



Manual Integration Results

RT: 23.81
Area: 81938
Amount: 0.267716
Amount Units: ug/ml



Reviewer: LV5D, 12-Nov-2022 11:01:27

Audit Action: Split an Integrated Peak Audit Reason: Baseline Smoothing

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 DU | Lab Sample ID: 280-168718-9 DU

Matrix: Solid | Lab File ID: 11100054.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.4412(g) | Date Analyzed: 11/11/2022 07:06

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	38	U	96	38	13
118-96-7	2,4,6-Trinitrotoluene	67	U	96	67	29
618-87-1	3,5-Dinitroaniline	19	U	96	19	8.6
121-14-2	2,4-Dinitrotoluene	38	U	96	38	14
606-20-2	2,6-Dinitrotoluene	38	U	96	38	18
35572-78-2	2-Amino-4,6-dinitrotoluene	67	U	96	67	32
88-72-2	2-Nitrotoluene	96	U	190	96	45
99-08-1	3-Nitrotoluene	140	U	190	140	61
19406-51-0	4-Amino-2,6-dinitrotoluene	67	U	96	67	29
99-99-0	4-Nitrotoluene	96	U	190	96	35
98-95-3	Nitrobenzene	190	U	290	190	81
55-63-0	Nitroglycerin	670	U	1900	670	210
2691-41-0	HMX	67	U	96	67	22
78-11-5	PETN	960	U	1900	960	470
88-89-1	Picric acid	96	U	96	96	54
121-82-4	RDX	96	U	190	96	41
479-45-8	Tetryl	96	U	190	96	42
6629-29-4	2,4-diamino-6-nitrotoluene	960	U	1900	960	500
59229-75-3	2,6-diamino-4-nitrotoluene	960	U M	1900	960	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

Report Date: 11-Nov-2022 12:25:39 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100054.D
Lims ID: 280-168718-B-9-I DU
Client ID:
Sample Type: DU
Inject. Date: 11-Nov-2022 07:06:39 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-I DU
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:08

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 Triamine Trinitrobenzene	1		2.447				ND	
	2 2,6-diamino-4-nitrotoluene	1		6.452				ND	U
	3 TNX	1		6.463				ND	
	4 HMX	1		6.571				ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632				ND	
	6 DNX	1		6.776				ND	
	7 MNX	1		7.196				ND	
	8 RDX	1		7.558				ND	
	9 2,4,6-Trinitrophenol	1		7.878				ND	
$	10 1,2-Dinitrobenzene	1	8.493	8.505	-0.012	35202	0.2500	0.2797	
	11 1,3,5-Trinitrobenzene	1		8.625				ND	
	12 1,3-Dinitrobenzene	1	9.220	9.244	-0.024	10124		0.0348	
	13 Nitrobenzene	1		9.638				ND	
	14 3,5-Dinitroaniline	1		9.832				ND	
	15 Tetryl	1		9.944				ND	
	16 Nitroglycerin	2		10.404				ND	
	17 2,4,6-Trinitrotoluene	1		10.851				ND	
	18 4-Amino-2,6-dinitrotoluene	1		11.024				ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271				ND	
	20 2,6-Dinitrotoluene	1		11.458				ND	
	21 2,4-Dinitrotoluene	1		11.624				ND	
	22 o-Nitrotoluene	1		12.478				ND	
	23 p-Nitrotoluene	1		12.898				ND	
	24 m-Nitrotoluene	1		13.464				ND	
	25 PETN	2		14.518				ND	
	26 Ammonium Picrate	1		0.000				ND	

QC Flag Legend
Processing Flags

Review Flags
U - Marked Undetected

Report Date: 11-Nov-2022 12:25:39 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100054.d

Injection Date: 11-Nov-2022 07:06:39 Instrument ID: CHHPLC_X3 Operator ID:

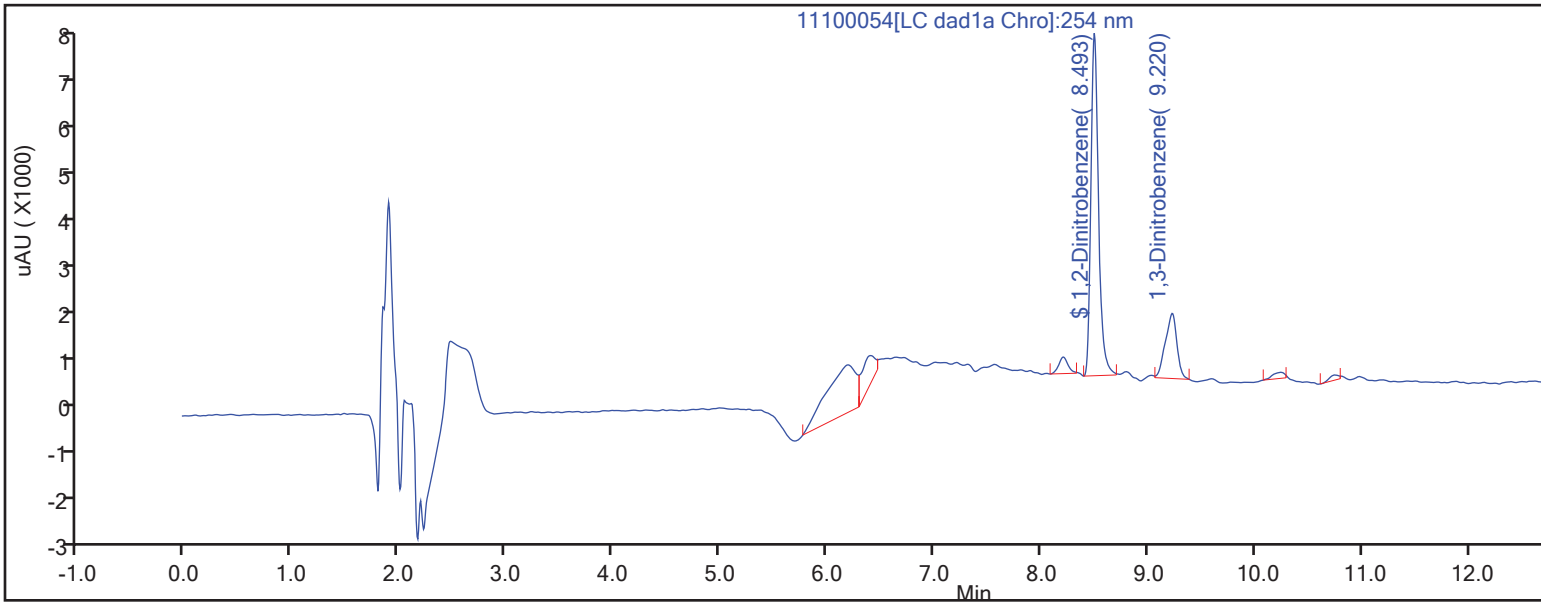
Lims ID: 280-168718-B-9-I DU Worklist Smp#:

Client ID:

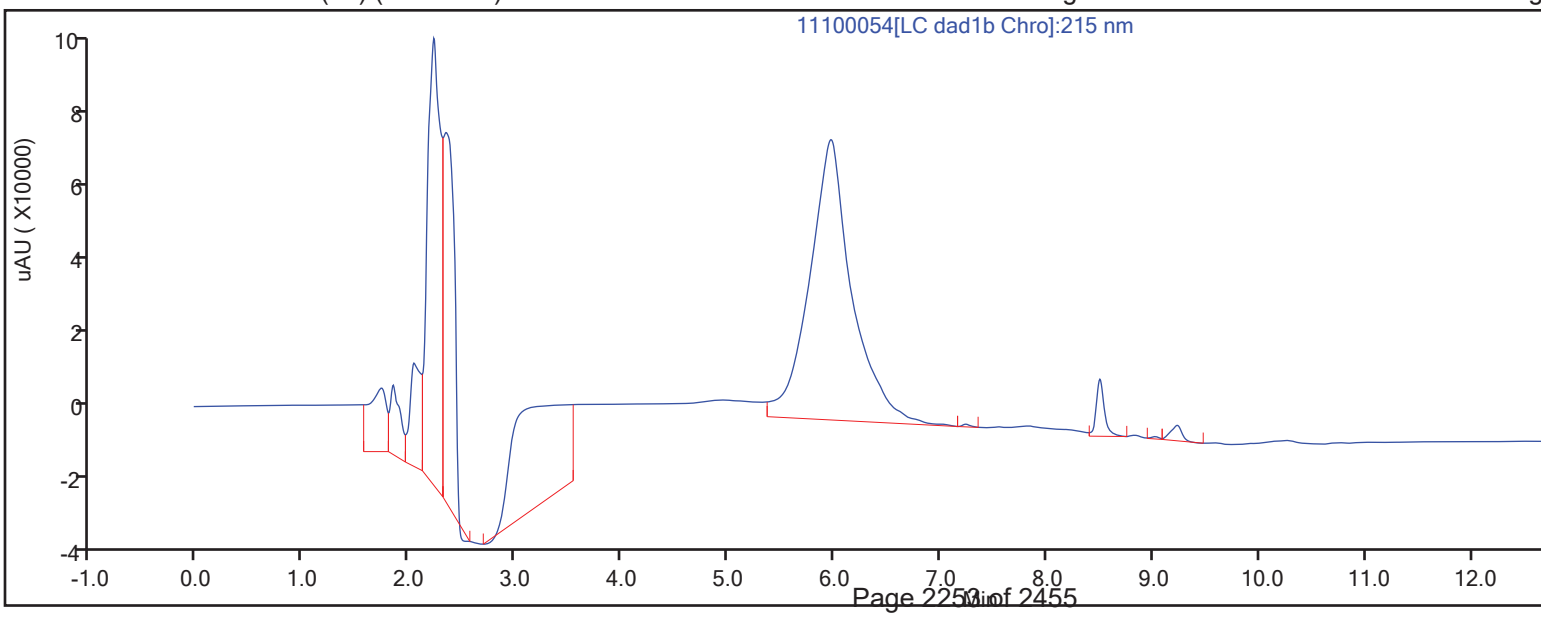
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100054.D
Lims ID: 280-168718-B-9-I DU
Client ID:
Sample Type: DU
Inject. Date: 11-Nov-2022 07:06:39 ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-I DU
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:08

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2797	111.89

User Disabled Compound Report

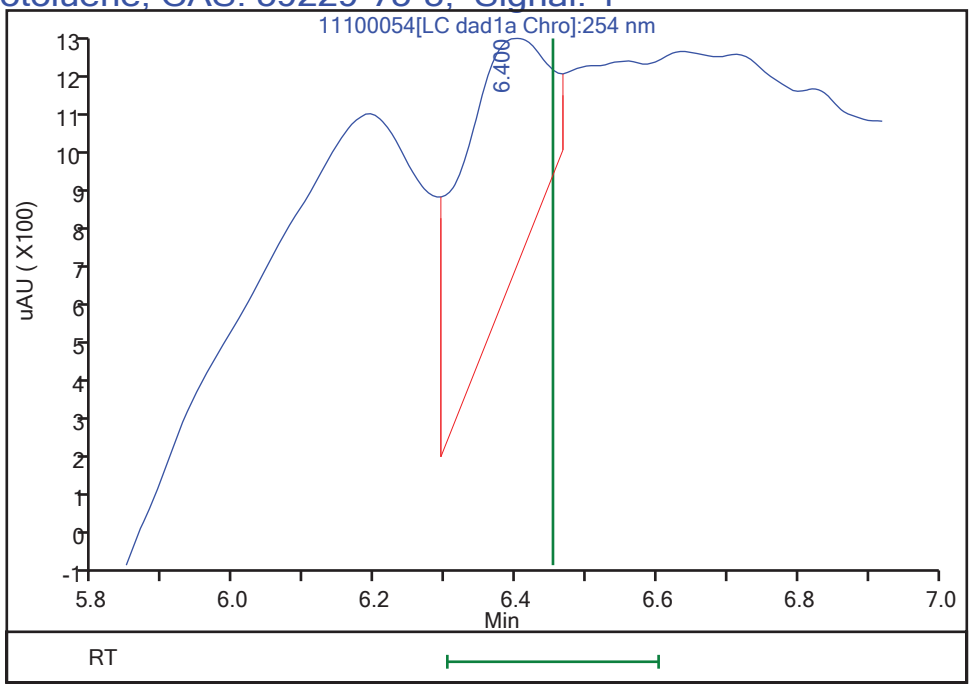
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100054.d
Injection Date: 11-Nov-2022 07:06:39 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-9-I DU
Client ID:
Operator ID: JZ ALS Bottle#: 54 Worklist Smp#: 54
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.40
Response: 5604
Amount: 0.026090



Reviewer: LV5D, 11-Nov-2022 12:20:08
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 DU | Lab Sample ID: 280-168718-9 DU

Matrix: Solid | Lab File ID: 11110022.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.4412(g) | Date Analyzed: 11/11/2022 23:25

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	38	U	96	38	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	107		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110022.D
Lims ID: 280-168718-B-9-I DU
Client ID:
Sample Type: DU
Inject. Date: 11-Nov-2022 23:25:33 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-I DU
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:58

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 2,6-diamino-4-nitrotoluene	1		4.104				ND	7
2 2,4-diamino-6-nitrotoluene	1		4.617				ND	
3 TNX	1		5.040				ND	
4 DNX	1		5.853				ND	
5 HMX	1		6.657				ND	
6 MNX	1		7.373				ND	U
7 2,4,6-Trinitrophenol	1		7.904				ND	
8 RDX	1		8.757				ND	
9 Nitrobenzene	1		11.684				ND	
$ 10 1,2-Dinitrobenzene	1	12.811	12.837	-0.026	68263	0.2500	0.2682	
11 3,5-Dinitroaniline	1		14.797				ND	
12 1,3-Dinitrobenzene	1		15.177				ND	
13 Nitroglycerin	2		15.497				ND	U
14 o-Nitrotoluene	1		16.344				ND	
16 p-Nitrotoluene	1		16.644				ND	
15 Triamine Trinitrobenzene	1		16.839				ND	
17 4-Amino-2,6-dinitrotoluene	1		17.250				ND	
18 m-Nitrotoluene	1		17.610				ND	
19 2-Amino-4,6-dinitrotoluene	1		18.230				ND	
20 1,3,5-Trinitrobenzene	1		18.437				ND	
21 2,6-Dinitrotoluene	1		19.724				ND	
22 2,4-Dinitrotoluene	1		20.230				ND	
23 Tetryl	1		23.884				ND	
24 2,4,6-Trinitrotoluene	1		24.684				ND	
25 PETN	2		25.697				ND	
26 Ammonium Picrate	1		0.000				ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Review Flags
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:52 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110022.D

Injection Date: 11-Nov-2022 23:25:33 Instrument ID: CHHPLC_X5 Operator ID:

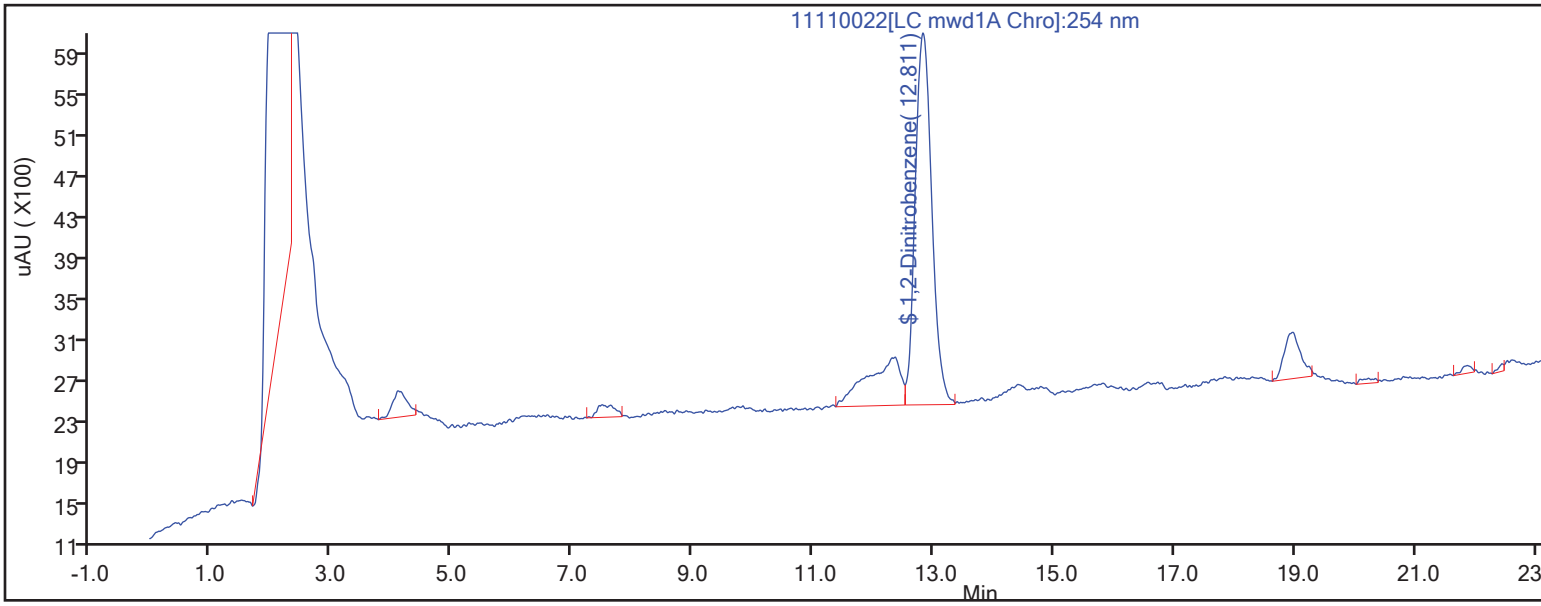
Lims ID: 280-168718-B-9-I DU Worklist Smp#:

Client ID:

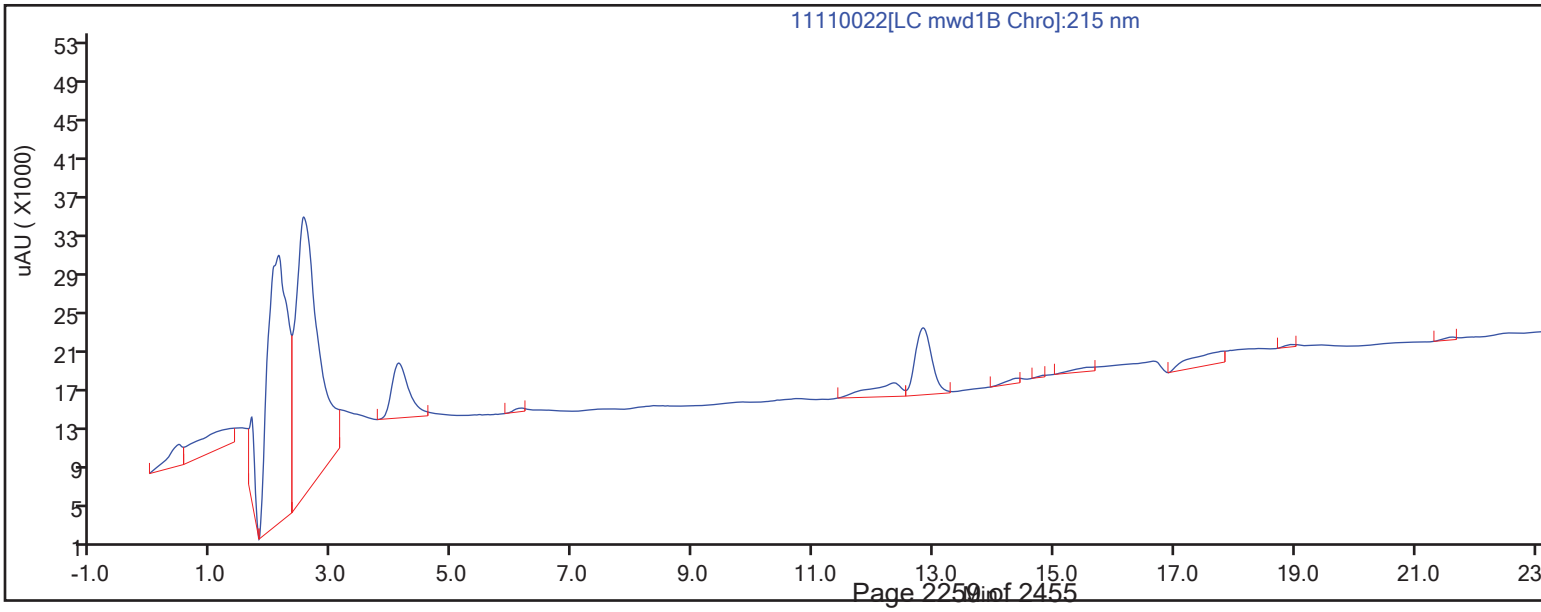
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110022.D
Lims ID: 280-168718-B-9-I DU
Client ID:
Sample Type: DU
Inject. Date: 11-Nov-2022 23:25:33 ALS Bottle#: 22 Worklist Smp#: 22
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-I DU
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 10:59:58

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2682	107.29

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 TRL | Lab Sample ID: 280-168718-9 TRL

Matrix: Solid | Lab File ID: 11100055.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.6374(g) | Date Analyzed: 11/11/2022 07:29

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	38	U	94	38	13
118-96-7	2,4,6-Trinitrotoluene	66	U	94	66	29
618-87-1	3,5-Dinitroaniline	19	U	94	19	8.5
121-14-2	2,4-Dinitrotoluene	38	U	94	38	14
606-20-2	2,6-Dinitrotoluene	38	U	94	38	18
35572-78-2	2-Amino-4,6-dinitrotoluene	66	U	94	66	31
88-72-2	2-Nitrotoluene	94	U	190	94	44
99-08-1	3-Nitrotoluene	140	U	190	140	60
19406-51-0	4-Amino-2,6-dinitrotoluene	66	U	94	66	28
99-99-0	4-Nitrotoluene	94	U	190	94	34
98-95-3	Nitrobenzene	190	U	280	190	80
55-63-0	Nitroglycerin	660	U M	1900	660	200
2691-41-0	HMX	66	U	94	66	21
78-11-5	PETN	940	U	1900	940	460
88-89-1	Picric acid	94	U	94	94	53
121-82-4	RDX	94	U	190	94	40
479-45-8	Tetryl	94	U	190	94	41
6629-29-4	2,4-diamino-6-nitrotoluene	940	U	1900	940	490
59229-75-3	2,6-diamino-4-nitrotoluene	940	U M	1900	940	310

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	108		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100055.D
Lims ID: 280-168718-B-9-J TRL
Client ID:
Sample Type: TRL
Inject. Date: 11-Nov-2022 07:29:39 ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-J TRL
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:26

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
	1 Triamine Trinitrobenzene	1		2.447				ND	
	2 2,6-diamino-4-nitrotoluene	1		6.452				ND	U
	3 TNX	1		6.463				ND	
	4 HMX	1		6.571				ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632				ND	
	6 DNX	1		6.776				ND	
	7 MNX	1		7.196				ND	
	8 RDX	1		7.558				ND	
	9 2,4,6-Trinitrophenol	1		7.878				ND	
$	10 1,2-Dinitrobenzene	1	8.490	8.505	-0.015	34024	0.2500	0.2704	
	11 1,3,5-Trinitrobenzene	1		8.625				ND	
	12 1,3-Dinitrobenzene	1	9.216	9.244	-0.028	9673		0.0333	
	13 Nitrobenzene	1		9.638				ND	
	14 3,5-Dinitroaniline	1		9.832				ND	
	15 Tetryl	1		9.944				ND	
	16 Nitroglycerin	2		10.404				ND	U
	17 2,4,6-Trinitrotoluene	1		10.851				ND	7
	18 4-Amino-2,6-dinitrotoluene	1		11.024				ND	
	19 2-Amino-4,6-dinitrotoluene	1		11.271				ND	
	20 2,6-Dinitrotoluene	1		11.458				ND	
	21 2,4-Dinitrotoluene	1		11.624				ND	
	22 o-Nitrotoluene	1		12.478				ND	
	23 p-Nitrotoluene	1		12.898				ND	
	24 m-Nitrotoluene	1		13.464				ND	
	25 PETN	2		14.518				ND	
	26 Ammonium Picrate	1		0.000				ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Review Flags
U - Marked Undetected

Report Date: 11-Nov-2022 12:25:37 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100055.d

Injection Date: 11-Nov-2022 07:29:39 Instrument ID: CHHPLC_X3 Operator ID:

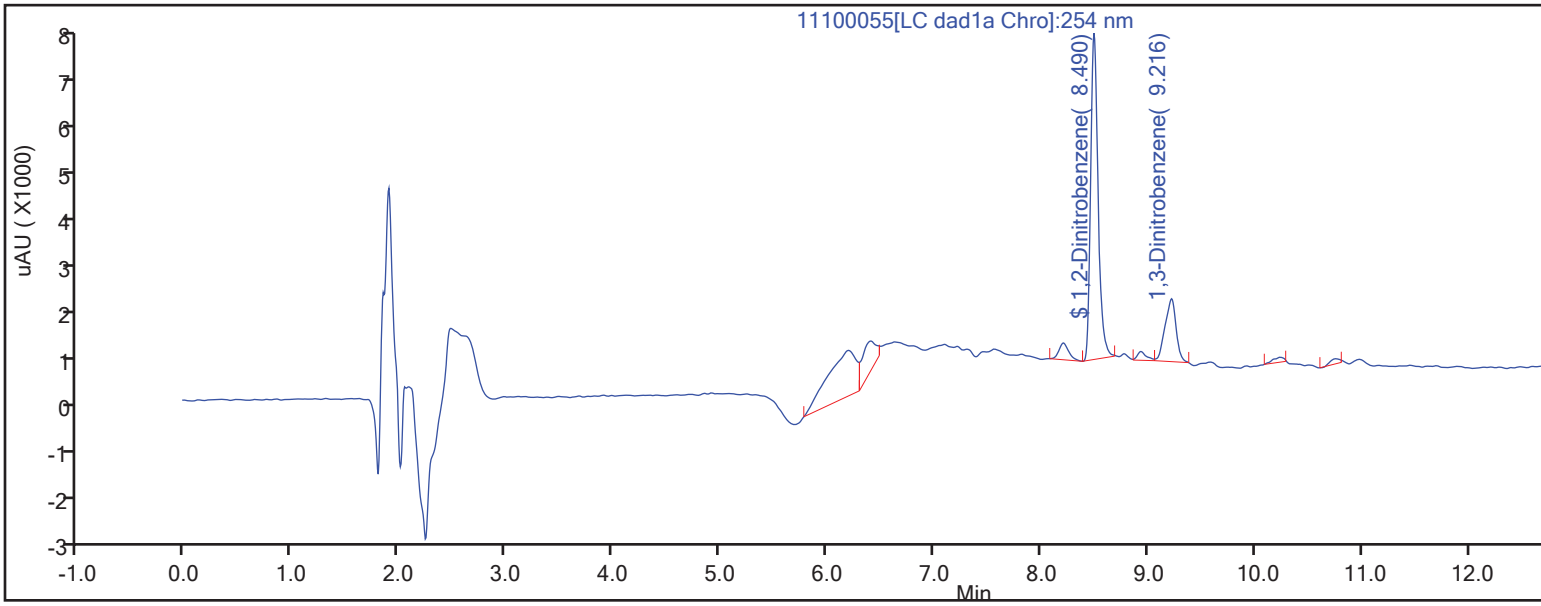
Lims ID: 280-168718-B-9-J TRL Worklist Smp#:

Client ID:

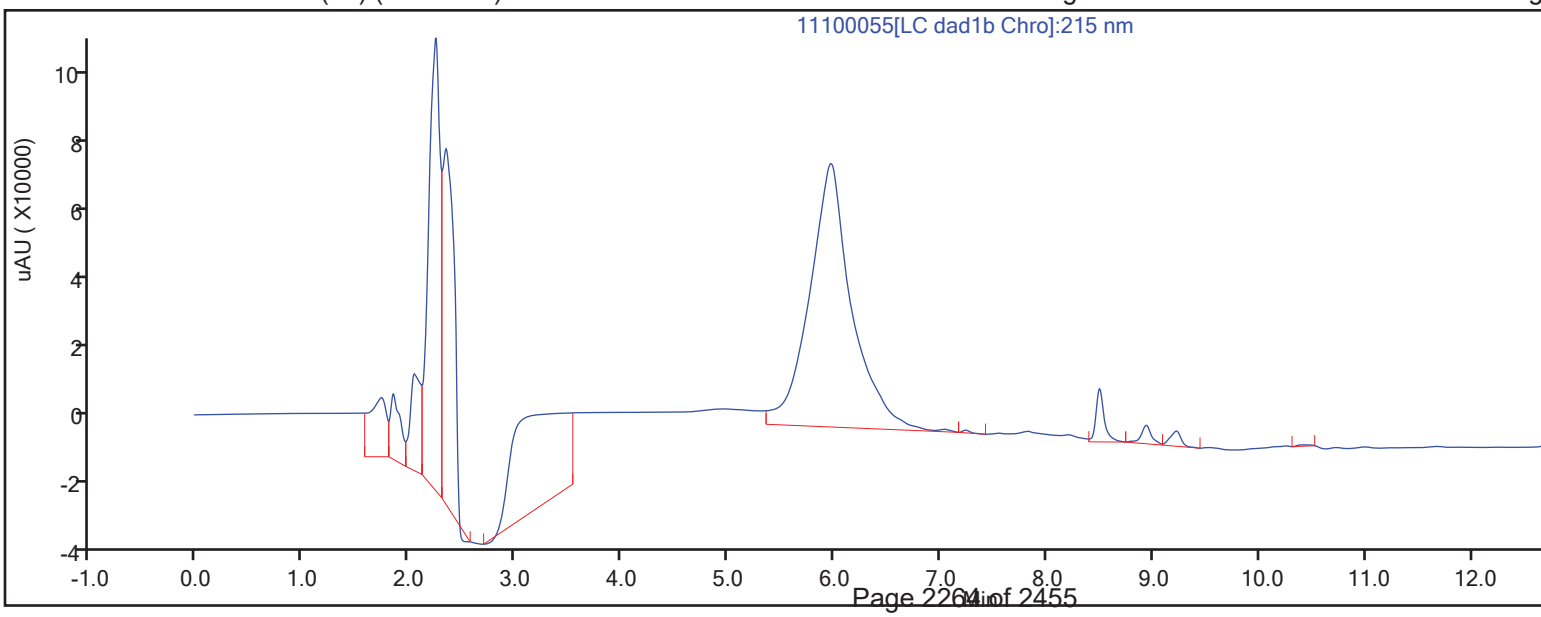
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: UltraCarb5uODS (20) (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Report Date: 11-Nov-2022 12:25:37 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100055.D
Lims ID: 280-168718-B-9-J TRL
Client ID:
Sample Type: TRL
Inject. Date: 11-Nov-2022 07:29:39 ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-J TRL
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:31 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:20:26

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2704	108.15

User Disabled Compound Report

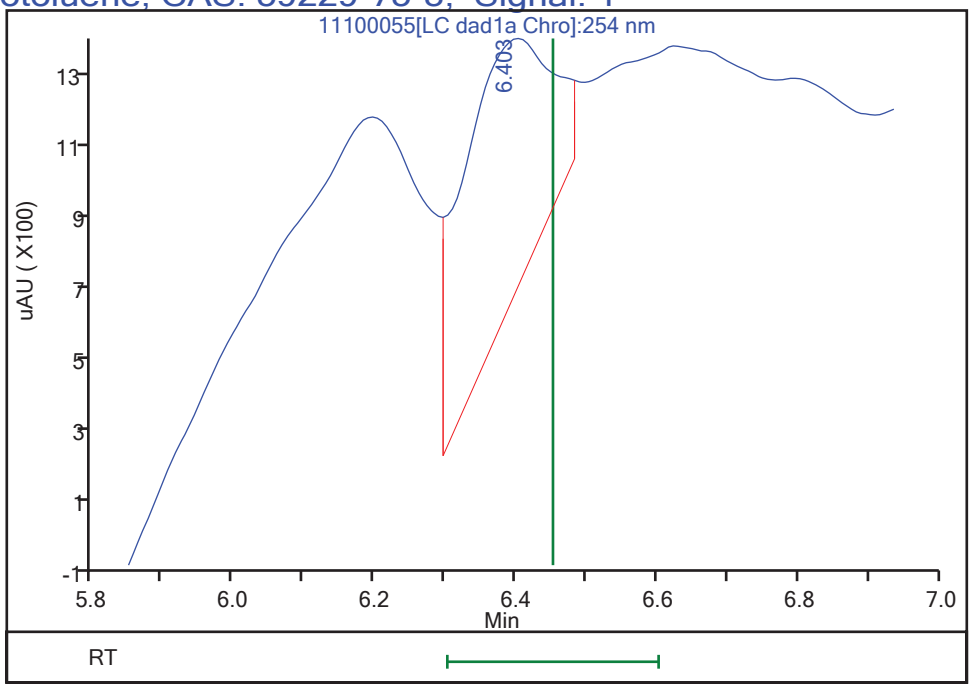
Eurofins Denver

Data File: \\chromfs\denver\chromdata\chhplc_x\20221110-115986.b\11100055.d
Injection Date: 11-Nov-2022 07:29:39 Instrument ID: CHHPLC_X3
Lims ID: 280-168718-B-9-J TRL
Client ID:
Operator ID: JZ ALS Bottle#: 55 Worklist Smp#: 55
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Method: 8330_X3 Limit Group: GCSV - 8330

Column: UltraCarb5uODS (20) (4.60 mm) Detector LC DAD1B, 254 nm

2 2,6-diamino-4-nitrotoluene, CAS: 59229-75-3, Signal: 1

RT: 6.40
Response: 6107
Amount: 0.028431



Reviewer: LV5D, 11-Nov-2022 12:20:26
Audit Action: Marked Compound Undetected Audit Reason: Invalid Compound ID

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 TRL | Lab Sample ID: 280-168718-9 TRL

Matrix: Solid | Lab File ID: 11110023.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.6374(g) | Date Analyzed: 11/12/2022 00:00

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	38	U	94	38	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		78-119

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110023.D
Lims ID: 280-168718-B-9-J TRL
Client ID:
Sample Type: TRL
Inject. Date: 12-Nov-2022 00:00:28 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-J TRL
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:00:02

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
1 2,6-diamino-4-nitrotoluene	1		4.104				ND	7
2 2,4-diamino-6-nitrotoluene	1		4.617				ND	
3 TNX	1		5.040				ND	
4 DNX	1		5.853				ND	
5 HMX	1		6.657				ND	
6 MNX	1		7.373				ND	
7 2,4,6-Trinitrophenol	1		7.904				ND	
8 RDX	1		8.757				ND	
9 Nitrobenzene	1		11.684				ND	
$ 10 1,2-Dinitrobenzene	1	12.853	12.837	0.016	65574	0.2500	0.2577	
11 3,5-Dinitroaniline	1		14.797				ND	
12 1,3-Dinitrobenzene	1		15.177				ND	
13 Nitroglycerin	2		15.497				ND	U
14 o-Nitrotoluene	1		16.344				ND	
16 p-Nitrotoluene	1		16.644				ND	
15 Triamine Trinitrobenzene	1		16.839				ND	
17 4-Amino-2,6-dinitrotoluene	1		17.250				ND	
18 m-Nitrotoluene	1		17.610				ND	
19 2-Amino-4,6-dinitrotoluene	1		18.230				ND	
20 1,3,5-Trinitrobenzene	1		18.437				ND	
21 2,6-Dinitrotoluene	1		19.724				ND	
22 2,4-Dinitrotoluene	1		20.230				ND	
23 Tetryl	1		23.884				ND	
24 2,4,6-Trinitrotoluene	1		24.684				ND	
25 PETN	2		25.697				ND	
26 Ammonium Picrate	1		0.000				ND	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection

Review Flags
U - Marked Undetected

Report Date: 12-Nov-2022 11:05:52 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110023.D

Injection Date: 12-Nov-2022 00:00:28 Instrument ID: CHHPLC_X5 Operator ID:

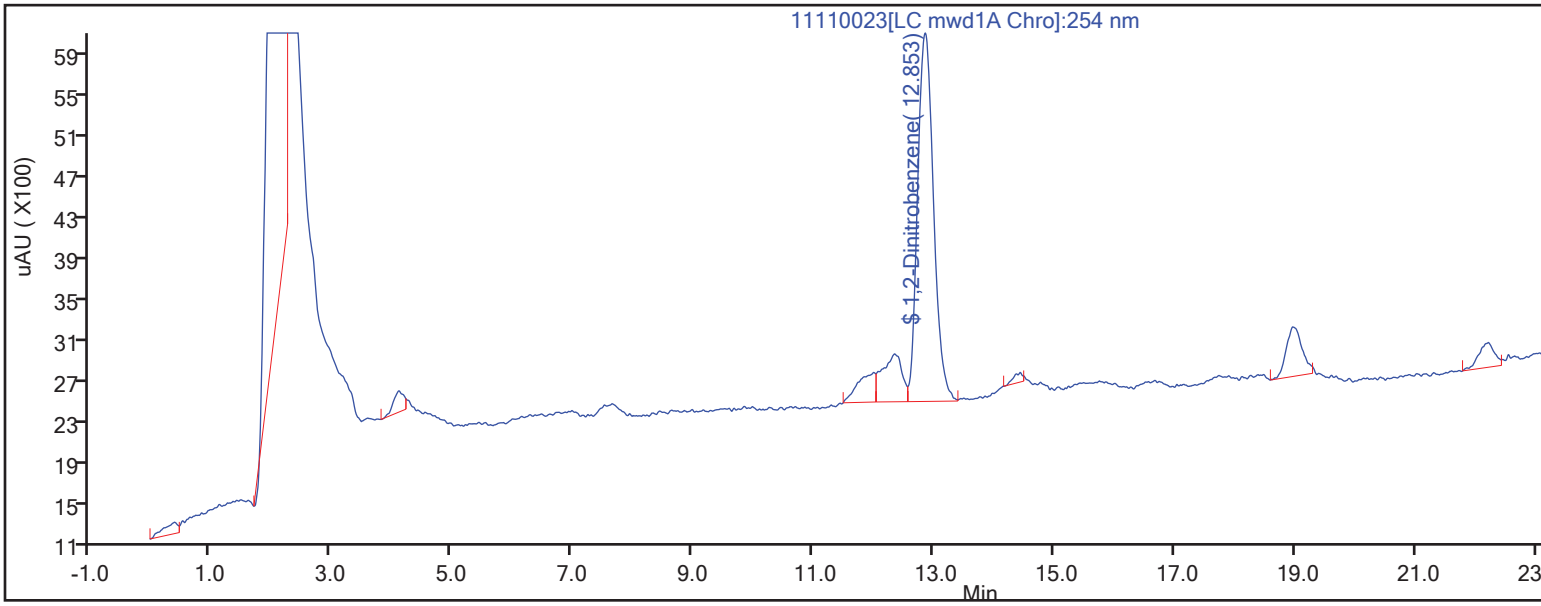
Lims ID: 280-168718-B-9-J TRL Worklist Smp#:

Client ID:

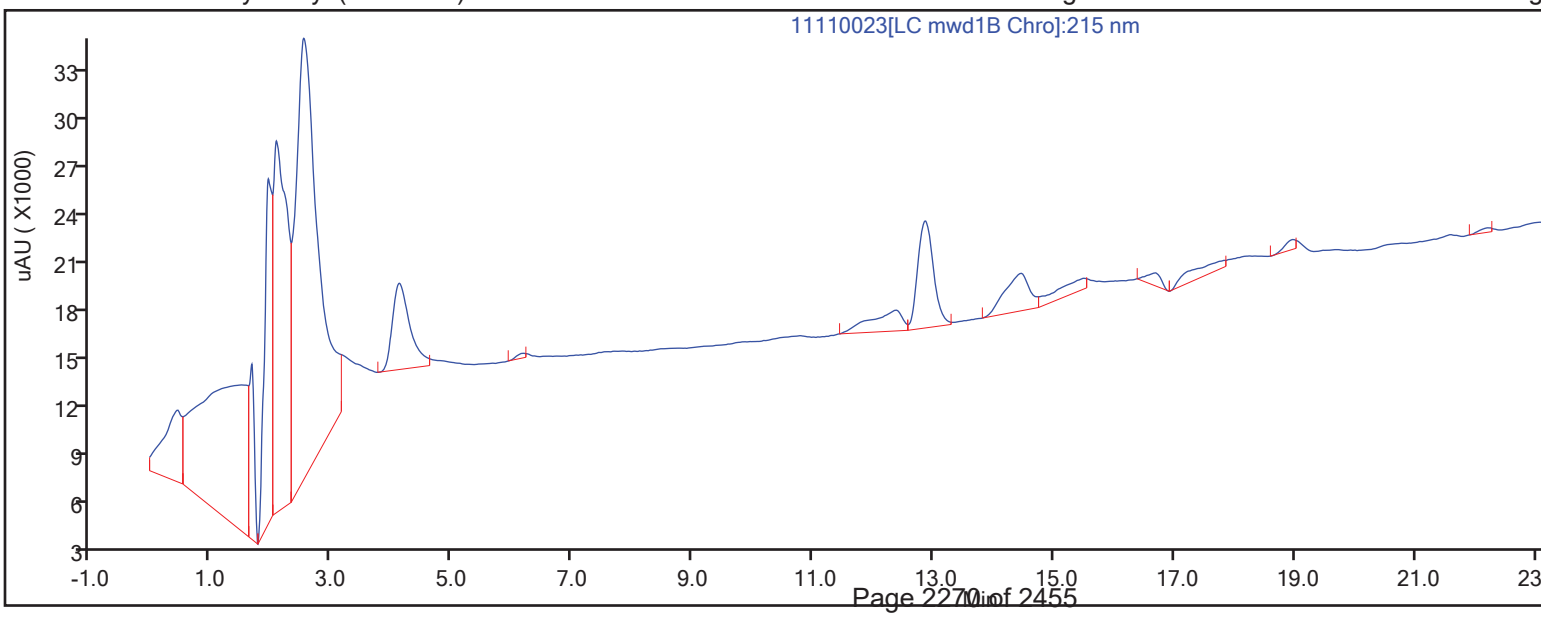
Injection Vol: 100.0 ul Dil. Factor: 1.0000 ALS Bottle#:

Method: 8330_X5_Luna Limit Group: GCSV - 8330

Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Column: Luna-Phenyl hexyl (4.60 mm) Y Scaling: Method Defined: Scale to the Nth Larg



Eurofins Denver
Recovery Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\11110023.D
Lims ID: 280-168718-B-9-J TRL
Client ID:
Sample Type: TRL
Inject. Date: 12-Nov-2022 00:00:28 ALS Bottle#: 23 Worklist Smp#: 23
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-J TRL
Operator ID: JZ Instrument ID: CHHPLC_X5

Method: \\chromfs\Denver\ChromData\CHHPLC_X5\20221111-116025.b\8330_X5_Luna.m
Limit Group: GCSV - 8330
Last Update: 12-Nov-2022 11:05:49 Calib Date: 19-Aug-2022 00:34:57
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X5\20220818-113590.b\08180024.D

Column 1 : Luna-Phenyl hexyl (4.60 mm) Det: LC mwd1A, 254 nm
Process Host: CTX1610

First Level Reviewer: LV5D Date: 12-Nov-2022 11:00:02

Compound	Amount Added	Amount Recovered	% Rec.
$ 10 1,2-Dinitrobenzene	0.2500	0.2577	103.06

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 01/04/2022 18:28

Analysis Batch Number: 562503 End Date: 01/05/2022 04:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-562503/11		01/04/2022 18:28	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/12		01/04/2022 18:51	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/13		01/04/2022 19:13	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/14		01/04/2022 19:36	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/15		01/04/2022 19:59	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/16		01/04/2022 20:22	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/17		01/04/2022 20:45	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/18		01/04/2022 21:08	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/19		01/04/2022 21:31	1		UltraCarb5uODS 4.6(mm)
ICV 280-562503/20		01/04/2022 21:54	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/21		01/04/2022 22:17	1	01040021.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/22		01/04/2022 22:40	1	01040022.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/23		01/04/2022 23:03	1	01040023.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/24		01/04/2022 23:26	1	01040024.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/25		01/04/2022 23:49	1	01040025.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/26		01/05/2022 00:11	1	01040026.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/27		01/05/2022 00:34	1	01040027.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/28		01/05/2022 00:57	1	01040028.D	UltraCarb5uODS 4.6(mm)
ICV 280-562503/29		01/05/2022 01:20	1	01040029.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/30		01/05/2022 01:43	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/31		01/05/2022 02:06	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/32		01/05/2022 02:29	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/33		01/05/2022 02:52	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/34		01/05/2022 03:15	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/35		01/05/2022 03:38	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/36		01/05/2022 04:01	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/37		01/05/2022 04:24	1		UltraCarb5uODS 4.6(mm)
ICV 280-562503/38		01/05/2022 04:47	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X5 Start Date: 03/02/2022 21:22

Analysis Batch Number: 567560 End Date: 03/03/2022 07:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-567560/10		03/02/2022 21:22	1	03020010.D	Luna-phenylhex 4.6(mm)
IC 280-567560/11		03/02/2022 21:57	1	03020011.D	Luna-phenylhex 4.6(mm)
IC 280-567560/12		03/02/2022 22:32	1	03020012.D	Luna-phenylhex 4.6(mm)
IC 280-567560/13		03/02/2022 23:07	1	03020013.D	Luna-phenylhex 4.6(mm)
IC 280-567560/14		03/02/2022 23:42	1	03020014.D	Luna-phenylhex 4.6(mm)
IC 280-567560/15		03/03/2022 00:17	1	03020015.D	Luna-phenylhex 4.6(mm)
IC 280-567560/16		03/03/2022 00:53	1	03020016.D	Luna-phenylhex 4.6(mm)
IC 280-567560/17		03/03/2022 01:28	1	03020017.D	Luna-phenylhex 4.6(mm)
IC 280-567560/18		03/03/2022 02:03	1	03020018.D	Luna-phenylhex 4.6(mm)
ICV 280-567560/19		03/03/2022 02:38	1	03020019.D	Luna-phenylhex 4.6(mm)
IC 280-567560/20		03/03/2022 03:13	1		Luna-phenylhex 4.6(mm)
IC 280-567560/21		03/03/2022 03:49	1		Luna-phenylhex 4.6(mm)
IC 280-567560/22		03/03/2022 04:24	1		Luna-phenylhex 4.6(mm)
IC 280-567560/23		03/03/2022 04:59	1		Luna-phenylhex 4.6(mm)
IC 280-567560/24		03/03/2022 05:34	1		Luna-phenylhex 4.6(mm)
IC 280-567560/25		03/03/2022 06:09	1		Luna-phenylhex 4.6(mm)
IC 280-567560/26		03/03/2022 06:44	1		Luna-phenylhex 4.6(mm)
IC 280-567560/27		03/03/2022 07:19	1		Luna-phenylhex 4.6(mm)
ICV 280-567560/28		03/03/2022 07:54	1		Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X5 Start Date: 06/28/2022 19:24

Analysis Batch Number: 579374 End Date: 06/29/2022 00:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-579374/10		06/28/2022 19:24	1	06280010.D	Luna-phenylhex 4.6(mm)
IC 280-579374/11		06/28/2022 19:59	1	06280011.D	Luna-phenylhex 4.6(mm)
IC 280-579374/12		06/28/2022 20:34	1	06280012.D	Luna-phenylhex 4.6(mm)
IC 280-579374/13		06/28/2022 21:09	1	06280013.D	Luna-phenylhex 4.6(mm)
IC 280-579374/14		06/28/2022 21:45	1	06280014.D	Luna-phenylhex 4.6(mm)
IC 280-579374/15		06/28/2022 22:20	1	06280015.D	Luna-phenylhex 4.6(mm)
IC 280-579374/16		06/28/2022 22:55	1	06280016.D	Luna-phenylhex 4.6(mm)
IC 280-579374/17		06/28/2022 23:30	1	06280017.D	Luna-phenylhex 4.6(mm)
IC 280-579374/18		06/29/2022 00:05	1	06280018.D	Luna-phenylhex 4.6(mm)
ICV 280-579374/19		06/29/2022 00:40	1	06280019.D	Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 07/02/2022 13:06

Analysis Batch Number: 579842 End Date: 07/02/2022 16:33

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-579842/11		07/02/2022 13:06	1	07020011.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/12		07/02/2022 13:29	1	07020012.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/13		07/02/2022 13:52	1	07020013.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/14		07/02/2022 14:15	1	07020014.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/15		07/02/2022 14:38	1	07020015.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/16		07/02/2022 15:01	1	07020016.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/17		07/02/2022 15:24	1	07020017.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/18		07/02/2022 15:46	1	07020018.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/19		07/02/2022 16:09	1	07020019.D	UltraCarb5uODS 4.6(mm)
ICV 280-579842/20		07/02/2022 16:33	1	07020020.D	UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/09/2022 14:53

Analysis Batch Number: 592890 End Date: 11/10/2022 02:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-592890/7		11/09/2022 14:53	1	11090007.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/8		11/09/2022 15:16	1	11090008.D	UltraCarb5uODS 4.6(mm)
MB 280-592716/1-A		11/09/2022 15:39	1	11090011.D	UltraCarb5uODS 4.6(mm)
LCS 280-592716/2-A		11/09/2022 16:02	1	11090012.D	UltraCarb5uODS 4.6(mm)
LCSD 280-592716/3-A		11/09/2022 16:25	1	11090013.D	UltraCarb5uODS 4.6(mm)
LCS 280-592716/4-A		11/09/2022 16:48	1	11090014.D	UltraCarb5uODS 4.6(mm)
LCSD 280-592716/5-A		11/09/2022 17:11	1	11090015.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 17:34	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 17:57	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 18:20	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 18:43	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 19:06	1		UltraCarb5uODS 4.6(mm)
CCV 280-592890/21		11/09/2022 19:29	1	11090021.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/22		11/09/2022 19:52	1	11090022.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 20:14	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 20:37	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 21:00	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 21:23	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 21:46	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 22:09	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 22:32	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 22:55	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 23:18	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 23:41	1		UltraCarb5uODS 4.6(mm)
CCV 280-592890/33		11/10/2022 00:04	1	11090033.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/34		11/10/2022 00:27	1	11090034.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/10/2022 00:49	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/10/2022 01:12	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/10/2022 01:35	1		UltraCarb5uODS 4.6(mm)
280-168718-6	RB-11012201	11/10/2022 01:58	1	11090038.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/39		11/10/2022 02:21	1	11090039.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/40		11/10/2022 02:44	1	11090040.D	UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/11/2022 00:12

Analysis Batch Number: 5d3042 En(Date: 11/11/2022 12:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CC) 280-5d3042/36		11/11/2022 00:12	1	11100036.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/37		11/11/2022 00:35	1	11100037.D	UltraCarb5uODS 4.69mmV
MB 280-5d2d24/1-A		11/11/2022 00:58	1	11100038.D	UltraCarb5uODS 4.69mmV
LCS 280-5d2d24/2-A		11/11/2022 01:21	1	1110003d.D	UltraCarb5uODS 4.69mmV
LCS 280-5d2d24/3-A		11/11/2022 01:44	1	11100040.D	UltraCarb5uODS 4.69mmV
280-168718-1	X3-SS-C01-0006	11/11/2022 02:07	1	11100041.D	UltraCarb5uODS 4.69mmV
280-168718-2	FD-11012201	11/11/2022 02:30	1	11100042.D	UltraCarb5uODS 4.69mmV
280-168718-3	X3-SS-C02-0006	11/11/2022 02:53	1	11100043.D	UltraCarb5uODS 4.69mmV
280-168718-5	X3-SS-C04-0006	11/11/2022 03:16	1	11100044.D	UltraCarb5uODS 4.69mmV
280-168718-7	X3-SS-C05-0006	11/11/2022 03:3d	1	11100045.D	UltraCarb5uODS 4.69mmV
280-168718-8	FD-11022201	11/11/2022 04:02	1	11100046.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/47		11/11/2022 04:25	1	11100047.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/48		11/11/2022 04:48	1	11100048.D	UltraCarb5uODS 4.69mmV
280-168718-d	X3-SS-CO6-0006	11/11/2022 05:11	1	1110004d.D	UltraCarb5uODS 4.69mmV
280-168718-d MS	X3-SS-CO6-0006 MS	11/11/2022 05:34	1	11100050.D	UltraCarb5uODS 4.69mmV
280-168718-d MSD	X3-SS-CO6-0006 MSD	11/11/2022 05:57	1	11100051.D	UltraCarb5uODS 4.69mmV
280-168718-d MS	X3-SS-CO6-0006 MS	11/11/2022 06:20	1	11100052.D	UltraCarb5uODS 4.69mmV
280-168718-d MSD	X3-SS-CO6-0006 MSD	11/11/2022 06:43	1	11100053.D	UltraCarb5uODS 4.69mmV
280-168718-d DU	X3-SS-CO6-0006 DU	11/11/2022 07:06	1	11100054.D	UltraCarb5uODS 4.69mmV
280-168718-d TRL	X3-SS-CO6-0006 TRL	11/11/2022 07:2d	1	11100055.D	UltraCarb5uODS 4.69mmV
280-168718-10	X7-SS-C01-0006	11/11/2022 07:52	1	11100056.D	UltraCarb5uODS 4.69mmV
280-168718-11	X7B-SS-C01-0006	11/11/2022 08:15	1	11100057.D	UltraCarb5uODS 4.69mmV
280-168718-12	X7-TP-C01-5460	11/11/2022 08:38	1	11100058.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/5d		11/11/2022 0d:01	1	1110005d.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/60		11/11/2022 0d:24	1	11100060.D	UltraCarb5uODS 4.69mmV
280-168718-13	X7-TP-C02-3648	11/11/2022 0d:47	1	11100061.D	UltraCarb5uODS 4.69mmV
280-168718-14	X7-TP-C03-4248	11/11/2022 10:10	1	11100062.D	UltraCarb5uODS 4.69mmV
280-168718-15	X7-TP-C04-4248	11/11/2022 10:33	1	11100063.D	UltraCarb5uODS 4.69mmV
280-168718-16	X3-SS-C07-0006	11/11/2022 10:56	1	11100064.D	UltraCarb5uODS 4.69mmV
280-168718-17	X3-SS-C08-0006	11/11/2022 11:1d	1	11100065.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/66		11/11/2022 11:43	1	11100066.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/67		11/11/2022 12:06	1	11100067.D	UltraCarb5uODS 4.69mmV

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/11/2022 15:47

Analysis Batch Number: 593188 End Date: 11/11/2022 17:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-593188/7		11/11/2022 15:47	1	11110007.D	UltraCarb5uODS 4.6(mm)
280-168718-12 DL	X7-TP-C01-5460 DL	11/11/2022 16:10	10	11110011.D	UltraCarb5uODS 4.6(mm)
280-168718-13 DL	X7-TP-C02-3648 DL	11/11/2022 16:33	20	11110012.D	UltraCarb5uODS 4.6(mm)
280-168718-17 DL	X3-SS-C08-0006 DL	11/11/2022 16:56	5	11110013.D	UltraCarb5uODS 4.6(mm)
CCV 280-593188/14		11/11/2022 17:19	1	11110014.D	UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X5 Start Date: 11/11/2022 15:51

Analysis Batch Number: 593191 End Date: 11/12/2022 06:59

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-593191/7		11/11/2022 15:51	1	11110007.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/11/2022 16:26	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/11/2022 17:01	1		Luna-phenylhex 4.6(mm)
280-168718-1	X3-SS-C01-0006	11/11/2022 17:36	1	11110012.D	Luna-phenylhex 4.6(mm)
280-168718-2	FD-11012201	11/11/2022 18:11	1	11110013.D	Luna-phenylhex 4.6(mm)
280-168718-3	X3-SS-C02-0006	11/11/2022 18:46	1	11110014.D	Luna-phenylhex 4.6(mm)
280-168718-5	X3-SS-C04-0006	11/11/2022 19:21	1	11110015.D	Luna-phenylhex 4.6(mm)
280-168718-7	X3-SS-C05-0006	11/11/2022 19:56	1	11110016.D	Luna-phenylhex 4.6(mm)
280-168718-8	FD-11022201	11/11/2022 20:30	1	11110017.D	Luna-phenylhex 4.6(mm)
CCV 280-593191/18		11/11/2022 21:05	1	11110018.D	Luna-phenylhex 4.6(mm)
280-168718-9	X3-SS-CO6-0006	11/11/2022 21:40	1	11110019.D	Luna-phenylhex 4.6(mm)
280-168718-9 MS	X3-SS-CO6-0006 MS	11/11/2022 22:15	1	11110020.D	Luna-phenylhex 4.6(mm)
280-168718-9 MSD	X3-SS-CO6-0006 MSD	11/11/2022 22:50	1	11110021.D	Luna-phenylhex 4.6(mm)
280-168718-9 DU	X3-SS-CO6-0006 DU	11/11/2022 23:25	1	11110022.D	Luna-phenylhex 4.6(mm)
280-168718-9 TRL	X3-SS-CO6-0006 TRL	11/12/2022 00:00	1	11110023.D	Luna-phenylhex 4.6(mm)
280-168718-11	X7B-SS-C01-0006	11/12/2022 00:35	1	11110024.D	Luna-phenylhex 4.6(mm)
280-168718-12	X7-TP-C01-5460	11/12/2022 01:10	1	11110025.D	Luna-phenylhex 4.6(mm)
280-168718-13	X7-TP-C02-3648	11/12/2022 01:45	1	11110026.D	Luna-phenylhex 4.6(mm)
280-168718-14	X7-TP-C03-4248	11/12/2022 02:20	1	11110027.D	Luna-phenylhex 4.6(mm)
280-168718-15	X7-TP-C04-4248	11/12/2022 02:55	1	11110028.D	Luna-phenylhex 4.6(mm)
CCV 280-593191/29		11/12/2022 03:29	1	11110029.D	Luna-phenylhex 4.6(mm)
280-168718-16	X3-SS-C07-0006	11/12/2022 04:04	1	11110030.D	Luna-phenylhex 4.6(mm)
280-168718-17	X3-SS-C08-0006	11/12/2022 04:39	1	11110031.D	Luna-phenylhex 4.6(mm)
280-168718-12 DL	X7-TP-C01-5460 DL	11/12/2022 05:14	10	11110032.D	Luna-phenylhex 4.6(mm)
280-168718-13 DL	X7-TP-C02-3648 DL	11/12/2022 05:49	20	11110033.D	Luna-phenylhex 4.6(mm)
280-168718-17 DL	X3-SS-C08-0006 DL	11/12/2022 06:24	5	11110034.D	Luna-phenylhex 4.6(mm)
CCV 280-593191/35		11/12/2022 06:59	1	11110035.D	Luna-phenylhex 4.6(mm)

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 562503 Batch Start Date: 01/04/22 18:28 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	3,5-DNA LCS 00039	8330_ADDs 00030	8330DiaminLCS 00045		
IC 280-562503/21		8330B			125 uL			
IC 280-562503/22		8330B			50 uL			
IC 280-562503/23		8330B			35 uL			
IC 280-562503/24		8330B			20 uL			
IC 280-562503/25		8330B			12.5 uL			
IC 280-562503/26		8330B			5 uL			
IC 280-562503/27		8330B			2.5 uL			
IC 280-562503/28		8330B			1 uL			
ICV 280-562503/29		8330B		50 uL		50 uL		

Batch Notes	
Methanol ID	214340

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 567560 Batch Start Date: 03/02/22 21:22 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	3,5-DNA LCS 00040	8330 LCS 00111	8330_ADDs 00031
IC 280-567560/10		8330B		1.0 mL			125 uL
IC 280-567560/11		8330B		1.0 mL			50 uL
IC 280-567560/12		8330B		1.0 mL			35 uL
IC 280-567560/13		8330B		1.0 mL			20 uL
IC 280-567560/14		8330B		1.0 mL			12.5 uL
IC 280-567560/15		8330B		1.0 mL			5 uL
IC 280-567560/16		8330B		1.0 mL			2.5 uL
IC 280-567560/17		8330B		1.0 mL			1 uL
IC 280-567560/18		8330B		1.0 mL			0.5 uL
ICV 280-567560/19		8330B		1.0 mL	50 uL	50 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330Surrogate 00127
IC 280-567560/10		8330B		
IC 280-567560/11		8330B		
IC 280-567560/12		8330B		
IC 280-567560/13		8330B		
IC 280-567560/14		8330B		
IC 280-567560/15		8330B		
IC 280-567560/16		8330B		
IC 280-567560/17		8330B		
IC 280-567560/18		8330B		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 567560 Batch Start Date: 03/02/22 21:22 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330Surrogate 00127				
ICV 280-567560/19		8330B		50 uL				

Batch Notes	
Methanol ID	214340

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 579374 Batch Start Date: 06/28/22 19:24 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	8330 LCS 00114	8330IntermStk 00072	8330Surrogate 00128
IC 280-579374/10		8330B		1.0 mL		250 uL	
IC 280-579374/11		8330B		1.0 mL		100 uL	
IC 280-579374/12		8330B		1.0 mL		70 uL	
IC 280-579374/13		8330B		1.0 mL		40 uL	
IC 280-579374/14		8330B		1.0 mL		25 uL	
IC 280-579374/15		8330B		1.0 mL		10 uL	
IC 280-579374/16		8330B		1.0 mL		5 uL	
IC 280-579374/17		8330B		1.0 mL		2 uL	
IC 280-579374/18		8330B		1.0 mL		1 uL	
ICV 280-579374/19		8330B		1.0 mL	50 uL		50 uL

Batch Notes	
Methanol ID	217031

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 579842 Batch Start Date: 07/02/22 13:06 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330 LCS 00114	8330IntermStk 00072	8330Surrogate 00129		
IC 280-579842/11		8330B			250 uL			
IC 280-579842/12		8330B			100 uL			
IC 280-579842/13		8330B			70 uL			
IC 280-579842/14		8330B			40 uL			
IC 280-579842/15		8330B			25 uL			
IC 280-579842/16		8330B			10 uL			
IC 280-579842/17		8330B			5 uL			
IC 280-579842/18		8330B			2 uL			
IC 280-579842/19		8330B			1 uL			
ICV 280-579842/20		8330B		50 uL		50 uL		

Batch Notes	
Methanol ID	217031

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment			
280-168718-B-1	X3-SS-C01-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-2	FD-11012201	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-3	X3-SS-C02-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-5	X3-SS-C04-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-7	X3-SS-C05-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-8	FD-11022201	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-9	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-9 MS	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 MSD	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 DU	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330			
280-168718-B-9 TRL	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330			
280-168718-B-10	X7-SS-C01-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-11	X7B-SS-C01-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
280-168718-B-12	X7-TP-C01-5460	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-A-13	X7-TP-C02-3648	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-B-14	X7-TP-C03-4248	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-B-15	X7-TP-C04-4248	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-B-16	X3-SS-C07-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-A-17	X3-SS-C08-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				

Batch Notes	
Date and Time laid out to Dry	11/07/22 16:48
Laid out on Parchment or Foil	Foil
Analyst ID - Drying	DL
Analyst ID - Label Check	Reviewer: NC
SOP Number	DV-OP-0013; DV-OP-0018
Batch Comment	Tower: Yuuko

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

BATCH: 592646

DV-F-0085 rev 2022-04-26. Use this spreadsheet to document sample weights during the ISM process.

	Method --->	gross weight	container tare weight	initial sample weight	dried sample weight	nonsoil material	min aliquot size needed	ali
	Balance ID --->	38602403	38602403	calculated	24750399		NA	
Login	**Sample**	(g)	(g)	(g)	(g)	(g)	(g)	
280-168718	1	405.31	211.8	193.51	154.9	NA	10-11g	
280-168718	2	402.13	212.85	189.28	149.8	NA	10-11g	
280-168718	3	361.6	212.2	149.4	106.3	NA	10-11g	
280-168718	5	410.22	211.63	198.59	145.5	NA	10-11g	
280-168718	7	409	211.26	197.74	171	NA	10-11g	
280-168718	8	423.76	212.46	211.3	178.6	NA	10-11g	
280-168718	9	371.43	211.84	159.59	131.1	NA	10-11g	
280-168718	9ms			0		NA	10-11g	
280-168718	9msd			0		NA	10-11g	
280-168718	9ms			0		NA	10-11g	
280-168718	9msd			0		NA	10-11g	
280-168718	9du			0		NA	10-11g	
280-168718	9trl			0		NA	10-11g	
280-168718	10	452.38	211.17	241.21	205.5	NA	10-11g	
280-168718	11	407.58	211.51	196.07	173.4	NA	10-11g	
280-168718	12	473.23	212.58	260.65	229	NA	10-11g	
280-168718	13	484.18	212.57	271.61	241.1	NA	10-11g	
280-168718	14	482.81	212.3	270.51	237.6	NA	10-11g	
280-168718	15	483.82	211.76	272.06	246.3	NA	10-11g	
280-168718	16	446.97	211.67	235.3	209.2	NA	10-11g	
280-168718	17	438.78	211.26	227.52	206.4	NA	10-11g	

BATCH:	592646	
DV-F-0085 rev 2022-04-26. U		
	Method --->	Comments
	Balance ID --->	
Login	Sample	
280-168718	1	
280-168718	2	
280-168718	3	
280-168718	5	
280-168718	7	
280-168718	8	
280-168718	9	
280-168718	9ms	
280-168718	9msd	
280-168718	9ms	extra 8330 aliquot for diamino, DNA spike
280-168718	9msd	extra 8330 aliquot for diamino, DNA spike
280-168718	9du	
280-168718	9trl	
280-168718	10	
280-168718	11	
280-168718	12	
280-168718	13	
280-168718	14	
280-168718	15	
280-168718	16	
280-168718	17	

ISM Batch Number: 592646

DV-F-0070_Rev 2_01-7-2020 Use this spreadsheet to document drying samples to a constant w

balance ID:		38602403	11-8-2022 937	11-8-2022 1156	Dry?		Date/time 3
			EB	MLT			analyst initials
Login	Sample	Tare weight (weight of weighing vessel)	Gross weight (g) (weight of aliquot and weighing vessel)	Gross weight (g) (weight of aliquot and weighing vessel)	Change in weights 1, 2	Proceed with ISM?	Gross weight (g) (weight of aliquot and weighing vessel)
168718	1	1.28	16.09	15.95	**0.95%**	**Yes**	
168718	2	1.27	17.07	16.8	**1.71%**	**Yes**	
168718	3	1.27	11.72	11.39	**3.16%**	**Yes**	
168718	5	1.29	14.53	14.17	**2.72%**	**Yes**	
168718	7	1.28	20.07	19.99	**0.43%**	**Yes**	
168718	8	1.3	31.78	31.68	**0.33%**	**Yes**	
168718	9	1.3	14.16	14.03	**1.01%**	**Yes**	
168718	10	1.25	22.67	22.27	**1.87%**	**Yes**	
168718	11	1.29	19.24	19.09	**0.84%**	**Yes**	
168718	12	1.29	24.43	24.43	**0.00%**	**Yes**	
168718	13	1.26	22.53	22.49	**0.19%**	**Yes**	
168718	14	1.28	16.26	16.24	**0.13%**	**Yes**	
168718	15	1.26	30.13	30.11	**0.07%**	**Yes**	
168718	16	1.28	22.09	21.97	**0.58%**	**Yes**	
168718	17	1.26	26.93	26.88	**0.19%**	**Yes**	

LogTag

Recorder has been Downloaded 11/8/2022 1:42:37 PM

Note: All Date-Time values are in UTC -07:00 DayLight

Alarm Status

Lower	✓	OK
Upper	✓	OK

Recorder Info

Serial #: 2000144856 Model: TRIX-8 Battery: OK Trip #: 95
Description: Explosives Room (-0.6)

Recorder Configuration

Start type :	Push button start	Temperature alarms	
Start delay :	15 Minutes	Lower : 10.6 °C after 3 Consecutive	
Interval :	10 Minutes	or after 3 Accumulative	
Alert indicator :	Enabled lower & upper	Upper : 25.6 °C after 3 Consecutive	
OK indicator :	Enabled	or after 3 Accumulative	

Recorded Data

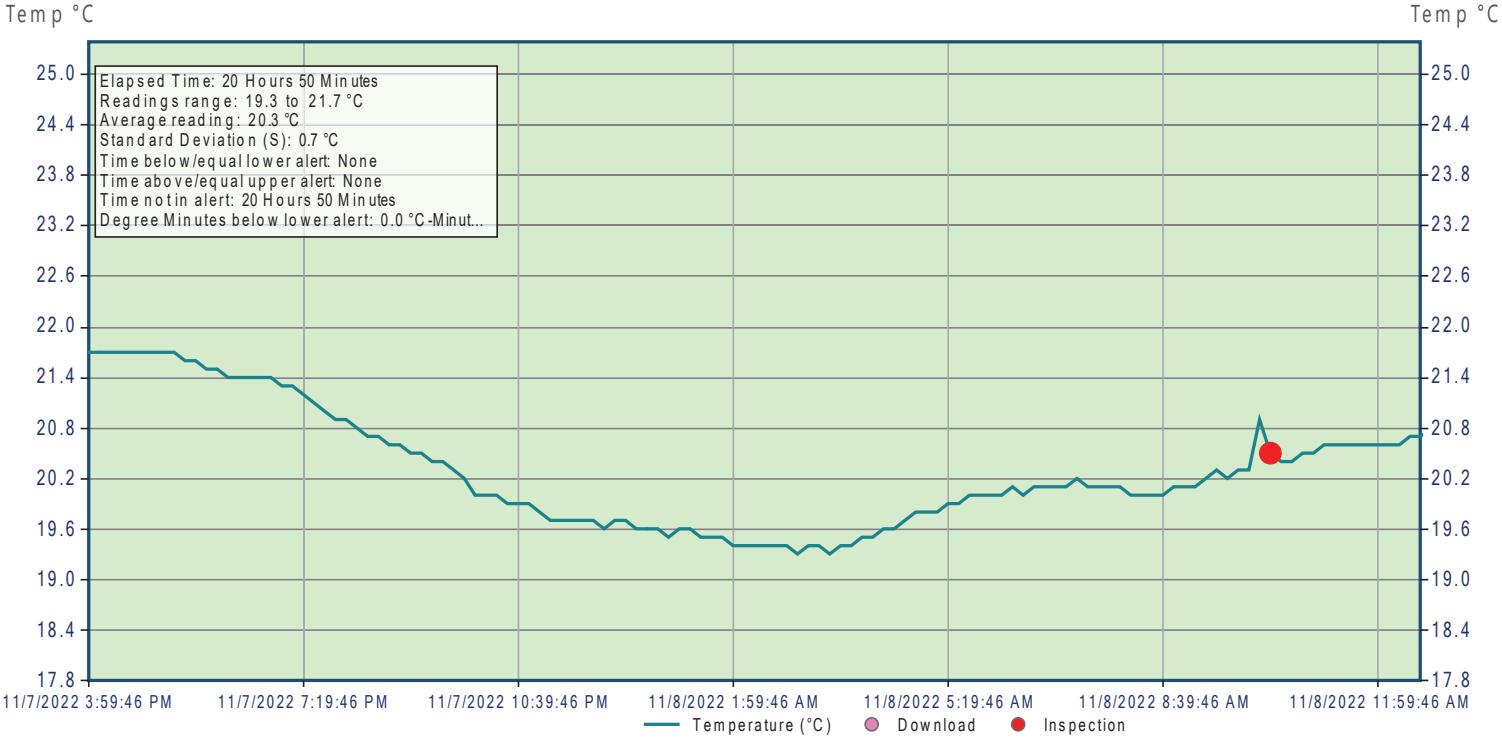
First reading :	10/28/2022 10:59:46 AM	Temperature statistics	
Last reading :	11/8/2022 2:39:46 PM	Lowest :	19.3 °C
Elapsed time :	11 Days 3 Hours 50 Minutes	@	11/8/2022 2:59:46 AM
Total readings :	1607	Highest :	21.7 °C
First evaluated :	11/7/2022 3:59:46 PM	@	11/7/2022 3:59:46 PM
Last evaluated :	11/8/2022 12:39:46 PM	Average reading:	20.3 °C
Evaluated Time :	20 Hours 50 Minutes	Standard Deviation:	0.7 °C(S)
Evaluated Readings :	125	MKT(ΔH 83.144):	20.3 °C

Lower Alarm

Triggered:	(none)
Time below/equal:	(none)
Occurrences :	0
°C - Minutes below :	0.00

Upper Alarm

Triggered:	(none)
Time above/equal:	(none)
Occurrences :	0
°C - Minutes above :	0.00



Source: Explosives Room (-0.6)TRIX-8- 2000144856 Started 10_28_2022, Finished 11_8_20222D34121435_Copy1.ltd
Created : 11/8/2022 1:45:43 PM

Events Info

11/8/2022 10:19:46 AM	Download, Inspection

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592716 Batch Start Date: 11/08/22 13:27 Batch Analyst:

Batch Method: 3535 Batch End Date: 11/08/22 16:49

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount
MB 280-592716/1		3535, 8330B				500 mL	5 mL
LCS 280-592716/2		3535, 8330B				500 mL	5 mL
LCSD 280-592716/3		3535, 8330B				500 mL	5 mL
LCS 280-592716/4		3535, 8330B				500 mL	5 mL
LCSD 280-592716/5		3535, 8330B				500 mL	5 mL
280-168718-B-6	RB-11012201	3535, 8330B	T	784.2 g	285.3 g	498.9 mL	5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330DiaminLCS 00048	8330Surrogate 00131		
MB 280-592716/1		3535, 8330B			0.1 mL		
LCS 280-592716/2		3535, 8330B			0.1 mL		
LCSD 280-592716/3		3535, 8330B			0.1 mL		
LCS 280-592716/4		3535, 8330B		0.1 mL	0.1 mL		
LCSD 280-592716/5		3535, 8330B		0.1 mL	0.1 mL		
280-168718-B-6	RB-11012201	3535, 8330B	T		0.1 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592716 Batch Start Date: 11/08/22 13:27 Batch Analyst:

Batch Method: 3535 Batch End Date: 11/08/22 16:49

Batch Notes	
First Start time	11/08/2022 13:55
First End time	11/08/2022 16:25
SPE Cartridge Type	Sep-Pak RDX
SPE Cartridge Lot ID	005332136A
Balance ID	24350888
Pipette/Syringe/Dispenser ID	JiJi, Soot, DOD
Solvent Name	Acetonitrile
Solvent Lot #	Acetonitrile_00065
Rinse Solvent Name	0.1%AAinACN
Rinse Solvent Lot	0.1%AAinACN_00192
Acid Name	Ca2Cl
Acid ID	Ca2Cl_Sol_00082
Analyst ID - Spike Analyst	AA
Analyst ID - Spike Witness Analyst	Reviewer: NC
Batch Comment	DV-OP-0017; Mantel: A/B

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592924 Batch Start Date: 11/09/22 17:15 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/10/22 13:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	3,5-DNA LCS 00042	8330 LCS 00117
MB 280-592924/1		8330B, 8330B		10 g	40 mL		
LCS 280-592924/2		8330B, 8330B		10 g	40 mL		1 mL
LCS 280-592924/3		8330B, 8330B		10 g	40 mL	1 mL	
280-168718-B-1-A	X3-SS-C01-0006	8330B, 8330B	T	10.3153 g	40 mL		
280-168718-A-2-A	FD-11012201	8330B, 8330B	T	10.4116 g	40 mL		
280-168718-B-3-A	X3-SS-C02-0006	8330B, 8330B	T	10.008 g	40 mL		
280-168718-B-5-A	X3-SS-C04-0006	8330B, 8330B	T	10.1405 g	40 mL		
280-168718-A-7-A	X3-SS-C05-0006	8330B, 8330B	T	10.3204 g	40 mL		
280-168718-A-8-A	FD-11022201	8330B, 8330B	T	10.2705 g	40 mL		
280-168718-B-9-A	X3-SS-CO6-0006	8330B, 8330B	T	10.1344 g	40 mL		
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	10.0292 g	40 mL		1 mL
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	10.097 g	40 mL		1 mL
280-168718-B-9-D DU	X3-SS-CO6-0006	8330B, 8330B	T	10.4412 g	40 mL		
280-168718-B-9-E TRL	X3-SS-CO6-0006	8330B, 8330B	T	10.6374 g	40 mL		
280-168718-B-10-A	X7-SS-C01-0006	8330B, 8330B	T	10.2551 g	40 mL		
280-168718-A-11-A	X7B-SS-C01-0006	8330B, 8330B	T	10.2857 g	40 mL		
280-168718-B-12-A	X7-TP-C01-5460	8330B, 8330B	T	10.8643 g	40 mL		
280-168718-A-13-A	X7-TP-C02-3648	8330B, 8330B	T	10.2121 g	40 mL		
280-168718-B-14-A	X7-TP-C03-4248	8330B, 8330B	T	10.305 g	40 mL		
280-168718-B-15-A	X7-TP-C04-4248	8330B, 8330B	T	10.5091 g	40 mL		
280-168718-B-16-A	X3-SS-C07-0006	8330B, 8330B	T	10.3627 g	40 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592924 Batch Start Date: 11/09/22 17:15 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/10/22 13:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	3,5-DNA LCS 00042	8330 LCS 00117	
280-168718-A-17-A	X3-SS-C08-0006	8330B, 8330B	T	10.2501 g	40 mL			
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	10.5191 g	40 mL	1 mL		
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	10.0423 g	40 mL	1 mL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
MB 280-592924/1		8330B, 8330B						
LCS 280-592924/2		8330B, 8330B		8330				
LCS 280-592924/3		8330B, 8330B		35DNA and Diamino				
280-168718-B-1-A	X3-SS-C01-0006	8330B, 8330B	T					
280-168718-A-2-A	FD-11012201	8330B, 8330B	T					
280-168718-B-3-A	X3-SS-C02-0006	8330B, 8330B	T					
280-168718-B-5-A	X3-SS-C04-0006	8330B, 8330B	T					
280-168718-A-7-A	X3-SS-C05-0006	8330B, 8330B	T					
280-168718-A-8-A	FD-11022201	8330B, 8330B	T					
280-168718-B-9-A	X3-SS-CO6-0006	8330B, 8330B	T					
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	8330				
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	8330				
280-168718-B-9-D DU	X3-SS-CO6-0006	8330B, 8330B	T					
280-168718-B-9-E TRL	X3-SS-CO6-0006	8330B, 8330B	T					
280-168718-B-10-A	X7-SS-C01-0006	8330B, 8330B	T					
280-168718-A-11-A	X7B-SS-C01-0006	8330B, 8330B	T					
280-168718-B-12-A	X7-TP-C01-5460	8330B, 8330B	T					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592924 Batch Start Date: 11/09/22 17:15 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/10/22 13:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
280-168718-A-13-A	X7-TP-C02-3648	8330B, 8330B	T					
280-168718-B-14-A	X7-TP-C03-4248	8330B, 8330B	T					
280-168718-B-15-A	X7-TP-C04-4248	8330B, 8330B	T					
280-168718-B-16-A	X3-SS-C07-0006	8330B, 8330B	T					
280-168718-A-17-A	X3-SS-C08-0006	8330B, 8330B	T					
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	35DNA and Diamino				
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	35DNA and Diamino				

Batch Notes	
Solvent Name	0.1% AA in ACN
Solvent Lot #	0.1% AA in ACN-00191
Prep Solvent Volume Used	20 mL mL
Analyst ID - Reagent Drop Witness	JZ
Balance ID	38602403
Blank Sand Lot #	216016
Pipette ID for Solvent	Firine
Pipette ID	Rose
Sonication Start Time	11/9/22 17:41
Sonication Stop Time	11/10/22 11:48
Filter Type	0.2 um PTFE
Filter ID	R1MB60600, R1NB72130
Date Sample was Dried	Batch 592646
Date Sample was Ground	Batch 592646
SOP Number	DV-OP-0018

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

8321B_NGu

Nitroguanidine (LC/MS)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21065.d

Lab ID: LCS 280-593821/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Nitroguanidine	201	164	82	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: NG722K21059.d

Lab ID: LCS 280-594294/14 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Nitroguanidine	100	105	104	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: NG722K21061.d

Lab ID: 280-168718-6 MS Client ID: RB-11012201 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Nitroguanidine	100	10 U	90.1	90	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21074.d

Lab ID: 280-168718-9 MS Client ID: X3-SS-CO6-0006 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Nitroguanidine	201	25 U	74.4	37	50-150	H J1

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: NG722K21062.d

Lab ID: 280-168718-6 MSD Client ID: RB-11012201 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Nitroguanidine	100	107	106	17	20	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21075.d

Lab ID: 280-168718-9 MSD Client ID: X3-SS-CO6-0006 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Nitroguanidine	201	72.2	36	3	20	50-150	H J1

Column to be used to flag recovery and RPD values

FORM III 8321B

LCMS TRIPLICATE SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21077.d

Lab ID: 280-168718-9 TRL Client ID: X3-SS-CO6-0006 TRL

COMPOUND	SAMPLE CONC. (ug/Kg)	DUPLICATE CONC. (ug/Kg)	TRIPLICATE CONC. (ug/Kg)	%RSD	%RSD LIMIT	#
Nitroguanidine	25 U	25 U	25 U	NC		

Column to be used to flag %RSD values

8321B

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: NG722K21058.d Lab Sample ID: MB 280-594294/13

Matrix: Water Date Extracted:

Instrument ID: LC_LCMS7 Date Analyzed: 11/21/2022 14:19

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-594294/14	NG722K21059.d	11/21/2022 14:22
RB-11012201	280-168718-6	NG722K21060.d	11/21/2022 14:25
RB-11012201 MS	280-168718-6 MS	NG722K21061.d	11/21/2022 14:28
RB-11012201 MSD	280-168718-6 MSD	NG722K21062.d	11/21/2022 14:31

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: NG722K21064.d Lab Sample ID: MB 280-593821/1-A

Matrix: Solid Date Extracted: 11/17/2022 09:02

Instrument ID: LC_LCMS7 Date Analyzed: 11/21/2022 14:37

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-593821/2-A	NG722K21065.d	11/21/2022 14:40
X3-SS-C01-0006	280-168718-1	NG722K21066.d	11/21/2022 14:43
FD-11012201	280-168718-2	NG722K21067.d	11/21/2022 14:46
X3-SS-C02-0006	280-168718-3	NG722K21068.d	11/21/2022 14:49
X3-SS-C04-0006	280-168718-5	NG722K21069.d	11/21/2022 14:52
X3-SS-C05-0006	280-168718-7	NG722K21070.d	11/21/2022 14:55
FD-11022201	280-168718-8	NG722K21071.d	11/21/2022 14:58
X3-SS-CO6-0006	280-168718-9	NG722K21073.d	11/21/2022 15:04
X3-SS-CO6-0006 MS	280-168718-9 MS	NG722K21074.d	11/21/2022 15:07
X3-SS-CO6-0006 MSD	280-168718-9 MSD	NG722K21075.d	11/21/2022 15:10
X3-SS-CO6-0006 DU	280-168718-9 DU	NG722K21076.d	11/21/2022 15:13
X3-SS-CO6-0006 TRL	280-168718-9 TRL	NG722K21077.d	11/21/2022 15:16
X7-SS-C01-0006	280-168718-10	NG722K21078.d	11/21/2022 15:19
X7B-SS-C01-0006	280-168718-11	NG722K21079.d	11/21/2022 15:22
X7-TP-C01-5460	280-168718-12	NG722K21081.d	11/21/2022 15:28
X7-TP-C02-3648	280-168718-13	NG722K21082.d	11/21/2022 15:31
X7-TP-C03-4248	280-168718-14	NG722K21083.d	11/21/2022 15:34
X7-TP-C04-4248	280-168718-15	NG722K21084.d	11/21/2022 15:37
X3-SS-C07-0006	280-168718-16	NG722K21085.d	11/21/2022 15:41
X3-SS-C08-0006	280-168718-17	NG722K21086.d	11/21/2022 15:44

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C01-0006 Lab Sample ID: 280-168718-1

Matrix: Solid Lab File ID: NG722K21066.d

Analysis Method: 8321B Date Collected: 11/01/2022 12:35

Extraction Method: 8330B Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) Date Analyzed: 11/21/2022 14:43

Con. Extract Vol.: 20(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Synergi Hydro ID:

% Moisture: % Solids: GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21066.d				
Lims ID:	280-168718-B-1-C				
Client ID:	X3-SS-C01-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 14:43:36	ALS Bottle#:	12	Worklist Smp#:	21
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-1-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:42	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:49 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21066.d

Injection Date: 21-Nov-2022 14:43:36 Instrument ID: LC_LCMS7

Lims ID: 280-168718-B-1-C Lab Sample ID: 280-168718-1

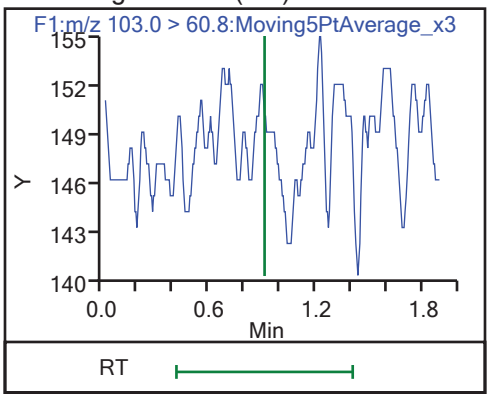
Client ID: X3-SS-C01-0006

Operator ID: ACM ALS Bottle#: 12 Worklist Smp#: 21

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11012201 | Lab Sample ID: 280-168718-2

Matrix: Solid | Lab File ID: NG722K21067.d

Analysis Method: 8321B | Date Collected: 11/01/2022 12:45

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:46

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21067.d				
Lims ID:	280-168718-A-2-C				
Client ID:	FD-11012201				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 14:46:37	ALS Bottle#:	13	Worklist Smp#:	22
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-A-2-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:42	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

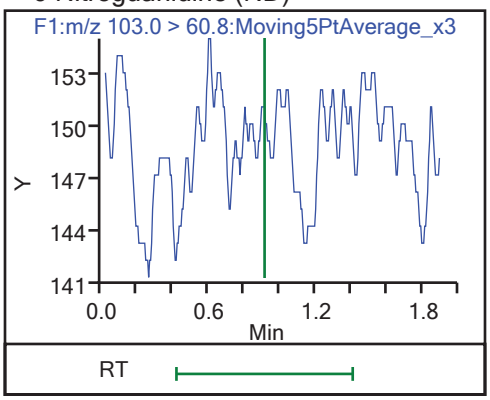
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:50 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21067.d				
Injection Date:	21-Nov-2022 14:46:37	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-A-2-C	Lab Sample ID:	280-168718-2		
Client ID:	FD-11012201				
Operator ID:	ACM	ALS Bottle#:	13	Worklist Smp#:	22
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C02-0006 | Lab Sample ID: 280-168718-3

Matrix: Solid | Lab File ID: NG722K21068.d

Analysis Method: 8321B | Date Collected: 11/01/2022 13:50

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:49

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21068.d				
Lims ID:	280-168718-B-3-C				
Client ID:	X3-SS-C02-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 14:49:38	ALS Bottle#:	14	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-3-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:42	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

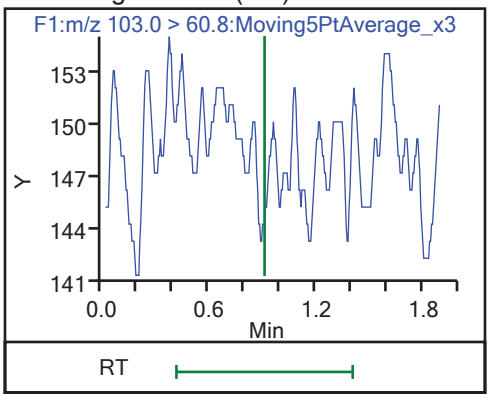
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:50 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21068.d				
Injection Date:	21-Nov-2022 14:49:38	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-3-C	Lab Sample ID:	280-168718-3		
Client ID:	X3-SS-C02-0006				
Operator ID:	ACM	ALS Bottle#:	14	Worklist Smp#:	23
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C04-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: NG722K21069.d

Analysis Method: 8321B | Date Collected: 11/01/2022 15:25

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:52

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21069.d				
Lims ID:	280-168718-B-5-C				
Client ID:	X3-SS-C04-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 14:52:39	ALS Bottle#:	15	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-5-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:42	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

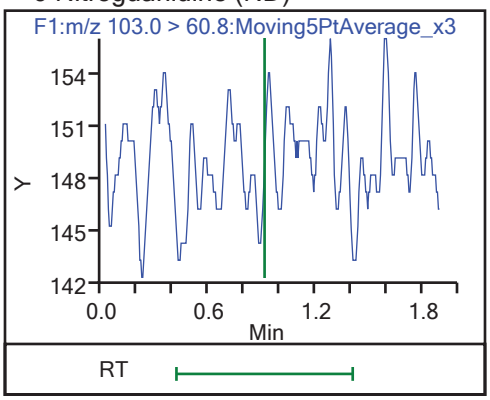
Report Date: 22-Nov-2022 07:41:50 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21069.d

Injection Date:	21-Nov-2022 14:52:39	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-5-C	Lab Sample ID:	280-168718-5		
Client ID:	X3-SS-C04-0006				
Operator ID:	ACM	ALS Bottle#:	15	Worklist Smp#:	24
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: RB-11012201 | Lab Sample ID: 280-168718-6

Matrix: Water | Lab File ID: NG722K21060.d

Analysis Method: 8321B | Date Collected: 11/01/2022 15:45

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:25

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	10	U	20	10	3.7

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21060.d				
Lims ID:	280-168718-C-6				
Client ID:	RB-11012201				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 14:25:27	ALS Bottle#:	33	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-C-6				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:33	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

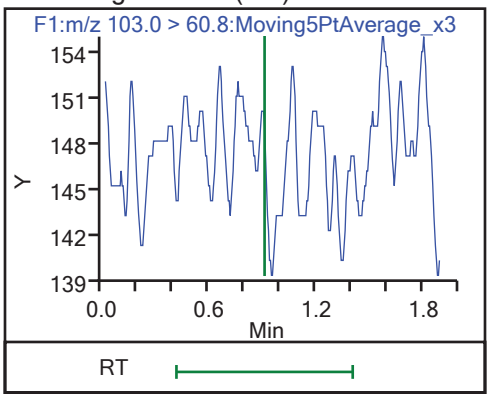
Report Date: 22-Nov-2022 06:59:34 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21060.d

Injection Date:	21-Nov-2022 14:25:27	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-C-6	Lab Sample ID:	280-168718-6		
Client ID:	RB-11012201				
Operator ID:	ACM	ALS Bottle#:	33	Worklist Smp#:	15
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 | Lab Sample ID: 280-168718-7

Matrix: Solid | Lab File ID: NG722K21070.d

Analysis Method: 8321B | Date Collected: 11/02/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:55

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21070.d				
Lims ID:	280-168718-A-7-C				
Client ID:	X3-SS-C05-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 14:55:40	ALS Bottle#:	16	Worklist Smp#:	25
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-A-7-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:42	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:50 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21070.d

Injection Date: 21-Nov-2022 14:55:40 Instrument ID: LC_LCMS7

Lims ID: 280-168718-A-7-C Lab Sample ID: 280-168718-7

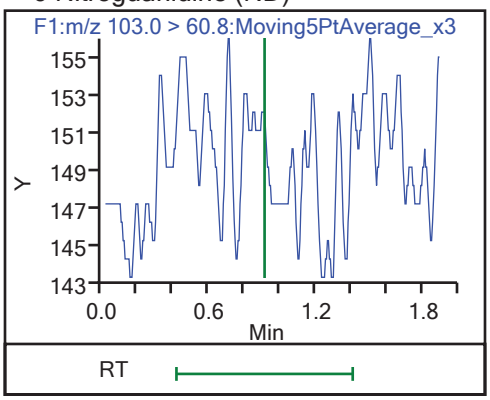
Client ID: X3-SS-C05-0006

Operator ID: ACM ALS Bottle#: 16 Worklist Smp#: 25

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 | Lab Sample ID: 280-168718-8

Matrix: Solid | Lab File ID: NG722K21071.d

Analysis Method: 8321B | Date Collected: 11/02/2022 09:30

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:58

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21071.d				
Lims ID:	280-168718-A-8-C				
Client ID:	FD-11022201				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 14:58:41	ALS Bottle#:	17	Worklist Smp#:	26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-A-8-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:42	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

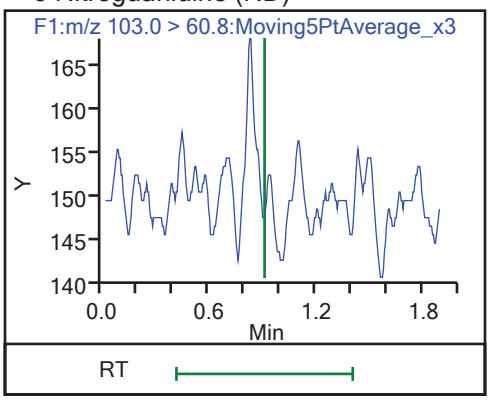
Report Date: 22-Nov-2022 07:41:51 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21071.d

Injection Date:	21-Nov-2022 14:58:41	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-A-8-C	Lab Sample ID:	280-168718-8		
Client ID:	FD-11022201				
Operator ID:	ACM	ALS Bottle#:	17	Worklist Smp#:	26
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 | Lab Sample ID: 280-168718-9

Matrix: Solid | Lab File ID: NG722K21073.d

Analysis Method: 8321B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:04

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H J1	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21073.d				
Lims ID:	280-168718-B-9-M				
Client ID:	X3-SS-CO6-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:04:43	ALS Bottle#:	18	Worklist Smp#:	28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-9-M				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:51	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

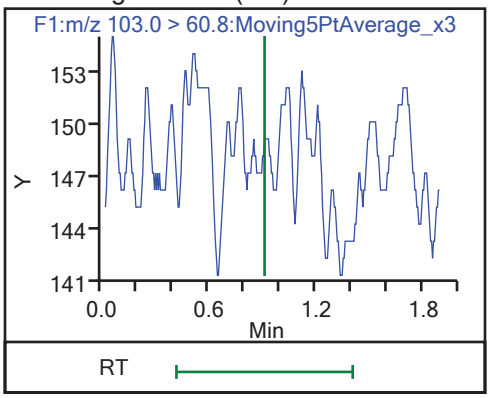
Report Date: 22-Nov-2022 07:41:52 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21073.d

Injection Date:	21-Nov-2022 15:04:43	Instrument ID:	LC_LCMS7
Lims ID:	280-168718-B-9-M	Lab Sample ID:	280-168718-9
Client ID:	X3-SS-CO6-0006		
Operator ID:	ACM	ALS Bottle#:	18 Worklist Smp#: 28
Injection Vol:	20.0 ul	Dil. Factor:	1.0000
Method:	8321_NGu	Limit Group:	LC - 8321 NGu

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-SS-C01-0006 Lab Sample ID: 280-168718-10

Matrix: Solid Lab File ID: NG722K21078.d

Analysis Method: 8321B Date Collected: 11/02/2022 11:15

Extraction Method: 8330B Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) Date Analyzed: 11/21/2022 15:19

Con. Extract Vol.: 20(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Synergi Hydro ID:

% Moisture: % Solids: GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21078.d				
Lims ID:	280-168718-B-10-C				
Client ID:	X7-SS-C01-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:19:51	ALS Bottle#:	23	Worklist Smp#:	33
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-10-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:51	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

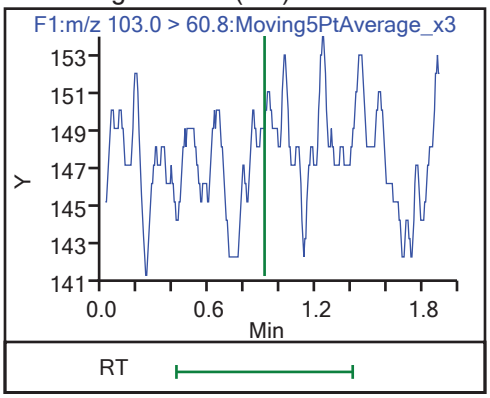
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:53 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21078.d				
Injection Date:	21-Nov-2022 15:19:51	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-10-C	Lab Sample ID:	280-168718-10		
Client ID:	X7-SS-C01-0006				
Operator ID:	ACM	ALS Bottle#:	23	Worklist Smp#:	33
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7B-SS-C01-0006 Lab Sample ID: 280-168718-11

Matrix: Solid Lab File ID: NG722K21079.d

Analysis Method: 8321B Date Collected: 11/02/2022 11:50

Extraction Method: 8330B Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) Date Analyzed: 11/21/2022 15:22

Con. Extract Vol.: 20(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Synergi Hydro ID:

% Moisture: % Solids: GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21079.d				
Lims ID:	280-168718-A-11-C				
Client ID:	X7B-SS-C01-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:22:52	ALS Bottle#:	24	Worklist Smp#:	34
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-A-11-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:51	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

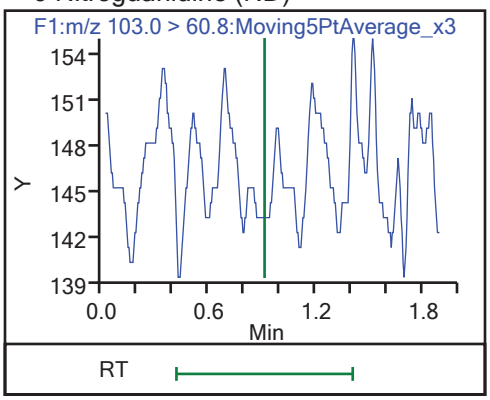
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:53 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21079.d				
Injection Date:	21-Nov-2022 15:22:52	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-A-11-C	Lab Sample ID:	280-168718-11		
Client ID:	X7B-SS-C01-0006				
Operator ID:	ACM	ALS Bottle#:	24	Worklist Smp#:	34
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 | Lab Sample ID: 280-168718-12

Matrix: Solid | Lab File ID: NG722K21081.d

Analysis Method: 8321B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:28

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21081.d				
Lims ID:	280-168718-B-12-C				
Client ID:	X7-TP-C01-5460				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:28:53	ALS Bottle#:	25	Worklist Smp#:	36
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-12-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:54	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

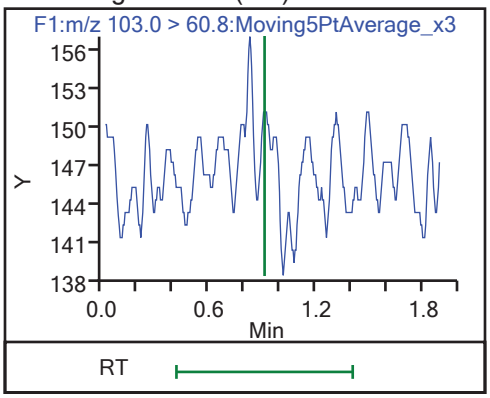
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:54 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21081.d				
Injection Date:	21-Nov-2022 15:28:53	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-12-C	Lab Sample ID:	280-168718-12		
Client ID:	X7-TP-C01-5460				
Operator ID:	ACM	ALS Bottle#:	25	Worklist Smp#:	36
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 | Lab Sample ID: 280-168718-13

Matrix: Solid | Lab File ID: NG722K21082.d

Analysis Method: 8321B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:31

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21082.d				
Lims ID:	280-168718-A-13-C				
Client ID:	X7-TP-C02-3648				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:31:55	ALS Bottle#:	26	Worklist Smp#:	37
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-A-13-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:54	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

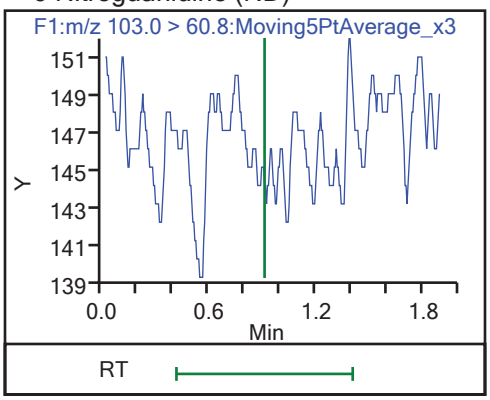
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:54 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21082.d				
Injection Date:	21-Nov-2022 15:31:55	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-A-13-C	Lab Sample ID:	280-168718-13		
Client ID:	X7-TP-C02-3648				
Operator ID:	ACM	ALS Bottle#:	26	Worklist Smp#:	37
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 | Lab Sample ID: 280-168718-14

Matrix: Solid | Lab File ID: NG722K21083.d

Analysis Method: 8321B | Date Collected: 11/02/2022 16:40

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:34

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21083.d				
Lims ID:	280-168718-B-14-C				
Client ID:	X7-TP-C03-4248				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:34:57	ALS Bottle#:	27	Worklist Smp#:	38
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-14-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:54	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

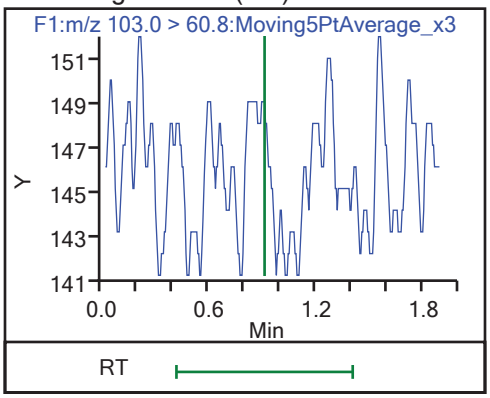
Report Date: 22-Nov-2022 07:41:55 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21083.d

Injection Date:	21-Nov-2022 15:34:57	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-14-C	Lab Sample ID:	280-168718-14		
Client ID:	X7-TP-C03-4248				
Operator ID:	ACM	ALS Bottle#:	27	Worklist Smp#:	38
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 | Lab Sample ID: 280-168718-15

Matrix: Solid | Lab File ID: NG722K21084.d

Analysis Method: 8321B | Date Collected: 11/03/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:37

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21084.d				
Lims ID:	280-168718-B-15-C				
Client ID:	X7-TP-C04-4248				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:37:59	ALS Bottle#:	28	Worklist Smp#:	39
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-15-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:54	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

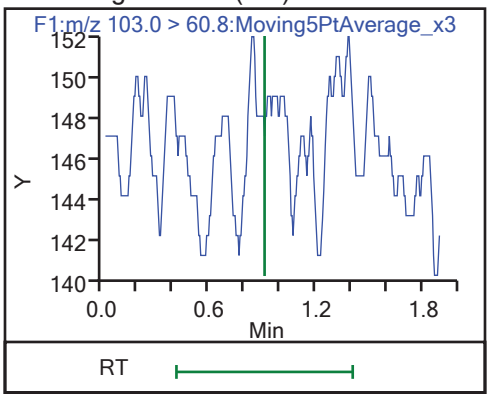
Report Date: 22-Nov-2022 07:41:55 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21084.d

Injection Date:	21-Nov-2022 15:37:59	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-15-C	Lab Sample ID:	280-168718-15		
Client ID:	X7-TP-C04-4248				
Operator ID:	ACM	ALS Bottle#:	28	Worklist Smp#:	39
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 | Lab Sample ID: 280-168718-16

Matrix: Solid | Lab File ID: NG722K21085.d

Analysis Method: 8321B | Date Collected: 11/03/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:41

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21085.d				
Lims ID:	280-168718-B-16-C				
Client ID:	X3-SS-C07-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:41:01	ALS Bottle#:	29	Worklist Smp#:	40
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-16-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:54	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

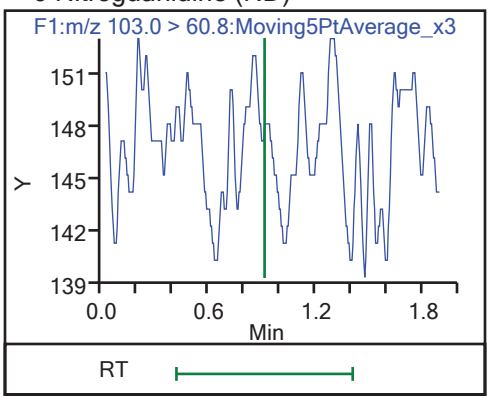
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:55 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21085.d				
Injection Date:	21-Nov-2022 15:41:01	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-16-C	Lab Sample ID:	280-168718-16		
Client ID:	X3-SS-C07-0006				
Operator ID:	ACM	ALS Bottle#:	29	Worklist Smp#:	40
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 | Lab Sample ID: 280-168718-17

Matrix: Solid | Lab File ID: NG722K21086.d

Analysis Method: 8321B | Date Collected: 11/03/2022 10:45

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:44

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21086.d				
Lims ID:	280-168718-A-17-C				
Client ID:	X3-SS-C08-0006				
Sample Type:	Client				
Inject. Date:	21-Nov-2022 15:44:03	ALS Bottle#:	30	Worklist Smp#:	41
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-A-17-C				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:54	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				
First Level Reviewer: PE6P		Date:	22-Nov-2022 06:50:47		

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:56 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21086.d

Injection Date: 21-Nov-2022 15:44:03 Instrument ID: LC_LCMS7

Lims ID: 280-168718-A-17-C Lab Sample ID: 280-168718-17

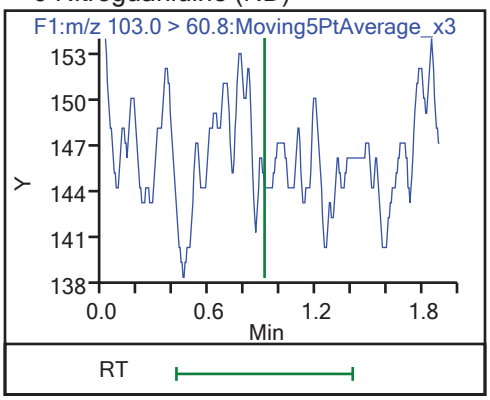
Client ID: X3-SS-C08-0006

Operator ID: ACM ALS Bottle#: 30 Worklist Smp#: 41

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: LC_LCMS7 GC Column: Synergi Hyd ID: Heated

Calibration Start Date: 11/21/2022 13:52 Calibration End Date: 11/21/2022 14:10 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD001 280-594294/4	NG722K21049.d
Level 2	STD002 280-594294/5	NG722K21050.d
Level 3	STD003 280-594294/6	NG722K21051.d
Level 4	STD004 280-594294/7	NG722K21052.d
Level 5	STD005 280-594294/8	NG722K21053.d
Level 6	STD006 280-594294/9	NG722K21054.d
Level 7	STD007 280-594294/10	NG722K21055.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7			
Nitroguanidine	0.914	0.908	0.908	0.908	0.908	0.903	0.897			

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: LC_LCMS7 GC Column: Synergi Hyd ID: Heated

Calibration Start Date: 11/21/2022 13:52 Calibration End Date: 11/21/2022 14:10 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD001 280-594294/4	NG722K21049.d
Level 2	STD002 280-594294/5	NG722K21050.d
Level 3	STD003 280-594294/6	NG722K21051.d
Level 4	STD004 280-594294/7	NG722K21052.d
Level 5	STD005 280-594294/8	NG722K21053.d
Level 6	STD006 280-594294/9	NG722K21054.d
Level 7	STD007 280-594294/10	NG722K21055.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2		
Nitroguanidine	74.303 79.133	81.474 64.522	91.713 47.478	71.853	Qua1	-18.091984	83.637865 1	-0.072278 4		

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: LC_LCMS7 GC Column: Synergi Hyd ID: Heated

Calibration Start Date: 11/21/2022 13:52 Calibration End Date: 11/21/2022 14:10 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD001 280-594294/4	NG722K21049.d
Level 2	STD002 280-594294/5	NG722K21050.d
Level 3	STD003 280-594294/6	NG722K21051.d
Level 4	STD004 280-594294/7	NG722K21052.d
Level 5	STD005 280-594294/8	NG722K21053.d
Level 6	STD006 280-594294/9	NG722K21054.d
Level 7	STD007 280-594294/10	NG722K21055.d

ANALYTE	CURVE TYPE	RESPONSE					CO	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
Nitroguanidine	Qua1	373 16195	818 23834	2302	3607	7945	5.02 251	10 5

Curve Type Legend
Qua1 = Quadratic 1/Conc

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21049.d
Lims ID: STD001
Client ID:
Sample Type: IC Calib Level: 1
Inject. Date: 21-Nov-2022 13:52:18 ALS Bottle#: 2 Worklist Smp#: 4
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD L1
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:47 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.914	0.908	0.006	373	4.70	14.8	

Reagents:

NGu Cal_00003 Amount Added: 0.50 Units: uL

Report Date: 22-Nov-2022 06:50:48 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21049.d

Injection Date: 21-Nov-2022 13:52:18 Instrument ID: LC_LCMS7

Lims ID: STD001

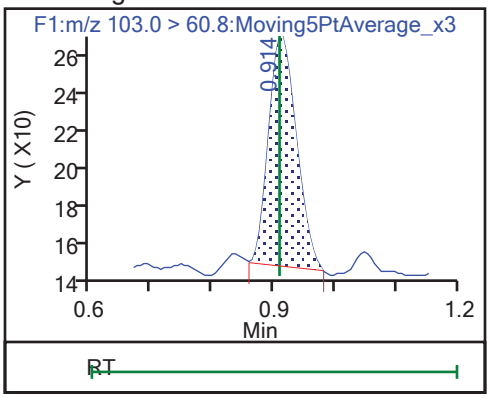
Client ID:

Operator ID: ACM ALS Bottle#: 2 Worklist Smp#: 4

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21050.d
Lims ID: STD002
Client ID:
Sample Type: IC Calib Level: 2
Inject. Date: 21-Nov-2022 13:55:19 ALS Bottle#: 3 Worklist Smp#: 5
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD L2
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:48 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	818	10.1	33.9	

Reagents:

NGu Cal_00003 Amount Added: 1.00 Units: uL

Report Date: 22-Nov-2022 06:50:48 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21050.d

Injection Date: 21-Nov-2022 13:55:19 Instrument ID: LC_LCMS7

Lims ID: STD002

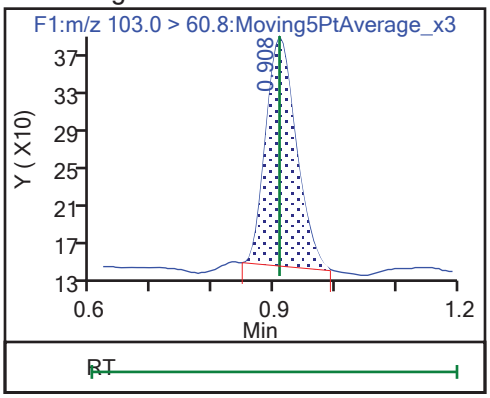
Client ID:

Operator ID: ACM ALS Bottle#: 3 Worklist Smp#: 5

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21051.d
Lims ID: STD003
Client ID:
Sample Type: IC Calib Level: 3
Inject. Date: 21-Nov-2022 13:58:19 ALS Bottle#: 4 Worklist Smp#: 6
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD L3
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:48 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	2302	28.4	65.6	

Reagents:

NGu Cal_00003 Amount Added: 2.50 Units: uL

Report Date: 22-Nov-2022 06:50:48 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21051.d

Injection Date: 21-Nov-2022 13:58:19 Instrument ID: LC_LCMS7

Lims ID: STD003

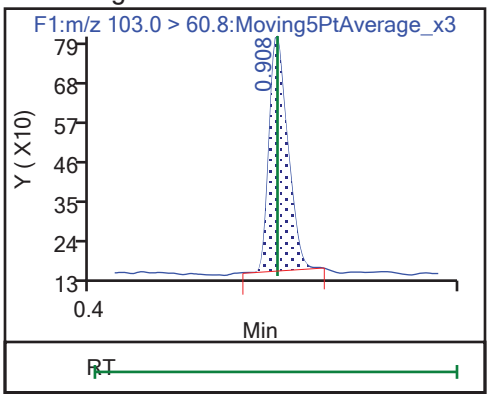
Client ID:

Operator ID: ACM ALS Bottle#: 4 Worklist Smp#: 6

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21052.d
Lims ID: STD004
Client ID:
Sample Type: IC Calib Level: 4
Inject. Date: 21-Nov-2022 14:01:19 ALS Bottle#: 5 Worklist Smp#: 7
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD L4
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:49 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	3607	45.1	170	

Reagents:

NGu Cal_00003 Amount Added: 5.00 Units: uL

Report Date: 22-Nov-2022 06:50:49 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21052.d

Injection Date: 21-Nov-2022 14:01:19 Instrument ID: LC_LCMS7

Lims ID: STD004

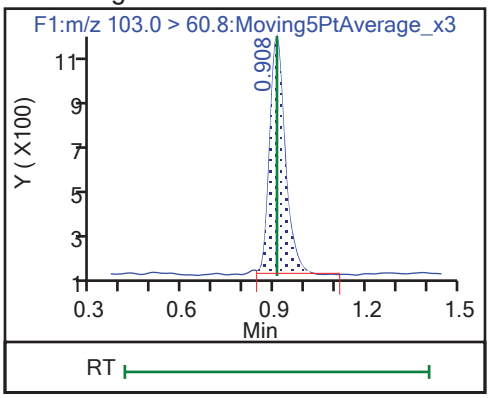
Client ID:

Operator ID: ACM ALS Bottle#: 5 Worklist Smp#: 7

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21053.d
Lims ID: STD005
Client ID:
Sample Type: IC Calib Level: 5
Inject. Date: 21-Nov-2022 14:04:20 ALS Bottle#: 6 Worklist Smp#: 8
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD L5
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:49 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	7945	104.7	356	

Reagents:

NGu Cal_00003 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2022 06:50:49 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21053.d

Injection Date: 21-Nov-2022 14:04:20 Instrument ID: LC_LCMS7

Lims ID: STD005

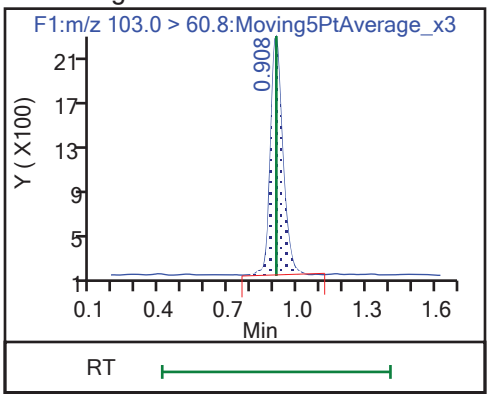
Client ID:

Operator ID: ACM ALS Bottle#: 6 Worklist Smp#: 8

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21054.d
Lims ID: STD006
Client ID:
Sample Type: IC Calib Level: 6
Inject. Date: 21-Nov-2022 14:07:20 ALS Bottle#: 7 Worklist Smp#: 9
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD L6
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:49 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.903	0.908	-0.005	16195	246.3	501	

Reagents:

NGu Cal_00003 Amount Added: 25.00 Units: uL

Report Date: 22-Nov-2022 06:50:49 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21054.d

Injection Date: 21-Nov-2022 14:07:20 Instrument ID: LC_LCMS7

Lims ID: STD006

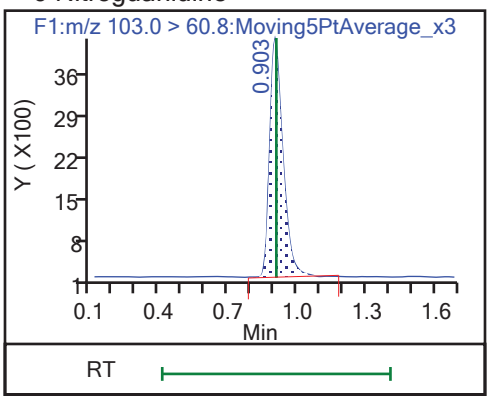
Client ID:

Operator ID: ACM ALS Bottle#: 7 Worklist Smp#: 9

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d
Lims ID: STD007
Client ID:
Sample Type: IC Calib Level: 7
Inject. Date: 21-Nov-2022 14:10:20 ALS Bottle#: 8 Worklist Smp#: 10
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: STD L7
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:50 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662

First Level Reviewer: PE6P Date: 22-Nov-2022 06:48:59
Ratio Calibration: Average of Initial Calibration

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.897	0.908	-0.011	23834	509.6	926	

QC Flag Legend
Processing Flags

Reagents:
NGu Cal_00003 Amount Added: 50.00 Units: uL

Report Date: 22-Nov-2022 06:50:50 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Injection Date: 21-Nov-2022 14:10:20 Instrument ID: LC_LCMS7

Lims ID: STD007

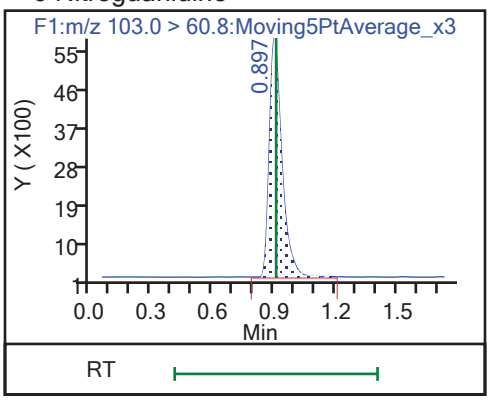
Client ID:

Operator ID: ACM ALS Bottle#: 8 Worklist Smp#: 10

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Calibration / Nitroguanidine

Curve Type:	Quadratic
Weighting:	Conc
Origin:	None
Dependency:	Response
Calib Mode:	ESTD
Response Base:	AREA
RF Rounding:	0

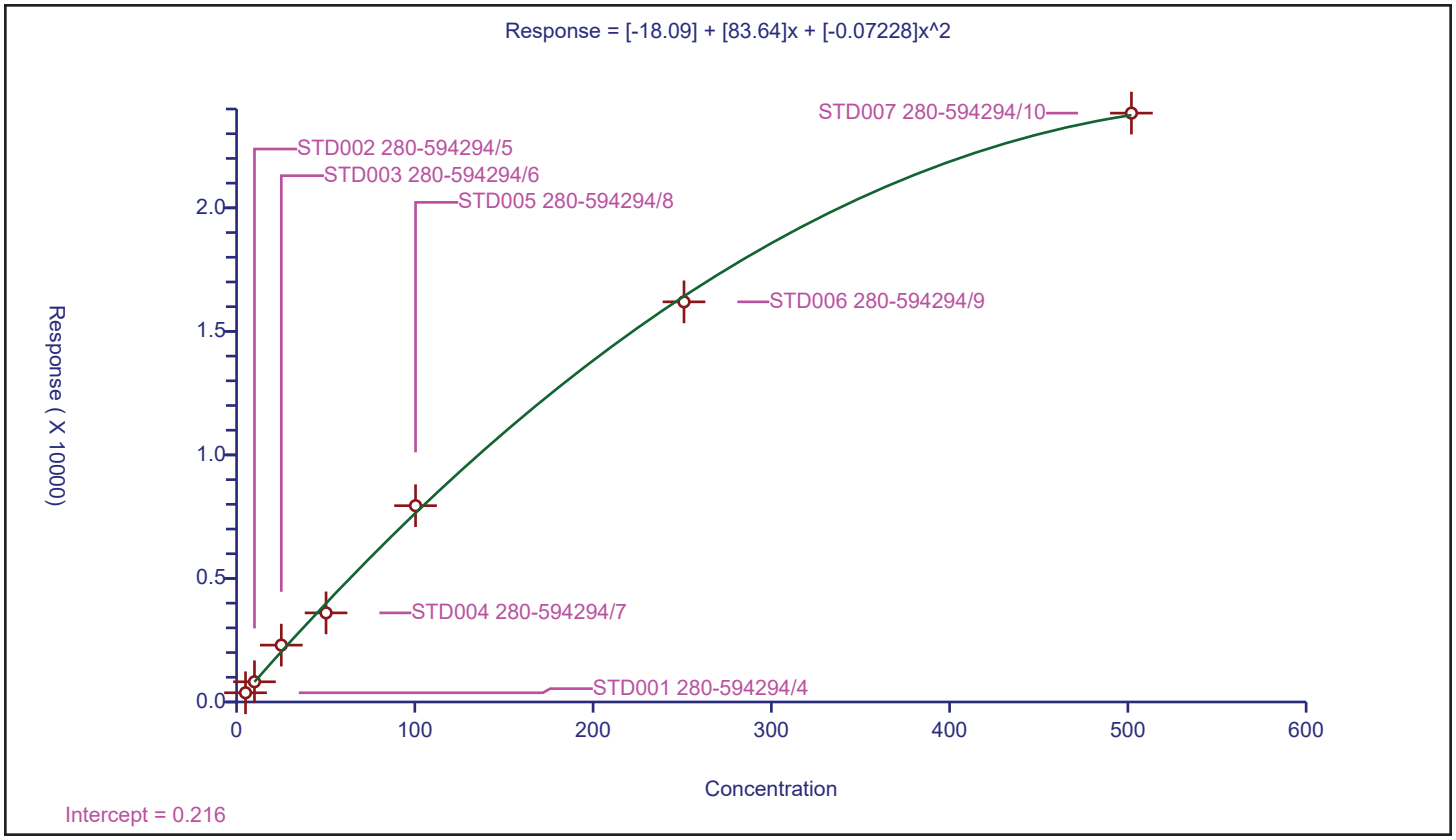
Curve Coefficients

Intercept:	-18.09
Slope:	83.64
Second Order:	-0.07228

Error Coefficients

Standard Error:	304
Relative Standard Error:	9.3
Correlation Coefficient:	0.999
Coefficient of Determination (Adjusted):	0.997

ID	Level	Concentration	Response	IS Amount	IS Response	RF	Used
1	STD001 280-594294/4	5.02	373.0			74.302789	Y
2	STD002 280-594294/5	10.04	818.0			81.474104	Y
3	STD003 280-594294/6	25.1	2302.0			91.713147	Y
4	STD004 280-594294/7	50.2	3607.0			71.85259	Y
5	STD005 280-594294/8	100.4	7945.0			79.133466	Y
6	STD006 280-594294/9	251.0	16195.0			64.521912	Y
7	STD007 280-594294/10	502.0	23834.0			47.478088	Y



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-594294/12 Calibration Date: 11/21/2022 14:16

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21057.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		65.55		84.9	100	-15.2	20.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21057.d
Lims ID: ICV
Client ID:
Sample Type: ICV
Inject. Date: 21-Nov-2022 14:16:22 ALS Bottle#: 9 Worklist Smp#: 12
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: ICV
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist:

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:33 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	6562	84.9	230	

Reagents:

NGuWorkingICV_00002 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2022 06:59:33 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21057.d

Injection Date: 21-Nov-2022 14:16:22 Instrument ID: LC_LCMS7

Lims ID: ICV

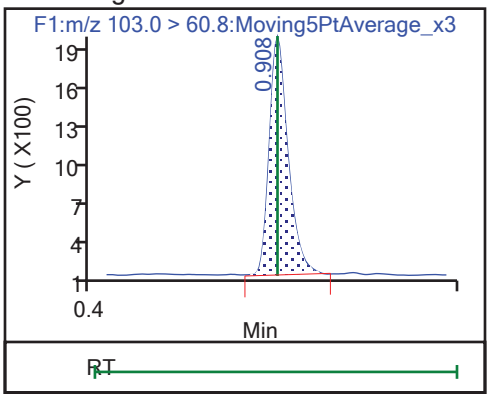
Client ID:

Operator ID: ACM ALS Bottle#: 9 Worklist Smp#: 12

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594294/18 Calibration Date: 11/21/2022 14:34

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21063.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		90.08		57.1	50.2	13.7	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594295/18 Calibration Date: 11/21/2022 14:34

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21063.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		90.08		57.1	50.2	13.7	30.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21063.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Nov-2022 14:34:33 ALS Bottle#: 5 Worklist Smp#: 18
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:35 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	4522	57.1	201	

Reagents:

NGu Cal_00003 Amount Added: 5.00 Units: uL

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21063.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Nov-2022 14:34:33 ALS Bottle#: 5 Worklist Smp#: 18
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:35 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	4522	57.1	201	

Reagents:

NGu Cal_00003 Amount Added: 5.00 Units: uL

Report Date: 22-Nov-2022 06:59:35 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21063.d

Injection Date: 21-Nov-2022 14:34:33 Instrument ID: LC_LCMS7

Lims ID: CCV

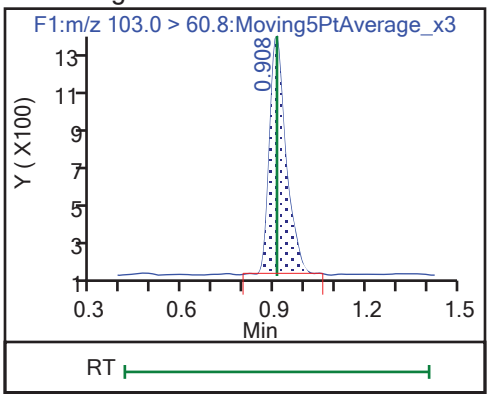
Client ID:

Operator ID: ACM ALS Bottle#: 5 Worklist Smp#: 18

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



Report Date: 22-Nov-2022 06:59:35 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21063.d

Injection Date: 21-Nov-2022 14:34:33 Instrument ID: LC_LCMS7

Lims ID: CCV

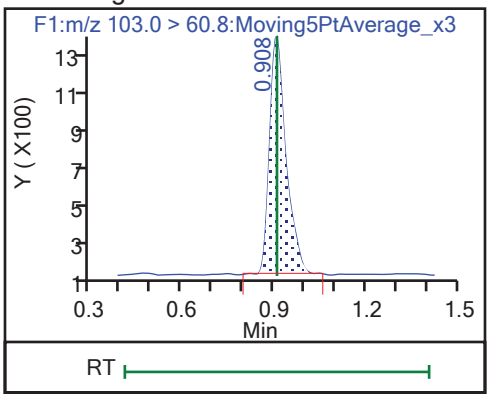
Client ID:

Operator ID: ACM ALS Bottle#: 5 Worklist Smp#: 18

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-495294/27 Calibration Date: 11/21/2022 14:01

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:42

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 15:10

Lab File ID: NG722K21072.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		66.58		86.4	100	-13.9	30.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21072.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Nov-2022 15:01:42 ALS Bottle#: 6 Worklist Smp#: 27
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 07:41:51 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	6675	86.5	319	

Reagents:

NGu Cal_00003 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2022 07:41:51 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21072.d

Injection Date: 21-Nov-2022 15:01:42 Instrument ID: LC_LCMS7

Lims ID: CCV

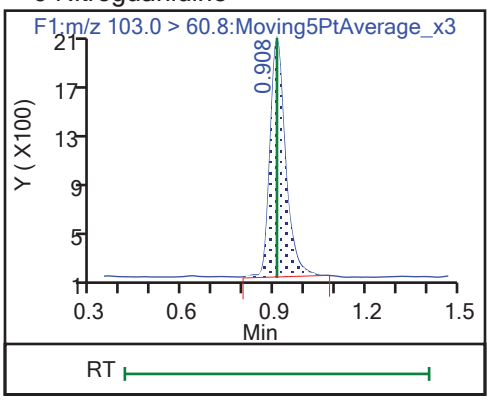
Client ID:

Operator ID: ACM ALS Bottle#: 6 Worklist Smp#: 27

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-495294/34 Calibration Date: 11/21/2022 14:24

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:42

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 15:10

Lab File ID: NG722K21080.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		68.49		53.0	40.2	-15.5	30.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21080.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Nov-2022 15:25:54 ALS Bottle#: 5 Worklist Smp#: 35
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 07:41:54 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	3443	43.0	142	

Reagents:

NGu Cal_00003 Amount Added: 5.00 Units: uL

Report Date: 22-Nov-2022 07:41:54 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21080.d

Injection Date: 21-Nov-2022 15:25:54 Instrument ID: LC_LCMS7

Lims ID: CCV

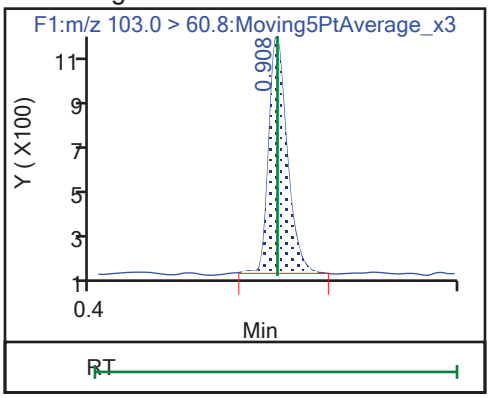
Client ID:

Operator ID: ACM ALS Bottle#: 5 Worklist Smp#: 35

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594295/42 Calibration Date: 11/21/2022 15:47

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21087.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		57.31		73.7	100	-26.6	30.0

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21087.d
Lims ID: CCV
Client ID:
Sample Type: CCV
Inject. Date: 21-Nov-2022 15:47:05 ALS Bottle#: 6 Worklist Smp#: 42
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: CCV
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7
Sublist: chrom-8321_NGu*sub2

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 07:41:56 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	5754	73.7	204	

Reagents:

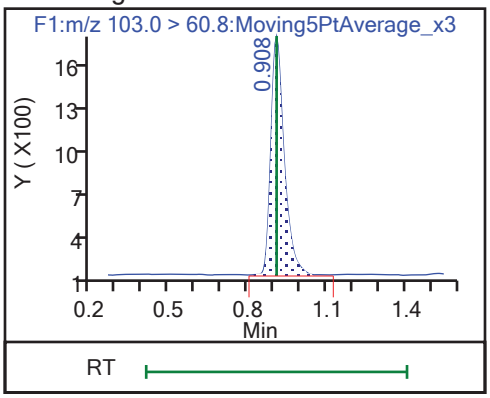
NGu Cal_00003 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2022 07:41:56 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21087.d
Injection Date: 21-Nov-2022 15:47:05 Instrument ID: LC_LCMS7
Lims ID: CCV
Client ID:
Operator ID: ACM ALS Bottle#: 6 Worklist Smp#: 42
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-593821/1-A

Matrix: Solid | Lab File ID: NG722K21064.d

Analysis Method: 8321B | Date Collected:

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:37

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21064.d				
Lims ID:	MB 280-593821/1-A				
Client ID:					
Sample Type:	MB				
Inject. Date:	21-Nov-2022 14:37:34	ALS Bottle#:	10	Worklist Smp#:	19
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	MB 280-593821/1-A				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 06:59:42	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:48 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21064.d

Injection Date: 21-Nov-2022 14:37:34 Instrument ID: LC_LCMS7

Lims ID: MB 280-593821/1-A

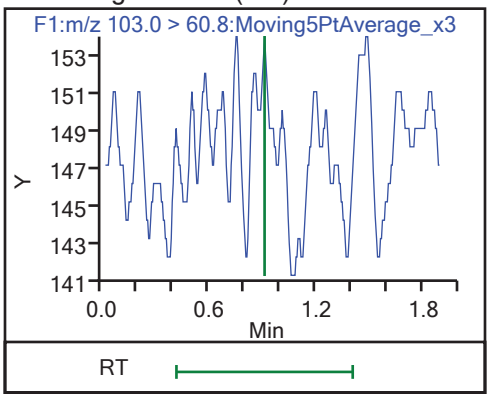
Client ID:

Operator ID: ACM ALS Bottle#: 10 Worklist Smp#: 19

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-594294/13

Matrix: Water | Lab File ID: NG722K21058.d

Analysis Method: 8321B | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:19

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	10	U	20	10	3.7

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21058.d
Lims ID: MB
Client ID:
Sample Type: MB
Inject. Date: 21-Nov-2022 14:19:22 ALS Bottle#: 31 Worklist Smp#: 13
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: MB
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:33 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 06:59:33 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21058.d

Injection Date: 21-Nov-2022 14:19:22 Instrument ID: LC_LCMS7

Lims ID: MB

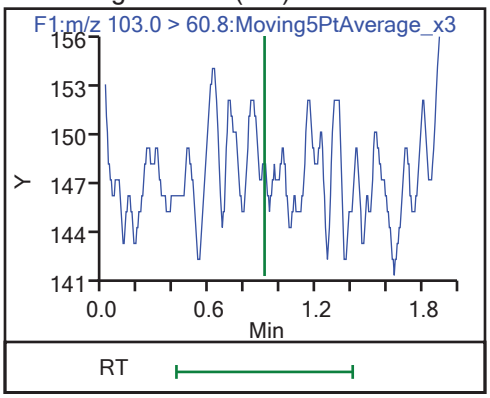
Client ID:

Operator ID: ACM ALS Bottle#: 31 Worklist Smp#: 13

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: ICB 280-594294/11

Matrix: Solid | Lab File ID: NG722K21056.d

Analysis Method: 8321B | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:13

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	10	U	20	10	3.7

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21056.d
Lims ID: ICB
Client ID:
Sample Type: ICB
Inject. Date: 21-Nov-2022 14:13:21 ALS Bottle#: 1 Worklist Smp#: 11
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: ICB
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:50:50 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 06:59:32 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21056.d

Injection Date: 21-Nov-2022 14:13:21 Instrument ID: LC_LCMS7

Lims ID: ICB

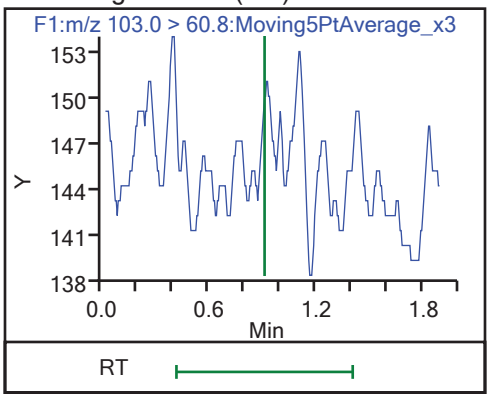
Client ID:

Operator ID: ACM ALS Bottle#: 1 Worklist Smp#: 11

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-593821/2-A

Matrix: Solid | Lab File ID: NG722K21065.d

Analysis Method: 8321B | Date Collected:

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:40

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	164		40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21065.d
Lims ID: LCS 280-593821/2-A
Client ID:
Sample Type: LCS
Inject. Date: 21-Nov-2022 14:40:35 ALS Bottle#: 11 Worklist Smp#: 20
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-593821/2-A
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:42 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	6344	81.9	216	

Report Date: 22-Nov-2022 07:41:49 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21065.d

Injection Date: 21-Nov-2022 14:40:35 Instrument ID: LC_LCMS7

Lims ID: LCS 280-593821/2-A

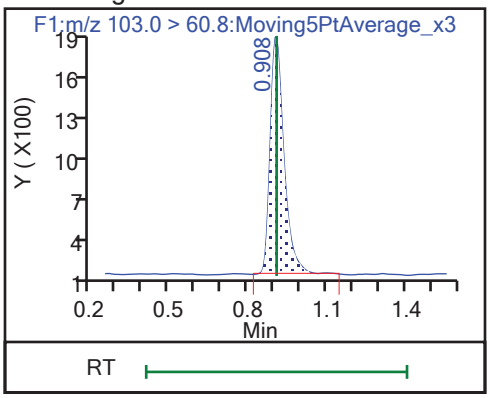
Client ID:

Operator ID: ACM ALS Bottle#: 11 Worklist Smp#: 20

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: LCS 280-594294/14

Matrix: Water | Lab File ID: NG722K21059.d

Analysis Method: 8321B | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:22

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	105		20	10	3.7

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21059.d
Lims ID: LCS
Client ID:
Sample Type: LCS
Inject. Date: 21-Nov-2022 14:22:25 ALS Bottle#: 32 Worklist Smp#: 14
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: LCS
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:33 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.903	0.908	-0.005	7948	104.7	438	

Reagents:

NGu Cal_00003 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2022 06:59:34 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21059.d

Injection Date: 21-Nov-2022 14:22:25 Instrument ID: LC_LCMS7

Lims ID: LCS

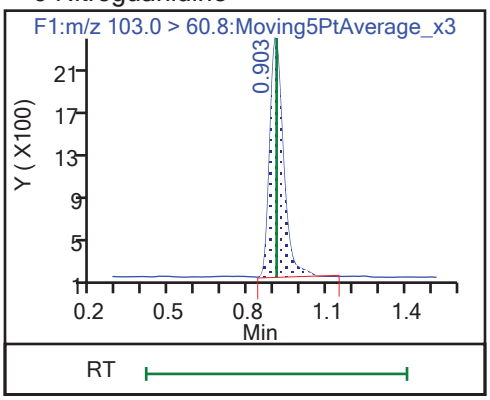
Client ID:

Operator ID: ACM ALS Bottle#: 32 Worklist Smp#: 14

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: RB-11012201 MS | Lab Sample ID: 280-168718-6 MS

Matrix: Water | Lab File ID: NG722K21061.d

Analysis Method: 8321B | Date Collected: 11/01/2022 15:45

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:28

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	90.1		20	10	3.7

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21061.d
Lims ID: 280-168718-C-6 MS
Client ID:
Sample Type: MS
Inject. Date: 21-Nov-2022 14:28:29 ALS Bottle#: 34 Worklist Smp#: 16
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-C-6 MS
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:33 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.903	0.908	-0.005	6930	90.1	271	

Reagents:

NGu Cal_00003 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2022 06:59:34 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21061.d

Injection Date: 21-Nov-2022 14:28:29 Instrument ID: LC_LCMS7

Lims ID: 280-168718-C-6 MS

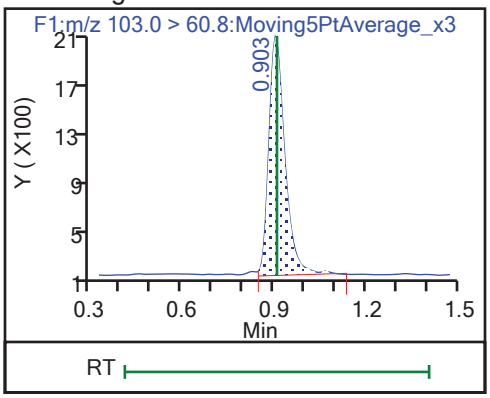
Client ID:

Operator ID: ACM ALS Bottle#: 34 Worklist Smp#: 16

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MS | Lab Sample ID: 280-168718-9 MS

Matrix: Solid | Lab File ID: NG722K21074.d

Analysis Method: 8321B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:07

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	74.4	H J1	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21074.d
Lims ID: 280-168718-B-9-N MS
Client ID: X3-SS-CO6-0006
Sample Type: MS
Inject. Date: 21-Nov-2022 15:07:43 ALS Bottle#: 19 Worklist Smp#: 29
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-N MS
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 07:41:51 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

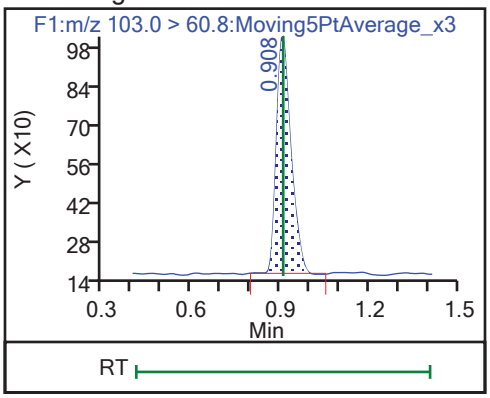
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	2993	37.2	145	

Report Date: 22-Nov-2022 07:41:52 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21074.d				
Injection Date:	21-Nov-2022 15:07:43	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-9-N MS				
Client ID:	X3-SS-CO6-0006				
Operator ID:	ACM	ALS Bottle#:	19	Worklist Smp#:	29
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: RB-11012201 MSD | Lab Sample ID: 280-168718-6 MSD

Matrix: Water | Lab File ID: NG722K21062.d

Analysis Method: 8321B | Date Collected: 11/01/2022 15:45

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:31

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	107		20	10	3.7

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21062.d
Lims ID: 280-168718-C-6 MSD
Client ID:
Sample Type: MSD
Inject. Date: 21-Nov-2022 14:31:31 ALS Bottle#: 35 Worklist Smp#: 17
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-C-6 MSD
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 06:59:33 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	8088	106.8	436	

Reagents:

NGu Cal_00003 Amount Added: 10.00 Units: uL

Report Date: 22-Nov-2022 06:59:34 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21062.d

Injection Date: 21-Nov-2022 14:31:31 Instrument ID: LC_LCMS7

Lims ID: 280-168718-C-6 MSD

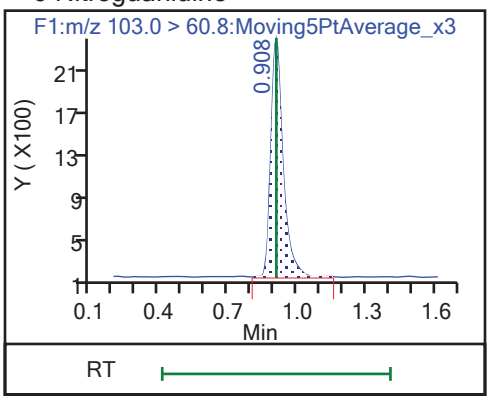
Client ID:

Operator ID: ACM ALS Bottle#: 35 Worklist Smp#: 17

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MSD | Lab Sample ID: 280-168718-9 MSD

Matrix: Solid | Lab File ID: NG722K21075.d

Analysis Method: 8321B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:10

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	72.2	H J1	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21075.d
Lims ID: 280-168718-B-9-O MSD
Client ID: X3-SS-CO6-0006
Sample Type: MSD
Inject. Date: 21-Nov-2022 15:10:45 ALS Bottle#: 20 Worklist Smp#: 30
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-O MSD
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 07:41:51 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

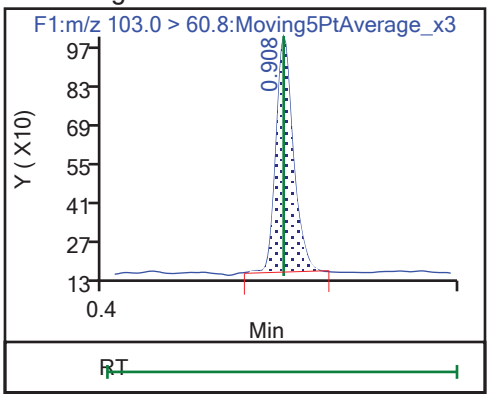
Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags
9 Nitroguanidine							
103.0 > 60.8	0.908	0.908	0.0	2907	36.1	95.2	

Report Date: 22-Nov-2022 07:41:52 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21075.d				
Injection Date:	21-Nov-2022 15:10:45	Instrument ID:	LC_LCMS7		
Lims ID:	280-168718-B-9-O MSD				
Client ID:	X3-SS-CO6-0006				
Operator ID:	ACM	ALS Bottle#:	20	Worklist Smp#:	30
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Method:	8321_NGu	Limit Group:	LC - 8321 NGu		

9 Nitroguanidine



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 Dx Lab Sample ID: 280-168718-K Dx

Matrid: SoliB Lab File ID: NG722c21076.B

Anal/sis Met5oB: 8321h Date ColleyteB: 11V02V2022 10:1j

Edtraytion Met5oB: 8330h Date EdtrayteB: 11V17V2022 0K:02

Sample wtVvol: 10zg9 Date Anal/4eB: 11V21V2022 1j:13

Con. Edtrayt Pol.: 20zmL9 Dilution Faytor: 1

In(eytion Polume: 20zuL9 GC Column: S/nergi H/Bro ID:

% Moisture: % SoliBs: G)C Cleanup:zYVN9 N

Cleanup Faytor:

Anal/sis haty5 No.: jKU2Kj xnits: ugVcg

CAS NO.	COM)OxND NAME	RESxLT	Q	LOQ	LOD	DL
jj6-88-7	NitroguaniBine	2j	x	U0	2j	11

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21076.d
Lims ID: 280-168718-B-9-P DU
Client ID:
Sample Type: DU
Inject. Date: 21-Nov-2022 15:13:47 ALS Bottle#: 21 Worklist Smp#: 31
Injection Vol: 20.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-B-9-P DU
Misc. Info.: NG722K21
Operator ID: ACM Instrument ID: LC_LCMS7

Method: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m
Limit Group: LC - 8321 NGu
Last Update: 22-Nov-2022 07:41:51 Calib Date: 21-Nov-2022 14:10:20
Integrator: Picker
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d

Column 1 : Phenomenex Synergi Hydro (0.00 mm) Det: F1:MRM
Process Host: CTX1662
Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:52 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21076.d

Injection Date: 21-Nov-2022 15:13:47 Instrument ID: LC_LCMS7

Lims ID: 280-168718-B-9-P DU

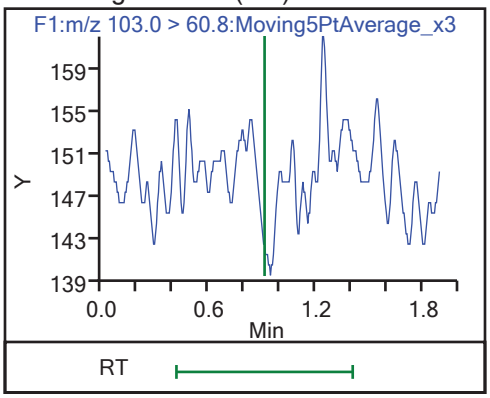
Client ID:

Operator ID: ACM ALS Bottle#: 21 Worklist Smp#: 31

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 TRL | Lab Sample ID: 280-168718-9 TRL

Matrix: Solid | Lab File ID: NG722K21077.d

Analysis Method: 8321B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:16

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

Eurofins Denver
Target Compound Quantitation Report

Data File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21077.d				
Lims ID:	280-168718-B-9-Q TRL				
Client ID:					
Sample Type:	TRL				
Inject. Date:	21-Nov-2022 15:16:49	ALS Bottle#:	22	Worklist Smp#:	32
Injection Vol:	20.0 ul	Dil. Factor:	1.0000		
Sample Info:	280-168718-B-9-Q TRL				
Misc. Info.:	NG722K21				
Operator ID:	ACM	Instrument ID:	LC_LCMS7		
Method:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\8321_NGu.m				
Limit Group:	LC - 8321 NGu				
Last Update:	22-Nov-2022 07:41:51	Calib Date:	21-Nov-2022 14:10:20		
Integrator:	Picker				
Quant Method:	External Standard	Quant By:	Initial Calibration		
Last ICal File:	\\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21055.d				
Column 1 :	Phenomenex Synergi Hydro (0.00 mm)		Det: F1:MRM		
Process Host:	CTX1662				

Ratio Calibration: Initial Calibration Level: 4

Signal	RT	EXP RT	DLT RT	Response	Amount ug/l	S/N	Flags

Report Date: 22-Nov-2022 07:41:53 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\LC_LCMS7\20221121-116326.b\NG722K21077.d

Injection Date: 21-Nov-2022 15:16:49 Instrument ID: LC_LCMS7

Lims ID: 280-168718-B-9-Q TRL

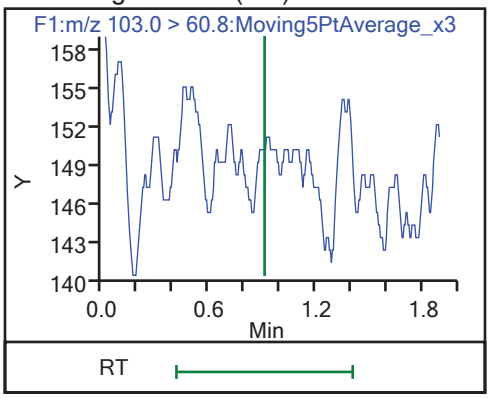
Client ID:

Operator ID: ACM ALS Bottle#: 22 Worklist Smp#: 32

Injection Vol: 20.0 ul Dil. Factor: 1.0000

Method: 8321_NGu Limit Group: LC - 8321 NGu

9 Nitroguanidine (ND)



LCMS ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: LC_LCMS7 Start Date: 11/21/2022 13:52

Analysis Batch Number: 594294 End Date: 11/21/2022 14:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD001 280-594294/4 IC		11/21/2022 13:52	1	NG722K21049.d	Synergi Hydro
STD002 280-594294/5 IC		11/21/2022 13:55	1	NG722K21050.d	Synergi Hydro
STD003 280-594294/6 IC		11/21/2022 13:58	1	NG722K21051.d	Synergi Hydro
STD004 280-594294/7 IC		11/21/2022 14:01	1	NG722K21052.d	Synergi Hydro
STD005 280-594294/8 IC		11/21/2022 14:04	1	NG722K21053.d	Synergi Hydro
STD006 280-594294/9 IC		11/21/2022 14:07	1	NG722K21054.d	Synergi Hydro
STD007 280-594294/10 IC		11/21/2022 14:10	1	NG722K21055.d	Synergi Hydro
ICB 280-594294/11		11/21/2022 14:13	1	NG722K21056.d	Synergi Hydro
ICV 280-594294/12		11/21/2022 14:16	1	NG722K21057.d	Synergi Hydro
MB 280-594294/13		11/21/2022 14:19	1	NG722K21058.d	Synergi Hydro
LCS 280-594294/14		11/21/2022 14:22	1	NG722K21059.d	Synergi Hydro
280-168718-6	RB-11012201	11/21/2022 14:25	1	NG722K21060.d	Synergi Hydro
280-168718-6 MS	RB-11012201 MS	11/21/2022 14:28	1	NG722K21061.d	Synergi Hydro
280-168718-6 MSD	RB-11012201 MSD	11/21/2022 14:31	1	NG722K21062.d	Synergi Hydro
CCV 280-594294/18		11/21/2022 14:34	1	NG722K21063.d	Synergi Hydro

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: LC_LCMS7 Start Date: 11/21/2022 14:34

Analysis Batch Number: 594295 End Date: 11/21/2022 15:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-594295/18		11/21/2022 14:34	1	NG722K21063.d	Synergi Hydro
MB 280-593821/1-A		11/21/2022 14:37	1	NG722K21064.d	Synergi Hydro
LCS 280-593821/2-A		11/21/2022 14:40	1	NG722K21065.d	Synergi Hydro
280-168718-1	X3-SS-C01-0006	11/21/2022 14:43	1	NG722K21066.d	Synergi Hydro
280-168718-2	FD-11012201	11/21/2022 14:46	1	NG722K21067.d	Synergi Hydro
280-168718-3	X3-SS-C02-0006	11/21/2022 14:49	1	NG722K21068.d	Synergi Hydro
280-168718-5	X3-SS-C04-0006	11/21/2022 14:52	1	NG722K21069.d	Synergi Hydro
280-168718-7	X3-SS-C05-0006	11/21/2022 14:55	1	NG722K21070.d	Synergi Hydro
280-168718-8	FD-11022201	11/21/2022 14:58	1	NG722K21071.d	Synergi Hydro
CCV 280-594295/27		11/21/2022 15:01	1	NG722K21072.d	Synergi Hydro
280-168718-9	X3-SS-CO6-0006	11/21/2022 15:04	1	NG722K21073.d	Synergi Hydro
280-168718-9 MS	X3-SS-CO6-0006 MS	11/21/2022 15:07	1	NG722K21074.d	Synergi Hydro
280-168718-9 MSD	X3-SS-CO6-0006 MSD	11/21/2022 15:10	1	NG722K21075.d	Synergi Hydro
280-168718-9 DU	X3-SS-CO6-0006 DU	11/21/2022 15:13	1	NG722K21076.d	Synergi Hydro
280-168718-9 TRL	X3-SS-CO6-0006 TRL	11/21/2022 15:16	1	NG722K21077.d	Synergi Hydro
280-168718-10	X7-SS-C01-0006	11/21/2022 15:19	1	NG722K21078.d	Synergi Hydro
280-168718-11	X7B-SS-C01-0006	11/21/2022 15:22	1	NG722K21079.d	Synergi Hydro
CCV 280-594295/35		11/21/2022 15:25	1	NG722K21080.d	Synergi Hydro
280-168718-12	X7-TP-C01-5460	11/21/2022 15:28	1	NG722K21081.d	Synergi Hydro
280-168718-13	X7-TP-C02-3648	11/21/2022 15:31	1	NG722K21082.d	Synergi Hydro
280-168718-14	X7-TP-C03-4248	11/21/2022 15:34	1	NG722K21083.d	Synergi Hydro
280-168718-15	X7-TP-C04-4248	11/21/2022 15:37	1	NG722K21084.d	Synergi Hydro
280-168718-16	X3-SS-C07-0006	11/21/2022 15:41	1	NG722K21085.d	Synergi Hydro
280-168718-17	X3-SS-C08-0006	11/21/2022 15:44	1	NG722K21086.d	Synergi Hydro
CCV 280-594295/42		11/21/2022 15:47	1	NG722K21087.d	Synergi Hydro

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment			
280-168718-B-1	X3-SS-C01-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-2	FD-11012201	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-3	X3-SS-C02-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-5	X3-SS-C04-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-7	X3-SS-C05-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-8	FD-11022201	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-9	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-9 MS	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 MSD	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 DU	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330			
280-168718-B-9 TRL	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330			
280-168718-B-10	X7-SS-C01-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-11	X7B-SS-C01-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
280-168718-B-12	X7-TP-C01-5460	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-A-13	X7-TP-C02-3648	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-B-14	X7-TP-C03-4248	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-B-15	X7-TP-C04-4248	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-B-16	X3-SS-C07-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-A-17	X3-SS-C08-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				

Batch Notes	
Date and Time laid out to Dry	11/07/22 16:48
Laid out on Parchment or Foil	Foil
Analyst ID - Drying	DL
Analyst ID - Label Check	Reviewer: NC
SOP Number	DV-OP-0013; DV-OP-0018
Batch Comment	Tower: Yuuko

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

BATCH:	592646							
DV-F-0085 rev 2022-04-26. Use this spreadsheet to document sample weights during the ISM process.								
	Method --->	gross weight	container tare weight	initial sample weight	dried sample weight	nonsoil material	min aliquot size needed	ali
	Balance ID --->	38602403	38602403	calculated	24750399		NA	
Login	**Sample**	(g)	(g)	(g)	(g)	(g)	(g)	
280-168718	1	405.31	211.8	193.51	154.9	NA	10-11g	
280-168718	2	402.13	212.85	189.28	149.8	NA	10-11g	
280-168718	3	361.6	212.2	149.4	106.3	NA	10-11g	
280-168718	5	410.22	211.63	198.59	145.5	NA	10-11g	
280-168718	7	409	211.26	197.74	171	NA	10-11g	
280-168718	8	423.76	212.46	211.3	178.6	NA	10-11g	
280-168718	9	371.43	211.84	159.59	131.1	NA	10-11g	
280-168718	9ms			0		NA	10-11g	
280-168718	9msd			0		NA	10-11g	
280-168718	9ms			0		NA	10-11g	
280-168718	9msd			0		NA	10-11g	
280-168718	9du			0		NA	10-11g	
280-168718	9trl			0		NA	10-11g	
280-168718	10	452.38	211.17	241.21	205.5	NA	10-11g	
280-168718	11	407.58	211.51	196.07	173.4	NA	10-11g	
280-168718	12	473.23	212.58	260.65	229	NA	10-11g	
280-168718	13	484.18	212.57	271.61	241.1	NA	10-11g	
280-168718	14	482.81	212.3	270.51	237.6	NA	10-11g	
280-168718	15	483.82	211.76	272.06	246.3	NA	10-11g	
280-168718	16	446.97	211.67	235.3	209.2	NA	10-11g	
280-168718	17	438.78	211.26	227.52	206.4	NA	10-11g	

BATCH:	592646	
DV-F-0085 rev 2022-04-26. U		
	Method --->	Comments
	Balance ID --->	
Login	Sample	
280-168718	1	
280-168718	2	
280-168718	3	
280-168718	5	
280-168718	7	
280-168718	8	
280-168718	9	
280-168718	9ms	
280-168718	9msd	
280-168718	9ms	extra 8330 aliquot for diamino, DNA spike
280-168718	9msd	extra 8330 aliquot for diamino, DNA spike
280-168718	9du	
280-168718	9trl	
280-168718	10	
280-168718	11	
280-168718	12	
280-168718	13	
280-168718	14	
280-168718	15	
280-168718	16	
280-168718	17	

ISM Batch Number: 592646

DV-F-0070_Rev 2_01-7-2020 Use this spreadsheet to document drying samples to a constant w

balance ID:		38602403	11-8-2022 937	11-8-2022 1156	Dry?		Date/time 3
			EB	MLT			analyst initials
Login	Sample	Tare weight (weight of weighing vessel)	Gross weight (g) (weight of aliquot and weighing vessel)	Gross weight (g) (weight of aliquot and weighing vessel)	Change in weights 1, 2	Proceed with ISM?	Gross weight (g) (weight of aliquot and weighing vessel)
168718	1	1.28	16.09	15.95	**0.95%**	**Yes**	
168718	2	1.27	17.07	16.8	**1.71%**	**Yes**	
168718	3	1.27	11.72	11.39	**3.16%**	**Yes**	
168718	5	1.29	14.53	14.17	**2.72%**	**Yes**	
168718	7	1.28	20.07	19.99	**0.43%**	**Yes**	
168718	8	1.3	31.78	31.68	**0.33%**	**Yes**	
168718	9	1.3	14.16	14.03	**1.01%**	**Yes**	
168718	10	1.25	22.67	22.27	**1.87%**	**Yes**	
168718	11	1.29	19.24	19.09	**0.84%**	**Yes**	
168718	12	1.29	24.43	24.43	**0.00%**	**Yes**	
168718	13	1.26	22.53	22.49	**0.19%**	**Yes**	
168718	14	1.28	16.26	16.24	**0.13%**	**Yes**	
168718	15	1.26	30.13	30.11	**0.07%**	**Yes**	
168718	16	1.28	22.09	21.97	**0.58%**	**Yes**	
168718	17	1.26	26.93	26.88	**0.19%**	**Yes**	

LogTag

Recorder has been Downloaded 11/8/2022 1:42:37 PM

Note: All Date-Time values are in UTC -07:00 DayLight

Alarm Status

Lower	✓	OK
Upper	✓	OK

Recorder Info

Serial #: 2000144856 Model: TRIX-8 Battery: OK Trip #: 95
Description: Explosives Room (-0.6)

Recorder Configuration

Start type :	Push button start	Temperature alarms	
Start delay :	15 Minutes	Lower : 10.6 °C after 3 Consecutive	
Interval :	10 Minutes	or after 3 Accumulative	
Alert indicator :	Enabled lower & upper	Upper : 25.6 °C after 3 Consecutive	
OK indicator :	Enabled	or after 3 Accumulative	

Recorded Data

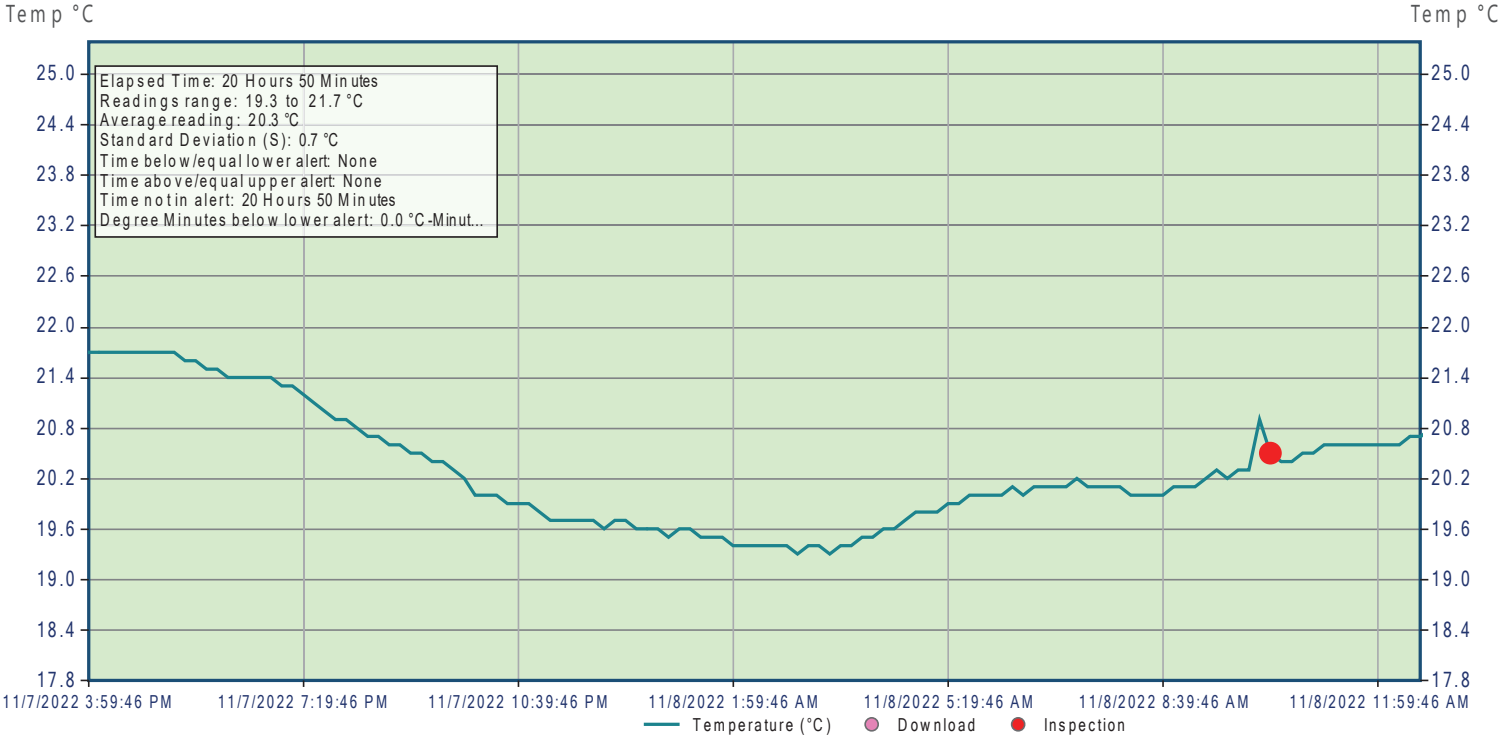
First reading :	10/28/2022 10:59:46 AM	Temperature statistics	
Last reading :	11/8/2022 2:39:46 PM	Lowest :	19.3 °C
Elapsed time :	11 Days 3 Hours 50 Minutes	@	11/8/2022 2:59:46 AM
Total readings :	1607	Highest :	21.7 °C
First evaluated :	11/7/2022 3:59:46 PM	@	11/7/2022 3:59:46 PM
Last evaluated :	11/8/2022 12:39:46 PM	Average reading:	20.3 °C
Evaluated Time :	20 Hours 50 Minutes	Standard Deviation:	0.7 °C(S)
Evaluated Readings :	125	MKT(ΔH 83.144):	20.3 °C

Lower Alarm

Triggered:	(none)
Time below/equal:	(none)
Occurrences :	0
°C - Minutes below :	0.00

Upper Alarm

Triggered:	(none)
Time above/equal:	(none)
Occurrences :	0
°C - Minutes above :	0.00



Source: Explosives Room (-0.6)TRIX-8- 2000144856 Started 10_28_2022, Finished 11_8_20222D34121435_Copy1.ltd
Created : 11/8/2022 1:45:43 PM

Events Info

11/8/2022 10:19:46 AM	Download, Inspection

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593821 Batch Start Date: 11/17/22 09:02 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/17/22 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NGu Cal 00003	
MB 280-593821/1		8330B, 8321B		10 g	20 mL		
LCS 280-593821/2		8330B, 8321B		10 g	20 mL	200 uL	
280-168718-B-1-A	X3-SS-C01-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-2-A	FD-11012201	8330B, 8321B	T	10 g	20 mL		
280-168718-B-3-A	X3-SS-C02-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-5-A	X3-SS-C04-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-7-A	X3-SS-C05-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-8-A	FD-11022201	8330B, 8321B	T	10 g	20 mL		
280-168718-B-9-A	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL	200 uL	
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL	200 uL	
280-168718-B-9-D DU	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-9-E TRL	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-10-A	X7-SS-C01-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-11-A	X7B-SS-C01-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-12-A	X7-TP-C01-5460	8330B, 8321B	T	10 g	20 mL		
280-168718-A-13-A	X7-TP-C02-3648	8330B, 8321B	T	10 g	20 mL		
280-168718-B-14-A	X7-TP-C03-4248	8330B, 8321B	T	10 g	20 mL		
280-168718-B-15-A	X7-TP-C04-4248	8330B, 8321B	T	10 g	20 mL		
280-168718-B-16-A	X3-SS-C07-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-17-A	X3-SS-C08-0006	8330B, 8321B	T	10 g	20 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593821 Batch Start Date: 11/17/22 09:02 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/17/22 14:00

Batch Notes	
Solvent Name	Elga
Solvent Lot #	Elga
Prep Solvent Volume Used	20 mL
Analyst ID - Reagent Drop Witness	Reviewer: DL
Analyst ID - Concentration	TH
Balance ID	C33519
Blank Sand Lot #	198950
Pipette ID for Solvent	graduated cylinder
Pipette ID	syringe
Sonication Start Time	17:57
Sonication Stop Time	11:57
Filter Type	0.45 um
Filter ID	16896456
Date Sample was Dried	548956
Date Sample was Ground	548956
SOP Number	DV-OP-0018

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 594294 Batch Start Date: 11/21/22 13:52 Batch Analyst:

Batch Method: 8321B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	NGu Cal 00003	NGuWorkingICV 00002		
STD001 280-594294/4 IC		8321B		1 mL	0.5 uL			
STD002 280-594294/5 IC		8321B		1 mL	1 uL			
STD003 280-594294/6 IC		8321B		1 mL	2.5 uL			
STD004 280-594294/7 IC		8321B		1 mL	5 uL			
STD005 280-594294/8 IC		8321B		1 mL	10 uL			
STD006 280-594294/9 IC		8321B		1 mL	25 uL			
STD007 280-594294/10 IC		8321B		1 mL	50 uL			
ICB 280-594294/11		8321B		1 mL				
ICV 280-594294/12		8321B		1 mL		10 uL		
MB 280-594294/13		8321B		1 mL				
LCS 280-594294/14		8321B		1 mL	10 uL			
280-168718-C-6	RB-11012201	8321B	T	1 mL				
280-168718-C-6 MS	RB-11012201	8321B	T	1 mL	10 uL			
280-168718-C-6 MSD	RB-11012201	8321B	T	1 mL	10 uL			
CCV 280-594294/18		8321B		1 mL	5 uL			

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

GENERAL CHEMISTRY

COVER PAGE
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-168718-1

SDG No.:

Project: NB Kitsap Bangor CTO NW194112, WA

Client Sample ID	Lab Sample ID
X3-SS-C01-0006	280-168718-1
FD-11012201	280-168718-2
X3-SS-C02-0006	280-168718-3
X3-SS-C04-0006	280-168718-5
X3-SS-C05-0006	280-168718-7
FD-11022201	280-168718-8
X3-SS-CO6-0006	280-168718-9
X7-SS-C01-0006	280-168718-10
X7B-SS-C01-0006	280-168718-11
X7-TP-C01-5460	280-168718-12
X7-TP-C02-3648	280-168718-13
X7-TP-C03-4248	280-168718-14
X7-TP-C04-4248	280-168718-15
X3-SS-C07-0006	280-168718-16
X3-SS-C08-0006	280-168718-17

Comments:

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-168718-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: D 2216 LOQ Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 11/07/2022 09:29 End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 11/07/2022 09:29 End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			09:29	
ZZZZZZ			10:41	
ZZZZZZ			10:41	
ZZZZZZ			10:49	
ZZZZZZ			10:49	
ZZZZZZ			10:49	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 11/07/2022 09:29 End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 11/07/2022 09:29 End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
280-168718-1	1	T	11:11	X
280-168718-2	1	T	13:24	X
280-168718-3	1	T	13:24	X
280-168718-5	1	T	13:24	X
280-168718-7	1	T	13:24	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 11/07/2022 09:29 End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist
280-168718-8	1	T	13:24	X
280-168718-9	1	T	13:24	X
280-168718-10	1	T	13:24	X
280-168718-11	1	T	13:24	X
280-168718-12	1	T	13:24	X
280-168718-13	1	T	13:24	X
280-168718-14	1	T	13:24	X
280-168718-15	1	T	13:24	X
280-168718-16	1	T	13:24	X
280-168718-17	1	T	13:24	X
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver   Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP   Analysis Method: D 2216

Start Date: 11/07/2022 09:29   End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist																									
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										

Prep Types:
T = Total/NA

FORM XIII-IN

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592579 Batch Start Date: 11/07/22 09:29 Batch Analyst:

Batch Method: D 2216 Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	DISH#	DishWeight	SampleMassWet	SampleMassDry	
280-168718-B-1	X3-SS-C01-0006	D 2216	T	152	1.00 g	14.92 g	11.70 g	2
280-168718-A-2	FD-11012201	D 2216	T	153	1.02 g	15.13 g	12.07 g	2
280-168718-B-3	X3-SS-C02-0006	D 2216	T	154	1.01 g	15.72 g	12.25 g	2
280-168718-B-5	X3-SS-C04-0006	D 2216	T	155	0.97 g	15.69 g	11.48 g	2
280-168718-A-7	X3-SS-C05-0006	D 2216	T	156	0.99 g	15.43 g	13.33 g	1
280-168718-A-8	FD-11022201	D 2216	T	157	1.01 g	15.15 g	13.02 g	1
280-168718-B-9	X3-SS-CO6-0006	D 2216	T	158	1.02 g	15.18 g	13.33 g	1
280-168718-B-10	X7-SS-C01-0006	D 2216	T	159	0.99 g	14.99 g	12.66 g	1
280-168718-A-11	X7B-SS-C01-0006	D 2216	T	160	1.01 g	14.45 g	12.65 g	1
280-168718-B-12	X7-TP-C01-5460	D 2216	T	161	1.02 g	16.68 g	14.39 g	1
280-168718-A-13	X7-TP-C02-3648	D 2216	T	162	1.05 g	16.42 g	14.38 g	1
280-168718-B-14	X7-TP-C03-4248	D 2216	T	163	1.02 g	14.99 g	13.19 g	1
280-168718-B-15	X7-TP-C04-4248	D 2216	T	164	1.04 g	16.01 g	14.42 g	1
280-168718-B-16	X3-SS-C07-0006	D 2216	T	165	1.04 g	16.90 g	14.98 g	1
280-168718-A-17	X3-SS-C08-0006	D 2216	T	166	1.04 g	16.18 g	14.61 g	1

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

D 2216

GENERAL CHEMISTRY BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592579 Batch Start Date: 11/07/22 09:29 Batch Analyst:

Batch Method: D 2216 Batch End Date:

Batch Notes	
Balance ID	66040
Oven ID	E
Thermometer ID	1354
Date samples were placed in the oven	11/07/2022
Time samples were place in the oven	15:24
Temperature - Start - Uncorrected	104 Degrees C
Oven Temp In	104 Degrees C
Date samples were removed from oven	11/08/2022
Time Samples were removed from oven	08:06
Temperature - End - Uncorrected	104 Degrees C
Oven Temp Out	104 Degrees C
Date and Time Samples in Desiccator	11/08/2022 08:06
Date and Time Samples out of Desiccator	11/08/2022 09:44
Batch Comment	wet: CF dry: CF

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

D 2216

General Chemistry Raw Data Report

Job ID: 280-168718-1

Batch: 592579 **Analyst Initials: CCF**

Method: D 2216 **Instrument: No Equipment Used for this Test**

Lab Sample ID: 280-168718-B-1 **Analysis Date: Nov 07, 2022 11:11**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	23.132183908046	%

Lab Sample ID: 280-168718-A-2 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	21.6867469879518	%

Lab Sample ID: 280-168718-B-3 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	23.5893949694086	%

Lab Sample ID: 280-168718-B-5 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	28.6005434782609	%

Lab Sample ID: 280-168718-A-7 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	14.5429362880886	%

Lab Sample ID: 280-168718-A-8 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	15.0636492220651	%

Lab Sample ID: 280-168718-B-9 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	13.0649717514124	%

Lab Sample ID: 280-168718-B-10 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	16.6428571428571	%

Lab Sample ID: 280-168718-A-11 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	13.3928571428571	%

Lab Sample ID: 280-168718-B-12 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	14.6232439335888	%

Lab Sample ID: 280-168718-A-13 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	13.2726089785296	%

Batch: 592579 (Continued) **Analyst Initials: CCF**

Method: D 2216 **Instrument: No Equipment Used for this Test**

Lab Sample ID: 280-168718-B-14 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	12.8847530422334	%

Lab Sample ID: 280-168718-B-15 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	10.6212424849699	%

Lab Sample ID: 280-168718-B-16 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	12.1059268600252	%

Lab Sample ID: 280-168718-A-17 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	10.3698811096433	%

Shipping and Receiving Documents

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

Revised 11-7-22 Mitch Baron

eurofins | Environment Testing America

Client Information	Sampler: Mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 20623500
Client Contact: Mitch Baron	Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 1 of 2
Company: Tetra Tech, Inc.	PWSID:			Job #:
Address: 19803 North Creek Parkway	Due Date Requested:			
City: Bothell	TAT Requested (days): Standard			
State, Zip: WA, 98011	Compliance Project: Δ Yes Δ No			
Phone: ~~412-600-8592(Tel)~~ 360 908-3246	PO #: Purchase Order Requested			
Email: Mitch.Baron@tetratech.com	WO #:			
Project Name: NB Kitsap Bangor CTO NW194112, WA	Project #: 28023939			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, Other:
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8330B_DOD5 - Explosives, Client list with 3,5-DNA, Picric & Diamino (No ISM)	8321B_NGu - Nitroguanidine	8270E_DOD5 - 2,4-Dinitrophenol, Diphenylamine, N-Nitrosodiphenylamine, Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
X3-SS-C01-0006	11-1-2022	1235	C	S			X	X	X	3	
FD-11012201	11-1-2022	1245	C	S			X	X	X	3	
X3-SS-C02-0006	11-1-2022	1350	C	S			X	X	X	3	
~~X3-SS-C03-0006~~	11-1-2022	1430	C	S			X	X	X	3	Discard sample as per m.b. agreement w/ PM 11-4-22 11-7-
X3-SS-C04-0006	11-1-2022	1525	C	S			X	X	X	3	
RB-11012201	11-1-2022	1545	G	W			X	X	X	4	
X3-SS-C05-0006	11-2-2022	0920	C	S			X	X	X	3	
FD-11022201	11-2-2022	0930	C	S			X	X	X	3	
X3-SS-C06-0006	11-2-2022	1015	C	S		X	X	X	X	3	Run MS/MSD
X7-SS-C01-0006	11-2-2022	1115	C	S			X	X	X	3	
X7B-SS-C01-0006	11-2-2022	1150	C	S			X	X	X	3	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Mitch Baron Mitch Baron Sealed in cooler	Date/Time: 11-3-2022 1445	Company: Tetra Tech	Received by:	Date/Time: 11/4/22 1035	Company: EDEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seal: Δ Yes	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.5, 0.2, 2.7 IR#12 CF-0.0		

Ver. 01/16/2019

Eurofi nver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Orig. nal

Chain of Custody Record

eurofins Environment Testing America

Client Information	Sampler: Mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 263500
Client Contact: Mitch Baron	Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 2 of 2
Company: Tetra Tech, Inc.	PWSID:			Job #:
Address: 19803 North Creek Parkway	Due Date Requested:			
City: Bothell	TAT Requested (days): Standard			
State, Zip: WA, 98011	Compliance Project: Δ Yes Δ No			
Phone: ~~412-600-8502(Tel)~~ 360 908-3246	PO #: Purchase Order Requested			
Email: Mitch.Baron@tetratech.com	WO #:			
Project Name: NB Kitsap Bangor CTO NW194112, WA	Project #: 28023939			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, Other:
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8330B_DOD5 - Explosives, Client list with 3,5-DNA, Picric & Diamino (No ISM)	8321B_NGu - Nitroguanidine	8270E_DOD5 - 2,4-Dinitrophenol, Diphenylamine, N-Nitrosodiphenylamine, Moisture	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N		
X7-TP-C01-5460	11-2-2022	1420	C	S			X	X	X	3	
X7-TP-C02-3648	11-2-2022	1535	C	S			X	X	X	3	
X7-TP-C03-4248	11-2-2022	1640	C	S			X	X	X	3	
X7-TP-C04-4248	11-3-2022	0920	C	S			X	X	X	3	
X3-SS-C07-0006	11-3-2022	1015	C	S			X	X	X	3	
X3-SS-C08-0006	11-3-2022	1045	C	S			X	X	X	3	

M Baron 11-3-2022

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Mitch Baron Mitch Baron Sealed in cooler	11-3-2022 1445	Tetra Tech		11/4/22 1035	ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning. Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges along with the cancellation of your FedEx account number

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 280-168718-1

Login Number: 168718
List Number: 1
Creator: Held, Wesley

List Source: Eurofins Denver

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	False	Refer to Job Narrative for details.
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

908 N. Temperance Ave., Clovis, CA 93611 - Phone 559-275-2175 - www.applinc.com

NELAP Certification Number: CA00046
DoD-ELAP Certification Number 4064.01

December 28, 2022

Mitch Baron
Tetra Tech, Inc. Bothell
19803 North Creek Parkway
Bothell, WA 98011

RE: NB Kitsap Bangor CTO NW194112, WA
22K0110

Enclosed are the results of analyses for samples received by our laboratory on 11/17/2022. If you have any questions concerning this report, please feel free to contact me.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness. These test results meet all requirements of NELAC and DoD QSM. Release of the hard copy has been authorized by the Laboratory Manager or designee, as verified by the following signature.

Sincerely,

Greg Salata For Gregory Salata
Project Manager

Table of Contents

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Data Validatable Report

Analysis Case Narrative

In the MS/MSD performed on sample X3-SS-C06-0006, Nitrocellulose recovered outside of control limits. Corrective action: the client was notified.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
22K0110-01	X3-SS-C01-0006	Solid	11/01/2022 12:35	11/17/2022
22K0110-02	FD-11012201	Solid	11/01/2022 12:45	11/17/2022
22K0110-03	X3-SS-C02-0006	Solid	11/01/2022 13:50	11/17/2022
22K0110-04	X3-SS-C04-0006	Solid	11/01/2022 15:25	11/17/2022
22K0110-05	X3-SS-C05-0006	Solid	11/02/2022 09:20	11/17/2022
22K0110-06	FD-11022201	Solid	11/02/2022 09:30	11/17/2022
22K0110-07	X3-SS-C06-0006	Solid	11/02/2022 10:15	11/17/2022
22K0110-08	X7-SS-C01-0006	Solid	11/02/2022 11:15	11/17/2022
22K0110-09	X7B-SS-C01-0006	Solid	11/02/2022 11:50	11/17/2022
22K0110-10	X7-TP-C01-5460	Solid	11/02/2022 14:20	11/17/2022
22K0110-11	X7-TP-C02-3648	Solid	11/02/2022 15:35	11/17/2022
22K0110-12	X7-TP-C03-4248	Solid	11/02/2022 16:40	11/17/2022
22K0110-13	X7-TP-C04-4248	Solid	11/03/2022 09:20	11/17/2022
22K0110-14	X3-SS-C07-0006	Solid	11/03/2022 10:15	11/17/2022
22K0110-15	X3-SS-C08-0006	Solid	11/03/2022 10:45	11/17/2022

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Containers Received

Lab ID	Container Type	Count	Preservation Check
22K0110-01			
	2 oz Jar Wmouth	1	
22K0110-02			
	2 oz Jar Wmouth	1	
22K0110-03			
	2 oz Jar Wmouth	1	
22K0110-04			
	2 oz Jar Wmouth	1	
22K0110-05			
	2 oz Jar Wmouth	1	
22K0110-06			
	2 oz Jar Wmouth	1	
22K0110-07			
	2 oz Jar Wmouth	3	
22K0110-08			
	2 oz Jar Wmouth	1	
22K0110-09			
	2 oz Jar Wmouth	1	
22K0110-10			
	2 oz Jar Wmouth	1	
22K0110-11			
	2 oz Jar Wmouth	1	
22K0110-12			
	2 oz Jar Wmouth	1	
22K0110-13			
	2 oz Jar Wmouth	1	
22K0110-14			
	2 oz Jar Wmouth	1	
22K0110-15			
	2 oz Jar Wmouth	1	

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

Sample: X3-SS-C01-0006
22K0110-01 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	87.7		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	12		11	9.0	4.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: FD-11012201
22K0110-02 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	83.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	12		12	9.5	4.7	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X3-SS-C02-0006
22K0110-03 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	66.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	31		15	12	5.9	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X3-SS-C04-0006
22K0110-04 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	71.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	8.7	J	14	11	5.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X3-SS-C05-0006
22K0110-05 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	88.5		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	120		11	9.0	4.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: FD-11022201
22K0110-06 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	82.2		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	13		12	9.5	4.7	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X3-SS-C06-0006
22K0110-07 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	91.4		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	14		11	8.7	4.4	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X7-SS-C01-0006
22K0110-08 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	87.7		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	32		11	9.1	4.6	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X7B-SS-C01-0006
22K0110-09 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	85.8		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	4.9	J	12	9.3	4.7	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X7-TP-C01-5460
22K0110-10 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	87.0		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	16		11	9.2	4.6	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X7-TP-C02-3648

22K0110-11 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	88.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	92		11	9.0	4.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X7-TP-C03-4248
22K0110-12 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	86.2		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	9.2	U	11	9.2	4.6	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X7-TP-C04-4248
22K0110-13 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	89.8		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	4.6	J	11	8.8	4.4	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X3-SS-C07-0006
22K0110-14 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	81.6		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	19		12	9.8	4.9	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X3-SS-C08-0006
22K0110-15 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	91.0		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	17		11	8.6	4.3	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Quality Control

WetLab

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BBK0378 - EPA 353.2										
Blank (BBK0378-BLK1)						Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:29		
	mg/kg wet									
NITROCELLULOSE	7.9 U	9.9	7.9	4.0						
LCS (BBK0378-BS1)						Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:31		
	mg/kg wet									
NITROCELLULOSE	132				199		66.1	40-120		
Matrix Spike (BBK0378-MS1)	**Source: 22K0110-07**					Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:35		
	mg/kg dry									
NITROCELLULOSE	15.5 MS1				217	13.9	0.721	40-120		
Matrix Spike Dup (BBK0378-MSD1)	**Source: 22K0110-07**					Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:38		
	mg/kg dry									
NITROCELLULOSE	11.4 MS1				219	13.9	-1.17	40-120	30.8	30
Batch: BBK0465 - ISM02.2										
Duplicate (BBK0465-DUP1)	**Source: 22K0110-07**					Prepared & Analyzed: 11/28/22 13:52				
	%									
% Solids	91.1					91.4			0.381	20
MOISTURE	8.91					8.56			3.98	20

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Notes and Definitions

Item	Definition
J	Estimated value
MS1	Matrix spike recovered below the lower control limit
U	Not detected
Dry	Sample results reported on a dry weight basis.
DL	Dilution Factor
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
*	Value outside control limits
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

WORK ORDER

22K0110

Printed: 12/28/2022 11:57 am

Project: NB Kitsap Bangor CTO NW194112, WA
Project Number: 28023939
Project Manager: Gregory Salata
PO Number:

Report To:

Tetra Tech, Inc. Bothell
Mitch Baron
19803 North Creek Parkway
Bothell, WA 98011
Phone: (206) 908-3246

Invoice To:

Tetra Tech, Inc. Bothell
Mitch Baron
19803 North Creek Parkway
Bothell, WA 98011
Phone: (206) 908-3246

Date Received: 11/17/2022 10:10 AM
Date Due: 12/05/2022 (10.00 day TAT)

Logged In By: Megan Salata
Received By: Megan Horne

Analysis	Comments

22K0110-01 X3-SS-C01-0006 [Solid] Sampled 11/1/2022 12:35:00PM

% Solids	NONE
353.2M	NONE

22K0110-02 FD-11012201 [Solid] Sampled 11/1/2022 12:45:00PM

% Solids	NONE
353.2M	NONE

22K0110-03 X3-SS-C02-0006 [Solid] Sampled 11/1/2022 1:50:00PM

% Solids	NONE
353.2M	NONE

22K0110-04 X3-SS-C04-0006 [Solid] Sampled 11/1/2022 3:25:00PM

% Solids	NONE
353.2M	NONE

22K0110-05 X3-SS-C05-0006 [Solid] Sampled 11/2/2022 9:20:00AM

% Solids	NONE
353.2M	NONE

22K0110-06 FD-11022201 [Solid] Sampled 11/2/2022 9:30:00AM

% Solids	NONE
353.2M	NONE

22K0110-07 X3-SS-C06-0006 [Solid] Sampled 11/2/2022 10:15:00AM

Sample Comments: MS/MSD

% Solids	NONE
353.2M	NONE

22K0110-08 X7-SS-C01-0006 [Solid] Sampled 11/2/2022 11:15:00AM

% Solids	NONE
353.2M	NONE

WORK ORDER

22K0110

Printed: 12/28/2022 11:57 am

(Continued)

Project: NB Kitsap Bangor CTO NW194112, WA
Project Number: 28023939
Project Manager: Gregory Salata
PO Number:

Analysis	Comments
22K0110-09 X7B-SS-C01-0006 [Solid] Sampled 11/2/2022 11:50:00AM	
% Solids	NONE
353.2M	NONE
22K0110-10 X7-TP-C01-5460 [Solid] Sampled 11/2/2022 2:20:00PM	
% Solids	NONE
353.2M	NONE
22K0110-11 X7-TP-C02-3648 [Solid] Sampled 11/2/2022 3:35:00PM	
% Solids	NONE
353.2M	NONE
22K0110-12 X7-TP-C03-4248 [Solid] Sampled 11/2/2022 4:40:00PM	
% Solids	NONE
353.2M	NONE
22K0110-13 X7-TP-C04-4248 [Solid] Sampled 11/3/2022 9:20:00AM	
% Solids	NONE
353.2M	NONE
22K0110-14 X3-SS-C07-0006 [Solid] Sampled 11/3/2022 10:15:00AM	
% Solids	NONE
353.2M	NONE
22K0110-15 X3-SS-C08-0006 [Solid] Sampled 11/3/2022 10:45:00AM	
% Solids	NONE
353.2M	NONE

22K0110 **Sample Receipt Log**

Default Cooler

Samples Received at: **1.1°C**

Custody Seals	No	Were all containers sealed in separate bags?	Yes
Containers Intact	Yes	Did all containers arrive in good condition?	Yes
COC/Labels Agree	Yes	Correct containers/preserv. for tests indicated?	Yes
Preservation Confirmed	No	Sufficient volume sent for tests requested?	Yes
Received On Ice	Yes	Were bubbles absent in volatile samples?	No
Was a chain of custody received?	Yes	Sufficient remaining holding time for analyses?	Yes
COCs complete/signed in the appropriate places?	Yes	pH of non-VOA preserved containers documented?	No
Sample labels complete? Sample ID, date/time, etc.	Yes	Unpreserved vials received for VOA analysis?	No
Did all container labels agree with COCs?	Yes	If "yes", are unpreserved VOA vials noted on ARF?	No

Eurofins Denver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

Revised 11-7-22 Mitch Baron
R2 11-14-2022 Both pages. M.B.

eurofins | Environment Testing America

22K0110

Client Information	Sampler: Mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 20625 00
Client Contact: Mitch Baron	Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 1 of 2
Company: Tetra Tech, Inc.	PWSID:			Job #:
Address: 19803 North Creek Parkway	Due Date Requested:			
City: Bothell	TAT Requested (days): Standard			
State, Zip: WA, 98011	Compliance Project: Δ Yes Δ No			
Phone: ~~412-600-6502(Tel)~~ 360 908-3246	PO #: Purchase Order Requested			
Email: Mitch.Baron@tetratech.com	WO #:			
Project Name: NB Kitsap Bangor CTO NW194112, WA	Project #: 28023939			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, Other:
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8330B_DOD5 - Explosives, Client list with 3,5-DNA, Picric & Diamino (No ISM)	8321B_NGu - Nitroguanidine	8270E_DOD5 - 2,4-Dinitrophenol, Diphenylamine, N-Nitrosodiphenylamine, Moisture	353.2 MOD Nitrocellulose	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N	N	N	N		
X3-SS-C01-0006	11-1-2022	1235	C	S			X	X	X	X	3	
FD-11012201	11-1-2022	1245	C	S			X	X	X	X	3	
X3-SS-C02-0006	11-1-2022	1350	C	S			X	X	X	X	3	
~~X3-SS-C03-0006~~	11-1-2022	1430	C	S			X	X	X		3	Discard sample as per agreement w/ PM 11-7-22 M.I 11-7
X3-SS-C04-0006	11-1-2022	1525	C	S			X	X	X	X	3	
RB-11012201	11-1-2022	1545	G	W			X	X	X		4	
X3-SS-C05-0006	11-2-2022	0920	C	S			X	X	X	X	3	
FD-11022201	11-2-2022	0930	C	S			X	X	X	X	3	
X3-SS-C06-0006	11-2-2022	1015	C	S	X	X	X	X	X	X	3	Run MS/MSD
X7-SS-C01-0006	11-2-2022	1115	C	S			X	X	X	X	3	
X7B-SS-C01-0006	11-2-2022	1150	C	S			X	X	X	X	3	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Mitch Baron Mitch Baron Sealed in cooler	Date/Time: 11-3-2022 1445	Company: Tetra Tech	Received by:	Date/Time: 11/4/22 1035	Company: ETADEN
Relinquished by:	Date/Time: 11/5/22 1345	Company: ETADEN	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/7/22 1010	Company
Custody Seal Intact: Δ Yes .o	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.5, 0.2, 2.9 IR#12 CF-0.0		

IRB: 4.2/1.1

Ver. 01/16/2019

Page 24 of 89 22K0110 APPL_L4_DOD (Rev0).PDF

Table of Contents

Eurofi[illegible]nver
4955 Yarrow Street
Arvada, CO 80002
Phone (303) 736-0100 Phone (303) 431-7171

Chain of Custody Record

Original

eurofins | Environment Testing America

Client Information	Sampler: mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 2063500
Client Contact: Mitch Baron	Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 2 of 2
Company: Tetra Tech, Inc.	PWSID:			Job #:

Address: 19803 North Creek Parkway	Due Date Requested:	Analysis Requested	Preservation Codes:
City: Bothell	TAT Requested (days): Standard		A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, Other:
State, Zip: WA, 98011	Compliance Project: Δ Yes Δ No		M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Phone: ~~412-600-8502(Tel)~~ 360 908-3246	PO #: Purchase Order Requested		
Email: Mitch.Baron@tetratech.com	WO #:		
Project Name: NB Kitsap Bangor CTO NW194112, WA	Project #: 28023939		
Site:	SSOW#:		

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	83308_DOD5 - Explosives, Client list with 3,5-DNA, Picric & Diamino (No ISM)	83218_NGu - Nitroguanidine	8270E_DOD6 - 2,4-Dinitrophenol, Diphenylamine, N-Nitrosodiphenylamine, Moisture	353.2 MOD Nitrocellulose	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	N	N	N		
X7-TP-C01-5460	11-2-2022	1420	C	S			X	X	X	X	3	
X7-TP-C02-3648	11-2-2022	1535	C	S			X	X	X	X	3	
X7-TP-C03-4248	11-2-2022	1640	C	S			X	X	X	X	3	
X7-TP-C04-4248	11-3-2022	0920	C	S			X	X	X	X	3	
X3-SS-C07-0006	11-3-2022	1015	C	S			X	X	X	X	3	
X3-SS-C08-0006	11-3-2022	1045	C	S			X	X	X	X	3	

M. Baron 11-3-2022

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Mitch Baron Mitch Baron Sealed in cooler	11-3-2022 1445	Tetra Tech		11/4/22 1035	ETADEN
Relinquished by:	11/15/22 1345	ETADEN	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 11/17/22 1010	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Table of Contents

No Custody Seal

Solids

SAMPLE DATA
Solids

ANALYSIS DATA SHEET

X3-SS-C01-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-01
Sampled:	11/01/22 12:35		
% Solids:	87.68		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	87.7	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

FD-11012201

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-02
Sampled:	11/01/22 12:45		
% Solids:	83.94		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	83.9	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X3-SS-C02-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-03
Sampled:	11/01/22 13:50		
% Solids:	66.91		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	66.9	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X3-SS-C04-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-04
Sampled:	11/01/22 15:25		
% Solids:	71.91		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	71.9	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X3-SS-C05-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-05
Sampled:	11/02/22 09:20		
% Solids:	88.53		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	88.5	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

FD-11022201

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-06
Sampled:	11/02/22 09:30		
% Solids:	82.18		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	82.2	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X3-SS-C06-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-07
Sampled:	11/02/22 10:15		
% Solids:	91.44		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	91.4	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X7-SS-C01-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-08
Sampled:	11/02/22 11:15		
% Solids:	87.65		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	87.7	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X7B-SS-C01-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-09
Sampled:	11/02/22 11:50		
% Solids:	85.82		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	85.8	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X7-TP-C01-5460

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-10
Sampled:	11/02/22 14:20		
% Solids:	87.01		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	87.0	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X7-TP-C02-3648

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-11
Sampled:	11/02/22 15:35		
% Solids:	88.93		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	88.9	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X7-TP-C03-4248

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-12
Sampled:	11/02/22 16:40		
% Solids:	86.19		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	86.2	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X7-TP-C04-4248

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-13
Sampled:	11/03/22 09:20		
% Solids:	89.77		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	89.8	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X3-SS-C07-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-14
Sampled:	11/03/22 10:15		
% Solids:	81.59		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	81.6	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

ANALYSIS DATA SHEET

X3-SS-C08-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-15
Sampled:	11/03/22 10:45		
% Solids:	90.97		

Analyte	Concentration (%)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
% Solids	91.0	2.00	1.50	0.750	1		BBK0465	11/28/22 13:52	ISM02.2

DUPLICATES

X3-SS-C06-0006

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	BBK0465-DUP1
Batch:	BBK0465	Initial/Final:	6 g / 6 g
Preparation:	ISM02.2	Analysis:	ISM02.2
% Solids:	91.44		

ANALYTE	SAMPLE CONC. (%)	DUPLICATE CONC. (%)	RPD %	Q	CONTROL LIMIT
% Solids	91.4	91.1	0.381		20
MOISTURE	8.56	8.91	3.98		20

Percent Solid

Method: CLP 4.0 **Analyst:** yml
Oven Temp: 104℃
QCG: BBK0465
Date in Oven: 11/28/2022 **Time in Oven:** 13:52
Date out Oven: 11/29/2022 **Time out Oven:** 8:17
Date in Oven: **Time in Oven:**
Date out Oven: **Time out Oven:**

Formula Locked Cell

APPL ID	Pan (g)	Pan Wet (g)	Pan Dry 1 (g)	Pan Dry 2 (g)	% Solid	% MOIST
22K0110-01	0.7961	9.6902	8.5942	8.5942	87.6772	12.3228
22K0110-02	0.8187	9.5275	8.1289	8.1289	83.9404	16.0596
22K0110-03	0.7999	9.6431	6.7168	6.7169	66.9102	33.0898
22K0110-04	0.8073	9.9001	7.3456	7.3457	71.9074	28.0926
22K0110-05	0.7965	9.8153	8.7803	8.7804	88.5251	11.4749
22K0110-06	0.7964	9.3771	7.8475	7.8476	82.1751	17.8249
22K0110-07	0.8016	9.5598	8.8096	8.8097	91.4355	8.5645
BBK0465-DUP1	0.8035	9.7429	8.9461	8.9462	91.0878	8.9122
22K0110-08	0.7985	9.4326	8.3666	8.3667	87.6548	12.3452
22K0110-09	0.8079	9.6867	8.4273	8.4273	85.8157	14.1843
22K0110-10	0.7977	9.6445	8.4949	8.4949	87.0055	12.9945
22K0110-11	0.7946	9.6958	8.7105	8.7105	88.9307	11.0693
22K0110-12	0.8061	9.2219	8.0592	8.0593	86.1855	13.8145
22K0110-13	0.8040	9.6510	8.7458	8.7458	89.7683	10.2317
22K0110-14	0.8093	9.4254	7.8391	7.8391	81.5891	18.4109
22K0110-15	0.8112	9.9988	9.1687	9.1687	90.9650	9.0350

WET_C

SAMPLE DATA

SAMPLE DATA
WET_C

ANALYSIS DATA SHEET

X3-SS-C01-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-01
Sampled:	11/01/22 12:35		
% Solids:	87.68		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	12	11	9.0	4.5	1		BBK0378	11/23/22 09:40	EPA 353.2

ANALYSIS DATA SHEET

FD-11012201

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-02
Sampled:	11/01/22 12:45		
% Solids:	83.94		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	12	12	9.5	4.7	1		BBK0378	11/23/22 09:42	EPA 353.2

ANALYSIS DATA SHEET

X3-SS-C02-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-03
Sampled:	11/01/22 13:50		
% Solids:	66.91		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	31	15	12	5.9	1		BBK0378	11/23/22 09:45	EPA 353.2

ANALYSIS DATA SHEET

X3-SS-C04-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-04
Sampled:	11/01/22 15:25		
% Solids:	71.91		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	8.7 J	14	11	5.5	1		BBK0378	11/23/22 09:47	EPA 353.2

ANALYSIS DATA SHEET

X3-SS-C05-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-05
Sampled:	11/02/22 09:20		
% Solids:	88.53		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	120	11	9.0	4.5	1		BBK0378	11/23/22 09:54	EPA 353.2

ANALYSIS DATA SHEET

FD-11022201

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-06
Sampled:	11/02/22 09:30		
% Solids:	82.18		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	13	12	9.5	4.7	1		BBK0378	11/23/22 09:56	EPA 353.2

ANALYSIS DATA SHEET

X3-SS-C06-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-07
Sampled:	11/02/22 10:15		
% Solids:	91.44		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	14	11	8.7	4.4	1		BBK0378	11/23/22 09:58	EPA 353.2

ANALYSIS DATA SHEET

X7-SS-C01-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-08
Sampled:	11/02/22 11:15		
% Solids:	87.65		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	32	11	9.1	4.6	1		BBK0378	11/23/22 10:01	EPA 353.2

ANALYSIS DATA SHEET

X7B-SS-C01-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-09
Sampled:	11/02/22 11:50		
% Solids:	85.82		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	4.9 J	12	9.3	4.7	1		BBK0378	11/23/22 10:03	EPA 353.2

ANALYSIS DATA SHEET

X7-TP-C01-5460

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-10
Sampled:	11/02/22 14:20		
% Solids:	87.01		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	16	11	9.2	4.6	1		BBK0378	11/23/22 10:04	EPA 353.2

ANALYSIS DATA SHEET

X7-TP-C02-3648

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-11
Sampled:	11/02/22 15:35		
% Solids:	88.93		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	92	11	9.0	4.5	1		BBK0378	11/23/22 10:05	EPA 353.2

ANALYSIS DATA SHEET

X7-TP-C03-4248

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-12
Sampled:	11/02/22 16:40		
% Solids:	86.19		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	9.2 U	11	9.2	4.6	1		BBK0378	11/23/22 10:06	EPA 353.2

ANALYSIS DATA SHEET

X7-TP-C04-4248

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-13
Sampled:	11/03/22 09:20		
% Solids:	89.77		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	4.6 J	11	8.8	4.4	1		BBK0378	11/23/22 10:07	EPA 353.2

ANALYSIS DATA SHEET

X3-SS-C07-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-14
Sampled:	11/03/22 10:15		
% Solids:	81.59		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	19	12	9.8	4.9	1		BBK0378	11/23/22 10:08	EPA 353.2

ANALYSIS DATA SHEET

X3-SS-C08-0006

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Laboratory ID:	22K0110-15
Sampled:	11/03/22 10:45		
% Solids:	90.97		

Analyte	Concentration (mg/kg dry)	LOQ	LOD	DL	DF	Q	Batch	Analyzed	Method
NITROCELLULOSE	17	11	8.6	4.3	1		BBK0378	11/23/22 10:11	EPA 353.2

NO3/TOXN

Prep Date: 11/23/2022

Exp Date: 11/30/2022 **Prep'd By (Initials):** PIT

Initial Standard Information						Final Standard Information			
Name of Initial Standard (QAU Label)	Supplier	Product Number	Conc. (ppm)	Lot Number - QA Number	Exp. Date	Aliquot from Stock(uL)	Final Volume(mL)	Solvent	Final Standard Conc (µg/mL)
HP	Inorganic Ventures		1000	R2-NOX688298-50738	2/6/2024	150	25	DI Water	6

AQ2 Report

Serial Number: 190170
Software Version: 2.1.0
Report Requested By: Kyle S
Date & Time: 2022-12-28 10:17:46
Tray Number: 45
Tray Name: 221123 (A) TOXN

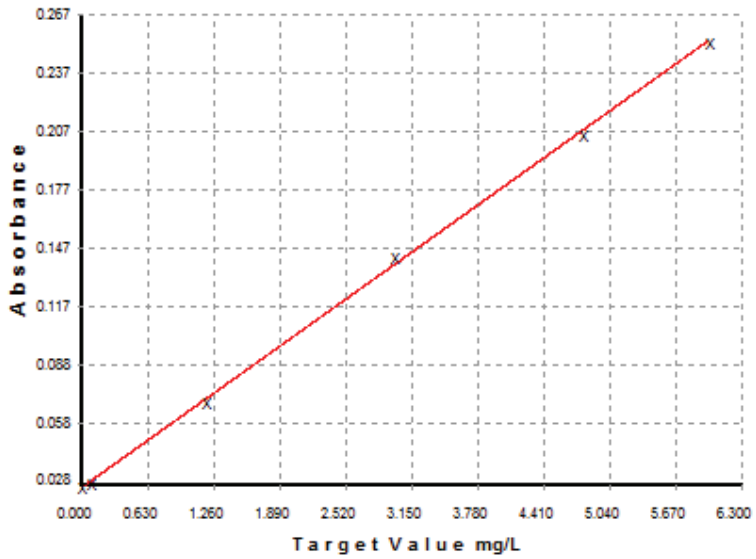
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0278	0.0194	0.0000	
S90	0.0297	0.0689	0.1000	-31.08
S91	0.0709	1.1573	1.2000	-3.56
S92	0.1448	3.1083	3.0000	3.61
S93	0.2072	4.7559	4.8000	-0.92
S94	0.2539	5.9902	6.0000	-0.16
S0	0.0317	0.1215	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9997
Carryover(%):	1.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-7.154081E-001
b =:	2.640624E+001
Date & Time:	2022-11-23 09:17:30

Calibration Graph



Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0278			0.027827			KS	2022-11-23 09:03:46
	S90	Standard 90	0.0297			0.029702			KS	2022-11-23 09:06:03
	S91	Standard 91	0.0709			0.070918			KS	2022-11-23 09:08:20
	S92	Standard 92	0.1448			0.144804			KS	2022-11-23 09:10:38
	S93	Standard 93	0.2072			0.207197			KS	2022-11-23 09:12:55
	S94	Standard 94	0.2539			0.253940			KS	2022-11-23 09:15:12
	S0	Standard 0	0.0317			0.031694			KS	2022-11-23 09:17:30
1	ICV	Seq-ICV1	2.9546	mg/L		0.138981			KS	2022-11-23 09:19:47
	CCV	Seq-CCV	3.0528	mg/L		0.142701			KS	2022-11-23 09:22:05
	CCB	Seq-CCB	0.0701	mg/L		0.029749			KS	2022-11-23 09:24:22
2	U1	Seq-ICB1	-0.0230	mg/L		0.026220			KS	2022-11-23 09:26:43
3	U2	BBK0378-BLK1	0.0397	mg/L		0.028595			KS	2022-11-23 09:29:01
4	U3	BBK0378-BS1	1.8703	mg/L		0.097922			KS	2022-11-23 09:31:19
5	U4	BBK0378-BSD1	0.1604	mg/L		0.033166			KS	2022-11-23 09:33:37
6	U5	BBK0378-MS1	0.2023	mg/L		0.034753			KS	2022-11-23 09:35:54
7	U6	BBK0378-MSD1	0.1469	mg/L		0.032654			KS	2022-11-23 09:38:12
8	U7	22K0110-01	0.1555	mg/L		0.032980			KS	2022-11-23 09:40:30
9	U8	22K0110-02	0.1415	mg/L		0.032453			KS	2022-11-23 09:42:48
10	U9	22K0110-03	0.2994	mg/L		0.038430			KS	2022-11-23 09:45:06
11	U10	22K0110-04	0.0889	mg/L		0.030458			KS	2022-11-23 09:47:24
	CCV	Seq-CCV	3.0792	mg/L		0.143701			KS	2022-11-23 09:49:42
	CCB	Seq-CCB	0.0190	mg/L		0.027812			KS	2022-11-23 09:52:01
12	U11	22K0110-05	1.4967	mg/L		0.083774			KS	2022-11-23 09:54:21
13	U12	22K0110-06	0.1505	mg/L		0.032794			KS	2022-11-23 09:56:40
14	U13	22K0110-07	0.1801	mg/L		0.033912			KS	2022-11-23 09:58:58
15	U14	22K0110-08	0.3923	mg/L		0.041948			KS	2022-11-23 10:01:18
16	U15	22K0110-09	0.0592	mg/L		0.029333			KS	2022-11-23 10:03:37

17	U16	22K0110-10	0.1924	mg/L	0.034379	KS	2022-11-23 10:04:45
18	U17	22K0110-11	1.1582	mg/L	0.070952	KS	2022-11-23 10:05:42
19	U18	22K0110-12	0.0275	mg/L	0.028134	KS	2022-11-23 10:06:38
20	U19	22K0110-13	0.0596	mg/L	0.029348	KS	2022-11-23 10:07:34
21	U20	22K0110-14	0.2216	mg/L	0.035485	KS	2022-11-23 10:08:31
	CCV	Seq-CCV	3.0254	mg/L	0.141663	KS	2022-11-23 10:09:27
	CCB	Seq-CCB	-0.0121	mg/L	0.026633	KS	2022-11-23 10:10:24
22	U21	22K0110-15	0.2229	mg/L	0.035532	KS	2022-11-23 10:11:22
	CCV	Seq-CCV	2.9776	mg/L	0.139853	KS	2022-11-23 10:12:18
	CCB	Seq-CCB	-0.0331	mg/L	0.025838	KS	2022-11-23 10:13:15

METHOD BLANK SUMMARY

EPA 353.2

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Blank ID:	BBK0378-BLK1	Batch:	BBK0378
Prepared:	11/19/2022 10:48		

Client Sample ID	Laboratory Sample ID	Lab File ID	Time Analyzed
LCS	BBK0378-BS1	221123A TOXN Nitrocellulose rev-013	09:31
Matrix Spike	BBK0378-MS1	221123A TOXN Nitrocellulose rev-015	09:35
Matrix Spike Dup	BBK0378-MSD1	221123A TOXN Nitrocellulose rev-016	09:38
X3-SS-C01-0006	22K0110-01	221123A TOXN Nitrocellulose rev-017	09:40
FD-11012201	22K0110-02	221123A TOXN Nitrocellulose rev-018	09:42
X3-SS-C02-0006	22K0110-03	221123A TOXN Nitrocellulose rev-019	09:45
X3-SS-C04-0006	22K0110-04	221123A TOXN Nitrocellulose rev-020	09:47
X3-SS-C05-0006	22K0110-05	221123A TOXN Nitrocellulose rev-023	09:54
FD-11022201	22K0110-06	221123A TOXN Nitrocellulose rev-024	09:56
X3-SS-C06-0006	22K0110-07	221123A TOXN Nitrocellulose rev-025	09:58
X7-SS-C01-0006	22K0110-08	221123A TOXN Nitrocellulose rev-026	10:01
X7B-SS-C01-0006	22K0110-09	221123A TOXN Nitrocellulose rev-027	10:03
X7-TP-C01-5460	22K0110-10	221123A TOXN Nitrocellulose rev-028	10:04
X7-TP-C02-3648	22K0110-11	221123A TOXN Nitrocellulose rev-029	10:05
X7-TP-C03-4248	22K0110-12	221123A TOXN Nitrocellulose rev-030	10:06
X7-TP-C04-4248	22K0110-13	221123A TOXN Nitrocellulose rev-031	10:07
X3-SS-C07-0006	22K0110-14	221123A TOXN Nitrocellulose rev-032	10:08
X3-SS-C08-0006	22K0110-15	221123A TOXN Nitrocellulose rev-035	10:11

Blank Results

EPA 353.2

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939

Lab Sample ID	Analyte	Found	Units	LOD	PQL	MDL	Q
BBK0378-BLK1	NITROCELLULOSE	7.9 U	mg/kg wet	7.9	9.9	4.0	

PREPARATION BATCH SUMMARY

EPA 353.2

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Batch:	BBK0378 Batch Matrix: Solid	Preparation:	EPA 353.2

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT g	FINAL VOL. mL
X3-SS-C01-0006	22K0110-01	11/19/22 10:48	2.02	20.00
FD-11012201	22K0110-02	11/19/22 10:48	2.01	20.00
X3-SS-C02-0006	22K0110-03	11/19/22 10:48	2.01	20.00
X3-SS-C04-0006	22K0110-04	11/19/22 10:48	2.02	20.00
X3-SS-C05-0006	22K0110-05	11/19/22 10:48	2.00	20.00
FD-11022201	22K0110-06	11/19/22 10:48	2.05	20.00
X3-SS-C06-0006	22K0110-07	11/19/22 10:48	2.00	20.00
X7-SS-C01-0006	22K0110-08	11/19/22 10:48	2.00	20.00
X7B-SS-C01-0006	22K0110-09	11/19/22 10:48	2.00	20.00
X7-TP-C01-5460	22K0110-10	11/19/22 10:48	2.00	20.00
X7-TP-C02-3648	22K0110-11	11/19/22 10:48	2.00	20.00
X7-TP-C03-4248	22K0110-12	11/19/22 10:48	2.02	20.00
X7-TP-C04-4248	22K0110-13	11/19/22 10:48	2.03	20.00
X3-SS-C07-0006	22K0110-14	11/19/22 10:48	2.00	20.00
X3-SS-C08-0006	22K0110-15	11/19/22 10:48	2.05	20.00
Blank	BBK0378-BLK1	11/19/22 10:48	2.02	20.00
LCS	BBK0378-BS1	11/19/22 10:48	2.01	20.00
X3-SS-C06-0006	BBK0378-MS1	11/19/22 10:48	2.02	20.00
X3-SS-C06-0006	BBK0378-MSD1	11/19/22 10:48	2.00	20.00

LCS / LCS DUPLICATE RECOVERY

EPA 353.2

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Preparation:	EPA 353.2
Batch:	BBK0378	Laboratory ID:	BBK0378-BS1
Column:	0		

ANALYTE	SPIKE ADDED (mg/kg wet)	LCS CONCENTRATION (mg/kg wet)	LCS % REC.	QC LIMITS REC.
NITROCELLULOSE	199	132	66.1	40 - 120

MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

X3-SS-C06-0006

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Matrix:	Solid	Analysis:	EPA 353.2
Batch:	BBK0378	Preparation:	EPA 353.2
% Solids:	91.44	Laboratory ID:	BBK0378-MS1
Column:	0	Sample Lab ID:	22K0110-07

ANALYTE	SPIKE ADDED (mg/kg	SAMPLE CONCENTRATION (mg/kg dry)	MS CONCENTRATION (mg/kg dry)	MS % REC.		QC LIMITS REC.
NITROCELLULOSE	217	13.9	15.5	0.721	*	40 - 120

ANALYTE	SPIKE ADDED (mg/kg	MSD CONCENTRATION (mg/kg dry)	MSD % REC. #		% RPD		QC LIMITS RPD	QC LIMITS REC.
NITROCELLULOSE	219	11.4	-1.17	*	30.8	*	30	40 - 120

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 353.2

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Instrument ID:	EVE	Calibration:	UNASSIGNED
		Sequence:	SB03995

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03995-ICV1	NITROCELLULOSE	3.00	2.95	98.5	ug/mL	+/- 15.00%
SB03995-CCV1	NITROCELLULOSE	3.00	3.05	102	ug/mL	+/- 15.00%
SB03995-CCV2	NITROCELLULOSE	3.00	3.08	103	ug/mL	+/- 15.00%
SB03995-CCV3	NITROCELLULOSE	3.00	3.03	101	ug/mL	+/- 15.00%
SB03995-CCV4	NITROCELLULOSE	3.00	2.98	99.3	ug/mL	+/- 15.00%

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 353.2

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Sequence:	SB03995	Instrument:	EVE
Calibration:	UNASSIGNED		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Initial Cal Check	SB03995-ICV1	221123A TOXN Nitrocellulose rev-008	11/23/22 09:19
Calibration Check	SB03995-CCV1	221123A TOXN Nitrocellulose rev-009	11/23/22 09:22
Calibration Blank	SB03995-CCB1	221123A TOXN Nitrocellulose rev-010	11/23/22 09:24
Initial Cal Blank	SB03995-ICB1	221123A TOXN Nitrocellulose rev-011	11/23/22 09:26
Blank	BBK0378-BLK1	221123A TOXN Nitrocellulose rev-012	11/23/22 09:29
LCS	BBK0378-BS1	221123A TOXN Nitrocellulose rev-013	11/23/22 09:31
X3-SS-C06-0006	BBK0378-MS1	221123A TOXN Nitrocellulose rev-015	11/23/22 09:35
X3-SS-C06-0006	BBK0378-MSD1	221123A TOXN Nitrocellulose rev-016	11/23/22 09:38
X3-SS-C01-0006	22K0110-01	221123A TOXN Nitrocellulose rev-017	11/23/22 09:40
FD-11012201	22K0110-02	221123A TOXN Nitrocellulose rev-018	11/23/22 09:42
X3-SS-C02-0006	22K0110-03	221123A TOXN Nitrocellulose rev-019	11/23/22 09:45
X3-SS-C04-0006	22K0110-04	221123A TOXN Nitrocellulose rev-020	11/23/22 09:47
Calibration Check	SB03995-CCV2	221123A TOXN Nitrocellulose rev-021	11/23/22 09:49
Calibration Blank	SB03995-CCB2	221123A TOXN Nitrocellulose rev-022	11/23/22 09:52
X3-SS-C05-0006	22K0110-05	221123A TOXN Nitrocellulose rev-023	11/23/22 09:54
FD-11022201	22K0110-06	221123A TOXN Nitrocellulose rev-024	11/23/22 09:56
X3-SS-C06-0006	22K0110-07	221123A TOXN Nitrocellulose rev-025	11/23/22 09:58
X7-SS-C01-0006	22K0110-08	221123A TOXN Nitrocellulose rev-026	11/23/22 10:01
X7B-SS-C01-0006	22K0110-09	221123A TOXN Nitrocellulose rev-027	11/23/22 10:03
X7-TP-C01-5460	22K0110-10	221123A TOXN Nitrocellulose rev-028	11/23/22 10:04
X7-TP-C02-3648	22K0110-11	221123A TOXN Nitrocellulose rev-029	11/23/22 10:05
X7-TP-C03-4248	22K0110-12	221123A TOXN Nitrocellulose rev-030	11/23/22 10:06
X7-TP-C04-4248	22K0110-13	221123A TOXN Nitrocellulose rev-031	11/23/22 10:07
X3-SS-C07-0006	22K0110-14	221123A TOXN Nitrocellulose rev-032	11/23/22 10:08
Calibration Check	SB03995-CCV3	221123A TOXN Nitrocellulose rev-033	11/23/22 10:09
Calibration Blank	SB03995-CCB3	221123A TOXN Nitrocellulose rev-034	11/23/22 10:10
X3-SS-C08-0006	22K0110-15	221123A TOXN Nitrocellulose rev-035	11/23/22 10:11
Calibration Check	SB03995-CCV4	221123A TOXN Nitrocellulose rev-036	11/23/22 10:12

INJECTION LOG - ANALYSIS SEQUENCE SUMMARY

EPA 353.2

Laboratory:	APPL, LLC	SDG:	
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Sequence:	SB03995	Instrument:	EVE
Calibration:	UNASSIGNED		

Sample Name	Lab Sample ID	Lab File ID	Analysis Date/Time
Calibration Blank	SB03995-CCB4	221123A TOXN Nitrocellulose rev-037	11/23/22 10:13

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 · USA
inorganicventures.com

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

CERTIFICATE OF ANALYSIS

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 863.01
ACCREDITED Reference Material Producer Certificate 863.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICNNO31
Lot Number:	R2-NOX688298
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Nitrate as N
Starting Material:	Sodium nitrate
Starting Material Lot#:	1571
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1007 ± 4 µg/mL

Density: 1.002 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1007 ± 2 µg/mL**
IC Assay NIST SRM 3185 Lot Number: 170309

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$$X_{CRM/RM} = \Sigma(w_i)(X_i)$$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$
w_i = the weighting factors for each method calculated using the inverse square of the variance:
$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

k = coverage factor = 2
$u_{char} = [\Sigma((w_i)^2 (u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method
u_{bb} = bottle to bottle homogeneity standard uncertainty
u_{lts} = long term stability standard uncertainty (storage)
u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$$X_{CRM/RM} = (X_a)(u_{char\ a})$$

X_a = mean of Assay Method A with
$u_{char\ a}$ = the standard uncertainty of characterization Method A

$$\text{CRM/RM Expanded Uncertainty } (\pm) = U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$$

k = coverage factor = 2
$u_{char\ a}$ = the errors from characterization
u_{bb} = bottle to bottle homogeneity standard uncertainty
u_{lts} = long term stability standard uncertainty (storage)
u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

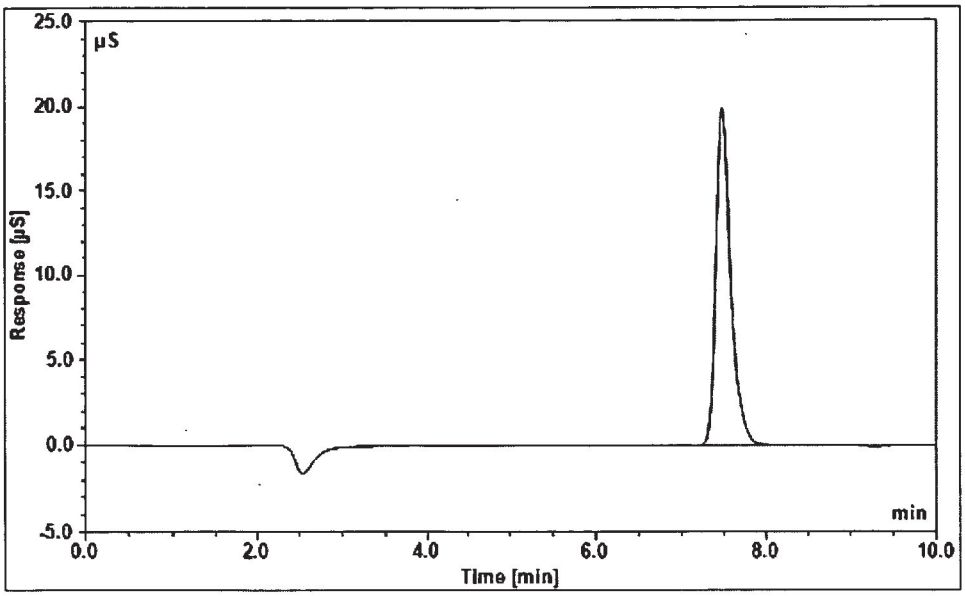
4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM



Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4 mm	**Column Temp:**	20°C
		Cell Temp:	35°C
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	25 µS/cm
		Concentration:	20 µg/g
Suppressor Current/ Chemical Suppressant:	31mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone. 800.669.6799, 540.585.3030, Fax: 540.585.3012, inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 06, 2020

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 06, 2024

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
Manager, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

Nitrate as N
Lot #: P2-NOX675324 - 49391
Rec: 9/26/19 MFR exp. 2/14/23

INORGANIC VENTURES
300 Technology Drive
Christiansburg, VA 24073 - USA
inorganicventures.com

CERTIFICATE OF ANALYSIS

tel: 800.669.6799 · 540.585.3030
fax: 540.585.3012
info@inorganicventures.com

1.0 ACCREDITATION / REGISTRATION

INORGANIC VENTURES is accredited to ISO 17034, "General Requirements for the Competence of Reference Material Producers" and ISO/IEC 17025, "General Requirements for the Competence of Testing and Calibration Laboratories". Inorganic Ventures is also an ISO 9001 registered manufacturer (QSR Certificate Number QSR-1034).

ACCREDITED Testing Laboratory Certificate 883.01
ACCREDITED Reference Material Producer Certificate 883.02

2.0 PRODUCT DESCRIPTION

Product Code:	Single Analyte Ion Chromatography Solution
Catalog Number:	ICNNO31
Lot Number:	P2-NOX675324
Matrix:	H2O
Value / Analyte(s):	1 000 µg/mL ea: Nitrate as N
Starting Material:	Sodium Nitrate
Starting Material Lot#:	1571
Starting Material Purity:	100.0000%

3.0 CERTIFIED VALUES AND UNCERTAINTIES

Certified Value: 1005 ± 3 µg/mL

Density: 1.002 g/mL (measured at 20 ± 4 °C)

Assay Information:

Assay Method #1 **1001 ± 4 µg/mL**
Calculated NIST SRM Lot Number: See Sec. 4.2

Assay Method #2 **1005 ± 1 µg/mL**
IC Assay NIST SRM 3185 Lot Number: 050517

- The Calculated Value is a value calculated from the weight of a starting material that has been certified directly vs. a National Institute of Standards and Technology (NIST) SRM/RM. See Sec 4.2 for balance traceability.

The following equations are used in the calculation of the certified value and the uncertainty. Reported uncertainties represent expanded uncertainties expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Characterization of CRM/RM by Two or More Methods

Certified Value, $X_{CRM/RM}$, where two or more methods of characterization are used is the weighted mean of the results:

$X_{CRM/RM} = \Sigma(w_i)(X_i)$

X_i = mean of Assay Method i with standard uncertainty $u_{char\ i}$

w_i = the weighting factors for each method calculated using the inverse square of the variance:

$w_i = (1/u_{char\ i})^2 / (\Sigma(1/(u_{char\ i})^2)$

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char} = [\Sigma((w_i)^2\,(u_{char\ i})^2)]^{1/2}$ where $u_{char\ i}$ are the errors from each characterization method

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

Characterization of CRM/RM by One Method

Certified Value, $X_{CRM/RM}$, where one method of characterization is used is the mean of individual results:

$X_{CRM/RM} = (X_a)\,(u_{char\ a})$

X_a = mean of Assay Method A with

$u_{char\ a}$ = the standard uncertainty of characterization Method A

CRM/RM Expanded Uncertainty (±) = $U_{CRM/RM} = k\,(u^2_{char\ a} + u^2_{bb} + u^2_{lts} + u^2_{ts})^{1/2}$

k = coverage factor = 2

$u_{char\ a}$ = the errors from characterization

u_{bb} = bottle to bottle homogeneity standard uncertainty

u_{lts} = long term stability standard uncertainty (storage)

u_{ts} = transport stability standard uncertainty

4.0 TRACEABILITY TO NIST

- This product is traceable to NIST via an unbroken chain of comparisons. The uncertainties for each certified value are reported, taking into account the SRM/RM uncertainty error and the measurement, weighing and volume dilution errors. In rare cases where no NIST SRM/RM are available, the term 'in-house std.' is specified.

4.1 Thermometer Calibration

- All thermometers are NIST traceable through thermometers that are calibrated by an accredited calibration laboratory.

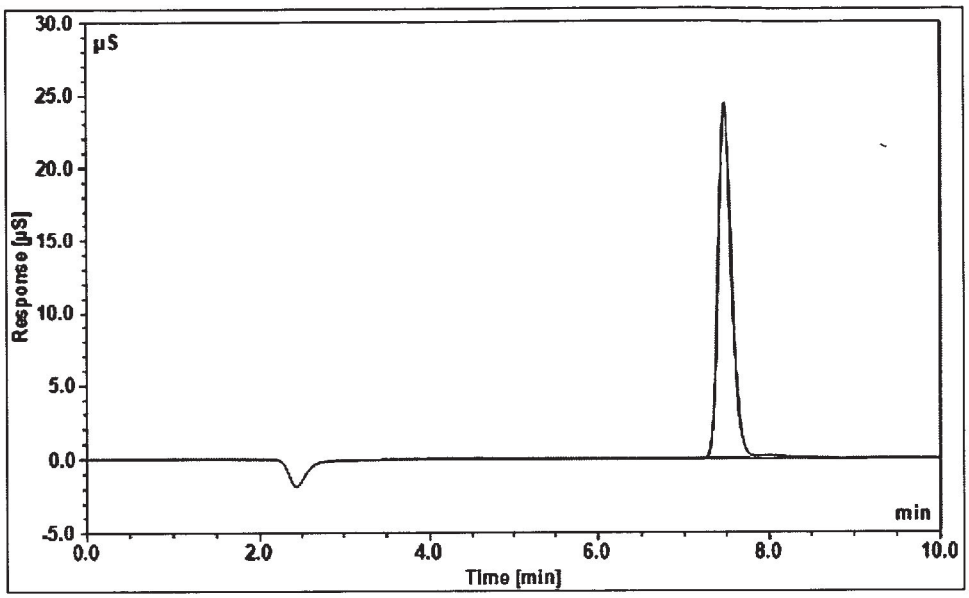
4.2 Balance Calibration

- All analytical balances are calibrated by an accredited calibration laboratory and procedure. The weights used for testing are annually compared to master weights and are traceable to NIST.

4.3 Glassware Calibration

- An in-house procedure is used to calibrate all Class A glassware used in the manufacturing and quality control of CRM/RMs.

5.0 CHROMATOGRAM



Dionex ICS-1000 Ion Chromatograph

Analytical Column:	IonPac AS22 4 x 250 mm	**Eluent:**	4.5mM Na2CO3 / 1.4mM NaHCO3
Guard Column:	IonPac AG22 4 x 50 mm	**Eluent Flow Rate:**	1.2 mL/min
Anion Self Regen Suppressor/ Chemical Suppression:	AERS 500 4 mm	**Column Temp:**	20°C
		Cell Temp:	35°C
Cation Self Regen Suppressor/ Chemical Suppression:	N/A	**Scale X-Axis:**	minutes
		Scale Y-Axis:	30 µS/cm
		Concentration:	20 µg/g
Suppressor Current/ Chemical Suppressant:	31mA		

6.0 INTENDED USE

- For the calibration of analytical instruments and validation of analytical methods as appropriate.

7.0 INSTRUCTIONS FOR THE CORRECT USE OF THIS REFERENCE MATERIAL

7.1 Storage and Handling Recommendations

- Store between approximately 4° - 30° C while in sealed TCT bag.

- While stored in the sealed TCT bag, transpiration of this CRM/RM is negligible. After opening the sealed TCT bag transpiration of the CRM/RM will occur, resulting in a gradual increase in the analyte concentration(s). It is the responsibility of the user to account for this effect. When the bottle is weighed both before and after being placed in storage, the mass difference observed will be a measure of transpiration mass loss.

- After opening the sealed TCT bag, keep cap tightly sealed when not in use and store between 4° - 24° C to minimize the effects of transpiration. Use at 20° ± 4° C to minimize volumetric dilution error when using the reported density. Do not pipette from the container. Do not return removed aliquots to container.

- For more information, visit **www.inorganicventures.com/TCT**

8.0 HAZARDOUS INFORMATION

- Please refer to the Safety Data Sheet for information regarding this CRM/RM.

9.0 HOMOGENEITY

- This solution was mixed according to an in-house procedure and is guaranteed to be homogeneous. Homogeneity data indicate that the end user should take a minimum sample size of 0.2 mL to assure homogeneity.

10.0 QUALITY STANDARD DOCUMENTATION

10.1 ISO 9001 Quality Management System Registration

- QSR Certificate Number QSR-1034

10.2 ISO/IEC 17025 "General Requirements for the Competence of Testing and Calibration Laboratories"

- Chemical Testing - Accredited / A2LA Certificate Number 883.01

10.3 ISO 17034 "General Requirements for the Competence of Reference Material Producers"

- Reference Material Producer - Accredited / A2LA Certificate Number 883.02

Inorganic Ventures, 300 Technology Drive, Christiansburg, Va. 24073, USA; Telephone. 800.669.6799; 540.585.3030, Fax: 540.585.3012; inorganicventures.com; info@inorganicventures.com

11.0 CERTIFICATION, LOT EXPIRATION AND PERIOD OF VALIDITY

11.1 Certification Issue Date

February 14, 2019

- The certification is valid within the measurement uncertainty specified provided the CRM/RM is stored and handled in accordance with instructions given in Sec 7.1. This certification is nullified if instructions in Sec 7.1 are not followed or if the CRM/RM is damaged, contaminated, or otherwise modified.

11.2 Lot Expiration Date

- February 14, 2023

- The date after which this CRM/RM should not be used.

- The lot expiration date reflects the period of time that the stability of a CRM/RM can be supported by long term stability studies conducted on properly stored and handled CRM/RMs. Lot expiration is limited primarily by transpiration (loss of water from the solution) and infrequently by chemical stability.

11.3 Period of Validity

- Sealed TCT Bag Open Date: _____

- This CRM/RM should not be used longer than one year (or six months in the case of a 30 mL bottle) from the date of opening the aluminized bag or after the date given in Sec. 11.2, whichever comes first. This is contingent upon the CRM/RM being stored and handled in accordance with the instructions given in Sec. 7.1.

12.0 NAMES AND SIGNATURES OF CERTIFYING OFFICERS

Certificate Prepared By:

Uyen Truong
Product Documentation Supervisor

Certificate Approved By:

Michael Booth
Supervisor, Quality Control

Certifying Officer:

Paul Gaines
CEO, Senior Technical Director

o2si smart solutions®

7290B Investment Drive North Charleston, South Carolina 29417
Phone: 866.272.0932 Fax: 866.509.5146 www.o2si.com

ACCREDITED

ISO 17025 Accredited Chemical Testing Lab
Cert. No 3031.01

Date Received: _____

Certificate of Analysis

Catalog No.:	Lot No.:	Storage:	Solvent:	Exp. Date:	Description:
011036-10 -5ML	448413	≤ -10 °C	Acetonitrile	30-Apr-2023	Cellulose Nitrate, 10,000 mg/L, 5 ml

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration	
cellulose nitrate	9004-70-0	99	1036.1.2DP	10030 ± 54.23	mg/L

Certified By: _____

Megan Warren
Manufacture Date 30-Apr-2021

Follow all storage requirements, keep tightly closed when not in use, and use good laboratory practices when handling.
This Reference Material was manufactured, produced, and/or certified under a quality management system that is accredited to ISO 17034 and ISO/IEC 17025.

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

The stated uncertainty is the expanded uncertainty with a coverage factor of two to give a 95% confidence level.

Certificate of Analysis

Catalog No.: 011036-10-5ML **Lot No.:** 448413 **Expiration Date:** 30-Apr-2023

Compound	CAS No.	Purity (%)	Neat Material Lot No.	Concentration

Certified By: _____

Megan Warren

Manufacture Date 30-Apr-2021

Follow all storage requirements, keep tightly closed when not in use, and use good laboratory practices when handling.
This Reference Material was manufactured, produced, and/or certified under a quality management system that is accredited to ISO 17034 and ISO/IEC 17025.

All weights are traceable through N. I. S. T. Test No. 822/264157-00.
Concentration (correct for purity) and uncertainty (95% confidence) values listed are determined gravimetricly.

The stated uncertainty is the expanded uncertainty with a coverage factor of two to give a 95% confidence level.

Analytical Standard Record

21F0038

Description:	Nitrocellulose Standard 10,000 ug/mL SS	Expires:	04/30/2023
Standard Type:	Analyte Spike	Prepared:	05/13/2021
Solvent:	NA	Prepared By:	o2si (Lot#: 448413)
Final Volume (mls):	125	Department:	WetLab
Vials:	1	Last Edit:	07/02/2021 09:40 by KS
Comments:	448413-52289		

Analyte	Parent	CAS Number	Concentration	Units
NITROCELLULOSE		9004-70-0	10000	ug/mL

Analytical Standard Record

21F0038

Description:	Nitrocellulose Standard 10,000 ug/mL SS	Expires:	04/30/2023
Standard Type:	Analyte Spike	Prepared:	05/13/2021
Solvent:	NA	Prepared By:	o2si (Lot#: 448413)
Final Volume (mls):	125	Department:	WetLab
Vials:	1	Last Edit:	07/02/2021 09:40 by KS
Comments:	448413-52289		

Analyte	Parent	CAS Number	Concentration	Units
NITROCELLULOSE		9004-70-0	10000	ug/mL

Appendix G-2: Data Validation Reports

This Page Intentionally Left Blank

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **L. KLINK** **DATE:** **JANUARY 11, 2023**

FROM: **TERRI L. SOLOMON** **COPIES:** **DV FILE**

SUBJECT: **ORGANIC DATA VALIDATION – SELECT SVOCS, EXPLOSIVES, NITROGUANIDINE, PERCENT MOISTURE**
NAVAL BASE KITSAP (NBK) BANGOR
SILVERDALE, WASHINGTON
SDG 280-168718-1

SAMPLES: 15/Soils
Select SVOCs Explosives, Nitroguanidine, Percent Moisture

FD-11012201	FD-11022201
X3-SS-C01-0006	X3-SS-C02-0006
X3-SS-C04-0006	X3-SS-C05-0006
X3-SS-C06-0006	X3-SS-C07-0006
X3-SS-C08-0006	X7-SS-C01-0006
X7-TP-C01-5460	X7-TP-C02-3648
X7-TP-C03-4248	X7-TP-C04-4248
X7B-SS-C01-0006	

1/Rinse Blank
Select SVOCs, Explosives, Nitroguanidine

RB-11012201

Overview

The sample set for NBK Bangor, SDG 680-168718-1, consisted of fifteen (15) soil environmental samples, and one (1) rinse blank. All samples were analyzed for select semivolatile organic compounds (SVOCs) (2,4-dinitrophenol, diphenylamine and N-nitrosodiphenylamine), explosives, nitroguanidine and percent moisture as referenced above. Two (2) field duplicate sample pairs, X3-SS-C01-0006 / FD-11012201 and X3-SS-C05-0006 / FD-11022201, were associated with this SDG.

The samples were collected by Tetra Tech, Inc. on November 1, 2 and 3, 2022 and analyzed by Eurofins Test America. All analyses were conducted in accordance with SW-846 Methods 8270E, 8321B, and 8330B and ASTM method D2216 analytical and reporting protocols.

The data contained in this SDG was validated via 90% EPA Stage 2B and 10% EPA Stage 4 with regard to the following parameters:

- Data Completeness
- Holding Times/Sample Preservation
- * GC/MS Tuning
- Initial and Continuing Calibrations
- * Laboratory Method / Field Blank Results
- Surrogate Spike Recoveries
- * Laboratory Control Sample / Laboratory Control Sample Duplicate Results
- Matrix Spike / Matrix Spike Duplicate Results

*	•	Internal Standard Areas
*	•	Laboratory Triplicate Results
	•	Field Duplicate Results
*	•	Compound Identification
*	•	Compound Quantitation
*	•	Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

Select SVOCs

The surrogate recoveries for 2,4,6-tribromophenol and terphenyl-d14 for sample X3-SS-C07-0006 were below the quality control limits. The nondetected results reported in the affected sample were qualified as estimated (UJ).

The initial calibration verification performed on instrument SMS_G6 on 10/14/2022 @ 19:53 had a percent difference (%D) greater than the 20% but less than the 50% quality control limit for 2,4-dinitrophenol. Samples FD-11012201, FD-11022201, X3-SS-C01-0006, X3-SS-C02-0006, X3-SS-C04-0006 and X3-SS-C05-0006 were affected. The nondetected results reported for 2,4-dinitrophenol in the affected samples were qualified as estimated (UJ).

Explosives

The matrix spike / matrix spike duplicate (MS/MSD) percent recoveries for Picric acid for sample X3-SS-C06-0006 were below the quality control limits. The MS/MSD relative percent difference for Picric acid was outside the quality control limits. The nondetected result reported for Picric acid in the affected sample was qualified as estimated (UJ).

Field duplicate imprecision (relative percent difference greater than 50%) was noted for 2,4,6-trinitrotoluene for sample pair X3-SS-C05-0006 / FD-11022201. The detected results reported for 2,4,6-trinitrotoluene for samples X3-SS-C05-0006 and FD-11022201 were qualified as estimated (J).

Nitroguanidine

The seven day sampling to extraction hold time was exceeded by 14 days for sample RB-11012201. The nondetected result reported for nitroguanidine in the affected sample was qualified (UX).

The 14 day sampling to extraction hold time was exceeded by 1-2 days for samples FD-11012201, FD-11022201, X3-SS-C01-0006, X3-SS-C02-0006, X3-SS-C04-0006, X3-SS-C05-0006, X3-SS-CO6-0006, X7-SS-C01-0006, X7-TP-C01-5460, X7-TP-C02-3648, X7-TP-C03-4248 and X7B-SS-C01-0006. The nondetected results reported for nitroguanidine in the affected samples were qualified as estimated (UJ).

The MS/MSD percent recoveries for nitroguanidine for sample X3-SS-C06-0006 were below the quality control limits. The nondetected result reported for nitroguanidine in the affected sample was qualified as estimated (UJ).

Percent Moisture

No issues.

Additional Comments

Detected results reported below the LOQ but above the detection limit (DL) were qualified as estimated, (J).

Non-detected results were reported to the limit of detection (LOD).

Instances of manual integrations were present in this data package. All manual integrations were summarized by the laboratory in the data package.

The laboratory identified a sample as X3-SS-CO6-0006. The chain of custody listed the sample as X3-SS C06-0006. The validator amended the Form 1s and electronic deliverable to match the chain of custody.

The laboratory did not calculate the matrix spike / matrix spike duplicate (MS/MSD) percent recoveries and relative percent difference for the SVOC analyses for 2,4-dinitrophenol. The validator calculated the percent recoveries.

The SVOC MS/MSD percent recoveries for 2,4-dinitrophenol for sample X3-SS-C06-0006 were above the quality control limits. No validation actions were required as the affected sample result for 2,4-dinitrophenol was nondetected.

The explosive MS/MSD percent recoveries for 1,3,5-trinitrobenzene for sample X3-SS-C06-0006 were above the quality control limits. No validation actions were required as the affected sample result for 1,3,5-trinitrobenzene was nondetected.

All soil samples were analyzed at a 20X dilution for the SVOC analyses.

The following compounds were analyzed at dilutions for the explosive fraction:

Sample	Compound	Dilution
X3-SS-C08-0006	2,4,6-trinitrotoluene	5X
X7-TP-C01-5460	RDX	10X
X7-TP-C02-3648	RDX	20X

The SVOC results for sample X3-SS-C08-0006 and the laboratory control sample for N-nitrosodiphenylamine were checked and verified. The explosive results for sample X3-SS-C05-0006 for 3,5-dinitroaniline and the laboratory control sample for 2-nitrotoluene were checked and verified.

The compounds 2,4-DIAMINO-6-NITROTOLUENE and 2,6-DIAMINO-4-NITROTOLUENE were reported by the laboratory but were not included in the list of analytes required in the project quality assurance project plan. All results were nondetected. The aforementioned analytes were not used in the final project database. According to the project manager, the following is the rationale for exclusion: "*These two analytes were originally included in the analytical laboratory scope of work, however, there are no screening criteria for these two analytes nor were either of the two project laboratories certified for the analysis. This was discussed during a November 7, 2019 telecon between the Navy and Tetra Tech; the Navy RPM at the time (Ray Kobeski) directed removal of these two analytes. Therefore, the data was inadvertently collected by the analytical laboratory and is not being reported."*

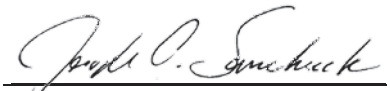
EXECUTIVE SUMMARY

Laboratory Performance Issues: One initial calibration verification %D was outside the quality control limits for the SVOC analyses. Several hold times were exceeded for the nitroguanidine analyses. Several surrogates were outside the quality control limits for the SVOC analyses.

Other Factors Affecting Data Quality: Results below the LOQ were estimated. Several MS/MSD percent recoveries were outside the quality control limits for the explosive and nitroguanidine analyses. Field duplicate imprecision was noted for sample pair X3-SS-C05-0006 / FD-11022201.

The data for these analyses were reviewed with reference to the Department of Defense (DOD) documents entitled “Data Validation Guidelines Module 1: Data Validation Procedure for Organic Analysis by GC/ MS” (May 11, 2020) and the "National Functional Guidelines for Organic Superfund Methods Data Review" (November 2020). The text of this report has been formulated to address only those areas affecting data quality.

Tetra Tech, Inc.
Terri L. Solomon
Chemist/Data Validator



Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:
Appendix A - Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: NW194112	NSAMPLE	RB-11012201		
SDG: 280-168718-1	LAB_ID	280-168718-6		
FRACTION: OS	SAMP_DATE	11/1/2022		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
2,4-DINITROPHENOL		60	U	
DIPHENYLAMINE		14	U	
N-NITROSODIPHENYLAMINE		16	U	

PROJ_NO: NW194112	NSAMPLE	FD-11012201			FD-11022201			X3-SS-C01-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-2			280-168718-8			280-168718-1			28
FRACTION: OS	SAMP_DATE	11/1/2022			11/2/2022			11/1/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	78.3			84.9			76.9			76
	DUP_OF	X3-SS-C01-0006									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
2,4-DINITROPHENOL		25000	UJ	C	23000	UJ	C	26000	UJ	C	
DIPHENYLAMINE		4100	U		3800	U		4300	U		
N-NITROSODIPHENYLAMINE		1700	U		1500	U		1700	U		

PROJ_NO: NW194112	NSAMPLE	X3-SS-C04-0006			X3-SS-C05-0006			X3-SS-C06-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-5			280-168718-7			280-168718-9			28
FRACTION: OS	SAMP_DATE	11/1/2022			11/2/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	71.4			85.5			86.9			87
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
2,4-DINITROPHENOL		28000	UJ	C	23000	UJ	C	23000	U		
DIPHENYLAMINE		4600	U		3800	U		3800	U		
N-NITROSODIPHENYLAMINE		1900	U		1500	U		1500	U		

PROJ_NO: NW194112	NSAMPLE	X3-SS-C08-0006			X7B-SS-C01-0006			X7-SS-C01-0006			X7
SDG: 280-168718-1	LAB_ID	280-168718-17			280-168718-11			280-168718-10			28
FRACTION: OS	SAMP_DATE	11/3/2022			11/2/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	89.6			86.6			83.4			85
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
2,4-DINITROPHENOL		22000	U		22000	U		23000	U		
DIPHENYLAMINE		3700	U		3700	U		3900	U		
N-NITROSODIPHENYLAMINE		590	J	P	1500	U		1600	U		

PROJ_NO: NW194112	NSAMPLE	X7-TP-C02-3648			X7-TP-C03-4248			X7-TP-C04-4248		
SDG: 280-168718-1	LAB_ID	280-168718-13			280-168718-14			280-168718-15		
FRACTION: OS	SAMP_DATE	11/2/2022			11/2/2022			11/3/2022		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	86.7			87.1			89.4		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
2,4-DINITROPHENOL		22000	U		23000	U		22000	U	
DIPHENYLAMINE		3700	U		3800	U		3600	U	
N-NITROSODIPHENYLAMINE		1500	U		1500	U		1500	U	

PROJ_NO: NW194112	NSAMPLE	RB-11012201		
SDG: 280-168718-1	LAB_ID	280-168718-6		
FRACTION: EXP	SAMP_DATE	11/1/2022		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
1,3,5-TRINITROBENZENE		0.2	U	
1,3-DINITROBENZENE		0.1	U	
2,4,6-TRINITROTOLUENE		0.1	U	
2,4-DINITROTOLUENE		0.08	U	
2,6-DINITROTOLUENE		0.08	U	
2-AMINO-4,6-DINITROTOLUENE		0.1	U	
2-NITROTOLUENE		0.2	U	
3,5-DINITROANILINE		0.3	U	
3-NITROTOLUENE		0.4	U	
4-AMINO-2,6-DINITROTOLUENE		0.12	U	
4-NITROTOLUENE		0.4	U	
HMX		0.2	U	
NITROBENZENE		0.2	U	
NITROGLYCERIN		2	U	
PETN		1	U	
PICRIC ACID		0.12	U	
RDX		0.2	U	
TETRYL		0.1	U	

PROJ_NO: NW194112	NSAMPLE	FD-11012201			FD-11022201			X3-SS-C01-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-2			280-168718-8			280-168718-1			28
FRACTION: EXP	SAMP_DATE	11/1/2022			11/2/2022			11/1/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF	X3-SS-C01-0006			X3-SS-C05-0006						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
1,3,5-TRINITROBENZENE		38	U		39	U		39	U		
1,3-DINITROBENZENE		38	U		39	U		39	U		
2,4,6-TRINITROTOLUENE		67	U		240	J	G	68	U		
2,4-DINITROTOLUENE		38	U		43	J	P	39	U		
2,6-DINITROTOLUENE		38	U		39	U		39	U		
2-AMINO-4,6-DINITROTOLUENE		67	U		210			68	U		
2-NITROTOLUENE		96	U		97	U		97	U		
3,5-DINITROANILINE		19	U		98			19	U		
3-NITROTOLUENE		140	U		150	U		150	U		
4-AMINO-2,6-DINITROTOLUENE		67	U		200			68	U		
4-NITROTOLUENE		96	U		97	U		97	U		
HMX		67	U		68	U		68	U		
NITROBENZENE		190	U		190	U		190	U		
NITROGLYCERIN		670	U		680	U		680	U		
PETN		960	U		970	U		970	U		
PICRIC ACID		96	U		97	U		97	U		
RDX		96	U		97	U		97	U		
TETRYL		96	U		97	U		97	U		

PROJ_NO: NW194112	NSAMPLE	X3-SS-C04-0006			X3-SS-C05-0006			X3-SS-C06-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-5			280-168718-7			280-168718-9			28
FRACTION: EXP	SAMP_DATE	11/1/2022			11/2/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF										

PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
1,3,5-TRINITROBENZENE	39	U		39	U		39	U		
1,3-DINITROBENZENE	39	U		39	U					
2,4,6-TRINITROTOLUENE	69	U		510	J	G	69	U		
2,4-DINITROTOLUENE	39	U		110			39	U		
2,6-DINITROTOLUENE	39	U		39	U		39	U		
2-AMINO-4,6-DINITROTOLUENE	69	U		180			69	U		
2-NITROTOLUENE	99	U		97	U		99	U		
3,5-DINITROANILINE	20	U		87	J	P	20	U		
3-NITROTOLUENE	150	U		150	U		150	U		
4-AMINO-2,6-DINITROTOLUENE	69	U		190			69	U		
4-NITROTOLUENE	99	U		97	U		99	U		
HMX	69	U		68	U		69	U		
NITROBENZENE	200	U		190	U		200	U		
NITROGLYCERIN	690	U		680	U		690	U		
PETN	990	U		970	U		990	U		
PICRIC ACID	99	U		97	U		99	UJ	D	
RDX	99	U		97	U		99	U		
TETRYL	99	U		97	U		99	U		

PROJ_NO: NW194112	NSAMPLE	X3-SS-C07-0006			X3-SS-C08-0006			X7B-SS-C01-0006			X7
SDG: 280-168718-1	LAB_ID	280-168718-16			280-168718-17			280-168718-11			28
FRACTION: EXP	SAMP_DATE	11/3/2022			11/3/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF										

PARAMETER	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
1,3,5-TRINITROBENZENE	39	U		130			39	U		
1,3-DINITROBENZENE	39	U		39	U		39	U		
2,4,6-TRINITROTOLUENE	160			17000			68	U		
2,4-DINITROTOLUENE	39	U		8300			39	U		
2,6-DINITROTOLUENE	39	U		430			39	U		
2-AMINO-4,6-DINITROTOLUENE	68	U		400			68	U		
2-NITROTOLUENE	96	U		98	U		97	U		
3,5-DINITROANILINE	19	U		81	J	P	19	U		
3-NITROTOLUENE	140	U		150	U		150	U		
4-AMINO-2,6-DINITROTOLUENE	68	U		68	U		68	U		
4-NITROTOLUENE	96	U		98	U		97	U		
HMX	68	U		68	U		68	U		
NITROBENZENE	190	U		200	U		190	U		
NITROGLYCERIN	680	U		680	U		680	U		
PETN	960	U		980	U		970	U		
PICRIC ACID	96	U		98	U		97	U		
RDX	96	U		98	U		97	U		
TETRYL	96	U		98	U		97	U		

PROJ_NO: NW194112	NSAMPLE	X7-TP-C01-5460			X7-TP-C02-3648			X7-TP-C03-4248			X7
SDG: 280-168718-1	LAB_ID	280-168718-12			280-168718-13			280-168718-14			28
FRACTION: EXP	SAMP_DATE	11/2/2022			11/2/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
1,3,5-TRINITROBENZENE		37	U		39	U		39	U		
1,3-DINITROBENZENE		37	U		39	U		39	U		
2,4,6-TRINITROTOLUENE		64	U		69	U		68	U		
2,4-DINITROTOLUENE		37	U		39	U		39	U		
2,6-DINITROTOLUENE		37	U		39	U		39	U		
2-AMINO-4,6-DINITROTOLUENE		64	U		69	U		68	U		
2-NITROTOLUENE		92	U		98	U		97	U		
3,5-DINITROANILINE		18	U		20	U		19	U		
3-NITROTOLUENE		140	U		150	U		150	U		
4-AMINO-2,6-DINITROTOLUENE		64	U		69	U		68	U		
4-NITROTOLUENE		92	U		98	U		97	U		
HMX		1600			4200			170			
NITROBENZENE		180	U		200	U		190	U		
NITROGLYCERIN		640	U		690	U		680	U		
PETN		920	U		980	U		970	U		
PICRIC ACID		92	U		98	U		97	U		
RDX		38000			65000			4800			
TETRYL		92	U		98	U		97	U		

PROJ_NO: NW194112	NSAMPLE	RB-11012201		
SDG: 280-168718-1	LAB_ID	280-168718-6		
FRACTION: CARPEST	SAMP_DATE	11/1/2022		
MEDIA: WATER	QC_TYPE	NM		
	UNITS	UG/L		
	PCT_SOLIDS	0.0		
	DUP_OF			
PARAMETER		RESULT	VQL	QLCD
NITROGUANIDINE		10	UX	H

PROJ_NO: NW194112	NSAMPLE	FD-11012201			FD-11022201			X3-SS-C01-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-2			280-168718-8			280-168718-1			28
FRACTION: CARPEST	SAMP_DATE	11/1/2022			11/2/2022			11/1/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF	X3-SS-C01-0006			X3-SS-C05-0006						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROGUANIDINE		25	UJ	H	25	UJ	H	25	UJ	H	

PROJ_NO: NW194112	NSAMPLE	X3-SS-C04-0006			X3-SS-C05-0006			X3-SS-C06-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-5			280-168718-7			280-168718-9			28
FRACTION: CARPEST	SAMP_DATE	11/1/2022			11/2/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROGUANIDINE		25	UJ	H	25	UJ	H	25	UJ	DH	

PROJ_NO: NW194112	NSAMPLE	X3-SS-C08-0006			X7B-SS-C01-0006			X7-SS-C01-0006			X7
SDG: 280-168718-1	LAB_ID	280-168718-17			280-168718-11			280-168718-10			28
FRACTION: CARPEST	SAMP_DATE	11/3/2022			11/2/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NM
	UNITS	UG/KG			UG/KG			UG/KG			UG
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RE
NITROGUANIDINE		25	U		25	UJ	H	25	UJ	H	

PROJ_NO: NW194112	NSAMPLE	X7-TP-C02-3648			X7-TP-C03-4248			X7-TP-C04-4248		
SDG: 280-168718-1	LAB_ID	280-168718-13			280-168718-14			280-168718-15		
FRACTION: CARPEST	SAMP_DATE	11/2/2022			11/2/2022			11/3/2022		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	UG/KG			UG/KG			UG/KG		
	PCT_SOLIDS	100.0			100.0			100.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
NITROGUANIDINE		25	UJ	H	25	UJ	H	25	U	

PROJ_NO: NW194112	NSAMPLE	FD-11012201			FD-11022201			X3-SS-C01-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-2			280-168718-8			280-168718-1			28
FRACTION: MISC	SAMP_DATE	11/1/2022			11/2/2022			11/1/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	%			%			%			%
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF	X3-SS-C01-0006			X3-SS-C05-0006						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
PERCENT MOISTURE		21.7			15.1			23.1			

PROJ_NO: NW194112	NSAMPLE	X3-SS-C04-0006			X3-SS-C05-0006			X3-SS-C07-0006			X3
SDG: 280-168718-1	LAB_ID	280-168718-5			280-168718-7			280-168718-16			28
FRACTION: MISC	SAMP_DATE	11/1/2022			11/2/2022			11/3/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	%			%			%			%
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
PERCENT MOISTURE		28.6			14.5			12.1			

PROJ_NO: NW194112	NSAMPLE	X3-SS-CO6-0006			X7B-SS-C01-0006			X7-SS-C01-0006			X7
SDG: 280-168718-1	LAB_ID	280-168718-9			280-168718-11			280-168718-10			28
FRACTION: MISC	SAMP_DATE	11/2/2022			11/2/2022			11/2/2022			11
MEDIA: SOIL	QC_TYPE	NM			NM			NM			NI
	UNITS	%			%			%			%
	PCT_SOLIDS	100.0			100.0			100.0			10
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
PERCENT MOISTURE		13.1			13.4			16.6			

PROJ_NO: NW194112	NSAMPLE	X7-TP-C02-3648			X7-TP-C03-4248			X7-TP-C04-4248		
SDG: 280-168718-1	LAB_ID	280-168718-13			280-168718-14			280-168718-15		
FRACTION: MISC	SAMP_DATE	11/2/2022			11/2/2022			11/3/2022		
MEDIA: SOIL	QC_TYPE	NM			NM			NM		
	UNITS	%			%			%		
	PCT_SOLIDS	100.0			100.0			100.0		
	DUP_OF									
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD
PERCENT MOISTURE		13.3			12.9			10.6		

Appendix B

Results as Reported by the Laboratory

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C01-0006 | Lab Sample ID: 280-168718-1

Matrix: Solid | Lab File ID: G6_101023563.D

Analysis Method: 8270E | Date Collected: 11/01/2022 12:35

Extract. Method: 3550C | Date Extracted: 11/07/2022 12:55

Sample wt/vol: 30.0(g) | Date Analyzed: 11/11/2022 00:37

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 0.5(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 23.1 % Solids: 76.9 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 592986 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	26000	U D	42000	26000	8700
122-39-4	Diphenylamine	4300	U D	8600	4300	1100
86-30-6	N-Nitrosodiphenylamine	1700	U D	8600	1700	550

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	85	D	44-115
367-12-4	2-Fluorophenol (Surr)	73	D	35-115
118-79-6	2,4,6-Tribromophenol (Surr)	52	D	39-132
4165-60-0	Nitrobenzene-d5 (Surr)	68	D	37-122
4165-62-2	Phenol-d5 (Surr)	80	D	33-122
1718-51-0	Terphenyl-d14 (Surr)	86	D	54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11012201 | Lab Sample ID: 280-168718-2

Matrix: Solid | Lab File ID: G6_101023564.D

Analysis Method: 8270E | Date Collected: 11/01/2022 12:45

Extract. Method: 3550C | Date Extracted: 11/07/2022 12:55

Sample wt/vol: 30.9(g) | Date Analyzed: 11/11/2022 00:57

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 0.5(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 21.7 % Solids: 78.3 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 592986 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	25000	U D	40000	25000	8300
122-39-4	Diphenylamine	4100	U D	8200	4100	1100
86-30-6	N-Nitrosodiphenylamine	1700	U D	8200	1700	520

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	73	D	44-115
367-12-4	2-Fluorophenol (Surr)	68	D	35-115
118-79-6	2,4,6-Tribromophenol (Surr)	45	D	39-132
4165-60-0	Nitrobenzene-d5 (Surr)	64	D	37-122
4165-62-2	Phenol-d5 (Surr)	72	D	33-122
1718-51-0	Terphenyl-d14 (Surr)	74	D	54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C02-0006 | Lab Sample ID: 280-168718-3

Matrix: Solid | Lab File ID: G6_101023565.D

Analysis Method: 8270E | Date Collected: 11/01/2022 13:50

Extract. Method: 3550C | Date Extracted: 11/07/2022 12:55

Sample wt/vol: 31.2(g) | Date Analyzed: 11/11/2022 01:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 0.5(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 23.6 % Solids: 76.4 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 592986 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	25000	U D	40000	25000	8400
122-39-4	Diphenylamine	4200	U D	8300	4200	1100
86-30-6	N-Nitrosodiphenylamine	1700	U D	8300	1700	530

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	69	D	44-115
367-12-4	2-Fluorophenol (Surr)	58	D	35-115
118-79-6	2,4,6-Tribromophenol (Surr)	39	D	39-132
4165-60-0	Nitrobenzene-d5 (Surr)	54	D	37-122
4165-62-2	Phenol-d5 (Surr)	63	D	33-122
1718-51-0	Terphenyl-d14 (Surr)	65	D	54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C04-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: G6_101023685.D

Analysis Method: 8270E | Date Collected: 11/01/2022 15:25

Extract. Method: 3550C | Date Extracted: 11/07/2022 12:55

Sample wt/vol: 30.3(g) | Date Analyzed: 11/14/2022 19:37

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 0.5(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 28.6 % Solids: 71.4 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 593336 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	28000	U D	44000	28000	9200
122-39-4	Diphenylamine	4600	U D	9200	4600	1200
86-30-6	N-Nitrosodiphenylamine	1900	U D	9200	1900	580

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	77		44-115
367-12-4	2-Fluorophenol (Surr)	70		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	53	Q	39-132
4165-60-0	Nitrobenzene-d5 (Surr)	68		37-122
4165-62-2	Phenol-d5 (Surr)	78		33-122
1718-51-0	Terphenyl-d14 (Surr)	78		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: RB-11012201 | Lab Sample ID: 280-168718-6

Matrix: Water | Lab File ID: 1625.D

Analysis Method: 8270E | Date Collected: 11/01/2022 15:45

Extract. Method: 3510C | Date Extracted: 11/07/2022 13:11

Sample wt/vol: 500(mL) | Date Analyzed: 11/17/2022 01:55

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 593651 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	60	U	60	60	20
122-39-4	Diphenylamine	14	U M	20	14	2.1
86-30-6	N-Nitrosodiphenylamine	16	U	20	16	0.88

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	73		44-119
367-12-4	2-Fluorophenol (Surr)	37		19-119
118-79-6	2,4,6-Tribromophenol (Surr)	73		43-140
4165-60-0	Nitrobenzene-d5 (Surr)	70		44-120
4165-62-2	Phenol-d5 (Surr)	20		10-115
1718-51-0	Terphenyl-d14 (Surr)	80		50-134

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 | Lab Sample ID: 280-168718-7

Matrix: Solid | Lab File ID: G6_101023686.D

Analysis Method: 8270E | Date Collected: 11/02/2022 09:20

Extract. Method: 3550C | Date Extracted: 11/07/2022 12:55

Sample wt/vol: 30.5(g) | Date Analyzed: 11/14/2022 19:58

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 0.5(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 14.5 % Solids: 85.5 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 593336 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	23000	U D	37000	23000	7700
122-39-4	Diphenylamine	3800	U D M	7600	3800	1000
86-30-6	N-Nitrosodiphenylamine	1500	U D	7600	1500	480

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	76		44-115
367-12-4	2-Fluorophenol (Surr)	67		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	49	Q	39-132
4165-60-0	Nitrobenzene-d5 (Surr)	64		37-122
4165-62-2	Phenol-d5 (Surr)	75		33-122
1718-51-0	Terphenyl-d14 (Surr)	77		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 | Lab Sample ID: 280-168718-8

Matrix: Solid | Lab File ID: G6_101023687.D

Analysis Method: 8270E | Date Collected: 11/02/2022 09:30

Extract. Method: 3550C | Date Extracted: 11/07/2022 12:55

Sample wt/vol: 30.8(g) | Date Analyzed: 11/14/2022 20:18

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 0.5(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 15.1 % Solids: 84.9 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 593336 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	23000	U D	37000	23000	7600
122-39-4	Diphenylamine	3800	U D M	7600	3800	1000
86-30-6	N-Nitrosodiphenylamine	1500	U D M	7600	1500	480

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	70		44-115
367-12-4	2-Fluorophenol (Surr)	63		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	45	Q	39-132
4165-60-0	Nitrobenzene-d5 (Surr)	57		37-122
4165-62-2	Phenol-d5 (Surr)	72		33-122
1718-51-0	Terphenyl-d14 (Surr)	73		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.: | TLS 01/11/2023

Client Sample ID: X3-SS-~~CO6~~C06-0006 | Lab Sample ID: 280-168718-9

Matrix: Solid | Lab File ID: Y19306477.D

Analysis Method: 8270E | Date Collected: 11/02/2022 10:15

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30.3(g) | Date Analyzed: 11/28/2022 17:41

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 13.1 % Solids: 86.9 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	23000	U D	36000	23000	7600
122-39-4	Diphenylamine	3800	U D	7500	3800	1000
86-30-6	N-Nitrosodiphenylamine	1500	U D	7500	1500	480

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	96		44-115
367-12-4	2-Fluorophenol (Surr)	84		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	97		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	86		37-122
4165-62-2	Phenol-d5 (Surr)	96		33-122
1718-51-0	Terphenyl-d14 (Surr)	93		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-SS-C01-0006 | Lab Sample ID: 280-168718-10

Matri3: Solid | Lab File ID: Y19x06480.D

Analysis Method: 8270E | Date Collected: 11/02/2022 11:15

E3tract. Method: x550C | Date E3tracted: 11/10/2022 12:10

Sample wt/vol: x0.9(g) | Date Analyzed: 11/28/2022 18:59

Con. E3tract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: R3i-5Sil MS ID: 0.25(mm)

% Moisture: 16.6 % Solids: 8x.4 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	2x000	U D	x7000	2x000	7800
122-x9-4	Diphenylamine	x900	U D	7700	x900	1000
86-x0-6	N-Nitrosodiphenylamine	1600	U D	7700	1600	490

CAS NO.	SURROGATE	%REC	Q	LIMITS
x21-60-8	2-Fluorobiphenyl	82		44-115
x67-12-4	2-Fluorophenol (Surr)	75		x5-115
118-79-6	2,4,6-Tribromophenol (Surr)	85		x9-1x2
4165-60-0	Nitrobenzene-d5 (Surr)	79		x7-122
4165-62-2	Phenol-d5 (Surr)	85		xx-122
1718-51-0	Terphenyl-d14 (Surr)	82		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7B-SS-C01-0006 | Lab Sample ID: 280-168718-11

Matrix: Solid | Lab File ID: Y19306481.D

Analysis Method: 8270E | Date Collected: 11/02/2022 11:50

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30.9(g) | Date Analyzed: 11/28/2022 19:25

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 13.4 % Solids: 86.6 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	22000	U D	36000	22000	7500
122-39-4	Diphenylamine	3700	U D	7400	3700	990
86-30-6	N-Nitrosodiphenylamine	1500	U D	7400	1500	470

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	86		44-115
367-12-4	2-Fluorophenol (Surr)	83		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	91		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	81		37-122
4165-62-2	Phenol-d5 (Surr)	89		33-122
1718-51-0	Terphenyl-d14 (Surr)	82		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 | Lab Sample ID: 280-168718-12

Matrix: Solid | Lab File ID: Y19306482.D

Analysis Method: 8270E | Date Collected: 11/02/2022 14:20

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30.4(g) | Date Analyzed: 11/28/2022 19:51

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 14.6 % Solids: 85.4 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	23000	U D	37000	23000	7700
122-39-4	Diphenylamine	3900	U D	7600	3900	1000
86-30-6	N-Nitrosodiphenylamine	1500	U D	7600	1500	490

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	88		44-115
367-12-4	2-Fluorophenol (Surr)	71		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	57		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	87		37-122
4165-62-2	Phenol-d5 (Surr)	81		33-122
1718-51-0	Terphenyl-d14 (Surr)	88		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 | Lab Sample ID: 280-168718-13

Matrix: Solid | Lab File ID: Y19306483.D

Analysis Method: 8270E | Date Collected: 11/02/2022 15:35

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 31.3(g) | Date Analyzed: 11/28/2022 20:17

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 13.3 % Solids: 86.7 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	22000	U D	35000	22000	7400
122-39-4	Diphenylamine	3700	U D	7300	3700	970
86-30-6	N-Nitrosodiphenylamine	1500	U D	7300	1500	460

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	89		44-115
367-12-4	2-Fluorophenol (Surr)	67		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	56		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	81		37-122
4165-62-2	Phenol-d5 (Surr)	77		33-122
1718-51-0	Terphenyl-d14 (Surr)	87		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 | Lab Sample ID: 280-168718-14

Matrix: Solid | Lab File ID: Y19306484.D

Analysis Method: 8270E | Date Collected: 11/02/2022 16:40

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30.0(g) | Date Analyzed: 11/28/2022 20:43

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 12.9 % Solids: 87.1 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	23000	U D	37000	23000	7600
122-39-4	Diphenylamine	3800	U D	7600	3800	1000
86-30-6	N-Nitrosodiphenylamine	1500	U D	7600	1500	480

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	83		44-115
367-12-4	2-Fluorophenol (Surr)	77		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	66		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	79		37-122
4165-62-2	Phenol-d5 (Surr)	78		33-122
1718-51-0	Terphenyl-d14 (Surr)	83		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 | Lab Sample ID: 280-168718-15

Matrix: Solid | Lab File ID: Y19306485.D

Analysis Method: 8270E | Date Collected: 11/03/2022 09:20

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30.8(g) | Date Analyzed: 11/28/2022 21:08

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 10.6 % Solids: 89.4 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	22000	U D	35000	22000	7300
122-39-4	Diphenylamine	3600	U D	7200	3600	960
86-30-6	N-Nitrosodiphenylamine	1500	U D	7200	1500	460

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	84		44-115
367-12-4	2-Fluorophenol (Surr)	76		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	69		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	78		37-122
4165-62-2	Phenol-d5 (Surr)	81		33-122
1718-51-0	Terphenyl-d14 (Surr)	83		54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 | Lab Sample ID: 280-168718-16

Matrix: Solid | Lab File ID: Y19306486.D

Analysis Method: 8270E | Date Collected: 11/03/2022 10:15

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30.0(g) | Date Analyzed: 11/28/2022 21:34

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 12.1 % Solids: 87.9 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	23000	U D	36000	23000	7600
122-39-4	Diphenylamine	3800	U D	7500	3800	1000
86-30-6	N-Nitrosodiphenylamine	1500	U D	7500	1500	480

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	52		44-115
367-12-4	2-Fluorophenol (Surr)	47		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	37	Q	39-132
4165-60-0	Nitrobenzene-d5 (Surr)	47		37-122
4165-62-2	Phenol-d5 (Surr)	52		33-122
1718-51-0	Terphenyl-d14 (Surr)	44	Q	54-127

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 | Lab Sample ID: 280-168718-17

Matrix: Solid | Lab File ID: Y19306487.D

Analysis Method: 8270E | Date Collected: 11/03/2022 10:45

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30.3(g) | Date Analyzed: 11/28/2022 22:00

Con. Extract Vol.: 1(mL) | Dilution Factor: 20

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: 10.4 % Solids: 89.6 | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	22000	U D	35000	22000	7400
122-39-4	Diphenylamine	3700	U D	7300	3700	970
86-30-6	N-Nitrosodiphenylamine	590	J D	7300	1500	460

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	91		44-115
367-12-4	2-Fluorophenol (Surr)	84		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	87		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	87		37-122
4165-62-2	Phenol-d5 (Surr)	89		33-122
1718-51-0	Terphenyl-d14 (Surr)	82		54-127

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C01-0006 | Lab Sample ID: 280-168718-1

Matrix: Solid | Lab File ID: 11100041.D

Analysis Method: 8330B | Date Collected: 11/01/2022 12:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3153(g) | Date Analyzed: 11/11/2022 02:07

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	97	39	13
118-96-7	2,4,6-Trinitrotoluene	68	U M	97	68	30
618-87-1	3,5-Dinitroaniline	19	U	97	19	8.7
121-14-2	2,4-Dinitrotoluene	39	U	97	39	14
606-20-2	2,6-Dinitrotoluene	39	U	97	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	97	68	32
88-72-2	2-Nitrotoluene	97	U	190	97	46
99-08-1	3-Nitrotoluene	150	U	190	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	97	68	29
99-99-0	4-Nitrotoluene	97	U	190	97	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	68	U	97	68	22
78-11-5	PETN	970	U	1900	970	480
88-89-1	Picric acid	97	U	97	97	55
121-82-4	RDX	97	U	190	97	42
479-45-8	Tetryl	97	U	190	97	43
6629-29-4	2,4-diamino-6-nitrotoluene	970	U	1900	970	500
59229-75-3	2,6-diamino-4-nitrotoluene	970	U M	1900	970	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	109		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C01-0006 | Lab Sample ID: 280-168718-1

Matrix: Solid | Lab File ID: 11110012.D

Analysis Method: 8330B | Date Collected: 11/01/2022 12:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3153(g) | Date Analyzed: 11/11/2022 17:36

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	96		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11012201 | Lab Sample ID: 280-168718-2

Matrix: Solid | Lab File ID: 11100042.D

Analysis Method: 8330B | Date Collected: 11/01/2022 12:45

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.4116(g) | Date Analyzed: 11/11/2022 02:30

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	38	U	96	38	13
118-96-7	2,4,6-Trinitrotoluene	67	U M	96	67	29
618-87-1	3,5-Dinitroaniline	19	U	96	19	8.6
121-14-2	2,4-Dinitrotoluene	38	U	96	38	14
606-20-2	2,6-Dinitrotoluene	38	U	96	38	18
35572-78-2	2-Amino-4,6-dinitrotoluene	67	U	96	67	32
88-72-2	2-Nitrotoluene	96	U	190	96	45
99-08-1	3-Nitrotoluene	140	U	190	140	61
19406-51-0	4-Amino-2,6-dinitrotoluene	67	U	96	67	29
99-99-0	4-Nitrotoluene	96	U	190	96	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	670	U	1900	670	210
2691-41-0	HMX	67	U	96	67	22
78-11-5	PETN	960	U	1900	960	470
88-89-1	Picric acid	96	U	96	96	54
121-82-4	RDX	96	U	190	96	41
479-45-8	Tetryl	96	U	190	96	42
6629-29-4	2,4-diamino-6-nitrotoluene	960	U	1900	960	500
59229-75-3	2,6-diamino-4-nitrotoluene	960	U M	1900	960	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11012201 | Lab Sample ID: 280-168718-2

Matrix: Solid | Lab File ID: 11110013.D

Analysis Method: 8330B | Date Collected: 11/01/2022 12:45

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.4116(g) | Date Analyzed: 11/11/2022 18:11

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	38	U	96	38	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C02-0006 | Lab Sample ID: 280-168718-3

Matrix: Solid | Lab File ID: 11100043.D

Analysis Method: 8330B | Date Collected: 11/01/2022 13:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.008(g) | Date Analyzed: 11/11/2022 02:53

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	40	U	100	40	14
118-96-7	2,4,6-Trinitrotoluene	70	U M	100	70	31
618-87-1	3,5-Dinitroaniline	20	U	100	20	9.0
121-14-2	2,4-Dinitrotoluene	40	U	100	40	15
35572-78-2	2-Amino-4,6-dinitrotoluene	70	U	100	70	33
88-72-2	2-Nitrotoluene	100	U	200	100	47
99-08-1	3-Nitrotoluene	150	U	200	150	64
19406-51-0	4-Amino-2,6-dinitrotoluene	70	U	100	70	30
99-99-0	4-Nitrotoluene	100	U	200	100	36
98-95-3	Nitrobenzene	200	U	300	200	85
55-63-0	Nitroglycerin	700	U	2000	700	210
2691-41-0	HMX	70	U	100	70	23
78-11-5	PETN	1000	U	2000	1000	490
88-89-1	Picric acid	100	U M	100	100	56
479-45-8	Tetryl	100	U	200	100	44
6629-29-4	2,4-diamino-6-nitrotoluene	1000	U	2000	1000	520
59229-75-3	2,6-diamino-4-nitrotoluene	1000	U M	2000	1000	330

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	110		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C02-0006 | Lab Sample ID: 280-168718-3

Matrix: Solid | Lab File ID: 11110014.D

Analysis Method: 8330B | Date Collected: 11/01/2022 13:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.008(g) | Date Analyzed: 11/11/2022 18:46

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	40	U	100	40	17
606-20-2	2,6-Dinitrotoluene	40	U	100	40	19
121-82-4	RDX	100	U	200	100	43

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	106		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C04-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: 11100044.D

Analysis Method: 8330B | Date Collected: 11/01/2022 15:25

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.1405(g) | Date Analyzed: 11/11/2022 03:16

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	99	39	14
618-87-1	3,5-Dinitroaniline	20	U	99	20	8.9
121-14-2	2,4-Dinitrotoluene	39	U	99	39	14
606-20-2	2,6-Dinitrotoluene	39	U	99	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	69	U	99	69	32
88-72-2	2-Nitrotoluene	99	U	200	99	47
99-08-1	3-Nitrotoluene	150	U	200	150	63
19406-51-0	4-Amino-2,6-dinitrotoluene	69	U	99	69	29
99-99-0	4-Nitrotoluene	99	U	200	99	36
98-95-3	Nitrobenzene	200	U	300	200	84
55-63-0	Nitroglycerin	690	U M	2000	690	210
2691-41-0	HMX	69	U	99	69	22
78-11-5	PETN	990	U	2000	990	490
88-89-1	Picric acid	99	U	99	99	56
479-45-8	Tetryl	99	U	200	99	43
6629-29-4	2,4-diamino-6-nitrotoluene	990	U	2000	990	510
59229-75-3	2,6-diamino-4-nitrotoluene	990	U M	2000	990	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	111		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C04-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: 11110015.D

Analysis Method: 8330B | Date Collected: 11/01/2022 15:25

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.1405(g) | Date Analyzed: 11/11/2022 19:21

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	99	39	16
118-96-7	2,4,6-Trinitrotoluene	69	U	99	69	30
121-82-4	RDX	99	U	200	99	42

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: RB-11012201 | Lab Sample ID: 280-168718-6

Matrix: Water | Lab File ID: 11090038.D

Analysis Method: 8330B | Date Collected: 11/01/2022 15:45

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 498.9(mL) | Date Analyzed: 11/10/2022 01:58

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.20	U	0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	0.10	U	0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	0.10	U	0.11	0.10	0.045
618-87-1	3,5-Dinitroaniline	0.30	U	0.40	0.30	0.13
121-14-2	2,4-Dinitrotoluene	0.080	U	0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	0.080	U	0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	0.10	U	0.11	0.10	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.21	0.20	0.086
99-08-1	3-Nitrotoluene	0.40	U	0.40	0.40	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.15	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	0.41	0.40	0.10
98-95-3	Nitrobenzene	0.20	U	0.21	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	2.1	2.0	0.92
2691-41-0	HMX	0.20	U	0.21	0.20	0.088
78-11-5	PETN	1.0	U	1.1	1.0	0.45
88-89-1	Picric acid	0.12	U	0.40	0.12	0.044
121-82-4	RDX	0.20	U	0.21	0.20	0.052
479-45-8	Tetryl	0.10	U	0.11	0.10	0.032
6629-29-4	2,4-diamino-6-nitrotoluene	0.90	U	1.0	0.90	0.43
59229-75-3	2,6-diamino-4-nitrotoluene	0.90	U M	1.0	0.90	0.22

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	101	M	83-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 | Lab Sample ID: 280-168718-7

Matrix: Solid | Lab File ID: 11100045.D

Analysis Method: 8330B | Date Collected: 11/02/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3204(g) | Date Analyzed: 11/11/2022 03:39

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	97	39	13
118-96-7	2,4,6-Trinitrotoluene	510		97	68	30
618-87-1	3,5-Dinitroaniline	87	J	97	19	8.7
121-14-2	2,4-Dinitrotoluene	110		97	39	14
606-20-2	2,6-Dinitrotoluene	39	U	97	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	180		97	68	32
88-72-2	2-Nitrotoluene	97	U	190	97	46
99-08-1	3-Nitrotoluene	150	U	190	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	190		97	68	29
99-99-0	4-Nitrotoluene	97	U	190	97	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	68	U	97	68	22
78-11-5	PETN	970	U	1900	970	480
88-89-1	Picric acid	97	U	97	97	55
121-82-4	RDX	97	U	190	97	42
479-45-8	Tetryl	97	U	190	97	43
6629-29-4	2,4-diamino-6-nitrotoluene	970	U	1900	970	500
59229-75-3	2,6-diamino-4-nitrotoluene	970	U M	1900	970	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	117		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 | Lab Sample ID: 280-168718-7

Matrix: Solid | Lab File ID: 11110016.D

Analysis Method: 8330B | Date Collected: 11/02/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3204(g) | Date Analyzed: 11/11/2022 19:56

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	105		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 | Lab Sample ID: 280-168718-8

Matrix: Solid | Lab File ID: 11100046.D

Analysis Method: 8330B | Date Collected: 11/02/2022 05:30

Extraction Method: 8330B | Date Extracted: 11/05/2022 17:19

Sample wt/vol: 10.2709(g) | Date Analyzed: 11/11/2022 04:02

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb9uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 953042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
55-39-4	1,3,9-Trinitrobenzene	35	U	57	35	13
118-56-7	2,4,6-Trinitrotoluene	240		57	68	30
618-87-1	3,9-Dinitroaniline	58		57	15	8.8
121-14-2	2,4-Dinitrotoluene	43	J	57	35	14
606-20-2	2,6-Dinitrotoluene	35	U	57	35	15
39972-78-2	2-Amino-4,6-dinitrotoluene	210		57	68	32
88-72-2	2-Nitrotoluene	57	U	150	57	46
55-08-1	3-Nitrotoluene	190	U	150	190	62
15406-91-0	4-Amino-2,6-dinitrotoluene	200		57	68	25
55-55-0	4-Nitrotoluene	57	U	150	57	36
58-59-3	Nitrobenzene	150	U	250	150	83
99-63-0	Nitroglycerin	680	U	1500	680	210
2651-41-0	HMX	68	U	57	68	22
78-11-9	PETN	570	U	1500	570	480
88-85-1	Picric acid	57	U	57	57	99
121-82-4	RDX	57	U	150	57	42
475-49-8	Tetryl	57	U	150	57	43
6625-25-4	2,4-diamino-6-nitrotoluene	570	U	1500	570	900
95225-79-3	2,6-diamino-4-nitrotoluene	570	U M	1500	570	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
928-25-0	1,2-Dinitrobenzene	107	M	78-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 | Lab Sample ID: 280-168718-8

Matrix: Solid | Lab File ID: 11110017.D

Analysis Method: 8330B | Date Collected: 11/02/2022 09:30

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2705(g) | Date Analyzed: 11/11/2022 20:30

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.: C06 TLS 01/12/2023

Client Sample ID: X3-SS-~~CO6~~-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: 11100045.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:19

Extraction Method: 8330B | Date Extracted: 11/05/2022 17:19

Sample wt/vol: 10.1344(g) | Date Analyzed: 11/11/2022 09:11

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb9uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 953042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
55-39-4	1,3,9-Trinitrobenzene	35	U M J1	55	35	14
118-56-7	2,4,6-Trinitrotoluene	65	U	55	65	30
618-87-1	3,9-Dinitroaniline	20	U	55	20	8.5
121-14-2	2,4-Dinitrotoluene	35	U	55	35	19
606-20-2	2,6-Dinitrotoluene	35	U	55	35	15
39972-78-2	2-Amino-4,6-dinitrotoluene	65	U	55	65	32
88-72-2	2-Nitrotoluene	55	U	200	55	47
55-08-1	3-Nitrotoluene	190	U	200	190	63
15406-91-0	4-Amino-2,6-dinitrotoluene	65	U M	55	65	30
55-55-0	4-Nitrotoluene	55	U	200	55	36
58-59-3	Nitrobenzene	200	U	300	200	84
99-63-0	Nitroglycerin	650	U	2000	650	210
2651-41-0	HMX	65	U	55	65	22
78-11-9	PETN	550	U	2000	550	450
88-85-1	Picric acid	55	U J1	55	55	96
121-82-4	RDX	55	U	200	55	42
475-49-8	Tetryl	55	U	200	55	43
6625-25-4	2,4-diamino-6-nitrotoluene	550	U J1	2000	550	910
95225-79-3	2,6-diamino-4-nitrotoluene	550	U M J1	2000	550	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
928-25-0	1,2-Dinitrobenzene	114		78-115

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.: C06 TLS 01/12/2023

Client Sample ID: X3-SS-~~CO6~~-0006 | Lab Sample ID: 280-168718-9

Matrix: Solid | Lab File ID: 11110019.D

Analysis Method: 8330B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.1344(g) | Date Analyzed: 11/11/2022 21:40

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: | % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	99	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	106		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-SS-C01-0006 | Lab Sample ID: 280-168718-10

Matrix: Solid | Lab File ID: 11100056.D

Analysis Method: 8330B | Date Collected: 11/02/2022 11:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2551(g) | Date Analyzed: 11/11/2022 07:52

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	98	39	13
99-65-0	1,3-Dinitrobenzene	39	U	98	39	16
118-96-7	2,4,6-Trinitrotoluene	68	U	98	68	30
618-87-1	3,5-Dinitroaniline	20	U	98	20	8.8
121-14-2	2,4-Dinitrotoluene	39	U	98	39	14
606-20-2	2,6-Dinitrotoluene	39	U	98	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	98	68	32
88-72-2	2-Nitrotoluene	98	U	200	98	46
99-08-1	3-Nitrotoluene	150	U	200	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	98	68	29
99-99-0	4-Nitrotoluene	98	U	200	98	36
98-95-3	Nitrobenzene	200	U	290	200	83
55-63-0	Nitroglycerin	680	U	2000	680	210
2691-41-0	HMX	68	U	98	68	22
78-11-5	PETN	980	U	2000	980	480
88-89-1	Picric acid	98	U M	98	98	55
121-82-4	RDX	98	U	200	98	42
479-45-8	Tetryl	98	U	200	98	43
6629-29-4	2,4-diamino-6-nitrotoluene	980	U	2000	980	500
59229-75-3	2,6-diamino-4-nitrotoluene	980	U M	2000	980	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	110		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7B-SS-C01-0006 | Lab Sample ID: 280-168718-11

Matrix: Solid | Lab File ID: 11100057.D

Analysis Method: 8330B | Date Collected: 11/02/2022 11:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2857(g) | Date Analyzed: 11/11/2022 08:15

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	97	39	13
618-87-1	3,5-Dinitroaniline	19	U	97	19	8.8
121-14-2	2,4-Dinitrotoluene	39	U	97	39	14
606-20-2	2,6-Dinitrotoluene	39	U M	97	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	97	68	32
88-72-2	2-Nitrotoluene	97	U M	190	97	46
99-08-1	3-Nitrotoluene	150	U	190	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	97	68	29
99-99-0	4-Nitrotoluene	97	U	190	97	35
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	68	U	97	68	22
78-11-5	PETN	970	U	1900	970	480
88-89-1	Picric acid	97	U	97	97	55
121-82-4	RDX	97	U	190	97	42
479-45-8	Tetryl	97	U	190	97	43
6629-29-4	2,4-diamino-6-nitrotoluene	970	U	1900	970	500
59229-75-3	2,6-diamino-4-nitrotoluene	970	U M	1900	970	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7B-SS-C01-0006 | Lab Sample ID: 280-168718-11

Matrix: Solid | Lab File ID: 11110024.D

Analysis Method: 8330B | Date Collected: 11/02/2022 11:50

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2857(g) | Date Analyzed: 11/12/2022 00:35

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16
118-96-7	2,4,6-Trinitrotoluene	68	U	97	68	30
98-95-3	Nitrobenzene	190	U	290	190	83

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	104		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 | Lab Sample ID: 280-168718-12

Matrix: Solid | Lab File ID: 11100058.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/11/2022 08:38

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	37	U	92	37	13
99-65-0	1,3-Dinitrobenzene	37	U	92	37	15
118-96-7	2,4,6-Trinitrotoluene	64	U	92	64	28
618-87-1	3,5-Dinitroaniline	18	U	92	18	8.3
121-14-2	2,4-Dinitrotoluene	37	U	92	37	14
606-20-2	2,6-Dinitrotoluene	37	U	92	37	18
35572-78-2	2-Amino-4,6-dinitrotoluene	64	U	92	64	30
88-72-2	2-Nitrotoluene	92	U	180	92	43
99-08-1	3-Nitrotoluene	140	U	180	140	59
19406-51-0	4-Amino-2,6-dinitrotoluene	64	U	92	64	28
99-99-0	4-Nitrotoluene	92	U	180	92	34
98-95-3	Nitrobenzene	180	U	280	180	78
55-63-0	Nitroglycerin	640	U	1800	640	200
2691-41-0	HMX	1600	M	92	64	21
78-11-5	PETN	920	U	1800	920	450
88-89-1	Picric acid	92	U	92	92	52
479-45-8	Tetryl	92	U	180	92	40
6629-29-4	2,4-diamino-6-nitrotoluene	920	U	1800	920	480
59229-75-3	2,6-diamino-4-nitrotoluene	920	U M	1800	920	300

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 | Lab Sample ID: 280-168718-12

Matrix: Solid | Lab File ID: 11110025.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/12/2022 01:10

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	108		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 DL | Lab Sample ID: 280-168718-12 DL

Matrix: Solid | Lab File ID: 11110011.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/11/2022 16:10

Con. Extract Vol.: 40(mL) | Dilution Factor: 10

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-82-4	RDX	38000	D	1800	920	400

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	97	D	78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 DL | Lab Sample ID: 280-168718-12 DL

Matrix: Solid | Lab File ID: 11110032.D

Analysis Method: 8330B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.8643(g) | Date Analyzed: 11/12/2022 05:14

Con. Extract Vol.: 40(mL) | Dilution Factor: 10

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	100	*D*	78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 | Lab Sample ID: 280-168718-13

Matrix: Solid | Lab File ID: 11100061.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/11/2022 09:47

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U M	98	39	14
99-65-0	1,3-Dinitrobenzene	39	U	98	39	16
118-96-7	2,4,6-Trinitrotoluene	69	U	98	69	30
618-87-1	3,5-Dinitroaniline	20	U	98	20	8.8
121-14-2	2,4-Dinitrotoluene	39	U	98	39	14
606-20-2	2,6-Dinitrotoluene	39	U	98	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	69	U	98	69	32
88-72-2	2-Nitrotoluene	98	U	200	98	46
99-08-1	3-Nitrotoluene	150	U	200	150	63
19406-51-0	4-Amino-2,6-dinitrotoluene	69	U	98	69	29
99-99-0	4-Nitrotoluene	98	U	200	98	36
98-95-3	Nitrobenzene	200	U	290	200	83
55-63-0	Nitroglycerin	690	U	2000	690	210
2691-41-0	HMX	4200	M	98	69	22
78-11-5	PETN	980	U	2000	980	480
88-89-1	Picric acid	98	U M	98	98	55
479-45-8	Tetryl	98	U	200	98	43
6629-29-4	2,4-diamino-6-nitrotoluene	980	U M	2000	980	510
59229-75-3	2,6-diamino-4-nitrotoluene	980	U M	2000	980	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	113		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 | Lab Sample ID: 280-168718-13

Matrix: Solid | Lab File ID: 11110026.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/12/2022 01:45

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	108		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 DL | Lab Sample ID: 280-168718-13 DL

Matrix: Solid | Lab File ID: 11110012.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/11/2022 16:33

Con. Extract Vol.: 40(mL) | Dilution Factor: 20

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
121-82-4	RDX	65000	D M	3900	2000	840

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	91	D	78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 DL | Lab Sample ID: 280-168718-13 DL

Matrix: Solid | Lab File ID: 11110033.D

Analysis Method: 8330B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2121(g) | Date Analyzed: 11/12/2022 05:49

Con. Extract Vol.: 40(mL) | Dilution Factor: 20

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	86	*D*	78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 | Lab Sample ID: 280-168718-14

Matrix: Solid | Lab File ID: 11100062.D

Analysis Method: 8330B | Date Collected: 11/02/2022 16:40

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.305(g) | Date Analyzed: 11/11/2022 10:10

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	97	39	13
99-65-0	1,3-Dinitrobenzene	39	U	97	39	16
118-96-7	2,4,6-Trinitrotoluene	68	U	97	68	30
618-87-1	3,5-Dinitroaniline	19	U	97	19	8.7
121-14-2	2,4-Dinitrotoluene	39	U	97	39	14
606-20-2	2,6-Dinitrotoluene	39	U	97	39	19
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	97	68	32
88-72-2	2-Nitrotoluene	97	U	190	97	46
99-08-1	3-Nitrotoluene	150	U	190	150	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	97	68	29
99-99-0	4-Nitrotoluene	97	U	190	97	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	170	M	97	68	22
78-11-5	PETN	970	U	1900	970	480
88-89-1	Picric acid	97	U	97	97	55
121-82-4	RDX	4800		190	97	42
479-45-8	Tetryl	97	U	190	97	43
6629-29-4	2,4-diamino-6-nitrotoluene	970	U	1900	970	500
59229-75-3	2,6-diamino-4-nitrotoluene	970	U M	1900	970	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	112		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 | Lab Sample ID: 280-168718-14

Matrix: Solid | Lab File ID: 11110027.D

Analysis Method: 8330B | Date Collected: 11/02/2022 16:40

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.305(g) | Date Analyzed: 11/12/2022 02:20

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	109		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 | Lab Sample ID: 280-168718-15

Matrix: Solid | Lab File ID: 11100063.D

Analysis Method: 8330B | Date Collected: 11/03/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.5091(g) | Date Analyzed: 11/11/2022 10:33

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	38	U	95	38	13
99-65-0	1,3-Dinitrobenzene	38	U	95	38	16
118-96-7	2,4,6-Trinitrotoluene	67	U	95	67	29
618-87-1	3,5-Dinitroaniline	19	U	95	19	8.6
121-14-2	2,4-Dinitrotoluene	38	U	95	38	14
606-20-2	2,6-Dinitrotoluene	38	U	95	38	18
35572-78-2	2-Amino-4,6-dinitrotoluene	67	U	95	67	31
88-72-2	2-Nitrotoluene	95	U	190	95	45
99-08-1	3-Nitrotoluene	140	U	190	140	61
19406-51-0	4-Amino-2,6-dinitrotoluene	67	U	95	67	28
99-99-0	4-Nitrotoluene	95	U	190	95	35
98-95-3	Nitrobenzene	190	U	290	190	81
55-63-0	Nitroglycerin	670	U	1900	670	200
2691-41-0	HMX	280	M	95	67	22
78-11-5	PETN	950	U	1900	950	470
88-89-1	Picric acid	95	U	95	95	54
121-82-4	RDX	6200		190	95	41
479-45-8	Tetryl	95	U	190	95	42
6629-29-4	2,4-diamino-6-nitrotoluene	950	U M	1900	950	490
59229-75-3	2,6-diamino-4-nitrotoluene	950	U M	1900	950	310

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	111		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 | Lab Sample ID: 280-168718-15

Matrix: Solid | Lab File ID: 11110028.D

Analysis Method: 8330B | Date Collected: 11/03/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.5091(g) | Date Analyzed: 11/12/2022 02:55

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	107		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 | Lab Sample ID: 280-168718-16

Matrix: Solid | Lab File ID: 11100064.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3627(g) | Date Analyzed: 11/11/2022 10:56

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593042 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	39	U	96	39	13
118-96-7	2,4,6-Trinitrotoluene	160		96	68	30
618-87-1	3,5-Dinitroaniline	19	U	96	19	8.7
121-14-2	2,4-Dinitrotoluene	39	U	96	39	14
606-20-2	2,6-Dinitrotoluene	39	U	96	39	18
35572-78-2	2-Amino-4,6-dinitrotoluene	68	U	96	68	32
88-72-2	2-Nitrotoluene	96	U	190	96	46
99-08-1	3-Nitrotoluene	140	U	190	140	62
19406-51-0	4-Amino-2,6-dinitrotoluene	68	U	96	68	29
99-99-0	4-Nitrotoluene	96	U	190	96	35
98-95-3	Nitrobenzene	190	U	290	190	82
55-63-0	Nitroglycerin	680	U	1900	680	210
2691-41-0	HMX	68	U	96	68	22
78-11-5	PETN	960	U	1900	960	480
88-89-1	Picric acid	96	U	96	96	54
121-82-4	RDX	96	U	190	96	41
479-45-8	Tetryl	96	U	190	96	42
6629-29-4	2,4-diamino-6-nitrotoluene	960	U	1900	960	500
59229-75-3	2,6-diamino-4-nitrotoluene	960	U M	1900	960	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	109		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 | Lab Sample ID: 280-168718-16

Matrix: Solid | Lab File ID: 11110030.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.3627(g) | Date Analyzed: 11/12/2022 04:04

Con. Extract Vol.: 40(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-65-0	1,3-Dinitrobenzene	39	U	96	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	103		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 | Lab Sample ID: 280-168718-17

Matrix: Solid | Lab File ID: 11100064.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:54

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:14

Sample wt/vol: 10.2401(g) | Date Analyzed: 11/11/2022 11:19

Con. Extract Vol.: 50(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb4uODS ID: 5.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 493052 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-34-5	1,3,4-Trinitrobenzene	130		98	39	13
618-87-1	3,4-Dinitroaniline	81	J	98	20	8.8
121-15-2	2,5-Dinitrotoluene	8300		98	39	15
606-20-2	2,6-Dinitrotoluene	530		98	39	19
34472-78-2	2-Amino-5,6-dinitrotoluene	500		98	68	32
88-72-2	2-Nitrotoluene	98	U	200	98	56
99-08-1	3-Nitrotoluene	140	U	200	140	62
19506-41-0	5-Amino-2,6-dinitrotoluene	68	U	98	68	29
99-99-0	5-Nitrotoluene	98	U M	200	98	36
98-94-3	Nitrobenzene	200	U	290	200	83
44-63-0	Nitroglycerin	680	U	2000	680	210
2691-51-0	HMX	68	U	98	68	22
78-11-4	PETN	980	U	2000	980	580
88-89-1	Picric acid	98	U	98	98	44
121-82-5	RDX	98	U	200	98	52
579-54-8	Tetryl	98	U M	200	98	53
6629-29-5	2,5-diamino-6-nitrotoluene	980	U	2000	980	400
49229-74-3	2,6-diamino-5-nitrotoluene	980	U M	2000	980	320

CAS NO.	SURROGATE	%REC	Q	LIMITS
428-29-0	1,2-Dinitrobenzene	106		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 | Lab Sample ID: 280-168718-17

Matri4: Solix | Lab File ID: 11110031.D

Analdsis MetBox: 8330c | Date Colle5tex: 11/03/2022 10:yh

E4tra5tion MetBox: 8330c | Date E4tra5tex: 11/09/2022 17:1h

Sample wt/vol: 10.2h01(g) | Date Analdzex: 11/12/2022 0y:39

Con. E4tra5t Vol.: y0(mL) | Dilution Fa5tor: 1

Inje5tion Volume: 100(uL) | GC Column: Luna-pBendlBe4 ID: y.6(mm)

% Moisture: % Solixs: | GPC Cleanup:(Y/N) N

Cleanup Fa5tor:

Analdsis cat5B No.: h93191 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-6h-0	1,3-Dinitrobenzene	39	U	98	39	16

CAS NO.	SURROGATE	%REC	Q	LIMITS
h28-29-0	1,2-Dinitrobenzene	102		78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 DL | Lab Sample ID: 280-168718-17 DL

Matri4: Solix | Lab File ID: 11110013.D

Analdsis MetBox: 8330c | Date Colle5tex: 11/03/2022 10:yh

E4tra5tion MetBox: 8330c | Date E4tra5tex: 11/09/2022 17:1h

Sample wt/vol: 10.2h01(g) | Date Analdzex: 11/11/2022 16:h6

Con. E4tra5t Vol.: y0(mL) | Dilution Fa5tor: h

Inje5tion Volume: 100(uL) | GC Column: UltraCarbhuODS ID: y.6(mm)

% Moisture: | % Solixs: | GPC Cleanup:(Y/N) N

Cleanup Fa5tor:

Analdsis cat5B No.: h93188 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
118-96-7	2,y,6-Trinitrotoluene	17000	D	y90	3y0	1h0

CAS NO.	SURROGATE	%REC	Q	LIMITS
h28-29-0	1,2-Dinitrobenzene	102	M D	78-119

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 DL | Lab Sample ID: 280-168718-17 DL

Matrix: Solid | Lab File ID: 11110034.D

Analysis Method: 8330B | Date Collected: 11/03/2022 10:45

Extraction Method: 8330B | Date Extracted: 11/09/2022 17:15

Sample wt/vol: 10.2501(g) | Date Analyzed: 11/12/2022 06:24

Con. Extract Vol.: 40(mL) | Dilution Factor: 5

Injection Volume: 100(uL) | GC Column: Luna-phenylhex ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 593191 | Units: ug/Kg

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	106	*D*	78-119

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C01-0006 Lab Sample ID: 280-168718-1

Matrix: Solid Lab File ID: NG722K21066.d

Analysis Method: 8321B Date Collected: 11/01/2022 12:35

Extraction Method: 8330B Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) Date Analyzed: 11/21/2022 14:43

Con. Extract Vol.: 20(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Synergi Hydro ID:

% Moisture: % Solids: GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11012201 | Lab Sample ID: 280-168718-2

Matrix: Solid | Lab File ID: NG722K21067.d

Analysis Method: 8321B | Date Collected: 11/01/2022 12:45

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:46

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C02-0006 | Lab Sample ID: 280-168718-3

Matrix: Solid | Lab File ID: NG722K21068.d

Analysis Method: 8321B | Date Collected: 11/01/2022 13:50

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:49

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C04-0006 | Lab Sample ID: 280-168718-5

Matrix: Solid | Lab File ID: NG722K21069.d

Analysis Method: 8321B | Date Collected: 11/01/2022 15:25

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:52

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: RB-11012201 | Lab Sample ID: 280-168718-6

Matrix: Water | Lab File ID: NG722K21060.d

Analysis Method: 8321B | Date Collected: 11/01/2022 15:45

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:25

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	10	U	20	10	3.7

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 | Lab Sample ID: 280-168718-7

Matrix: Solid | Lab File ID: NG722K21070.d

Analysis Method: 8321B | Date Collected: 11/02/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:55

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 | Lab Sample ID: 280-168718-8

Matrix: Solid | Lab File ID: NG722K21071.d

Analysis Method: 8321B | Date Collected: 11/02/2022 09:30

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:58

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.: C06 TLS 01/12/2023

Client Sample ID: X3-SS-~~CO6~~-0006 | Lab Sample ID: 280-168718-9

Matrix: Solid | Lab File ID: NG722K21073.d

Analysis Method: 8321B | Date Collected: 11/02/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:04

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H J1	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-SS-C01-0006 Lab Sample ID: 280-168718-10

Matrix: Solid Lab File ID: NG722K21078.d

Analysis Method: 8321B Date Collected: 11/02/2022 11:15

Extraction Method: 8330B Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) Date Analyzed: 11/21/2022 15:19

Con. Extract Vol.: 20(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Synergi Hydro ID:

% Moisture: % Solids: GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7B-SS-C01-0006 Lab Sample ID: 280-168718-11

Matrix: Solid Lab File ID: NG722K21079.d

Analysis Method: 8321B Date Collected: 11/02/2022 11:50

Extraction Method: 8330B Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) Date Analyzed: 11/21/2022 15:22

Con. Extract Vol.: 20(mL) Dilution Factor: 1

Injection Volume: 20(uL) GC Column: Synergi Hydro ID:

% Moisture: % Solids: GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 | Lab Sample ID: 280-168718-12

Matrix: Solid | Lab File ID: NG722K21081.d

Analysis Method: 8321B | Date Collected: 11/02/2022 14:20

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:28

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 | Lab Sample ID: 280-168718-13

Matrix: Solid | Lab File ID: NG722K21082.d

Analysis Method: 8321B | Date Collected: 11/02/2022 15:35

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:31

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 | Lab Sample ID: 280-168718-14

Matrix: Solid | Lab File ID: NG722K21083.d

Analysis Method: 8321B | Date Collected: 11/02/2022 16:40

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:34

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U H	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 | Lab Sample ID: 280-168718-15

Matrix: Solid | Lab File ID: NG722K21084.d

Analysis Method: 8321B | Date Collected: 11/03/2022 09:20

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:37

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 | Lab Sample ID: 280-168718-16

Matrix: Solid | Lab File ID: NG722K21085.d

Analysis Method: 8321B | Date Collected: 11/03/2022 10:15

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:41

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 | Lab Sample ID: 280-168718-17

Matrix: Solid | Lab File ID: NG722K21086.d

Analysis Method: 8321B | Date Collected: 11/03/2022 10:45

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 15:44

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

General Chemistry Raw Data Report

Job ID: 280-168718-1

Batch: 592579 **Analyst Initials: CCF**

Method: D 2216 **Instrument: No Equipment Used for this Test**

Lab Sample ID: 280-168718-B-1 **Analysis Date: Nov 07, 2022 11:11**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	23.132183908046	%

Lab Sample ID: 280-168718-A-2 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	21.6867469879518	%

Lab Sample ID: 280-168718-B-3 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	23.5893949694086	%

Lab Sample ID: 280-168718-B-5 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	28.6005434782609	%

Lab Sample ID: 280-168718-A-7 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	14.5429362880886	%

Lab Sample ID: 280-168718-A-8 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	15.0636492220651	%

Lab Sample ID: 280-168718-B-9 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	13.0649717514124	%

Lab Sample ID: 280-168718-B-10 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	16.6428571428571	%

Lab Sample ID: 280-168718-A-11 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	13.3928571428571	%

Lab Sample ID: 280-168718-B-12 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	14.6232439335888	%

Lab Sample ID: 280-168718-A-13 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	13.2726089785296	%

Batch: 592579 (Continued) **Analyst Initials: CCF**

Method: D 2216 **Instrument: No Equipment Used for this Test**

Lab Sample ID: 280-168718-B-14 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	12.8847530422334	%

Lab Sample ID: 280-168718-B-15 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	10.6212424849699	%

Lab Sample ID: 280-168718-B-16 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	12.1059268600252	%

Lab Sample ID: 280-168718-A-17 **Analysis Date: Nov 07, 2022 13:24**

Analyte	Detector	Dilution	Raw Result	Unit
Percent Moisture	None	1	10.3698811096433	%

Appendix C

Support Documentation

ANALYTE	ORIGINAL X3-SS-C01-0006	DUPLICATE FD-11012201	RL	RPD	RPD > 50% Soil	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >
PERCENT MOISTURE	23.1	21.7		6.25	FALSE	TRUE	TRUE	TRUE

ANALYTE	ORIGINAL X3-SS-C05-0006	DUPLICATE FD-11022201	RL	RPD	RPD > 50% Soil	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >
2,4,6-TRINITROTOLUENE	510	240	97	72.00	TRUE	TRUE	TRUE	TRUE
2,4-DINITROTOLUENE	110	43	97	87.58	TRUE	FALSE	FALSE	FALSE
2-AMINO-4,6-DINITROTOLUENE	180	210	97	15.38	FALSE	FALSE	TRUE	FALSE
3,5-DINITROANILINE	87	98	97	11.89	FALSE	FALSE	FALSE	FALSE
4-AMINO-2,6-DINITROTOLUENE	190	200	97	5.13	FALSE	FALSE	TRUE	FALSE
PERCENT MOISTURE	14.5	15.1	0.1	4.05	FALSE	TRUE	TRUE	TRUE

Chain of Custody Record

Revised 11-7-22 Mitch Baron

eurofins | Environment Testing America

-7171

Sampler: Mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 20623500	
Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 1 of 2	
PWSID:			Job #:	

Due Date Requested:

TAT Requested (days): Standard

Compliance Project: Δ Yes Δ No

PO #: Purchase Order Requested

WO #:

Project #: 28023939

SSOW#:

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, Other:

M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	83303_DOD5 - Explosives, Client list with 3,5-DNA, Picric a	Diamino (No ISM)	83218_NGu - Nitroguanidine	82705_DOD - 2,4-Dinitrophenol, Diphenylamine, N Nitrosodiphenylamine, Moisture	Total Number of containers	Special Instructions/Note:
		Preservation Code:				N	N	N			
006	11-1-2022	1235	C	S		X	X	X		3	
	11-1-2022	1245	C	S		X	X	X		3	
006	11-1-2022	1350	C	S		X	X	X		3	
006	11-1-2022	1430	C	S		X	X	X		3	Discard sample as per agreement w/ PM 11-4-22 M.B. 11-7-
006	11-1-2022	1525	C	S		X	X	X		3	
	11-1-2022	1545	G	W		X	X	X		4	
006	11-2-2022	0920	C	S		X	X	X		3	
	11-2-2022	0930	C	S		X	X	X		3	
6	11-2-2022	1015	C	S	X	X	X	X		3	Run MS/MSD
006	11-2-2022	1115	C	S		X	X	X		3	
006	11-2-2022	1150	C	S		X	X	X		3	

Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological ☐ (specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements:

Date: Time: Method of Shipment:

Seded in water	Date/Time: 11-3-2022 1445	Company: Tetra Tech	Received by:	Date/Time: 11/4/22 1035	Company: ETADEN
	Date/Time:	Company	Received by:	Date/Time:	Company
lo.:	Date/Time:	Company	Received by:	Date/Time:	Company

Cooler Temperature(s) °C and Other Remarks: 3.5, 0.2, 2.7 IR#12 CF-0.0

Ver. 01/16/2019

Chain of Custody Record

Orig. nal

eurofins | Environment Testing America

-7171

Sampler: mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 263500
Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 2 of 2
	PWSID:		Job #:

Analysis Requested

Due Date Requested:	
TAT Requested (days): Standard	
Compliance Project: Δ Yes Δ No	
PO #: Purchase Order Requested	
WO #:	
Project #: 28023939	
SSOW#:	

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8330B_DOD5 - Explosives, Client list with 3,5-DNA, Picric & Tetryl (No ISM)	8321B_NGu - Nitroguanidine	8270E_DOD5 - 2,4-Dinitrophenol, Diphenylamine, N-Nitrosodiphenylamine, Moisture	Total Number of containers	Special Instructions/Note:
		Preservation Code:				N	N	N		
11-2-2022	1420	C	S			X	X	X	3	
11-2-2022	1535	C	S			X	X	X	3	
11-2-2022	1640	C	S			X	X	X	3	
11-3-2022	0920	C	S			X	X	X	3	
11-3-2022	1015	C	S			X	X	X	3	
11-3-2022	1045	C	S			X	X	X	3	

M Baron 11-3-2022

Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

(specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements:

	Date:	Time:	Method of Shipment:

Sealed in Cooler	Date/Time: 11-3-2022 1445	Company Test Tech	Received by:	Date/Time: 11/4/22 1035	Company ETA DEN	
	Date/Time:	Company	Received by:	Date/Time:	Company	
	Date/Time:	Company	Received by:	Date/Time:	Company	

o.:

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Sample Summary

Client: Tetra Tech, Inc.
Job ID: 280-168718-1
Project/Site: NB Kitsap Bangor CTO NW194112, WA

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
280-168718-1	X3-SS-C01-0006	Solid	11/01/22 12:35	11/04/22 10:35
280-168718-2	FD-11012201	Solid	11/01/22 12:45	11/04/22 10:35
280-168718-3	X3-SS-C02-0006	Solid	11/01/22 13:50	11/04/22 10:35
280-168718-5	X3-SS-C04-0006	Solid	11/01/22 15:25	11/04/22 10:35
280-168718-6	RB-11012201	Water	11/01/22 15:45	11/04/22 10:35
280-168718-7	X3-SS-C05-0006	Solid	11/02/22 09:20	11/04/22 10:35
280-168718-8	FD-11022201	Solid	11/02/22 09:30	11/04/22 10:35
280-168718-9	X3-SS-CO6-0006	Solid	11/02/22 10:15	11/04/22 10:35
280-168718-10	X7-SS-C01-0006	Solid	11/02/22 11:15	11/04/22 10:35
280-168718-11	X7B-SS-C01-0006	Solid	11/02/22 11:50	11/04/22 10:35
280-168718-12	X7-TP-C01-5460	Solid	11/02/22 14:20	11/04/22 10:35
280-168718-13	X7-TP-C02-3648	Solid	11/02/22 15:35	11/04/22 10:35
280-168718-14	X7-TP-C03-4248	Solid	11/02/22 16:40	11/04/22 10:35
280-168718-15	X7-TP-C04-4248	Solid	11/03/22 09:20	11/04/22 10:35
280-168718-16	X3-SS-C07-0006	Solid	11/03/22 10:15	11/04/22 10:35
280-168718-17	X3-SS-C08-0006	Solid	11/03/22 10:45	11/04/22 10:35

CASE NARRATIVE

Client: Tetra Tech, Inc.

Project: NB Kitsap Bangor CTO NW194112, WA

Report Number: 280-168718-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

RECEIPT

The samples were received on 11/4/2022 10:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 0.2º C, 2.4º C and 3.5º C.

2 x 1L unpreserved amber glass bottles for 8270E were not provided for sample RB-11012201 (280-168718-6). It can be noted that these bottles were inadvertently not supplied in the client's bottle order. The client was notified on 11/7/22 and instructed the laboratory to proceed with 1 of 2 x 500mL bottle for 8330B. It can be noted that reporting limits for 8270E will be elevated due to limited volume for extraction/analysis.

Sample X3-SS-C03-0006 (280-168718-4) has been canceled per client request on the Chain of Custody (COC).

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS)

Samples X3-SS-C01-0006 (280-168718-1), FD-11012201 (280-168718-2), X3-SS-C02-0006 (280-168718-3), X3-SS-C04-0006 (280-168718-5), X3-SS-C05-0006 (280-168718-7), FD-11022201 (280-168718-8), X3-SS-CO6-0006 (280-168718-9), X7-SS-C01-0006 (280-168718-10), X7B-SS-C01-0006 (280-168718-11), X7-TP-C01-5460 (280-168718-12), X7-TP-C02-3648 (280-168718-13), X7-TP-C03-4248 (280-168718-14), X7-TP-C04-4248 (280-168718-15), X3-SS-C07-0006 (280-168718-16) and X3-SS-C08-0006 (280-168718-17) were analyzed for Semivolatile Organic Compounds (GC/MS) in accordance with 8270E. The samples were prepared on 11/07/2022 and 11/10/2022 and analyzed on 11/11/2022, 11/14/2022 and 11/28/2022.

2,4,6-Tribromophenol (Surr) and Terphenyl-d14 (Surr) failed the surrogate recovery criteria low for X3-SS-C07-0006 (280-168718-16). Evidence of matrix interference is present; therefore, re-extraction/re-analysis was not performed.

2,4-Dinitrophenol failed the recovery criteria low for the MS and MSD of sample X3-SS-CO6-0006 (280-168718-9) in batch 280-594711. The LCS is within control limits; therefore, the data have been reported. Refer to the QC report for details.

Samples X3-SS-C01-0006 (280-168718-1)[20X], FD-11012201 (280-168718-2)[20X], X3-SS-C02-0006 (280-168718-3)[20X], X3-SS-C04-0006 (280-168718-5)[20X], X3-SS-C05-0006 (280-168718-7)[20X], FD-11022201 (280-168718-8)[20X], X3-SS-CO6-0006 (280-168718-9)[20X], X7-SS-C01-0006 (280-168718-10)[20X], X7B-SS-C01-0006 (280-168718-11)[20X], X7-TP-C01-5460 (280-168718-12)[20X], X7-TP-C02-3648 (280-168718-13)[20X], X7-TP-C03-4248 (280-168718-14)[20X], X7-TP-C04-4248 (280-168718-15)[20X], X3-SS-C07-0006 (280-168718-16)[20X] and X3-SS-C08-0006 (280-168718-17)[20X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly. Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

The continuing calibration verification (CCV) associated with batch 280-593336 recovered outside acceptance criteria, low biased 2,4,6-Tribromophenol (Surr). A reporting limit (RL) standard was analyzed, and the target analytes are detected. Since the associated samples were non-detect for the analytes, the data have been reported. Affected samples: X3-SS-C04-0006 (280-168718-5), X3-SS-C05-0006 (280-168718-7), FD-11022201 (280-168718-8), X3-SS-CO6-0006 (280-168718-9) and (CCV 280-593336/3).

For the following sample in preparation batch 280-593019, a small amount of final volume was spilled when transferring into the clear 2mL vial: X3-SS-C07-0006 (280-168718-16).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

SEMIVOLATILE ORGANIC COMPOUNDS (GC/MS)

Sample RB-11012201 (280-168718-6) was analyzed for Semivolatile Organic Compounds (GC/MS) in accordance with 8270E. The samples were prepared on 11/07/2022 and analyzed on 11/17/2022.

In preparation batch 280-592592, elevated reporting limits are provided for the following sample due to insufficient sample provided for preparation: RB-11012201 (280-168718-6).

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

EXPLOSIVES (HPLC)
Samples X3-SS-C01-0006 (280-168718-1), FD-11012201 (280-168718-2), X3-SS-C02-0006 (280-168718-3), X3-SS-C04-0006 (280-168718-5), X3-SS-C05-0006 (280-168718-7), FD-11022201 (280-168718-8), X3-SS-CO6-0006 (280-168718-9), X7-SS-C01-0006 (280-168718-10), X7B-SS-C01-0006 (280-168718-11), X7-TP-C01-5460 (280-168718-12), X7-TP-C02-3648 (280-168718-13), X7-TP-C03-4248 (280-168718-14), X7-TP-C04-4248 (280-168718-15), X3-SS-C07-0006 (280-168718-16) and X3-SS-C08-0006 (280-168718-17) were analyzed for Explosives (HPLC) in accordance with 8330B. The samples were leached on 11/07/2022, prepared on 11/09/2022 and analyzed on 11/11/2022 and 11/12/2022.

Picric acid, 2,4-diamino-6-nitrotoluene and 2,6-diamino-4-nitrotoluene failed the recovery criteria low for the MS of sample X3-SS-CO6-0006 (280-168718-9) in batch 280-593042. 1,3,5-Trinitrobenzene failed the recovery criteria high. For the MSD of sample X3-SS-CO6-0006 (280-168718-9) in batch 280-593042, Picric acid, 2,4-diamino-6-nitrotoluene and 2,6-diamino-4-nitrotoluene failed the recovery criteria low. 1,3,5-Trinitrobenzene failed the recovery criteria high. Also, Picric acid exceeded the RPD limit. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. Refer to the QC report for details.

Samples X7-TP-C01-5460 (280-168718-12)[10X], X7-TP-C02-3648 (280-168718-13)[20X] and X3-SS-C08-0006 (280-168718-17)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

A deviation from the Standard Operating Procedure (SOP) occurred. In preparation batch 280-592646, the following samples were not sieved or incrementally sampled: X3-SS-C01-0006 (280-168718-1), FD-11012201 (280-168718-2), X3-SS-C02-0006 (280-168718-3), X3-SS-C04-0006 (280-168718-5), X3-SS-C05-0006 (280-168718-7), FD-11022201 (280-168718-8), X3-SS-CO6-0006 (280-168718-9), X3-SS-CO6-0006 (280-168718-9[MS]), X3-SS-CO6-0006 (280-168718-9[MSD]), X7-SS-C01-0006 (280-168718-10), X7B-SS-C01-0006 (280-168718-11), X7-TP-C01-5460 (280-168718-12), X7-TP-C02-3648 (280-168718-13), X7-TP-C03-4248 (280-168718-14), X7-TP-C04-4248 (280-168718-15), X3-SS-C07-0006 (280-168718-16), X3-SS-C08-0006 (280-168718-17), (280-168718-B-9 DU) and (280-168718-B-9 TRL).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

NITROGUANIDINE (LCMS)
Samples X3-SS-C01-0006 (280-168718-1), FD-11012201 (280-168718-2), X3-SS-C02-0006 (280-168718-3), X3-SS-C04-0006 (280-168718-5), X3-SS-C05-0006 (280-168718-7), FD-11022201 (280-168718-8), X3-SS-CO6-0006 (280-168718-9), X7-SS-C01-0006 (280-168718-10), X7B-SS-C01-0006 (280-168718-11), X7-TP-C01-5460 (280-168718-12), X7-TP-C02-3648 (280-168718-13), X7-TP-C03-4248 (280-168718-14), X7-TP-C04-4248 (280-168718-15), X3-SS-C07-0006 (280-168718-16) and X3-SS-C08-0006 (280-168718-17) were analyzed for Nitroguanidine (LCMS) in accordance with 8321B. The samples were leached on 11/07/2022, prepared on 11/17/2022 and analyzed on 11/21/2022.

Nitroguanidine failed the recovery criteria low for the MS and MSD of sample X3-SS-CO6-0006 (280-168718-9) in batch 280-594295. The associated laboratory control sample (LCS) recovery met acceptance criteria. Refer to the QC report for details.

The following samples were prepared outside of preparation holding time due hold time was misidentified in backlog : X3-SS-C01-0006 (280-168718-1), FD-11012201 (280-168718-2), X3-SS-C02-0006 (280-168718-3), X3-SS-C04-0006 (280-168718-5), X3-SS-C05-0006 (280-168718-7), FD-11022201 (280-168718-8), X3-SS-CO6-0006 (280-168718-9), X3-SS-CO6-0006 (280-168718-9[MS]), X3-SS-CO6-0006 (280-168718-9[MSD]), X7-SS-C01-0006 (280-168718-10), X7B-SS-C01-0006 (280-168718-11), X7-TP-C01-5460 (280-168718-12), X7-TP-C02-3648 (280-168718-13) and X7-TP-C03-4248 (280-168718-14). The preparation holding time expired on 11/16/22 and the samples were prepared on 11/17/22. It can be noted that the laboratory did not document this discrepancy until data was lab completed and the project manager was reviewing the data. As such, the client was notified on 12/1/22.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

NITROGUANIDINE (LCMS)
Sample RB-11012201 (280-168718-6) was analyzed for Nitroguanidine (LCMS) in accordance with 8321B. The samples were analyzed on 11/21/2022.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

EXPLOSIVES (HPLC)
Sample RB-11012201 (280-168718-6) was analyzed for Explosives (HPLC) in accordance with 8330B. The samples were prepared on 11/08/2022 and analyzed on 11/10/2022.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 280-592716. Two sets of LCS/LCSD were prepared for 8330 LCS and 3,5-DNA/Diamino instead.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

PERCENT SOLIDS

Samples X3-SS-C01-0006 (280-168718-1), FD-11012201 (280-168718-2), X3-SS-C02-0006 (280-168718-3), X3-SS-C04-0006 (280-168718-5), X3-SS-C05-0006 (280-168718-7), FD-11022201 (280-168718-8), X3-SS-CO6-0006 (280-168718-9), X7-SS-C01-0006 (280-168718-10), X7B-SS-C01-0006 (280-168718-11), X7-TP-C01-5460 (280-168718-12), X7-TP-C02-3648 (280-168718-13), X7-TP-C03-4248 (280-168718-14), X7-TP-C04-4248 (280-168718-15), X3-SS-C07-0006 (280-168718-16) and X3-SS-C08-0006 (280-168718-17) were analyzed for percent solids in accordance with ASTM D2216-90. The samples were analyzed on 11/07/2022.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
M	Manual integrated compound.
Q	One or more quality control criteria failed.
U	Undetected at the Limit of Detection.

HPLC/IC

Qualifier	Qualifier Description
D	Sample results are obtained from a dilution; the surrogate or matrix spike recoveries reported are calculated from diluted samples.
D	The reported value is from a dilution.
J	Estimated: The analyte was positively identified; the quantitation is an estimation
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
M	Manual integrated compound.
U	Undetected at the Limit of Detection.

LCMS

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time
J1	Estimated: The quantitation is an estimation due to discrepancies in meeting certain analyte-specific quality control criteria.
U	Undetected at the Limit of Detection.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Method Summary

Client: Tetra Tech, Inc. Job ID: 280-168718-1
Project/Site: NB Kitsap Bangor CTO NW194112, WA

Method	Method Description	Protocol	Laboratory
8270E	Semivolatile Organic Compounds (GC/MS)	SW846	EET DEN
8330B	Nitroaromatics and Nitramines (HPLC)	EPA	EET DEN
8321B	Nitroguanidine (LC/MS)	SW846	EET DEN
D 2216	Percent Moisture	ASTM	EET DEN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	EET DEN
3535	Solid-Phase Extraction (SPE)	SW846	EET DEN
3550C	Ultrasonic Extraction	SW846	EET DEN
8330B	Sonication Extraction (Explosives)	SW846	EET DEN
Prep/Air Dry	Preparation, Air drying	None	EET DEN

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET DEN = Eurofins Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

8270E_DOD5

Semivolatile Organic Compounds (GC/MS)

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): Rxi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP	#	PHL	#	NBZ	#	FBP	#	TBP	#	TPHL	#
X3-SS-C01-0006	280-168718-1	73	D	80	D	68	D	85	D	52	D	86	D
FD-11012201	280-168718-2	68	D	72	D	64	D	73	D	45	D	74	D
X3-SS-C02-0006	280-168718-3	58	D	63	D	54	D	69	D	39	D	65	D
X3-SS-C04-0006	280-168718-5	70		78		68		77		53	Q	78	
X3-SS-C05-0006	280-168718-7	67		75		64		76		49	Q	77	
FD-11022201	280-168718-8	63		72		57		70		45	Q	73	
X3-SS-CO6-0006	280-168718-9	84		96		86		96		97		93	
X7-SS-C01-0006	280-168718-10	75		85		79		82		85		82	
X7B-SS-C01-0006	280-168718-11	83		89		81		86		91		82	
X7-TP-C01-5460	280-168718-12	71		81		87		88		57		88	
X7-TP-C02-3648	280-168718-13	67		77		81		89		56		87	
X7-TP-C03-4248	280-168718-14	77		78		79		83		66		83	
X7-TP-C04-4248	280-168718-15	76		81		78		84		69		83	
X3-SS-C07-0006	280-168718-16	47		52		47		52		37	Q	44	Q
X3-SS-C08-0006	280-168718-17	84		89		87		91		87		82	
	MB 280-592594/1-A	70		68		69		67		60		91	
	MB 280-593019/1-A	51		67		71		70		41		79	
	LCS 280-592594/2-A	73		71		71		71		70		93	
	LCS 280-593019/2-A	71		72		66		67		89		69	
	LCSD 280-592594/3-A	75		72		73		72		67		88	
X3-SS-CO6-0006 MS	280-168718-9 MS	79		85		77		88		91		80	
X3-SS-CO6-0006 MSD	280-168718-9 MSD	87		97		89		89		107		87	

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	35-115
PHL = Phenol-d5 (Surr)	33-122
NBZ = Nitrobenzene-d5 (Surr)	37-122
FBP = 2-Fluorobiphenyl	44-115
TBP = 2,4,6-Tribromophenol (Surr)	39-132
TPHL = Terphenyl-d14 (Surr)	54-127

Column to be used to flag recovery values

FORM II 8270E

FORM II
GC/MS SEMI VOA SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): Rxi-5Sil MS ID: 0.25(mm)

Client Sample ID	Lab Sample ID	2FP #	PHL #	NBZ #	FBP #	TBP #	TPHL #
RB-11012201	280-168718-6	37	20	70	73	73	80
	MB 280-592592/1-A	25	13	62	65	70	87
	LCS 280-592592/2-A	36	22	74	77	96	83
	LCSD 280-592592/3-A	31	20	70	73	97	81

	QC LIMITS
2FP = 2-Fluorophenol (Surr)	19-119
PHL = Phenol-d5 (Surr)	10-115
NBZ = Nitrobenzene-d5 (Surr)	44-120
FBP = 2-Fluorobiphenyl	44-119
TBP = 2,4,6-Tribromophenol (Surr)	43-140
TPHL = Terphenyl-d14 (Surr)	50-134

Column to be used to flag recovery values

FORM II 8270E

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1603.D

Lab ID: LCS 280-592592/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
2,4-Dinitrophenol	160	147	92	23-143	
Diphenylamine	68.0	59.7	88	55-111	
N-Nitrosodiphenylamine	80.0	67.1	84	51-123	

Column to be used to flag recovery and RPD values

FORM III 8270E

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: G6_101023541b.D

Lab ID: LCS 280-592594/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
2,4-Dinitrophenol	5330	3900	73	46-120	
Diphenylamine	2270	1850	82	48-111	
N-Nitrosodiphenylamine	2670	2290	86	38-127	

Column to be used to flag recovery and RPD values

FORM III 8270E

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: Y19306467.D

Lab ID: LCS 280-593019/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
2,4-Dinitrophenol	5330	3470	65	46-120	
Diphenylamine	2270	1670	73	48-111	
N-Nitrosodiphenylamine	2670	1910	72	38-127	

Column to be used to flag recovery and RPD values

FORM III 8270E

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 1604.D

Lab ID: LCSD 280-592592/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,4-Dinitrophenol	160	140	88	4	20	23-143	
Diphenylamine	68.0	60.1	88	1	20	55-111	
N-Nitrosodiphenylamine	80.0	68.1	85	1	20	51-123	

Column to be used to flag recovery and RPD values

FORM III 8270E

FORM III
GC/MS SEMI VOA LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: G6_101023542b.D

Lab ID: LCSD 280-592594/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCSD CONCENTRATION (ug/Kg)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,4-Dinitrophenol	5330	3790	71	3	20	46-120	
Diphenylamine	2270	1740	77	6	20	48-111	
N-Nitrosodiphenylamine	2670	2140	80	7	20	38-127	

Column to be used to flag recovery and RPD values

FORM III 8270E

FORM III
GC/MS SEMI VOA MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: Y19306478.D

Lab ID: 280-168718-9 MS Client ID: X3-SS-CO6-0006 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
2,4-Dinitrophenol	6090	23000 U	8470 J	NC	46-120	D
Diphenylamine	2590	3800 U	2190 J	85	48-111	D
N-Nitrosodiphenylamine	3050	1500 U	2500 J	82	38-127	D

139

Column to be used to flag recovery and RPD values

FORM III 8270E

FORM III
GC/MS SEMI VOA MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: Y19306479.D

Lab ID: 280-168718-9 MSD Client ID: X3-SS-CO6-0006 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
2,4-Dinitrophenol	6050	8750 J	NC	3	20	46-120	D
Diphenylamine	2570	2360 J	92	7	20	48-111	D
N-Nitrosodiphenylamine	3030	2650 J	88	6	20	38-127	D

144
RPD
4

Column to be used to flag recovery and RPD values

FORM III 8270E

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: G6_101023540b.D Lab Sample ID: MB 280-592594/1-A

Matrix: Solid Date Extracted: 11/07/2022 12:55

Instrument ID: SMS_G6 Date Analyzed: 11/10/2022 16:43

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-592594/2-A	G6_101023541b.D	11/10/2022 17:04
	LCSD 280-592594/3-A	G6_101023542b.D	11/10/2022 17:24
X3-SS-C01-0006	280-168718-1	G6_101023563.D	11/11/2022 00:37
FD-11012201	280-168718-2	G6_101023564.D	11/11/2022 00:57
X3-SS-C02-0006	280-168718-3	G6_101023565.D	11/11/2022 01:18
X3-SS-C04-0006	280-168718-5	G6_101023685.D	11/14/2022 19:37
X3-SS-C05-0006	280-168718-7	G6_101023686.D	11/14/2022 19:58
FD-11022201	280-168718-8	G6_101023687.D	11/14/2022 20:18

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-592594/1-A

Matrix: Solid | Lab File ID: G6_101023540b.D

Analysis Method: 8270E | Date Collected:

Extract. Method: 3550C | Date Extracted: 11/07/2022 12:55

Sample wt/vol: 30(g) | Date Analyzed: 11/10/2022 16:43

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 0.5(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 592986 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	1000	U	1600	1000	330
122-39-4	Diphenylamine	170	U	330	170	44
86-30-6	N-Nitrosodiphenylamine	67	U M	330	67	21

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	67		44-115
367-12-4	2-Fluorophenol (Surr)	70		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	60		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	69		37-122
4165-62-2	Phenol-d5 (Surr)	68		33-122
1718-51-0	Terphenyl-d14 (Surr)	91		54-127

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: 1602.D Lab Sample ID: MB 280-592592/1-A

Matrix: Water Date Extracted: 11/07/2022 13:11

Instrument ID: SMS_1 Date Analyzed: 11/16/2022 17:43

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-592592/2-A	1603.D	11/16/2022 18:04
	LCSD 280-592592/3-A	1604.D	11/16/2022 18:26
RB-11012201	280-168718-6	1625.D	11/17/2022 01:55

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-592592/1-A

Matrix: Water | Lab File ID: 1602.D

Analysis Method: 8270E | Date Collected:

Extract. Method: 3510C | Date Extracted: 11/07/2022 13:11

Sample wt/vol: 1000(mL) | Date Analyzed: 11/16/2022 17:43

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 593651 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	30	U	30	30	10
122-39-4	Diphenylamine	6.8	U M	10	6.8	1.1
86-30-6	N-Nitrosodiphenylamine	8.0	U	10	8.0	0.44

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	65		44-119
367-12-4	2-Fluorophenol (Surr)	25		19-119
118-79-6	2,4,6-Tribromophenol (Surr)	70		43-140
4165-60-0	Nitrobenzene-d5 (Surr)	62		44-120
4165-62-2	Phenol-d5 (Surr)	13		10-115
1718-51-0	Terphenyl-d14 (Surr)	87		50-134

FORM IV
GC/MS SEMI VOA METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: Y19306466.D Lab Sample ID: MB 280-593019/1-A

Matrix: Solid Date Extracted: 11/10/2022 12:10

Instrument ID: SMS_Y Date Analyzed: 11/28/2022 12:54

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-593019/2-A	Y19306467.D	11/28/2022 13:20
X3-SS-CO6-0006	280-168718-9	Y19306477.D	11/28/2022 17:41
X3-SS-CO6-0006 MS	280-168718-9 MS	Y19306478.D	11/28/2022 18:07
X3-SS-CO6-0006 MSD	280-168718-9 MSD	Y19306479.D	11/28/2022 18:33
X7-SS-C01-0006	280-168718-10	Y19306480.D	11/28/2022 18:59
X7B-SS-C01-0006	280-168718-11	Y19306481.D	11/28/2022 19:25
X7-TP-C01-5460	280-168718-12	Y19306482.D	11/28/2022 19:51
X7-TP-C02-3648	280-168718-13	Y19306483.D	11/28/2022 20:17
X7-TP-C03-4248	280-168718-14	Y19306484.D	11/28/2022 20:43
X7-TP-C04-4248	280-168718-15	Y19306485.D	11/28/2022 21:08
X3-SS-C07-0006	280-168718-16	Y19306486.D	11/28/2022 21:34
X3-SS-C08-0006	280-168718-17	Y19306487.D	11/28/2022 22:00

FORM I
GC/MS SEMI VOA ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-593019/1-A

Matrix: Solid | Lab File ID: Y19306466.D

Analysis Method: 8270E | Date Collected:

Extract. Method: 3550C | Date Extracted: 11/10/2022 12:10

Sample wt/vol: 30(g) | Date Analyzed: 11/28/2022 12:54

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 1(uL) | GC Column: Rxi-5Sil MS ID: 0.25(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor: | Level: (low/med) Low

Analysis Batch No.: 594711 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
51-28-5	2,4-Dinitrophenol	1000	U	1600	1000	330
122-39-4	Diphenylamine	170	U	330	170	44
86-30-6	N-Nitrosodiphenylamine	67	U	330	67	21

CAS NO.	SURROGATE	%REC	Q	LIMITS
321-60-8	2-Fluorobiphenyl	70		44-115
367-12-4	2-Fluorophenol (Surr)	51		35-115
118-79-6	2,4,6-Tribromophenol (Surr)	41		39-132
4165-60-0	Nitrobenzene-d5 (Surr)	71		37-122
4165-62-2	Phenol-d5 (Surr)	67		33-122
1718-51-0	Terphenyl-d14 (Surr)	79		54-127

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: 903b.D DFTPP Injection Date: 11/07/2022

Instrument ID: SMS_1 DFTPP Injection Time: 14:22

Analysis Batch No.: 592626

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	59.6	
68	Less than 2.0 % of mass 69	1.0	(1.7) 1
69	Mass 69 relative abundance	57.8	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	54.3	
197	Less than 1.0 % of mass 198	0.3	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	22.9	
365	Greater than 1.0 % of mass 198	3.3	
441	Present but less than mass 443	9.3	(78.4) 3
442	Greater than 40.0 % of mass 198	61.2	
443	17.0 - 23.0 % of mass 442	11.8	(19.3) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD0004 280-592626/18	921.D	11/07/2022	20:43
	STD0010 280-592626/19	922.D	11/07/2022	21:05
	STD0020 280-592626/20	923.D	11/07/2022	21:26
	STD0050 280-592626/21	924.D	11/07/2022	21:48
	ICIS 280-592626/22	925.D	11/07/2022	22:09
	STD0120 280-592626/23	926.D	11/07/2022	22:31
	STD0160 280-592626/24	927.D	11/07/2022	22:52
	STD0200 280-592626/25	928.D	11/07/2022	23:14
	ICV 280-592626/26	929.D	11/07/2022	23:35
	ICV 280-592626/27	930.D	11/07/2022	23:57

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0004 280-592626/18	921.D
Level 2	STD0010 280-592626/19	922.D
Level 3	STD0020 280-592626/20	923.D
Level 4	STD0050 280-592626/21	924.D
Level 5	ICIS 280-592626/22	925.D
Level 6	STD0120 280-592626/23	926.D
Level 7	STD0160 280-592626/24	927.D
Level 8	STD0200 280-592626/25	928.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
1,4-Dioxane	+++++ 0.5414	0.8266 0.5468	0.6826 0.5483	0.6500	0.6317	Lin2	2.7928	0.5519			
N-Nitrosodimethylamine	+++++ 0.8465	1.0256 0.8577	0.9374 0.8587	0.9678	0.9508	Ave		0.9206			
Pyridine	+++++ 1.4465	1.8892 1.4494	1.6822 1.4434	1.6621	1.6500	Ave		1.6032			
Phenol	1.4571 1.6317	2.2229 1.6412	1.9374 1.6680	1.8894	1.8672	Ave		1.7894			
Aniline	1.8094 2.0488	2.7304 2.0763	2.4613 2.0631	2.4133	2.3558	Ave		2.2448			
Bis(2-chloroethyl)ether	1.6129 1.3936	2.0210 1.3796	1.7162 1.3855	1.6316	1.6016	Ave		1.5928			
2-Chlorophenol	1.1063 1.1731	1.5899 1.1869	1.3889 1.2016	1.3600	1.3362	Ave		1.2929			
1,3-Dichlorobenzene	1.3863 1.3135	1.8159 1.3344	1.5896 1.3385	1.5131	1.5032	Ave		1.4743			
1,4-Dichlorobenzene	1.4086 1.3568	1.8965 1.3719	1.6196 1.3765	1.5724	1.5264	Ave		1.5161			
Benzyl alcohol	+++++ 0.7615	0.9220 0.7831	0.8386 0.7942	0.8387	0.8561	Ave		0.8278			
1,2-Dichlorobenzene	1.3064 1.2576	1.7895 1.2863	1.5309 1.3021	1.4887	1.4447	Ave		1.4258			
2-Methylphenol	1.1015 1.1713	1.5457 1.2027	1.3842 1.2025	1.3468	1.3368	Ave		1.2864			
2,2'-oxybis[1-chloropropane]	+++++ 1.8720	2.8238 1.8567	2.4377 1.8261	2.2712	2.1877	Lin2	9.8409	1.8981			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
3 & 4 Methylphenol	1.0767 1.2237	1.5782 1.2309	1.4308 1.2436	1.3676	1.3613	Ave		1.3141			
Acetophenone	1.8934 1.9138	2.6531 1.9236	2.3059 1.9014	2.2078	2.1984	Ave		2.1247			
N-Nitrosodi-n-propylamine	+++++ 1.0242	1.4082 1.0325	1.2313 1.0240	1.1924	1.1762	Lin1	4.7247	1.0192			0.0500
Hexachloroethane	0.5620 0.5827	0.7887 0.5922	0.6985 0.5968	0.6730	0.6631	Ave		0.6446			
Nitrobenzene	0.3903 0.4180	0.5751 0.4204	0.5032 0.4101	0.4814	0.4772	Ave		0.4595			
Isophorone	0.7324 0.7289	1.0342 0.7236	0.8908 0.7211	0.8447	0.8324	Ave		0.8135			
2-Nitrophenol	0.1219 0.1593	0.1756 0.1622	0.1625 0.1639	0.1688	0.1772	Ave		0.1614			
2,4-Dimethylphenol	0.2769 0.3346	0.4321 0.3359	0.3869 0.3293	0.3715	0.3754	Ave		0.3553			
Bis(2-chloroethoxy)methane	+++++ 0.3252	0.4586 0.3279	0.4292 0.3208	0.4142	0.3715	Lin1	1.9861	0.3209			
Benzoic acid	+++++ 0.2834	0.0459 0.2968	0.2511 0.2977	0.2890	0.3051	Lin1	-4.120	0.3122			
2,4-Dichlorophenol	0.2349 0.2664	0.3357 0.2695	0.3059 0.2758	0.3003	0.2974	Ave		0.2857			
1,2,4-Trichlorobenzene	0.3194 0.3097	0.4278 0.3110	0.3757 0.3100	0.3536	0.3450	Ave		0.3440			
Naphthalene	0.9565 0.8983	1.2777 0.8990	1.1232 0.8874	1.0412	1.0199	Ave		1.0129			
4-Chloroaniline	0.3120 0.3997	0.5081 0.4034	0.4551 0.4035	0.4513	0.4534	Ave		0.4233			
2,6-Dichlorophenol	0.2519 0.2707	0.3667 0.2742	0.3182 0.2802	0.3010	0.3070	Ave		0.2963			
Hexachlorobutadiene	0.1746 0.1775	0.2416 0.1813	0.2088 0.1835	0.1996	0.2023	Ave		0.1961			
4-Chloro-3-methylphenol	0.2253 0.2910	0.3698 0.2962	0.3406 0.2932	0.3279	0.3323	Ave		0.3095			
2-Methylnaphthalene	0.5157 0.5308	0.7355 0.5335	0.6225 0.5227	0.5975	0.5949	Ave		0.5816			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
1-Methylnaphthalene	0.5789 0.5577	0.7852 0.5627	0.6701 0.5612	0.6410	0.6308	Ave		0.6235			
1,2,4,5-Tetrachlorobenzene	0.3103 0.3108	0.4235 0.3140	0.3674 0.3167	0.3452	0.3462	Ave		0.3418			
Hexachlorocyclopentadiene	0.0645 0.2384	0.1777 0.2620	0.1886 0.2647	0.2276	0.2543	Lin2	-0.774	0.2535			0.0500
2,4,6-Trichlorophenol	0.2734 0.3533	0.4295 0.3650	0.3974 0.3587	0.3902	0.3979	Ave		0.3707			
2,4,5-Trichlorophenol	0.2644 0.3881	0.4845 0.3978	0.4410 0.3857	0.4337	0.4333	Lin1	0.0520	0.4006			
1,1'-Biphenyl	1.3449 1.3312	1.8232 1.3283	1.6110 1.3008	1.5503	1.5169	Ave		1.4758			
2-Chloronaphthalene	1.0684 1.0574	1.4544 1.0583	1.2803 1.0346	1.2189	1.2068	Ave		1.1724			
2-Nitroaniline	0.2538 0.3852	0.4427 0.3911	0.4330 0.3780	0.4335	0.4387	Lin1	-0.043	0.3969			
Dimethyl phthalate	1.1894 1.1710	1.5985 1.1675	1.4287 1.1268	1.3518	1.3258	Ave		1.2949			
1,3-Dinitrobenzene	0.0902 0.1915	0.1820 0.1965	0.1832 0.1949	0.1996	0.2079	Lin2	-0.427	0.2048			
2,6-Dinitrotoluene	+++++ 0.2769	0.3267 0.2887	0.2994 0.2804	0.3047	0.3153	Ave		0.2989			
Acenaphthylene	1.5634 1.5735	2.1892 1.5887	1.8899 1.5392	1.8363	1.8007	Ave		1.7476			
3-Nitroaniline	0.1593 0.2734	0.3121 0.2770	0.3061 0.2722	0.3079	0.3052	Lin1	-0.109	0.2828			
Acenaphthene	1.1282 1.0606	1.4988 1.0781	1.3054 1.0422	1.2379	1.2205	Ave		1.1965			
2,4-Dinitrophenol	0.0210 0.1416	0.0796 0.1499	0.0958 0.1537	0.1257	0.1417	Lin2	-1.045	0.1432			0.0500
4-Nitrophenol	0.0274 0.1740	0.1465 0.1820	0.1696 0.1797	0.1962	0.2073	Lin2	-1.297	0.1970			0.0500
Dibenzofuran	1.5331 1.4360	2.0803 1.4408	1.7991 1.3923	1.6879	1.6484	Ave		1.6272			
2,4-Dinitrotoluene	0.2278 0.3549	0.3945 0.3618	0.3910 0.3555	0.4013	0.4055	Lin2	-0.547	0.3924			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
2,3,4,6-Tetrachlorophenol	+++++ 0.2864	0.3340 0.2994	0.3083 0.2952	0.3096	0.3219	Ave		0.3078			
Diethyl phthalate	1.1848 1.1651	1.6325 1.1786	1.4408 1.1510	1.3781	1.3484	Ave		1.3099			
4-Chlorophenyl phenyl ether	0.5763 0.6058	0.8057 0.6344	0.7083 0.6211	0.6886	0.6900	Ave		0.6663			
Fluorene	1.1692 1.2418	1.6204 1.2753	1.4596 1.2406	1.3989	1.4072	Ave		1.3516			
4-Nitroaniline	0.1075 0.2692	0.2266 0.2756	0.2841 0.2731	0.3096	0.3039	Lin2	-0.733	0.2976			
4,6-Dinitro-2-methylphenol	0.0376 0.1066	0.0837 0.1127	0.0902 0.1151	0.1053	0.1162	Lin2	-0.613	0.1133			
Diphenylamine	0.9166 1.0190	1.3153 1.0427	1.2024 1.0192	1.1560	1.1411	Ave		1.1015			
N-Nitrosodiphenylamine	0.4270 0.4793	0.6111 0.4848	0.5620 0.4840	0.5407	0.5421	Ave		0.5164			
Azobenzene	1.5979 1.5016	2.2797 +++++	1.9847 +++++	1.8443	1.7689	Qua	-1.378	2.2158	-0.005803		
1,2-Diphenylhydrazine	+++++ 1.4853	2.2550 1.4704	1.9632 1.4316	1.8242	1.7497	Lin2	8.1268	1.5079			
4-Bromophenyl phenyl ether	0.1729 0.1821	0.2434 0.1868	0.2074 0.1879	0.2042	0.2083	Ave		0.1991			
Hexachlorobenzene	0.2058 0.1996	0.2678 0.2029	0.2303 0.2064	0.2210	0.2251	Ave		0.2199			
Pentachlorophenol	0.0735 0.1286	0.1287 0.1377	0.1232 0.1450	0.1337	0.1382	Lin2	-0.500	0.1402			
Phenanthrene	1.0248 0.9458	1.3240 0.9339	1.1689 0.9197	1.1009	1.0851	Ave		1.0629			
Anthracene	0.9693 0.9680	1.3409 0.9751	1.1823 0.9497	1.1177	1.1356	Ave		1.0798			
Carbazole	0.7979 0.8687	1.1247 0.8669	1.0299 0.8576	1.0072	1.0007	Ave		0.9442			
Alachlor	0.0883 0.1250	0.1358 0.1283	0.1317 0.1304	0.1348	0.1393	Ave		0.1267			
Di-n-butyl phthalate	0.9334 1.0898	1.3702 1.0679	1.2676 1.0376	1.2421	1.2544	Ave		1.1579			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Fluoranthene	0.9628 1.0395	1.3513 1.0071	1.2110 0.9940	1.1595	1.1872	Ave		1.1141			
Pyrene	+++++ 1.1567	1.6910 1.1439	1.4738 1.1034	1.4012	1.3912	Lin2	5.4727	1.1793			
Butyl benzyl phthalate	0.3522 0.5100	0.5601 0.5177	0.5456 0.5147	0.5800	0.5966	Lin2	-0.710	0.5622			
Benzo[a]anthracene	1.0720 1.1648	1.5361 1.1640	1.3705 1.1491	1.3501	1.3585	Ave		1.2707			
Chrysene	1.1657 1.0335	1.5542 1.0321	1.3143 +++++	1.2408	1.2333	Ave		1.2248			
Bis(2-ethylhexyl) phthalate	0.4323 0.7066	0.7048 0.7200	0.7118 0.7077	0.7635	0.8043	Lin2	-1.203	0.7618			
Di-n-octyl phthalate	0.6410 1.1953	1.1479 1.1980	1.1793 1.1711	1.3110	1.3881	Lin2	-2.409	1.2901			
Benzo[b]fluoranthene	0.9959 1.1498	1.4701 1.1812	1.2867 1.1575	1.3264	1.2902	Ave		1.2322			
Benzo[k]fluoranthene	1.1270 1.1908	1.7000 1.1810	1.5101 1.1862	1.3939	1.3890	Ave		1.3347			
Benzo[a]pyrene	0.8878 1.0145	1.3142 1.0126	1.1641 0.9995	1.1550	1.1451	Ave		1.0866			
Indeno[1,2,3-cd]pyrene	0.8457 1.0302	1.2777 1.0346	1.1558 1.0270	1.1535	1.1946	Ave		1.0899			
Dibenz(a,h)anthracene	0.7501 0.9435	1.1665 0.9596	1.0596 0.9542	1.0597	1.0565	Ave		0.9937			
Benzo[g,h,i]perylene	0.7840 0.8806	1.1491 0.8879	1.0313 0.8754	1.0117	1.0072	Ave		0.9534			
2-Fluorophenol (Surr)	+++++ 1.2476	1.6618 1.2633	1.4663 1.2589	1.4321	1.4256	Ave		1.3936			
Phenol-d5 (Surr)	1.5330 1.6783	2.1277 1.6980	1.9848 1.6940	1.9308	1.9384	Ave		1.8231			
Nitrobenzene-d5 (Surr)	0.3930 0.4549	0.5998 0.4547	0.5303 0.4464	0.5186	0.5117	Ave		0.4887			
2-Fluorobiphenyl	1.3418 1.2914	1.8307 1.3066	1.5709 1.2644	1.4910	1.4765	Ave		1.4467			
2,4,6-Tribromophenol (Surr)	0.1100 0.1847	0.1861 0.1953	0.1817 0.1971	0.1894	0.1998	Lin2	-0.327	0.1990			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Terphenyl-d14 (Surr)	0.9656 0.9922	1.3914 0.9882	1.2004 0.9671	1.1554	1.1745	Ave		1.1043			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD0004 280-592626/18	921.D
Level 2	STD0010 280-592626/19	922.D
Level 3	STD0020 280-592626/20	923.D
Level 4	STD0050 280-592626/21	924.D
Level 5	ICIS 280-592626/22	925.D
Level 6	STD0120 280-592626/23	926.D
Level 7	STD0160 280-592626/24	927.D
Level 8	STD0200 280-592626/25	928.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
1,4-Dioxane	DCBd 4	Lin2	+++++ 308671	33459 413233	55894 515171	132635	212077	+++++ 120	10 1
N-Nitrosodimethylamine	DCBd 4	Ave	+++++ 482652	41512 648130	76758 806810	197484	319190	+++++ 120	10 1
Pyridine	DCBd 4	Ave	+++++ 1649445	152934 2190554	275495 2712440	678316	1107791	+++++ 240	20 3
Phenol	DCBd 4	Ave	23395 930323	89976 1240239	158643 1567253	385549	626843	4.00 120	10 1
Aniline	DCBd 4	Ave	29052 1168182	110517 1569024	201546 1938542	492444	790860	4.00 120	10 1
Bis(2-chloroethyl)ether	DCBd 4	Ave	25896 794608	81804 1042553	140531 1301849	332935	537658	4.00 120	10 1
2-Chlorophenol	DCBd 4	Ave	17763 668889	64352 896908	113733 1129014	277513	448572	4.00 120	10 1
1,3-Dichlorobenzene	DCBd 4	Ave	22258 748894	73501 1008399	130168 1257626	308763	504638	4.00 120	10 1
1,4-Dichlorobenzene	DCBd 4	Ave	22617	76763	132620	320851	512411	4.00	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			773578	1036676	1293361			120	1
Benzyl alcohol	DCBd 4	Ave	+++++ 434165	37320 591800	68668 746215	171147	287407	+++++ 120	10 1
1,2-Dichlorobenzene	DCBd 4	Ave	20976 717064	72432 972026	125354 1223484	303776	484985	4.00 120	10 1
2-Methylphenol	DCBd 4	Ave	17686 667829	62563 908858	113343 1129915	274823	448779	4.00 120	10 1
2,2'-oxybis[1-chloropropane]	DCBd 4	Lin2	+++++ 1067378	114297 1403055	199611 1715819	463439	734430	+++++ 120	10 1
3 & 4 Methylphenol	DCBd 4	Ave	17288 697708	63881 930177	117163 1168513	279070	456980	4.00 120	10 1
Acetophenone	DCBd 4	Ave	30400 1091204	107389 1453648	188815 1786544	450507	738020	4.00 120	10 1
N-Nitrosodi-n-propylamine	DCBd 4	Lin1	+++++ 583960	57001 780264	100825 962159	243314	394854	+++++ 120	10 1
Hexachloroethane	DCBd 4	Ave	9023 332213	31925 447507	57194 560804	137336	222591	4.00 120	10 1
Nitrobenzene	NPT	Ave	23765 892978	86656 1200249	154546 1467681	373983	609213	4.00 120	10 1
Isophorone	NPT	Ave	44600 1557082	155844 2065576	273594 2580871	656169	1062625	4.00 120	10 1
2-Nitrophenol	NPT	Ave	7424 340303	26468 463006	49910 586563	131143	226207	4.00 120	10 1
2,4-Dimethylphenol	NPT	Ave	16862 714796	65111 958803	118827 1178524	288541	479238	4.00 120	10 1
Bis(2-chloroethoxy)methane	NPT	Lin1	+++++ 694717	69106 936188	131820 1148164	321713	474264	+++++ 120	10 1
Benzoic acid	NPT	Lin1	+++++	13830	154248	449020	778881	+++++	20

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			1210809	1694621	2130878			240	3
2,4-Dichlorophenol	NPT	Ave	14304 569155	50580 769281	93960 986989	233239	379595	4.00 120	10 1
1,2,4-Trichlorobenzene	NPT	Ave	19451 661621	64461 887796	115403 1109594	274687	440475	4.00 120	10 1
Naphthalene	NPT	Ave	58245 1918891	192533 2566227	344964 3175894	808826	1302031	4.00 120	10 1
4-Chloroaniline	NPT	Ave	18997 853903	76559 1151646	139789 1444234	350551	578802	4.00 120	10 1
2,6-Dichlorophenol	NPT	Ave	15338 578375	55259 782865	97746 1002943	233825	391887	4.00 120	10 1
Hexachlorobutadiene	NPT	Ave	10633 379213	36405 517619	64119 656703	155010	258270	4.00 120	10 1
4-Chloro-3-methylphenol	NPT	Ave	13721 621584	55729 845569	104616 1049303	254727	424210	4.00 120	10 1
2-Methylnaphthalene	NPT	Ave	31404 1133996	110832 1523001	191186 1870533	464102	759437	4.00 120	10 1
1-Methylnaphthalene	NPT	Ave	35252 1191308	118322 1606402	205816 2008545	497911	805306	4.00 120	10 1
1,2,4,5-Tetrachlorobenzene	NPT	Ave	18897 663972	63816 896241	112849 1133475	268150	441904	4.00 120	10 1
Hexachlorocyclopentadiene	ANT	Lin2	2228 298753	15497 437413	33133 565933	101276	187711	4.00 120	10 1
2,4,6-Trichlorophenol	ANT	Ave	9445 442619	37457 609334	69797 766941	173597	293683	4.00 120	10 1
2,4,5-Trichlorophenol	ANT	Lin1	9136 486217	42258 664039	77463 824571	192955	319773	4.00 120	10 1
1,1'-Biphenyl	ANT	Ave	46466 1667909	159009 2217339	282955 2781369	689795	1119552	4.00 120	10 1
2-Chloronaphthalene	ANT	Ave	36915 1324869	126841 1766705	224869 2212049	542323	890680	4.00 120	10 1
2-Nitroaniline	ANT	Lin1	8770 482591	38612 652890	76048 808159	192875	323740	4.00 120	10 1
Dimethyl phthalate	ANT	Ave	41094 1467161	139407 1948997	250926 2409281	601465	978489	4.00 120	10 1
1,3-Dinitrobenzene	ANT	Lin2	3117	15872	32169	88812	153436	4.00	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			239903	328090	416786			120	1
2,6-Dinitrotoluene	ANT	Ave	+++++ 346923	28495 481899	52587 599504	135562	232675	+++++ 120	10 1
Acenaphthylene	ANT	Ave	54018 1971479	190924 2652029	331936 3290968	817032	1328989	4.00 120	10 1
3-Nitroaniline	ANT	Lin1	5505 342517	27219 462450	53771 581962	137019	225239	4.00 120	10 1
Acenaphthene	ANT	Ave	38979 1328828	130713 1799627	229284 2228341	550810	900753	4.00 120	10 1
2,4-Dinitrophenol	ANT	Lin2	1449 354733	13882 500368	33657 657317	111893	209172	8.00 240	20 3
4-Nitrophenol	ANT	Lin2	1894 436115	25551 607539	59576 768630	174610	305926	8.00 240	20 3
Dibenzofuran	ANT	Ave	52970 1799228	181432 2405172	315996 2976892	751011	1216535	4.00 120	10 1
2,4-Dinitrotoluene	ANT	Lin2	7869 444621	34403 604035	68681 760164	178545	299247	4.00 120	10 1
2,3,4,6-Tetrachlorophenol	ANT	Ave	+++++ 358790	29126 499817	54147 631111	137756	237563	+++++ 120	10 1
Diethyl phthalate	ANT	Ave	40935 1459808	142372 1967419	253057 2460899	613188	995161	4.00 120	10 1
4-Chlorophenyl phenyl ether	ANT	Ave	19913 759031	70267 1059038	124396 1327950	306406	509259	4.00 120	10 1
Fluorene	ANT	Ave	40398 1555899	141316 2128814	256365 2652535	622417	1038533	4.00 120	10 1
4-Nitroaniline	ANT	Lin2	3715 337274	19761 460044	49892 583845	137739	224274	4.00 120	10 1
4,6-Dinitro-2-methylphenol	PHN	Lin2	4734 482816	26866 688024	57769 885458	171674	306889	8.00 240	20 3
Diphenylamine	ANT	Ave	26918 1085199	97508 1479559	179506 1852310	437208	715842	3.40 102	8. 1
N-Nitrosodiphenylamine	PHN	Ave	26912 1085199	98075 1479559	179855 1861178	440934	715905	4.00 120	10 1
Azobenzene	ANT	Qua	55207 1881394	198824 +++++	348585 +++++	820582	1305522	4.00 120	10 +++
1,2-Diphenylhydrazine	ANT	Lin2	+++++	198824	348585	820582	1305522	+++++	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			1881394	2481571	3094554			121	1
4-Bromophenyl phenyl ether	PHN	Ave	10894 412290	39072 570138	66382 722656	166509	275116	4.00 120	10 1
Hexachlorobenzene	PHN	Ave	12968 451885	42988 619255	73707 793514	180230	297252	4.00 120	10 1
Pentachlorophenol	PHN	Lin2	9259 582380	41305 840363	78855 1115254	218034	364994	8.00 240	20 3
Phenanthrene	PHN	Ave	64587 2141455	212503 2850038	374103 3536484	897804	1433123	4.00 120	10 1
Anthracene	PHN	Ave	61093 2191726	215218 2975587	378400 3652026	911465	1499761	4.00 120	10 1
Carbazole	PHN	Ave	50288 1966949	180514 2645446	329639 3297788	821347	1321587	4.00 120	10 1
Alachlor	PHN	Ave	5568 283116	21794 391599	42139 501606	109905	183965	4.00 120	10 1
Di-n-butyl phthalate	PHN	Ave	58825 2467480	219913 3258925	405707 3990090	1012896	1656631	4.00 120	10 1
Fluoranthene	PHN	Ave	60681 2353604	216887 3073414	387570 3822171	945594	1567975	4.00 120	10 1
Pyrene	CRY	Lin2	+++++ 2449586	227676 3300635	408643 4049955	1013749	1650351	+++++ 120	10 1
Butyl benzyl phthalate	CRY	Lin2	18635 1080101	75416 1493909	151279 1889047	419639	707668	4.00 120	10 1
Benzo[a]anthracene	CRY	Ave	56718 2466680	206820 3358800	380012 4217783	976764	1611568	4.00 120	10 1
Chrysene	CRY	Ave	61675 2188526	209260 2978038	364420 +++++	897689	1462956	4.00 120	10 1
Bis(2-ethylhexyl) phthalate	PHN	Lin2	27246 1599922	113123 2197343	227821 2721546	622640	1062216	4.00 120	10 1
Di-n-octyl phthalate	CRY	Lin2	33913 2531314	154551 3456944	326993 4298572	948501	1646601	4.00 120	10 1
Benzo[b]fluoranthene	PRY	Ave	48736 2234861	182195 3114835	328639 3886008	882267	1449462	4.00 120	10 1
Benzo[k]fluoranthene	PRY	Ave	55152 2314477	210683 3114257	385696 3982370	927204	1560406	4.00 120	10 1
Benzo[a]pyrene	PRY	Ave	43449	162869	297329	768278	1286499	4.00	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/07/2022 20:43 Calibration End Date: 11/07/2022 23:14 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			1971917	2670247	3355406			120	1
Indeno[1,2,3-cd]pyrene	CRY	Ave	44743 2181548	172029 2985274	320466 3769480	834504	1417130	4.00 120	10 1
Dibenz(a,h)anthracene	PRY	Ave	36709 1833815	144573 2530361	270628 3203413	704866	1186932	4.00 120	10 1
Benzo[g,h,i]perylene	PRY	Ave	38366 1711712	142414 2341403	263404 2938837	672935	1131496	4.00 120	10 1
2-Fluorophenol (Surr)	DCBd 4	Ave	+++++ 711338	67262 954612	120069 1182904	292228	478563	+++++ 120	10 1
Phenol-d5 (Surr)	DCBd 4	Ave	24614 956911	86123 1283105	162526 1591708	393994	650737	4.00 120	10 1
Nitrobenzene-d5 (Surr)	NPT	Ave	23934 971847	90376 1298087	162866 1597594	402877	653278	4.00 120	10 1
2-Fluorobiphenyl	ANT	Ave	46359 1618029	159664 2181172	275901 2703521	663391	1089725	4.00 120	10 1
2,4,6-Tribromophenol (Surr)	ANT	Lin2	3800 231445	16232 326017	31905 421354	84283	147460	4.00 120	10 1
Terphenyl-d14 (Surr)	CRY	Ave	51088 2101154	187346 2851345	332847 3549599	835901	1393240	4.00 120	10 1

Curve Type Legend

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD
Qua = Quadratic ISTD

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-592626/26 | Calibration Date: 11/07/2022 23:35

Instrument ID: SMS_1 | Calib Start Date: 11/07/2022 14:48

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/07/2022 16:57

Lab File ID: 929.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Benzaldehyde	Ave	1.082	0.9798	0.0100	90500	100000	-9.5	20.0
Caprolactam	Ave	0.1505	0.1322	0.0100	87800	100000	-12.2	20.0
Atrazine	Ave	0.1894	0.1962	0.0100	104000	100000	3.6	20.0
Benzidine	Lin2		0.5521		105000	100000	4.7	20.0
3,3'-Dichlorobenzidine	Lin2		0.4380	0.0100	107000	100000	7.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-592626/26 | Calibration Date: 11/07/2022 23:35

Instrument ID: SMS_1 | Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/07/2022 23:14

Lab File ID: 929.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin2		0.5846		101000	100000	0.9	20.0
N-Nitrosodimethylamine	Ave	0.9206	0.8903		96700	100000	-3.3	20.0
Pyridine	Ave	1.603	1.536		192000	200000	-4.2	20.0
Phenol	Ave	1.789	1.678	0.8000	93800	100000	-6.2	20.0
Aniline	Ave	2.245	2.145		95500	100000	-4.5	20.0
Bis(2-chloroethyl)ether	Ave	1.593	1.454	0.7000	91300	100000	-8.7	20.0
2-Chlorophenol	Ave	1.293	1.236	0.8000	95600	100000	-4.4	20.0
n-Decane	Lin2		1.629		102000	100000	2.1	20.0
1,3-Dichlorobenzene	Ave	1.474	1.385		94000	100000	-6.0	20.0
1,4-Dichlorobenzene	Ave	1.516	1.419		93600	100000	-6.4	20.0
Benzyl alcohol	Ave	0.8278	0.8117		98100	100000	-1.9	20.0
1,2-Dichlorobenzene	Ave	1.426	1.341		94100	100000	-5.9	20.0
2-Methylphenol	Ave	1.286	1.227	0.7000	95400	100000	-4.6	20.0
Indene	Ave	2.525	2.318		184000	200000	-8.2	20.0
2,2'-oxybis[1-chloropropane]	Lin2		2.013	0.0100	101000	100000	0.9	20.0
3 & 4 Methylphenol	Ave	1.314	1.276		97100	100000	-2.9	20.0
3-Methylphenol	Ave	1.314	1.276		97100	100000	-2.9	20.0
4-Methylphenol	Ave	1.314	1.276	0.6000	97100	100000	-2.9	20.0
Acetophenone	Ave	2.125	2.013	0.0100	94800	100000	-5.2	20.0
N-Nitrosodi-n-propylamine	Lin1		1.093	0.5000	103000	100000	2.6	20.0
Hexachloroethane	Ave	0.6446	0.6128	0.3000	95100	100000	-4.9	20.0
Nitrobenzene	Ave	0.4595	0.4347	0.2000	94600	100000	-5.4	20.0
Isophorone	Ave	0.8135	0.7687	0.4000	94500	100000	-5.5	20.0
2-Nitrophenol	Ave	0.1614	0.1692	0.1000	105000	100000	4.8	20.0
2,4-Dimethylphenol	Ave	0.3553	0.3439	0.2000	96800	100000	-3.2	20.0
Bis(2-chloroethoxy)methane	Lin1		0.3463	0.3000	102000	100000	1.7	20.0
Benzoic acid	Lin1		0.2822		194000	200000	-3.0	20.0
2,4-Dichlorophenol	Ave	0.2857	0.2775	0.2000	97100	100000	-2.9	20.0
1,2,4-Trichlorobenzene	Ave	0.3440	0.3172		92200	100000	-7.8	20.0
Naphthalene	Ave	1.013	0.9467	0.7000	93500	100000	-6.5	20.0
4-Chloroaniline	Ave	0.4233	0.4123	0.0100	97400	100000	-2.6	20.0
2,6-Dichlorophenol	Ave	0.2963	0.2836		95700	100000	-4.3	20.0
Hexachlorobutadiene	Ave	0.1961	0.1843	0.0100	93900	100000	-6.1	20.0
4-Chloro-3-methylphenol	Ave	0.3095	0.3049	0.2000	98500	100000	-1.5	20.0
2-Methylnaphthalene	Ave	0.5816	0.5516	0.4000	94800	100000	-5.2	20.0
1-Methylnaphthalene	Ave	0.6235	0.5804		93100	100000	-6.9	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3418	0.3241	0.0100	94800	100000	-5.2	20.0
Hexachlorocyclopentadiene	Lin2		0.2562	0.0500	104000	100000	4.1	20.0
2,4,6-Trichlorophenol	Ave	0.3707	0.3756	0.2000	101000	100000	1.3	20.0
2,4,5-Trichlorophenol	Lin1		0.4162	0.2000	104000	100000	3.8	20.0
1,1'-Biphenyl	Ave	1.476	1.436	0.0100	97300	100000	-2.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-592626/26 | Calibration Date: 11/07/2022 23:35

Instrument ID: SMS_1 | Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/07/2022 23:14

Lab File ID: 929.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2-Chloronaphthalene	Ave	1.172	1.130	0.8000	96400	100000	-3.6	20.0
2-Nitroaniline	Lin1		0.4169	0.0100	105000	100000	5.2	20.0
Dimethyl phthalate	Ave	1.295	1.249	0.0100	96500	100000	-3.5	20.0
1,3-Dinitrobenzene	Lin2		0.2023		101000	100000	0.9	20.0
2,6-Dinitrotoluene	Ave	0.2989	0.2983	0.2000	99800	100000	-0.2	20.0
Acenaphthylene	Ave	1.748	1.697	0.9000	97100	100000	-2.9	20.0
3-Nitroaniline	Lin1		0.2979	0.0100	106000	100000	5.7	20.0
Acenaphthene	Ave	1.196	1.145	0.9000	95700	100000	-4.3	20.0
2,4-Dinitrophenol	Lin2		0.1517	0.0100	219000	200000	9.6	20.0
4-Nitrophenol	Lin2		0.2014	0.0100	211000	200000	5.5	20.0
Dibenzofuran	Ave	1.627	1.533	0.8000	94200	100000	-5.8	20.0
2,4-Dinitrotoluene	Lin2		0.3848	0.2000	99500	100000	-0.5	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3078	0.3090	0.0100	100000	100000	0.4	20.0
Hexadecane	Lin2		1.032		103000	100000	2.8	20.0
Diethyl phthalate	Ave	1.310	1.262	0.0100	96300	100000	-3.7	20.0
4-Chlorophenyl phenyl ether	Ave	0.6663	0.6586	0.4000	98900	100000	-1.1	20.0
Fluorene	Ave	1.352	1.311	0.9000	97000	100000	-3.0	20.0
4-Nitroaniline	Lin2		0.2897	0.0100	99800	100000	-0.2	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1187	0.0100	215000	200000	7.5	20.0
Diphenylamine	Ave	1.102	1.095		84500	85000	-0.6	20.0
N-Nitrosodiphenylamine	Ave	0.5164	0.5165	0.0100	100000	100000	0.0	20.0
1,2-Diphenylhydrazine	Lin2		1.631		104000	101000	2.8	20.0
Azobenzene	Qua		1.649		103000	100000	2.6	20.0
4-Bromophenyl phenyl ether	Ave	0.1991	0.1987	0.1000	99800	100000	-0.2	20.0
Hexachlorobenzene	Ave	0.2199	0.2179	0.1000	99100	100000	-0.9	20.0
n-Octadecane	Lin1		0.5813		108000	100000	8.1	
Phenanthrene	Ave	1.063	1.023	0.7000	96300	100000	-3.7	20.0
Anthracene	Ave	1.080	1.044	0.7000	96700	100000	-3.3	20.0
Carbazole	Ave	0.9442	0.9397	0.0100	99500	100000	-0.5	20.0
Di-n-butyl phthalate	Ave	1.158	1.163	0.0100	100000	100000	0.4	20.0
Fluoranthene	Ave	1.114	1.104	0.6000	99100	100000	-0.9	20.0
Pyrene	Lin2		1.268	0.6000	103000	100000	2.8	20.0
Butyl benzyl phthalate	Lin2		0.5576	0.0100	100000	100000	0.4	20.0
Benzo[a]anthracene	Ave	1.271	1.258	0.8000	99000	100000	-1.0	20.0
Chrysene	Ave	1.225	1.124	0.7000	91800	100000	-8.2	20.0
Bis(2-ethylhexyl) phthalate	Lin2		0.7620	0.0100	102000	100000	1.6	20.0
Di-n-octyl phthalate	Lin2		1.299	0.0100	103000	100000	2.5	20.0
Benzo[b]fluoranthene	Ave	1.232	1.233	0.7000	100000	100000	0.0	20.0
Benzo[k]fluoranthene	Ave	1.335	1.342	0.7000	101000	100000	0.6	20.0
Benzo[a]pyrene	Ave	1.087	1.075	0.7000	98900	100000	-1.1	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.090	1.097	0.5000	101000	100000	0.6	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-592626/26 Calibration Date: 11/07/2022 23:35

Instrument ID: SMS_1 Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2022 23:14

Lab File ID: 929.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Dibenz(a,h)anthracene	Ave	0.9937	1.018	0.4000	102000	100000	2.5	20.0
Benzo[g,h,i]perylene	Ave	0.9534	0.9537	0.5000	100000	100000	0.0	20.0

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: 1597g.D DFTPP Injection Date: 11/16/2022

Instrument ID: SMS_1 DFTPP Injection Time: 15:55

Analysis Batch No.: 593651

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	56.8	
68	Less than 2.0 % of mass 69	1.0	(1.7) 1
69	Mass 69 relative abundance	55.5	
70	Less than 2.0 % of mass 69	0.3	(0.6) 1
127	40.0 - 60.0 % of mass 198	55.6	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	24.2	
365	Greater than 1.0 % of mass 198	3.6	
441	Present but less than mass 443	10.6	(84.1) 3
442	Greater than 40.0 % of mass 198	65.2	
443	17.0 - 23.0 % of mass 442	12.6	(19.3) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-593651/2	1598.D	11/16/2022	16:17
	MB 280-592592/1-A	1602.D	11/16/2022	17:43
	LCS 280-592592/2-A	1603.D	11/16/2022	18:04
	LCSD 280-592592/3-A	1604.D	11/16/2022	18:26
RB-11012201	280-168718-6	1625.D	11/17/2022	1:55
	CCVC 280-593651/57	1626.D	11/17/2022	2:17

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593651/2 | Calibration Date: 11/16/2022 16:17

Instrument ID: SMS_1 | Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/07/2022 23:14

Lab File ID: 1598.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin2		0.5493		74600	80000	-6.8	20.0
N-Nitrosodimethylamine	Ave	0.9206	0.8522		74000	80000	-7.4	20.0
Pyridine	Ave	1.603	1.375		137000	160000	-14.2	20.0
Phenol	Ave	1.789	1.635	0.8000	73100	80000	-8.6	20.0
Aniline	Ave	2.245	1.976		70400	80000	-12.0	20.0
Alpha Methyl Styrene	Ave	1.377	1.348		78300	80000	-2.1	20.0
Bis(2-chloroethyl)ether	Ave	1.593	1.446	0.7000	72600	80000	-9.2	20.0
2-Chlorophenol	Ave	1.293	1.227	0.8000	75900	80000	-5.1	20.0
n-Decane	Lin2		1.455		71500	80000	-10.6	20.0
1,3-Dichlorobenzene	Ave	1.474	1.378		74800	80000	-6.5	20.0
1,4-Dichlorobenzene	Ave	1.516	1.386		73100	80000	-8.6	20.0
Benzyl alcohol	Ave	0.8278	0.7919		76500	80000	-4.3	20.0
1,2-Dichlorobenzene	Ave	1.426	1.325		74400	80000	-7.1	20.0
2-Methylphenol	Ave	1.286	1.262	0.7000	78500	80000	-1.9	20.0
Indene	Ave	2.525	2.341		148000	160000	-7.3	20.0
2,2'-oxybis[1-chloropropane]	Lin2		1.903	0.0100	75000	80000	-6.2	20.0
3 & 4 Methylphenol	Ave	1.314	1.285		78200	80000	-2.2	20.0
3-Methylphenol	Ave	1.314	1.285		78200	80000	-2.2	20.0
4-Methylphenol	Ave	1.314	1.285	0.6000	78200	80000	-2.2	20.0
Acetophenone	Ave	2.125	2.007	0.0100	75600	80000	-5.6	20.0
N-Nitrosodi-n-propylamine	Lin1		1.110	0.5000	82500	80000	3.1	20.0
Hexachloroethane	Ave	0.6446	0.5984	0.3000	74300	80000	-7.2	20.0
Nitrobenzene	Ave	0.4595	0.4040	0.2000	70300	80000	-12.1	20.0
Isophorone	Ave	0.8135	0.7318	0.4000	72000	80000	-10.0	20.0
2-Nitrophenol	Ave	0.1614	0.1562	0.1000	77400	80000	-3.2	20.0
2,4-Dimethylphenol	Ave	0.3553	0.3385	0.2000	76200	80000	-4.7	20.0
Bis(2-chloroethoxy)methane	Lin1		0.3094	0.3000	70900	80000	-11.3	20.0
Benzoic acid	Lin1		0.2526		143000	160000	-10.8	20.0
2,4-Dichlorophenol	Ave	0.2857	0.2709	0.2000	75900	80000	-5.2	20.0
1,2,4-Trichlorobenzene	Ave	0.3440	0.3130		72800	80000	-9.0	20.0
Naphthalene	Ave	1.013	0.9165	0.7000	72400	80000	-9.5	20.0
4-Chloroaniline	Ave	0.4233	0.3839	0.0100	72500	80000	-9.3	20.0
2,6-Dichlorophenol	Ave	0.2963	0.2786		75200	80000	-6.0	20.0
Hexachlorobutadiene	Ave	0.1961	0.1784	0.0100	72800	80000	-9.0	20.0
4-Chloro-3-methylphenol	Ave	0.3095	0.2985	0.2000	77100	80000	-3.6	20.0
2-Methylnaphthalene	Ave	0.5816	0.5461	0.4000	75100	80000	-6.1	20.0
1-Methylnaphthalene	Ave	0.6235	0.5850		75100	80000	-6.2	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3418	0.3205	0.0100	75000	80000	-6.2	20.0
Hexachlorocyclopentadiene	Lin2		0.2194	0.0500	72300	80000	-9.6	20.0
2,4,6-Trichlorophenol	Ave	0.3707	0.3659	0.2000	79000	80000	-1.3	20.0
2,4,5-Trichlorophenol	Lin1		0.4019	0.2000	80100	80000	0.2	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593651/2 Calibration Date: 11/16/2022 16:17

Instrument ID: SMS_1 Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2022 23:14

Lab File ID: 1598.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1'-Biphenyl	Ave	1.476	1.353	0.0100	73300	80000	-8.3	20.0
2-Chloronaphthalene	Ave	1.172	1.083	0.8000	73900	80000	-7.7	20.0
2-Nitroaniline	Lin1		0.3731	0.0100	75300	80000	-5.9	20.0
Dimethyl phthalate	Ave	1.295	1.237	0.0100	76400	80000	-4.5	20.0
1,3-Dinitrobenzene	Lin2		0.1914		76800	80000	-4.0	20.0
2,6-Dinitrotoluene	Ave	0.2989	0.2862	0.2000	76600	80000	-4.3	20.0
Acenaphthylene	Ave	1.748	1.630	0.9000	74600	80000	-6.7	20.0
3-Nitroaniline	Lin1		0.2705	0.0100	76900	80000	-3.9	20.0
Acenaphthene	Ave	1.196	1.100	0.9000	73500	80000	-8.1	20.0
2,4-Dinitrophenol	Lin2		0.1368	0.0100	160000	160000	0.2	20.0
4-Nitrophenol	Lin2		0.1570	0.0100	134000	160000	-16.2	20.0
Dibenzofuran	Ave	1.627	1.510	0.8000	74200	80000	-7.2	20.0
2,4-Dinitrotoluene	Lin2		0.3846	0.2000	79800	80000	-0.2	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3078	0.3028	0.0100	78700	80000	-1.6	20.0
Hexadecane	Lin2		0.9321		73000	80000	-8.8	20.0
Diethyl phthalate	Ave	1.310	1.258	0.0100	76900	80000	-3.9	20.0
4-Chlorophenyl phenyl ether	Ave	0.6663	0.6378	0.4000	76600	80000	-4.3	20.0
Fluorene	Ave	1.352	1.298	0.9000	76800	80000	-3.9	20.0
4-Nitroaniline	Lin2		0.2500	0.0100	69700	80000	-12.9	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1102	0.0100	161000	160000	0.7	20.0
Diphenylamine	Ave	1.102	1.073		66200	68000	-2.6	20.0
N-Nitrosodiphenylamine	Ave	0.5164	0.4778	0.0100	74000	80000	-7.5	20.0
1,2-Diphenylhydrazine	Lin2		1.537		77000	80900	-4.8	20.0
Azobenzene	Qua		1.553		69300	80000	-13.4	20.0
4-Bromophenyl phenyl ether	Ave	0.1991	0.1853	0.1000	74400	80000	-6.9	20.0
Hexachlorobenzene	Ave	0.2199	0.2080	0.1000	75700	80000	-5.4	20.0
Pentachlorophenol	Lin2		0.1274	0.0500	149000	160000	-6.9	20.0
n-Octadecane	Lin1		0.5135		74600	80000	-6.7	
Phenanthrene	Ave	1.063	0.9848	0.7000	74100	80000	-7.3	20.0
Anthracene	Ave	1.080	1.020	0.7000	75500	80000	-5.6	20.0
Carbazole	Ave	0.9442	0.9074	0.0100	76900	80000	-3.9	20.0
Alachlor	Ave	0.1267	0.1380		87100	80000	8.9	20.0
Di-n-butyl phthalate	Ave	1.158	1.136	0.0100	78500	80000	-1.9	20.0
Fluoranthene	Ave	1.114	1.089	0.6000	78200	80000	-2.3	20.0
Pyrene	Lin2		1.206	0.6000	77200	80000	-3.5	20.0
Butyl benzyl phthalate	Lin2		0.5191	0.0100	75100	80000	-6.1	20.0
Benzo[a]anthracene	Ave	1.271	1.223	0.8000	77000	80000	-3.8	20.0
Chrysene	Ave	1.225	1.093	0.7000	71400	80000	-10.8	20.0
Bis(2-ethylhexyl) phthalate	Lin2		0.7459	0.0100	79900	80000	-0.1	20.0
Di-n-octyl phthalate	Lin2		1.245	0.0100	79100	80000	-1.2	20.0
Benzo[b]fluoranthene	Ave	1.232	1.160	0.7000	75300	80000	-5.9	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593651/2 Calibration Date: 11/16/2022 16:17

Instrument ID: SMS_1 Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2022 23:14

Lab File ID: 1598.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Benzo[k]fluoranthene	Ave	1.335	1.221	0.7000	73200	80000	-8.6	20.0
Benzo[a]pyrene	Ave	1.087	1.052	0.7000	77400	80000	-3.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.090	1.258	0.5000	92400	80000	15.4	20.0
Dibenz(a,h)anthracene	Ave	0.9937	1.081	0.4000	87000	80000	8.8	20.0
Benzo[g,h,i]perylene	Ave	0.9534	1.065	0.5000	89400	80000	11.7	20.0
2-Fluorophenol (Surr)	Ave	1.394	1.172		67300	80000	-15.9	20.0
Phenol-d5 (Surr)	Ave	1.823	1.624		71300	80000	-10.9	20.0
Nitrobenzene-d5 (Surr)	Ave	0.4887	0.4130		67600	80000	-15.5	20.0
2-Fluorobiphenyl	Ave	1.447	1.248		69000	80000	-13.7	20.0
2,4,6-Tribromophenol (Surr)	Lin2		0.1873		76900	80000	-3.8	20.0
Terphenyl-d14 (Surr)	Ave	1.104	0.9641		69800	80000	-12.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593651/2 | Calibration Date: 11/16/2022 16:17

Instrument ID: SMS_1 | Calib Start Date: 11/09/2022 15:58

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/09/2022 18:07

Lab File ID: 1598.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.1493	0.1208	0.0100	64700	80000	-19.1	20.0
Atrazine	Ave	0.1836	0.1768	0.0100	77100	80000	-3.7	20.0
3,3'-Dichlorobenzidine	Lin2		0.4155	0.0100	83500	80000	4.4	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593651/57 Calibration Date: 11/17/2022 02:17

Instrument ID: SMS_1 Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2022 23:14

Lab File ID: 1626.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin2		0.5281		71500	80000	-10.6	50.0
N-Nitrosodimethylamine	Ave	0.9206	0.8365		72700	80000	-9.1	50.0
Pyridine	Ave	1.603	1.352		135000	160000	-15.7	50.0
Phenol	Ave	1.789	1.621	0.8000	72500	80000	-9.4	50.0
Aniline	Ave	2.245	2.035		72500	80000	-9.3	50.0
Alpha Methyl Styrene	Ave	1.377	1.313		76300	80000	-4.6	20.0
Bis(2-chloroethyl)ether	Ave	1.593	1.389	0.7000	69800	80000	-12.8	50.0
2-Chlorophenol	Ave	1.293	1.184	0.8000	73300	80000	-8.4	50.0
n-Decane	Lin2		1.381		67600	80000	-15.5	20.0
1,3-Dichlorobenzene	Ave	1.474	1.330		72200	80000	-9.8	50.0
1,4-Dichlorobenzene	Ave	1.516	1.360		71800	80000	-10.3	50.0
Benzyl alcohol	Ave	0.8278	0.7698		74400	80000	-7.0	50.0
1,2-Dichlorobenzene	Ave	1.426	1.300		72900	80000	-8.8	50.0
2-Methylphenol	Ave	1.286	1.239	0.7000	77100	80000	-3.7	50.0
Indene	Ave	2.525	2.260		143000	160000	-10.5	20.0
2,2'-oxybis[1-chloropropane]	Lin2		1.803	0.0100	70800	80000	-11.5	50.0
3 & 4 Methylphenol	Ave	1.314	1.269		77200	80000	-3.4	50.0
3-Methylphenol	Ave	1.314	1.269		77200	80000	-3.4	20.0
4-Methylphenol	Ave	1.314	1.269	0.6000	77200	80000	-3.4	20.0
Acetophenone	Ave	2.125	1.934	0.0100	72800	80000	-9.0	50.0
N-Nitrosodi-n-propylamine	Lin1		1.075	0.5000	79700	80000	-0.3	50.0
Hexachloroethane	Ave	0.6446	0.5773	0.3000	71600	80000	-10.4	50.0
Nitrobenzene	Ave	0.4595	0.4055	0.2000	70600	80000	-11.7	50.0
Isophorone	Ave	0.8135	0.7446	0.4000	73200	80000	-8.5	50.0
2-Nitrophenol	Ave	0.1614	0.1581	0.1000	78400	80000	-2.0	50.0
2,4-Dimethylphenol	Ave	0.3553	0.3472	0.2000	78200	80000	-2.3	50.0
Bis(2-chloroethoxy)methane	Lin1		0.3108	0.3000	71300	80000	-10.9	50.0
Benzoic acid	Lin1		0.2831		158000	160000	-1.1	50.0
2,4-Dichlorophenol	Ave	0.2857	0.2757	0.2000	77200	80000	-3.5	50.0
1,2,4-Trichlorobenzene	Ave	0.3440	0.3171		73700	80000	-7.8	50.0
Naphthalene	Ave	1.013	0.9310	0.7000	73500	80000	-8.1	50.0
4-Chloroaniline	Ave	0.4233	0.4031	0.0100	76200	80000	-4.8	50.0
2,6-Dichlorophenol	Ave	0.2963	0.2828		76400	80000	-4.5	50.0
Hexachlorobutadiene	Ave	0.1961	0.1814	0.0100	74000	80000	-7.5	50.0
4-Chloro-3-methylphenol	Ave	0.3095	0.3087	0.2000	79800	80000	-0.3	50.0
2-Methylnaphthalene	Ave	0.5816	0.5504	0.4000	75700	80000	-5.4	50.0
1-Methylnaphthalene	Ave	0.6235	0.5876		75400	80000	-5.8	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.3418	0.3312	0.0100	77500	80000	-3.1	50.0
Hexachlorocyclopentadiene	Lin2		0.2730	0.0500	89200	80000	11.5	50.0
2,4,6-Trichlorophenol	Ave	0.3707	0.3593	0.2000	77600	80000	-3.1	50.0
2,4,5-Trichlorophenol	Lin1		0.4062	0.2000	81000	80000	1.2	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593651/57 Calibration Date: 11/17/2022 02:17

Instrument ID: SMS_1 Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/07/2022 23:14

Lab File ID: 1626.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,1'-Biphenyl	Ave	1.476	1.376	0.0100	74600	80000	-6.8	50.0
2-Chloronaphthalene	Ave	1.172	1.074	0.8000	73300	80000	-8.4	50.0
2-Nitroaniline	Lin1		0.3769	0.0100	76100	80000	-4.9	50.0
Dimethyl phthalate	Ave	1.295	1.220	0.0100	75400	80000	-5.8	50.0
1,3-Dinitrobenzene	Lin2		0.1901		76300	80000	-4.6	50.0
2,6-Dinitrotoluene	Ave	0.2989	0.2855	0.2000	76400	80000	-4.5	50.0
Acenaphthylene	Ave	1.748	1.616	0.9000	74000	80000	-7.6	50.0
3-Nitroaniline	Lin1		0.2745	0.0100	78000	80000	-2.4	50.0
Acenaphthene	Ave	1.196	1.120	0.9000	74900	80000	-6.4	50.0
2,4-Dinitrophenol	Lin2		0.1316	0.0100	154000	160000	-3.5	50.0
4-Nitrophenol	Lin2		0.1753	0.0100	149000	160000	-6.9	50.0
Dibenzofuran	Ave	1.627	1.518	0.8000	74600	80000	-6.7	50.0
2,4-Dinitrotoluene	Lin2		0.3783	0.2000	78500	80000	-1.9	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.3078	0.3150	0.0100	81900	80000	2.3	50.0
Hexadecane	Lin2		0.9125		71400	80000	-10.8	20.0
Diethyl phthalate	Ave	1.310	1.259	0.0100	76900	80000	-3.9	50.0
4-Chlorophenyl phenyl ether	Ave	0.6663	0.6359	0.4000	76400	80000	-4.6	50.0
Fluorene	Ave	1.352	1.307	0.9000	77400	80000	-3.3	50.0
4-Nitroaniline	Lin2		0.2898	0.0100	80400	80000	0.5	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1055	0.0100	155000	160000	-3.4	50.0
Diphenylamine	Ave	1.102	1.071		66100	68000	-2.8	50.0
N-Nitrosodiphenylamine	Ave	0.5164	0.4860	0.0100	75300	80000	-5.9	50.0
1,2-Diphenylhydrazine	Lin2		1.526		76500	80900	-5.5	50.0
Azobenzene	Qua		1.543		68700	80000	-14.2	50.0
4-Bromophenyl phenyl ether	Ave	0.1991	0.1923	0.1000	77300	80000	-3.4	50.0
Hexachlorobenzene	Ave	0.2199	0.2116	0.1000	77000	80000	-3.7	50.0
Pentachlorophenol	Lin2		0.1285	0.0500	150000	160000	-6.1	50.0
n-Octadecane	Lin1		0.5037		73100	80000	-8.6	
Phenanthrene	Ave	1.063	0.9823	0.7000	73900	80000	-7.6	50.0
Anthracene	Ave	1.080	1.033	0.7000	76500	80000	-4.3	50.0
Carbazole	Ave	0.9442	0.9378	0.0100	79500	80000	-0.7	50.0
Alachlor	Ave	0.1267	0.1390		87700	80000	9.7	50.0
Di-n-butyl phthalate	Ave	1.158	1.137	0.0100	78600	80000	-1.8	50.0
Fluoranthene	Ave	1.114	1.105	0.6000	79400	80000	-0.8	50.0
Pyrene	Lin2		1.183	0.6000	75600	80000	-5.5	50.0
Butyl benzyl phthalate	Lin2		0.5149	0.0100	74500	80000	-6.8	50.0
Benzo[a]anthracene	Ave	1.271	1.180	0.8000	74300	80000	-7.2	50.0
Chrysene	Ave	1.225	1.086	0.7000	71000	80000	-11.3	50.0
Bis(2-ethylhexyl) phthalate	Lin2		0.7642	0.0100	81800	80000	2.3	50.0
Di-n-octyl phthalate	Lin2		1.241	0.0100	78800	80000	-1.5	50.0
Benzo[b]fluoranthene	Ave	1.232	1.102	0.7000	71500	80000	-10.6	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593651/57 | Calibration Date: 11/17/2022 02:17

Instrument ID: SMS_1 | Calib Start Date: 11/07/2022 20:43

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/07/2022 23:14

Lab File ID: 1626.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Benzo[k]fluoranthene	Ave	1.335	1.249	0.7000	74800	80000	-6.4	50.0
Benzo[a]pyrene	Ave	1.087	1.028	0.7000	75700	80000	-5.4	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.090	1.252	0.5000	91900	80000	14.9	50.0
Dibenz(a,h)anthracene	Ave	0.9937	1.091	0.4000	87800	80000	9.8	50.0
Benzo[g,h,i]perylene	Ave	0.9534	1.050	0.5000	88100	80000	10.1	50.0
2-Fluorophenol (Surr)	Ave	1.394	1.136		65200	80000	-18.5	50.0
Phenol-d5 (Surr)	Ave	1.823	1.602		70300	80000	-12.1	50.0
Nitrobenzene-d5 (Surr)	Ave	0.4887	0.4103		67200	80000	-16.0	50.0
2-Fluorobiphenyl	Ave	1.447	1.250		69100	80000	-13.6	50.0
2,4,6-Tribromophenol (Surr)	Lin2		0.1911		78500	80000	-1.9	50.0
Terphenyl-d14 (Surr)	Ave	1.104	0.9468		68600	80000	-14.3	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593651/57 | Calibration Date: 11/17/2022 02:17

Instrument ID: SMS_1 | Calib Start Date: 11/09/2022 15:58

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/09/2022 18:07

Lab File ID: 1626.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.1493	0.1636	0.0100	87700	80000	9.6	50.0
Atrazine	Ave	0.1836	0.1864	0.0100	81200	80000	1.5	50.0
3,3'-Dichlorobenzidine	Lin2		0.4006	0.0100	80600	80000	0.7	50.0

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: G6_101022429b.D DFTPP Injection Date: 10/14/2022

Instrument ID: SMS_G6 DFTPP Injection Time: 16:55

Analysis Batch No.: 590052

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	35.2	
68	Less than 2.0 % of mass 69	0.3	(0.8) 1
69	Mass 69 relative abundance	38.0	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	50.4	
197	Less than 1.0 % of mass 198	0.1	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	22.2	
365	Greater than 1.0 % of mass 198	3.0	
441	Present but less than mass 443	13.1	(70.8) 3
442	Greater than 40.0 % of mass 198	91.3	
443	17.0 - 23.0 % of mass 442	18.5	(20.3) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD004 280-590052/10	G6_101022430.	10/14/2022	17:09
	STD010 280-590052/11	G6_101022431.	10/14/2022	17:30
	STD020 280-590052/12	G6_101022432.	10/14/2022	17:50
	STD050 280-590052/13	G6_101022433.	10/14/2022	18:11
	STD80 280-590052/14	G6_101022434.	10/14/2022	18:31
	STD120 280-590052/15	G6_101022435.	10/14/2022	18:52
	STD160 280-590052/16	G6_101022436.	10/14/2022	19:12
	STD200 280-590052/17	G6_101022437.	10/14/2022	19:33
	ICV 280-590052/18	G6_101022438.	10/14/2022	19:53
	ICV 280-590052/19	G6_101022439.	10/14/2022	20:14

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-590052/10	G6_101022430.D
Level 2	STD010 280-590052/11	G6_101022431.D
Level 3	STD020 280-590052/12	G6_101022432.D
Level 4	STD050 280-590052/13	G6_101022433.D
Level 5	STD80 280-590052/14	G6_101022434.D
Level 6	STD120 280-590052/15	G6_101022435.D
Level 7	STD160 280-590052/16	G6_101022436.D
Level 8	STD200 280-590052/17	G6_101022437.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
1,4-Dioxane	0.7331 0.4262	0.5390 0.4570	0.6282 0.5018	0.5219	0.5099	Lin1	1.2375	0.4697			
N-Nitrosodimethylamine	0.6540 0.6854	0.7029 0.7543	0.9001 0.8163	0.8199	0.7967	Ave		0.7662			
Pyridine	1.0775 1.0733	1.1530 1.2025	1.4570 1.1924	1.3064	1.2644	Ave		1.2158			
Phenol	1.7525 1.5531	1.8036 1.6977	1.9985 1.5825	1.9463	1.8536	Ave		1.7735			
Aniline	1.9679 1.8148	2.0616 2.0236	2.4078 1.9445	2.2508	2.1385	Ave		2.0762			
Bis(2-chloroethyl)ether	1.2987 1.2512	1.3226 1.2474	1.4251 1.2660	1.3850	1.3339	Ave		1.3163			
2-Chlorophenol	1.2787 1.3960	1.3627 1.3318	1.4742 1.3499	1.4438	1.3864	Ave		1.3779			
1,3-Dichlorobenzene	1.4161 1.4772	1.4843 1.4370	1.7059 1.4117	1.5199	1.4534	Ave		1.4882			
1,4-Dichlorobenzene	1.4294 1.4738	1.4918 1.4650	1.7272 1.4288	1.5265	1.4883	Ave		1.5038			
Benzyl alcohol	0.8932 1.0116	0.9064 0.8806	1.0388 0.8650	0.9885	0.9327	Ave		0.9396			
1,2-Dichlorobenzene	1.3673 1.4860	1.4309 1.3869	1.5054 1.2977	1.4703	1.4056	Ave		1.4188			
2-Methylphenol	1.2347 1.2412	1.2741 1.1763	1.3407 1.1595	1.3202	1.2222	Ave		1.2461			
2,2'-oxybis[1-chloropropane]	1.5646 1.4264	1.5434 1.3778	1.6210 1.2718	1.3972	1.3573	Ave		1.4449			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Acetophenone	1.8340 1.8104	1.8710 1.7230	1.9711 1.7264	1.8998	1.8123	Ave		1.8310			
N-Nitrosodi-n-propylamine	0.9292 0.9074	0.9270 0.8300	0.9699 0.7652	0.9249	0.8679	Ave		0.8902			0.0500
3 & 4 Methylphenol	1.3359 1.2567	1.3222 1.2569	1.5583 1.2546	1.3798	1.3057	Ave		1.3338			
Hexachloroethane	0.5811 0.6646	0.6158 0.5859	0.6334 0.5732	0.6365	0.6052	Ave		0.6120			
Nitrobenzene	0.3355 0.3333	0.3523 0.3298	0.4587 0.3218	0.3601	0.3349	Ave		0.3533			
Isophorone	0.6489 0.6270	0.6719 0.6366	0.8708 0.6370	0.6804	0.6421	Ave		0.6768			
2-Nitrophenol	0.1708 0.1920	0.1900 0.1973	0.2239 0.1971	0.2026	0.1956	Ave		0.1962			
2,4-Dimethylphenol	0.3308 0.3488	0.3434 0.3288	0.4313 0.3210	0.3567	0.3326	Ave		0.3492			
Bis(2-chloroethoxy)methane	0.4184 0.4532	0.4360 0.4118	0.5226 0.3623	0.4454	0.4165	Ave		0.4333			
Benzoic acid	0.1606 0.2895	0.2188 0.2939	0.2759 0.2665	0.2743	0.2688	Lin2	-1.017	0.2848			
2,4-Dichlorophenol	0.2923 0.3079	0.2991 0.2990	0.3191 0.2786	0.3035	0.2896	Ave		0.2986			
1,2,4-Trichlorobenzene	0.2966 0.3253	0.3189 0.3046	0.3815 0.2822	0.3095	0.2961	Ave		0.3143			
Naphthalene	0.9302 0.9884	0.9846 0.9080	1.1435 +++++	1.0138	0.9521	Ave		0.9887			
4-Chloroaniline	0.4190 0.4619	0.4507 0.4185	0.5087 0.3724	0.4773	0.4453	Ave		0.4442			
2,6-Dichlorophenol	0.2900 0.2917	0.2985 0.2894	0.3339 0.2562	0.2964	0.2829	Ave		0.2924			
Hexachlorobutadiene	0.1586 0.1646	0.1641 0.1598	0.1947 0.1338	0.1550	0.1481	Ave		0.1598			
Caprolactam	0.1611 0.1540	0.1694 0.1605	0.1826 0.1485	0.1547	0.1480	Ave		0.1599			
4-Chloro-3-methylphenol	0.2972 0.3081	0.3060 0.2969	0.3833 0.2944	0.3145	0.2972	Ave		0.3122			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
2-Methylnaphthalene	0.6129 0.6930	0.6575 0.6410	0.8184 0.6067	0.6768	0.6470	Ave		0.6692			
1-Methylnaphthalene	0.5976 0.6433	0.6253 0.5960	0.7815 0.5709	0.6387	0.6040	Ave		0.6322			
Hexachlorocyclopentadiene	0.3037 0.3716	0.3323 0.3710	0.3334 0.3350	0.3524	0.3452	Ave		0.3431			0.0500
1,2,4,5-Tetrachlorobenzene	0.2933 0.2911	0.3058 0.2907	0.3303 0.2620	0.2891	0.2741	Ave		0.2920			
2,4,6-Trichlorophenol	0.3345 0.3809	0.3834 0.3582	0.3654 0.3303	0.3730	0.3486	Ave		0.3593			
2,4,5-Trichlorophenol	0.3674 0.4224	0.3985 0.4082	0.4090 0.3854	0.4180	0.3907	Ave		0.4000			
1,1'-Biphenyl	1.3490 1.3697	1.3636 1.2321	1.4043 1.1306	1.4040	1.3126	Ave		1.3207			
2-Chloronaphthalene	1.0755 1.1064	1.1080 1.0037	1.1432 0.9327	1.1237	1.0421	Ave		1.0669			
2-Nitroaniline	0.3191 0.3543	0.3325 0.3393	0.3168 0.3105	0.3522	0.3400	Ave		0.3331			
Dimethyl phthalate	1.1750 1.1614	1.2316 1.1386	1.1663 1.0836	1.2340	1.1638	Ave		1.1693			
1,3-Dinitrobenzene	0.1656 0.2256	0.1918 0.2164	0.1898 0.2125	0.2208	0.2140	Ave		0.2046			
2,6-Dinitrotoluene	0.2573 0.3040	0.2834 0.2969	0.2930 0.2872	0.2989	0.2880	Ave		0.2886			
Acenaphthylene	1.6502 1.6325	1.7132 1.6590	1.6267 +++++	1.7898	1.6825	Ave		1.6791			
3-Nitroaniline	0.3285 0.4102	0.3666 0.3801	0.3537 0.3804	0.4000	0.3833	Ave		0.3754			
Acenaphthene	1.0322 1.1032	1.0696 1.0291	0.9949 0.9621	1.1033	1.0398	Ave		1.0418			
2,4-Dinitrophenol	0.0880 0.1872	0.1142 0.1870	0.1303 0.1859	0.1640	0.1682	Lin1	-1.178	0.1864			0.0500
4-Nitrophenol	0.1658 0.1908	0.1818 0.1855	0.1708 0.1836	0.1907	0.1834	Ave		0.1815			0.0500
Dibenzofuran	1.5166 1.4930	1.5291 1.4172	1.4646 +++++	1.5513	1.4560	Ave		1.4897			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
2,4-Dinitrotoluene	0.3329 0.3700	0.3628 0.3647	0.3468 0.3522	0.3868	0.3650	Ave		0.3601			
2,3,4,6-Tetrachlorophenol	0.2939 0.3338	0.3095 0.3452	0.3046 0.3156	0.3324	0.3185	Ave		0.3192			
Diethyl phthalate	1.2756 1.2369	1.2602 1.1923	1.2354 1.1356	1.2701	1.1966	Ave		1.2253			
Fluorene	1.2520 1.2574	1.2813 1.1948	1.2328 1.1127	1.2903	1.2157	Ave		1.2296			
4-Chlorophenyl phenyl ether	0.5583 0.5471	0.5725 0.5387	0.5416 0.5004	0.5596	0.5238	Ave		0.5428			
4-Nitroaniline	0.3723 0.3603	0.3584 0.3729	0.3920 0.3668	0.3870	0.3774	Ave		0.3734			
4,6-Dinitro-2-methylphenol	0.0716 0.1338	0.0941 0.1416	0.1124 0.1361	0.1299	0.1307	Lin2	-0.552	0.1344			
Diphenylamine	1.0564 1.0134	1.0885 1.0495	1.0627 1.0031	1.1129	1.0629	Ave		1.0562			
N-Nitrosodiphenylamine	0.5387 0.5660	0.5546 0.5553	0.5553 0.5412	0.5850	0.5644	Ave		0.5576			
1,2-Diphenylhydrazine	1.2477 1.1170	1.3086 1.1722	1.3182 1.1123	1.3180	1.2166	Ave		1.2263			
Azobenzene	1.2614 1.1293	1.3230 1.1851	1.3327 1.1245	1.3325	1.2299	Ave		1.2398			
4-Bromophenyl phenyl ether	0.2194 0.2252	0.2221 0.2316	0.2228 0.2153	0.2126	0.2100	Ave		0.2199			
Hexachlorobenzene	0.2610 0.2601	0.2607 0.2872	0.2553 0.2453	0.2455	0.2404	Ave		0.2569			
Atrazine	0.1822 0.2029	0.1912 0.1953	0.2144 0.1902	0.2023	0.1941	Ave		0.1966			
Pentachlorophenol	0.1423 0.1608	0.1514 0.1701	0.1576 0.1486	0.1578	0.1553	Ave		0.1555			
Phenanthrene	1.0777 1.1098	1.1223 1.0499	1.1600 +++++	1.1290	1.0786	Ave		1.1039			
Anthracene	1.1162 1.1308	1.1379 1.0819	1.2053 +++++	1.1568	1.0956	Ave		1.1321			
Carbazole	1.0950 1.1533	1.1196 1.0687	1.2206 +++++	1.1485	1.0781	Ave		1.1262			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Alachlor	0.1368 0.1661	0.1429 0.1480	0.1697 0.1435	0.1576	0.1526	Ave		0.1521			
Di-n-butyl phthalate	1.2824 1.3109	1.3563 1.2642	1.4228 +++++	1.3833	1.3089	Ave		1.3327			
Fluoranthene	1.1162 1.1480	1.1492 1.1215	1.1752 +++++	1.1898	1.1401	Ave		1.1486			
Pyrene	1.2958 1.2770	1.3489 1.3054	1.4251 +++++	1.4374	1.3951	Ave		1.3550			
Butyl benzyl phthalate	0.6430 0.6901	0.6586 0.6546	0.6879 0.6863	0.7392	0.7051	Ave		0.6831			
Benzo[a]anthracene	1.1728 1.1617	1.1921 1.2158	1.1827 1.2122	1.2613	1.2247	Ave		1.2029			
3,3'-Dichlorobenzidine	0.4663 0.4554	0.4879 0.4606	0.5064 0.4443	0.4726	0.4444	Ave		0.4672			
Chrysene	1.0640 1.1427	1.1051 1.1266	1.1375 1.1199	1.1816	1.1420	Ave		1.1274			
Bis(2-ethylhexyl) phthalate	0.8875 0.9533	0.8995 0.8902	0.9577 0.8923	1.0018	0.9576	Ave		0.9300			
Di-n-octyl phthalate	1.5715 1.7570	1.5793 1.6299	1.7024 1.6936	1.8133	1.7359	Ave		1.6854			
Benzo[b]fluoranthene	1.0660 1.2951	1.1374 1.3005	1.2736 1.2396	1.2574	1.2236	Ave		1.2241			
Benzo[k]fluoranthene	1.1719 1.2923	1.2200 1.2434	1.3439 1.2592	1.3353	1.2875	Ave		1.2692			
Benzo[a]pyrene	0.9872 1.1564	1.0577 1.1319	1.1515 1.1138	1.1609	1.1166	Ave		1.1095			
Indeno[1,2,3-cd]pyrene	1.0056 1.2439	1.0795 1.3063	1.1046 1.2616	1.1467	1.1408	Ave		1.1611			
Dibenz(a,h)anthracene	0.9811 1.2316	1.0743 1.2370	1.1580 1.1754	1.1523	1.1404	Ave		1.1438			
Benzo[g,h,i]perylene	1.0702 1.2976	1.1438 1.3105	1.2352 1.2413	1.2187	1.2064	Ave		1.2155			
2-Fluorophenol (Surr)	1.2188 1.1892	1.2543 1.3026	1.4967 1.3410	1.4017	1.3524	Ave		1.3196			
Phenol-d5 (Surr)	1.6272 1.4687	1.6240 1.6246	1.9303 1.6830	1.7731	1.7134	Ave		1.6806			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Nitrobenzene-d5 (Surr)	0.3459 0.3402	0.3704 0.3551	0.4760 0.3514	0.3766	0.3575	Ave		0.3716			
2-Fluorobiphenyl	1.1509 1.2233	1.1959 1.1711	1.1895 1.1046	1.2453	1.1833	Ave		1.1830			
2,4,6-Tribromophenol (Surr)	0.2171 0.2412	0.2360 0.2981	0.2226 +++++	0.2107	0.2095	Ave		0.2336			
Terphenyl-d14 (Surr)	0.9893 1.0202	1.0354 1.0414	1.0493 0.9921	1.0731	1.0269	Ave		1.0285			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-590052/10	G6_101022430.D
Level 2	STD010 280-590052/11	G6_101022431.D
Level 3	STD020 280-590052/12	G6_101022432.D
Level 4	STD050 280-590052/13	G6_101022433.D
Level 5	STD80 280-590052/14	G6_101022434.D
Level 6	STD120 280-590052/15	G6_101022435.D
Level 7	STD160 280-590052/16	G6_101022436.D
Level 8	STD200 280-590052/17	G6_101022437.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
1,4-Dioxane	DCBd 4	Lin1	33362 639748	55451 786461	149135 1361184	329633	548425	4.00 120	10 1
N-Nitrosodimethylamine	DCBd 4	Ave	29761 1028739	72315 1298147	213683 2214291	517891	856831	4.00 120	10 1
Pyridine	DCBd 4	Ave	98070 3221993	237254 4139215	691780 6469322	1650319	2719771	8.00 240	20 3
Phenol	DCBd 4	Ave	79753 2331205	185560 2921960	474421 4292804	1229395	1993545	4.00 120	10 1
Aniline	DCBd 4	Ave	89554 2723950	212104 3482827	571588 5274978	1421688	2299980	4.00 120	10 1
Bis(2-chloroethyl)ether	DCBd 4	Ave	59101 1878018	136076 2146994	338302 3434167	874865	1434643	4.00 120	10 1
2-Chlorophenol	DCBd 4	Ave	58191 2095397	140198 2292114	349967 3661899	912001	1491046	4.00 120	10 1
1,3-Dichlorobenzene	DCBd 4	Ave	64441 2217309	152709 2473312	404972 3829621	960066	1563096	4.00 120	10 1
1,4-Dichlorobenzene	DCBd 4	Ave	65049	153479	410021	964191	1600654	4.00	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			2212087	2521417	3875799			120	1
Benzyl alcohol	DCBd 4	Ave	40648 1518397	93251 1515586	246593 2346452	624368	1003079	4.00 120	10 1
1,2-Dichlorobenzene	DCBd 4	Ave	62223 2230381	147214 2387087	357364 3520403	928725	1511708	4.00 120	10 1
2-Methylphenol	DCBd 4	Ave	56187 1863042	131085 2024606	318266 3145320	833918	1314476	4.00 120	10 1
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	71202 2140956	158787 2371357	384816 3449946	882541	1459797	4.00 120	10 1
Acetophenone	DCBd 4	Ave	83460 2717438	192497 2965440	467923 4683223	1200024	1949087	4.00 120	10 1
N-Nitrosodi-n-propylamine	DCBd 4	Ave	42285 1361952	95375 1428527	230241 2075724	584198	933392	4.00 120	10 1
3 & 4 Methylphenol	DCBd 4	Ave	60792 1886318	136030 2163301	369938 3403382	871558	1404241	4.00 120	10 1
Hexachloroethane	DCBd 4	Ave	26443 997604	63360 1008325	150371 1554871	402043	650911	4.00 120	10 1
Nitrobenzene	NPT	Ave	59168 1925913	136770 2129359	359434 3308509	865770	1380396	4.00 120	10 1
Isophorone	NPT	Ave	114446 3623122	260869 4110721	682321 6548668	1635915	2646324	4.00 120	10 1
2-Nitrophenol	NPT	Ave	30125 1109368	73774 1273913	175450 2026563	487057	806277	4.00 120	10 1
2,4-Dimethylphenol	NPT	Ave	58347 2015668	133342 2122741	337898 3300041	857566	1370906	4.00 120	10 1
Bis(2-chloroethoxy)methane	NPT	Ave	73796 2619110	169268 2658741	409457 3724373	1070866	1716858	4.00 120	10 1
Benzoic acid	NPT	Lin2	56657	169902	432350	1319251	2215962	8.00	20

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			3345412	3794987	5478866			240	3
2,4-Dichlorophenol	NPT	Ave	51559 1779343	116124 1930663	250049 2863935	729680	1193661	4.00 120	10 1
1,2,4-Trichlorobenzene	NPT	Ave	52305 1880019	123793 1966447	298926 2901452	744306	1220257	4.00 120	10 1
Naphthalene	NPT	Ave	164056 5712004	382279 5863036	895931 +++++	2437717	3924431	4.00 120	10 1
4-Chloroaniline	NPT	Ave	73898 2669416	174987 2701948	398560 3828186	1147683	1835407	4.00 120	10 1
2,6-Dichlorophenol	NPT	Ave	51148 1685631	115890 1868391	261585 2633550	712683	1165951	4.00 120	10 1
Hexachlorobutadiene	NPT	Ave	27971 951384	63695 1032072	152529 1375384	372805	610457	4.00 120	10 1
Caprolactam	NPT	Ave	28411 890112	65780 1036516	143109 1527056	371944	609905	4.00 120	10 1
4-Chloro-3-methylphenol	NPT	Ave	52409 1780262	118800 1917255	300337 3026121	756224	1225057	4.00 120	10 1
2-Methylnaphthalene	NPT	Ave	108100 4004975	255279 4138944	641240 6237320	1627267	2666701	4.00 120	10 1
1-Methylnaphthalene	NPT	Ave	105388 3717537	242784 3848372	612342 5868737	1535700	2489486	4.00 120	10 1
Hexachlorocyclopentadiene	ANT	Ave	31736 1203073	76710 1383622	176097 1968505	479541	801981	4.00 120	10 1
1,2,4,5-Tetrachlorobenzene	NPT	Ave	51720 1682099	118736 1877087	258769 2693650	695079	1129946	4.00 120	10 1
2,4,6-Trichlorophenol	ANT	Ave	34953 1233341	88512 1336019	193034 1940757	507607	809879	4.00 120	10 1
2,4,5-Trichlorophenol	ANT	Ave	38397 1367619	91997 1522391	216059 2264583	568886	907566	4.00 120	10 1
1,1'-Biphenyl	ANT	Ave	140972 4435093	314761 4595768	741850 6642577	1910552	3049091	4.00 120	10 1
2-Chloronaphthalene	ANT	Ave	112393 3582320	255771 3743900	603876 5480043	1529107	2420904	4.00 120	10 1
2-Nitroaniline	ANT	Ave	33350 1147330	76741 1265740	167373 1824581	479322	789862	4.00 120	10 1
Dimethyl phthalate	ANT	Ave	122792	284304	616096	1679209	2703593	4.00	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			3760627	4246744	6366793			120	1
1,3-Dinitrobenzene	ANT	Ave	17301 730446	44273 807270	100287 1248672	300427	497074	4.00 120	10 1
2,6-Dinitrotoluene	ANT	Ave	26888 984173	65420 1107531	154762 1687140	406788	669129	4.00 120	10 1
Acenaphthylene	ANT	Ave	172455 5285831	395465 6188030	859287 +++++	2435676	3908371	4.00 120	10 1
3-Nitroaniline	ANT	Ave	34328 1328274	84623 1417832	186855 2235010	544310	890430	4.00 120	10 1
Acenaphthene	ANT	Ave	107866 3572098	246904 3838650	525565 5652640	1501472	2415496	4.00 120	10 1
2,4-Dinitrophenol	ANT	Lin1	18390 1212518	52726 1395034	137655 2184213	446409	781439	8.00 240	20 3
4-Nitrophenol	ANT	Ave	34648 1235629	83937 1383578	180443 2157473	518994	852264	8.00 240	20 3
Dibenzofuran	ANT	Ave	158484 4834325	352961 5285870	773700 +++++	2111027	3382231	4.00 120	10 1
2,4-Dinitrotoluene	ANT	Ave	34792 1198104	83737 1360237	183201 2069080	526386	847934	4.00 120	10 1
2,3,4,6-Tetrachlorophenol	ANT	Ave	30713 1080962	71440 1287607	160923 1854524	452365	739933	4.00 120	10 1
Diethyl phthalate	ANT	Ave	133299 4004974	290896 4447330	652582 6672272	1728461	2779752	4.00 120	10 1
Fluorene	ANT	Ave	130840 4071315	295775 4456376	651209 6537665	1755892	2824068	4.00 120	10 1
4-Chlorophenyl phenyl ether	ANT	Ave	58344 1771592	132158 2009419	286100 2940182	761558	1216804	4.00 120	10 1
4-Nitroaniline	ANT	Ave	38903 1166761	82730 1390993	207071 2154827	526581	876748	4.00 120	10 1
4,6-Dinitro-2-methylphenol	PHN	Lin2	24939 1318583	72503 1696621	193142 2519045	571658	971967	8.00 240	20 3
Diphenylamine	ANT	Ave	93840 2789149	213576 3327456	477151 5009563	1287257	2098815	3.40 102	8. 1
N-Nitrosodiphenylamine	PHN	Ave	93840 2789149	213576 3327456	477151 5009563	1287257	2098815	4.00 120	10 1
1,2-Diphenylhydrazine	ANT	Ave	131815	305384	703995	1813268	2857138	4.04	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			3656623	4420299	6607019			121	1
Azobenzene	ANT	Ave	131815 3656623	305384 4420299	703995 6607019	1813268	2857138	4.00 120	10 1
4-Bromophenyl phenyl ether	PHN	Ave	38225 1109545	85537 1387845	191463 1992530	467693	781068	4.00 120	10 1
Hexachlorobenzene	PHN	Ave	45463 1281953	100404 1720982	219385 2270799	540143	893793	4.00 120	10 1
Atrazine	PHN	Ave	31735 999991	73644 1170192	184200 1760386	445105	721825	4.00 120	10 1
Pentachlorophenol	PHN	Ave	49580 1585198	116598 2038499	270895 2751739	694613	1154878	8.00 240	20 3
Phenanthrene	PHN	Ave	187726 5469225	432172 6291066	996755 +++++	2484250	4010876	4.00 120	10 1
Anthracene	PHN	Ave	194434 5572443	438187 6482781	1035684 +++++	2545301	4074017	4.00 120	10 1
Carbazole	PHN	Ave	190735 5683205	431154 6403435	1048842 +++++	2527011	4008850	4.00 120	10 1
Alachlor	PHN	Ave	23837 818376	55042 886757	145779 1327911	346736	567538	4.00 120	10 1
Di-n-butyl phthalate	PHN	Ave	223384 6459925	522298 7574827	1222511 +++++	3043841	4867297	4.00 120	10 1
Fluoranthene	PHN	Ave	194437 5657111	442541 6719988	1009831 +++++	2617988	4239706	4.00 120	10 1
Pyrene	CRY	Ave	205601 5764443	473560 7046925	1058062 +++++	2707063	4411910	4.00 120	10 1
Butyl benzyl phthalate	CRY	Ave	102019 3115149	231203 3533816	510752 5209146	1392135	2229972	4.00 120	10 1
Benzo[a]anthracene	CRY	Ave	186093 5243713	418500 6563367	878099 9200032	2375455	3873013	4.00 120	10 1
3,3'-Dichlorobenzidine	CRY	Ave	73982 2055767	171282 2486463	376008 3372252	889977	1405394	4.00 120	10 1
Chrysene	CRY	Ave	168827 5158241	387970 6081471	844566 8499831	2225271	3611644	4.00 120	10 1
Bis(2-ethylhexyl) phthalate	CRY	Ave	140820 4303011	315766 4805209	711035 6772488	1886657	3028308	4.00 120	10 1
Di-n-octyl phthalate	CRY	Ave	249347	554434	1263942	3414917	5489745	4.00	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 10/14/2022 17:09 Calibration End Date: 10/14/2022 19:33 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			7931257	8798366	12853829			120	1
Benzo[b]fluoranthene	PRY	Ave	169214 5727155	399973 7092571	897635 9435770	2315509	3792892	4.00 120	10 1
Benzo[k]fluoranthene	PRY	Ave	186027 5714564	429037 6781166	947201 9584840	2459078	3991162	4.00 120	10 1
Benzo[a]pyrene	PRY	Ave	156699 5113694	371954 6172713	811599 8478033	2137792	3461289	4.00 120	10 1
Indeno[1,2,3-cd]pyrene	CRY	Ave	159561 5615074	378990 7051727	820097 9575029	2159468	3607584	4.00 120	10 1
Dibenz(a,h)anthracene	PRY	Ave	155732 5446448	377778 6746062	816174 8947361	2121977	3535103	4.00 120	10 1
Benzo[g,h,i]perylene	PRY	Ave	169878 5738083	402233 7147025	870578 9449209	2244281	3739741	4.00 120	10 1
2-Fluorophenol (Surr)	DCBd 4	Ave	55466 1785035	129042 2241927	355304 3637768	885375	1454543	4.00 120	10 1
Phenol-d5 (Surr)	DCBd 4	Ave	74051 2204542	167083 2796078	458244 4565633	1119977	1842791	4.00 120	10 1
Nitrobenzene-d5 (Surr)	NPT	Ave	60997 1966001	143796 2292527	372930 3613094	905595	1473381	4.00 120	10 1
2-Fluorobiphenyl	ANT	Ave	120276 3960826	276060 4368188	628361 6490161	1694631	2748851	4.00 120	10 1
2,4,6-Tribromophenol (Surr)	ANT	Ave	22688 781094	54477 1111980	117594 +++++	286663	486690	4.00 120	10 1
Terphenyl-d14 (Surr)	CRY	Ave	156976 4605125	363484 5621481	779062 7529931	2020918	3247485	4.00 120	10 1

Curve Type Legend

Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-590052/18 Calibration Date: 10/14/2022 19:53

Instrument ID: SMS_G6 Calib Start Date: 08/08/2022 20:37

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 08/08/2022 22:41

Lab File ID: G6_101022438.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Benzidine	Ave	0.6289	0.0036			100000	-99.4*	20.0
Benzaldehyde	Ave	0.9168		0.0100		100000		20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-590052/18 | Calibration Date: 10/14/2022 19:53

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101022438.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.4482		92800	100000	-7.2	20.0
N-Nitrosodimethylamine	Ave	0.7662	0.7228		94300	100000	-5.7	20.0
Pyridine	Ave	1.216	0.9264		152000	200000	-23.8*	20.0
Phenol	Ave	1.773	1.736	0.8000	97900	100000	-2.1	20.0
Aniline	Ave	2.076	1.856		89400	100000	-10.6	20.0
Bis(2-chloroethyl)ether	Ave	1.316	1.228	0.7000	93300	100000	-6.7	20.0
2-Chlorophenol	Ave	1.378	1.315	0.8000	95400	100000	-4.6	20.0
1,3-Dichlorobenzene	Ave	1.488	1.434		96300	100000	-3.7	20.0
1,4-Dichlorobenzene	Ave	1.504	1.449		96300	100000	-3.7	20.0
Benzyl alcohol	Ave	0.9396	0.9003		95800	100000	-4.2	20.0
1,2-Dichlorobenzene	Ave	1.419	1.367		96400	100000	-3.6	20.0
2-Methylphenol	Ave	1.246	1.187	0.7000	95200	100000	-4.8	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.445	1.358	0.0100	94000	100000	-6.0	20.0
Acetophenone	Ave	1.831	1.701	0.0100	92900	100000	-7.1	20.0
N-Nitrosodi-n-propylamine	Ave	0.8902	0.8188	0.5000	92000	100000	-8.0	20.0
3 & 4 Methylphenol	Ave	1.334	1.247		93500	100000	-6.5	20.0
Hexachloroethane	Ave	0.6120	0.5835	0.3000	95300	100000	-4.7	20.0
Nitrobenzene	Ave	0.3533	0.3238	0.2000	91600	100000	-8.4	20.0
Isophorone	Ave	0.6768	0.6108	0.4000	90200	100000	-9.8	20.0
2-Nitrophenol	Ave	0.1962	0.1892	0.1000	96500	100000	-3.5	20.0
2,4-Dimethylphenol	Ave	0.3492	0.2998	0.2000	85900	100000	-14.1	20.0
Bis(2-chloroethoxy)methane	Ave	0.4333	0.4030	0.3000	93000	100000	-7.0	20.0
2,4-Dichlorophenol	Ave	0.2986	0.2934	0.2000	98200	100000	-1.8	20.0
Benzoic acid	Lin2		0.2578		185000	200000	-7.7	20.0
1,2,4-Trichlorobenzene	Ave	0.3143	0.2991		95200	100000	-4.8	20.0
Naphthalene	Ave	0.9887	0.9098	0.7000	92000	100000	-8.0	20.0
2,6-Dichlorophenol	Ave	0.2924	0.2833		96900	100000	-3.1	20.0
4-Chloroaniline	Ave	0.4442	0.4097	0.0100	92200	100000	-7.8	20.0
Hexachlorobutadiene	Ave	0.1598	0.1615	0.0100	101000	100000	1.0	20.0
Caprolactam	Ave	0.1599	0.1532	0.0100	95800	100000	-4.2	20.0
4-Chloro-3-methylphenol	Ave	0.3122	0.2870	0.2000	91900	100000	-8.1	20.0
2-Methylnaphthalene	Ave	0.6692	0.6288	0.4000	94000	100000	-6.0	20.0
1-Methylnaphthalene	Ave	0.6322	0.5957		94200	100000	-5.8	20.0
Hexachlorocyclopentadiene	Ave	0.3431	0.3086	0.0500	89900	100000	-10.1	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2920	0.2835	0.0100	97100	100000	-2.9	20.0
2,4,6-Trichlorophenol	Ave	0.3593	0.3546	0.2000	98700	100000	-1.3	20.0
2,4,5-Trichlorophenol	Ave	0.4000	0.3974	0.2000	99400	100000	-0.6	20.0
1,1'-Biphenyl	Ave	1.321	1.256	0.0100	95100	100000	-4.9	20.0
2-Chloronaphthalene	Ave	1.067	1.013	0.8000	95000	100000	-5.0	20.0
2-Nitroaniline	Ave	0.3331	0.3290	0.0100	98800	100000	-1.2	20.0
Dimethyl phthalate	Ave	1.169	1.131	0.0100	96700	100000	-3.3	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-590052/18 | Calibration Date: 10/14/2022 19:53

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101022438.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dinitrobenzene	Ave	0.2046	0.2104		103000	100000	2.9	20.0
2,6-Dinitrotoluene	Ave	0.2886	0.2855	0.2000	98900	100000	-1.1	20.0
Acenaphthylene	Ave	1.679	1.644	0.9000	97900	100000	-2.1	20.0
3-Nitroaniline	Ave	0.3754	0.3565	0.0100	95000	100000	-5.0	20.0
Acenaphthene	Ave	1.042	1.026	0.9000	98500	100000	-1.5	20.0
2,4-Dinitrophenol	Lin1		0.1345	0.0100	151000	200000	-24.7*	20.0
4-Nitrophenol	Ave	0.1815	0.1734	0.0100	191000	200000	-4.5	20.0
Dibenzofuran	Ave	1.490	1.438	0.8000	96500	100000	-3.5	20.0
2,4-Dinitrotoluene	Ave	0.3601	0.3564	0.2000	99000	100000	-1.0	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3192	0.3181	0.0100	99700	100000	-0.3	20.0
Diethyl phthalate	Ave	1.225	1.155	0.0100	94300	100000	-5.7	20.0
Fluorene	Ave	1.230	1.167	0.9000	94900	100000	-5.1	20.0
4-Chlorophenyl phenyl ether	Ave	0.5428	0.5359	0.4000	98700	100000	-1.3	20.0
4-Nitroaniline	Ave	0.3734	0.3499	0.0100	93700	100000	-6.3	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1052	0.0100	161000	200000	-19.6	20.0
Diphenylamine	Ave	1.056	1.011		81400	85000	-4.2	20.0
N-Nitrosodiphenylamine	Ave	0.5576	0.5283	0.0100	94700	100000	-5.3	20.0
1,2-Diphenylhydrazine	Ave	1.226	1.167		96200	101000	-4.8	20.0
Azobenzene	Ave	1.240	1.180		95200	100000	-4.8	20.0
4-Bromophenyl phenyl ether	Ave	0.2199	0.2210	0.1000	101000	100000	0.5	20.0
Hexachlorobenzene	Ave	0.2569	0.2742	0.1000	107000	100000	6.7	20.0
Atrazine	Ave	0.1966	0.1830	0.0100	93100	100000	-6.9	20.0
Phenanthrene	Ave	1.104	1.048	0.7000	94900	100000	-5.1	20.0
Anthracene	Ave	1.132	1.083	0.7000	95700	100000	-4.3	20.0
Carbazole	Ave	1.126	1.037	0.0100	92100	100000	-7.9	20.0
Di-n-butyl phthalate	Ave	1.333	1.250	0.0100	93800	100000	-6.2	20.0
Fluoranthene	Ave	1.149	1.092	0.6000	95000	100000	-5.0	20.0
Pyrene	Ave	1.355	1.250	0.6000	92300	100000	-7.7	20.0
Butyl benzyl phthalate	Ave	0.6831	0.6467	0.0100	94700	100000	-5.3	20.0
3,3'-Dichlorobenzidine	Ave	0.4672	0.4668	0.0100	99900	100000	-0.1	20.0
Benzo[a]anthracene	Ave	1.203	1.188	0.8000	98700	100000	-1.3	20.0
Chrysene	Ave	1.127	1.136	0.7000	101000	100000	0.8	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.9300	0.8444	0.0100	90800	100000	-9.2	20.0
Di-n-octyl phthalate	Ave	1.685	1.517	0.0100	90000	100000	-10.0	20.0
Benzo[b]fluoranthene	Ave	1.224	1.177	0.7000	96200	100000	-3.8	20.0
Benzo[k]fluoranthene	Ave	1.269	1.201	0.7000	94600	100000	-5.4	20.0
Benzo[a]pyrene	Ave	1.109	1.123	0.7000	101000	100000	1.2	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.161	1.162	0.5000	100000	100000	0.1	20.0
Dibenz(a,h)anthracene	Ave	1.144	1.137	0.4000	99400	100000	-0.6	20.0
Benzo[g,h,i]perylene	Ave	1.215	1.211	0.5000	99600	100000	-0.4	20.0

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: G6_101023535b.D DFTPP Injection Date: 11/10/2022

Instrument ID: SMS_G6 DFTPP Injection Time: 15:12

Analysis Batch No.: 592986

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	40.2	
68	Less than 2.0 % of mass 69	0.5	(1.3) 1
69	Mass 69 relative abundance	41.7	
70	Less than 2.0 % of mass 69	0.2	(0.4) 1
127	40.0 - 60.0 % of mass 198	54.0	
197	Less than 1.0 % of mass 198	0.3	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.7	
275	10.0 - 30.0 % of mass 198	21.7	
365	Greater than 1.0 % of mass 198	3.0	
441	Present but less than mass 443	11.0	(75.9) 3
442	Greater than 40.0 % of mass 198	77.6	
443	17.0 - 23.0 % of mass 442	14.5	(18.7) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-592986/3	G6_101023536b	11/10/2022	15:20
	MB 280-592594/1-A	G6_101023540b	11/10/2022	16:43
	LCS 280-592594/2-A	G6_101023541b	11/10/2022	17:04
	LCSD 280-592594/3-A	G6_101023542b	11/10/2022	17:24
X3-SS-C01-0006	280-168718-1	G6_101023563.	11/11/2022	0:37
FD-11012201	280-168718-2	G6_101023564.	11/11/2022	0:57
X3-SS-C02-0006	280-168718-3	G6_101023565.	11/11/2022	1:18
	CCVC 280-592986/36	G6_101023567.	11/11/2022	1:59

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592986/3 | Calibration Date: 11/10/2022 15:20

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023536b.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.6477		108000	80000	34.6*	20.0
N-Nitrosodimethylamine	Ave	0.7662	1.013		106000	80000	32.3*	20.0
Pyridine	Ave	1.216	1.574		207000	160000	29.4*	20.0
Aniline	Ave	2.076	2.201		84800	80000	6.0	20.0
Phenol	Ave	1.773	1.935	0.8000	87300	80000	9.1	20.0
Bis(2-chloroethyl)ether	Ave	1.316	1.469	0.7000	89300	80000	11.6	20.0
2-Chlorophenol	Ave	1.378	1.437	0.8000	83400	80000	4.3	20.0
1,3-Dichlorobenzene	Ave	1.488	1.502		80700	80000	0.9	20.0
1,4-Dichlorobenzene	Ave	1.504	1.515		80600	80000	0.7	20.0
Benzyl alcohol	Ave	0.9396	0.9321		79400	80000	-0.8	20.0
1,2-Dichlorobenzene	Ave	1.419	1.418		79900	80000	-0.0	20.0
2-Methylphenol	Ave	1.246	1.277	0.7000	82000	80000	2.5	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.445	1.893	0.0100	105000	80000	31.0*	20.0
Acetophenone	Ave	1.831	1.929	0.0100	84300	80000	5.4	20.0
N-Nitrosodi-n-propylamine	Ave	0.8902	1.016	0.5000	91300	80000	14.2	20.0
3 & 4 Methylphenol	Ave	1.334	1.346		80700	80000	0.9	20.0
Hexachloroethane	Ave	0.6120	0.6413	0.3000	83800	80000	4.8	20.0
Nitrobenzene	Ave	0.3533	0.3979	0.2000	90100	80000	12.6	20.0
Isophorone	Ave	0.6768	0.7350	0.4000	86900	80000	8.6	20.0
2-Nitrophenol	Ave	0.1962	0.2044	0.1000	83400	80000	4.2	20.0
2,4-Dimethylphenol	Ave	0.3492	0.3618	0.2000	82900	80000	3.6	20.0
Bis(2-chloroethoxy)methane	Ave	0.4333	0.4646	0.3000	85800	80000	7.2	20.0
2,4-Dichlorophenol	Ave	0.2986	0.2867	0.2000	76800	80000	-4.0	20.0
Benzoic acid	Lin2		0.3042		174000	160000	9.0	20.0
1,2,4-Trichlorobenzene	Ave	0.3143	0.3073		78200	80000	-2.2	20.0
Naphthalene	Ave	0.9887	0.9943	0.7000	80500	80000	0.6	20.0
2,6-Dichlorophenol	Ave	0.2924	0.2830		77400	80000	-3.2	20.0
4-Chloroaniline	Ave	0.4442	0.4524	0.0100	81500	80000	1.8	20.0
Hexachlorobutadiene	Ave	0.1598	0.1570	0.0100	78600	80000	-1.8	20.0
4-Chloro-3-methylphenol	Ave	0.3122	0.3133	0.2000	80300	80000	0.4	20.0
2-Methylnaphthalene	Ave	0.6692	0.6478	0.4000	77400	80000	-3.2	20.0
1-Methylnaphthalene	Ave	0.6322	0.6076		76900	80000	-3.9	20.0
Hexachlorocyclopentadiene	Ave	0.3431	0.3119	0.0500	72700	80000	-9.1	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2920	0.2704	0.0100	74100	80000	-7.4	20.0
2,4,6-Trichlorophenol	Ave	0.3593	0.3794	0.2000	84500	80000	5.6	20.0
2,4,5-Trichlorophenol	Ave	0.4000	0.3972	0.2000	79500	80000	-0.7	20.0
1,1'-Biphenyl	Ave	1.321	1.394	0.0100	84400	80000	5.5	20.0
2-Chloronaphthalene	Ave	1.067	1.115	0.8000	83600	80000	4.5	20.0
2-Nitroaniline	Ave	0.3331	0.4142	0.0100	99500	80000	24.4*	20.0
Dimethyl phthalate	Ave	1.169	1.275	0.0100	87200	80000	9.0	20.0
1,3-Dinitrobenzene	Ave	0.2046	0.2197		85900	80000	7.4	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592986/3 | Calibration Date: 11/10/2022 15:20

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023536b.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.2886	0.3073	0.2000	85200	80000	6.5	20.0
Acenaphthylene	Ave	1.679	1.785	0.9000	85100	80000	6.3	20.0
3-Nitroaniline	Ave	0.3754	0.3979	0.0100	84800	80000	6.0	20.0
Acenaphthene	Ave	1.042	1.112	0.9000	85400	80000	6.7	20.0
2,4-Dinitrophenol	Lin1		0.1744	0.0100	156000	160000	-2.5	20.0
4-Nitrophenol	Ave	0.1815	0.2153	0.0100	190000	160000	18.6	20.0
Dibenzofuran	Ave	1.490	1.545	0.8000	82900	80000	3.7	20.0
2,4-Dinitrotoluene	Ave	0.3601	0.3971	0.2000	88200	80000	10.3	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3192	0.3203	0.0100	80300	80000	0.3	20.0
Diethyl phthalate	Ave	1.225	1.322	0.0100	86300	80000	7.9	20.0
Fluorene	Ave	1.230	1.230	0.9000	80100	80000	0.0	20.0
4-Chlorophenyl phenyl ether	Ave	0.5428	0.5422	0.4000	79900	80000	-0.1	20.0
4-Nitroaniline	Ave	0.3734	0.3828	0.0100	82000	80000	2.5	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1424	0.0100	174000	160000	8.5	20.0
Diphenylamine	Ave	1.056	1.060		68300	68000	0.4	20.0
N-Nitrosodiphenylamine	Ave	0.5576	0.5854	0.0100	84000	80000	5.0	20.0
1,2-Diphenylhydrazine	Ave	1.226	1.442		95100	80900	17.6	20.0
Azobenzene	Ave	1.240	1.457		94000	80000	17.6	20.0
4-Bromophenyl phenyl ether	Ave	0.2199	0.2084	0.1000	75800	80000	-5.2	20.0
Hexachlorobenzene	Ave	0.2569	0.2413	0.1000	75100	80000	-6.1	20.0
Pentachlorophenol	Ave	0.1555	0.1639	0.0500	169000	160000	5.4	20.0
Phenanthrene	Ave	1.104	1.113	0.7000	80700	80000	0.9	20.0
Anthracene	Ave	1.132	1.114	0.7000	78700	80000	-1.6	20.0
Carbazole	Ave	1.126	1.116	0.0100	79300	80000	-0.9	20.0
Alachlor	Ave	0.1521	0.1604		84300	80000	5.4	20.0
Di-n-butyl phthalate	Ave	1.333	1.423	0.0100	85500	80000	6.8	20.0
Fluoranthene	Ave	1.149	1.142	0.6000	79500	80000	-0.6	20.0
Pyrene	Ave	1.355	1.511	0.6000	89200	80000	11.5	20.0
Butyl benzyl phthalate	Ave	0.6831	0.8114	0.0100	95000	80000	18.8	20.0
Benzo[a]anthracene	Ave	1.203	1.283	0.8000	85300	80000	6.7	20.0
Chrysene	Ave	1.127	1.220	0.7000	86500	80000	8.2	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.9300	1.057	0.0100	90900	80000	13.7	20.0
Di-n-octyl phthalate	Ave	1.685	1.824	0.0100	86600	80000	8.2	20.0
Benzo[b]fluoranthene	Ave	1.224	1.316	0.7000	86000	80000	7.5	20.0
Benzo[k]fluoranthene	Ave	1.269	1.472	0.7000	92800	80000	16.0	20.0
Benzo[a]pyrene	Ave	1.109	1.253	0.7000	90300	80000	12.9	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.161	0.9800	0.5000	67500	80000	-15.6	20.0
Dibenz(a,h)anthracene	Ave	1.144	1.124	0.4000	78600	80000	-1.7	20.0
Benzo[g,h,i]perylene	Ave	1.215	1.258	0.5000	82800	80000	3.5	20.0
2-Fluorophenol (Surr)	Ave	1.320	1.506		91300	80000	14.1	20.0
Phenol-d5 (Surr)	Ave	1.681	1.786		85000	80000	6.3	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592986/3 Calibration Date: 11/10/2022 15:20

Instrument ID: SMS_G6 Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023536b.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrobenzene-d5 (Surr)	Ave	0.3716	0.4108		88400	80000	10.5	20.0
2-Fluorobiphenyl	Ave	1.183	1.237		83700	80000	4.6	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.2336	0.1996		68400	80000	-14.5	20.0
Terphenyl-d14 (Surr)	Ave	1.028	1.095		85100	80000	6.4	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592986/3 Calibration Date: 11/10/2022 15:20

Instrument ID: SMS_G6 Calib Start Date: 10/15/2022 00:27

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/15/2022 02:30

Lab File ID: G6_101023536b.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.1586	0.1848	0.0100	93200	80000	16.5	20.0
Atrazine	Ave	0.1826	0.2003	0.0100	87800	80000	9.7	20.0
3,3'-Dichlorobenzidine	Ave	0.4778	0.4828	0.0100	80800	80000	1.0	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-592986/36 | Calibration Date: 11/11/2022 01:59

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023567.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.6103		101000	80000	26.6	50.0
N-Nitrosodimethylamine	Ave	0.7662	1.015		106000	80000	32.5	50.0
Pyridine	Ave	1.216	1.505		198000	160000	23.7	50.0
Aniline	Ave	2.076	2.153		83000	80000	3.7	50.0
Phenol	Ave	1.773	1.880	0.8000	84800	80000	6.0	50.0
Bis(2-chloroethyl)ether	Ave	1.316	1.468	0.7000	89200	80000	11.5	50.0
2-Chlorophenol	Ave	1.378	1.434	0.8000	83300	80000	4.1	50.0
1,3-Dichlorobenzene	Ave	1.488	1.498		80500	80000	0.6	50.0
1,4-Dichlorobenzene	Ave	1.504	1.503		80000	80000	-0.0	50.0
Benzyl alcohol	Ave	0.9396	0.9287		79100	80000	-1.2	50.0
1,2-Dichlorobenzene	Ave	1.419	1.380		77800	80000	-2.7	50.0
2-Methylphenol	Ave	1.246	1.274	0.7000	81800	80000	2.2	50.0
2,2'-oxybis[1-chloropropane]	Ave	1.445	1.794	0.0100	99300	80000	24.2	50.0
Acetophenone	Ave	1.831	1.869	0.0100	81700	80000	2.1	50.0
N-Nitrosodi-n-propylamine	Ave	0.8902	1.009	0.5000	90700	80000	13.4	50.0
3 & 4 Methylphenol	Ave	1.334	1.319		79100	80000	-1.1	50.0
Hexachloroethane	Ave	0.6120	0.6262	0.3000	81900	80000	2.3	50.0
Nitrobenzene	Ave	0.3533	0.3907	0.2000	88500	80000	10.6	50.0
Isophorone	Ave	0.6768	0.7291	0.4000	86200	80000	7.7	50.0
2-Nitrophenol	Ave	0.1962	0.2021	0.1000	82400	80000	3.0	50.0
2,4-Dimethylphenol	Ave	0.3492	0.3589	0.2000	82200	80000	2.8	50.0
Bis(2-chloroethoxy)methane	Ave	0.4333	0.4634	0.3000	85600	80000	7.0	50.0
2,4-Dichlorophenol	Ave	0.2986	0.2834	0.2000	75900	80000	-5.1	50.0
Benzoic acid	Lin2		0.3131		179000	160000	12.2	50.0
1,2,4-Trichlorobenzene	Ave	0.3143	0.3012		76700	80000	-4.2	50.0
Naphthalene	Ave	0.9887	0.9680	0.7000	78300	80000	-2.1	50.0
2,6-Dichlorophenol	Ave	0.2924	0.2764		75600	80000	-5.5	50.0
4-Chloroaniline	Ave	0.4442	0.4317	0.0100	77800	80000	-2.8	50.0
Hexachlorobutadiene	Ave	0.1598	0.1575	0.0100	78800	80000	-1.5	50.0
4-Chloro-3-methylphenol	Ave	0.3122	0.3165	0.2000	81100	80000	1.4	50.0
2-Methylnaphthalene	Ave	0.6692	0.6521	0.4000	78000	80000	-2.5	50.0
1-Methylnaphthalene	Ave	0.6322	0.6030		76300	80000	-4.6	50.0
Hexachlorocyclopentadiene	Ave	0.3431	0.2414	0.0500	56300	80000	-29.6	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2920	0.2713	0.0100	74300	80000	-7.1	50.0
2,4,6-Trichlorophenol	Ave	0.3593	0.3689	0.2000	82100	80000	2.7	50.0
2,4,5-Trichlorophenol	Ave	0.4000	0.3970	0.2000	79400	80000	-0.7	50.0
1,1'-Biphenyl	Ave	1.321	1.368	0.0100	82800	80000	3.5	50.0
2-Chloronaphthalene	Ave	1.067	1.093	0.8000	82000	80000	2.4	50.0
2-Nitroaniline	Ave	0.3331	0.4027	0.0100	96700	80000	20.9	50.0
Dimethyl phthalate	Ave	1.169	1.236	0.0100	84600	80000	5.7	50.0
1,3-Dinitrobenzene	Ave	0.2046	0.2197		85900	80000	7.4	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-592986/36 Calibration Date: 11/11/2022 01:59

Instrument ID: SMS_G6 Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023567.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.2886	0.3045	0.2000	84400	80000	5.5	50.0
Acenaphthylene	Ave	1.679	1.764	0.9000	84000	80000	5.0	50.0
3-Nitroaniline	Ave	0.3754	0.3895	0.0100	83000	80000	3.8	50.0
Acenaphthene	Ave	1.042	1.100	0.9000	84500	80000	5.6	50.0
2,4-Dinitrophenol	Lin1		0.1741	0.0100	156000	160000	-2.7	50.0
4-Nitrophenol	Ave	0.1815	0.2066	0.0100	182000	160000	13.8	50.0
Dibenzofuran	Ave	1.490	1.486	0.8000	79800	80000	-0.3	50.0
2,4-Dinitrotoluene	Ave	0.3601	0.3880	0.2000	86200	80000	7.7	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.3192	0.3187	0.0100	79900	80000	-0.2	50.0
Diethyl phthalate	Ave	1.225	1.292	0.0100	84300	80000	5.4	50.0
Fluorene	Ave	1.230	1.221	0.9000	79400	80000	-0.7	50.0
4-Chlorophenyl phenyl ether	Ave	0.5428	0.5341	0.4000	78700	80000	-1.6	50.0
4-Nitroaniline	Ave	0.3734	0.3820	0.0100	81900	80000	2.3	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1461	0.0100	178000	160000	11.3	50.0
Diphenylamine	Ave	1.056	1.062		68400	68000	0.6	50.0
N-Nitrosodiphenylamine	Ave	0.5576	0.5956	0.0100	85500	80000	6.8	50.0
1,2-Diphenylhydrazine	Ave	1.226	1.375		90700	80900	12.1	50.0
Azobenzene	Ave	1.240	1.390		89700	80000	12.1	50.0
4-Bromophenyl phenyl ether	Ave	0.2199	0.2173	0.1000	79100	80000	-1.2	50.0
Hexachlorobenzene	Ave	0.2569	0.2493	0.1000	77600	80000	-3.0	50.0
Pentachlorophenol	Ave	0.1555	0.1743	0.0500	179000	160000	12.1	50.0
Phenanthrene	Ave	1.104	1.108	0.7000	80300	80000	0.4	50.0
Anthracene	Ave	1.132	1.121	0.7000	79200	80000	-1.0	50.0
Carbazole	Ave	1.126	1.107	0.0100	78600	80000	-1.7	50.0
Alachlor	Ave	0.1521	0.1614		84800	80000	6.1	50.0
Di-n-butyl phthalate	Ave	1.333	1.418	0.0100	85100	80000	6.4	50.0
Fluoranthene	Ave	1.149	1.163	0.6000	81000	80000	1.3	50.0
Pyrene	Ave	1.355	1.504	0.6000	88800	80000	11.0	50.0
Butyl benzyl phthalate	Ave	0.6831	0.8039	0.0100	94100	80000	17.7	50.0
Benzo[a]anthracene	Ave	1.203	1.280	0.8000	85100	80000	6.4	50.0
Chrysene	Ave	1.127	1.199	0.7000	85100	80000	6.3	50.0
Bis(2-ethylhexyl) phthalate	Ave	0.9300	1.036	0.0100	89100	80000	11.4	50.0
Di-n-octyl phthalate	Ave	1.685	1.872	0.0100	88900	80000	11.1	50.0
Benzo[b]fluoranthene	Ave	1.224	1.325	0.7000	86600	80000	8.2	50.0
Benzo[k]fluoranthene	Ave	1.269	1.494	0.7000	94200	80000	17.7	50.0
Benzo[a]pyrene	Ave	1.109	1.259	0.7000	90800	80000	13.4	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.161	0.9844	0.5000	67800	80000	-15.2	50.0
Dibenz(a,h)anthracene	Ave	1.144	1.149	0.4000	80400	80000	0.5	50.0
Benzo[g,h,i]perylene	Ave	1.215	1.254	0.5000	82600	80000	3.2	50.0
2-Fluorophenol (Surr)	Ave	1.320	1.506		91300	80000	14.1	50.0
Phenol-d5 (Surr)	Ave	1.681	1.789		85200	80000	6.5	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-592986/36 | Calibration Date: 11/11/2022 01:59

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023567.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrobenzene-d5 (Surr)	Ave	0.3716	0.4070		87600	80000	9.5	50.0
2-Fluorobiphenyl	Ave	1.183	1.223		82700	80000	3.4	50.0
2,4,6-Tribromophenol (Surr)	Ave	0.2336	0.2030		69500	80000	-13.1	50.0
Terphenyl-d14 (Surr)	Ave	1.028	1.113		86500	80000	8.2	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-592986/36 Calibration Date: 11/11/2022 01:59

Instrument ID: SMS_G6 Calib Start Date: 10/15/2022 00:27

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/15/2022 02:30

Lab File ID: G6_101023567.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.1586	0.1839	0.0100	92700	80000	15.9	50.0
Atrazine	Ave	0.1826	0.2033	0.0100	89100	80000	11.4	50.0
3,3'-Dichlorobenzidine	Ave	0.4778	0.4991	0.0100	83600	80000	4.5	50.0

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: G6_101023672d.D DFTPP Injection Date: 11/14/2022

Instrument ID: SMS_G6 DFTPP Injection Time: 15:10

Analysis Batch No.: 593336

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
51	30.0 - 60.0 % of mass 198	42.9
68	Less than 2.0 % of mass 69	0.6 (1.3) 1
69	Mass 69 relative abundance	46.5
70	Less than 2.0 % of mass 69	0.3 (0.6) 1
127	40.0 - 60.0 % of mass 198	55.7
197	Less than 1.0 % of mass 198	0.2
198	Base Peak, 100 % relative abundance	100.0
199	5.0- 9.0 % of mass 198	6.9
275	10.0 - 30.0 % of mass 198	21.0
365	Greater than 1.0 % of mass 198	2.9
441	Present but less than mass 443	8.5 (78.9) 3
442	Greater than 40.0 % of mass 198	58.4
443	17.0 - 23.0 % of mass 442	10.7 (18.3) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-593336/3	G6_101023673d	11/14/2022	15:19
X3-SS-C04-0006	280-168718-5	G6_101023685.	11/14/2022	19:37
X3-SS-C05-0006	280-168718-7	G6_101023686.	11/14/2022	19:58
FD-11022201	280-168718-8	G6_101023687.	11/14/2022	20:18
	CCVC 280-593336/32	G6_101023702.	11/15/2022	1:49

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593336/3 Calibration Date: 11/14/2022 15:19

Instrument ID: SMS_G6 Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023673d.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.6064		101000	80000	25.8*	20.0
N-Nitrosodimethylamine	Ave	0.7662	0.9252		96600	80000	20.8*	20.0
Pyridine	Ave	1.216	1.414		186000	160000	16.3	20.0
Aniline	Ave	2.076	2.059		79300	80000	-0.8	20.0
Phenol	Ave	1.773	1.804	0.8000	81400	80000	1.7	20.0
Bis(2-chloroethyl)ether	Ave	1.316	1.377	0.7000	83700	80000	4.6	20.0
2-Chlorophenol	Ave	1.378	1.323	0.8000	76800	80000	-4.0	20.0
1,3-Dichlorobenzene	Ave	1.488	1.365		73400	80000	-8.3	20.0
1,4-Dichlorobenzene	Ave	1.504	1.381		73500	80000	-8.2	20.0
Benzyl alcohol	Ave	0.9396	0.8723		74300	80000	-7.2	20.0
1,2-Dichlorobenzene	Ave	1.419	1.285		72400	80000	-9.4	20.0
2-Methylphenol	Ave	1.246	1.204	0.7000	77300	80000	-3.4	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.445	1.812	0.0100	100000	80000	25.4*	20.0
Acetophenone	Ave	1.831	1.774	0.0100	77500	80000	-3.1	20.0
N-Nitrosodi-n-propylamine	Ave	0.8902	0.9779	0.5000	87900	80000	9.9	20.0
3 & 4 Methylphenol	Ave	1.334	1.281		76900	80000	-3.9	20.0
Hexachloroethane	Ave	0.6120	0.5931	0.3000	77500	80000	-3.1	20.0
Nitrobenzene	Ave	0.3533	0.3634	0.2000	82300	80000	2.9	20.0
Isophorone	Ave	0.6768	0.6793	0.4000	80300	80000	0.4	20.0
2-Nitrophenol	Ave	0.1962	0.1838	0.1000	75000	80000	-6.3	20.0
2,4-Dimethylphenol	Ave	0.3492	0.3361	0.2000	77000	80000	-3.7	20.0
Bis(2-chloroethoxy)methane	Ave	0.4333	0.4238	0.3000	78300	80000	-2.2	20.0
Benzoic acid	Lin2		0.2818		162000	160000	1.2	20.0
2,4-Dichlorophenol	Ave	0.2986	0.2614	0.2000	70000	80000	-12.5	20.0
1,2,4-Trichlorobenzene	Ave	0.3143	0.2725		69400	80000	-13.3	20.0
Naphthalene	Ave	0.9887	0.9077	0.7000	73500	80000	-8.2	20.0
2,6-Dichlorophenol	Ave	0.2924	0.2580		70600	80000	-11.8	20.0
4-Chloroaniline	Ave	0.4442	0.4096	0.0100	73800	80000	-7.8	20.0
Hexachlorobutadiene	Ave	0.1598	0.1397	0.0100	69900	80000	-12.6	20.0
4-Chloro-3-methylphenol	Ave	0.3122	0.2915	0.2000	74700	80000	-6.6	20.0
2-Methylnaphthalene	Ave	0.6692	0.5877	0.4000	70300	80000	-12.2	20.0
1-Methylnaphthalene	Ave	0.6322	0.5581		70600	80000	-11.7	20.0
Hexachlorocyclopentadiene	Ave	0.3431	0.2826	0.0500	65900	80000	-17.6	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2920	0.2354	0.0100	64500	80000	-19.4	20.0
2,4,6-Trichlorophenol	Ave	0.3593	0.3284	0.2000	73100	80000	-8.6	20.0
2,4,5-Trichlorophenol	Ave	0.4000	0.3536	0.2000	70700	80000	-11.6	20.0
1,1'-Biphenyl	Ave	1.321	1.250	0.0100	75700	80000	-5.3	20.0
2-Chloronaphthalene	Ave	1.067	0.996	0.8000	74700	80000	-6.6	20.0
2-Nitroaniline	Ave	0.3331	0.3763	0.0100	90400	80000	13.0	20.0
Dimethyl phthalate	Ave	1.169	1.132	0.0100	77500	80000	-3.2	20.0
1,3-Dinitrobenzene	Ave	0.2046	0.2049		80100	80000	0.2	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593336/3 | Calibration Date: 11/14/2022 15:19

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023673d.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.2886	0.2739	0.2000	75900	80000	-5.1	20.0
Acenaphthylene	Ave	1.679	1.597	0.9000	76100	80000	-4.9	20.0
3-Nitroaniline	Ave	0.3754	0.3597	0.0100	76700	80000	-4.2	20.0
Acenaphthene	Ave	1.042	0.9949	0.9000	76400	80000	-4.5	20.0
2,4-Dinitrophenol	Lin1		0.1622	0.0100	146000	160000	-9.0	20.0
4-Nitrophenol	Ave	0.1815	0.2028	0.0100	179000	160000	11.7	20.0
Dibenzofuran	Ave	1.490	1.383	0.8000	74300	80000	-7.2	20.0
2,4-Dinitrotoluene	Ave	0.3601	0.3598	0.2000	79900	80000	-0.1	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.3192	0.2697	0.0100	67600	80000	-15.5	20.0
Diethyl phthalate	Ave	1.225	1.217	0.0100	79500	80000	-0.6	20.0
Fluorene	Ave	1.230	1.092	0.9000	71100	80000	-11.2	20.0
4-Chlorophenyl phenyl ether	Ave	0.5428	0.4801	0.4000	70800	80000	-11.6	20.0
4-Nitroaniline	Ave	0.3734	0.3567	0.0100	76400	80000	-4.5	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1303	0.0100	159000	160000	-0.4	20.0
Diphenylamine	Ave	1.056	0.9614		61900	68000	-9.0	20.0
N-Nitrosodiphenylamine	Ave	0.5576	0.5288	0.0100	75900	80000	-5.2	20.0
1,2-Diphenylhydrazine	Ave	1.226	1.337		88200	80900	9.1	20.0
Azobenzene	Ave	1.240	1.352		87300	80000	9.1	20.0
4-Bromophenyl phenyl ether	Ave	0.2199	0.1781	0.1000	64800	80000	-19.0	20.0
Hexachlorobenzene	Ave	0.2569	0.1994	0.1000	62100	80000	-22.4*	20.0
Pentachlorophenol	Ave	0.1555	0.1381	0.0500	142000	160000	-11.2	20.0
Phenanthrene	Ave	1.104	1.002	0.7000	72600	80000	-9.2	20.0
Anthracene	Ave	1.132	1.027	0.7000	72500	80000	-9.3	20.0
Carbazole	Ave	1.126	1.023	0.0100	72700	80000	-9.1	20.0
Alachlor	Ave	0.1521	0.1434		75400	80000	-5.8	20.0
Di-n-butyl phthalate	Ave	1.333	1.331	0.0100	79900	80000	-0.1	20.0
Fluoranthene	Ave	1.149	1.059	0.6000	73700	80000	-7.8	20.0
Pyrene	Ave	1.355	1.334	0.6000	78800	80000	-1.5	20.0
Butyl benzyl phthalate	Ave	0.6831	0.7410	0.0100	86800	80000	8.5	20.0
Benzo[a]anthracene	Ave	1.203	1.136	0.8000	75500	80000	-5.6	20.0
Chrysene	Ave	1.127	1.089	0.7000	77300	80000	-3.4	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.9300	0.9645	0.0100	83000	80000	3.7	20.0
Di-n-octyl phthalate	Ave	1.685	1.714	0.0100	81300	80000	1.7	20.0
Benzo[b]fluoranthene	Ave	1.224	1.183	0.7000	77300	80000	-3.3	20.0
Benzo[k]fluoranthene	Ave	1.269	1.343	0.7000	84700	80000	5.9	20.0
Benzo[a]pyrene	Ave	1.109	1.112	0.7000	80200	80000	0.3	20.0
Indeno[1,2,3-cd]pyrene	Ave	1.161	0.8200	0.5000	56500	80000	-29.4*	20.0
Dibenz(a,h)anthracene	Ave	1.144	0.9898	0.4000	69200	80000	-13.5	20.0
Benzo[g,h,i]perylene	Ave	1.215	1.091	0.5000	71800	80000	-10.2	20.0
2-Fluorophenol (Surr)	Ave	1.320	1.395		84600	80000	5.7	20.0
Phenol-d5 (Surr)	Ave	1.681	1.704		81100	80000	1.4	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593336/3 Calibration Date: 11/14/2022 15:19

Instrument ID: SMS_G6 Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023673d.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrobenzene-d5 (Surr)	Ave	0.3716	0.3831		82500	80000	3.1	20.0
2-Fluorobiphenyl	Ave	1.183	1.122		75900	80000	-5.1	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.2336	0.1611		55200	80000	-31.0*	20.0
Terphenyl-d14 (Surr)	Ave	1.028	0.9654		75100	80000	-6.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593336/3 Calibration Date: 11/14/2022 15:19

Instrument ID: SMS_G6 Calib Start Date: 10/15/2022 00:27

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/15/2022 02:30

Lab File ID: G6_101023673d.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.1586	0.1703	0.0100	85900	80000	7.3	20.0
Atrazine	Ave	0.1826	0.1872	0.0100	82000	80000	2.6	20.0
3,3'-Dichlorobenzidine	Ave	0.4778	0.4697	0.0100	78600	80000	-1.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593336/32 | Calibration Date: 11/15/2022 01:49

Instrument ID: SMS_G6 | Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023702.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.5204		86000	80000	7.5	50.0
N-Nitrosodimethylamine	Ave	0.7662	0.8058		84100	80000	5.2	50.0
Pyridine	Ave	1.216	1.215		160000	160000	-0.0	50.0
Aniline	Ave	2.076	1.983		76400	80000	-4.5	50.0
Phenol	Ave	1.773	1.744	0.8000	78700	80000	-1.7	50.0
Bis(2-chloroethyl)ether	Ave	1.316	1.345	0.7000	81700	80000	2.2	50.0
2-Chlorophenol	Ave	1.378	1.325	0.8000	77000	80000	-3.8	50.0
1,3-Dichlorobenzene	Ave	1.488	1.336		71800	80000	-10.2	50.0
1,4-Dichlorobenzene	Ave	1.504	1.349		71800	80000	-10.3	50.0
Benzyl alcohol	Ave	0.9396	0.8606		73300	80000	-8.4	50.0
1,2-Dichlorobenzene	Ave	1.419	1.232		69500	80000	-13.1	50.0
2-Methylphenol	Ave	1.246	1.178	0.7000	75600	80000	-5.5	50.0
2,2'-oxybis[1-chloropropane]	Ave	1.445	1.709	0.0100	94600	80000	18.3	50.0
Acetophenone	Ave	1.831	1.756	0.0100	76700	80000	-4.1	50.0
N-Nitrosodi-n-propylamine	Ave	0.8902	0.9721	0.5000	87400	80000	9.2	50.0
3 & 4 Methylphenol	Ave	1.334	1.259		75500	80000	-5.6	50.0
Hexachloroethane	Ave	0.6120	0.5906	0.3000	77200	80000	-3.5	50.0
Nitrobenzene	Ave	0.3533	0.3545	0.2000	80300	80000	0.3	50.0
Isophorone	Ave	0.6768	0.6668	0.4000	78800	80000	-1.5	50.0
2-Nitrophenol	Ave	0.1962	0.1839	0.1000	75000	80000	-6.2	50.0
2,4-Dimethylphenol	Ave	0.3492	0.3277	0.2000	75100	80000	-6.1	50.0
Bis(2-chloroethoxy)methane	Ave	0.4333	0.4176	0.3000	77100	80000	-3.6	50.0
2,4-Dichlorophenol	Ave	0.2986	0.2543	0.2000	68100	80000	-14.9	50.0
Benzoic acid	Lin2		0.2801		161000	160000	0.6	50.0
1,2,4-Trichlorobenzene	Ave	0.3143	0.2636		67100	80000	-16.1	50.0
Naphthalene	Ave	0.9887	0.8889	0.7000	71900	80000	-10.1	50.0
4-Chloroaniline	Ave	0.4442	0.3976	0.0100	71600	80000	-10.5	50.0
2,6-Dichlorophenol	Ave	0.2924	0.2468		67500	80000	-15.6	50.0
Hexachlorobutadiene	Ave	0.1598	0.1336	0.0100	66900	80000	-16.4	50.0
4-Chloro-3-methylphenol	Ave	0.3122	0.2876	0.2000	73700	80000	-7.9	50.0
2-Methylnaphthalene	Ave	0.6692	0.5824	0.4000	69600	80000	-13.0	50.0
1-Methylnaphthalene	Ave	0.6322	0.5480		69300	80000	-13.3	50.0
Hexachlorocyclopentadiene	Ave	0.3431	0.2122	0.0500	49500	80000	-38.2	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2920	0.2297	0.0100	62900	80000	-21.4	50.0
2,4,6-Trichlorophenol	Ave	0.3593	0.3251	0.2000	72400	80000	-9.5	50.0
2,4,5-Trichlorophenol	Ave	0.4000	0.3514	0.2000	70300	80000	-12.2	50.0
1,1'-Biphenyl	Ave	1.321	1.222	0.0100	74000	80000	-7.4	50.0
2-Chloronaphthalene	Ave	1.067	0.9821	0.8000	73600	80000	-7.9	50.0
2-Nitroaniline	Ave	0.3331	0.3810	0.0100	91500	80000	14.4	50.0
Dimethyl phthalate	Ave	1.169	1.115	0.0100	76300	80000	-4.6	50.0
1,3-Dinitrobenzene	Ave	0.2046	0.2004		78400	80000	-2.0	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593336/32 Calibration Date: 11/15/2022 01:49

Instrument ID: SMS_G6 Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023702.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.2886	0.2759	0.2000	76500	80000	-4.4	50.0
Acenaphthylene	Ave	1.679	1.584	0.9000	75400	80000	-5.7	50.0
3-Nitroaniline	Ave	0.3754	0.3582	0.0100	76300	80000	-4.6	50.0
Acenaphthene	Ave	1.042	0.9900	0.9000	76000	80000	-5.0	50.0
2,4-Dinitrophenol	Lin1		0.1419	0.0100	128000	160000	-19.9	50.0
4-Nitrophenol	Ave	0.1815	0.1946	0.0100	172000	160000	7.2	50.0
Dibenzofuran	Ave	1.490	1.367	0.8000	73400	80000	-8.2	50.0
2,4-Dinitrotoluene	Ave	0.3601	0.3560	0.2000	79100	80000	-1.2	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.3192	0.2742	0.0100	68700	80000	-14.1	50.0
Diethyl phthalate	Ave	1.225	1.177	0.0100	76900	80000	-3.9	50.0
Fluorene	Ave	1.230	1.102	0.9000	71700	80000	-10.4	50.0
4-Chlorophenyl phenyl ether	Ave	0.5428	0.4685	0.4000	69100	80000	-13.7	50.0
4-Nitroaniline	Ave	0.3734	0.3479	0.0100	74500	80000	-6.8	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1216	0.0100	149000	160000	-6.9	50.0
Diphenylamine	Ave	1.056	0.9705		62500	68000	-8.1	50.0
N-Nitrosodiphenylamine	Ave	0.5576	0.5418	0.0100	77700	80000	-2.8	50.0
1,2-Diphenylhydrazine	Ave	1.226	1.306		86100	80900	6.5	50.0
Azobenzene	Ave	1.240	1.320		85200	80000	6.5	50.0
4-Bromophenyl phenyl ether	Ave	0.2199	0.1823	0.1000	66300	80000	-17.1	50.0
Hexachlorobenzene	Ave	0.2569	0.1994	0.1000	62100	80000	-22.4	50.0
Pentachlorophenol	Ave	0.1555	0.1344	0.0500	138000	160000	-13.6	50.0
Phenanthrene	Ave	1.104	0.9852	0.7000	71400	80000	-10.8	50.0
Anthracene	Ave	1.132	1.013	0.7000	71600	80000	-10.6	50.0
Carbazole	Ave	1.126	1.013	0.0100	72000	80000	-10.0	50.0
Alachlor	Ave	0.1521	0.1433		75300	80000	-5.8	50.0
Di-n-butyl phthalate	Ave	1.333	1.317	0.0100	79000	80000	-1.2	50.0
Fluoranthene	Ave	1.149	0.9885	0.6000	68900	80000	-13.9	50.0
Pyrene	Ave	1.355	1.561	0.6000	92200	80000	15.2	50.0
Butyl benzyl phthalate	Ave	0.6831	0.8425	0.0100	98700	80000	23.3	50.0
Benzo[a]anthracene	Ave	1.203	1.173	0.8000	78000	80000	-2.4	50.0
Chrysene	Ave	1.127	1.086	0.7000	77100	80000	-3.7	50.0
Bis(2-ethylhexyl) phthalate	Ave	0.9300	1.099	0.0100	94500	80000	18.2	50.0
Di-n-octyl phthalate	Ave	1.685	2.013	0.0100	95600	80000	19.5	50.0
Benzo[b]fluoranthene	Ave	1.224	1.124	0.7000	73500	80000	-8.1	50.0
Benzo[k]fluoranthene	Ave	1.269	1.194	0.7000	75200	80000	-6.0	50.0
Benzo[a]pyrene	Ave	1.109	1.034	0.7000	74500	80000	-6.8	50.0
Indeno[1,2,3-cd]pyrene	Ave	1.161	0.8642	0.5000	59500	80000	-25.6	50.0
Dibenz(a,h)anthracene	Ave	1.144	0.9281	0.4000	64900	80000	-18.9	50.0
Benzo[g,h,i]perylene	Ave	1.215	1.000	0.5000	65800	80000	-17.7	50.0
2-Fluorophenol (Surr)	Ave	1.320	1.334		80900	80000	1.1	50.0
Phenol-d5 (Surr)	Ave	1.681	1.647		78400	80000	-2.0	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593336/32 Calibration Date: 11/15/2022 01:49

Instrument ID: SMS_G6 Calib Start Date: 10/14/2022 17:09

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/14/2022 19:33

Lab File ID: G6_101023702.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrobenzene-d5 (Surr)	Ave	0.3716	0.3729		80300	80000	0.4	50.0
2-Fluorobiphenyl	Ave	1.183	1.113		75300	80000	-5.9	50.0
2,4,6-Tribromophenol (Surr)	Ave	0.2336	0.1607		55000	80000	-31.2	50.0
Terphenyl-d14 (Surr)	Ave	1.028	1.097		85300	80000	6.7	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-593336/32 Calibration Date: 11/15/2022 01:49

Instrument ID: SMS_G6 Calib Start Date: 10/15/2022 00:27

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 10/15/2022 02:30

Lab File ID: G6_101023702.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.1586	0.1618	0.0100	81600	80000	2.0	50.0
Atrazine	Ave	0.1826	0.1822	0.0100	79800	80000	-0.2	50.0
3,3'-Dichlorobenzidine	Ave	0.4778	0.4576	0.0100	76600	80000	-4.2	50.0

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: Y19305981.D DFTPP Injection Date: 11/15/2022

Instrument ID: SMS_Y DFTPP Injection Time: 13:42

Analysis Batch No.: 593534

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	42.2	
68	Less than 2.0 % of mass 69	0.2	(0.5) 1
69	Mass 69 relative abundance	48.4	
70	Less than 2.0 % of mass 69	0.2	(0.5) 1
127	40.0 - 60.0 % of mass 198	56.0	
197	Less than 1.0 % of mass 198	0.0	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.9	
275	10.0 - 30.0 % of mass 198	23.8	
365	Greater than 1.0 % of mass 198	2.7	
441	Present but less than mass 443	14.0	(80.3) 3
442	Greater than 40.0 % of mass 198	91.8	
443	17.0 - 23.0 % of mass 442	17.5	(19.0) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	STD004 280-593534/32	Y19305982.D	11/15/2022	13:59
	STD010 280-593534/33	Y19305983.D	11/15/2022	14:23
	STD020 280-593534/34	Y19305984.D	11/15/2022	14:49
	STD050 280-593534/35	Y19305985.D	11/15/2022	15:14
	ICIS 280-593534/36	Y19305986.D	11/15/2022	15:40
	STD120 280-593534/37	Y19305987.D	11/15/2022	16:05
	STD160 280-593534/38	Y19305988c.D	11/15/2022	16:31
	STD200 280-593534/39	Y19305989.D	11/15/2022	16:57
	ICV 280-593534/40	Y19305990.D	11/15/2022	17:22
	ICV 280-593534/41	Y19305991.D	11/15/2022	17:48

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-593534/32	Y19305982.D
Level 2	STD010 280-593534/33	Y19305983.D
Level 3	STD020 280-593534/34	Y19305984.D
Level 4	STD050 280-593534/35	Y19305985.D
Level 5	ICIS 280-593534/36	Y19305986.D
Level 6	STD120 280-593534/37	Y19305987.D
Level 7	STD160 280-593534/38	Y19305988c.D
Level 8	STD200 280-593534/39	Y19305989.D

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
1,4-Dioxane	0.7300 0.5161	0.6520 0.5610	0.8012 0.5163	0.6116	0.5616	Lin1	1.4985	0.5340			
N-Nitrosodimethylamine	0.9788 0.8637	0.9581 0.9362	1.1294 0.8788	1.0113	0.9481	Ave		0.9630			
Pyridine	1.5463 1.3777	1.4250 1.4717	1.7773 1.3516	1.6275	1.5403	Ave		1.5147			
Phenol	2.2026 1.9501	2.1246 1.9619	2.5861 1.8290	2.2321	2.1269	Ave		2.1267			
Aniline	2.5830 2.3059	2.4988 2.3376	3.0521 2.1726	2.6718	2.4961	Ave		2.5147			
Bis(2-chloroethyl)ether	1.6136 1.4304	1.5568 1.4606	1.8169 1.3990	1.6184	1.5476	Ave		1.5554			
2-Chlorophenol	1.4141 1.3169	1.3983 1.3847	1.6982 1.3630	1.5029	1.4400	Ave		1.4398			
1,3-Dichlorobenzene	1.5325 1.3652	1.4751 1.4220	1.7915 1.3737	1.5639	1.4741	Ave		1.4997			
1,4-Dichlorobenzene	1.6150 1.3790	1.4900 1.4537	1.8029 1.3878	1.5876	1.5061	Ave		1.5278			
Benzyl alcohol	1.0335 0.9988	1.0264 1.0023	1.2583 0.9714	1.1181	1.0805	Ave		1.0612			
1,2-Dichlorobenzene	1.5333 1.3286	1.4210 1.3684	1.7330 1.2987	1.5150	1.4369	Ave		1.4544			
2-Methylphenol	1.4215 1.3323	1.3816 1.3626	1.7008 1.3440	1.4929	1.4361	Ave		1.4340			
2,2'-oxybis[1-chloropropane]	1.8212 1.5491	1.7257 1.5742	2.0436 1.5305	1.8011	1.6851	Ave		1.7163			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Acetophenone	2.3009 1.9964	2.1598 2.0242	2.5578 2.0045	2.2625	2.1520	Ave		2.1822			
N-Nitrosodi-n-propylamine	1.2078 1.0896	1.1729 1.1087	1.4318 1.1107	1.2588	1.1960	Ave		1.1970			0.0500
3 & 4 Methylphenol	1.5354 1.4100	1.4896 1.4624	1.8228 1.4180	1.6100	1.5392	Ave		1.5359			
Hexachloroethane	0.6439 0.5591	0.5868 0.5842	0.7166 0.5622	0.6261	0.5993	Ave		0.6098			
Nitrobenzene	0.4632 0.3803	0.4193 0.3938	0.4812 0.3852	0.4242	0.4075	Ave		0.4193			
Isophorone	0.7809 0.7309	0.7757 0.7541	0.9285 0.7456	0.8121	0.7908	Ave		0.7898			
2-Nitrophenol	0.1611 0.1820	0.1714 0.1958	0.2130 0.1869	0.2000	0.1943	Ave		0.1881			
2,4-Dimethylphenol	0.3749 0.3466	0.3651 0.3663	0.4438 0.3533	0.3908	0.3797	Ave		0.3776			
Bis(2-chloroethoxy)methane	0.4891 0.4263	0.4685 0.4447	0.5540 0.4312	0.4799	0.4665	Ave		0.4700			
Benzoic acid	0.1303 0.3071	0.1785 0.3341	0.2683 0.3419	0.3107	0.3150	Lin2	-1.722	0.3219			
2,4-Dichlorophenol	0.2706 0.2528	0.2754 0.2703	0.3318 0.2545	0.2897	0.2804	Ave		0.2782			
1,2,4-Trichlorobenzene	0.3070 0.2593	0.2844 0.2742	0.3414 0.2623	0.3001	0.2845	Ave		0.2892			
Naphthalene	1.0719 0.9190	1.0296 0.9689	1.2234 0.9117	1.0585	1.0058	Ave		1.0236			
4-Chloroaniline	0.4398 0.4032	0.4530 0.4212	0.5286 0.3884	0.4739	0.4447	Ave		0.4441			
2,6-Dichlorophenol	0.2648 0.2458	0.2781 0.2617	0.3255 0.2413	0.2842	0.2734	Ave		0.2718			
Hexachlorobutadiene	0.1568 0.1378	0.1546 0.1500	0.1856 0.1381	0.1587	0.1529	Ave		0.1543			
Caprolactam	0.6791 0.6823	0.6751 0.7396	0.8246 0.7070	0.7445	0.7084	Ave		0.7201			
4-Chloro-3-methylphenol	0.3187 0.3158	0.3202 0.3457	0.3847 0.3163	0.3431	0.3405	Ave		0.3356			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
2-Methylnaphthalene	0.6806 0.6126	0.6639 0.6650	0.8086 0.6065	0.7003	0.6697	Ave		0.6759			
1-Methylnaphthalene	0.6471 0.5753	0.6251 0.6301	0.7715 0.5724	0.6590	0.6295	Ave		0.6388			
Hexachlorocyclopentadiene	0.2696 0.2918	0.2795 0.3114	0.3547 0.2856	0.3224	0.3191	Ave		0.3043			0.0500
1,2,4,5-Tetrachlorobenzene	0.2729 0.2322	0.2659 0.2493	0.3268 0.2268	0.2739	0.2611	Ave		0.2636			
2,4,6-Trichlorophenol	0.3237 0.3032	0.3194 0.3199	0.3925 0.2971	0.3458	0.3282	Ave		0.3287			
2,4,5-Trichlorophenol	0.3438 0.3396	0.3472 0.3558	0.4249 0.3422	0.3787	0.3600	Ave		0.3615			
1,1'-Biphenyl	1.5213 1.2127	1.4503 1.2583	1.6756 1.1391	1.4293	1.3455	Ave		1.3790			
2-Chloronaphthalene	1.1498 0.9198	1.1001 0.9556	1.2976 0.8856	1.1022	1.0288	Ave		1.0549			
2-Nitroaniline	0.3499 0.3767	0.3520 0.3976	0.4588 0.3829	0.4098	0.3953	Ave		0.3904			
Dimethyl phthalate	1.2651 1.0862	1.2301 1.1280	1.4581 1.0569	1.2675	1.1776	Ave		1.2087			
1,3-Dinitrobenzene	0.1659 0.2069	0.1859 0.2191	0.2513 0.2046	0.2304	0.2196	Ave		0.2105			
2,6-Dinitrotoluene	0.2609 0.2772	0.2783 0.2953	0.3481 0.2796	0.3097	0.2975	Ave		0.2933			
Acenaphthylene	1.8055 1.6025	1.7206 1.6778	2.0731 1.5702	1.8270	1.7288	Ave		1.7507			
3-Nitroaniline	0.2978 0.3557	0.3475 0.3791	0.4371 0.3605	0.3917	0.3794	Ave		0.3686			
Acenaphthene	1.2244 1.0099	1.1210 1.0563	1.3459 0.9847	1.1668	1.0917	Ave		1.1251			
2,4-Dinitrophenol	0.0436 0.1717	0.0730 0.1860	0.1382 0.1855	0.1536	0.1708	Lin1	-1.558	0.1843			0.0500
4-Nitrophenol	0.1218 0.1868	0.1320 0.1963	0.2050 0.1872	0.1963	0.1893	Lin2	-0.639	0.1949			0.0500
Dibenzofuran	1.6892 1.3407	1.5711 1.4054	1.8520 1.3065	1.6034	1.4748	Ave		1.5304			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
2,4-Dinitrotoluene	0.3331 0.3512	0.3688 0.3651	0.4630 0.3498	0.4072	0.3806	Ave		0.3774			
2,3,4,6-Tetrachlorophenol	0.2437 0.2813	0.2569 0.3054	0.3412 0.2909	0.3120	0.2999	Ave		0.2914			
Diethyl phthalate	1.2611 1.1662	1.2502 1.2487	1.4986 1.1743	1.3011	1.2482	Ave		1.2685			
Fluorene	1.3939 1.1626	1.3273 1.2291	1.5653 1.1426	1.3613	1.2781	Ave		1.3075			
4-Chlorophenyl phenyl ether	0.6149 0.4986	0.5701 0.5217	0.6722 0.4885	0.5750	0.5446	Ave		0.5607			
4-Nitroaniline	0.3346 0.3703	0.3564 0.3992	0.4441 0.3771	0.3995	0.3891	Ave		0.3838			
4,6-Dinitro-2-methylphenol	0.0457 0.1205	0.0749 0.1334	0.1213 0.1278	0.1242	0.1266	Lin2	-0.713	0.1295			
Diphenylamine	1.1326 1.0272	1.1014 1.1013	1.3436 1.0196	1.1703	1.0972	Ave		1.1242			
N-Nitrosodiphenylamine	0.5368 0.4887	0.5380 0.5304	0.6431 0.4962	0.5643	0.5340	Ave		0.5414			
1,2-Diphenylhydrazine	0.3461 0.3131	0.3361 0.3324	0.4028 0.3102	0.3476	0.3391	Ave		0.3409			
Azobenzene	1.5432 1.4343	1.5198 1.5262	1.8268 1.4224	1.6215	1.5405	Ave		1.5543			
4-Bromophenyl phenyl ether	0.1972 0.1775	0.2003 0.1929	0.2336 0.1827	0.2074	0.1986	Ave		0.1988			
Hexachlorobenzene	0.2376 0.1978	0.2290 0.2102	0.2638 0.2022	0.2291	0.2205	Ave		0.2238			
Atrazine	0.1771 0.1732	0.1848 0.1869	0.2171 0.1762	0.1972	0.1875	Ave		0.1875			
Pentachlorophenol	0.0839 0.1250	0.0977 0.1356	0.1354 0.1336	0.1359	0.1354	Lin2	-0.440	0.1352			
Phenanthrene	1.1313 0.9437	1.1097 1.0080	1.2851 0.9419	1.1077	1.0452	Ave		1.0716			
Anthracene	1.0837 0.9692	1.0983 1.0445	1.3085 0.9734	1.1366	1.0671	Ave		1.0852			
Carbazole	1.0941 0.9694	1.0732 1.0432	1.2951 0.9780	1.1295	1.0575	Ave		1.0800			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Alachlor	0.1175 0.1281	0.1268 0.1390	0.1639 0.1286	0.1454	0.1385	Ave		0.1360			
Di-n-butyl phthalate	1.2145 1.1834	1.1917 1.2775	1.4986 1.1762	1.3509	1.2914	Ave		1.2730			
Fluoranthene	1.1292 1.0278	1.0849 1.0972	1.3288 1.0220	1.1851	1.1108	Ave		1.1232			
Pyrene	1.2299 1.1146	1.2203 1.2170	1.4511 1.1677	1.2724	1.2306	Ave		1.2380			
Butyl benzyl phthalate	0.4972 0.5821	0.4867 0.6542	0.6286 0.6309	0.6097	0.6214	Ave		0.5888			
Benzo[a]anthracene	1.0839 1.0970	1.0349 1.2214	1.2995 1.1831	1.1862	1.1743	Ave		1.1600			
3,3'-Dichlorobenzidine	0.4155 0.4220	0.4117 0.4619	0.5223 0.4347	0.4737	0.4618	Ave		0.4504			
Chrysene	1.2285 1.1053	1.1762 1.2203	1.4074 1.1811	1.2447	1.1936	Ave		1.2196			
Bis(2-ethylhexyl) phthalate	0.6511 0.8163	0.6002 0.9169	0.8405 0.8890	0.8295	0.8673	Ave		0.8013			
Di-n-octyl phthalate	0.8188 1.4035	0.7964 1.6134	1.1820 1.5986	1.3163	1.4333	Lin1	-5.057	1.5560			
Benzo[b]fluoranthene	0.6911 1.0711	0.7665 1.2077	1.1300 1.1841	1.1285	1.0909	Lin2	-2.050	1.1496			
Benzo[k]fluoranthene	1.0888 1.2464	1.3263 1.3627	1.6488 1.2954	1.4742	1.3907	Ave		1.3542			
Benzo[a]pyrene	0.8399 1.0830	0.8873 1.1983	1.2178 1.1345	1.1458	1.1611	Ave		1.0835			
Indeno[1,2,3-cd]pyrene	0.4910 0.9075	0.5583 1.0564	0.8191 1.0863	0.8497	0.9461	Lin1	-3.408	1.0319			
Dibenz(a,h)anthracene	0.4902 0.9755	0.6093 1.0924	0.9106 1.0540	0.9853	1.0370	Lin2	-2.441	1.0322			
Benzo[g,h,i]perylene	0.8553 1.0281	0.8282 1.1684	1.1715 1.1172	1.1031	1.1420	Ave		1.0517			
2-Fluorophenol (Surr)	1.5909 1.4527	1.5055 1.5170	1.8299 1.4207	1.6259	1.5578	Ave		1.5625			
Phenol-d5 (Surr)	2.1015 1.9897	2.0855 2.0229	2.5478 1.8850	2.2443	2.1445	Ave		2.1277			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	RRF					CURVE TYPE	COEFFICIENT			#	MIN RRF
	LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5		B	M1	M2		
Nitrobenzene-d5 (Surr)	0.4484 0.4272	0.4450 0.4383	0.5375 0.4334	0.4739	0.4543	Ave		0.4573			
2-Fluorobiphenyl	1.3928 1.1844	1.3593 1.2422	1.5972 1.1559	1.3596	1.3002	Ave		1.3240			
2,4,6-Tribromophenol (Surr)	0.1737 0.1946	0.1721 0.2098	0.2302 0.1977	0.2098	0.2040	Ave		0.1990			
Terphenyl-d14 (Surr)	0.9863 0.9533	1.0014 1.0517	1.1980 1.0159	1.0626	1.0447	Ave		1.0392			

Note: The M1 coefficient is the same as Ave RRF for an Ave curve type.

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD004 280-593534/32	Y19305982.D
Level 2	STD010 280-593534/33	Y19305983.D
Level 3	STD020 280-593534/34	Y19305984.D
Level 4	STD050 280-593534/35	Y19305985.D
Level 5	ICIS 280-593534/36	Y19305986.D
Level 6	STD120 280-593534/37	Y19305987.D
Level 7	STD160 280-593534/38	Y19305988c.D
Level 8	STD200 280-593534/39	Y19305989.D

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
1,4-Dioxane	DCBd 4	Lin1	6971 174481	17063 218043	38931 274822	75889	121817	4.00 120	10 1
N-Nitrosodimethylamine	DCBd 4	Ave	9346 292017	25074 363874	54878 467839	125480	205647	4.00 120	10 1
Pyridine	DCBd 4	Ave	29531 931561	74584 1144066	172722 1439023	403870	668175	8.00 240	20 3
Phenol	DCBd 4	Ave	21032 659320	55598 762575	125663 973638	276963	461316	4.00 120	10 1
Aniline	DCBd 4	Ave	24665 779598	65393 908604	148308 1156555	331517	541394	4.00 120	10 1
Bis(2-chloroethyl)ether	DCBd 4	Ave	15408 483594	40739 567694	88289 744751	200817	335664	4.00 120	10 1
2-Chlorophenol	DCBd 4	Ave	13503 445247	36593 538230	82518 725593	186482	312333	4.00 120	10 1
1,3-Dichlorobenzene	DCBd 4	Ave	14634 461552	38601 552705	87051 731283	194049	319729	4.00 120	10 1
1,4-Dichlorobenzene	DCBd 4	Ave	15421	38992	87607	196987	326666	4.00	10

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			466243	565049	738749			120	1
Benzyl alcohol	DCBd 4	Ave	9869 337676	26860 389587	61143 517084	138739	234369	4.00 120	10 1
1,2-Dichlorobenzene	DCBd 4	Ave	14641 449178	37186 531889	84211 691335	187981	311666	4.00 120	10 1
2-Methylphenol	DCBd 4	Ave	13574 450423	36155 529629	82643 715470	185237	311489	4.00 120	10 1
2,2'-oxybis[1-chloropropane]	DCBd 4	Ave	17390 523741	45160 611876	99305 814759	223480	365497	4.00 120	10 1
Acetophenone	DCBd 4	Ave	21971 674953	56521 786756	124288 1067080	280727	466761	4.00 120	10 1
N-Nitrosodi-n-propylamine	DCBd 4	Ave	11533 368378	30693 430936	69572 591283	156192	259405	4.00 120	10 1
3 & 4 Methylphenol	DCBd 4	Ave	14661 476698	38983 568404	88573 754832	199775	333856	4.00 120	10 1
Hexachloroethane	DCBd 4	Ave	6149 189030	15357 227055	34821 299283	77691	129982	4.00 120	10 1
Nitrobenzene	NPT	Ave	18216 535211	44710 627935	95974 854798	217537	365102	4.00 120	10 1
Isophorone	NPT	Ave	30712 1028541	82721 1202262	185176 1654635	416471	708591	4.00 120	10 1
2-Nitrophenol	NPT	Ave	6335 256086	18277 312137	42485 414653	102585	174121	4.00 120	10 1
2,4-Dimethylphenol	NPT	Ave	14746 487797	38930 583937	88504 783941	200439	340189	4.00 120	10 1
Bis(2-chloroethoxy)methane	NPT	Ave	19237 599925	49956 708988	110481 956932	246123	418011	4.00 120	10 1
Benzoic acid	NPT	Lin2	10249	38061	107028	318737	564557	8.00	20

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
			864400	1065280	1517423			240	3
2,4-Dichlorophenol	NPT	Ave	10643 355803	29365 430924	66169 564713	148595	251219	4.00 120	10 1
1,2,4-Trichlorobenzene	NPT	Ave	12074 364904	30323 437227	68081 582057	153922	254967	4.00 120	10 1
Naphthalene	NPT	Ave	42156 1293265	109795 1544703	243996 2023288	542854	901286	4.00 120	10 1
4-Chloroaniline	NPT	Ave	17299 567403	48305 671535	105418 861985	243026	398508	4.00 120	10 1
2,6-Dichlorophenol	NPT	Ave	10413 345840	29655 417256	64921 535386	145769	245012	4.00 120	10 1
Hexachlorobutadiene	NPT	Ave	6166 193958	16491 239075	37014 306546	81375	137041	4.00 120	10 1
Caprolactam	DCBd 4	Ave	6485 230692	17667 287455	40068 376365	92377	153652	4.00 120	10 1
4-Chloro-3-methylphenol	NPT	Ave	12536 444395	34149 551183	76727 702023	175977	305103	4.00 120	10 1
2-Methylnaphthalene	NPT	Ave	26770 862045	70794 1060284	161262 1345854	359171	600064	4.00 120	10 1
1-Methylnaphthalene	NPT	Ave	25450 809597	66662 1004676	153860 1270311	337983	564060	4.00 120	10 1
Hexachlorocyclopentadiene	ANT	Ave	5899 237355	17034 296541	40848 372064	96118	167105	4.00 120	10 1
1,2,4,5-Tetrachlorobenzene	NPT	Ave	10732 326782	28360 397401	65181 503209	140467	233947	4.00 120	10 1
2,4,6-Trichlorophenol	ANT	Ave	7083 246617	19465 304665	45202 386964	103099	171859	4.00 120	10 1
2,4,5-Trichlorophenol	ANT	Ave	7523 276266	21162 338839	48937 445707	112900	188527	4.00 120	10 1
1,1'-Biphenyl	ANT	Ave	33286 986454	88396 1198203	192978 1483765	426147	704633	4.00 120	10 1
2-Chloronaphthalene	ANT	Ave	25158 748184	67053 910039	149448 1153550	328619	538762	4.00 120	10 1
2-Nitroaniline	ANT	Ave	7656 306434	21455 378627	52846 498772	122185	207043	4.00 120	10 1

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
Dimethyl phthalate	ANT	Ave	27681 883572	74976 1074147	167927 1376763	377925	616690	4.00 120	10 1
1,3-Dinitrobenzene	ANT	Ave	3631 168298	11331 208645	28946 266561	68695	115011	4.00 120	10 1
2,6-Dinitrotoluene	ANT	Ave	5709 225449	16960 281212	40096 364212	92330	155781	4.00 120	10 1
Acenaphthylene	ANT	Ave	39505 1303527	104871 1597718	238766 2045286	544720	905385	4.00 120	10 1
3-Nitroaniline	ANT	Ave	6515 289325	21181 361025	50342 469645	116783	198700	4.00 120	10 1
Acenaphthene	ANT	Ave	26791 821437	68327 1005896	155008 1282601	347877	571717	4.00 120	10 1
2,4-Dinitrophenol	ANT	Lin1	1906 279327	8895 354156	31828 483162	91618	178916	8.00 240	20 3
4-Nitrophenol	ANT	Lin2	5330 303884	16090 373832	47212 487617	117057	198233	8.00 240	20 3
Dibenzofuran	ANT	Ave	36960 1090562	95756 1338294	213299 1701772	478075	772326	4.00 120	10 1
2,4-Dinitrotoluene	ANT	Ave	7288 285688	22478 347718	53330 455676	121409	199315	4.00 120	10 1
2,3,4,6-Tetrachlorophenol	ANT	Ave	5332 228829	15655 290863	39294 378922	93031	157036	4.00 120	10 1
Diethyl phthalate	ANT	Ave	27594 948631	76199 1189092	172594 1529567	387935	653659	4.00 120	10 1
Fluorene	ANT	Ave	30498 945672	80901 1170431	180279 1488350	405887	669315	4.00 120	10 1
4-Chlorophenyl phenyl ether	ANT	Ave	13455 405601	34745 496840	77416 636289	171433	285208	4.00 120	10 1
4-Nitroaniline	ANT	Ave	7322 301194	21724 380195	51144 491217	119116	203766	4.00 120	10 1
4,6-Dinitro-2-methylphenol	PHN	Lin2	3589 350269	15895 448506	49620 581697	130556	231523	8.00 240	20 3
Diphenylamine	ANT	Ave	21065 710203	57058 891442	131533 1128939	296597	488433	3.40 102	8. 1
N-Nitrosodiphenylamine	PHN	Ave	21065 710203	57058 891442	131533 1128939	296597	488433	4.00 120	10 1

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
1,2-Diphenylhydrazine	ANT	Ave	7656 257490	20708 320036	46895 408561	104775	179561	4.04 121	10 1
Azobenzene	ANT	Ave	33765 1166731	92630 1453329	210397 1852804	483476	806779	4.00 120	10 1
4-Bromophenyl phenyl ether	PHN	Ave	7741 257998	21246 324172	47774 415724	109005	181631	4.00 120	10 1
Hexachlorobenzene	PHN	Ave	9325 287431	24291 353372	53944 459911	120407	201679	4.00 120	10 1
Atrazine	PHN	Ave	6950 251684	19602 314210	44403 400916	103627	171493	4.00 120	10 1
Pentachlorophenol	PHN	Lin2	6589 363422	20726 455826	55370 607751	142899	247668	8.00 240	20 3
Phenanthrene	PHN	Ave	44398 1371405	117697 1694267	262825 2142871	582158	956089	4.00 120	10 1
Anthracene	PHN	Ave	42531 1408473	116489 1755518	267604 2214501	597361	976091	4.00 120	10 1
Carbazole	PHN	Ave	42937 1408814	113834 1753475	264865 2224978	593631	967367	4.00 120	10 1
Alachlor	PHN	Ave	4610 186177	13449 233554	33512 292577	76419	126737	4.00 120	10 1
Di-n-butyl phthalate	PHN	Ave	47663 1719819	126399 2147190	306482 2675996	709966	1181338	4.00 120	10 1
Fluoranthene	PHN	Ave	44315 1493566	115065 1844252	271762 2325185	622852	1016124	4.00 120	10 1
Pyrene	CRY	Ave	47907 1585448	127162 1960634	296523 2470507	672897	1089409	4.00 120	10 1
Butyl benzyl phthalate	CRY	Ave	19368 827979	50710 1053962	128446 1334812	322447	550102	4.00 120	10 1
Benzo[a]anthracene	CRY	Ave	42220 1560378	107838 1967698	265546 2503124	627312	1039575	4.00 120	10 1
3,3'-Dichlorobenzidine	CRY	Ave	16185 600274	42904 744066	106726 919761	250498	408808	4.00 120	10 1
Chrysene	CRY	Ave	47853 1572163	122563 1965921	287596 2498883	658280	1056683	4.00 120	10 1
Bis(2-ethylhexyl) phthalate	CRY	Ave	25361 1161093	62539 1477050	171745 1880813	438707	767840	4.00 120	10 1

FORM VI
GC/MS SEMI VOA BY INTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm) Heated

Calibration Start Date: 11/15/2022 13:59 Calibration End Date: 11/15/2022 16:57 Calibra

ANALYTE	IS REF	CURVE TYPE	RESPONSE					CON	
			LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
Di-n-octyl phthalate	CRY	Lin1	31894 1996298	82986 2599203	241539 3382090	696114	1268872	4.00 120	10 1
Benzo[b]fluoranthene	PRY	Lin2	28204 1572395	79484 2019335	227841 2602625	595647	999524	4.00 120	10 1
Benzo[k]fluoranthene	PRY	Ave	44436 1829689	137538 2278533	332432 2847306	778087	1274145	4.00 120	10 1
Benzo[a]pyrene	PRY	Ave	34275 1589882	92012 2003662	245540 2493719	604747	1063821	4.00 120	10 1
Indeno[1,2,3-cd]pyrene	CRY	Lin1	19126 1290838	58180 1701844	167373 2298321	449378	837565	4.00 120	10 1
Dibenz(a,h)anthracene	PRY	Lin2	20005 1432086	63178 1826622	183608 2316676	520045	950108	4.00 120	10 1
Benzo[g,h,i]perylene	PRY	Ave	34907 1509274	85885 1953638	236195 2455700	582227	1046340	4.00 120	10 1
2-Fluorophenol (Surr)	DCBd 4	Ave	15191 491156	39397 589631	88917 756281	201747	337890	4.00 120	10 1
Phenol-d5 (Surr)	DCBd 4	Ave	20067 672716	54576 786283	123805 1003471	278472	465133	4.00 120	10 1
Nitrobenzene-d5 (Surr)	NPT	Ave	17637 601241	47457 698850	107204 961750	243065	407067	4.00 120	10 1
2-Fluorobiphenyl	ANT	Ave	30475 963439	82846 1182949	183956 1505605	405384	680917	4.00 120	10 1
2,4,6-Tribromophenol (Surr)	ANT	Ave	3801 158328	10487 199817	26508 257545	62543	106814	4.00 120	10 1
Terphenyl-d14 (Surr)	CRY	Ave	38419 1356050	104349 1694243	244796 2149332	561989	924828	4.00 120	10 1

Curve Type Legend
Ave = Average ISTD
Lin1 = Linear 1/conc ISTD
Lin2 = Linear 1/conc^2 ISTD

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-593534/40 | Calibration Date: 11/15/2022 17:22

Instrument ID: SMS_Y | Calib Start Date: 11/02/2022 20:34

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/02/2022 23:07

Lab File ID: Y19305990.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Benzaldehyde	Ave	1.155	0.9295	0.0100	78900	100000	-19.5	20.0
Benzidine	Ave	0.6610	0.6332		96600	100000	-4.2	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-593534/40 Calibration Date: 11/15/2022 17:22

Instrument ID: SMS_Y Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/15/2022 16:57

Lab File ID: Y19305990.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.5157		93800	100000	-6.2	20.0
N-Nitrosodimethylamine	Ave	0.9630	0.8574		89000	100000	-11.0	20.0
Pyridine	Ave	1.515	1.357		179000	200000	-10.4	20.0
Aniline	Ave	2.515	2.215		88100	100000	-11.9	20.0
Phenol	Ave	2.127	1.876	0.8000	88200	100000	-11.8	20.0
Bis(2-chloroethyl)ether	Ave	1.555	1.370	0.7000	88100	100000	-11.9	20.0
2-Chlorophenol	Ave	1.440	1.310	0.8000	91000	100000	-9.0	20.0
1,3-Dichlorobenzene	Ave	1.500	1.349		90000	100000	-10.0	20.0
1,4-Dichlorobenzene	Ave	1.528	1.368		89500	100000	-10.5	20.0
Benzyl alcohol	Ave	1.061	0.9439		88900	100000	-11.1	20.0
1,2-Dichlorobenzene	Ave	1.454	1.313		90300	100000	-9.7	20.0
2-Methylphenol	Ave	1.434	1.286	0.7000	89700	100000	-10.3	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.716	1.482	0.0100	86300	100000	-13.7	20.0
Acetophenone	Ave	2.182	1.938	0.0100	88800	100000	-11.2	20.0
N-Nitrosodi-n-propylamine	Ave	1.197	1.034	0.5000	86400	100000	-13.6	20.0
3 & 4 Methylphenol	Ave	1.536	1.383		90100	100000	-9.9	20.0
Hexachloroethane	Ave	0.6098	0.5526	0.3000	90600	100000	-9.4	20.0
Nitrobenzene	Ave	0.4193	0.3671	0.2000	87600	100000	-12.4	20.0
Isophorone	Ave	0.7898	0.6972	0.4000	88300	100000	-11.7	20.0
2-Nitrophenol	Ave	0.1881	0.1798	0.1000	95600	100000	-4.4	20.0
2,4-Dimethylphenol	Ave	0.3776	0.3443	0.2000	91200	100000	-8.8	20.0
Bis(2-chloroethoxy)methane	Ave	0.4700	0.4152	0.3000	88300	100000	-11.7	20.0
Benzoic acid	Lin2		0.2857		183000	200000	-8.6	20.0
2,4-Dichlorophenol	Ave	0.2782	0.2582	0.2000	92800	100000	-7.2	20.0
1,2,4-Trichlorobenzene	Ave	0.2892	0.2672		92400	100000	-7.6	20.0
Naphthalene	Ave	1.024	0.9209	0.7000	90000	100000	-10.0	20.0
4-Chloroaniline	Ave	0.4441	0.4038	0.0100	90900	100000	-9.1	20.0
2,6-Dichlorophenol	Ave	0.2718	0.2516		92600	100000	-7.4	20.0
Hexachlorobutadiene	Ave	0.1543	0.1416	0.0100	91700	100000	-8.3	20.0
Caprolactam	Ave	0.7201	0.6288	0.0100	87300	100000	-12.7	20.0
4-Chloro-3-methylphenol	Ave	0.3356	0.3049	0.2000	90800	100000	-9.2	20.0
2-Methylnaphthalene	Ave	0.6759	0.6070	0.4000	89800	100000	-10.2	20.0
1-Methylnaphthalene	Ave	0.6388	0.5804		90900	100000	-9.1	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2636	0.2353	0.0100	89300	100000	-10.7	20.0
Hexachlorocyclopentadiene	Ave	0.3043	0.2986	0.0500	98100	100000	-1.9	20.0
2,4,6-Trichlorophenol	Ave	0.3287	0.3110	0.2000	94600	100000	-5.4	20.0
2,4,5-Trichlorophenol	Ave	0.3615	0.3400	0.2000	94100	100000	-5.9	20.0
1,1'-Biphenyl	Ave	1.379	1.241	0.0100	90000	100000	-10.0	20.0
2-Chloronaphthalene	Ave	1.055	0.9415	0.8000	89200	100000	-10.8	20.0
2-Nitroaniline	Ave	0.3904	0.3518	0.0100	90100	100000	-9.9	20.0
Dimethyl phthalate	Ave	1.209	1.091	0.0100	90300	100000	-9.7	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-593534/40 Calibration Date: 11/15/2022 17:22

Instrument ID: SMS_Y Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/15/2022 16:57

Lab File ID: Y19305990.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,3-Dinitrobenzene	Ave	0.2105	0.2048		97300	100000	-2.7	20.0
2,6-Dinitrotoluene	Ave	0.2933	0.2767	0.2000	94300	100000	-5.7	20.0
Acenaphthylene	Ave	1.751	1.594	0.9000	91100	100000	-8.9	20.0
3-Nitroaniline	Ave	0.3686	0.3492	0.0100	94700	100000	-5.3	20.0
Acenaphthene	Ave	1.125	1.014	0.9000	90200	100000	-9.8	20.0
2,4-Dinitrophenol	Lin1		0.1673	0.0100	190000	200000	-5.0	20.0
4-Nitrophenol	Lin2		0.1749	0.0100	183000	200000	-8.6	20.0
Dibenzofuran	Ave	1.530	1.361	0.8000	88900	100000	-11.1	20.0
2,4-Dinitrotoluene	Ave	0.3774	0.3530	0.2000	93600	100000	-6.4	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.2914	0.2776	0.0100	95300	100000	-4.7	20.0
Diethyl phthalate	Ave	1.269	1.156	0.0100	91200	100000	-8.8	20.0
Fluorene	Ave	1.308	1.168	0.9000	89300	100000	-10.7	20.0
4-Chlorophenyl phenyl ether	Ave	0.5607	0.5052	0.4000	90100	100000	-9.9	20.0
4-Nitroaniline	Ave	0.3838	0.3596	0.0100	93700	100000	-6.3	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1199	0.0100	191000	200000	-4.6	20.0
Diphenylamine	Ave	1.124	1.020		77100	85000	-9.3	20.0
N-Nitrosodiphenylamine	Ave	0.5414	0.4977	0.0100	91900	100000	-8.1	20.0
1,2-Diphenylhydrazine	Ave	0.3409	0.3088		91600	101000	-9.4	20.0
Azobenzene	Ave	1.554	1.365		87800	100000	-12.2	20.0
4-Bromophenyl phenyl ether	Ave	0.1988	0.1782	0.1000	89600	100000	-10.4	20.0
Hexachlorobenzene	Ave	0.2238	0.2024	0.1000	90500	100000	-9.5	20.0
Atrazine	Ave	0.1875	0.1711	0.0100	91300	100000	-8.7	20.0
Pentachlorophenol	Lin2		0.1271	0.0500	191000	200000	-4.4	20.0
Phenanthrene	Ave	1.072	0.9599	0.7000	89600	100000	-10.4	20.0
Anthracene	Ave	1.085	0.998	0.7000	92000	100000	-8.0	20.0
Carbazole	Ave	1.080	0.9850	0.0100	91200	100000	-8.8	20.0
Di-n-butyl phthalate	Ave	1.273	1.205	0.0100	94600	100000	-5.4	20.0
Fluoranthene	Ave	1.123	1.040	0.6000	92600	100000	-7.4	20.0
Pyrene	Ave	1.238	1.163	0.6000	94000	100000	-6.0	20.0
Butyl benzyl phthalate	Ave	0.5888	0.5963	0.0100	101000	100000	1.3	20.0
Benzo[a]anthracene	Ave	1.160	1.108	0.8000	95500	100000	-4.5	20.0
3,3'-Dichlorobenzidine	Ave	0.4504	0.4355	0.0100	96700	100000	-3.3	20.0
Chrysene	Ave	1.220	1.122	0.7000	92000	100000	-8.0	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.8013	0.8291	0.0100	103000	100000	3.5	20.0
Di-n-octyl phthalate	Lin1		1.396	0.0100	93000	100000	-7.0	20.0
Benzo[b]fluoranthene	Lin2		1.070	0.7000	94900	100000	-5.1	20.0
Benzo[k]fluoranthene	Ave	1.354	1.258	0.7000	92900	100000	-7.1	20.0
Benzo[a]pyrene	Ave	1.083	1.030	0.7000	95100	100000	-4.9	20.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9196	0.5000	92400	100000	-7.6	20.0
Dibenz(a,h)anthracene	Lin2		0.9916	0.4000	98400	100000	-1.6	20.0
Benzo[g,h,i]perylene	Ave	1.052	1.060	0.5000	101000	100000	0.8	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-593534/41 Calibration Date: 11/15/2022 17:48

Instrument ID: SMS_Y Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/15/2022 16:57

Lab File ID: Y19305991.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Alachlor	Ave	0.1360	0.1290		94900	100000	-5.1	20.0

FORM V
GC/MS SEMI VOA INSTRUMENT PERFORMANCE CHECK
DECAFLUOROTRIPHENYLPHOSPHINE (DFTPP)

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: Y19306461.D DFTPP Injection Date: 11/28/2022

Instrument ID: SMS_Y DFTPP Injection Time: 11:01

Analysis Batch No.: 594711

M/E	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE	
51	30.0 - 60.0 % of mass 198	34.8	
68	Less than 2.0 % of mass 69	0.7	(1.5) 1
69	Mass 69 relative abundance	44.0	
70	Less than 2.0 % of mass 69	0.3	(0.6) 1
127	40.0 - 60.0 % of mass 198	55.0	
197	Less than 1.0 % of mass 198	0.3	
198	Base Peak, 100 % relative abundance	100.0	
199	5.0- 9.0 % of mass 198	6.8	
275	10.0 - 30.0 % of mass 198	25.9	
365	Greater than 1.0 % of mass 198	4.1	
441	Present but less than mass 443	18.1	(79.7) 3
442	Greater than 40.0 % of mass 198	120.2	
443	17.0 - 23.0 % of mass 442	22.7	(18.9) 2

1-Value is % mass 69 2-Value is % mass 442 3-Value is % mass 443

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, MSD, BLANKS AND STANDARDS:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
	CCV 280-594711/2	Y19306462.D	11/28/2022	11:12
	MB 280-593019/1-A	Y19306466.D	11/28/2022	12:54
	LCS 280-593019/2-A	Y19306467.D	11/28/2022	13:20
X3-SS-CO6-0006	280-168718-9	Y19306477.D	11/28/2022	17:41
X3-SS-CO6-0006 MS	280-168718-9 MS	Y19306478.D	11/28/2022	18:07
X3-SS-CO6-0006 MSD	280-168718-9 MSD	Y19306479.D	11/28/2022	18:33
X7-SS-C01-0006	280-168718-10	Y19306480.D	11/28/2022	18:59
X7B-SS-C01-0006	280-168718-11	Y19306481.D	11/28/2022	19:25
X7-TP-C01-5460	280-168718-12	Y19306482.D	11/28/2022	19:51
X7-TP-C02-3648	280-168718-13	Y19306483.D	11/28/2022	20:17
X7-TP-C03-4248	280-168718-14	Y19306484.D	11/28/2022	20:43
X7-TP-C04-4248	280-168718-15	Y19306485.D	11/28/2022	21:08
X3-SS-C07-0006	280-168718-16	Y19306486.D	11/28/2022	21:34
X3-SS-C08-0006	280-168718-17	Y19306487.D	11/28/2022	22:00
	CCVC 280-594711/30	Y19306488.D	11/28/2022	22:26

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594711/2 | Calibration Date: 11/28/2022 11:12

Instrument ID: SMS_Y | Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/15/2022 16:57

Lab File ID: Y19306462.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.5826		84500	80000	5.6	20.0
N-Nitrosodimethylamine	Ave	0.9630	0.9248		76800	80000	-4.0	20.0
Pyridine	Ave	1.515	1.445		153000	160000	-4.6	20.0
Aniline	Ave	2.515	2.571		81800	80000	2.2	20.0
Phenol	Ave	2.127	2.292	0.8000	86200	80000	7.8	20.0
Bis(2-chloroethyl)ether	Ave	1.555	1.590	0.7000	81800	80000	2.2	20.0
2-Chlorophenol	Ave	1.440	1.475	0.8000	82000	80000	2.5	20.0
1,3-Dichlorobenzene	Ave	1.500	1.541		82200	80000	2.7	20.0
1,4-Dichlorobenzene	Ave	1.528	1.591		83300	80000	4.2	20.0
Benzyl alcohol	Ave	1.061	1.129		85100	80000	6.4	20.0
1,2-Dichlorobenzene	Ave	1.454	1.489		81900	80000	2.4	20.0
2-Methylphenol	Ave	1.434	1.500	0.7000	83700	80000	4.6	20.0
2,2'-oxybis[1-chloropropane]	Ave	1.716	1.355	0.0100	63100	80000	-21.1*	20.0
Acetophenone	Ave	2.182	2.351	0.0100	86200	80000	7.7	20.0
N-Nitrosodi-n-propylamine	Ave	1.197	1.217	0.5000	81300	80000	1.6	20.0
3 & 4 Methylphenol	Ave	1.536	1.607		83700	80000	4.6	20.0
Hexachloroethane	Ave	0.6098	0.6478	0.3000	85000	80000	6.2	20.0
Nitrobenzene	Ave	0.4193	0.4230	0.2000	80700	80000	0.9	20.0
Isophorone	Ave	0.7898	0.8180	0.4000	82900	80000	3.6	20.0
2-Nitrophenol	Ave	0.1881	0.1856	0.1000	79000	80000	-1.3	20.0
2,4-Dimethylphenol	Ave	0.3776	0.4126	0.2000	87400	80000	9.3	20.0
Bis(2-chloroethoxy)methane	Ave	0.4700	0.4674	0.3000	79600	80000	-0.6	20.0
Benzoic acid	Lin2		0.2893		149000	160000	-6.8	20.0
2,4-Dichlorophenol	Ave	0.2782	0.2914	0.2000	83800	80000	4.7	20.0
1,2,4-Trichlorobenzene	Ave	0.2892	0.2957		81800	80000	2.3	20.0
Naphthalene	Ave	1.024	1.042	0.7000	81400	80000	1.8	20.0
4-Chloroaniline	Ave	0.4441	0.4655	0.0100	83900	80000	4.8	20.0
2,6-Dichlorophenol	Ave	0.2718	0.2796		82300	80000	2.8	20.0
Hexachlorobutadiene	Ave	0.1543	0.1614	0.0100	83700	80000	4.6	20.0
4-Chloro-3-methylphenol	Ave	0.3356	0.3696	0.2000	88100	80000	10.1	20.0
2-Methylnaphthalene	Ave	0.6759	0.6983	0.4000	82700	80000	3.3	20.0
1-Methylnaphthalene	Ave	0.6388	0.6665		83500	80000	4.3	20.0
Hexachlorocyclopentadiene	Ave	0.3043	0.3184	0.0500	83700	80000	4.6	20.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2636	0.2763	0.0100	83900	80000	4.8	20.0
2,4,6-Trichlorophenol	Ave	0.3287	0.3456	0.2000	84100	80000	5.1	20.0
2,4,5-Trichlorophenol	Ave	0.3615	0.3740	0.2000	82800	80000	3.4	20.0
1,1'-Biphenyl	Ave	1.379	1.469	0.0100	85200	80000	6.5	20.0
2-Chloronaphthalene	Ave	1.055	1.123	0.8000	85200	80000	6.5	20.0
2-Nitroaniline	Ave	0.3904	0.4008	0.0100	82100	80000	2.7	20.0
Dimethyl phthalate	Ave	1.209	1.325	0.0100	87700	80000	9.7	20.0
1,3-Dinitrobenzene	Ave	0.2105	0.2304		87600	80000	9.4	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594711/2 | Calibration Date: 11/28/2022 11:12

Instrument ID: SMS_Y | Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/15/2022 16:57

Lab File ID: Y19306462.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.2933	0.3123	0.2000	85200	80000	6.5	20.0
Acenaphthylene	Ave	1.751	1.816	0.9000	83000	80000	3.7	20.0
3-Nitroaniline	Ave	0.3686	0.4067	0.0100	88300	80000	10.3	20.0
Acenaphthene	Ave	1.125	1.180	0.9000	83900	80000	4.9	20.0
2,4-Dinitrophenol	Lin1		0.1447	0.0100	134000	160000	-16.2	20.0
4-Nitrophenol	Lin2		0.2627	0.0100	219000	160000	36.8*	20.0
Dibenzofuran	Ave	1.530	1.598	0.8000	83500	80000	4.4	20.0
2,4-Dinitrotoluene	Ave	0.3774	0.4257	0.2000	90200	80000	12.8	20.0
2,3,4,6-Tetrachlorophenol	Ave	0.2914	0.3019	0.0100	82900	80000	3.6	20.0
Diethyl phthalate	Ave	1.269	1.407	0.0100	88800	80000	10.9	20.0
Fluorene	Ave	1.308	1.365	0.9000	83500	80000	4.4	20.0
4-Chlorophenyl phenyl ether	Ave	0.5607	0.5679	0.4000	81000	80000	1.3	20.0
4-Nitroaniline	Ave	0.3838	0.4206	0.0100	87700	80000	9.6	20.0
4,6-Dinitro-2-methylphenol	Lin2		0.1200	0.0100	154000	160000	-3.9	20.0
Diphenylamine	Ave	1.124	1.172		70900	68000	4.3	20.0
N-Nitrosodiphenylamine	Ave	0.5414	0.5732	0.0100	84700	80000	5.9	20.0
1,2-Diphenylhydrazine	Ave	0.3409	0.3427		81300	80900	0.5	20.0
Azobenzene	Ave	1.554	1.674		86200	80000	7.7	20.0
4-Bromophenyl phenyl ether	Ave	0.1988	0.2116	0.1000	85200	80000	6.5	20.0
Hexachlorobenzene	Ave	0.2238	0.2405	0.1000	86000	80000	7.5	20.0
Pentachlorophenol	Lin2		0.1456	0.0500	176000	160000	9.7	20.0
Phenanthrene	Ave	1.072	1.130	0.7000	84400	80000	5.4	20.0
Anthracene	Ave	1.085	1.191	0.7000	87800	80000	9.8	20.0
Carbazole	Ave	1.080	1.146	0.0100	84900	80000	6.1	20.0
Alachlor	Ave	0.1360	0.1595		93900	80000	17.3	20.0
Di-n-butyl phthalate	Ave	1.273	1.436	0.0100	90200	80000	12.8	20.0
Fluoranthene	Ave	1.123	1.230	0.6000	87600	80000	9.5	20.0
Pyrene	Ave	1.238	1.240	0.6000	80100	80000	0.2	20.0
Butyl benzyl phthalate	Ave	0.5888	0.6237	0.0100	84700	80000	5.9	20.0
Benzo[a]anthracene	Ave	1.160	1.173	0.8000	80900	80000	1.1	20.0
Chrysene	Ave	1.220	1.242	0.7000	81400	80000	1.8	20.0
Bis(2-ethylhexyl) phthalate	Ave	0.8013	0.8429	0.0100	84200	80000	5.2	20.0
Di-n-octyl phthalate	Lin1		1.389	0.0100	74700	80000	-6.7	20.0
Benzo[b]fluoranthene	Lin2		1.114	0.7000	79300	80000	-0.8	20.0
Benzo[k]fluoranthene	Ave	1.354	1.480	0.7000	87500	80000	9.3	20.0
Benzo[a]pyrene	Ave	1.083	1.255	0.7000	92700	80000	15.9	20.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9435	0.5000	76400	80000	-4.4	20.0
Dibenz(a,h)anthracene	Lin2		1.092	0.4000	87000	80000	8.7	20.0
Benzo[g,h,i]perylene	Ave	1.052	1.248	0.5000	95000	80000	18.7	20.0
2-Fluorophenol (Surr)	Ave	1.563	1.527		78200	80000	-2.2	20.0
Phenol-d5 (Surr)	Ave	2.128	2.051		77100	80000	-3.6	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594711/2 Calibration Date: 11/28/2022 11:12

Instrument ID: SMS_Y Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/15/2022 16:57

Lab File ID: Y19306462.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrobenzene-d5 (Surr)	Ave	0.4573	0.4477		78300	80000	-2.1	20.0
2-Fluorobiphenyl	Ave	1.324	1.275		77000	80000	-3.7	20.0
2,4,6-Tribromophenol (Surr)	Ave	0.1990	0.2118		85200	80000	6.4	20.0
Terphenyl-d14 (Surr)	Ave	1.039	0.9926		76400	80000	-4.5	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594711/2 Calibration Date: 11/28/2022 11:12

Instrument ID: SMS_Y Calib Start Date: 11/16/2022 11:45

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/16/2022 14:14

Lab File ID: Y19306462.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.6395	0.6638	0.0100	83000	80000	3.8	20.0
Atrazine	Ave	0.1779	0.2051	0.0100	92200	80000	15.3	20.0
3,3'-Dichlorobenzidine	Ave	0.4167	0.4630	0.0100	88900	80000	11.1	20.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-594711/30 | Calibration Date: 11/28/2022 22:26

Instrument ID: SMS_Y | Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/15/2022 16:57

Lab File ID: Y19306488.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
1,4-Dioxane	Lin1		0.5649		81800	80000	2.3	50.0
N-Nitrosodimethylamine	Ave	0.9630	0.9167		76200	80000	-4.8	50.0
Pyridine	Ave	1.515	1.425		151000	160000	-5.9	50.0
Aniline	Ave	2.515	2.569		81700	80000	2.2	50.0
Phenol	Ave	2.127	2.288	0.8000	86100	80000	7.6	50.0
Bis(2-chloroethyl)ether	Ave	1.555	1.600	0.7000	82300	80000	2.8	50.0
2-Chlorophenol	Ave	1.440	1.477	0.8000	82100	80000	2.6	50.0
1,3-Dichlorobenzene	Ave	1.500	1.522		81200	80000	1.5	50.0
1,4-Dichlorobenzene	Ave	1.528	1.567		82100	80000	2.6	50.0
Benzyl alcohol	Ave	1.061	1.119		84300	80000	5.4	50.0
1,2-Dichlorobenzene	Ave	1.454	1.492		82100	80000	2.6	50.0
2-Methylphenol	Ave	1.434	1.516	0.7000	84600	80000	5.7	50.0
2,2'-oxybis[1-chloropropane]	Ave	1.716	1.339	0.0100	62400	80000	-22.0	50.0
Acetophenone	Ave	2.182	2.371	0.0100	86900	80000	8.6	50.0
N-Nitrosodi-n-propylamine	Ave	1.197	1.226	0.5000	81900	80000	2.4	50.0
3 & 4 Methylphenol	Ave	1.536	1.623		84600	80000	5.7	50.0
Hexachloroethane	Ave	0.6098	0.6376	0.3000	83600	80000	4.6	50.0
Nitrobenzene	Ave	0.4193	0.4260	0.2000	81300	80000	1.6	50.0
Isophorone	Ave	0.7898	0.8202	0.4000	83100	80000	3.8	50.0
2-Nitrophenol	Ave	0.1881	0.2015	0.1000	85700	80000	7.2	50.0
2,4-Dimethylphenol	Ave	0.3776	0.4173	0.2000	88400	80000	10.5	50.0
Bis(2-chloroethoxy)methane	Ave	0.4700	0.4750	0.3000	80800	80000	1.1	50.0
Benzoic acid	Lin2		0.3631		186000	160000	16.1	50.0
2,4-Dichlorophenol	Ave	0.2782	0.2888	0.2000	83100	80000	3.8	50.0
1,2,4-Trichlorobenzene	Ave	0.2892	0.2924		80900	80000	1.1	50.0
Naphthalene	Ave	1.024	1.033	0.7000	80800	80000	0.9	50.0
4-Chloroaniline	Ave	0.4441	0.4653	0.0100	83800	80000	4.8	50.0
2,6-Dichlorophenol	Ave	0.2718	0.2841		83600	80000	4.5	50.0
Hexachlorobutadiene	Ave	0.1543	0.1623	0.0100	84200	80000	5.2	50.0
4-Chloro-3-methylphenol	Ave	0.3356	0.3752	0.2000	89400	80000	11.8	50.0
2-Methylnaphthalene	Ave	0.6759	0.7020	0.4000	83100	80000	3.9	50.0
1-Methylnaphthalene	Ave	0.6388	0.6605		82700	80000	3.4	50.0
Hexachlorocyclopentadiene	Ave	0.3043	0.2952	0.0500	77600	80000	-3.0	50.0
1,2,4,5-Tetrachlorobenzene	Ave	0.2636	0.2825	0.0100	85700	80000	7.2	50.0
2,4,6-Trichlorophenol	Ave	0.3287	0.3535	0.2000	86000	80000	7.5	50.0
2,4,5-Trichlorophenol	Ave	0.3615	0.3845	0.2000	85100	80000	6.4	50.0
1,1'-Biphenyl	Ave	1.379	1.466	0.0100	85000	80000	6.3	50.0
2-Chloronaphthalene	Ave	1.055	1.111	0.8000	84300	80000	5.4	50.0
2-Nitroaniline	Ave	0.3904	0.4115	0.0100	84300	80000	5.4	50.0
Dimethyl phthalate	Ave	1.209	1.299	0.0100	86000	80000	7.5	50.0
1,3-Dinitrobenzene	Ave	0.2105	0.2388		90700	80000	13.4	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-594711/30 | Calibration Date: 11/28/2022 22:26

Instrument ID: SMS_Y | Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/15/2022 16:57

Lab File ID: Y19306488.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-Dinitrotoluene	Ave	0.2933	0.3175	0.2000	86600	80000	8.2	50.0
Acenaphthylene	Ave	1.751	1.834	0.9000	83800	80000	4.8	50.0
3-Nitroaniline	Ave	0.3686	0.4050	0.0100	87900	80000	9.9	50.0
Acenaphthene	Ave	1.125	1.193	0.9000	84800	80000	6.1	50.0
2,4-Dinitrophenol	Lin1		0.1945	0.0100	177000	160000	10.8	50.0
4-Nitrophenol	Lin2		0.2760	0.0100	230000	160000	43.7	50.0
2,4-Dinitrotoluene	Ave	0.3774	0.4334	0.2000	91900	80000	14.9	50.0
Dibenzofuran	Ave	1.530	1.634	0.8000	85400	80000	6.8	50.0
2,3,4,6-Tetrachlorophenol	Ave	0.2914	0.3394	0.0100	93200	80000	16.5	50.0
Diethyl phthalate	Ave	1.269	1.405	0.0100	88600	80000	10.8	50.0
Fluorene	Ave	1.308	1.392	0.9000	85100	80000	6.4	50.0
4-Chlorophenyl phenyl ether	Ave	0.5607	0.5909	0.4000	84300	80000	5.4	50.0
4-Nitroaniline	Ave	0.3838	0.4190	0.0100	87300	80000	9.2	50.0
4,6-Dinitro-2-methylphenol	Lin2		0.1411	0.0100	180000	160000	12.4	50.0
Diphenylamine	Ave	1.124	1.187		71800	68000	5.6	50.0
N-Nitrosodiphenylamine	Ave	0.5414	0.5699	0.0100	84200	80000	5.3	50.0
Azobenzene	Ave	1.554	1.680		86500	80000	8.1	50.0
1,2-Diphenylhydrazine	Ave	0.3409	0.3618		85800	80900	6.1	50.0
4-Bromophenyl phenyl ether	Ave	0.1988	0.2194	0.1000	88300	80000	10.4	50.0
Hexachlorobenzene	Ave	0.2238	0.2546	0.1000	91000	80000	13.8	50.0
Pentachlorophenol	Lin2		0.1595	0.0500	192000	160000	20.0	50.0
Phenanthrene	Ave	1.072	1.138	0.7000	85000	80000	6.2	50.0
Anthracene	Ave	1.085	1.190	0.7000	87700	80000	9.7	50.0
Carbazole	Ave	1.080	1.165	0.0100	86300	80000	7.9	50.0
Alachlor	Ave	0.1360	0.1624		95500	80000	19.4	50.0
Di-n-butyl phthalate	Ave	1.273	1.423	0.0100	89400	80000	11.8	50.0
Fluoranthene	Ave	1.123	1.231	0.6000	87700	80000	9.6	50.0
Pyrene	Ave	1.238	1.246	0.6000	80500	80000	0.7	50.0
Butyl benzyl phthalate	Ave	0.5888	0.6092	0.0100	82800	80000	3.5	50.0
Benzo[a]anthracene	Ave	1.160	1.186	0.8000	81800	80000	2.3	50.0
Chrysene	Ave	1.220	1.244	0.7000	81600	80000	2.0	50.0
Bis(2-ethylhexyl) phthalate	Ave	0.8013	0.8143	0.0100	81300	80000	1.6	50.0
Di-n-octyl phthalate	Lin1		1.316	0.0100	70900	80000	-11.4	50.0
Benzo[b]fluoranthene	Lin2		1.142	0.7000	81300	80000	1.6	50.0
Benzo[k]fluoranthene	Ave	1.354	1.521	0.7000	89900	80000	12.3	50.0
Benzo[a]pyrene	Ave	1.083	1.265	0.7000	93400	80000	16.8	50.0
Indeno[1,2,3-cd]pyrene	Lin1		0.9219	0.5000	74800	80000	-6.5	50.0
Dibenz(a,h)anthracene	Lin2		1.084	0.4000	86400	80000	8.0	50.0
Benzo[g,h,i]perylene	Ave	1.052	1.215	0.5000	92400	80000	15.6	50.0
2-Fluorophenol (Surr)	Ave	1.563	1.511		77300	80000	-3.3	50.0
Phenol-d5 (Surr)	Ave	2.128	2.086		78400	80000	-2.0	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-594711/30 | Calibration Date: 11/28/2022 22:26

Instrument ID: SMS_Y | Calib Start Date: 11/15/2022 13:59

GC Column: Rxi-5Sil MS ID: 0.25(mm) | Calib End Date: 11/15/2022 16:57

Lab File ID: Y19306488.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitrobenzene-d5 (Surr)	Ave	0.4573	0.4479		78400	80000	-2.0	50.0
2-Fluorobiphenyl	Ave	1.324	1.291		78000	80000	-2.5	50.0
2,4,6-Tribromophenol (Surr)	Ave	0.1990	0.2449		98400	80000	23.1	50.0
Terphenyl-d14 (Surr)	Ave	1.039	1.030		79300	80000	-0.9	50.0

FORM VII
GC/MS SEMI VOA CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCVC 280-594711/30 Calibration Date: 11/28/2022 22:26

Instrument ID: SMS_Y Calib Start Date: 11/16/2022 11:45

GC Column: Rxi-5Sil MS ID: 0.25(mm) Calib End Date: 11/16/2022 14:14

Lab File ID: Y19306488.D Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE RRF	RRF	MIN RRF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Caprolactam	Ave	0.6395	0.6635	0.0100	83000	80000	3.7	50.0
Atrazine	Ave	0.1779	0.2038	0.0100	91700	80000	14.6	50.0
3,3'-Dichlorobenzidine	Ave	0.4167	0.4525	0.0100	86900	80000	8.6	50.0

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Sample No.: ICIS 280-592626/22 Date Analyzed: 11/07/2022 22:09

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): 925.D Heated Purge: (Y/N) N

Calibration ID: 72934

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		167852	4.62	638289	5.88	369015	7.61
UPPER LIMIT		335704	5.12	1276578	6.38	738030	8.11
LOWER LIMIT		83926	4.12	319145	5.38	184508	7.11
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-592626/26		171409	4.62	649774	5.88	368668	7.61
ICV 280-592626/27		168671	4.62	644291	5.88	360162	7.61
CCV 280-593651/2		177596	4.62	704569	5.88	418313	7.61
MB 280-592592/1-A		228735	4.61	855784	5.88	518745	7.61
LCS 280-592592/2-A		225063	4.62	899699	5.88	545123	7.61
LCSD 280-592592/3-A		261885	4.62	1025003	5.88	614387	7.61
280-168718-6	RB-11012201	183911	4.61	705342	5.88	431248	7.61
CCVC 280-593651/57		194356	4.62	745679	5.88	452214	7.61

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270E

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Sample No.: ICIS 280-592626/22 Date Analyzed: 11/07/2022 22:09

Instrument ID: SMS_1 GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): 925.D Heated Purge: (Y/N) N

Calibration ID: 72934

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		660340	9.03	593126	11.74	561720	13.61
UPPER LIMIT		1320680	9.53	1186252	12.24	1123440	14.11
LOWER LIMIT		330170	8.53	296563	11.24	280860	13.11
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-592626/26		661571	9.03	609707	11.74	554894	13.60
ICV 280-592626/27		656151	9.02	536771	11.73	503790	13.60
CCV 280-593651/2		794459	9.03	758883	11.74	739383	13.61
MB 280-592592/1-A		999943	9.03	925677	11.74	928909	13.61
LCS 280-592592/2-A		1034686	9.03	1026719	11.75	983151	13.61
LCSD 280-592592/3-A		1156568	9.03	1145033	11.75	1097911	13.62
280-168718-6	RB-11012201	830731	9.03	777355	11.74	772163	13.61
CCVC 280-593651/57		847804	9.03	839843	11.74	815592	13.61

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270E

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Sample No.: ICIS 280-590142/6 Date Analyzed: 10/15/2022 01:28

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): G6_101022455.D Heated Purge: (Y/N) N

Calibration ID: 71954

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		325212	3.79	1222673	5.00	710987	6.71
UPPER LIMIT		650424	4.29	2445346	5.50	1421974	7.21
LOWER LIMIT		162606	3.29	611337	4.50	355494	6.21
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-592986/3		378756	3.60	1372660	4.81	728831	6.51
MB 280-592594/1-A		410970	3.60	1537009	4.81	823687	6.51
LCS 280-592594/2-A		407041	3.60	1476129	4.81	771234	6.51
LCSD 280-592594/3-A		390400	3.60	1441912	4.81	768529	6.51
280-168718-1	X3-SS-C01-0006	424951	3.60	1587811	4.80	883291	6.51
280-168718-2	FD-11012201	462791	3.60	1748775	4.80	934439	6.51
280-168718-3	X3-SS-C02-0006	443381	3.60	1674206	4.81	895892	6.51
CCVC 280-592986/36		572473	3.60	2080525	4.81	1114723	6.52
CCV 280-593336/3		320555	3.58	1192394	4.79	646567	6.49
280-168718-5	X3-SS-C04-0006	399813	3.58	1574886	4.79	859973	6.49
280-168718-7	X3-SS-C05-0006	446886	3.58	1700371	4.79	940777	6.49
280-168718-8	FD-11022201	483927	3.58	1915311	4.79	1044375	6.49
CCVC 280-593336/32		391720	3.58	1495593	4.79	802030	6.49

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270E

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Sample No.: ICIS 280-590142/6 Date Analyzed: 10/15/2022 01:28

Instrument ID: SMS_G6 GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): G6_101022455.D Heated Purge: (Y/N) N

Calibration ID: 71954

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		1198330	8.15	1068653	10.90	987132	13.14
UPPER LIMIT		2396660	8.65	2137306	11.40	1974264	13.64
LOWER LIMIT		599165	7.65	534327	10.40	493566	12.64
LAB SAMPLE ID	CLIENT SAMPLE ID						
CCV 280-592986/3		1122144	7.95	871457	10.63	738564	12.75
MB 280-592594/1-A		1328894	7.94	994453	10.62	914010	12.75
LCS 280-592594/2-A		1184899	7.95	917080	10.63	795851	12.75
LCSD 280-592594/3-A		1185213	7.95	921006	10.63	812609	12.75
280-168718-1	X3-SS-C01-0006	1426063	7.94	1113089	10.62	1020931	12.75
280-168718-2	FD-11012201	1509240	7.94	1143926	10.62	1051169	12.75
280-168718-3	X3-SS-C02-0006	1436068	7.94	1085919	10.62	1009522	12.75
CCVC 280-592986/36		1689533	7.95	1342970	10.63	1130816	12.76
CCV 280-593336/3		999146	7.93	815136	10.60	684059	12.70
280-168718-5	X3-SS-C04-0006	1436856	7.92	1112157	10.59	1018779	12.70
280-168718-7	X3-SS-C05-0006	1521958	7.92	1173876	10.59	1064144	12.70
280-168718-8	FD-11022201	1691829	7.93	1243790	10.59	1101613	12.70
CCVC 280-593336/32		1221169	7.93	789786	10.60	741431	12.70

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270E

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Sample No.: ICIS 280-593534/36 Date Analyzed: 11/15/2022 15:40

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): Y19305986.D Heated Purge: (Y/N) N

Calibration ID: 73297

		DCBd4		NPT		ANT	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		108450	3.82	448027	5.03	261849	6.74
UPPER LIMIT		216900	4.32	896054	5.53	523698	7.24
LOWER LIMIT		54225	3.32	224014	4.53	130925	6.24
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-593534/40		102875	3.82	422051	5.03	244307	6.74
ICV 280-593534/41		114752	3.82	468381	5.03	266420	6.74
CCV 280-594711/2		78244	3.69	332149	4.91	192302	6.62
MB 280-593019/1-A		100962	3.69	417146	4.91	240670	6.62
LCS 280-593019/2-A		110117	3.69	475198	4.91	285471	6.62
280-168718-9	X3-SS-CO6-0006	88787	3.69	383133	4.91	233907	6.61
280-168718-10	X7-SS-C01-0006	88521	3.69	374571	4.91	228947	6.62
280-168718-11	X7B-SS-C01-0006	97861	3.70	403678	4.91	236386	6.62
280-168718-12	X7-TP-C01-5460	94435	3.69	383910	4.90	225678	6.61
280-168718-13	X7-TP-C02-3648	86795	3.69	357473	4.91	212714	6.61
280-168718-14	X7-TP-C03-4248	105560	3.69	423518	4.91	250982	6.62
280-168718-15	X7-TP-C04-4248	90692	3.69	371984	4.91	214780	6.62
280-168718-16	X3-SS-C07-0006	90017	3.69	373731	4.91	223728	6.62
280-168718-17	X3-SS-C08-0006	86614	3.69	355602	4.91	208832	6.61
CCVC 280-594711/30		74767	3.69	320683	4.91	186169	6.62

DCBd4 = 1,4-Dichlorobenzene-d4
NPT = Naphthalene-d8
ANT = Acenaphthene-d10

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270E

FORM VIII
GC/MS SEMI VOA INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Sample No.: ICIS 280-593534/36 Date Analyzed: 11/15/2022 15:40

Instrument ID: SMS_Y GC Column: Rxi-5Sil MS ID: 0.25(mm)

Lab File ID (Standard): Y19305986.D Heated Purge: (Y/N) N

Calibration ID: 73297

		PHN		CRY		PRY	
		AREA #	RT #	AREA #	RT #	AREA #	RT #
INITIAL CALIBRATION MID-POINT		457374	8.19	442649	11.24	458111	14.17
UPPER LIMIT		914748	8.69	885298	11.74	916222	14.67
LOWER LIMIT		228687	7.69	221325	10.74	229056	13.67
LAB SAMPLE ID	CLIENT SAMPLE ID						
ICV 280-593534/40		425511	8.19	406634	11.24	424820	14.17
ICV 280-593534/41		467326	8.18	460945	11.22	452086	14.17
CCV 280-594711/2		334272	8.06	354064	11.03	355089	13.88
MB 280-593019/1-A		441176	8.06	451565	11.03	432247	13.87
LCS 280-593019/2-A		516817	8.06	561427	11.04	580841	13.87
280-168718-9	X3-SS-CO6-0006	445775	8.06	492767	11.03	496083	13.87
280-168718-10	X7-SS-C01-0006	430256	8.06	446038	11.02	455794	13.86
280-168718-11	X7B-SS-C01-0006	421228	8.06	432871	11.02	431796	13.87
280-168718-12	X7-TP-C01-5460	417815	8.06	429747	11.03	431023	13.87
280-168718-13	X7-TP-C02-3648	389848	8.06	402470	11.02	391923	13.87
280-168718-14	X7-TP-C03-4248	449636	8.06	453462	11.02	442052	13.86
280-168718-15	X7-TP-C04-4248	384363	8.06	377016	11.02	362000	13.87
280-168718-16	X3-SS-C07-0006	419058	8.06	414440	11.02	396807	13.87
280-168718-17	X3-SS-C08-0006	369682	8.06	370323	11.02	351829	13.86
CCVC 280-594711/30		329579	8.06	348314	11.03	338604	13.87

PHN = Phenanthrene-d10
CRY = Chrysene-d12
PRY = Perylene-d12

Area Limit = 50%-200% of internal standard area
RT Limit = ± 0.5 minutes of internal standard RT

Column used to flag values outside QC limits

FORM VIII 8270E

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_G6 Start Date: 10/14/2022 16:55

Analysis Batch Number: 590052 End Date: 10/14/2022 20:14

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-590052/2		10/14/2022 16:55	1	G6_101022429b.D	Rxi-5Sil MS 0.25(mm)
STD004 280-590052/10 IC		10/14/2022 17:09	1	G6_101022430.D	Rxi-5Sil MS 0.25(mm)
STD010 280-590052/11 IC		10/14/2022 17:30	1	G6_101022431.D	Rxi-5Sil MS 0.25(mm)
STD020 280-590052/12 IC		10/14/2022 17:50	1	G6_101022432.D	Rxi-5Sil MS 0.25(mm)
STD050 280-590052/13 IC		10/14/2022 18:11	1	G6_101022433.D	Rxi-5Sil MS 0.25(mm)
STD80 280-590052/14 IC		10/14/2022 18:31	1	G6_101022434.D	Rxi-5Sil MS 0.25(mm)
STD120 280-590052/15 IC		10/14/2022 18:52	1	G6_101022435.D	Rxi-5Sil MS 0.25(mm)
STD160 280-590052/16 IC		10/14/2022 19:12	1	G6_101022436.D	Rxi-5Sil MS 0.25(mm)
STD200 280-590052/17 IC		10/14/2022 19:33	1	G6_101022437.D	Rxi-5Sil MS 0.25(mm)
ICV 280-590052/18		10/14/2022 19:53	1	G6_101022438.D	Rxi-5Sil MS 0.25(mm)
ICV 280-590052/19		10/14/2022 20:14	1	G6_101022439.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_G6 Start Date: 10/15/2022 00:19

Analysis Batch Number: 590142 End Date: 10/15/2022 02:50

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-590142/2		10/15/2022 00:19	1	G6_101022451.D	Rxi-5Sil MS 0.25(mm)
STD010 280-590142/3 IC		10/15/2022 00:27	1		Rxi-5Sil MS 0.25(mm)
STD020 280-590142/4 IC		10/15/2022 00:48	1		Rxi-5Sil MS 0.25(mm)
STD050 280-590142/5 IC		10/15/2022 01:08	1		Rxi-5Sil MS 0.25(mm)
ICIS 280-590142/6		10/15/2022 01:28	1	G6_101022455.D	Rxi-5Sil MS 0.25(mm)
STD120 280-590142/7 IC		10/15/2022 01:49	1		Rxi-5Sil MS 0.25(mm)
STD160 280-590142/8 IC		10/15/2022 02:09	1		Rxi-5Sil MS 0.25(mm)
STD200 280-590142/9 IC		10/15/2022 02:30	1		Rxi-5Sil MS 0.25(mm)
ICV 280-590142/10		10/15/2022 02:50	1		Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_G6 Start Date: 10/17/2022 09:41

Analysis Batch Number: 590148 End Date: 10/17/2022 16:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-590148/2		10/17/2022 09:41	1	G6_101022539.D	Rxi-5Sil MS 0.25(mm)
STD004 280-590148/3 IC		10/17/2022 09:58	1		Rxi-5Sil MS 0.25(mm)
STD010 280-590148/4 IC		10/17/2022 10:19	1		Rxi-5Sil MS 0.25(mm)
STD020 280-590148/5 IC		10/17/2022 10:40	1		Rxi-5Sil MS 0.25(mm)
STD050 280-590148/6 IC		10/17/2022 11:00	1		Rxi-5Sil MS 0.25(mm)
STD080 280-590148/7 IC		10/17/2022 11:20	1		Rxi-5Sil MS 0.25(mm)
STD120 280-590148/8 IC		10/17/2022 11:41	1		Rxi-5Sil MS 0.25(mm)
STD160 280-590148/9 IC		10/17/2022 12:02	1		Rxi-5Sil MS 0.25(mm)
STD200 280-590148/10 IC		10/17/2022 12:22	1		Rxi-5Sil MS 0.25(mm)
ICV 280-590148/11		10/17/2022 12:43	1		Rxi-5Sil MS 0.25(mm)
ICV 280-590148/29		10/17/2022 13:03	1	G6_101022549.D	Rxi-5Sil MS 0.25(mm)
CCV 280-590148/27		10/17/2022 13:54	1		Rxi-5Sil MS 0.25(mm)
CCV 280-590148/28		10/17/2022 14:15	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/17/2022 14:35	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/17/2022 14:56	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/17/2022 15:16	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/17/2022 15:37	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/17/2022 15:57	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/17/2022 16:17	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		10/17/2022 16:38	1		Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_1 Start Date: 11/07/2022 14:22

Analysis Batch Number: 592626 End Date: 11/07/2022 23:57

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-592626/1		11/07/2022 14:22	1	903b.D	Rxi-5Sil MS 0.25(mm)
STD010 280-592626/2 IC		11/07/2022 14:48	1		Rxi-5Sil MS 0.25(mm)
STD020 280-592626/3 IC		11/07/2022 15:09	1		Rxi-5Sil MS 0.25(mm)
STD050 280-592626/4 IC		11/07/2022 15:31	1		Rxi-5Sil MS 0.25(mm)
STD080 280-592626/5 IC		11/07/2022 15:52	1		Rxi-5Sil MS 0.25(mm)
STD120 280-592626/6 IC		11/07/2022 16:14	1		Rxi-5Sil MS 0.25(mm)
STD160 280-592626/7 IC		11/07/2022 16:36	1		Rxi-5Sil MS 0.25(mm)
STD200 280-592626/8 IC		11/07/2022 16:57	1		Rxi-5Sil MS 0.25(mm)
ICV 280-592626/9		11/07/2022 17:19	1		Rxi-5Sil MS 0.25(mm)
STD010 280-592626/10 IC		11/07/2022 17:40	1		Rxi-5Sil MS 0.25(mm)
STD020 280-592626/11 IC		11/07/2022 18:02	1		Rxi-5Sil MS 0.25(mm)
STD050 280-592626/12 IC		11/07/2022 18:23	1		Rxi-5Sil MS 0.25(mm)
STD080 280-592626/13 IC		11/07/2022 18:45	1		Rxi-5Sil MS 0.25(mm)
STD120 280-592626/14 IC		11/07/2022 19:06	1		Rxi-5Sil MS 0.25(mm)
STD160 280-592626/15 IC		11/07/2022 19:28	1		Rxi-5Sil MS 0.25(mm)
STD200 280-592626/16 IC		11/07/2022 19:49	1		Rxi-5Sil MS 0.25(mm)
ICV 280-592626/17		11/07/2022 20:11	1		Rxi-5Sil MS 0.25(mm)
STD0004 280-592626/18 IC		11/07/2022 20:43	1	921.D	Rxi-5Sil MS 0.25(mm)
STD0010 280-592626/19 IC		11/07/2022 21:05	1	922.D	Rxi-5Sil MS 0.25(mm)
STD0020 280-592626/20 IC		11/07/2022 21:26	1	923.D	Rxi-5Sil MS 0.25(mm)
STD0050 280-592626/21 IC		11/07/2022 21:48	1	924.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-592626/22		11/07/2022 22:09	1	925.D	Rxi-5Sil MS 0.25(mm)
STD0120 280-592626/23 IC		11/07/2022 22:31	1	926.D	Rxi-5Sil MS 0.25(mm)
STD0160 280-592626/24 IC		11/07/2022 22:52	1	927.D	Rxi-5Sil MS 0.25(mm)
STD0200 280-592626/25 IC		11/07/2022 23:14	1	928.D	Rxi-5Sil MS 0.25(mm)
ICV 280-592626/26		11/07/2022 23:35	1	929.D	Rxi-5Sil MS 0.25(mm)
ICV 280-592626/27		11/07/2022 23:57	1	930.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_1 Start Date: 11/09/2022 15:29

Analysis Batch Number: 592922 End Date: 11/09/2022 18:29

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-592922/1		11/09/2022 15:29	1	1007.D	R3i-5Sil MS 0.254mmx
STD010 280-592922/8 IC		11/09/2022 15:58	1		R3i-5Sil MS 0.254mmx
STD020 280-592922/9 IC		11/09/2022 16:20	1		R3i-5Sil MS 0.254mmx
STD050 280-592922/10 IC		11/09/2022 16:(1	1		R3i-5Sil MS 0.254mmx
STD080 280-592922/11 IC		11/09/2022 17:0)	1		R3i-5Sil MS 0.254mmx
STD120 280-592922/12 IC		11/09/2022 17:2(	1		R3i-5Sil MS 0.254mmx
STD160 280-592922/1) IC		11/09/2022 17:(6	1		R3i-5Sil MS 0.254mmx
STD200 280-592922/1(IC		11/09/2022 18:07	1		R3i-5Sil MS 0.254mmx
ICV 280-592922/15		11/09/2022 18:29	1	1015.D	R3i-5Sil MS 0.254mmx

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_G6 Start Date: 11/10/2022 15:12

Analysis Batch Number: 592986 End Date: 11/11/2022 01:59

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-592986/2		11/10/2022 15:12	1	G6_101023535b.D	Rxi-5Sil MS 0.25(mm)
CCV 280-592986/3		11/10/2022 15:20	1	G6_101023536b.D	Rxi-5Sil MS 0.25(mm)
CCVL 280-592986/4		11/10/2022 15:41	1		Rxi-5Sil MS 0.25(mm)
CCV 280-592986/5		11/10/2022 16:02	1		Rxi-5Sil MS 0.25(mm)
CCV 280-592986/6		11/10/2022 16:22	1		Rxi-5Sil MS 0.25(mm)
MB 280-592594/1-A		11/10/2022 16:43	1	G6_101023540b.D	Rxi-5Sil MS 0.25(mm)
LCS 280-592594/2-A		11/10/2022 17:04	1	G6_101023541b.D	Rxi-5Sil MS 0.25(mm)
LCSD 280-592594/3-A		11/10/2022 17:24	1	G6_101023542b.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 17:45	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 18:06	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 18:26	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 18:47	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 19:08	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 19:28	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 19:49	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 20:09	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 20:30	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 20:51	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 21:11	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 21:32	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 21:52	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 22:13	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 22:33	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 22:54	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 23:14	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 23:35	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/10/2022 23:56	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/11/2022 00:16	20		Rxi-5Sil MS 0.25(mm)
280-168718-1	X3-SS-C01-0006	11/11/2022 00:37	20	G6_101023563.D	Rxi-5Sil MS 0.25(mm)
280-168718-2	FD-11012201	11/11/2022 00:57	20	G6_101023564.D	Rxi-5Sil MS 0.25(mm)
280-168718-3	X3-SS-C02-0006	11/11/2022 01:18	20	G6_101023565.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/11/2022 01:38	20		Rxi-5Sil MS 0.25(mm)
CCVC 280-592986/36		11/11/2022 01:59	1	G6_101023567.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_G6 Start Date: 11/14/2022 15:10

Analysis Batch Number: 593336 End Date: 11/15/2022 02:30

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-593336/2		11/14/2022 15:10	1	G6_101023672d.D	Rxi-5Sil MS 0.25(mm)
CCV 280-593336/3		11/14/2022 15:19	1	G6_101023673d.D	Rxi-5Sil MS 0.25(mm)
CCVL 280-593336/4		11/14/2022 15:47	1		Rxi-5Sil MS 0.25(mm)
CCV 280-593336/5		11/14/2022 16:08	1		Rxi-5Sil MS 0.25(mm)
CCV 280-593336/6		11/14/2022 16:29	1		Rxi-5Sil MS 0.25(mm)
CCV 280-593336/7		11/14/2022 16:49	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 17:13	200		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 17:34	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 17:54	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 18:15	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 18:35	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 18:56	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 19:17	20		Rxi-5Sil MS 0.25(mm)
280-168718-5	X3-SS-C04-0006	11/14/2022 19:37	20	G6_101023685.D	Rxi-5Sil MS 0.25(mm)
280-168718-7	X3-SS-C05-0006	11/14/2022 19:58	20	G6_101023686.D	Rxi-5Sil MS 0.25(mm)
280-168718-8	FD-11022201	11/14/2022 20:18	20	G6_101023687.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 20:39	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 20:59	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 21:20	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 21:41	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 22:01	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 22:22	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 22:42	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 23:06	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 23:30	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/14/2022 23:53	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/15/2022 00:17	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/15/2022 00:41	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/15/2022 01:04	20		Rxi-5Sil MS 0.25(mm)
CCVC 280-593336/32		11/15/2022 01:49	1	G6_101023702.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-593336/33		11/15/2022 02:09	1		Rxi-5Sil MS 0.25(mm)
CCVC 280-593336/34		11/15/2022 02:30	1		Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_Y Start Date: 11/15/2022 13:42

Analysis Batch Number: 593534 End Date: 11/15/2022 17:48

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-593534/1		11/15/2022 13:42	1	Y19305981.D	Rxi-5Sil MS 0.25(mm)
STD004 280-593534/32 IC		11/15/2022 13:59	1	Y19305982.D	Rxi-5Sil MS 0.25(mm)
STD010 280-593534/33 IC		11/15/2022 14:23	1	Y19305983.D	Rxi-5Sil MS 0.25(mm)
STD020 280-593534/34 IC		11/15/2022 14:49	1	Y19305984.D	Rxi-5Sil MS 0.25(mm)
STD050 280-593534/35 IC		11/15/2022 15:14	1	Y19305985.D	Rxi-5Sil MS 0.25(mm)
ICIS 280-593534/36		11/15/2022 15:40	1	Y19305986.D	Rxi-5Sil MS 0.25(mm)
STD120 280-593534/37 IC		11/15/2022 16:05	1	Y19305987.D	Rxi-5Sil MS 0.25(mm)
STD160 280-593534/38 IC		11/15/2022 16:31	1	Y19305988c.D	Rxi-5Sil MS 0.25(mm)
STD200 280-593534/39 IC		11/15/2022 16:57	1	Y19305989.D	Rxi-5Sil MS 0.25(mm)
ICV 280-593534/40		11/15/2022 17:22	1	Y19305990.D	Rxi-5Sil MS 0.25(mm)
ICV 280-593534/41		11/15/2022 17:48	1	Y19305991.D	Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_1 Start Date: 11/16/2022 15:55

Analysis Batch Number: 593651 End Date: 11/17/2022 02:38

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-593651/1		11/16/2022 15:55	1	1597g.D	Rxi-5Sil MS 0.25(mm)
CCV 280-593651/2		11/16/2022 16:17	1	1598.D	Rxi-5Sil MS 0.25(mm)
CCVL 280-593651/3		11/16/2022 16:38	1		Rxi-5Sil MS 0.25(mm)
CCV 280-593651/4		11/16/2022 17:00	1		Rxi-5Sil MS 0.25(mm)
CCV 280-593651/5		11/16/2022 17:21	1		Rxi-5Sil MS 0.25(mm)
IC 280-593651/7		11/16/2022 17:21	1		Rxi-5Sil MS 0.25(mm)
MB 280-592592/1-A		11/16/2022 17:43	1	1602.D	Rxi-5Sil MS 0.25(mm)
LCS 280-592592/2-A		11/16/2022 18:04	1	1603.D	Rxi-5Sil MS 0.25(mm)
LCSD 280-592592/3-A		11/16/2022 18:26	1	1604.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 18:47	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 19:08	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 19:30	4		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 19:51	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 20:13	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 20:34	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 20:56	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 21:17	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 21:38	4		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 22:00	4		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 22:21	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 22:43	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 23:04	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 23:26	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/16/2022 23:47	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/17/2022 00:08	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/17/2022 00:30	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/17/2022 00:51	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/17/2022 01:13	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/17/2022 01:34	1		Rxi-5Sil MS 0.25(mm)
280-168718-6	RB-11012201	11/17/2022 01:55	1	1625.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-593651/57		11/17/2022 02:17	1	1626.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-593651/58		11/17/2022 02:38	1		Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: SMS_Y Start Date: 11/28/2022 11:01

Analysis Batch Number: 593711 End Date: 11/28/2022 24:17

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
DFTPP 280-593711/1		11/28/2022 11:01	1	Y19406361.D	Rxi-5Sil MS 0.25(mm)
CCV 280-593711/2		11/28/2022 11:12	1	Y19406362.D	Rxi-5Sil MS 0.25(mm)
CCVL 280-593711/4		11/28/2022 11:45	1		Rxi-5Sil MS 0.25(mm)
CCV 280-593711/3		11/28/2022 12:02	1		Rxi-5Sil MS 0.25(mm)
CCV 280-593711/5		11/28/2022 12:28	1		Rxi-5Sil MS 0.25(mm)
MB 280-594019/1-A		11/28/2022 12:53	1	Y19406366.D	Rxi-5Sil MS 0.25(mm)
LCS 280-594019/2-A		11/28/2022 14:20	1	Y19406367.D	Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 14:36	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 13:12	3		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 13:48	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 15:03	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 15:40	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 15:57	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 16:24	20		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 16:39	1		Rxi-5Sil MS 0.25(mm)
ZZZZZ		11/28/2022 17:15	1		Rxi-5Sil MS 0.25(mm)
280-168718-9	X4-SS-CO6-0006	11/28/2022 17:31	20	Y19406377.D	Rxi-5Sil MS 0.25(mm)
280-168718-9 MS	X4-SS-CO6-0006 MS	11/28/2022 18:07	20	Y19406378.D	Rxi-5Sil MS 0.25(mm)
280-168718-9 MSD	X4-SS-CO6-0006 MSD	11/28/2022 18:44	20	Y19406379.D	Rxi-5Sil MS 0.25(mm)
280-168718-10	X7-SS-C01-0006	11/28/2022 18:59	20	Y19406380.D	Rxi-5Sil MS 0.25(mm)
280-168718-11	X7B-SS-C01-0006	11/28/2022 19:25	20	Y19406381.D	Rxi-5Sil MS 0.25(mm)
280-168718-12	X7-TP-C01-5360	11/28/2022 19:51	20	Y19406382.D	Rxi-5Sil MS 0.25(mm)
280-168718-14	X7-TP-C02-4638	11/28/2022 20:17	20	Y19406384.D	Rxi-5Sil MS 0.25(mm)
280-168718-13	X7-TP-C04-3238	11/28/2022 20:34	20	Y19406383.D	Rxi-5Sil MS 0.25(mm)
280-168718-15	X7-TP-C03-3238	11/28/2022 21:08	20	Y19406385.D	Rxi-5Sil MS 0.25(mm)
280-168718-16	X4-SS-C07-0006	11/28/2022 21:43	20	Y19406386.D	Rxi-5Sil MS 0.25(mm)
280-168718-17	X4-SS-C08-0006	11/28/2022 22:00	20	Y19406387.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-593711/40		11/28/2022 22:26	1	Y19406388.D	Rxi-5Sil MS 0.25(mm)
CCVC 280-593711/41		11/28/2022 22:52	1		Rxi-5Sil MS 0.25(mm)
CCVC 280-593711/42		11/28/2022 24:17	1		Rxi-5Sil MS 0.25(mm)

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 590052 Batch Start Date: 10/14/22 16:55 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	HSL SSV B3 00009	MS-DFTPP 00059
DFTPP 280-590052/2		8270E		200 uL	Perform Calculation left blank		200 uL
STD004 280-590052/10 IC		8270E		200 uL	Perform Calculation left blank		
STD010 280-590052/11 IC		8270E		200 uL	Perform Calculation left blank		
STD020 280-590052/12 IC		8270E		200 uL	Perform Calculation left blank		
STD050 280-590052/13 IC		8270E		200 uL	Perform Calculation left blank		
STD80 280-590052/14 IC		8270E		200 uL	Perform Calculation left blank		
STD120 280-590052/15 IC		8270E		200 uL	Perform Calculation left blank		
STD160 280-590052/16 IC		8270E		200 uL	Perform Calculation left blank		
STD200 280-590052/17 IC		8270E		200 uL	Perform Calculation left blank		
ICV 280-590052/18		8270E		200 uL	Perform Calculation left blank		
ICV 280-590052/19		8270E		200 uL	Perform Calculation left blank	200 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLA020 00067	MS-HSLA050 00068	MS-HSLA080 00067	MS-HSLA120 00067
DFTPP 280-590052/2		8270E					
STD004 280-590052/10 IC		8270E					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 590052 Batch Start Date: 10/14/22 16:55 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLA020 00067	MS-HSLA050 00068	MS-HSLA080 00067	MS-HSLA120 00067
STD010 280-590052/11 IC		8270E					
STD020 280-590052/12 IC		8270E		200 uL			
STD050 280-590052/13 IC		8270E			200 uL		
STD80 280-590052/14 IC		8270E				200 uL	
STD120 280-590052/15 IC		8270E					200 uL
STD160 280-590052/16 IC		8270E					
STD200 280-590052/17 IC		8270E					
ICV 280-590052/18		8270E					
ICV 280-590052/19		8270E					

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLB1&B2 00017			
DFTPP 280-590052/2		8270E					
STD004 280-590052/10 IC		8270E					
STD010 280-590052/11 IC		8270E					
STD020 280-590052/12 IC		8270E					
STD050 280-590052/13 IC		8270E					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 590052 Batch Start Date: 10/14/22 16:55 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLB1&B2 00017				
STD80 280-590052/14 IC		8270E						
STD120 280-590052/15 IC		8270E						
STD160 280-590052/16 IC		8270E						
STD200 280-590052/17 IC		8270E						
ICV 280-590052/18		8270E		200 uL				
ICV 280-590052/19		8270E						

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 590142 Batch Start Date: 10/15/22 00:19 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	MS-DFTPP 00059	MS-FAB080 00003
DFTPP 280-590142/2		8270E		200 uL	Perform Calculation left blank	200 uL	
ICIS 280-590142/6		8270E		200 uL	Perform Calculation left blank		200 uL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 590148 Batch Start Date: 10/17/22 09:41 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	MS-DFTPP 00059	MS-HSLB1&B2 00016
DFTPP 280-590148/2		8270E		200 uL	Perform Calculation left blank	200 uL	
ICV 280-590148/29		8270E		200 uL	Perform Calculation left blank		200 uL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592592 Batch Start Date: 11/07/22 13:11 Batch Analyst:

Batch Method: 3510C Batch End Date: 11/08/22 11:02

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	InitialAmount	FinalAmount	ReceivedpH	
MB 280-592592/1		3510C, 8270E			1000 mL	1 mL	5 SU	
LCS 280-592592/2		3510C, 8270E			1000 mL	1 mL	5 SU	
LCSD 280-592592/3		3510C, 8270E			1000 mL	1 mL	5 SU	
280-168718-A-6	RB-11012201	3510C, 8270E	T	787.0 g	500 mL	1 mL	6 SU	

Lab Sample ID	Client Sample ID	Method Chain	Basis	8270_BKK_Supp 00024	8270_LCS_Main 00086	8270_LCS_Supp 00522	8270Surrogate 00166	
MB 280-592592/1		3510C, 8270E					1 mL	
LCS 280-592592/2		3510C, 8270E		1 mL	1 mL	1 mL	1 mL	
LCSD 280-592592/3		3510C, 8270E		1 mL	1 mL	1 mL	1 mL	
280-168718-A-6	RB-11012201	3510C, 8270E	T				1 mL	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592592 Batch Start Date: 11/07/22 13:11 Batch Analyst:

Batch Method: 3510C Batch End Date: 11/08/22 11:02

Batch Notes	
Method/Fraction	3510C/8270D
Balance ID	26950384
Pipette/Syringe/Dispenser ID	Nexia
Analyst ID - Extraction	KS AV KZ (Trainers) MS (Trainee)
Reagent Water ID	N. ELGA
Analyst ID - Spike Analyst	KZ
Analyst ID - Spike Witness Analyst	Reviewer: NC
Sufficient Volume for Batch QC	NO
Acid Used for pH Adjustment ID	H2SO4_00112
Base Used to Adjust pH ID	NaOH_00185
NaCl ID	220642
Prep Solvent ID	MeCl2_Cycl_00586
Prep Solvent Volume Used	240 mL
Glass Wool ID	133201999
Na2SO4 ID	Na2SO4_00121
Analyst ID - Concentration	SMQ
Equipment ID - Concentration 1	TV1, Utme, Enterprise
Concentration 1 Uncorrected Temperature	40 Degrees C
Concentration 1 Corrected Temperature	40 Degrees C
Batch Comment	DV-OP-0006/0007;

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592594 Batch Start Date: 11/07/22 12:55 Batch Analyst:

Batch Method: 3550C Batch End Date: 11/08/22 12:30

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	8270_LCS_Main 00086	
MB 280-592594/1		3550C, 8270E		30 g	1 mL	CALC NOT SET TO RUN		
LCS 280-592594/2		3550C, 8270E		30 g	1 mL	CALC NOT SET TO RUN	1 mL	
LCSD 280-592594/3		3550C, 8270E		30 g	1 mL	CALC NOT SET TO RUN	1 mL	
280-168718-A-1	X3-SS-C01-0006	3550C, 8270E	T	30.0 g	1 mL	CALC NOT SET TO RUN		
280-168718-B-2	FD-11012201	3550C, 8270E	T	30.9 g	1 mL	CALC NOT SET TO RUN		
280-168718-A-3	X3-SS-C02-0006	3550C, 8270E	T	31.2 g	1 mL	CALC NOT SET TO RUN		
280-168718-A-5	X3-SS-C04-0006	3550C, 8270E	T	30.3 g	1 mL	CALC NOT SET TO RUN		
280-168718-B-7	X3-SS-C05-0006	3550C, 8270E	T	30.5 g	1 mL	CALC NOT SET TO RUN		
280-168718-B-8	FD-11022201	3550C, 8270E	T	30.8 g	1 mL	CALC NOT SET TO RUN		

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
MB 280-592594/1		3550C, 8270E						
LCS 280-592594/2		3550C, 8270E		8270				
LCSD 280-592594/3		3550C, 8270E		8270				
280-168718-A-1	X3-SS-C01-0006	3550C, 8270E	T					
280-168718-B-2	FD-11012201	3550C, 8270E	T					
280-168718-A-3	X3-SS-C02-0006	3550C, 8270E	T					
280-168718-A-5	X3-SS-C04-0006	3550C, 8270E	T					
280-168718-B-7	X3-SS-C05-0006	3550C, 8270E	T					
280-168718-B-8	FD-11022201	3550C, 8270E	T					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592594 Batch Start Date: 11/07/22 12:55 Batch Analyst:

Batch Method: 3550C Batch End Date: 11/08/22 12:30

Batch Notes	
Method/Fraction	3550C/8270E/8270E_DOD5/8270C/8270D
Nominal Amount Used	30 g
Perform Calculation (0=No, 1=Yes)	0
Balance ID	24750402
Pipette/Syringe/Dispenser ID	ROSE
Analyst ID - Extraction	EW, GL
Blank Matrix ID	216016
Analyst ID - Spike Analyst	EW
Analyst ID - Spike Witness Analyst	Reviewer: NC
Sufficient Volume for Batch QC	YES
Prep Solvent ID	1:1AceMeCl2_00389/390 MeCl2_Cycl_00586
Na2SO4 ID	Na2SO4_00121
Filter ID	21-168
Analyst ID - Concentration	SMQ (trainer), BJ (trainee)
Equipment ID - Concentration 1	AR, C
Thermometer ID - Concentration 1	761113, 3138
Concentration 1 Uncorrected Temperature	87, 88 Degrees C
Concentration 1 Corrected Temperature	88 Degrees C
Equipment ID - Concentration 2	41813
Thermometer ID - Concentration 2	North
Concentration 2 Uncorrected Temperature	25 Degrees C
Concentration 2 Corrected Temperature	25 Degrees C
Batch Comment	DV-OP-0016/0007

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592626 Batch Start Date: 11/07/22 14:22 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	HSL SSV B3 00009	MS-DFTPP 00057
DFTPP 280-592626/1		8270E		1 mL	Perform Calculation left blank		200 uL
STD0004 280-592626/18 IC		8270E		1 mL	Perform Calculation left blank		
STD0010 280-592626/19 IC		8270E		1 mL	Perform Calculation left blank		
STD0020 280-592626/20 IC		8270E		1 mL	Perform Calculation left blank		
STD0050 280-592626/21 IC		8270E		1 mL	Perform Calculation left blank		
ICIS 280-592626/22		8270E		1 mL	Perform Calculation left blank		
STD0120 280-592626/23 IC		8270E		1 mL	Perform Calculation left blank		
STD0160 280-592626/24 IC		8270E		1 mL	Perform Calculation left blank		
STD0200 280-592626/25 IC		8270E		1 mL	Perform Calculation left blank		
ICV 280-592626/26		8270E		1 mL	Perform Calculation left blank		
ICV 280-592626/27		8270E		1 mL	Perform Calculation left blank	200 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLA020 00067	MS-HSLA050 00068	MS-HSLA080 00067	MS-HSLA120 00067
DFTPP 280-592626/1		8270E					
STD0004 280-592626/18 IC		8270E					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592626 Batch Start Date: 11/07/22 14:22 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLA020 00067	MS-HSLA050 00068	MS-HSLA080 00067	MS-HSLA120 00067	
STD0010 280-592626/19 IC		8270E						
STD0020 280-592626/20 IC		8270E		200 uL				
STD0050 280-592626/21 IC		8270E			200 uL			
ICIS 280-592626/22		8270E				200 uL		
STD0120 280-592626/23 IC		8270E					200 uL	
STD0160 280-592626/24 IC		8270E						
STD0200 280-592626/25 IC		8270E						
ICV 280-592626/26		8270E						
ICV 280-592626/27		8270E						

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLB1&B2 00017				
DFTPP 280-592626/1		8270E						
STD0004 280-592626/18 IC		8270E						
STD0010 280-592626/19 IC		8270E						
STD0020 280-592626/20 IC		8270E						
STD0050 280-592626/21 IC		8270E						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592626 Batch Start Date: 11/07/22 14:22 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLB1&B2 00017				
ICIS 280-592626/22		8270E						
STD0120 280-592626/23 IC		8270E						
STD0160 280-592626/24 IC		8270E						
STD0200 280-592626/25 IC		8270E						
ICV 280-592626/26		8270E		200 uL				
ICV 280-592626/27		8270E						

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592922 Batch Start Date: 11/09/22 15:29 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	MS-DFTPP 00057	MS-FAMSSV_100 00030
DFTPP 280-592922/1		8270E		1 mL	Perform Calculation left blank	200 uL	
ICV 280-592922/15		8270E		1 mL	Perform Calculation left blank		200 uL

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593019 Batch Start Date: 11/10/22 12:10 Batch Analyst:

Batch Method: 3550C Batch End Date: 11/10/22 16:13

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	CalcMsg	8270_LCS_Main 00086
MB 280-593019/1		3550C, 8270E		30 g	1 mL	CALC NOT SET TO RUN	
LCS 280-593019/2		3550C, 8270E		30 g	1 mL	CALC NOT SET TO RUN	1 mL
280-168718-C-9	X3-SS-CO6-0006	3550C, 8270E	T	30.3 g	1 mL	CALC NOT SET TO RUN	
280-168718-A-9 MS	X3-SS-CO6-0006	3550C, 8270E	T	30.2 g	1 mL	CALC NOT SET TO RUN	1 mL
280-168718-A-9 MSD	X3-SS-CO6-0006	3550C, 8270E	T	30.4 g	1 mL	CALC NOT SET TO RUN	1 mL
280-168718-A-10	X7-SS-C01-0006	3550C, 8270E	T	30.9 g	1 mL	CALC NOT SET TO RUN	
280-168718-B-11	X7B-SS-C01-0006	3550C, 8270E	T	30.9 g	1 mL	CALC NOT SET TO RUN	
280-168718-A-12	X7-TP-C01-5460	3550C, 8270E	T	30.4 g	1 mL	CALC NOT SET TO RUN	
280-168718-B-13	X7-TP-C02-3648	3550C, 8270E	T	31.3 g	1 mL	CALC NOT SET TO RUN	
280-168718-A-14	X7-TP-C03-4248	3550C, 8270E	T	30.0 g	1 mL	CALC NOT SET TO RUN	
280-168718-A-15	X7-TP-C04-4248	3550C, 8270E	T	30.8 g	1 mL	CALC NOT SET TO RUN	
280-168718-A-16	X3-SS-C07-0006	3550C, 8270E	T	30.0 g	1 mL	CALC NOT SET TO RUN	
280-168718-B-17	X3-SS-C08-0006	3550C, 8270E	T	30.3 g	1 mL	CALC NOT SET TO RUN	

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593019 Batch Start Date: 11/10/22 12:10 Batch Analyst:

Batch Method: 3550C Batch End Date: 11/10/22 16:13

Batch Notes	
Method/Fraction	3550C/8270E_DOD5
Nominal Amount Used	30 g
Perform Calculation (0=No, 1=Yes)	0
Balance ID	24750402
Pipette/Syringe/Dispenser ID	ROSE
Analyst ID - Extraction	EW,
Blank Matrix ID	216016
Analyst ID - Spike Analyst	EW
Analyst ID - Spike Witness Analyst	Reviewer: NC
Sufficient Volume for Batch QC	YES
Prep Solvent ID	1:1AceMeCl2_00390/391 MeCl2_Cycl_00586
Na2SO4 ID	Na2SO4_00121
Filter ID	21-168
Analyst ID - Concentration	EW
Equipment ID - Concentration 1	AR, C
Thermometer ID - Concentration 1	761113, 3138
Concentration 1 Uncorrected Temperature	87, 88 Degrees C
Concentration 1 Corrected Temperature	88 Degrees C
Equipment ID - Concentration 2	41813
Thermometer ID - Concentration 2	Nvap North 3
Concentration 2 Uncorrected Temperature	30 Degrees C
Concentration 2 Corrected Temperature	30 Degrees C
Pipette Tip Lot ID	B09871216S
Batch Comment	DV-OP-0016/0007

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593534 Batch Start Date: 11/15/22 13:42 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	CalcMsg	HSL SSV B3 00009	MS-DFTPP 00058
DFTPP 280-593534/1		8270E		200 uL	Perform Calculation left blank		0.5 uL
STD004 280-593534/32 IC		8270E		200 uL	Perform Calculation left blank		
STD010 280-593534/33 IC		8270E		200 uL	Perform Calculation left blank		
STD020 280-593534/34 IC		8270E		200 uL	Perform Calculation left blank		
STD050 280-593534/35 IC		8270E		200 uL	Perform Calculation left blank		
ICIS 280-593534/36		8270E		200 uL	Perform Calculation left blank		
STD120 280-593534/37 IC		8270E		200 uL	Perform Calculation left blank		
STD160 280-593534/38 IC		8270E		200 uL	Perform Calculation left blank		
STD200 280-593534/39 IC		8270E		200 uL	Perform Calculation left blank		
ICV 280-593534/40		8270E		200 uL	Perform Calculation left blank		
ICV 280-593534/41		8270E		200 uL	Perform Calculation left blank	200 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLA020 00067	MS-HSLA050 00068	MS-HSLA080 00067	MS-HSLA120 00067
DFTPP 280-593534/1		8270E					
STD004 280-593534/32 IC		8270E					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593534 Batch Start Date: 11/15/22 13:42 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLA020 00067	MS-HSLA050 00068	MS-HSLA080 00067	MS-HSLA120 00067	
STD010 280-593534/33 IC		8270E						
STD020 280-593534/34 IC		8270E		200 uL				
STD050 280-593534/35 IC		8270E			200 uL			
ICIS 280-593534/36		8270E				200 uL		
STD120 280-593534/37 IC		8270E					200 uL	
STD160 280-593534/38 IC		8270E						
STD200 280-593534/39 IC		8270E						
ICV 280-593534/40		8270E						
ICV 280-593534/41		8270E						

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLB1&B2 00014				
DFTPP 280-593534/1		8270E						
STD004 280-593534/32 IC		8270E						
STD010 280-593534/33 IC		8270E						
STD020 280-593534/34 IC		8270E						
STD050 280-593534/35 IC		8270E						

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

GC/MS SEMI VOA BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593534 Batch Start Date: 11/15/22 13:42 Batch Analyst:

Batch Method: 8270E Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	MS-HSLB1&B2 00014				
ICIS 280-593534/36		8270E						
STD120 280-593534/37 IC		8270E						
STD160 280-593534/38 IC		8270E						
STD200 280-593534/39 IC		8270E						
ICV 280-593534/40		8270E		200 uL				
ICV 280-593534/41		8270E						

Batch Notes	

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8270E

8330B_DOD5

Nitroaromatics and Nitramines (HPLC)

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): UltraCarb5u ID: 4.6 (mm) GC Column (2): Luna-phenyl 4.6 (mm)

Client Sample ID	Lab Sample ID	12DNB1 #	12DNB2 #
X3-SS-C01-0006	280-168718-1	109	
X3-SS-C01-0006	280-168718-1		96
FD-11012201	280-168718-2	112	
FD-11012201	280-168718-2		104
X3-SS-C02-0006	280-168718-3	110	
X3-SS-C02-0006	280-168718-3		106
X3-SS-C04-0006	280-168718-5	111	
X3-SS-C04-0006	280-168718-5		103
X3-SS-C05-0006	280-168718-7	117	
X3-SS-C05-0006	280-168718-7		105
FD-11022201	280-168718-8	107 M	
FD-11022201	280-168718-8		103
X3-SS-CO6-0006	280-168718-9	114	
X3-SS-CO6-0006	280-168718-9		106
X7-SS-C01-0006	280-168718-10	110	
X7B-SS-C01-0006	280-168718-11	112	
X7B-SS-C01-0006	280-168718-11		104
X7-TP-C01-5460	280-168718-12	112	
X7-TP-C01-5460	280-168718-12		108
X7-TP-C01-5460 DL	280-168718-12 DL	97 D	
X7-TP-C01-5460 DL	280-168718-12 DL		100 D
X7-TP-C02-3648	280-168718-13	113	
X7-TP-C02-3648	280-168718-13		108
X7-TP-C02-3648 DL	280-168718-13 DL	91 D	
X7-TP-C02-3648 DL	280-168718-13 DL		86 D
X7-TP-C03-4248	280-168718-14	112	
X7-TP-C03-4248	280-168718-14		109
X7-TP-C04-4248	280-168718-15	111	
X7-TP-C04-4248	280-168718-15		107
X3-SS-C07-0006	280-168718-16	109	
X3-SS-C07-0006	280-168718-16		103
X3-SS-C08-0006	280-168718-17	106	
X3-SS-C08-0006	280-168718-17		102
X3-SS-C08-0006 DL	280-168718-17 DL	102 M D	
X3-SS-C08-0006 DL	280-168718-17 DL		106 D

	QC LIMITS
12DNB = 1,2-Dinitrobenzene	78-119

Column to be used to flag recovery values

FORM II 8330B

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low

GC Column (1): UltraCarb5u ID: 4.6 (mm) GC Column (2): Luna-phenyl 4.6 (mm)

Client Sample ID	Lab Sample ID	12DNB1 #	12DNB2 #
	MB 280-592924/1-A	112	
	LCS 280-592924/2-A	98	
	LCS 280-592924/3-A	111	
X3-SS-CO6-0006 MS	280-168718-9 MS	99	
X3-SS-CO6-0006 MS	280-168718-9 MS	113	
X3-SS-CO6-0006 MS	280-168718-9 MS		106
X3-SS-CO6-0006 MSD	280-168718-9 MSD	100	
X3-SS-CO6-0006 MSD	280-168718-9 MSD	112	
X3-SS-CO6-0006 MSD	280-168718-9 MSD		105
X3-SS-CO6-0006 DU	280-168718-9 DU	112	
X3-SS-CO6-0006 DU	280-168718-9 DU		107
X3-SS-CO6-0006 TRL	280-168718-9 TRL	108	
X3-SS-CO6-0006 TRL	280-168718-9 TRL		103

	QC LIMITS
12DNB = 1,2-Dinitrobenzene	78-119

Column to be used to flag recovery values

FORM II 8330B

FORM II
HPLC/IC SURROGATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low

GC Column (1): UltraCarb5u ID: 4.6 (mm)

Client Sample ID	Lab Sample ID	12DNB1	#
RB-11012201	280-168718-6	101	M
	MB 280-592716/1-A	96	M
	LCS 280-592716/2-A	90	
	LCS 280-592716/4-A	87	
	LCSD 280-592716/3-A	91	
	LCSD 280-592716/5-A	95	

	QC LIMITS
12DNB = 1,2-Dinitrobenzene	83-119

Column to be used to flag recovery values

FORM II 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11090012.D

Lab ID: LCS 280-592716/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.23	112	73-125	
1,3-Dinitrobenzene	2.00	2.05	103	78-120	
2,4,6-Trinitrotoluene	2.00	1.85	93	71-123	
2,4-Dinitrotoluene	2.00	2.01	100	78-120	
2,6-Dinitrotoluene	2.00	2.00	100	77-127	
2-Amino-4,6-dinitrotoluene	2.00	2.03	102	79-120	
2-Nitrotoluene	2.00	1.56	78	70-127	
3-Nitrotoluene	2.00	1.57	79	73-125	
4-Amino-2,6-dinitrotoluene	2.00	2.15	107	76-125	
4-Nitrotoluene	2.00	1.58	79	71-127	
Nitrobenzene	2.00	1.71	85	65-134	
Nitroglycerin	20.0	20.6	103	74-127	
HMX	2.00	1.88	94	65-135	
PETN	20.0	20.0	100	73-127	
Picric acid	2.00	2.07	104	80-120	
RDX	2.00	2.01	100	68-130	
Tetryl	2.00	2.03	102	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11090014.D

Lab ID: LCS 280-592716/4-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
3,5-Dinitroaniline	2.00	1.48	74	71-117	
2,4-diamino-6-nitrotoluene	2.00	1.62	81	68-122	M
2,6-diamino-4-nitrotoluene	2.00	1.74	87	72-122	M

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11100039.D

Lab ID: LCS 280-592924/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	1000	1130	113	80-116	
1,3-Dinitrobenzene	1000	1060	106	73-119	
2,4,6-Trinitrotoluene	1000	959	96	71-120	
2,4-Dinitrotoluene	1000	1060	106	75-121	
2,6-Dinitrotoluene	1000	1000	100	79-117	
2-Amino-4,6-dinitrotoluene	1000	1010	101	71-123	
2-Nitrotoluene	1000	1020	102	70-124	
3-Nitrotoluene	1000	1030	103	67-129	
4-Amino-2,6-dinitrotoluene	1000	1060	106	64-127	
4-Nitrotoluene	1000	1000	100	71-124	
Nitrobenzene	1000	1050	105	67-129	
Nitroglycerin	10000	10800	108	73-124	
HMX	1000	952	95	74-124	M
PETN	10000	10300	103	72-128	
Picric acid	1000	1060	106	38-154	
RDX	1000	985	99	67-129	
Tetryl	1000	1050	105	68-135	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11100040.D

Lab ID: LCS 280-592924/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
3,5-Dinitroaniline	1000	998	100	86-118	
2,4-diamino-6-nitrotoluene	1000	783 J	78	10-150	M
2,6-diamino-4-nitrotoluene	1000	1040 J	104	10-150	M

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11090013.D

Lab ID: LCSD 280-592716/3-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,3,5-Trinitrobenzene	2.00	2.22	111	1	20	73-125	
1,3-Dinitrobenzene	2.00	2.07	103	1	20	78-120	
2,4,6-Trinitrotoluene	2.00	1.86	93	0	20	71-123	
2,4-Dinitrotoluene	2.00	2.01	101	0	20	78-120	
2,6-Dinitrotoluene	2.00	2.08	104	4	20	77-127	
2-Amino-4,6-dinitrotoluene	2.00	2.06	103	2	20	79-120	
2-Nitrotoluene	2.00	1.61	80	3	20	70-127	
3-Nitrotoluene	2.00	1.66	83	6	20	73-125	
4-Amino-2,6-dinitrotoluene	2.00	2.20	110	2	20	76-125	
4-Nitrotoluene	2.00	1.64	82	4	20	71-127	
Nitrobenzene	2.00	1.74	87	2	20	65-134	
Nitroglycerin	20.0	20.6	103	0	20	74-127	
HMX	2.00	1.82	91	3	20	65-135	M
PETN	20.0	20.0	100	0	20	73-127	
Picric acid	2.00	2.04	102	2	20	80-120	
RDX	2.00	1.98	99	1	20	68-130	
Tetryl	2.00	2.04	102	0	20	64-128	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC LAB CONTROL SAMPLE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: 11090015.D

Lab ID: LCSD 280-592716/5-A Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCSD CONCENTRATION (ug/L)	LCSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
3,5-Dinitroaniline	2.00	1.72	86	15	20	71-117	
2,4-diamino-6-nitrotoluene	2.00	1.67	83	3	20	68-122	M
2,6-diamino-4-nitrotoluene	2.00	1.77	89	2	20	72-122	M

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11100050.D

Lab ID: 280-168718-9 MS Client ID: X3-SS-CO6-0006 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
1,3,5-Trinitrobenzene	997	39 U	1170	117	80-116	J1
2,4,6-Trinitrotoluene	997	69 U	1020	102	71-120	
2,4-Dinitrotoluene	997	39 U	1070	107	75-121	
2,6-Dinitrotoluene	997	39 U	1040	104	79-117	
2-Amino-4,6-dinitrotoluene	997	69 U	1020	102	71-123	
2-Nitrotoluene	997	99 U	1070	108	70-124	
3-Nitrotoluene	997	150 U	1050	105	67-129	
4-Amino-2,6-dinitrotoluene	997	69 U	1050	106	64-127	
4-Nitrotoluene	997	99 U	1050	105	71-124	
Nitrobenzene	997	200 U	1060	106	67-129	
Nitroglycerin	9970	690 U	11100	111	73-124	
HMX	997	69 U	940	94	74-124	M
PETN	9970	990 U	10700	108	72-128	
Picric acid	997	99 U	243	24	38-154	J1
RDX	997	99 U	988	99	67-129	
Tetryl	997	99 U	1000	101	68-135	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11100052.D

Lab ID: 280-168718-9 MS Client ID: X3-SS-CO6-0006 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
3,5-Dinitroaniline	951	20 U	876	92	86-118	
2,4-diamino-6-nitrotoluene	951	990 U	950 U	0	10-150	M J1
2,6-diamino-4-nitrotoluene	951	990 U	950 U	0	10-150	M J1

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11110020.D

Lab ID: 280-168718-9 MS Client ID: X3-SS-CO6-0006 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
1,3-Dinitrobenzene	997	39 U	1130	113	73-119	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11100051.D

Lab ID: 280-168718-9 MSD Client ID: X3-SS-CO6-0006 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,3,5-Trinitrobenzene	990	1180	119	1	20	80-116	J1
2,4,6-Trinitrotoluene	990	1010	102	1	20	71-120	
2,4-Dinitrotoluene	990	1060	107	1	20	75-121	
2,6-Dinitrotoluene	990	1030	104	1	20	79-117	
2-Amino-4,6-dinitrotoluene	990	1000	101	2	20	71-123	
2-Nitrotoluene	990	1040	105	3	20	70-124	
3-Nitrotoluene	990	1020	103	3	20	67-129	
4-Amino-2,6-dinitrotoluene	990	1020	103	3	20	64-127	
4-Nitrotoluene	990	1010	102	4	20	71-124	
Nitrobenzene	990	1050	106	1	20	67-129	
Nitroglycerin	9900	11400	116	3	20	73-124	
HMX	990	939	95	0	20	74-124	M
PETN	9900	10500	106	2	20	72-128	
Picric acid	990	163	16	40	20	38-154	M J1
RDX	990	957	97	3	20	67-129	
Tetryl	990	1010	102	1	20	68-135	

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11100053.D

Lab ID: 280-168718-9 MSD Client ID: X3-SS-CO6-0006 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
3,5-Dinitroaniline	996	951	96	8	20	86-118	
2,4-diamino-6-nitrotoluene	996	1000 U	0	NC	20	10-150	M J1
2,6-diamino-4-nitrotoluene	996	1000 U	0	NC	20	10-150	M J1

Column to be used to flag recovery and RPD values

FORM III 8330B

FORM III
HPLC/IC MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11110021.D

Lab ID: 280-168718-9 MSD Client ID: X3-SS-CO6-0006 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
1,3-Dinitrobenzene	990	1080	109	5	20	73-119	

Column to be used to flag recovery and RPD values

FORM III 8330B

HPLC/IC TRIPLICATE SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11100055.D

Lab ID: 280-168718-9 TRL Client ID: X3-SS-CO6-0006 TRL

COMPOUND	SAMPLE CONC. (ug/Kg)	DUPLICATE CONC. (ug/Kg)	TRIPLICATE CONC. (ug/Kg)	%RSD	%RSD LIMIT	#
1,3,5-Trinitrobenzene	39 U	38 U	38 U	NC	20	
2,4,6-Trinitrotoluene	69 U	67 U	66 U	NC	20	
3,5-Dinitroaniline	20 U	19 U	19 U	NC	20	
2,4-Dinitrotoluene	39 U	38 U	38 U	NC	20	
2,6-Dinitrotoluene	39 U	38 U	38 U	NC	20	
2-Amino-4,6-dinitrotoluene	69 U	67 U	66 U	NC	20	
2-Nitrotoluene	99 U	96 U	94 U	NC	20	
3-Nitrotoluene	150 U	140 U	140 U	NC	20	
4-Amino-2,6-dinitrotoluene	69 U	67 U	66 U	NC	20	
4-Nitrotoluene	99 U	96 U	94 U	NC	20	
Nitrobenzene	200 U	190 U	190 U	NC	20	
Nitroglycerin	690 U	670 U	660 U	NC	20	
HMX	69 U	67 U	66 U	NC	20	
PETN	990 U	960 U	940 U	NC	20	
Picric acid	99 U	96 U	94 U	NC	20	
RDX	99 U	96 U	94 U	NC	20	
Tetryl	99 U	96 U	94 U	NC	20	
2,4-diamino-6-nitrotoluene	990 U	960 U	940 U	NC	20	
2,6-diamino-4-nitrotoluene	990 U	960 U	940 U	NC	20	

Column to be used to flag %RSD values

8330B

HPLC/IC TRIPLICATE SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: 11110023.D

Lab ID: 280-168718-9 TRL Client ID: X3-SS-CO6-0006 TRL

COMPOUND	SAMPLE CONC. (ug/Kg)	DUPLICATE CONC. (ug/Kg)	TRIPLICATE CONC. (ug/Kg)	%RSD	%RSD LIMIT	#
1,3-Dinitrobenzene	39 U	38 U	38 U	NC	20	

Column to be used to flag %RSD values

8330B

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: MB 280-592716/1-A

Matrix: Water Date Extracted: 11/08/2022 13:27

Lab File ID:(1) 11090011.D Lab File ID:(2)

Date Analyzed:(1) 11/09/2022 15:39 Date Analyzed:(2)

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2)

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) ID:

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-592716/2-A	11/09/2022 16:02	
	LCSD 280-592716/3-A	11/09/2022 16:25	
	LCS 280-592716/4-A	11/09/2022 16:48	
	LCSD 280-592716/5-A	11/09/2022 17:11	
RB-11012201	280-168718-6	11/10/2022 01:58	

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-592716/1-A

Matrix: Water | Lab File ID: 11090011.D

Analysis Method: 8330B | Date Collected:

Extraction Method: 3535 | Date Extracted: 11/08/2022 13:27

Sample wt/vol: 500(mL) | Date Analyzed: 11/09/2022 15:39

Con. Extract Vol.: 5(mL) | Dilution Factor: 1

Injection Volume: 100(uL) | GC Column: UltraCarb5uODS ID: 4.6(mm)

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 592890 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
99-35-4	1,3,5-Trinitrobenzene	0.20	U	0.21	0.20	0.084
99-65-0	1,3-Dinitrobenzene	0.10	U	0.11	0.10	0.037
118-96-7	2,4,6-Trinitrotoluene	0.10	U	0.11	0.10	0.045
618-87-1	3,5-Dinitroaniline	0.30	U	0.40	0.30	0.13
121-14-2	2,4-Dinitrotoluene	0.080	U	0.10	0.080	0.027
606-20-2	2,6-Dinitrotoluene	0.080	U	0.10	0.080	0.040
35572-78-2	2-Amino-4,6-dinitrotoluene	0.10	U	0.11	0.10	0.051
88-72-2	2-Nitrotoluene	0.20	U	0.21	0.20	0.086
99-08-1	3-Nitrotoluene	0.40	U	0.40	0.40	0.20
19406-51-0	4-Amino-2,6-dinitrotoluene	0.12	U	0.15	0.12	0.058
99-99-0	4-Nitrotoluene	0.40	U	0.41	0.40	0.10
98-95-3	Nitrobenzene	0.20	U	0.21	0.20	0.091
55-63-0	Nitroglycerin	2.0	U	2.1	2.0	0.92
2691-41-0	HMX	0.20	U	0.21	0.20	0.088
78-11-5	PETN	1.0	U	1.1	1.0	0.45
88-89-1	Picric acid	0.12	U	0.40	0.12	0.044
121-82-4	RDX	0.20	U	0.21	0.20	0.052
479-45-8	Tetryl	0.10	U	0.11	0.10	0.032
6629-29-4	2,4-diamino-6-nitrotoluene	0.90	U	1.0	0.90	0.43
59229-75-3	2,6-diamino-4-nitrotoluene	0.90	U	1.0	0.90	0.22

CAS NO.	SURROGATE	%REC	Q	LIMITS
528-29-0	1,2-Dinitrobenzene	96	M	83-119

FORM IV
HPLC/IC METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: MB 280-592924/1-A

Matrix: Solid Date Extracted: 11/09/2022 17:15

Lab File ID:(1) 11100038.D Lab File ID:(2)

Date Analyzed:(1) 11/11/2022 00:58 Date Analyzed:(2)

Instrument ID:(1) CHHPLC_X3 Instrument ID:(2) CHHPLC_X5

GC Column:(1) UltraCarb5uO ID: 4.6(mm) GC Column:(2) Luna-phenylh ID: 4.6(mm)

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	DATE ANALYZED 1	DATE ANALYZED 2
	LCS 280-592924/2-A	11/11/2022 01:21	
	LCS 280-592924/3-A	11/11/2022 01:44	
X3-SS-C01-0006	280-168718-1	11/11/2022 02:07	11/11/2022 17:36
FD-11012201	280-168718-2	11/11/2022 02:30	11/11/2022 18:11
X3-SS-C02-0006	280-168718-3	11/11/2022 02:53	11/11/2022 18:46
X3-SS-C04-0006	280-168718-5	11/11/2022 03:16	11/11/2022 19:21
X3-SS-C05-0006	280-168718-7	11/11/2022 03:39	11/11/2022 19:56
FD-11022201	280-168718-8	11/11/2022 04:02	11/11/2022 20:30
X3-SS-CO6-0006	280-168718-9	11/11/2022 05:11	11/11/2022 21:40
X3-SS-CO6-0006 MS	280-168718-9 MS	11/11/2022 05:34	11/11/2022 22:15
X3-SS-CO6-0006 MSD	280-168718-9 MSD	11/11/2022 05:57	11/11/2022 22:50
X3-SS-CO6-0006 MS	280-168718-9 MS	11/11/2022 06:20	
X3-SS-CO6-0006 MSD	280-168718-9 MSD	11/11/2022 06:43	
X3-SS-CO6-0006 DU	280-168718-9 DU	11/11/2022 07:06	11/11/2022 23:25
X3-SS-CO6-0006 TRL	280-168718-9 TRL	11/11/2022 07:29	11/12/2022 00:00
X7-SS-C01-0006	280-168718-10	11/11/2022 07:52	
X7B-SS-C01-0006	280-168718-11	11/11/2022 08:15	11/12/2022 00:35
X7-TP-C01-5460	280-168718-12	11/11/2022 08:38	11/12/2022 01:10
X7-TP-C02-3648	280-168718-13	11/11/2022 09:47	11/12/2022 01:45
X7-TP-C03-4248	280-168718-14	11/11/2022 10:10	11/12/2022 02:20
X7-TP-C04-4248	280-168718-15	11/11/2022 10:33	11/12/2022 02:55
X3-SS-C07-0006	280-168718-16	11/11/2022 10:56	11/12/2022 04:04
X3-SS-C08-0006	280-168718-17	11/11/2022 11:19	11/12/2022 04:39
X7-TP-C01-5460 DL	280-168718-12 DL	11/11/2022 16:10	11/12/2022 05:14
X7-TP-C02-3648 DL	280-168718-13 DL	11/11/2022 16:33	11/12/2022 05:49
X3-SS-C08-0006 DL	280-168718-17 DL	11/11/2022 16:56	11/12/2022 06:24

FORM I
HPLC/IC ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: Lab Sample ID: MX 280-3x2x2c/1-A

Matrid: Solih Lab File ID: 111000B8.D

Anal5sis MetVoh: 8BB0X Date Colleyteh:

Edtraytion MetVoh: 8BB0X Date Edtrayteh: 11/0x/2022 17:13

Sample 4t/vol: 10)wz Date Anal59eh: 11/11/2022 00:38

Con. Edtrayt jol.: c0)mLz Dilution Faytor: 1

In(eytion jolume: 100)uLz GC Column: %ltraCarb3uODS ID: c.6)mmz

g Moisture: g Solihs: GPC Cleanup:)Y/Nz N

Cleanup Faytor:

Anal5sis XatyV No.: 3xB0c2 %nits: uw/Kw

CAS NO.	COMPO%ND NAME	RES%LT	U	LOU	LOD	DL
xx-B3-c	1QBQ3-Trinitroben9ene	c0	%	100	c0	1c
xx-63-0	1QB-Dinitroben9ene	c0	%	100	c0	17
118-x6-7	2QcQ6-Trinitrotoluene	70	%	100	70	B1
618-87-1	BQ3-Dinitroaniline	20	%	100	20	x.0
121-1c-2	2Qc-Dinitrotoluene	c0	%	100	c0	13
606-20-2	2Q6-Dinitrotoluene	c0	%	100	c0	1x
B3372-78-2	2-Amino-cQ6-hinitrotoluene	70	%	100	70	BB
88-72-2	2-Nitrotoluene	100	%	200	100	c7
xx-08-1	B-Nitrotoluene	130	%	200	130	6c
1xc06-31-0	c-Amino-2Q6-hinitrotoluene	70	%	100	70	B0
xx-xx-0	c-Nitrotoluene	100	%	200	100	B7
x8-x3-B	Nitroben9ene	200	%	B00	200	83
33-6B-0	Nitrowl5yerin	700	%	2000	700	220
26x1-c1-0	HM,	70	%	100	70	2B
78-11-3	PETN	1000	%	2000	1000	cx0
88-8x-1	Piyriy ayih	100	%	100	100	36
121-82-c	RD,	100	%	200	100	cB
c7x-c3-8	Tetr5l	100	%	200	100	cc
662x-2x-c	2Qc-hiamino-6-nitrotoluene	1000	%	2000	1000	320
3x22x-73-B	2Q6-hiamino-c-nitrotoluene	1000	%	2000	1000	BB0

CAS NO.	S%RROGATE	gREC	U	LIMITS
328-2x-0	1Q2-Dinitroben9ene	112		78-11x

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C05-0006 Lab Sample ID: 280-168718-7

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 03:39 Date Analyzed (2): 11/11/2022 19:56

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
3,5-Dinitroaniline	1		9.81	9.68	9.98	87		11.1
	2		14.78	14.65	14.95	78		
2,4,6-Trinitrotoluene	1		10.83	10.75	10.95	510		21.7
	2		24.60	24.53	24.83	640		
4-Amino-2,6-dinitrotoluene	1		11.00	10.92	11.12	190		0.2
	2		17.22	17.10	17.40	190		
2-Amino-4,6-dinitrotoluene	1		11.25	11.17	11.37	180		39.6
	2		18.17	18.08	18.38	270		
2,4-Dinitrotoluene	1		11.60	11.52	11.72	110		5.1
	2		20.17	20.08	20.38	110		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: FD-11022201 Lab Sample ID: 280-168718-8

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 04:02 Date Analyzed (2): 11/11/2022 20:30

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
3,5-Dinitroaniline	1		9.82	9.68	9.98	98		17.9
	2		14.77	14.65	14.95	120		
2,4,6-Trinitrotoluene	1		10.84	10.75	10.95	240		21.7
	2		24.65	24.53	24.83	300		
4-Amino-2,6-dinitrotoluene	1		11.01	10.92	11.12	200		4.6
	2		17.19	17.10	17.40	210		
2-Amino-4,6-dinitrotoluene	1		11.26	11.17	11.37	210		23.1
	2		18.15	18.08	18.38	270		
2,4-Dinitrotoluene	1		11.60	11.52	11.72	43		14.0
	2		20.19	20.08	20.38	37		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MS Lab Sample ID: 280-168718-9 MS

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 05:34 Date Analyzed (2): 11/11/2022 22:15

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.56	6.42	6.72	940		0.6
	2		6.61	6.51	6.81	946		
RDX	1		7.54	7.41	7.71	988		0.4
	2		8.70	8.61	8.91	984		
1,3,5-Trinitrobenzene	1		8.62	8.48	8.78	1170		8.6
	2		18.34	18.29	18.59	1070		
1,3-Dinitrobenzene	1		9.23	9.09	9.39	1390		21.0
	2		15.10	15.03	15.33	1130		
Nitrobenzene	1		9.62	9.49	9.79	1060		19.5
	2		11.60	11.53	11.83	1290		
Tetryl	1		9.94	9.79	10.09	1000		5.3
	2		23.76	23.73	24.03	1060		
Nitroglycerin	1		10.38	10.25	10.55	11100		2.4
	2		15.42	15.35	15.65	11300		
2,4,6-Trinitrotoluene	1		10.83	10.75	10.95	1020		29.9
	2		24.56	24.53	24.83	1380		
4-Amino-2,6-dinitrotoluene	1		11.01	10.92	11.12	1050		7.4
	2		17.14	17.10	17.40	979		
2-Amino-4,6-dinitrotoluene	1		11.26	11.17	11.37	1020		5.3
	2		18.20	18.08	18.38	1070		
2,6-Dinitrotoluene	1		11.43	11.36	11.56	1040		1.2
	2		19.62	19.57	19.87	1030		
2,4-Dinitrotoluene	1		11.60	11.52	11.72	1070		0.3
	2		20.12	20.08	20.38	1060		
2-Nitrotoluene	1		12.44	12.33	12.63	1070		3.5
	2		16.25	16.19	16.49	1040		
4-Nitrotoluene	1		12.86	12.75	13.05	1050		5.9
	2		16.52	16.49	16.79	1110		
3-Nitrotoluene	1		13.43	13.31	13.61	1050		8.0
	2		17.50	17.46	17.76	1140		
PETN	1		14.47	14.37	14.67	10700		5.6
	2		25.60	25.55	25.85	10100		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-CO6-0006 MSD Lab Sample ID: 280-168718-9 MSD

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 05:57 Date Analyzed (2): 11/11/2022 22:50

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.56	6.42	6.72	939		0.3
	2		6.61	6.51	6.81	942		
RDX	1		7.55	7.41	7.71	957		0.5
	2		8.70	8.61	8.91	962		
1,3,5-Trinitrobenzene	1		8.61	8.48	8.78	1180		9.0
	2		18.36	18.29	18.59	1080		
1,3-Dinitrobenzene	1		9.23	9.09	9.39	1170		8.3
	2		15.11	15.03	15.33	1080		
Nitrobenzene	1		9.62	9.49	9.79	1050		9.8
	2		11.61	11.53	11.83	1150		
Tetryl	1		9.93	9.79	10.09	1010		4.5
	2		23.81	23.73	24.03	1060		
Nitroglycerin	1		10.38	10.25	10.55	11400		2.4
	2		15.44	15.35	15.65	11200		
2,4,6-Trinitrotoluene	1		10.83	10.75	10.95	1010		19.2
	2		24.61	24.53	24.83	1230		
4-Amino-2,6-dinitrotoluene	1		11.01	10.92	11.12	1020		6.0
	2		17.17	17.10	17.40	964		
2-Amino-4,6-dinitrotoluene	1		11.25	11.17	11.37	1000		1.5
	2		18.21	18.08	18.38	1020		
2,6-Dinitrotoluene	1		11.43	11.36	11.56	1030		4.3
	2		19.63	19.57	19.87	985		
2,4-Dinitrotoluene	1		11.59	11.52	11.72	1060		1.2
	2		20.14	20.08	20.38	1040		
2-Nitrotoluene	1		12.44	12.33	12.63	1040		5.1
	2		16.27	16.19	16.49	989		
4-Nitrotoluene	1		12.86	12.75	13.05	1010		7.6
	2		16.54	16.49	16.79	1090		
3-Nitrotoluene	1		13.43	13.31	13.61	1020		7.3
	2		17.52	17.46	17.76	1100		
PETN	1		14.47	14.37	14.67	10500		0.7
	2		25.63	25.55	25.85	10600		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 Lab Sample ID: 280-168718-12

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 08:38 Date Analyzed (2): 11/12/2022 01:10

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.55	6.42	6.72	1600		1.7
	2		6.60	6.51	6.81	1600		
RDX	1		7.54	7.41	7.71	39000		3.4
	2		8.70	8.61	8.91	41000		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C01-5460 DL Lab Sample ID: 280-168718-12 DL

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 16:10 Date Analyzed (2): 11/12/2022 05:14

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.57	6.41	6.71	1500		2.9
	2		6.65	6.51	6.81	1600		
RDX	1		7.55	7.40	7.70	38000		2.4
	2		8.75	8.61	8.91	39000		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 Lab Sample ID: 280-168718-13

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 09:47 Date Analyzed (2): 11/12/2022 01:45

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.56	6.42	6.72	4200		4.8
	2		6.59	6.51	6.81	4000		
RDX	1		7.54	7.41	7.71	71000		2.4
	2		8.68	8.61	8.91	73000		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C02-3648 DL Lab Sample ID: 280-168718-13 DL

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 16:33 Date Analyzed (2): 11/12/2022 05:49

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.56	6.41	6.71	3900		3.4
	2		6.65	6.51	6.81	4000		
RDX	1		7.55	7.40	7.70	65000		4.1
	2		8.74	8.61	8.91	68000		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C03-4248 Lab Sample ID: 280-168718-14

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 10:10 Date Analyzed (2): 11/12/2022 02:20

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.56	6.42	6.72	170		5.0
	2		6.64	6.51	6.81	180		
RDX	1		7.54	7.41	7.71	4800		2.6
	2		8.73	8.61	8.91	4900		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X7-TP-C04-4248 Lab Sample ID: 280-168718-15

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 10:33 Date Analyzed (2): 11/12/2022 02:55

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
HMX	1		6.56	6.42	6.72	280		23.4
	2		6.61	6.51	6.81	360		
RDX	1		7.54	7.41	7.71	6200		1.5
	2		8.71	8.61	8.91	6100		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C07-0006 Lab Sample ID: 280-168718-16

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 10:56 Date Analyzed (2): 11/12/2022 04:04

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
2,4,6-Trinitrotoluene	1		10.82	10.75	10.95	160		9.6
	2		24.56	24.53	24.83	170		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 Lab Sample ID: 280-168718-17

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 11:19 Date Analyzed (2): 11/12/2022 04:39

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
1,3,5-Trinitrobenzene	1		8.61	8.48	8.78	130		14.3
	2		18.32	18.29	18.59	110		
3,5-Dinitroaniline	1		9.81	9.68	9.98	81		2.7
	2		14.71	14.65	14.95	79		
2,4,6-Trinitrotoluene	1		10.83	10.75	10.95	18000		2.6
	2		24.59	24.53	24.83	18000		
2-Amino-4,6-dinitrotoluene	1		11.25	11.17	11.37	400		24.5
	2		18.12	18.08	18.38	510		
2,6-Dinitrotoluene	1		11.43	11.36	11.56	430		19.3
	2		19.64	19.57	19.87	520		
2,4-Dinitrotoluene	1		11.59	11.52	11.72	8300		1.1
	2		20.13	20.08	20.38	8400		

FORM X
IDENTIFICATION SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Client Sample ID: X3-SS-C08-0006 DL Lab Sample ID: 280-168718-17 DL

Instrument ID (1): CHHPLC_X3 Instrument ID (2): CHHPLC_X5

Date Analyzed (1): 11/11/2022 16:56 Date Analyzed (2): 11/12/2022 06:24

GC Column (1): UltraCarb5uOD ID: 4.6(mm) GC Column (2): Luna-phenylhe ID: 4.6(mm)

ANALYTE	COL	PEAK	RT	RT WINDOW		CONCENTRATION		RPD
				FROM	TO	PEAK	MEAN	
3,5-Dinitroaniline	1		9.81	9.68	9.98	100		43.2
	2		14.79	14.65	14.95	67		
2,4,6-Trinitrotoluene	1		10.83	10.73	10.93	17000		4.9
	2		24.65	24.53	24.83	18000		
2-Amino-4,6-dinitrotoluene	1		11.25	11.16	11.36	360		0.2
	2		18.18	18.08	18.38	360		
2,6-Dinitrotoluene	1		11.43	11.34	11.54	430		13.4
	2		19.70	19.57	19.87	500		
2,4-Dinitrotoluene	1		11.60	11.50	11.70	8000		3.5
	2		20.21	20.08	20.38	8200		

RESULT FOR 3,5-DINITROANLINE NOT REPORTED

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 01/04/2022 22:17 Calibration End Date: 01/05/2022 00:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-562503/28	01040028.D
Level 2	IC 280-562503/27	01040027.D
Level 3	IC 280-562503/26	01040026.D
Level 4	IC 280-562503/25	01040025.D
Level 5	IC 280-562503/24	01040024.D
Level 6	IC 280-562503/23	01040023.D
Level 7	IC 280-562503/22	01040022.D
Level 8	IC 280-562503/21	01040021.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8		
2,6-diamino-4-nitrotoluene	6.470	6.473	6.469	6.476	6.472	6.478	6.475	6.471		
2,4-diamino-6-nitrotoluene	6.657	6.660	6.656	6.656	6.658	6.658	6.662	6.658		
3,5-Dinitroaniline	9.930	9.926	9.929	9.935	9.932	9.931	9.935	9.931		

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 01/04/2022 22:17 Calibration End Date: 01/05/2022 00:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-562503/28	01040028.D
Level 2	IC 280-562503/27	01040027.D
Level 3	IC 280-562503/26	01040026.D
Level 4	IC 280-562503/25	01040025.D
Level 5	IC 280-562503/24	01040024.D
Level 6	IC 280-562503/23	01040023.D
Level 7	IC 280-562503/22	01040022.D
Level 8	IC 280-562503/21	01040021.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
2,6-diamino-4-nitrotoluene	215350 211160	218940 217771	225870 208461	208052 212774	Ave		214797.254			
2,4-diamino-6-nitrotoluene	141650 127363	142200 133090	144420 124865	127544 130175	Ave		133913.288			
3,5-Dinitroaniline	210150 232598	223700 231751	224420 231395	216720 233116	Lin2	-400.45754	229952.779			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 01/04/2022 22:17 Calibration End Date: 01/05/2022 00:57 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-562503/28	01040028.D
Level 2	IC 280-562503/27	01040027.D
Level 3	IC 280-562503/26	01040026.D
Level 4	IC 280-562503/25	01040025.D
Level 5	IC 280-562503/24	01040024.D
Level 6	IC 280-562503/23	01040023.D
Level 7	IC 280-562503/22	01040022.D
Level 8	IC 280-562503/21	01040021.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
2,6-diamino-4-nitrotoluene	Ave	4307 152440	10947 208461	22587 531934	52013	84464	0.0200 0.700	0.05 1.
2,4-diamino-6-nitrotoluene	Ave	2833 93163	7110 124865	14442 325437	31886	50945	0.0200 0.700	0.05 1.
3,5-Dinitroaniline	Lin2	4203 162226	11185 231395	22442 582790	54180	93039	0.0200 0.700	0.05 1.

Curve Type Legend

Ave = Average
Lin2 = Linear 1/conc^2

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579842/19	07020019.D
Level 2	IC 280-579842/18	07020018.D
Level 3	IC 280-579842/17	07020017.D
Level 4	IC 280-579842/16	07020016.D
Level 5	IC 280-579842/15	07020015.D
Level 6	IC 280-579842/14	07020014.D
Level 7	IC 280-579842/13	07020013.D
Level 8	IC 280-579842/12	07020012.D
Level 9	IC 280-579842/11	07020011.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9
HMX	6.587	6.583	6.586	6.583	6.588	6.581	6.583	6.585	6.580
RDX	7.580	7.583	7.580	7.576	7.581	7.574	7.576	7.578	7.573
Picric acid	7.940	7.943	7.940	7.936	7.935	7.921	7.909	7.891	7.853
1,3,5-Trinitrobenzene	8.654	8.657	8.653	8.656	8.655	8.654	8.649	8.651	8.647
1,3-Dinitrobenzene	9.280	9.290	9.286	9.282	9.288	9.281	9.283	9.278	9.273
Nitrobenzene	9.674	9.677	9.673	9.676	9.675	9.674	9.669	9.671	9.660
Tetryl	9.994	10.003	10.000	10.002	10.001	9.994	9.996	9.991	9.987
Nitroglycerin	10.447	10.450	10.453	10.456	10.455	10.447	10.443	10.445	10.433
2,4,6-Trinitrotoluene	10.900	10.903	10.906	10.909	10.908	10.901	10.903	10.898	10.893
4-Amino-2,6-dinitrotoluene	11.107	11.110	11.113	11.109	11.108	11.107	11.103	11.098	11.093
2-Amino-4,6-dinitrotoluene	11.354	11.357	11.366	11.362	11.361	11.354	11.356	11.351	11.347
2,6-Dinitrotoluene	11.514	11.523	11.526	11.529	11.521	11.521	11.516	11.518	11.513
2,4-Dinitrotoluene	11.687	11.690	11.693	11.696	11.695	11.687	11.683	11.685	11.680
2-Nitrotoluene	12.560	12.550	12.553	12.556	12.555	12.547	12.543	12.545	12.533
4-Nitrotoluene	12.974	12.977	12.980	12.982	12.981	12.974	12.976	12.971	12.960
3-Nitrotoluene	13.554	13.557	13.553	13.556	13.555	13.547	13.549	13.545	13.533
PETN	14.607	14.610	14.606	14.609	14.615	14.607	14.603	14.598	14.580
1,2-Dinitrobenzene	8.534	8.537	8.533	8.529	8.535	8.534	8.529	8.531	8.527

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579842/19	07020019.D
Level 2	IC 280-579842/18	07020018.D
Level 3	IC 280-579842/17	07020017.D
Level 4	IC 280-579842/16	07020016.D
Level 5	IC 280-579842/15	07020015.D
Level 6	IC 280-579842/14	07020014.D
Level 7	IC 280-579842/13	07020013.D
Level 8	IC 280-579842/12	07020012.D
Level 9	IC 280-579842/11	07020011.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
HMX	81800 90012 90731	91850 89210	87400 90059	89500 90060	Ave		88957.9746			
RDX	103800 106448 105585	110050 105620	117340 105627	108660 105502	Ave		107625.816			
Picric acid	76400 78216 80241	68400 78330	79120 79070	77930 79536	Ave		77471.4667			
1,3,5-Trinitrobenzene	205900 214296 220785	201200 216145	211580 216801	217450 218621	Ave		213642.025			
1,3-Dinitrobenzene	270400 293928 299117	278750 294285	294020 295356	292560 296453	Ave		290540.946			
Nitrobenzene	197400 190472 197174	185000 192483	193440 194234	193400 193673	Ave		193030.598			
Tetryl	157200 165060 170544	161850 165910	166480 167091	165550 169019	Ave		165411.648			
Nitroglycerin	50280 63816 65134	57560 64333	61420 64629	63449 64981	Ave		61733.4316			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
2,4,6-Trinitrotoluene	206400 209676 213926	211700 210490	210300 211021	213070 211659	Ave		210915.825			
4-Amino-2,6-dinitrotoluene	130600 145248 147343	145850 144880	147320 145721	149760 146514	Ave		144804.070			
2-Amino-4,6-dinitrotoluene	191700 194480 198802	192800 193538	197060 196644	196260 195945	Ave		195247.687			
2,6-Dinitrotoluene	140900 142268 144220	141250 142710	140560 139939	144440 143409	Ave		142188.397			
2,4-Dinitrotoluene	290300 287872 292684	284900 288438	292180 291946	291380 291289	Ave		290109.802			
2-Nitrotoluene	146900 123024 126420	134950 123948	130240 125143	127220 124372	Lin2	223.518646	124433.143			
4-Nitrotoluene	129000 106100 108126	123300 106273	112280 107376	107820 106384	Ave		111850.868			
3-Nitrotoluene	138400 134020 138348	146350 135205	140380 137157	136360 135460	Ave		137964.505			
PETN	70870 71819 73134	69055 71911	68102 72403	71085 72838	Lin1	-754.87322	72834.1920			
1,2-Dinitrobenzene	121800 126320 128500	123650 125648	125640 127596	126140 127299	Ave		125843.579			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579842/19	07020019.D
Level 2	IC 280-579842/18	07020018.D
Level 3	IC 280-579842/17	07020017.D
Level 4	IC 280-579842/16	07020016.D
Level 5	IC 280-579842/15	07020015.D
Level 6	IC 280-579842/14	07020014.D
Level 7	IC 280-579842/13	07020013.D
Level 8	IC 280-579842/12	07020012.D
Level 9	IC 280-579842/11	07020011.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
HMX	Ave	818 35684	1837 63041	4370 90060	8950 226828	22503	0.0100 0.400	0.02 0.7
RDX	Ave	1038 42248	2201 73939	5867 105502	10866 263963	26612	0.0100 0.400	0.02 0.7
Picric acid	Ave	764 31332	1368 55349	3956 79536	7793 200603	19554	0.0100 0.400	0.02 0.7
1,3,5-Trinitrobenzene	Ave	2059 86458	4024 151761	10579 218621	21745 551962	53574	0.0100 0.400	0.02 0.7
1,3-Dinitrobenzene	Ave	2704 117714	5575 206749	14701 296453	29256 747792	73482	0.0100 0.400	0.02 0.7
Nitrobenzene	Ave	1974 76993	3700 135964	9672 193673	19340 492934	47618	0.0100 0.400	0.02 0.7
Tetryl	Ave	1572 66364	3237 116964	8324 169019	16555 426361	41265	0.0100 0.400	0.02 0.7
Nitroglycerin	Ave	5028 257331	11512 452401	30710 649807	63449 1628353	159539	0.100 4.00	0.2 7.
2,4,6-Trinitrotoluene	Ave	2064 84196	4234 147715	10515 211659	21307 534815	52419	0.0100 0.400	0.02 0.7
4-Amino-2,6-dinitrotoluene	Ave	1306 57952	2917 102005	7366 146514	14976 368358	36312	0.0100 0.400	0.02 0.7
2-Amino-4,6-dinitrotoluene	Ave	1917 77415	3856 137651	9853 195945	19626 497006	48620	0.0100 0.400	0.02 0.7
2,6-Dinitrotoluene	Ave	1409 57084	2825 97957	7028 143409	14444 360550	35567	0.0100 0.400	0.02 0.7
2,4-Dinitrotoluene	Ave	2903	5698	14609	29138	71968	0.0100	0.02

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X3 GC Column: UltraCarb5u ID: 4.6(mm) Heated

Calibration Start Date: 07/02/2022 13:06 Calibration End Date: 07/02/2022 16:09 Calibra

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
		115375	204362	291289	731710		0.400	0.7
2-Nitrotoluene	Lin2	1469 49579	2699 87600	6512 124372	12722 316051	30756	0.0100 0.400	0.02 0.7
4-Nitrotoluene	Ave	1290 42509	2466 75163	5614 106384	10782 270314	26525	0.0100 0.400	0.02 0.7
3-Nitrotoluene	Ave	1384 54082	2927 96010	7019 135460	13636 345871	33505	0.0100 0.400	0.02 0.7
PETN	Lin1	7087 287643	13811 506818	34051 728379	71085 1828345	179547	0.100 4.00	0.2 7.
1,2-Dinitrobenzene	Ave	1218 50259	2473 89317	6282 127299	12614 321250	31580	0.0100 0.400	0.02 0.7

Curve Type Legend
Ave = Average
Lin1 = Linear 1/conc
Lin2 = Linear 1/conc^2

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-567560/18	03020018.D
Level 2	IC 280-567560/17	03020017.D
Level 3	IC 280-567560/16	03020016.D
Level 4	IC 280-567560/15	03020015.D
Level 5	IC 280-567560/14	03020014.D
Level 6	IC 280-567560/13	03020013.D
Level 7	IC 280-567560/12	03020012.D
Level 8	IC 280-567560/11	03020011.D
Level 9	IC 280-567560/10	03020010.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9
2,6-diamino-4-nitrotoluene	+++++	4.169	4.154	4.149	4.142	4.127	4.110	4.093	4.071
2,4-diamino-6-nitrotoluene	4.714	4.716	4.674	4.669	4.669	4.700	4.710	4.713	4.698
HMX	6.887	6.896	6.894	6.896	6.889	6.880	6.863	6.860	6.791
Picric acid		7.863	7.767	7.696	7.602	7.527	7.430	7.346	7.231
RDX	9.114	9.129	9.120	9.129	9.115	9.100	9.083	9.066	8.985
Nitrobenzene	12.047	12.069	12.073	12.069	12.062	12.060	12.036	12.020	11.925
3,5-Dinitroaniline	15.287	15.282	15.287	15.276	15.269	15.260	15.243	15.226	15.151
1,3-Dinitrobenzene	15.627	15.642	15.647	15.642	15.635	15.627	15.616	15.600	15.525
Nitroglycerin	16.054	16.062	16.073	16.062	16.055	16.054	16.050	16.033	15.971
o-Nitrotoluene	16.807	16.829	16.833	16.829	16.822	16.820	16.810	16.793	16.725
p-Nitrotoluene	17.147	17.129	17.147	17.136	17.129	17.127	17.123	17.100	17.018
4-Amino-2,6-dinitrotoluene	17.734	17.756	17.773	17.756	17.755	17.747	17.736	17.720	17.651
m-Nitrotoluene	18.094	18.116	18.120	18.109	18.102	18.100	18.090	18.073	18.005
2-Amino-4,6-dinitrotoluene	18.754	18.762	18.773	18.749	18.742	18.740	18.730	18.706	18.725
1,3,5-Trinitrobenzene	18.947	18.956	18.973	18.956	18.949	18.947	18.936	18.920	18.851
2,6-Dinitrotoluene	20.260	20.262	20.267	20.256	20.255	20.254	20.243	20.233	20.171
2,4-Dinitrotoluene	20.674	20.716	20.767	20.756	20.762	20.760	20.750	20.733	20.671
Tetryl	24.514	24.496	24.500	24.483	24.489	24.494	24.483	24.466	24.425
2,4,6-Trinitrotoluene	25.274	25.269	25.274	25.256	25.262	25.267	25.257	25.246	25.198
PETN	26.220	26.223	26.220	26.209	26.215	26.220	26.217	26.206	26.185
1,2-Dinitrobenzene	13.260	13.282	13.287	13.282	13.282	13.274	13.256	13.240	13.158

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-567560/18	03020018.D
Level 2	IC 280-567560/17	03020017.D
Level 3	IC 280-567560/16	03020016.D
Level 4	IC 280-567560/15	03020015.D
Level 5	IC 280-567560/14	03020014.D
Level 6	IC 280-567560/13	03020013.D
Level 7	IC 280-567560/12	03020012.D
Level 8	IC 280-567560/11	03020011.D
Level 9	IC 280-567560/10	03020010.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
2,6-diamino-4-nitrotoluene	+++++ 386384 421394	457250 369155	430520 390336	410300 386260	Ave		406449.789			
2,4-diamino-6-nitrotoluene	406400 239776 190011	280900 233548	257380 246634	249320 247885	Lin2	1666.57216	226258.207			
HMX	204000 153272 187359	156350 157048	161060 156446	161090 158593	Ave		166135.268			
Picric acid	 137152 100000	115050 145895	127120 147056	140090 150719	Ave		132885.214			
RDX	209700 185668 192949	185950 191778	200560 191473	197500 193402	Ave		194331.017			
Nitrobenzene	387450 359546 376404	332968 370117	381454 369358	371225 366118	Ave		368293.361			
3,5-Dinitroaniline	436200 411148 415652	381050 394513	419320 420926	421070 419224	Lin2	94.0377044	411255.399			
1,3-Dinitrobenzene	594910 544854 583320	531088 563411	602415 562742	594182 568076	Ave		571666.383			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
Nitroglycerin	106640 123863 126320	108750 129921	119788 126936	133241 127202	Ave		122517.801			
o-Nitrotoluene	249100 224884 232108	230350 232660	241140 230763	238570 232476	Ave		234672.317			
p-Nitrotoluene	219860 201816 215781	203493 209224	211477 208958	215818 210922	Ave		210816.657			
4-Amino-2,6-dinitrotoluene	260739 258018 268817	263287 267340	268232 265560	271888 269422	Lin2	-62.900141	267244.423			
m-Nitrotoluene	254046 256344 271648	240010 266386	267473 265219	269510 267544	Lin2	-189.49318	266002.360			
2-Amino-4,6-dinitrotoluene	369024 350637 335952	343576 365448	369761 366702	370299 373422	Ave		360535.698			
1,3,5-Trinitrobenzene	393912 409485 468023	347804 424182	425928 421012	424291 424539	Ave		415464.126			
2,6-Dinitrotoluene	269323 256928 267124	260608 264846	274044 264869	265807 267408	Ave		265661.838			
2,4-Dinitrotoluene	1185259 555279 545162	839791 549871	675657 543624	639313 546924	Lin2	6399.59049	541564.591			
Tetryl	471257 308379 316049	345958 315734	361477 313195	331218 316267	Ave		342170.507			
2,4,6-Trinitrotoluene	370518 363896 385306	324054 376581	369641 378025	370568 384024	Ave		369179.221			
PETN	108420 131804 136767	109615 136247	134164 135887	134076 136984	Ave		129329.182			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
1,2-Dinitrobenzene	246100 244792 252426	240450 249510	257280 250511	254990 251717	Ave		249752.93 7			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-567560/18	03020018.D
Level 2	IC 280-567560/17	03020017.D
Level 3	IC 280-567560/16	03020016.D
Level 4	IC 280-567560/15	03020015.D
Level 5	IC 280-567560/14	03020014.D
Level 6	IC 280-567560/13	03020013.D
Level 7	IC 280-567560/12	03020012.D
Level 8	IC 280-567560/11	03020011.D
Level 9	IC 280-567560/10	03020010.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
2,6-diamino-4-nitrotoluene	Ave	+++++ 147662	9145 273235	21526 386260	41030 1053484	96596	+++++ 0.400	0.02 0.7
2,4-diamino-6-nitrotoluene	Lin2	4064 93419	5618 172644	12869 247885	24932 475027	59944	0.0100 0.400	0.02 0.7
HMX	Ave	2040 62819	3127 109512	8053 158593	16109 468398	38318	0.0100 0.400	0.02 0.7
Picric acid	Ave	 58358	2301 102939	6356 150719	14009 250000	34288	 0.400	0.02 0.7
RDX	Ave	2097 76711	3719 134031	10028 193402	19750 482372	46417	0.0100 0.400	0.02 0.7
Nitrobenzene	Ave	3890 148639	6686 259585	19149 367582	37271 944774	90246	0.0100 0.402	0.02 0.7
3,5-Dinitroaniline	Lin2	4362 157805	7621 294648	20966 419224	42107 1039131	102787	0.0100 0.400	0.02 0.7
1,3-Dinitrobenzene	Ave	5961 225815	10643 394707	30181 569212	59537 1461217	136486	0.0100 0.401	0.02 0.7
Nitroglycerin	Ave	10664 519683	21750 888552	59894 1272015	133241 3158004	309657	0.100 4.00	0.2 7.
o-Nitrotoluene	Ave	2491 93064	4607 161534	12057 232476	23857 580270	56221	0.0100 0.400	0.02 0.7
p-Nitrotoluene	Ave	2203 83857	4078 146563	10595 211344	21625 540531	50555	0.0100 0.401	0.02 0.7
4-Amino-2,6-dinitrotoluene	Lin2	2610 107043	5271 186078	13425 269691	27216 672715	64569	0.0100 0.400	0.02 0.7
m-Nitrotoluene	Lin2	2543	4805	13387	26978	64150	0.0100	0.02

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 03/02/2022 21:22 Calibration End Date: 03/03/2022 02:03 Calibra

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
		106661	185839	267812	679800		0.400	0.7
2-Amino-4,6-dinitrotoluene	Ave	3705 146764	6899 257718	18562 374916	37178 843240	88010	0.0100 0.402	0.02 0.7
1,3,5-Trinitrobenzene	Ave	3947 170012	6970 295298	21339 425388	42514 1172398	102576	0.0100 0.401	0.02 0.7
2,6-Dinitrotoluene	Ave	2704 106362	5233 186150	13757 268478	26687 670482	64489	0.0100 0.402	0.02 0.7
2,4-Dinitrotoluene	Lin2	11900 220828	16863 382059	33918 549112	64187 1368356	139375	0.0100 0.402	0.02 0.7
Tetryl	Ave	4722 126546	6933 219675	18110 316900	33188 791703	77249	0.0100 0.401	0.02 0.7
2,4,6-Trinitrotoluene	Ave	3720 151235	6507 265676	18556 385560	37205 967117	91338	0.0100 0.402	0.02 0.7
PETN	Ave	10842 544987	21923 951206	67082 1369840	134076 3419168	329509	0.100 4.00	0.2 7.
1,2-Dinitrobenzene	Ave	2461 99804	4809 175358	12864 251717	25499 631065	61198	0.0100 0.400	0.02 0.7

Curve Type Legend

Ave = Average
Lin2 = Linear 1/conc^2

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579374/18	06280018.D
Level 2	IC 280-579374/17	06280017.D
Level 3	IC 280-579374/16	06280016.D
Level 4	IC 280-579374/15	06280015.D
Level 5	IC 280-579374/14	06280014.D
Level 6	IC 280-579374/13	06280013.D
Level 7	IC 280-579374/12	06280012.D
Level 8	IC 280-579374/11	06280011.D
Level 9	IC 280-579374/10	06280010.D

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7	LVL 8	LVL 9
HMX	6.845	6.825	6.839	6.849	6.836	6.837	6.835	6.810	6.788
Picric acid	8.371	8.358	8.359	8.369	8.322	8.317	8.282	8.236	8.141
RDX	9.005	8.985	9.006	9.022	8.996	9.011	9.002	8.970	8.941
Nitrobenzene	11.944	11.951	11.945	11.975	11.942	11.964	11.948	11.929	11.881
1,3-Dinitrobenzene	15.504	15.525	15.505	15.542	15.509	15.517	15.501	15.489	15.434
Nitroglycerin	15.831	15.865	15.859	15.895	15.862	15.871	15.855	15.856	15.807
2-Nitrotoluene	16.624	16.671	16.665	16.695	16.669	16.684	16.668	16.656	16.601
4-Nitrotoluene	16.958	16.971	16.972	17.002	16.976	16.984	16.975	16.956	16.901
4-Amino-2,6-dinitrotoluene	17.571	17.605	17.599	17.629	17.602	17.611	17.608	17.583	17.534
3-Nitrotoluene	17.911	17.931	17.932	17.955	17.936	17.944	17.948	17.923	17.881
2-Amino-4,6-dinitrotoluene	18.571	18.598	18.599	18.622	18.602	18.611	18.615	18.576	18.547
1,3,5-Trinitrobenzene	18.764	18.771	18.785	18.802	18.776	18.784	18.788	18.756	18.727
2,6-Dinitrotoluene	20.064	20.098	20.072	20.109	20.076	20.091	20.101	20.069	20.047
2,4-Dinitrotoluene	20.565	20.592	20.579	20.616	20.576	20.604	20.608	20.583	20.554
Tetryl	24.265	24.312	24.312	24.336	24.336	24.317	24.302	24.296	24.268
2,4,6-Trinitrotoluene	25.058	25.085	25.106	25.109	25.116	25.097	25.088	25.076	25.041
PETN	26.045	26.065	26.079	26.056	26.082	26.064	26.062	26.056	26.034
1,2-Dinitrobenzene	13.144	13.171	13.159	13.195	13.156	13.177	13.148	13.143	13.094

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579374/18	06280018.D
Level 2	IC 280-579374/17	06280017.D
Level 3	IC 280-579374/16	06280016.D
Level 4	IC 280-579374/15	06280015.D
Level 5	IC 280-579374/14	06280014.D
Level 6	IC 280-579374/13	06280013.D
Level 7	IC 280-579374/12	06280012.D
Level 8	IC 280-579374/11	06280011.D
Level 9	IC 280-579374/10	06280010.D

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
HMX	167400 173700 173779	175850 173618	176340 172074	173490 171273	Ave		173058.176			
Picric acid	130400 151972 151800	151900 151490	144060 150014	153910 150277	Ave		148424.810			
RDX	241000 203940 200723	223700 201715	207940 198747	210980 199214	Lin2	411.496234	201116.772			
Nitrobenzene	362400 368516 371687	357200 367523	370720 366309	369360 365717	Ave		366603.430			
1,3-Dinitrobenzene	539400 580744 586233	533350 581858	568380 580489	577910 579205	Ave		569729.763			
Nitroglycerin	125880 129607 128655	127255 128856	128464 127913	132025 127408	Ave		128451.355			
2-Nitrotoluene	220600 215664 215995	208050 217713	226420 215983	217800 215672	Ave		217099.617			
4-Nitrotoluene	238500 226748 230392	200400 224475	231740 224844	221350 223663	Ave		224679.143			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5 LVL 9	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4 LVL 8		B	M1	M2		
4-Amino-2,6-dinitrotoluene	225700 246284 247522	237400 245505	254980 244466	244280 245531	Ave		243518.679			
3-Nitrotoluene	233000 283204 288378	221000 285353	286440 284557	279180 282769	Ave		271542.249			
2-Amino-4,6-dinitrotoluene	324900 288616 275571	293450 291730	292760 285761	289050 284212	Ave		291783.403			
1,3,5-Trinitrobenzene	411100 487376 511945	430850 485945	495200 489249	478330 492330	Lin2	-905.15057	494855.026			
2,6-Dinitrotoluene	266100 259432 259672	261150 258430	263280 258140	262250 258115	Ave		260729.889			
2,4-Dinitrotoluene	515300 541684 547807	530850 540190	535460 539553	537390 539162	Ave		536377.295			
Tetryl	282200 305676 313176	322100 305183	308140 304614	305690 307786	Ave		306062.754			
2,4,6-Trinitrotoluene	372000 385244 401319	327250 386248	382420 388290	373360 393061	Ave		378799.078			
PETN	102510 130271 132268	113385 130724	120736 129434	126587 131365	Lin2	-2970.0788	130390.096			
1,2-Dinitrobenzene	257500 252676 252927	261600 252340	260500 250014	253020 249973	Ave		254505.610			

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	IC 280-579374/18	06280018.D
Level 2	IC 280-579374/17	06280017.D
Level 3	IC 280-579374/16	06280016.D
Level 4	IC 280-579374/15	06280015.D
Level 5	IC 280-579374/14	06280014.D
Level 6	IC 280-579374/13	06280013.D
Level 7	IC 280-579374/12	06280012.D
Level 8	IC 280-579374/11	06280011.D
Level 9	IC 280-579374/10	06280010.D

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
HMX	Ave	1674 69447	3517 120452	8817 171273	17349 434447	43425	0.0100 0.400	0.02 0.7
Picric acid	Ave	1304 60596	3038 105010	7203 150277	15391 379500	37993	0.0100 0.400	0.02 0.7
RDX	Lin2	2410 80686	4474 139123	10397 199214	21098 501807	50985	0.0100 0.400	0.02 0.7
Nitrobenzene	Ave	3624 147009	7144 256416	18536 365717	36936 929217	92129	0.0100 0.400	0.02 0.7
1,3-Dinitrobenzene	Ave	5394 232743	10667 406342	28419 579205	57791 1465582	145186	0.0100 0.400	0.02 0.7
Nitroglycerin	Ave	12588 515422	25451 895388	64232 1274078	132025 3216378	324018	0.100 4.00	0.2 7.
2-Nitrotoluene	Ave	2206 87085	4161 151188	11321 215672	21780 539988	53916	0.0100 0.400	0.02 0.7
4-Nitrotoluene	Ave	2385 89790	4008 157391	11587 223663	22135 575980	56687	0.0100 0.400	0.02 0.7
4-Amino-2,6-dinitrotoluene	Ave	2257 98202	4748 171126	12749 245531	24428 618806	61571	0.0100 0.400	0.02 0.7
3-Nitrotoluene	Ave	2330 114141	4420 199190	14322 282769	27918 720944	70801	0.0100 0.400	0.02 0.7
2-Amino-4,6-dinitrotoluene	Ave	3249 116692	5869 200033	14638 284212	28905 688928	72154	0.0100 0.400	0.02 0.7
1,3,5-Trinitrobenzene	Lin2	4111 194378	8617 342474	24760 492330	47833 1279862	121844	0.0100 0.400	0.02 0.7
2,6-Dinitrotoluene	Ave	2661	5223	13164	26225	64858	0.0100	0.02

FORM VI
HPLC/IC BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: CHHPLC_X5 GC Column: Luna-phenyl ID: 4.6(mm) Heated

Calibration Start Date: 06/28/2022 19:24 Calibration End Date: 06/29/2022 00:05 Calibra

ANALYTE	CURVE TYPE	RESPONSE					CON	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3 LVL 8	LVL 4 LVL 9	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
		103372	180698	258115	649180		0.400	0.7
2,4-Dinitrotoluene	Ave	5153 216076	10617 377687	26773 539162	53739 1369517	135421	0.0100 0.400	0.02 0.7
Tetryl	Ave	2822 122073	6442 213230	15407 307786	30569 782940	76419	0.0100 0.400	0.02 0.7
2,4,6-Trinitrotoluene	Ave	3720 154499	6545 271803	19121 393061	37336 1003298	96311	0.0100 0.400	0.02 0.7
PETN	Lin2	10251 522894	22677 906035	60368 1313650	126587 3306698	325677	0.100 4.00	0.2 7.
1,2-Dinitrobenzene	Ave	2575 100936	5232 175010	13025 249973	25302 632318	63169	0.0100 0.400	0.02 0.7

Curve Type Legend
Ave = Average
Lin2 = Linear 1/conc^2

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-562503/29 | Calibration Date: 01/05/2022 01:20

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 01040029.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	217046		0.505	0.500	1.0	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	135314		0.505	0.500	1.0	20.0
3,5-Dinitroaniline	Lin2		240514		525	500	4.9	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-562503/29 Calibration Date: 01/05/2022 01:20

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 01040029.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.47	6.33	6.63
2,4-diamino-6-nitrotoluene	6.66	6.51	6.81
3,5-Dinitroaniline	9.93	9.79	10.09

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579842/20 | Calibration Date: 07/02/2022 16:33

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 07020020.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	82900		466	500	-6.8	20.0
RDX	Ave	107626	103546		481	500	-3.8	20.0
Picric acid	Ave	77471	83556		539	500	7.9	20.0
1,3,5-Trinitrobenzene	Ave	213642	234486		549	500	9.8	20.0
1,3-Dinitrobenzene	Ave	290541	305032		525	500	5.0	20.0
Nitrobenzene	Ave	193031	200682		520	500	4.0	20.0
Tetryl	Ave	165412	176404		533	500	6.6	20.0
Nitroglycerin	Ave	61733	67688		5480	5000	9.6	20.0
2,4,6-Trinitrotoluene	Ave	210916	211856		502	500	0.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	151352		523	500	4.5	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	200946		515	500	2.9	20.0
2,6-Dinitrotoluene	Ave	142188	146928		517	500	3.3	20.0
2,4-Dinitrotoluene	Ave	290110	287700		496	500	-0.8	20.0
2-Nitrotoluene	Lin2		126256		506	500	1.1	20.0
4-Nitrotoluene	Ave	111851	109990		492	500	-1.7	20.0
3-Nitrotoluene	Ave	137965	138708		503	500	0.5	20.0
PETN	Lin1		76108		5240	5000	4.7	20.0
1,2-Dinitrobenzene	Ave	125844	127798		508	500	1.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579842/20 Calibration Date: 07/02/2022 16:33

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 07020020.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.43	6.73
RDX	7.58	7.43	7.73
Picric acid	7.92	7.79	8.09
1,3,5-Trinitrobenzene	8.66	8.51	8.81
1,3-Dinitrobenzene	9.28	9.13	9.43
Nitrobenzene	9.67	9.53	9.83
Tetryl	10.00	9.85	10.15
Nitroglycerin	10.45	10.31	10.61
2,4,6-Trinitrotoluene	10.90	10.81	11.01
4-Amino-2,6-dinitrotoluene	11.10	11.01	11.21
2-Amino-4,6-dinitrotoluene	11.36	11.26	11.46
2,6-Dinitrotoluene	11.52	11.43	11.63
2,4-Dinitrotoluene	11.69	11.60	11.80
2-Nitrotoluene	12.55	12.41	12.71
4-Nitrotoluene	12.98	12.83	13.13
3-Nitrotoluene	13.55	13.41	13.71
PETN	14.61	14.46	14.76
1,2-Dinitrobenzene	8.54	8.38	8.68

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/7 | Calibration Date: 11/09/2022 14:53

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090007.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	90288		254	250	1.5	20.0
RDX	Ave	107626	102844		239	250	-4.4	20.0
Picric acid	Ave	77471	77304		249	250	-0.2	20.0
1,3,5-Trinitrobenzene	Ave	213642	218936		256	250	2.5	20.0
1,3-Dinitrobenzene	Ave	290541	293176		252	250	0.9	20.0
Nitrobenzene	Ave	193031	190876		247	250	-1.1	20.0
Tetryl	Ave	165412	146568		222	250	-11.4	20.0
Nitroglycerin	Ave	61733	63555		2570	2500	3.0	20.0
2,4,6-Trinitrotoluene	Ave	210916	192748		228	250	-8.6	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	150312		260	250	3.8	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	188212		241	250	-3.6	20.0
2,6-Dinitrotoluene	Ave	142188	141512		249	250	-0.5	20.0
2,4-Dinitrotoluene	Ave	290110	297328		256	250	2.5	20.0
2-Nitrotoluene	Lin2		124080		247	250	-1.0	20.0
4-Nitrotoluene	Ave	111851	107352		240	250	-4.0	20.0
3-Nitrotoluene	Ave	137965	134664		244	250	-2.4	20.0
PETN	Lin1		73087		2520	2500	0.8	20.0
1,2-Dinitrobenzene	Ave	125844	120368		239	250	-4.4	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/7 Calibration Date: 11/09/2022 14:53

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.27	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.32	12.62
4-Nitrotoluene	12.89	12.74	13.04
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.49	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/8 | Calibration Date: 11/09/2022 15:16

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090008.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	214160		0.249	0.250	-0.3	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131248		0.245	0.250	-2.0	20.0
3,5-Dinitroaniline	Lin2		229676		251	250	0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/8 Calibration Date: 11/09/2022 15:16

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090008.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.46	6.31	6.61
2,4-diamino-6-nitrotoluene	6.64	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/21 | Calibration Date: 11/09/2022 19:29

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090021.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	90604		255	250	1.9	20.0
RDX	Ave	107626	104256		242	250	-3.1	20.0
Picric acid	Ave	77471	77328		250	250	-0.2	20.0
1,3,5-Trinitrobenzene	Ave	213642	218700		256	250	2.4	20.0
1,3-Dinitrobenzene	Ave	290541	292704		252	250	0.7	20.0
Nitrobenzene	Ave	193031	188872		245	250	-2.2	20.0
Tetryl	Ave	165412	146808		222	250	-11.2	20.0
Nitroglycerin	Ave	61733	63720		2580	2500	3.2	20.0
2,4,6-Trinitrotoluene	Ave	210916	192244		228	250	-8.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	151012		261	250	4.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	190428		244	250	-2.5	20.0
2,6-Dinitrotoluene	Ave	142188	138596		244	250	-2.5	20.0
2,4-Dinitrotoluene	Ave	290110	297992		257	250	2.7	20.0
2-Nitrotoluene	Lin2		121668		243	250	-2.9	20.0
4-Nitrotoluene	Ave	111851	105268		235	250	-5.9	20.0
3-Nitrotoluene	Ave	137965	132396		240	250	-4.0	20.0
PETN	Lin1		73014		2520	2500	0.7	20.0
1,2-Dinitrobenzene	Ave	125844	119268		237	250	-5.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/21 Calibration Date: 11/09/2022 19:29

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090021.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.28	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.32	12.62
4-Nitrotoluene	12.89	12.74	13.04
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.49	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/22 | Calibration Date: 11/09/2022 19:52

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090022.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	220904		0.257	0.250	2.8	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	137004		0.256	0.250	2.3	20.0
3,5-Dinitroaniline	Lin2		229124		251	250	0.3	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/22 Calibration Date: 11/09/2022 19:52

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090022.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.31	6.61
2,4-diamino-6-nitrotoluene	6.63	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/33 | Calibration Date: 11/10/2022 00:04

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090033.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	92136		259	250	3.6	20.0
RDX	Ave	107626	107348		249	250	-0.3	20.0
Picric acid	Ave	77471	76452		247	250	-1.3	20.0
1,3,5-Trinitrobenzene	Ave	213642	218340		255	250	2.2	20.0
1,3-Dinitrobenzene	Ave	290541	294084		253	250	1.2	20.0
Nitrobenzene	Ave	193031	187216		242	250	-3.0	20.0
Tetryl	Ave	165412	146196		221	250	-11.6	20.0
Nitroglycerin	Ave	61733	63772		2580	2500	3.3	20.0
2,4,6-Trinitrotoluene	Ave	210916	193272		229	250	-8.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	152236		263	250	5.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	189676		243	250	-2.9	20.0
2,6-Dinitrotoluene	Ave	142188	139300		245	250	-2.0	20.0
2,4-Dinitrotoluene	Ave	290110	299420		258	250	3.2	20.0
2-Nitrotoluene	Lin2		120052		239	250	-4.2	20.0
4-Nitrotoluene	Ave	111851	105020		235	250	-6.1	20.0
3-Nitrotoluene	Ave	137965	131332		238	250	-4.8	20.0
PETN	Lin1		72578		2500	2500	0.0	20.0
1,2-Dinitrobenzene	Ave	125844	120600		240	250	-4.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/33 Calibration Date: 11/10/2022 00:04

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090033.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.03	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.28	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.32	12.62
4-Nitrotoluene	12.89	12.74	13.04
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.50	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/34 | Calibration Date: 11/10/2022 00:27

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090034.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	214676		0.250	0.250	-0.0	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131068		0.245	0.250	-2.1	20.0
3,5-Dinitroaniline	Lin2		230116		252	250	0.8	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/34 Calibration Date: 11/10/2022 00:27

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090034.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.46	6.31	6.61
2,4-diamino-6-nitrotoluene	6.64	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/39 | Calibration Date: 11/10/2022 02:21

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11090039.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	216168		0.252	0.250	0.6	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131300		0.245	0.250	-2.0	20.0
3,5-Dinitroaniline	Lin2		229440		251	250	0.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/39 Calibration Date: 11/10/2022 02:21

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11090039.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.31	6.61
2,4-diamino-6-nitrotoluene	6.63	6.49	6.79
3,5-Dinitroaniline	9.83	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/40 | Calibration Date: 11/10/2022 02:44

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11090040.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	90388		254	250	1.6	20.0
RDX	Ave	107626	103272		240	250	-4.0	20.0
Picric acid	Ave	77471	76376		246	250	-1.4	20.0
1,3,5-Trinitrobenzene	Ave	213642	219580		257	250	2.8	20.0
1,3-Dinitrobenzene	Ave	290541	293952		253	250	1.2	20.0
Nitrobenzene	Ave	193031	186764		242	250	-3.2	20.0
Tetryl	Ave	165412	146932		222	250	-11.2	20.0
Nitroglycerin	Ave	61733	63932		2590	2500	3.6	20.0
2,4,6-Trinitrotoluene	Ave	210916	194600		231	250	-7.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	149680		258	250	3.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	188588		241	250	-3.4	20.0
2,6-Dinitrotoluene	Ave	142188	143508		252	250	0.9	20.0
2,4-Dinitrotoluene	Ave	290110	296764		256	250	2.3	20.0
2-Nitrotoluene	Lin2		120472		240	250	-3.9	20.0
4-Nitrotoluene	Ave	111851	103852		232	250	-7.2	20.0
3-Nitrotoluene	Ave	137965	130672		237	250	-5.3	20.0
PETN	Lin1		72918		2510	2500	0.5	20.0
1,2-Dinitrobenzene	Ave	125844	119928		238	250	-4.7	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-592890/40 Calibration Date: 11/10/2022 02:44

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11090040.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.58	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.10	9.40
Nitrobenzene	9.64	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.40	10.25	10.55
2,4,6-Trinitrotoluene	10.84	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.27	11.17	11.37
2,6-Dinitrotoluene	11.45	11.35	11.55
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.46	12.32	12.62
4-Nitrotoluene	12.88	12.74	13.04
3-Nitrotoluene	13.45	13.31	13.61
PETN	14.48	14.34	14.64
1,2-Dinitrobenzene	8.51	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/36 | Calibration Date: 11/11/2022 00:12

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100036.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	94248		265	250	5.9	20.0
RDX	Ave	107626	109028		253	250	1.3	20.0
Picric acid	Ave	77471	78076		252	250	0.8	20.0
1,3,5-Trinitrobenzene	Ave	213642	219692		257	250	2.8	20.0
1,3-Dinitrobenzene	Ave	290541	299156		257	250	3.0	20.0
Nitrobenzene	Ave	193031	188096		244	250	-2.6	20.0
Tetryl	Ave	165412	147828		223	250	-10.6	20.0
Nitroglycerin	Ave	61733	64999		2630	2500	5.3	20.0
2,4,6-Trinitrotoluene	Ave	210916	196860		233	250	-6.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	152056		263	250	5.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	192160		246	250	-1.6	20.0
2,6-Dinitrotoluene	Ave	142188	141340		249	250	-0.6	20.0
2,4-Dinitrotoluene	Ave	290110	305912		264	250	5.4	20.0
2-Nitrotoluene	Lin2		122188		244	250	-2.5	20.0
4-Nitrotoluene	Ave	111851	106496		238	250	-4.8	20.0
3-Nitrotoluene	Ave	137965	133716		242	250	-3.1	20.0
PETN	Lin1		73871		2550	2500	1.8	20.0
1,2-Dinitrobenzene	Ave	125844	125632		250	250	-0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/36 Calibration Date: 11/11/2022 00:12

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100036.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.42	6.72
RDX	7.56	7.41	7.71
Picric acid	7.89	7.73	8.03
1,3,5-Trinitrobenzene	8.63	8.48	8.78
1,3-Dinitrobenzene	9.25	9.09	9.39
Nitrobenzene	9.65	9.49	9.79
Tetryl	9.95	9.79	10.09
Nitroglycerin	10.41	10.25	10.55
2,4,6-Trinitrotoluene	10.85	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.03	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.28	11.17	11.37
2,6-Dinitrotoluene	11.45	11.36	11.56
2,4-Dinitrotoluene	11.62	11.52	11.72
2-Nitrotoluene	12.47	12.33	12.63
4-Nitrotoluene	12.89	12.75	13.05
3-Nitrotoluene	13.46	13.31	13.61
PETN	14.50	14.37	14.67
1,2-Dinitrobenzene	8.51	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/37 | Calibration Date: 11/11/2022 00:35

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100037.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	213572		0.249	0.250	-0.6	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	131068		0.245	0.250	-2.1	20.0
3,5-Dinitroaniline	Lin2		227860		249	250	-0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/37 Calibration Date: 11/11/2022 00:35

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100037.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.30	6.60
2,4-diamino-6-nitrotoluene	6.63	6.48	6.78
3,5-Dinitroaniline	9.83	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/47 | Calibration Date: 11/11/2022 04:25

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100047.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	94968		267	250	6.8	20.0
RDX	Ave	107626	109656		255	250	1.9	20.0
Picric acid	Ave	77471	77620		250	250	0.2	20.0
1,3,5-Trinitrobenzene	Ave	213642	223216		261	250	4.5	20.0
1,3-Dinitrobenzene	Ave	290541	298728		257	250	2.8	20.0
Nitrobenzene	Ave	193031	185608		240	250	-3.8	20.0
Tetryl	Ave	165412	147612		223	250	-10.8	20.0
Nitroglycerin	Ave	61733	64867		2630	2500	5.1	20.0
2,4,6-Trinitrotoluene	Ave	210916	196444		233	250	-6.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	152452		263	250	5.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	191984		246	250	-1.7	20.0
2,6-Dinitrotoluene	Ave	142188	145948		257	250	2.6	20.0
2,4-Dinitrotoluene	Ave	290110	301720		260	250	4.0	20.0
2-Nitrotoluene	Lin2		119892		239	250	-4.4	20.0
4-Nitrotoluene	Ave	111851	105260		235	250	-5.9	20.0
3-Nitrotoluene	Ave	137965	130592		237	250	-5.3	20.0
PETN	Lin1		74081		2550	2500	2.1	20.0
1,2-Dinitrobenzene	Ave	125844	122664		244	250	-2.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/47 Calibration Date: 11/11/2022 04:25

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100047.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.42	6.72
RDX	7.55	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.48	8.78
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.63	9.49	9.79
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.39	10.25	10.55
2,4,6-Trinitrotoluene	10.84	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.02	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.26	11.17	11.37
2,6-Dinitrotoluene	11.44	11.36	11.56
2,4-Dinitrotoluene	11.61	11.52	11.72
2-Nitrotoluene	12.46	12.33	12.63
4-Nitrotoluene	12.88	12.75	13.05
3-Nitrotoluene	13.44	13.31	13.61
PETN	14.48	14.37	14.67
1,2-Dinitrobenzene	8.50	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/48 | Calibration Date: 11/11/2022 04:48

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100048.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	208708		0.243	0.250	-2.8	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	127432		0.238	0.250	-4.8	20.0
3,5-Dinitroaniline	Lin2		226572		248	250	-0.8	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/48 Calibration Date: 11/11/2022 04:48

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100048.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.45	6.30	6.60
2,4-diamino-6-nitrotoluene	6.63	6.48	6.78
3,5-Dinitroaniline	9.82	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/59 | Calibration Date: 11/11/2022 09:01

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100059.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	92308		259	250	3.8	20.0
RDX	Ave	107626	108844		253	250	1.1	20.0
Picric acid	Ave	77471	78236		252	250	1.0	20.0
1,3,5-Trinitrobenzene	Ave	213642	221308		259	250	3.6	20.0
1,3-Dinitrobenzene	Ave	290541	299488		258	250	3.1	20.0
Nitrobenzene	Ave	193031	183592		238	250	-4.9	20.0
Tetryl	Ave	165412	148052		224	250	-10.5	20.0
Nitroglycerin	Ave	61733	65330		2650	2500	5.8	20.0
2,4,6-Trinitrotoluene	Ave	210916	196840		233	250	-6.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	153636		265	250	6.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	192632		247	250	-1.3	20.0
2,6-Dinitrotoluene	Ave	142188	142680		251	250	0.3	20.0
2,4-Dinitrotoluene	Ave	290110	305864		264	250	5.4	20.0
2-Nitrotoluene	Lin2		117432		234	250	-6.3	20.0
4-Nitrotoluene	Ave	111851	103736		232	250	-7.3	20.0
3-Nitrotoluene	Ave	137965	129108		234	250	-6.4	20.0
PETN	Lin1		74271		2560	2500	2.4	20.0
1,2-Dinitrobenzene	Ave	125844	123044		244	250	-2.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/59 Calibration Date: 11/11/2022 09:01

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100059.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.56	6.42	6.72
RDX	7.55	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.48	8.78
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.63	9.49	9.79
Tetryl	9.93	9.79	10.09
Nitroglycerin	10.39	10.25	10.55
2,4,6-Trinitrotoluene	10.83	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.01	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.25	11.17	11.37
2,6-Dinitrotoluene	11.43	11.36	11.56
2,4-Dinitrotoluene	11.59	11.52	11.72
2-Nitrotoluene	12.44	12.33	12.63
4-Nitrotoluene	12.86	12.75	13.05
3-Nitrotoluene	13.43	13.31	13.61
PETN	14.46	14.37	14.67
1,2-Dinitrobenzene	8.50	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/60 | Calibration Date: 11/11/2022 09:24

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100060.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	218768		0.255	0.250	1.8	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	136976		0.256	0.250	2.3	20.0
3,5-Dinitroaniline	Lin2		227000		249	250	-0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/60 Calibration Date: 11/11/2022 09:24

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100060.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.44	6.30	6.60
2,4-diamino-6-nitrotoluene	6.62	6.48	6.78
3,5-Dinitroaniline	9.82	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/66 | Calibration Date: 11/11/2022 11:43

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11100066.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	92612		260	250	4.1	20.0
RDX	Ave	107626	108984		253	250	1.3	20.0
Picric acid	Ave	77471	78084		252	250	0.8	20.0
1,3,5-Trinitrobenzene	Ave	213642	221016		259	250	3.5	20.0
1,3-Dinitrobenzene	Ave	290541	301316		259	250	3.7	20.0
Nitrobenzene	Ave	193031	183288		237	250	-5.0	20.0
Tetryl	Ave	165412	148796		225	250	-10.0	20.0
Nitroglycerin	Ave	61733	65348		2650	2500	5.9	20.0
2,4,6-Trinitrotoluene	Ave	210916	196524		233	250	-6.8	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	153672		265	250	6.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	195836		251	250	0.3	20.0
2,6-Dinitrotoluene	Ave	142188	142508		251	250	0.2	20.0
2,4-Dinitrotoluene	Ave	290110	303932		262	250	4.8	20.0
2-Nitrotoluene	Lin2		117296		234	250	-6.5	20.0
4-Nitrotoluene	Ave	111851	104540		234	250	-6.5	20.0
3-Nitrotoluene	Ave	137965	128968		234	250	-6.5	20.0
PETN	Lin1		74022		2550	2500	2.0	20.0
1,2-Dinitrobenzene	Ave	125844	126068		250	250	0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/66 Calibration Date: 11/11/2022 11:43

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11100066.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.56	6.42	6.72
RDX	7.55	7.41	7.71
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.48	8.78
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.63	9.49	9.79
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.39	10.25	10.55
2,4,6-Trinitrotoluene	10.83	10.75	10.95
4-Amino-2,6-dinitrotoluene	11.01	10.92	11.12
2-Amino-4,6-dinitrotoluene	11.25	11.17	11.37
2,6-Dinitrotoluene	11.43	11.36	11.56
2,4-Dinitrotoluene	11.60	11.52	11.72
2-Nitrotoluene	12.45	12.33	12.63
4-Nitrotoluene	12.86	12.75	13.05
3-Nitrotoluene	13.43	13.31	13.61
PETN	14.46	14.37	14.67
1,2-Dinitrobenzene	8.50	8.36	8.66

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/67 | Calibration Date: 11/11/2022 12:06

Instrument ID: CHHPLC_X3 | Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 01/05/2022 00:57

Lab File ID: 11100067.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	214797	219004		0.255	0.250	2.0	20.0
2,4-diamino-6-nitrotoluene	Ave	133913	136736		0.255	0.250	2.1	20.0
3,5-Dinitroaniline	Lin2		227084		249	250	-0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593042/67 Calibration Date: 11/11/2022 12:06

Instrument ID: CHHPLC_X3 Calib Start Date: 01/04/2022 22:17

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 01/05/2022 00:57

Lab File ID: 11100067.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	6.44	6.30	6.60
2,4-diamino-6-nitrotoluene	6.62	6.48	6.78
3,5-Dinitroaniline	9.82	9.68	9.98

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/7 | Calibration Date: 11/11/2022 15:47

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11110007.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	89076		250	250	0.1	20.0
RDX	Ave	107626	101344		235	250	-5.8	20.0
Picric acid	Ave	77471	74320		240	250	-4.1	20.0
1,3,5-Trinitrobenzene	Ave	213642	211364		247	250	-1.1	20.0
1,3-Dinitrobenzene	Ave	290541	288344		248	250	-0.8	20.0
Nitrobenzene	Ave	193031	190216		246	250	-1.5	20.0
Tetryl	Ave	165412	150784		228	250	-8.8	20.0
Nitroglycerin	Ave	61733	62442		2530	2500	1.1	20.0
2,4,6-Trinitrotoluene	Ave	210916	189076		224	250	-10.4	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	146728		253	250	1.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	185512		238	250	-5.0	20.0
2,6-Dinitrotoluene	Ave	142188	134608		237	250	-5.3	20.0
2,4-Dinitrotoluene	Ave	290110	293208		253	250	1.1	20.0
2-Nitrotoluene	Lin2		120508		240	250	-3.9	20.0
4-Nitrotoluene	Ave	111851	104584		234	250	-6.5	20.0
3-Nitrotoluene	Ave	137965	131360		238	250	-4.8	20.0
PETN	Lin1		70604		2430	2500	-2.6	20.0
1,2-Dinitrobenzene	Ave	125844	120184		239	250	-4.5	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/7 Calibration Date: 11/11/2022 15:47

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11110007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.56	6.41	6.71
RDX	7.55	7.40	7.70
Picric acid	7.88	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.47	8.77
1,3-Dinitrobenzene	9.24	9.09	9.39
Nitrobenzene	9.62	9.47	9.77
Tetryl	9.94	9.79	10.09
Nitroglycerin	10.38	10.23	10.53
2,4,6-Trinitrotoluene	10.83	10.73	10.93
4-Amino-2,6-dinitrotoluene	11.01	10.91	11.11
2-Amino-4,6-dinitrotoluene	11.26	11.16	11.36
2,6-Dinitrotoluene	11.44	11.34	11.54
2,4-Dinitrotoluene	11.60	11.50	11.70
2-Nitrotoluene	12.45	12.30	12.60
4-Nitrotoluene	12.86	12.71	13.01
3-Nitrotoluene	13.43	13.28	13.58
PETN	14.46	14.31	14.61
1,2-Dinitrobenzene	8.50	8.35	8.65

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/14 | Calibration Date: 11/11/2022 17:19

Instrument ID: CHHPLC_X3 | Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) | Calib End Date: 07/02/2022 16:09

Lab File ID: 11110014.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	88958	91132		256	250	2.4	20.0
RDX	Ave	107626	101280		235	250	-5.9	20.0
Picric acid	Ave	77471	75284		243	250	-2.8	20.0
1,3,5-Trinitrobenzene	Ave	213642	212324		248	250	-0.6	20.0
1,3-Dinitrobenzene	Ave	290541	288864		249	250	-0.6	20.0
Nitrobenzene	Ave	193031	190240		246	250	-1.4	20.0
Tetryl	Ave	165412	150856		228	250	-8.8	20.0
Nitroglycerin	Ave	61733	62318		2520	2500	0.9	20.0
2,4,6-Trinitrotoluene	Ave	210916	185820		220	250	-11.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	144804	149544		258	250	3.3	20.0
2-Amino-4,6-dinitrotoluene	Ave	195248	186160		238	250	-4.7	20.0
2,6-Dinitrotoluene	Ave	142188	134316		236	250	-5.5	20.0
2,4-Dinitrotoluene	Ave	290110	291792		251	250	0.6	20.0
2-Nitrotoluene	Lin2		119644		239	250	-4.6	20.0
4-Nitrotoluene	Ave	111851	104704		234	250	-6.4	20.0
3-Nitrotoluene	Ave	137965	131432		238	250	-4.7	20.0
PETN	Lin1		70220		2420	2500	-3.2	20.0
1,2-Dinitrobenzene	Ave	125844	118056		235	250	-6.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593188/14 Calibration Date: 11/11/2022 17:19

Instrument ID: CHHPLC_X3 Calib Start Date: 07/02/2022 13:06

GC Column: UltraCarb5uODS ID: 4.60(mm) Calib End Date: 07/02/2022 16:09

Lab File ID: 11110014.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.57	6.41	6.71
RDX	7.55	7.40	7.70
Picric acid	7.87	7.73	8.03
1,3,5-Trinitrobenzene	8.62	8.47	8.77
1,3-Dinitrobenzene	9.23	9.09	9.39
Nitrobenzene	9.63	9.47	9.77
Tetryl	9.93	9.79	10.09
Nitroglycerin	10.38	10.23	10.53
2,4,6-Trinitrotoluene	10.83	10.73	10.93
4-Amino-2,6-dinitrotoluene	11.01	10.91	11.11
2-Amino-4,6-dinitrotoluene	11.25	11.16	11.36
2,6-Dinitrotoluene	11.43	11.34	11.54
2,4-Dinitrotoluene	11.59	11.50	11.70
2-Nitrotoluene	12.44	12.30	12.60
4-Nitrotoluene	12.86	12.71	13.01
3-Nitrotoluene	13.42	13.28	13.58
PETN	14.45	14.31	14.61
1,2-Dinitrobenzene	8.50	8.35	8.65

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-567560/19 | Calibration Date: 03/03/2022 02:38

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 03020019.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	447786		0.551	0.500	10.2	20.0
2,4-diamino-6-nitrotoluene	Lin2		221164		0.481	0.500	-3.7	20.0
HMX	Ave	166135	152908		460	500	-8.0	20.0
Picric acid	Ave	132885	149388		562	500	12.4	20.0
RDX	Ave	194331	186788		481	500	-3.9	20.0
Nitrobenzene	Ave	368293	368460		500	500	0.0	20.0
3,5-Dinitroaniline	Lin2		450826		548	500	9.6	20.0
1,3-Dinitrobenzene	Ave	571666	563218		493	500	-1.5	20.0
Nitroglycerin	Ave	122518	128779		5260	5000	5.1	20.0
o-Nitrotoluene	Ave	234672	232836		496	500	-0.8	20.0
p-Nitrotoluene	Ave	210817	216650		514	500	2.8	20.0
4-Amino-2,6-dinitrotoluene	Lin2		269688		505	500	1.0	20.0
m-Nitrotoluene	Lin2		254816		480	500	-4.1	20.0
2-Amino-4,6-dinitrotoluene	Ave	360536	361200		501	500	0.2	20.0
1,3,5-Trinitrobenzene	Ave	415464	433072		521	500	4.2	20.0
2,6-Dinitrotoluene	Ave	265662	266814		502	500	0.4	20.0
2,4-Dinitrotoluene	Lin2		522322		470	500	-5.9	20.0
Tetryl	Ave	342171	323254		472	500	-5.5	20.0
2,4,6-Trinitrotoluene	Ave	369179	384614		521	500	4.2	20.0
PETN	Ave	129329	137808		5330	5000	6.6	20.0
1,2-Dinitrobenzene	Ave	249753	254466		509	500	1.9	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-567560/19 Calibration Date: 03/03/2022 02:38

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 03020019.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.14	3.99	4.29
2,4-diamino-6-nitrotoluene	4.75	4.52	4.82
HMX	6.87	6.74	7.04
Picric acid	7.62	7.45	7.75
RDX	9.08	8.97	9.27
Nitrobenzene	12.01	11.91	12.21
3,5-Dinitroaniline	15.23	15.12	15.42
1,3-Dinitrobenzene	15.60	15.49	15.79
Nitroglycerin	16.04	15.91	16.21
o-Nitrotoluene	16.78	16.67	16.97
p-Nitrotoluene	17.08	16.98	17.28
4-Amino-2,6-dinitrotoluene	17.72	17.61	17.91
m-Nitrotoluene	18.06	17.95	18.25
2-Amino-4,6-dinitrotoluene	18.72	18.59	18.89
1,3,5-Trinitrobenzene	18.92	18.80	19.10
2,6-Dinitrotoluene	20.22	20.11	20.41
2,4-Dinitrotoluene	20.73	20.61	20.91
Tetryl	24.48	24.34	24.64
2,4,6-Trinitrotoluene	25.24	25.11	25.41
PETN	26.21	26.07	26.37
1,2-Dinitrobenzene	13.24	13.13	13.43

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579374/19 | Calibration Date: 06/29/2022 00:40

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 06280019.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	155752		450	500	-10.0	20.0
Picric acid	Ave	148425	156320		527	500	5.3	20.0
RDX	Lin2		192266		476	500	-4.8	20.0
Nitrobenzene	Ave	366603	373244		509	500	1.8	20.0
1,3-Dinitrobenzene	Ave	569730	586362		515	500	2.9	20.0
Nitroglycerin	Ave	128451	130952		5100	5000	1.9	20.0
2-Nitrotoluene	Ave	217100	213290		491	500	-1.8	20.0
4-Nitrotoluene	Ave	224679	226682		504	500	0.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	250382		514	500	2.8	20.0
3-Nitrotoluene	Ave	271542	282518		520	500	4.0	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	284054		487	500	-2.6	20.0
1,3,5-Trinitrobenzene	Lin2		516702		524	500	4.8	20.0
2,6-Dinitrotoluene	Ave	260730	259724		498	500	-0.4	20.0
2,4-Dinitrotoluene	Ave	536377	523300		488	500	-2.4	20.0
Tetryl	Ave	306063	313434		512	500	2.4	20.0
2,4,6-Trinitrotoluene	Ave	378799	379928		501	500	0.3	20.0
PETN	Lin2		136738		5270	5000	5.3	20.0
1,2-Dinitrobenzene	Ave	254506	250076		491	500	-1.7	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-579374/19 Calibration Date: 06/29/2022 00:40

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 06280019.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.83	6.69	6.99
Picric acid	8.23	8.17	8.47
RDX	8.98	8.85	9.15
Nitrobenzene	11.91	11.79	12.09
1,3-Dinitrobenzene	15.48	15.36	15.66
Nitroglycerin	15.83	15.71	16.01
2-Nitrotoluene	16.63	16.52	16.82
4-Nitrotoluene	16.93	16.83	17.13
4-Amino-2,6-dinitrotoluene	17.57	17.45	17.75
3-Nitrotoluene	17.89	17.79	18.09
2-Amino-4,6-dinitrotoluene	18.56	18.45	18.75
1,3,5-Trinitrobenzene	18.75	18.63	18.93
2,6-Dinitrotoluene	20.05	19.93	20.23
2,4-Dinitrotoluene	20.55	20.43	20.73
Tetryl	24.27	24.19	24.49
2,4,6-Trinitrotoluene	25.06	24.97	25.27
PETN	26.04	25.93	26.23
1,2-Dinitrobenzene	13.11	13.01	13.31

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110007.D Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	414752		0.255	0.250	2.0	20.0
2,4-diamino-6-nitrotoluene	Lin2		252284		0.271	0.250	8.6	20.0
3,5-Dinitroaniline	Lin2		412328		250	250	0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 | Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110007.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.12	3.95	4.25
2,4-diamino-6-nitrotoluene	4.64	4.47	4.77
3,5-Dinitroaniline	14.88	14.65	14.95

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 | Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110007.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	175552		254	250	1.4	20.0
Picric acid	Ave	148425	152888		258	250	3.0	20.0
RDX	Lin2		204776		253	250	1.0	20.0
Nitrobenzene	Ave	366603	375012		256	250	2.3	20.0
1,3-Dinitrobenzene	Ave	569730	643004		282	250	12.9	20.0
Nitroglycerin	Ave	128451	136634		2660	2500	6.4	20.0
2-Nitrotoluene	Ave	217100	220352		254	250	1.5	20.0
4-Nitrotoluene	Ave	224679	235328		262	250	4.7	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	255612		262	250	5.0	20.0
3-Nitrotoluene	Ave	271542	293900		271	250	8.2	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	309388		265	250	6.0	20.0
1,3,5-Trinitrobenzene	Lin2		485360		247	250	-1.2	20.0
2,6-Dinitrotoluene	Ave	260730	260004		249	250	-0.3	20.0
2,4-Dinitrotoluene	Ave	536377	554228		258	250	3.3	20.0
Tetryl	Ave	306063	278924		228	250	-8.9	20.0
2,4,6-Trinitrotoluene	Ave	378799	388288		256	250	2.5	20.0
PETN	Lin2		131084		2540	2500	1.4	20.0
1,2-Dinitrobenzene	Ave	254506	255312		251	250	0.3	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/7 Calibration Date: 11/11/2022 15:51

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110007.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.68	6.51	6.81
Picric acid	8.06	7.75	8.05
RDX	8.80	8.61	8.91
Nitrobenzene	11.74	11.53	11.83
1,3-Dinitrobenzene	15.24	15.03	15.33
Nitroglycerin	15.58	15.35	15.65
2-Nitrotoluene	16.40	16.19	16.49
4-Nitrotoluene	16.70	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.31	17.10	17.40
3-Nitrotoluene	17.66	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.29	18.08	18.38
1,3,5-Trinitrobenzene	18.48	18.29	18.59
2,6-Dinitrotoluene	19.78	19.57	19.87
2,4-Dinitrotoluene	20.28	20.08	20.38
Tetryl	23.94	23.73	24.03
2,4,6-Trinitrotoluene	24.74	24.53	24.83
PETN	25.76	25.55	25.85
1,2-Dinitrobenzene	12.92	12.69	12.99

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 | Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110018.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	411576		0.253	0.250	1.3	20.0
2,4-diamino-6-nitrotoluene	Lin2		246416		0.265	0.250	6.0	20.0
3,5-Dinitroaniline	Lin2		411168		250	250	-0.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110018.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.10	3.95	4.25
2,4-diamino-6-nitrotoluene	4.62	4.47	4.77
3,5-Dinitroaniline	14.80	14.65	14.95

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 | Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110018.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	176896		256	250	2.2	20.0
Picric acid	Ave	148425	152384		257	250	2.7	20.0
RDX	Lin2		205660		254	250	1.4	20.0
Nitrobenzene	Ave	366603	373936		255	250	2.0	20.0
1,3-Dinitrobenzene	Ave	569730	643584		282	250	13.0	20.0
Nitroglycerin	Ave	128451	138355		2690	2500	7.7	20.0
2-Nitrotoluene	Ave	217100	213492		246	250	-1.7	20.0
4-Nitrotoluene	Ave	224679	234040		260	250	4.2	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	252328		259	250	3.6	20.0
3-Nitrotoluene	Ave	271542	288980		266	250	6.4	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	317800		272	250	8.9	20.0
1,3,5-Trinitrobenzene	Lin2		467148		238	250	-4.9	20.0
2,6-Dinitrotoluene	Ave	260730	257792		247	250	-1.1	20.0
2,4-Dinitrotoluene	Ave	536377	554572		258	250	3.4	20.0
Tetryl	Ave	306063	278004		227	250	-9.2	20.0
2,4,6-Trinitrotoluene	Ave	378799	389944		257	250	2.9	20.0
PETN	Lin2		130459		2520	2500	1.0	20.0
1,2-Dinitrobenzene	Ave	254506	255908		251	250	0.6	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/18 Calibration Date: 11/11/2022 21:05

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110018.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.51	6.81
Picric acid	7.90	7.75	8.05
RDX	8.76	8.61	8.91
Nitrobenzene	11.68	11.53	11.83
1,3-Dinitrobenzene	15.18	15.03	15.33
Nitroglycerin	15.50	15.35	15.65
2-Nitrotoluene	16.34	16.19	16.49
4-Nitrotoluene	16.64	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.25	17.10	17.40
3-Nitrotoluene	17.61	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.23	18.08	18.38
1,3,5-Trinitrobenzene	18.44	18.29	18.59
2,6-Dinitrotoluene	19.72	19.57	19.87
2,4-Dinitrotoluene	20.23	20.08	20.38
Tetryl	23.88	23.73	24.03
2,4,6-Trinitrotoluene	24.68	24.53	24.83
PETN	25.70	25.55	25.85
1,2-Dinitrobenzene	12.84	12.69	12.99

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 | Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110029.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	411284		0.253	0.250	1.2	20.0
2,4-diamino-6-nitrotoluene	Lin2		245124		0.263	0.250	5.4	20.0
3,5-Dinitroaniline	Lin2		411104		250	250	-0.1	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110029.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.11	3.95	4.25
2,4-diamino-6-nitrotoluene	4.62	4.47	4.77
3,5-Dinitroaniline	14.76	14.65	14.95

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 | Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110029.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	175756		254	250	1.6	20.0
Picric acid	Ave	148425	152968		258	250	3.1	20.0
RDX	Lin2		205700		254	250	1.5	20.0
Nitrobenzene	Ave	366603	370612		253	250	1.1	20.0
1,3-Dinitrobenzene	Ave	569730	632628		278	250	11.0	20.0
Nitroglycerin	Ave	128451	138269		2690	2500	7.6	20.0
2-Nitrotoluene	Ave	217100	204128		235	250	-6.0	20.0
4-Nitrotoluene	Ave	224679	228856		255	250	1.9	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	246236		253	250	1.1	20.0
3-Nitrotoluene	Ave	271542	276676		255	250	1.9	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	312452		268	250	7.1	20.0
1,3,5-Trinitrobenzene	Lin2		468464		238	250	-4.6	20.0
2,6-Dinitrotoluene	Ave	260730	258972		248	250	-0.7	20.0
2,4-Dinitrotoluene	Ave	536377	558884		260	250	4.2	20.0
Tetryl	Ave	306063	277180		226	250	-9.4	20.0
2,4,6-Trinitrotoluene	Ave	378799	389000		257	250	2.7	20.0
PETN	Lin2		127875		2470	2500	-1.0	20.0
1,2-Dinitrobenzene	Ave	254506	259648		255	250	2.0	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/29 Calibration Date: 11/12/2022 03:29

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110029.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.65	6.51	6.81
Picric acid	7.84	7.75	8.05
RDX	8.75	8.61	8.91
Nitrobenzene	11.66	11.53	11.83
1,3-Dinitrobenzene	15.14	15.03	15.33
Nitroglycerin	15.43	15.35	15.65
2-Nitrotoluene	16.28	16.19	16.49
4-Nitrotoluene	16.57	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.16	17.10	17.40
3-Nitrotoluene	17.52	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.14	18.08	18.38
1,3,5-Trinitrobenzene	18.38	18.29	18.59
2,6-Dinitrotoluene	19.64	19.57	19.87
2,4-Dinitrotoluene	20.15	20.08	20.38
Tetryl	23.78	23.73	24.03
2,4,6-Trinitrotoluene	24.60	24.53	24.83
PETN	25.61	25.55	25.85
1,2-Dinitrobenzene	12.80	12.69	12.99

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 | Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 | Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 03/03/2022 02:03

Lab File ID: 11110035.D | Conc. Units: ug/mL

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
2,6-diamino-4-nitrotoluene	Ave	406450	412220		0.254	0.250	1.4	20.0
2,4-diamino-6-nitrotoluene	Lin2		244608		0.263	0.250	5.2	20.0
3,5-Dinitroaniline	Lin2		410684		249	250	-0.2	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 Calib Start Date: 03/02/2022 21:22

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 03/03/2022 02:03

Lab File ID: 11110035.D

Analyte	RT	RT WINDOW	
		FROM	TO
2,6-diamino-4-nitrotoluene	4.12	3.95	4.25
2,4-diamino-6-nitrotoluene	4.62	4.47	4.77
3,5-Dinitroaniline	14.78	14.65	14.95

FORM VII
HPLC/IC CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 | Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 | Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) | Calib End Date: 06/29/2022 00:05

Lab File ID: 11110035.D | Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
HMX	Ave	173058	177012		256	250	2.3	20.0
Picric acid	Ave	148425	154712		261	250	4.2	20.0
RDX	Lin2		205360		253	250	1.3	20.0
Nitrobenzene	Ave	366603	364848		249	250	-0.5	20.0
1,3-Dinitrobenzene	Ave	569730	637992		280	250	12.0	20.0
Nitroglycerin	Ave	128451	140285		2730	2500	9.2	20.0
2-Nitrotoluene	Ave	217100	209004		241	250	-3.7	20.0
4-Nitrotoluene	Ave	224679	233120		259	250	3.8	20.0
4-Amino-2,6-dinitrotoluene	Ave	243519	255296		262	250	4.8	20.0
3-Nitrotoluene	Ave	271542	284556		262	250	4.8	20.0
2-Amino-4,6-dinitrotoluene	Ave	291783	319060		273	250	9.3	20.0
1,3,5-Trinitrobenzene	Lin2		472600		241	250	-3.8	20.0
2,6-Dinitrotoluene	Ave	260730	260880		250	250	0.0	20.0
2,4-Dinitrotoluene	Ave	536377	559860		261	250	4.4	20.0
Tetryl	Ave	306063	275664		225	250	-9.9	20.0
2,4,6-Trinitrotoluene	Ave	378799	387344		256	250	2.3	20.0
PETN	Lin2		128746		2490	2500	-0.4	20.0
1,2-Dinitrobenzene	Ave	254506	258136		254	250	1.4	20.0

FORM VII
HPLC/IC CONTINUING CALIBRATION RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-593191/35 Calibration Date: 11/12/2022 06:59

Instrument ID: CHHPLC_X5 Calib Start Date: 06/28/2022 19:24

GC Column: Luna-phenylhex ID: 4.60(mm) Calib End Date: 06/29/2022 00:05

Lab File ID: 11110035.D

Analyte	RT	RT WINDOW	
		FROM	TO
HMX	6.66	6.51	6.81
Picric acid	7.82	7.75	8.05
RDX	8.76	8.61	8.91
Nitrobenzene	11.68	11.53	11.83
1,3-Dinitrobenzene	15.16	15.03	15.33
Nitroglycerin	15.46	15.35	15.65
2-Nitrotoluene	16.31	16.19	16.49
4-Nitrotoluene	16.61	16.49	16.79
4-Amino-2,6-dinitrotoluene	17.21	17.10	17.40
3-Nitrotoluene	17.58	17.46	17.76
2-Amino-4,6-dinitrotoluene	18.20	18.08	18.38
1,3,5-Trinitrobenzene	18.42	18.29	18.59
2,6-Dinitrotoluene	19.71	19.57	19.87
2,4-Dinitrotoluene	20.21	20.08	20.38
Tetryl	23.84	23.73	24.03
2,4,6-Trinitrotoluene	24.65	24.53	24.83
PETN	25.63	25.55	25.85
1,2-Dinitrobenzene	12.84	12.69	12.99

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 01/04/2022 18:28

Analysis Batch Number: 562503 End Date: 01/05/2022 04:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-562503/11		01/04/2022 18:28	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/12		01/04/2022 18:51	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/13		01/04/2022 19:13	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/14		01/04/2022 19:36	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/15		01/04/2022 19:59	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/16		01/04/2022 20:22	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/17		01/04/2022 20:45	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/18		01/04/2022 21:08	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/19		01/04/2022 21:31	1		UltraCarb5uODS 4.6(mm)
ICV 280-562503/20		01/04/2022 21:54	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/21		01/04/2022 22:17	1	01040021.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/22		01/04/2022 22:40	1	01040022.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/23		01/04/2022 23:03	1	01040023.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/24		01/04/2022 23:26	1	01040024.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/25		01/04/2022 23:49	1	01040025.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/26		01/05/2022 00:11	1	01040026.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/27		01/05/2022 00:34	1	01040027.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/28		01/05/2022 00:57	1	01040028.D	UltraCarb5uODS 4.6(mm)
ICV 280-562503/29		01/05/2022 01:20	1	01040029.D	UltraCarb5uODS 4.6(mm)
IC 280-562503/30		01/05/2022 01:43	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/31		01/05/2022 02:06	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/32		01/05/2022 02:29	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/33		01/05/2022 02:52	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/34		01/05/2022 03:15	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/35		01/05/2022 03:38	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/36		01/05/2022 04:01	1		UltraCarb5uODS 4.6(mm)
IC 280-562503/37		01/05/2022 04:24	1		UltraCarb5uODS 4.6(mm)
ICV 280-562503/38		01/05/2022 04:47	1		UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X5 Start Date: 03/02/2022 21:22

Analysis Batch Number: 567560 End Date: 03/03/2022 07:54

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-567560/10		03/02/2022 21:22	1	03020010.D	Luna-phenylhex 4.6(mm)
IC 280-567560/11		03/02/2022 21:57	1	03020011.D	Luna-phenylhex 4.6(mm)
IC 280-567560/12		03/02/2022 22:32	1	03020012.D	Luna-phenylhex 4.6(mm)
IC 280-567560/13		03/02/2022 23:07	1	03020013.D	Luna-phenylhex 4.6(mm)
IC 280-567560/14		03/02/2022 23:42	1	03020014.D	Luna-phenylhex 4.6(mm)
IC 280-567560/15		03/03/2022 00:17	1	03020015.D	Luna-phenylhex 4.6(mm)
IC 280-567560/16		03/03/2022 00:53	1	03020016.D	Luna-phenylhex 4.6(mm)
IC 280-567560/17		03/03/2022 01:28	1	03020017.D	Luna-phenylhex 4.6(mm)
IC 280-567560/18		03/03/2022 02:03	1	03020018.D	Luna-phenylhex 4.6(mm)
ICV 280-567560/19		03/03/2022 02:38	1	03020019.D	Luna-phenylhex 4.6(mm)
IC 280-567560/20		03/03/2022 03:13	1		Luna-phenylhex 4.6(mm)
IC 280-567560/21		03/03/2022 03:49	1		Luna-phenylhex 4.6(mm)
IC 280-567560/22		03/03/2022 04:24	1		Luna-phenylhex 4.6(mm)
IC 280-567560/23		03/03/2022 04:59	1		Luna-phenylhex 4.6(mm)
IC 280-567560/24		03/03/2022 05:34	1		Luna-phenylhex 4.6(mm)
IC 280-567560/25		03/03/2022 06:09	1		Luna-phenylhex 4.6(mm)
IC 280-567560/26		03/03/2022 06:44	1		Luna-phenylhex 4.6(mm)
IC 280-567560/27		03/03/2022 07:19	1		Luna-phenylhex 4.6(mm)
ICV 280-567560/28		03/03/2022 07:54	1		Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X5 Start Date: 06/28/2022 19:24

Analysis Batch Number: 579374 End Date: 06/29/2022 00:40

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-579374/10		06/28/2022 19:24	1	06280010.D	Luna-phenylhex 4.6(mm)
IC 280-579374/11		06/28/2022 19:59	1	06280011.D	Luna-phenylhex 4.6(mm)
IC 280-579374/12		06/28/2022 20:34	1	06280012.D	Luna-phenylhex 4.6(mm)
IC 280-579374/13		06/28/2022 21:09	1	06280013.D	Luna-phenylhex 4.6(mm)
IC 280-579374/14		06/28/2022 21:45	1	06280014.D	Luna-phenylhex 4.6(mm)
IC 280-579374/15		06/28/2022 22:20	1	06280015.D	Luna-phenylhex 4.6(mm)
IC 280-579374/16		06/28/2022 22:55	1	06280016.D	Luna-phenylhex 4.6(mm)
IC 280-579374/17		06/28/2022 23:30	1	06280017.D	Luna-phenylhex 4.6(mm)
IC 280-579374/18		06/29/2022 00:05	1	06280018.D	Luna-phenylhex 4.6(mm)
ICV 280-579374/19		06/29/2022 00:40	1	06280019.D	Luna-phenylhex 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 07/02/2022 13:06

Analysis Batch Number: 579842 End Date: 07/02/2022 16:33

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
IC 280-579842/11		07/02/2022 13:06	1	07020011.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/12		07/02/2022 13:29	1	07020012.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/13		07/02/2022 13:52	1	07020013.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/14		07/02/2022 14:15	1	07020014.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/15		07/02/2022 14:38	1	07020015.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/16		07/02/2022 15:01	1	07020016.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/17		07/02/2022 15:24	1	07020017.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/18		07/02/2022 15:46	1	07020018.D	UltraCarb5uODS 4.6(mm)
IC 280-579842/19		07/02/2022 16:09	1	07020019.D	UltraCarb5uODS 4.6(mm)
ICV 280-579842/20		07/02/2022 16:33	1	07020020.D	UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/09/2022 14:53

Analysis Batch Number: 592890 End Date: 11/10/2022 02:44

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-592890/7		11/09/2022 14:53	1	11090007.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/8		11/09/2022 15:16	1	11090008.D	UltraCarb5uODS 4.6(mm)
MB 280-592716/1-A		11/09/2022 15:39	1	11090011.D	UltraCarb5uODS 4.6(mm)
LCS 280-592716/2-A		11/09/2022 16:02	1	11090012.D	UltraCarb5uODS 4.6(mm)
LCSD 280-592716/3-A		11/09/2022 16:25	1	11090013.D	UltraCarb5uODS 4.6(mm)
LCS 280-592716/4-A		11/09/2022 16:48	1	11090014.D	UltraCarb5uODS 4.6(mm)
LCSD 280-592716/5-A		11/09/2022 17:11	1	11090015.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 17:34	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 17:57	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 18:20	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 18:43	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 19:06	1		UltraCarb5uODS 4.6(mm)
CCV 280-592890/21		11/09/2022 19:29	1	11090021.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/22		11/09/2022 19:52	1	11090022.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 20:14	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 20:37	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 21:00	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 21:23	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 21:46	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 22:09	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 22:32	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 22:55	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 23:18	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/09/2022 23:41	1		UltraCarb5uODS 4.6(mm)
CCV 280-592890/33		11/10/2022 00:04	1	11090033.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/34		11/10/2022 00:27	1	11090034.D	UltraCarb5uODS 4.6(mm)
ZZZZZ		11/10/2022 00:49	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/10/2022 01:12	1		UltraCarb5uODS 4.6(mm)
ZZZZZ		11/10/2022 01:35	1		UltraCarb5uODS 4.6(mm)
280-168718-6	RB-11012201	11/10/2022 01:58	1	11090038.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/39		11/10/2022 02:21	1	11090039.D	UltraCarb5uODS 4.6(mm)
CCV 280-592890/40		11/10/2022 02:44	1	11090040.D	UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/11/2022 00:12

Analysis Batch Number: 5d3042 En(Date: 11/11/2022 12:06

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CC) 280-5d3042/36		11/11/2022 00:12	1	11100036.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/37		11/11/2022 00:35	1	11100037.D	UltraCarb5uODS 4.69mmV
MB 280-5d2d24/1-A		11/11/2022 00:58	1	11100038.D	UltraCarb5uODS 4.69mmV
LCS 280-5d2d24/2-A		11/11/2022 01:21	1	1110003d.D	UltraCarb5uODS 4.69mmV
LCS 280-5d2d24/3-A		11/11/2022 01:44	1	11100040.D	UltraCarb5uODS 4.69mmV
280-168718-1	X3-SS-C01-0006	11/11/2022 02:07	1	11100041.D	UltraCarb5uODS 4.69mmV
280-168718-2	FD-11012201	11/11/2022 02:30	1	11100042.D	UltraCarb5uODS 4.69mmV
280-168718-3	X3-SS-C02-0006	11/11/2022 02:53	1	11100043.D	UltraCarb5uODS 4.69mmV
280-168718-5	X3-SS-C04-0006	11/11/2022 03:16	1	11100044.D	UltraCarb5uODS 4.69mmV
280-168718-7	X3-SS-C05-0006	11/11/2022 03:3d	1	11100045.D	UltraCarb5uODS 4.69mmV
280-168718-8	FD-11022201	11/11/2022 04:02	1	11100046.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/47		11/11/2022 04:25	1	11100047.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/48		11/11/2022 04:48	1	11100048.D	UltraCarb5uODS 4.69mmV
280-168718-d	X3-SS-CO6-0006	11/11/2022 05:11	1	1110004d.D	UltraCarb5uODS 4.69mmV
280-168718-d MS	X3-SS-CO6-0006 MS	11/11/2022 05:34	1	11100050.D	UltraCarb5uODS 4.69mmV
280-168718-d MSD	X3-SS-CO6-0006 MSD	11/11/2022 05:57	1	11100051.D	UltraCarb5uODS 4.69mmV
280-168718-d MS	X3-SS-CO6-0006 MS	11/11/2022 06:20	1	11100052.D	UltraCarb5uODS 4.69mmV
280-168718-d MSD	X3-SS-CO6-0006 MSD	11/11/2022 06:43	1	11100053.D	UltraCarb5uODS 4.69mmV
280-168718-d DU	X3-SS-CO6-0006 DU	11/11/2022 07:06	1	11100054.D	UltraCarb5uODS 4.69mmV
280-168718-d TRL	X3-SS-CO6-0006 TRL	11/11/2022 07:2d	1	11100055.D	UltraCarb5uODS 4.69mmV
280-168718-10	X7-SS-C01-0006	11/11/2022 07:52	1	11100056.D	UltraCarb5uODS 4.69mmV
280-168718-11	X7B-SS-C01-0006	11/11/2022 08:15	1	11100057.D	UltraCarb5uODS 4.69mmV
280-168718-12	X7-TP-C01-5460	11/11/2022 08:38	1	11100058.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/5d		11/11/2022 0d:01	1	1110005d.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/60		11/11/2022 0d:24	1	11100060.D	UltraCarb5uODS 4.69mmV
280-168718-13	X7-TP-C02-3648	11/11/2022 0d:47	1	11100061.D	UltraCarb5uODS 4.69mmV
280-168718-14	X7-TP-C03-4248	11/11/2022 10:10	1	11100062.D	UltraCarb5uODS 4.69mmV
280-168718-15	X7-TP-C04-4248	11/11/2022 10:33	1	11100063.D	UltraCarb5uODS 4.69mmV
280-168718-16	X3-SS-C07-0006	11/11/2022 10:56	1	11100064.D	UltraCarb5uODS 4.69mmV
280-168718-17	X3-SS-C08-0006	11/11/2022 11:1d	1	11100065.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/66		11/11/2022 11:43	1	11100066.D	UltraCarb5uODS 4.69mmV
CC) 280-5d3042/67		11/11/2022 12:06	1	11100067.D	UltraCarb5uODS 4.69mmV

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X3 Start Date: 11/11/2022 15:47

Analysis Batch Number: 593188 End Date: 11/11/2022 17:19

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-593188/7		11/11/2022 15:47	1	11110007.D	UltraCarb5uODS 4.6(mm)
280-168718-12 DL	X7-TP-C01-5460 DL	11/11/2022 16:10	10	11110011.D	UltraCarb5uODS 4.6(mm)
280-168718-13 DL	X7-TP-C02-3648 DL	11/11/2022 16:33	20	11110012.D	UltraCarb5uODS 4.6(mm)
280-168718-17 DL	X3-SS-C08-0006 DL	11/11/2022 16:56	5	11110013.D	UltraCarb5uODS 4.6(mm)
CCV 280-593188/14		11/11/2022 17:19	1	11110014.D	UltraCarb5uODS 4.6(mm)

HPLC/IC ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: CHHPLC_X5 Start Date: 11/11/2022 15:51

Analysis Batch Number: 593191 End Date: 11/12/2022 06:59

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-593191/7		11/11/2022 15:51	1	11110007.D	Luna-phenylhex 4.6(mm)
ZZZZZ		11/11/2022 16:26	1		Luna-phenylhex 4.6(mm)
ZZZZZ		11/11/2022 17:01	1		Luna-phenylhex 4.6(mm)
280-168718-1	X3-SS-C01-0006	11/11/2022 17:36	1	11110012.D	Luna-phenylhex 4.6(mm)
280-168718-2	FD-11012201	11/11/2022 18:11	1	11110013.D	Luna-phenylhex 4.6(mm)
280-168718-3	X3-SS-C02-0006	11/11/2022 18:46	1	11110014.D	Luna-phenylhex 4.6(mm)
280-168718-5	X3-SS-C04-0006	11/11/2022 19:21	1	11110015.D	Luna-phenylhex 4.6(mm)
280-168718-7	X3-SS-C05-0006	11/11/2022 19:56	1	11110016.D	Luna-phenylhex 4.6(mm)
280-168718-8	FD-11022201	11/11/2022 20:30	1	11110017.D	Luna-phenylhex 4.6(mm)
CCV 280-593191/18		11/11/2022 21:05	1	11110018.D	Luna-phenylhex 4.6(mm)
280-168718-9	X3-SS-CO6-0006	11/11/2022 21:40	1	11110019.D	Luna-phenylhex 4.6(mm)
280-168718-9 MS	X3-SS-CO6-0006 MS	11/11/2022 22:15	1	11110020.D	Luna-phenylhex 4.6(mm)
280-168718-9 MSD	X3-SS-CO6-0006 MSD	11/11/2022 22:50	1	11110021.D	Luna-phenylhex 4.6(mm)
280-168718-9 DU	X3-SS-CO6-0006 DU	11/11/2022 23:25	1	11110022.D	Luna-phenylhex 4.6(mm)
280-168718-9 TRL	X3-SS-CO6-0006 TRL	11/12/2022 00:00	1	11110023.D	Luna-phenylhex 4.6(mm)
280-168718-11	X7B-SS-C01-0006	11/12/2022 00:35	1	11110024.D	Luna-phenylhex 4.6(mm)
280-168718-12	X7-TP-C01-5460	11/12/2022 01:10	1	11110025.D	Luna-phenylhex 4.6(mm)
280-168718-13	X7-TP-C02-3648	11/12/2022 01:45	1	11110026.D	Luna-phenylhex 4.6(mm)
280-168718-14	X7-TP-C03-4248	11/12/2022 02:20	1	11110027.D	Luna-phenylhex 4.6(mm)
280-168718-15	X7-TP-C04-4248	11/12/2022 02:55	1	11110028.D	Luna-phenylhex 4.6(mm)
CCV 280-593191/29		11/12/2022 03:29	1	11110029.D	Luna-phenylhex 4.6(mm)
280-168718-16	X3-SS-C07-0006	11/12/2022 04:04	1	11110030.D	Luna-phenylhex 4.6(mm)
280-168718-17	X3-SS-C08-0006	11/12/2022 04:39	1	11110031.D	Luna-phenylhex 4.6(mm)
280-168718-12 DL	X7-TP-C01-5460 DL	11/12/2022 05:14	10	11110032.D	Luna-phenylhex 4.6(mm)
280-168718-13 DL	X7-TP-C02-3648 DL	11/12/2022 05:49	20	11110033.D	Luna-phenylhex 4.6(mm)
280-168718-17 DL	X3-SS-C08-0006 DL	11/12/2022 06:24	5	11110034.D	Luna-phenylhex 4.6(mm)
CCV 280-593191/35		11/12/2022 06:59	1	11110035.D	Luna-phenylhex 4.6(mm)

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 562503 Batch Start Date: 01/04/22 18:28 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	3,5-DNA LCS 00039	8330_ADDs 00030	8330DiaminLCS 00045		
IC 280-562503/21		8330B			125 uL			
IC 280-562503/22		8330B			50 uL			
IC 280-562503/23		8330B			35 uL			
IC 280-562503/24		8330B			20 uL			
IC 280-562503/25		8330B			12.5 uL			
IC 280-562503/26		8330B			5 uL			
IC 280-562503/27		8330B			2.5 uL			
IC 280-562503/28		8330B			1 uL			
ICV 280-562503/29		8330B		50 uL		50 uL		

Batch Notes	
Methanol ID	214340

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 567560 Batch Start Date: 03/02/22 21:22 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	3,5-DNA LCS 00040	8330 LCS 00111	8330_ADDs 00031
IC 280-567560/10		8330B		1.0 mL			125 uL
IC 280-567560/11		8330B		1.0 mL			50 uL
IC 280-567560/12		8330B		1.0 mL			35 uL
IC 280-567560/13		8330B		1.0 mL			20 uL
IC 280-567560/14		8330B		1.0 mL			12.5 uL
IC 280-567560/15		8330B		1.0 mL			5 uL
IC 280-567560/16		8330B		1.0 mL			2.5 uL
IC 280-567560/17		8330B		1.0 mL			1 uL
IC 280-567560/18		8330B		1.0 mL			0.5 uL
ICV 280-567560/19		8330B		1.0 mL	50 uL	50 uL	

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330Surrogate 00127
IC 280-567560/10		8330B		
IC 280-567560/11		8330B		
IC 280-567560/12		8330B		
IC 280-567560/13		8330B		
IC 280-567560/14		8330B		
IC 280-567560/15		8330B		
IC 280-567560/16		8330B		
IC 280-567560/17		8330B		
IC 280-567560/18		8330B		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 567560 Batch Start Date: 03/02/22 21:22 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330Surrogate 00127				
ICV 280-567560/19		8330B		50 uL				

Batch Notes	
Methanol ID	214340

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 579374 Batch Start Date: 06/28/22 19:24 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	8330 LCS 00114	8330IntermStk 00072	8330Surrogate 00128
IC 280-579374/10		8330B		1.0 mL		250 uL	
IC 280-579374/11		8330B		1.0 mL		100 uL	
IC 280-579374/12		8330B		1.0 mL		70 uL	
IC 280-579374/13		8330B		1.0 mL		40 uL	
IC 280-579374/14		8330B		1.0 mL		25 uL	
IC 280-579374/15		8330B		1.0 mL		10 uL	
IC 280-579374/16		8330B		1.0 mL		5 uL	
IC 280-579374/17		8330B		1.0 mL		2 uL	
IC 280-579374/18		8330B		1.0 mL		1 uL	
ICV 280-579374/19		8330B		1.0 mL	50 uL		50 uL

Batch Notes	
Methanol ID	217031

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 579842 Batch Start Date: 07/02/22 13:06 Batch Analyst:

Batch Method: 8330B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330 LCS 00114	8330IntermStk 00072	8330Surrogate 00129		
IC 280-579842/11		8330B			250 uL			
IC 280-579842/12		8330B			100 uL			
IC 280-579842/13		8330B			70 uL			
IC 280-579842/14		8330B			40 uL			
IC 280-579842/15		8330B			25 uL			
IC 280-579842/16		8330B			10 uL			
IC 280-579842/17		8330B			5 uL			
IC 280-579842/18		8330B			2 uL			
IC 280-579842/19		8330B			1 uL			
ICV 280-579842/20		8330B		50 uL		50 uL		

Batch Notes	
Methanol ID	217031

Basis	Basis Description

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment			
280-168718-B-1	X3-SS-C01-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-2	FD-11012201	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-3	X3-SS-C02-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-5	X3-SS-C04-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-7	X3-SS-C05-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-8	FD-11022201	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-9	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-B-9 MS	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 MSD	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 DU	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330			
280-168718-B-9 TRL	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330			
280-168718-B-10	X7-SS-C01-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			
280-168718-A-11	X7B-SS-C01-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
280-168718-B-12	X7-TP-C01-5460	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-A-13	X7-TP-C02-3648	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-B-14	X7-TP-C03-4248	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-B-15	X7-TP-C04-4248	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-B-16	X3-SS-C07-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				
280-168718-A-17	X3-SS-C08-0006	Prep/Air Dry, 8330B, 8330B	T	2x10g 8330 2x10g NGu				

Batch Notes	
Date and Time laid out to Dry	11/07/22 16:48
Laid out on Parchment or Foil	Foil
Analyst ID - Drying	DL
Analyst ID - Label Check	Reviewer: NC
SOP Number	DV-OP-0013; DV-OP-0018
Batch Comment	Tower: Yuuko

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592716 Batch Start Date: 11/08/22 13:27 Batch Analyst:

Batch Method: 3535 Batch End Date: 11/08/22 16:49

Lab Sample ID	Client Sample ID	Method Chain	Basis	GrossWeight	TareWeight	InitialAmount	FinalAmount
MB 280-592716/1		3535, 8330B				500 mL	5 mL
LCS 280-592716/2		3535, 8330B				500 mL	5 mL
LCSD 280-592716/3		3535, 8330B				500 mL	5 mL
LCS 280-592716/4		3535, 8330B				500 mL	5 mL
LCSD 280-592716/5		3535, 8330B				500 mL	5 mL
280-168718-B-6	RB-11012201	3535, 8330B	T	784.2 g	285.3 g	498.9 mL	5 mL

Lab Sample ID	Client Sample ID	Method Chain	Basis	8330DiaminLCS 00048	8330Surrogate 00131		
MB 280-592716/1		3535, 8330B			0.1 mL		
LCS 280-592716/2		3535, 8330B			0.1 mL		
LCSD 280-592716/3		3535, 8330B			0.1 mL		
LCS 280-592716/4		3535, 8330B		0.1 mL	0.1 mL		
LCSD 280-592716/5		3535, 8330B		0.1 mL	0.1 mL		
280-168718-B-6	RB-11012201	3535, 8330B	T		0.1 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592716 Batch Start Date: 11/08/22 13:27 Batch Analyst:

Batch Method: 3535 Batch End Date: 11/08/22 16:49

Batch Notes	
First Start time	11/08/2022 13:55
First End time	11/08/2022 16:25
SPE Cartridge Type	Sep-Pak RDX
SPE Cartridge Lot ID	005332136A
Balance ID	24350888
Pipette/Syringe/Dispenser ID	JiJi, Soot, DOD
Solvent Name	Acetonitrile
Solvent Lot #	Acetonitrile_00065
Rinse Solvent Name	0.1%AAinACN
Rinse Solvent Lot	0.1%AAinACN_00192
Acid Name	Ca2Cl
Acid ID	Ca2Cl_Sol_00082
Analyst ID - Spike Analyst	AA
Analyst ID - Spike Witness Analyst	Reviewer: NC
Batch Comment	DV-OP-0017; Mantel: A/B

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592924 Batch Start Date: 11/09/22 17:15 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/10/22 13:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	3,5-DNA LCS 00042	8330 LCS 00117
MB 280-592924/1		8330B, 8330B		10 g	40 mL		
LCS 280-592924/2		8330B, 8330B		10 g	40 mL		1 mL
LCS 280-592924/3		8330B, 8330B		10 g	40 mL	1 mL	
280-168718-B-1-A	X3-SS-C01-0006	8330B, 8330B	T	10.3153 g	40 mL		
280-168718-A-2-A	FD-11012201	8330B, 8330B	T	10.4116 g	40 mL		
280-168718-B-3-A	X3-SS-C02-0006	8330B, 8330B	T	10.008 g	40 mL		
280-168718-B-5-A	X3-SS-C04-0006	8330B, 8330B	T	10.1405 g	40 mL		
280-168718-A-7-A	X3-SS-C05-0006	8330B, 8330B	T	10.3204 g	40 mL		
280-168718-A-8-A	FD-11022201	8330B, 8330B	T	10.2705 g	40 mL		
280-168718-B-9-A	X3-SS-CO6-0006	8330B, 8330B	T	10.1344 g	40 mL		
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	10.0292 g	40 mL		1 mL
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	10.097 g	40 mL		1 mL
280-168718-B-9-D DU	X3-SS-CO6-0006	8330B, 8330B	T	10.4412 g	40 mL		
280-168718-B-9-E TRL	X3-SS-CO6-0006	8330B, 8330B	T	10.6374 g	40 mL		
280-168718-B-10-A	X7-SS-C01-0006	8330B, 8330B	T	10.2551 g	40 mL		
280-168718-A-11-A	X7B-SS-C01-0006	8330B, 8330B	T	10.2857 g	40 mL		
280-168718-B-12-A	X7-TP-C01-5460	8330B, 8330B	T	10.8643 g	40 mL		
280-168718-A-13-A	X7-TP-C02-3648	8330B, 8330B	T	10.2121 g	40 mL		
280-168718-B-14-A	X7-TP-C03-4248	8330B, 8330B	T	10.305 g	40 mL		
280-168718-B-15-A	X7-TP-C04-4248	8330B, 8330B	T	10.5091 g	40 mL		
280-168718-B-16-A	X3-SS-C07-0006	8330B, 8330B	T	10.3627 g	40 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592924 Batch Start Date: 11/09/22 17:15 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/10/22 13:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	3,5-DNA LCS 00042	8330 LCS 00117	
280-168718-A-17-A	X3-SS-C08-0006	8330B, 8330B	T	10.2501 g	40 mL			
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	10.5191 g	40 mL	1 mL		
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	10.0423 g	40 mL	1 mL		

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
MB 280-592924/1		8330B, 8330B						
LCS 280-592924/2		8330B, 8330B		8330				
LCS 280-592924/3		8330B, 8330B		35DNA and Diamino				
280-168718-B-1-A	X3-SS-C01-0006	8330B, 8330B	T					
280-168718-A-2-A	FD-11012201	8330B, 8330B	T					
280-168718-B-3-A	X3-SS-C02-0006	8330B, 8330B	T					
280-168718-B-5-A	X3-SS-C04-0006	8330B, 8330B	T					
280-168718-A-7-A	X3-SS-C05-0006	8330B, 8330B	T					
280-168718-A-8-A	FD-11022201	8330B, 8330B	T					
280-168718-B-9-A	X3-SS-CO6-0006	8330B, 8330B	T					
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	8330				
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	8330				
280-168718-B-9-D DU	X3-SS-CO6-0006	8330B, 8330B	T					
280-168718-B-9-E TRL	X3-SS-CO6-0006	8330B, 8330B	T					
280-168718-B-10-A	X7-SS-C01-0006	8330B, 8330B	T					
280-168718-A-11-A	X7B-SS-C01-0006	8330B, 8330B	T					
280-168718-B-12-A	X7-TP-C01-5460	8330B, 8330B	T					

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

HPLC/IC BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592924 Batch Start Date: 11/09/22 17:15 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/10/22 13:56

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
280-168718-A-13-A	X7-TP-C02-3648	8330B, 8330B	T					
280-168718-B-14-A	X7-TP-C03-4248	8330B, 8330B	T					
280-168718-B-15-A	X7-TP-C04-4248	8330B, 8330B	T					
280-168718-B-16-A	X3-SS-C07-0006	8330B, 8330B	T					
280-168718-A-17-A	X3-SS-C08-0006	8330B, 8330B	T					
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8330B	T	35DNA and Diamino				
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8330B	T	35DNA and Diamino				

Batch Notes	
Solvent Name	0.1% AA in ACN
Solvent Lot #	0.1% AA in ACN-00191
Prep Solvent Volume Used	20 mL mL
Analyst ID - Reagent Drop Witness	JZ
Balance ID	38602403
Blank Sand Lot #	216016
Pipette ID for Solvent	Firine
Pipette ID	Rose
Sonication Start Time	11/9/22 17:41
Sonication Stop Time	11/10/22 11:48
Filter Type	0.2 um PTFE
Filter ID	R1MB60600, R1NB72130
Date Sample was Dried	Batch 592646
Date Sample was Ground	Batch 592646
SOP Number	DV-OP-0018

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8330B

8321B_NGu

Nitroguanidine (LC/MS)

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21065.d

Lab ID: LCS 280-593821/2-A Client ID:

COMPOUND	SPIKE ADDED (ug/Kg)	LCS CONCENTRATION (ug/Kg)	LCS % REC	QC LIMITS REC	#
Nitroguanidine	201	164	82	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS LAB CONTROL SAMPLE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: NG722K21059.d

Lab ID: LCS 280-594294/14 Client ID:

COMPOUND	SPIKE ADDED (ug/L)	LCS CONCENTRATION (ug/L)	LCS % REC	QC LIMITS REC	#
Nitroguanidine	100	105	104	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: NG722K21061.d

Lab ID: 280-168718-6 MS Client ID: RB-11012201 MS

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	QC LIMITS REC	#
Nitroguanidine	100	10 U	90.1	90	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21074.d

Lab ID: 280-168718-9 MS Client ID: X3-SS-CO6-0006 MS

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC	QC LIMITS REC	#
Nitroguanidine	201	25 U	74.4	37	50-150	H J1

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Water Level: Low Lab File ID: NG722K21062.d

Lab ID: 280-168718-6 MSD Client ID: RB-11012201 MSD

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Nitroguanidine	100	107	106	17	20	50-150	

Column to be used to flag recovery and RPD values

FORM III 8321B

FORM III
LCMS MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21075.d

Lab ID: 280-168718-9 MSD Client ID: X3-SS-CO6-0006 MSD

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC	% RPD	QC LIMITS RPD	QC LIMITS REC	#
Nitroguanidine	201	72.2	36	3	20	50-150	H J1

Column to be used to flag recovery and RPD values

FORM III 8321B

LCMS TRIPLICATE SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Matrix: Solid Level: Low Lab File ID: NG722K21077.d

Lab ID: 280-168718-9 TRL Client ID: X3-SS-CO6-0006 TRL

COMPOUND	SAMPLE CONC. (ug/Kg)	DUPLICATE CONC. (ug/Kg)	TRIPLICATE CONC. (ug/Kg)	%RSD	%RSD LIMIT	#
Nitroguanidine	25 U	25 U	25 U	NC		

Column to be used to flag %RSD values

8321B

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: NG722K21058.d Lab Sample ID: MB 280-594294/13

Matrix: Water Date Extracted:

Instrument ID: LC_LCMS7 Date Analyzed: 11/21/2022 14:19

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-594294/14	NG722K21059.d	11/21/2022 14:22
RB-11012201	280-168718-6	NG722K21060.d	11/21/2022 14:25
RB-11012201 MS	280-168718-6 MS	NG722K21061.d	11/21/2022 14:28
RB-11012201 MSD	280-168718-6 MSD	NG722K21062.d	11/21/2022 14:31

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-594294/13

Matrix: Water | Lab File ID: NG722K21058.d

Analysis Method: 8321B | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:19

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	10	U	20	10	3.7

FORM IV
LCMS METHOD BLANK SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab File ID: NG722K21064.d Lab Sample ID: MB 280-593821/1-A

Matrix: Solid Date Extracted: 11/17/2022 09:02

Instrument ID: LC_LCMS7 Date Analyzed: 11/21/2022 14:37

Level:(Low/Med) Low

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES:

CLIENT SAMPLE ID	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED
	LCS 280-593821/2-A	NG722K21065.d	11/21/2022 14:40
X3-SS-C01-0006	280-168718-1	NG722K21066.d	11/21/2022 14:43
FD-11012201	280-168718-2	NG722K21067.d	11/21/2022 14:46
X3-SS-C02-0006	280-168718-3	NG722K21068.d	11/21/2022 14:49
X3-SS-C04-0006	280-168718-5	NG722K21069.d	11/21/2022 14:52
X3-SS-C05-0006	280-168718-7	NG722K21070.d	11/21/2022 14:55
FD-11022201	280-168718-8	NG722K21071.d	11/21/2022 14:58
X3-SS-CO6-0006	280-168718-9	NG722K21073.d	11/21/2022 15:04
X3-SS-CO6-0006 MS	280-168718-9 MS	NG722K21074.d	11/21/2022 15:07
X3-SS-CO6-0006 MSD	280-168718-9 MSD	NG722K21075.d	11/21/2022 15:10
X3-SS-CO6-0006 DU	280-168718-9 DU	NG722K21076.d	11/21/2022 15:13
X3-SS-CO6-0006 TRL	280-168718-9 TRL	NG722K21077.d	11/21/2022 15:16
X7-SS-C01-0006	280-168718-10	NG722K21078.d	11/21/2022 15:19
X7B-SS-C01-0006	280-168718-11	NG722K21079.d	11/21/2022 15:22
X7-TP-C01-5460	280-168718-12	NG722K21081.d	11/21/2022 15:28
X7-TP-C02-3648	280-168718-13	NG722K21082.d	11/21/2022 15:31
X7-TP-C03-4248	280-168718-14	NG722K21083.d	11/21/2022 15:34
X7-TP-C04-4248	280-168718-15	NG722K21084.d	11/21/2022 15:37
X3-SS-C07-0006	280-168718-16	NG722K21085.d	11/21/2022 15:41
X3-SS-C08-0006	280-168718-17	NG722K21086.d	11/21/2022 15:44

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: MB 280-593821/1-A

Matrix: Solid | Lab File ID: NG722K21064.d

Analysis Method: 8321B | Date Collected:

Extraction Method: 8330B | Date Extracted: 11/17/2022 09:02

Sample wt/vol: 10(g) | Date Analyzed: 11/21/2022 14:37

Con. Extract Vol.: 20(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594295 | Units: ug/Kg

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	25	U	40	25	11

FORM I
LCMS ORGANICS ANALYSIS DATA SHEET

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Client Sample ID: | Lab Sample ID: ICB 280-594294/11

Matrix: Solid | Lab File ID: NG722K21056.d

Analysis Method: 8321B | Date Collected:

Extraction Method: | Date Extracted:

Sample wt/vol: 1(mL) | Date Analyzed: 11/21/2022 14:13

Con. Extract Vol.: 1(mL) | Dilution Factor: 1

Injection Volume: 20(uL) | GC Column: Synergi Hydro ID:

% Moisture: % Solids: | GPC Cleanup:(Y/N) N

Cleanup Factor:

Analysis Batch No.: 594294 | Units: ug/L

CAS NO.	COMPOUND NAME	RESULT	Q	LOQ	LOD	DL
556-88-7	Nitroguanidine	10	U	20	10	3.7

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RETENTION TIME SUMMARY

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: LC_LCMS7 GC Column: Synergi Hyd ID: Heated

Calibration Start Date: 11/21/2022 13:52 Calibration End Date: 11/21/2022 14:10 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD001 280-594294/4	NG722K21049.d
Level 2	STD002 280-594294/5	NG722K21050.d
Level 3	STD003 280-594294/6	NG722K21051.d
Level 4	STD004 280-594294/7	NG722K21052.d
Level 5	STD005 280-594294/8	NG722K21053.d
Level 6	STD006 280-594294/9	NG722K21054.d
Level 7	STD007 280-594294/10	NG722K21055.d

ANALYTE	LVL 1	LVL 2	LVL 3	LVL 4	LVL 5	LVL 6	LVL 7			
Nitroguanidine	0.914	0.908	0.908	0.908	0.908	0.903	0.897			

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
CURVE EVALUATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: LC_LCMS7 GC Column: Synergi Hyd ID: Heated

Calibration Start Date: 11/21/2022 13:52 Calibration End Date: 11/21/2022 14:10 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD001 280-594294/4	NG722K21049.d
Level 2	STD002 280-594294/5	NG722K21050.d
Level 3	STD003 280-594294/6	NG722K21051.d
Level 4	STD004 280-594294/7	NG722K21052.d
Level 5	STD005 280-594294/8	NG722K21053.d
Level 6	STD006 280-594294/9	NG722K21054.d
Level 7	STD007 280-594294/10	NG722K21055.d

ANALYTE	CF				CURVE TYPE	COEFFICIENT			#	MIN CF
	LVL 1 LVL 5	LVL 2 LVL 6	LVL 3 LVL 7	LVL 4		B	M1	M2		
Nitroguanidine	74.303 79.133	81.474 64.522	91.713 47.478	71.853	Qua1	-18.091984	83.637865 1	-0.072278 4		

Note: The M1 coefficient is the same as Ave CF for an Ave curve type.

FORM VI
LCMS BY EXTERNAL STANDARD - INITIAL CALIBRATION DATA
RESPONSE AND CONCENTRATION

Lab Name: Eurofins Denver Job No.: 280-168718-1 Analy E

SDG No.:

Instrument ID: LC_LCMS7 GC Column: Synergi Hyd ID: Heated

Calibration Start Date: 11/21/2022 13:52 Calibration End Date: 11/21/2022 14:10 Calibra

Calibration Files

LEVEL:	LAB SAMPLE ID:	LAB FILE ID:
Level 1	STD001 280-594294/4	NG722K21049.d
Level 2	STD002 280-594294/5	NG722K21050.d
Level 3	STD003 280-594294/6	NG722K21051.d
Level 4	STD004 280-594294/7	NG722K21052.d
Level 5	STD005 280-594294/8	NG722K21053.d
Level 6	STD006 280-594294/9	NG722K21054.d
Level 7	STD007 280-594294/10	NG722K21055.d

ANALYTE	CURVE TYPE	RESPONSE					CO	
		LVL 1 LVL 6	LVL 2 LVL 7	LVL 3	LVL 4	LVL 5	LVL 1 LVL 6	LVL 2 LVL 7
Nitroguanidine	Qua1	373 16195	818 23834	2302	3607	7945	5.02 251	10 5

Curve Type Legend
Qua1 = Quadratic 1/Conc

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: ICV 280-594294/12 Calibration Date: 11/21/2022 14:16

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21057.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		65.55		84.9	100	-15.2	20.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594294/18 Calibration Date: 11/21/2022 14:34

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21063.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		90.08		57.1	50.2	13.7	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594295/18 Calibration Date: 11/21/2022 14:34

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21063.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		90.08		57.1	50.2	13.7	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-495294/27 Calibration Date: 11/21/2022 14:01

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:42

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 15:10

Lab File ID: NG722K21072.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		66.58		86.4	100	-13.9	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-495294/34 Calibration Date: 11/21/2022 14:24

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:42

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 15:10

Lab File ID: NG722K21080.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		68.49		53.0	40.2	-15.5	30.0

FORM VII
LCMS CONTINUING CALIBRATION DATA

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Lab Sample ID: CCV 280-594295/42 Calibration Date: 11/21/2022 15:47

Instrument ID: LC_LCMS7 Calib Start Date: 11/21/2022 13:52

GC Column: Synergi Hydro ID: Calib End Date: 11/21/2022 14:10

Lab File ID: NG722K21087.d Conc. Units: ug/L

ANALYTE	CURVE TYPE	AVE CF	CF	MIN CF	CALC AMOUNT	SPIKE AMOUNT	%D	MAX %D
Nitroguanidine	Qua1		57.31		73.7	100	-26.6	30.0

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: LC_LCMS7 Start Date: 11/21/2022 13:52

Analysis Batch Number: 594294 End Date: 11/21/2022 14:34

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
STD001 280-594294/4 IC		11/21/2022 13:52	1	NG722K21049.d	Synergi Hydro
STD002 280-594294/5 IC		11/21/2022 13:55	1	NG722K21050.d	Synergi Hydro
STD003 280-594294/6 IC		11/21/2022 13:58	1	NG722K21051.d	Synergi Hydro
STD004 280-594294/7 IC		11/21/2022 14:01	1	NG722K21052.d	Synergi Hydro
STD005 280-594294/8 IC		11/21/2022 14:04	1	NG722K21053.d	Synergi Hydro
STD006 280-594294/9 IC		11/21/2022 14:07	1	NG722K21054.d	Synergi Hydro
STD007 280-594294/10 IC		11/21/2022 14:10	1	NG722K21055.d	Synergi Hydro
ICB 280-594294/11		11/21/2022 14:13	1	NG722K21056.d	Synergi Hydro
ICV 280-594294/12		11/21/2022 14:16	1	NG722K21057.d	Synergi Hydro
MB 280-594294/13		11/21/2022 14:19	1	NG722K21058.d	Synergi Hydro
LCS 280-594294/14		11/21/2022 14:22	1	NG722K21059.d	Synergi Hydro
280-168718-6	RB-11012201	11/21/2022 14:25	1	NG722K21060.d	Synergi Hydro
280-168718-6 MS	RB-11012201 MS	11/21/2022 14:28	1	NG722K21061.d	Synergi Hydro
280-168718-6 MSD	RB-11012201 MSD	11/21/2022 14:31	1	NG722K21062.d	Synergi Hydro
CCV 280-594294/18		11/21/2022 14:34	1	NG722K21063.d	Synergi Hydro

LCMS ANALYSIS RUN LOG

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: LC_LCMS7 Start Date: 11/21/2022 14:34

Analysis Batch Number: 594295 End Date: 11/21/2022 15:47

LAB SAMPLE ID	CLIENT SAMPLE ID	DATE ANALYZED	DILUTION FACTOR	LAB FILE ID	COLUMN ID
CCV 280-594295/18		11/21/2022 14:34	1	NG722K21063.d	Synergi Hydro
MB 280-593821/1-A		11/21/2022 14:37	1	NG722K21064.d	Synergi Hydro
LCS 280-593821/2-A		11/21/2022 14:40	1	NG722K21065.d	Synergi Hydro
280-168718-1	X3-SS-C01-0006	11/21/2022 14:43	1	NG722K21066.d	Synergi Hydro
280-168718-2	FD-11012201	11/21/2022 14:46	1	NG722K21067.d	Synergi Hydro
280-168718-3	X3-SS-C02-0006	11/21/2022 14:49	1	NG722K21068.d	Synergi Hydro
280-168718-5	X3-SS-C04-0006	11/21/2022 14:52	1	NG722K21069.d	Synergi Hydro
280-168718-7	X3-SS-C05-0006	11/21/2022 14:55	1	NG722K21070.d	Synergi Hydro
280-168718-8	FD-11022201	11/21/2022 14:58	1	NG722K21071.d	Synergi Hydro
CCV 280-594295/27		11/21/2022 15:01	1	NG722K21072.d	Synergi Hydro
280-168718-9	X3-SS-CO6-0006	11/21/2022 15:04	1	NG722K21073.d	Synergi Hydro
280-168718-9 MS	X3-SS-CO6-0006 MS	11/21/2022 15:07	1	NG722K21074.d	Synergi Hydro
280-168718-9 MSD	X3-SS-CO6-0006 MSD	11/21/2022 15:10	1	NG722K21075.d	Synergi Hydro
280-168718-9 DU	X3-SS-CO6-0006 DU	11/21/2022 15:13	1	NG722K21076.d	Synergi Hydro
280-168718-9 TRL	X3-SS-CO6-0006 TRL	11/21/2022 15:16	1	NG722K21077.d	Synergi Hydro
280-168718-10	X7-SS-C01-0006	11/21/2022 15:19	1	NG722K21078.d	Synergi Hydro
280-168718-11	X7B-SS-C01-0006	11/21/2022 15:22	1	NG722K21079.d	Synergi Hydro
CCV 280-594295/35		11/21/2022 15:25	1	NG722K21080.d	Synergi Hydro
280-168718-12	X7-TP-C01-5460	11/21/2022 15:28	1	NG722K21081.d	Synergi Hydro
280-168718-13	X7-TP-C02-3648	11/21/2022 15:31	1	NG722K21082.d	Synergi Hydro
280-168718-14	X7-TP-C03-4248	11/21/2022 15:34	1	NG722K21083.d	Synergi Hydro
280-168718-15	X7-TP-C04-4248	11/21/2022 15:37	1	NG722K21084.d	Synergi Hydro
280-168718-16	X3-SS-C07-0006	11/21/2022 15:41	1	NG722K21085.d	Synergi Hydro
280-168718-17	X3-SS-C08-0006	11/21/2022 15:44	1	NG722K21086.d	Synergi Hydro
CCV 280-594295/42		11/21/2022 15:47	1	NG722K21087.d	Synergi Hydro

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment			
280-168718-B-1	X3-SS-C01-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-2	FD-11012201	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-3	X3-SS-C02-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-5	X3-SS-C04-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-7	X3-SS-C05-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-8	FD-11022201	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-9	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-B-9 MS	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 MSD	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu extra vol for 3,5 DNA and Diamino			
280-168718-B-9 DU	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330			
280-168718-B-9 TRL	X3-SS-CO6-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330			
280-168718-B-10	X7-SS-C01-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			
280-168718-A-11	X7B-SS-C01-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu			

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 592646 Batch Start Date: 11/07/22 15:55 Batch Analyst:

Batch Method: Prep/Air Dry Batch End Date: 11/09/22 13:38

Lab Sample ID	Client Sample ID	Method Chain	Basis	AnalysisComment				
280-168718-B-12	X7-TP-C01-5460	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-A-13	X7-TP-C02-3648	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-B-14	X7-TP-C03-4248	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-B-15	X7-TP-C04-4248	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-B-16	X3-SS-C07-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				
280-168718-A-17	X3-SS-C08-0006	Prep/Air Dry, 8330B, 8321B	T	2x10g 8330 2x10g NGu				

Batch Notes	
Date and Time laid out to Dry	11/07/22 16:48
Laid out on Parchment or Foil	Foil
Analyst ID - Drying	DL
Analyst ID - Label Check	Reviewer: NC
SOP Number	DV-OP-0013; DV-OP-0018
Batch Comment	Tower: Yuuko

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593821 Batch Start Date: 11/17/22 09:02 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/17/22 14:00

Lab Sample ID	Client Sample ID	Method Chain	Basis	InitialAmount	FinalAmount	NGu Cal 00003	
MB 280-593821/1		8330B, 8321B		10 g	20 mL		
LCS 280-593821/2		8330B, 8321B		10 g	20 mL	200 uL	
280-168718-B-1-A	X3-SS-C01-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-2-A	FD-11012201	8330B, 8321B	T	10 g	20 mL		
280-168718-B-3-A	X3-SS-C02-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-5-A	X3-SS-C04-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-7-A	X3-SS-C05-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-8-A	FD-11022201	8330B, 8321B	T	10 g	20 mL		
280-168718-B-9-A	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-9-B MS	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL	200 uL	
280-168718-B-9-C MSD	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL	200 uL	
280-168718-B-9-D DU	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-9-E TRL	X3-SS-CO6-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-10-A	X7-SS-C01-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-11-A	X7B-SS-C01-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-B-12-A	X7-TP-C01-5460	8330B, 8321B	T	10 g	20 mL		
280-168718-A-13-A	X7-TP-C02-3648	8330B, 8321B	T	10 g	20 mL		
280-168718-B-14-A	X7-TP-C03-4248	8330B, 8321B	T	10 g	20 mL		
280-168718-B-15-A	X7-TP-C04-4248	8330B, 8321B	T	10 g	20 mL		
280-168718-B-16-A	X3-SS-C07-0006	8330B, 8321B	T	10 g	20 mL		
280-168718-A-17-A	X3-SS-C08-0006	8330B, 8321B	T	10 g	20 mL		

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 593821 Batch Start Date: 11/17/22 09:02 Batch Analyst:

Batch Method: 8330B Batch End Date: 11/17/22 14:00

Batch Notes	
Solvent Name	Elga
Solvent Lot #	Elga
Prep Solvent Volume Used	20 mL
Analyst ID - Reagent Drop Witness	Reviewer: DL
Analyst ID - Concentration	TH
Balance ID	C33519
Blank Sand Lot #	198950
Pipette ID for Solvent	graduated cylinder
Pipette ID	syringe
Sonication Start Time	17:57
Sonication Stop Time	11:57
Filter Type	0.45 um
Filter ID	16896456
Date Sample was Dried	548956
Date Sample was Ground	548956
SOP Number	DV-OP-0018

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

LCMS BATCH WORKSHEET

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Batch Number: 594294 Batch Start Date: 11/21/22 13:52 Batch Analyst:

Batch Method: 8321B Batch End Date:

Lab Sample ID	Client Sample ID	Method Chain	Basis	FinalAmount	NGu Cal 00003	NGuWorkingICV 00002		
STD001 280-594294/4 IC		8321B		1 mL	0.5 uL			
STD002 280-594294/5 IC		8321B		1 mL	1 uL			
STD003 280-594294/6 IC		8321B		1 mL	2.5 uL			
STD004 280-594294/7 IC		8321B		1 mL	5 uL			
STD005 280-594294/8 IC		8321B		1 mL	10 uL			
STD006 280-594294/9 IC		8321B		1 mL	25 uL			
STD007 280-594294/10 IC		8321B		1 mL	50 uL			
ICB 280-594294/11		8321B		1 mL				
ICV 280-594294/12		8321B		1 mL		10 uL		
MB 280-594294/13		8321B		1 mL				
LCS 280-594294/14		8321B		1 mL	10 uL			
280-168718-C-6	RB-11012201	8321B	T	1 mL				
280-168718-C-6 MS	RB-11012201	8321B	T	1 mL	10 uL			
280-168718-C-6 MSD	RB-11012201	8321B	T	1 mL	10 uL			
CCV 280-594294/18		8321B		1 mL	5 uL			

Batch Notes	

Basis	Basis Description
T	Total/NA

The pound sign (#) in the amount added field denotes that the reagent was used undiluted. All calculations are performed us
this reagent.

8321B

GENERAL CHEMISTRY

9-IN
DETECTION LIMITS
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job Number: 280-168718-1

SDG Number:

Matrix: Solid Instrument ID: NOEQUIP

Method: D 2216 LOQ Date: 11/01/2009 00:00

Analyte	Wavelength/ Mass	LOQ (%)	
Percent Moisture		0.1	

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver   Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP   Analysis Method: D 2216

Start Date: 11/07/2022 09:29   End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist																									
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver   Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP   Analysis Method: D 2216

Start Date: 11/07/2022 09:29   End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes																									
				Moist																									
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			09:29																										
ZZZZZZ			10:41																										
ZZZZZZ			10:41																										
ZZZZZZ			10:49																										
ZZZZZZ			10:49																										
ZZZZZZ			10:49																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 11/07/2022 09:29 End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Moist																									
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										
ZZZZZZ			11:11																										

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver   Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP   Analysis Method: D 2216

Start Date: 11/07/2022 09:29   End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
ZZZZZZ			11:11	
280-168718-1	1	T	11:11	X
280-168718-2	1	T	13:24	X
280-168718-3	1	T	13:24	X
280-168718-5	1	T	13:24	X
280-168718-7	1	T	13:24	X

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver | Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP | Analysis Method: D 2216

Start Date: 11/07/2022 09:29 | End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes: Moist
280-168718-8	1	T	13:24	X
280-168718-9	1	T	13:24	X
280-168718-10	1	T	13:24	X
280-168718-11	1	T	13:24	X
280-168718-12	1	T	13:24	X
280-168718-13	1	T	13:24	X
280-168718-14	1	T	13:24	X
280-168718-15	1	T	13:24	X
280-168718-16	1	T	13:24	X
280-168718-17	1	T	13:24	X
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	
ZZZZZZ			13:24	

FORM XIII-IN

13-IN
ANALYSIS RUN LOG
GENERAL CHEMISTRY

Lab Name: Eurofins Denver Job No.: 280-168718-1

SDG No.:

Instrument ID: NOEQUIP Analysis Method: D 2216

Start Date: 11/07/2022 09:29 End Date: 11/07/2022 14:05

Lab Sample Id	D/F	Type	Time	Analytes																									
				Moist																									
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			13:24																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										
ZZZZZZ			14:05																										

Prep Types:
T = Total/NA

FORM XIII-IN

SVOC Calibration Calculations:

Initial Calibration 11/15/2022
Instrument SMS_Y

n-nitrosodiphenylamine

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	Reported RRF
4	21065	392448	40	0.536759	0.5368
10	57058	424260	40	0.537953	0.538
20	131533	409030	40	0.643146	0.6431
50	296597	420447	40	0.564346	0.5643
80	488433	457374	40	0.533954	0.534
120	710203	484412	40	0.488705	0.4887
160	891442	420201	40	0.530366	0.5304
200	1128939	455014	40	0.496222	0.4962
			Average	0.541431	0.5414
			Standard Deviation	0.0477	
			RSD	0.0880	
			%RSD	8.80451	8.8

Continuing Calibration 11/28/2022 @ 11:12
Instrument SMS_Y

n-nitrosodiphenylamine

Analyte Concentration	Analyte Response	Internal Standard Response	Internal Standard Amount	RRF	%D	Reported RRF	Reported %D
80	383199	334272	40	0.573	5.871	0.5732	5.9

Sample Calculation
Sample Identification X3-SS-C08-0006
Compound n-nitrosodiphenylamine 590 ug/kg

Compound Area	3985		
Internal Standard Amount (ng)	40	Sample Volume (g)	30.3
Dilution Factor	20	Volume Extract (ml)	1
Internal Standard Area	369682	Injection Volume (µl)	1
Average RRF	0.5414	Percent Solids	0.896
Concentration	586.707 ug/kg		

Surrogate 2-fluorobiphenyl

Compound Area	31330		
Internal Standard Amount (ng)	40		
Dilution Factor	1	Volume Extract (ml)	1
Internal Standard Area	208832	Injection Volume (µl)	1
Average RRF	1.324		
Concentration	4.532474		
Surrogate %R	90.65	Spike amount	5

LCS %R LCS - 280-593019/2

n-nitrosodiphenylamine	Spike amount	LCS concentration
1910	2670	71.54

Tune
11/15/2022 @ 13:42 SMS_Y

Raw Abundance m/z 198	Raw Abundance m/z 51	% Abundance
97472	41088	42.15

MATRIX SPIKE / MATRIX SPIKE DUPLICATE
Sample X3-SS-C06-0006

	Result	Target	Sample Result	Calculation	Recovery
n-nitrosodiphenylamine-MS	2500 ug/kg	3050 ug/kg	ND	2500/3050*100	81.97
	Result	Target	Sample Result	Calculation	Recovery
n-nitrosodiphenylamine -MSD	2650 ug/kg	3030 ug/kg	ND	2650/3030*100	87.46

MS/MSD RPD	Calculated RPD	6.48
	Reported RPD	7

Sample Calculation
Sample Identification LCS - 280-593019/2
Compound n-nitrosodiphenylamine 1910 ug/kg

Compound Area	400913		
Internal Standard Amount (ng)	40	Sample Volume (g)	30
Dilution Factor	1	Volume Extract (ml)	1
Internal Standard Area	516817	Injection Volume (µl)	1
Average RRF	0.5414	Percent Solids	1
Concentration	1910.442 ug/kg		

Report Date: 29-Nov-2022 18:13:15 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\SMS_Y\20221128-116455.b\Y19306487.D
Lims ID: 280-168718-B-17-A
Client ID: X3-SS-C08-0006
Sample Type: Client
Inject. Date: 28-Nov-2022 22:00:30 ALS Bottle#: 28 Worklist Smp#: 29
Injection Vol: 1.0 ul Dil. Factor: 20.0000
Sample Info: 280-168718-B-17-A
Operator ID: TESSIERN Instrument ID: SMS_Y

Method: \\chromfs\Denver\ChromData\SMS_Y\20221128-116455.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 29-Nov-2022 18:12:24 Calib Date: 23-Nov-2022 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\SMS_Y\20221123-116399.b\Y19306428b.D

Column 1 : Rxi-5Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1620

First Level Reviewer: NU5H Date: 29-Nov-2022 18:01:46

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
* 1 1,4-Dichlorobenzene-d4	152	3.692	3.689	0.003	97	86614	40.0	
* 2 Naphthalene-d8	136	4.905	4.907	-0.002	100	355602	40.0	
* 3 Acenaphthene-d10	164	6.614	6.617	-0.003	93	208832	40.0	
* 4 Phenanthrene-d10	188	8.056	8.059	-0.003	97	369682	40.0	a
* 5 Chrysene-d12	240	11.021	11.030	-0.009	98	370323	40.0	
* 6 Perylene-d12	264	13.863	13.888	-0.025	97	351829	40.0	
$ 7 2-Fluorophenol	112	2.517	2.512	0.005	89	14193	4.19	
$ 8 Phenol-d5	99	3.382	3.383	-0.001	94	20424	4.43	
$ 9 Nitrobenzene-d5	82	4.215	4.225	-0.007	86	17693	4.35	
$ 10 2,4,6-Trichlorophenol-d2	198		5.961				ND	
$ 11 2-Fluorobiphenyl	172	5.978	5.983	-0.007	99	31330	4.53	
$ 12 2,4,6-Tribromophenol	330	7.383	7.387	-0.007	94	4511	4.34	
$ 13 Terphenyl-d14	244	9.664	9.664	-0.001	97	39294	4.08	
14 Triethyl amine	86		1.244				ND	U
15 1,4-Dioxane	88		1.294				ND	
16 2-Ethoxyethanol	59		1.356				ND	
17 N-Nitrosodimethylamine	74		1.455				ND	
18 Pyridine	79		1.487				ND	
19 Dimethylformamide	73		1.794				ND	
20 2-Picoline	93		2.010				ND	
21 N-Nitrosomethylethylamine	88		2.095				ND	
22 Acrylamide	71		2.368				ND	7
23 Methyl methanesulfonate	80		2.352				ND	
24 N-Nitrosodiethylamine	102		2.699				ND	
25 Pentachlorophenol_T	266		2.992				ND	
26 Ethyl methanesulfonate	79		2.982				ND	
27 Benzaldehyde	106		3.278				ND	
28 Phenol	94		3.394				ND	
30 Aniline	93		3.383				ND	
31 Bis(2-chloroethyl)ether	93		3.458				ND	
32 Alpha Methyl Styrene	118		3.436				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
33 Pentachloroethane	117		3.426				ND	
34 2-Chlorophenol	128		3.501				ND	
35 n-Decane	43		3.575				ND	
37 1,3-Dichlorobenzene	146		3.639				ND	
38 1,4-Dichlorobenzene	146		3.709				ND	
39 Benzyl alcohol	108		3.837				ND	
40 1,2-Dichlorobenzene	146		3.848				ND	
41 2-Methylphenol	108		3.965				ND	
42 Benzidine_T	184		4.050				ND	
43 2,2'-oxybis[1-chloropropane]	45		3.976				ND	
44 Indene	116		3.933				ND	
45 N-Nitrosopyrrolidine	100		4.056				ND	
46 3-Methylphenol	108		4.120				ND	
47 4-Methylphenol	108		4.120				ND	
48 3 & 4 Methylphenol	108		4.120				ND	
49 N-Nitrosomorpholine	116		4.099				ND	
50 N-Nitrosodi-n-propylamine	70		4.099				ND	
51 Acetophenone	105		4.083				ND	
52 2-Toluidine	106		4.115				ND	
53 Hexachloroethane	117		4.168				ND	
54 Nitrobenzene	77		4.238				ND	
56 N-Nitrosopiperidine	114		4.382				ND	
57 Isophorone	82		4.478				ND	
58 2-Nitrophenol	139		4.548				ND	
59 2,4-Dimethylphenol	107		4.622				ND	
60 Benzyl dichloride	125		4.668				ND	
61 o,o',o''-Triethylphosphorothioat	198		4.692				ND	
63 Bis(2-chloroethoxy)methane	93		4.713				ND	
64 Benzoic acid	105		4.783				ND	
66 3,5-Dimethylphenol	107		4.761				ND	
67 alpha,alpha-Dimethyl phenethylam	58		4.831				ND	
68 2,4-Dichlorophenol	162		4.793				ND	
69 1,2,4-Trichlorobenzene	180		4.863				ND	
70 Alpha-Terpineol	59		5.037				ND	
71 Naphthalene	128		4.932				ND	
72 4-Chloroaniline	127		5.002				ND	
73 2,6-Dichlorophenol	162		5.007				ND	
74 Hexachloropropene	213		5.023				ND	
75 Hexachlorobutadiene	225		5.071				ND	
77 Quinoline	129		5.253				ND	
79 Caprolactam	55		5.319				ND	
80 N-Nitrosodi-n-butylamine	84		5.349				ND	
81 p-Phenylene diamine	108		5.338				ND	
83 4-Chloro-3-methylphenol	107		5.509				ND	
84 Safrole, Total	162		5.546				ND	
85 Carbofuran phenol	164		5.640				ND	
86 2-Methylnaphthalene	142		5.611				ND	
87 Phthalic anhydride	76	5.978	6.092	-0.114	34	1535		NC
88 1-Methylnaphthalene	142		5.702				ND	
89 1,2,4,5-Tetrachlorobenzene	216		5.776				ND	
90 Hexachlorocyclopentadiene	237		5.771				ND	
91 Isosafrole Peak 1	162		5.829				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
92 2,4,6-Trichlorophenol	196		5.899				ND	
93 2,3-Dichlorobenzenamine	161		5.883				ND	
94 2,4,5-Trichlorophenol	196		5.942				ND	
96 Isosafrole Peak 2	162		6.049				ND	
97 Toluene diamine (2,4- + 2,6- iso	122		6.137				ND	
98 1,1'-Biphenyl	154		6.076				ND	
99 2-Chloronaphthalene	162		6.081				ND	
100 1-Chloronaphthalene	162		6.097				ND	
101 2-Nitroaniline	65		6.188				ND	
102 1,4-Naphthoquinone	158		6.252				ND	
103 1,4-Dinitrobenzene	168		6.332				ND	
104 Dimethyl phthalate	163		6.396				ND	
105 1,3-Dinitrobenzene	168		6.401				ND	
106 2,6-Dinitrotoluene	165		6.439				ND	
107 Acenaphthylene	152		6.476				ND	
108 3-Nitroaniline	138		6.594				ND	
109 Acenaphthene	153		6.652				ND	
110 1,3-Dimethyl-2,4-Dinitrobenzene	77		6.499				ND	
111 2,4-Dinitrophenol	184		6.701				ND	
112 4-Nitrophenol	109		6.807				ND	
113 1,3-Dimethyl-2,5-Dinitrobenzene	179		6.606				ND	
114 2,4-Dinitrotoluene	165	6.817	6.827	-0.012	88	8012	4.07	
115 Pentachlorobenzene	250		6.780				ND	
116 Dibenzofuran	168		6.823				ND	
117 1,4-Dimethyl-2,3-Dinitrobenzene	77		6.729				ND	
118 1-Naphthylamine	143		6.898				ND	
119 2,3,4,6-Tetrachlorophenol	232		6.952				ND	
120 1,4-Dimethyl-2,6-Dinitrobenzene	179		6.788				ND	
121 2-Naphthylamine	143		6.978				ND	
122 1,4-Dimethyl-2,5-Dinitrobenzene	179		6.788				ND	
123 Diethyl phthalate	149		7.101				ND	
124 Hexadecane	57		7.139				ND	
125 1,2-Dimethyl-3,6-Dinitrobenzene	179		6.884				ND	
126 Thionazin	97		7.160				ND	
127 4-Chlorophenyl phenyl ether	204		7.176				ND	
128 N-Nitro-o-toluidine	152		7.176				ND	
129 Fluorene	166		7.155				ND	
130 4-Nitroaniline	138		7.192				ND	
131 4,6-Dinitro-2-methylphenol	198		7.224				ND	
132 1,5-Dimethyl-2,4-Dinitrobenzene	179		7.044				ND	
133 Tributyl phosphate	99		7.393				ND	
134 Diphenylamine	169		7.294				ND	7
135 N-Nitrosodiphenylamine	169	7.287	7.311	-0.007	97	3985	0.7964	
136 1,2-Diphenylhydrazine	182		7.331				ND	
137 Azobenzene	77		7.331				ND	7
138 1,5-Dimethyl-2,3-Dinitrobenzene	179		7.236				ND	
140 Sulfotepp	97		7.486				ND	
141 1,2-Dimethyl-3,5-Dinitrobenzene	179		7.359				ND	
142 1,3,5-Trinitrobenzene	213		7.560				ND	
143 Diallate Peak 1	86		7.592				ND	7
144 Phorate	121		7.598				ND	
145 Phenacetin	108		7.619				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
146 1,2-Dimethyl-3,4-Dinitrobenzene	179		7.359				ND	
148 4-Bromophenyl phenyl ether	248		7.651				ND	
149 Diallate Peak 2	86		7.673				ND	7
150 Dimethoate	87		7.753				ND	
151 Hexachlorobenzene	284		7.689				ND	
152 Atrazine	200		7.840				ND	
153 1,2-Dimethyl-4,5-Dinitrobenzene	91		7.594				ND	
154 4-Aminobiphenyl	169		7.902				ND	
155 Pentachlorophenol	266		7.892				ND	
156 Pentachloronitrobenzene	237		7.897				ND	
157 Pronamide	173		7.993				ND	
158 n-Octadecane	85		8.047				ND	
159 Disulfoton	88		8.105				ND	7
160 Dinoseb	211		8.095				ND	
161 Phenanthrene	178		8.084				ND	
162 Anthracene	178		8.132				ND	
164 Carbazole	167		8.303				ND	
165 Methyl parathion	109		8.463				ND	
166 Alachlor	188		8.474				ND	
168 Di-n-butyl phthalate	149		8.698				ND	
169 Ethyl Parathion	109		8.853				ND	
170 4-Nitroquinoline-1-oxide	190		8.842				ND	
172 Methapyrilene	97		8.960				ND	
173 Isodrin	193		9.094				ND	
175 Fluoranthene	202		9.243				ND	
176 Benzidine	184		9.400				ND	
177 4,4-Dichlorobenzil	139		10.529				ND	
178 Pyrene	202		9.462				ND	
180 Aramite Peak 1	185		9.687				ND	
182 Aramite Peak 2	185		9.772				ND	
183 p-Dimethylamino azobenzene	120		9.831				ND	
184 Chlorobenzilate	251		9.906				ND	
185 Famphur	218		10.207				ND	
186 3,3'-Dimethylbenzidine	212		10.247				ND	
187 Butyl benzyl phthalate	149		10.312				ND	
188 2-Acetylaminofluorene	181		10.589				ND	
189 3,3'-Dichlorobenzidine	252		11.035				ND	
190 4,4'-Methylene bis(2-chloroaniline)	231		11.054				ND	
191 Benzo[a]anthracene	228		11.022				ND	7
192 Chrysene	228		11.076				ND	7
193 Bis(2-ethylhexyl) phthalate	149		11.284				ND	
194 6-Methylchrysene	242		11.887				ND	
195 Di-n-octyl phthalate	149		12.620				ND	
196 Benzo[b]fluoranthene	252		13.052				ND	
197 7,12-Dimethylbenz(a)anthracene	256		13.073				ND	
198 Benzo[k]fluoranthene	252		13.116				ND	
199 Hexachlorophene	196		13.658				ND	
201 Benzo[a]pyrene	252		13.752				ND	7
203 3-Methylcholanthrene	268		14.633				ND	
204 Tris(2,3-dibromopropyl)phosphate	149		12.585				ND	
205 Dibenz[a,h]acridine	279		15.937				ND	
206 Dibenz[a,j]acridine	279		16.070				ND	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	OnCol Amt ug/ml	Flags
207 Indeno[1,2,3-cd]pyrene	276		16.423				ND	
208 Dibenz(a,h)anthracene	278		16.541				ND	
209 Benzo[g,h,i]perylene	276		17.038				ND	
210 Dibenzo[a,e]pyrene	302		15.632				ND	
S 211 Total Cresols	108		15.636				ND	7
S 212 Methyl Phenols,Total	108		15.636				ND	7
S 213 Isosafrole	162		15.636				ND	7
S 214 Diallate	86		15.636				ND	7
S 215 Aramite, Total	185		15.636				ND	7
217 Sulfolane	56		5.226				ND	
218 Prometon	210		7.988				ND	
219 3'-Bromoacetophenone	183		5.960				ND	
220 4-Chloro-3-nitro-alpha,alpha,alp	179		4.913				ND	
221 2-Bromopyridine	78		4.010				ND	
222 3-Amino-4-Chlorobenzotrifluoride	195		4.940				ND	
T 223 Kepone TIC	272		11.987				ND	
227 DFTPP								
228 4,4'-DDE	246		4.275				ND	
229 4,4'-DDD	235		4.445				ND	
230 4,4'-DDT	235		4.637				ND	
S 231 TPAH	1		0.000				ND	
T 232 Pentachlorodibenzofurans TIC	1		0.140				ND	
T 233 Octadecane (TIC)	1		0.140				ND	
T 234 Pentachlorodibenzo-p-dioxin TIC	1		0.140				ND	
T 237 Hexachlorodibenzofurans TIC	1		0.140				ND	
T 238 Hexachlorodibenzo-p-dioxin TIC	1		0.140				ND	
241 2,6-Dimethylphenol TIC	1		0.000				ND	
242 Phenylmercaptan TIC	1		0.000				ND	
243 5-Methyl-o-Anisidine TIC	1		0.000				ND	
244 o-Anisidine TIC	1		0.000				ND	
245 Phthalic anhydride TIC	1		0.000				ND	
246 1,3-phenylenediamine TIC	1		0.000				ND	
247 2,4-Xylidine TIC	1		0.000				ND	
248 Phthalic acid TIC	1		0.000				ND	
251 Ethyl methacrylate	69		0.000				ND	
252 Dibenz[a,h]acridine TIC	1		0.000				ND	
253 Dibenzo[a,e]pyrene TIC	1		0.000				ND	

QC Flag Legend

Processing Flags
- NC - Not Calibrated
- 7 - Failed Limit of Detection

Review Flags
- U - Marked Undetected
- a - User Assigned ID

Reagents:

MS-IS_00029 Amount Added: 20.00 Units: uL Run Reagent

Report Date: 29-Nov-2022 18:12:41 Chrom Revision: 2.3 21-Nov-2022 18:34:02

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\SMS_Y\20221128-116455.b\Y19306467.D
Lims ID: LCS 280-593019/2-A
Client ID:
Sample Type: LCS
Inject. Date: 28-Nov-2022 13:20:30 ALS Bottle#: 8 Worklist Smp#: 9
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Sample Info: LCS280-593019_2-A
Operator ID: TESSIERN Instrument ID: SMS_Y

Method: \\chromfs\Denver\ChromData\SMS_Y\20221128-116455.b\SMSY_8270C.m
Limit Group: MSSV - 8270C_625
Method Label: 8270C / 625
Last Update: 29-Nov-2022 18:12:24 Calib Date: 23-Nov-2022 14:12:30
Integrator: RTE ID Type: Deconvolution ID
Quant Method: Internal Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\SMS_Y\20221123-116399.b\Y19306428b.D

Column 1 : Rxi-5Sil MS (0.25 mm) Det: MS SCAN
Process Host: CTX1620

First Level Reviewer: NU5H Date: 29-Nov-2022 17:15:40

	Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
*	1 1,4-Dichlorobenzene-d4	152	3.692	3.689	0.003	97	110117	40.0	40.0	
*	2 Naphthalene-d8	136	4.910	4.907	0.003	99	475198	40.0	40.0	
*	3 Acenaphthene-d10	164	6.619	6.617	0.002	93	285471	40.0	40.0	
*	4 Phenanthrene-d10	188	8.062	8.059	0.003	97	516817	40.0	40.0	a
*	5 Chrysene-d12	240	11.037	11.030	0.007	98	561427	40.0	40.0	
*	6 Perylene-d12	264	13.874	13.888	-0.014	97	580841	40.0	40.0	
$	7 2-Fluorophenol	112	2.517	2.512	0.005	89	305819	100.0	71.1	
$	8 Phenol-d5	99	3.382	3.383	-0.001	96	424233	100.0	72.4	
$	9 Nitrobenzene-d5	82	4.221	4.225	-0.001	85	358611	100.0	66.0	
$	11 2-Fluorobiphenyl	172	5.984	5.983	-0.001	99	630347	100.0	66.7	
$	12 2,4,6-Tribromophenol	330	7.389	7.387	-0.001	94	125995	100.0	88.7	
$	13 Terphenyl-d14	244	9.670	9.664	0.005	97	1011846	100.0	69.4	
	15 1,4-Dioxane	88	1.288	1.295	-0.006	92	38838	80.0	23.6	
	17 N-Nitrosodimethylamine	74	1.448	1.456	-0.007	87	123921	80.0	46.7	
	18 Pyridine	79	1.486	1.488	-0.001	94	244954	160.0	58.7	
	27 Benzaldehyde	106	3.275	3.278	-0.003	96	52052	80.0	16.1	
	28 Phenol	94	3.398	3.394	0.004	97	336493	80.0	57.5	
	30 Aniline	93	3.382	3.383	-0.001	96	138333	80.0	20.0	
	31 Bis(2-chloroethyl)ether	93	3.457	3.458	-0.001	99	232633	80.0	54.3	
	34 2-Chlorophenol	128	3.500	3.504	-0.001	96	225781	80.0	57.0	
	35 n-Decane	43	3.574	3.579	-0.001	82	106793	80.0	34.1	
	37 1,3-Dichlorobenzene	146	3.633	3.643	-0.006	96	210170	80.0	50.9	
	38 1,4-Dichlorobenzene	146	3.708	3.712	-0.001	93	213395	80.0	50.7	
	39 Benzyl alcohol	108	3.836	3.840	-0.001	92	171805	80.0	58.8	
	40 1,2-Dichlorobenzene	146	3.847	3.851	-0.001	97	208215	80.0	52.0	
	41 2-Methylphenol	108	3.964	3.969	-0.001	96	231803	80.0	58.7	
	43 2,2'-oxybis[1-chloropropane]	45	3.975	3.980	-0.001	91	190867	80.0	40.4	
	44 Indene	116	3.932	3.937	-0.001	88	366721	80.0	52.4	
	46 3-Methylphenol	108	4.119	4.124	-0.001	89	252980	80.0	59.8	
	47 4-Methylphenol	108	4.119	4.124	-0.001	96	252980	80.0	59.8	
	48 3 & 4 Methylphenol	108	4.119	4.124	-0.001	97	252980	80.0	59.8	

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
50 N-Nitrosodi-n-propylamine	70	4.098	4.103	-0.001	73	177833	80.0	54.0	
51 Acetophenone	105	4.082	4.086	-0.001	97	334959	80.0	55.8	
53 Hexachloroethane	117	4.167	4.172	-0.001	95	86963	80.0	51.8	
54 Nitrobenzene	77	4.237	4.241	-0.001	84	261651	80.0	52.5	
57 Isophorone	82	4.477	4.481	-0.001	98	512182	80.0	54.6	
58 2-Nitrophenol	139	4.547	4.551	-0.001	94	116779	80.0	52.3	
59 2,4-Dimethylphenol	107	4.627	4.625	0.005	96	274542	80.0	61.2	
63 Bis(2-chloroethoxy)methane	93	4.712	4.716	-0.001	96	296877	80.0	53.2	
64 Benzoic acid	105	4.750	4.786	-0.033	87	207499	80.0	59.6	a
68 2,4-Dichlorophenol	162	4.792	4.797	-0.001	96	193346	80.0	58.5	
69 1,2,4-Trichlorobenzene	180	4.862	4.866	-0.001	93	177057	80.0	51.5	
71 Naphthalene	128	4.931	4.936	-0.001	97	639434	80.0	52.6	
72 4-Chloroaniline	127	4.995	5.005	-0.007	96	105613	80.0	20.0	
73 2,6-Dichlorophenol	162	5.006	5.010	-0.001	96	187254	80.0	58.0	
75 Hexachlorobutadiene	225	5.070	5.074	-0.001	97	97566	80.0	53.2	
79 Caprolactam	55	5.332	5.322	0.013	90	119599	80.0	67.9	M
83 4-Chloro-3-methylphenol	107	5.508	5.513	-0.001	94	259513	80.0	65.1	
86 2-Methylnaphthalene	142	5.610	5.614	-0.001	92	422990	80.0	52.7	
88 1-Methylnaphthalene	142	5.700	5.705	-0.002	93	429459	80.0	56.6	
89 1,2,4,5-Tetrachlorobenzene	216	5.775	5.780	-0.001	74	176128	80.0	56.2	
90 Hexachlorocyclopentadiene	237	5.775	5.769	0.004	96	317732	240.8	146.3	
92 2,4,6-Trichlorophenol	196	5.898	5.897	-0.001	93	137386	80.0	58.6	
94 2,4,5-Trichlorophenol	196	5.941	5.940	-0.001	92	150728	80.0	58.4	
98 1,1'-Biphenyl	154	6.074	6.074	-0.002	96	540047	80.0	54.9	
99 2-Chloronaphthalene	162	6.080	6.079	-0.001	99	417897	80.0	55.5	
101 2-Nitroaniline	65	6.187	6.186	-0.001	82	163645	80.0	58.7	
104 Dimethyl phthalate	163	6.395	6.394	-0.001	97	519717	80.0	60.2	
105 1,3-Dinitrobenzene	168	6.400	6.399	-0.001	82	89801	80.0	59.8	
106 2,6-Dinitrotoluene	165	6.438	6.437	-0.001	93	125319	80.0	59.9	
107 Acenaphthylene	152	6.475	6.474	-0.001	99	677340	80.0	54.2	
108 3-Nitroaniline	138	6.593	6.592	-0.001	95	110520	80.0	42.0	
109 Acenaphthene	153	6.651	6.650	-0.001	95	451100	80.0	56.2	
111 2,4-Dinitrophenol	184	6.699	6.698	-0.002	86	125987	160.0	104.2	
112 4-Nitrophenol	109	6.806	6.805	-0.001	90	211391	160.0	155.3	
114 2,4-Dinitrotoluene	165	6.828	6.827	-0.001	87	172083	80.0	63.9	
116 Dibenzofuran	168	6.822	6.821	-0.001	98	620494	80.0	56.8	
119 2,3,4,6-Tetrachlorophenol	232	6.951	6.949	-0.001	78	128708	80.0	61.9	
123 Diethyl phthalate	149	7.100	7.099	-0.001	97	555084	80.0	61.3	
124 Hexadecane	57	7.138	7.136	-0.001	88	276361	80.0	46.2	
127 4-Chlorophenyl phenyl ether	204	7.175	7.174	-0.001	96	228458	80.0	57.1	
129 Fluorene	166	7.154	7.152	-0.001	95	536139	80.0	57.5	
130 4-Nitroaniline	138	7.191	7.190	-0.001	83	152693	80.0	55.7	
131 4,6-Dinitro-2-methylphenol	198	7.223	7.222	-0.001	80	170721	160.0	107.6	a
134 Diphenylamine	169	7.292	7.291	-0.002	95	400913	68.0	50.0	
135 N-Nitrosodiphenylamine	169	7.292	7.311	-0.002	98	400913	80.0	57.3	
136 1,2-Diphenylhydrazine	182	7.330	7.329	-0.001	98	137837	80.9	56.6	
137 Azobenzene	77	7.330	7.329	-0.001	97	650352	80.0	58.6	
148 4-Bromophenyl phenyl ether	248	7.650	7.649	-0.001	66	151153	80.0	58.9	
151 Hexachlorobenzene	284	7.688	7.687	-0.001	94	172895	80.0	59.8	
152 Atrazine	200	7.843	7.838	0.003	92	144418	80.0	62.8	
155 Pentachlorophenol	266	7.891	7.890	-0.001	92	208878	160.0	122.8	
158 n-Octadecane	85	8.046	8.045	-0.001	94	173666	80.0	54.4	a

Compound	Sig	RT (min.)	Adj RT (min.)	Dlt RT (min.)	Q	Response	Cal Amt ug/ml	OnCol Amt ug/ml	Flags
161 Phenanthrene	178	8.083	8.082	-0.001	98	798984	80.0	57.7	
162 Anthracene	178	8.131	8.130	-0.001	98	803886	80.0	57.3	a
164 Carbazole	167	8.302	8.301	-0.001	96	824090	80.0	59.1	a
168 Di-n-butyl phthalate	149	8.697	8.696	-0.001	100	1007207	80.0	61.2	
175 Fluoranthene	202	9.242	9.241	-0.001	99	868508	80.0	59.8	
176 Benzidine	184	9.397	9.400	-0.003	99	33542	160.0	3.86	7
178 Pyrene	202	9.456	9.461	-0.006	96	915070	80.0	52.7	
187 Butyl benzyl phthalate	149	10.311	10.310	-0.001	95	476869	80.0	57.7	
189 3,3'-Dichlorobenzidine	252	11.037	11.033	0.002	75	515170	160.0	88.1	
191 Benzo[a]anthracene	228	11.021	11.020	-0.001	99	922602	80.0	56.7	
192 Chrysene	228	11.080	11.074	0.004	98	974007	80.0	56.9	
193 Bis(2-ethylhexyl) phthalate	149	11.283	11.282	-0.001	96	659845	80.0	58.7	
195 Di-n-octyl phthalate	149	12.619	12.617	-0.001	98	1133450	80.0	55.1	
196 Benzo[b]fluoranthene	252	13.051	13.035	-0.001	98	919968	80.0	56.9	
198 Benzo[k]fluoranthene	252	13.115	13.099	-0.001	99	1163345	80.0	59.2	
201 Benzo[a]pyrene	252	13.740	13.734	-0.012	78	886440	80.0	56.3	
207 Indeno[1,2,3-cd]pyrene	276	16.422	16.420	-0.001	98	722320	80.0	53.2	
208 Dibenz(a,h)anthracene	278	16.545	16.519	0.004	94	899419	80.0	62.4	
209 Benzo[g,h,i]perylene	276	17.031	17.015	-0.007	98	948129	80.0	62.1	

QC Flag Legend

Processing Flags
7 - Failed Limit of Detection
Review Flags
M - Manually Integrated
a - User Assigned ID

Reagents:

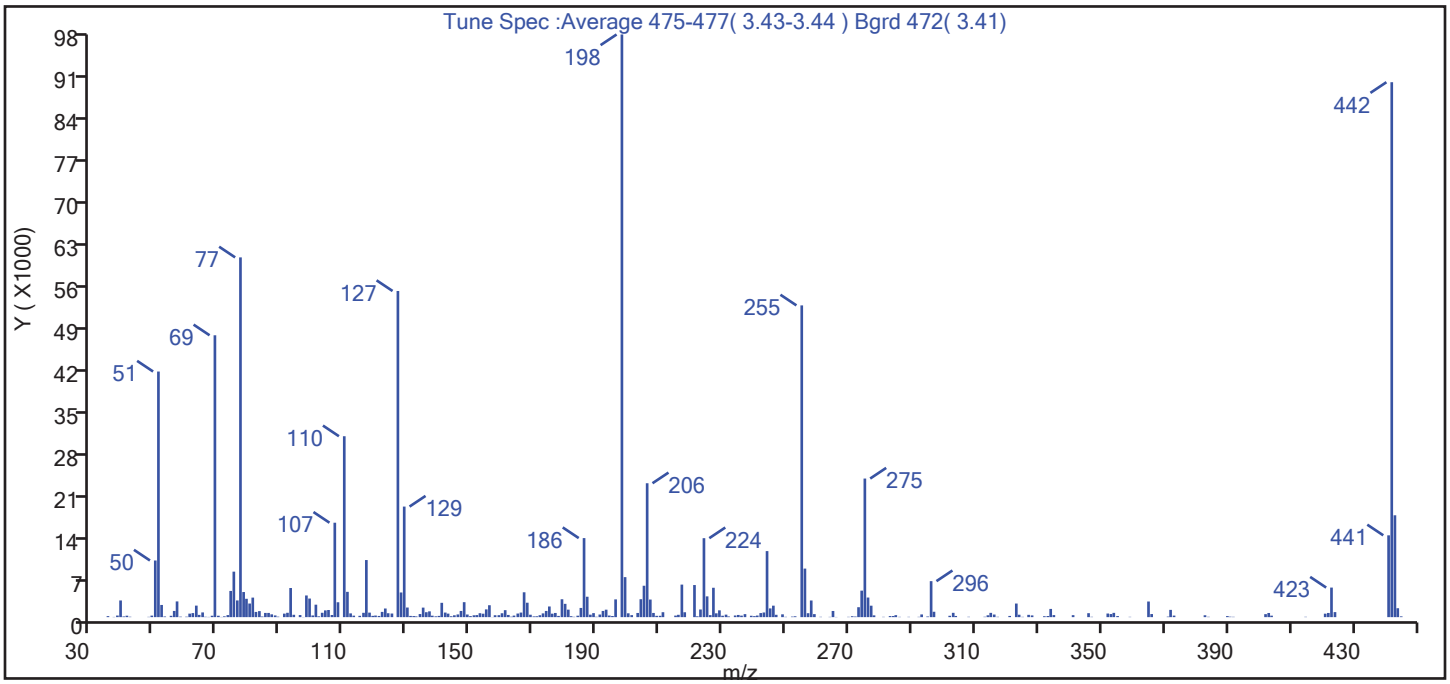
MS-IS_00029 Amount Added: 20.00 Units: uL Run Reagent

MS Tune Report

Eurofins Denver

Data File: \\chromfs\Denver\ChromData\SMS_Y\20221115-116120.b\Y19305981.D
Injection Date: 15-Nov-2022 13:42:30 Instrument ID: SMS_Y
Lims ID: DFTPP
Client ID:
Operator ID: TESSIERN ALS Bottle#: 1 Worklist Smp#: 1
Injection Vol: 1.0 ul Dil. Factor: 1.0000
Method: SMSY_8270C Limit Group: MSSV - 8270C_625
Tune Method: DFTPP Method 8270

227 DFTPP



m/z	Ion Abundance Criteria	% Relative Abundance
198	Base peak, 100% relative abundance	100.0
51	30-60% of mass 198	42.2
68	<2% of mass 69	0.2 (0.5)
69	Present	48.4
70	<2% of mass 69	0.2 (0.5)
127	40-60% of mass 198	56.0
197	<1% of mass 198	0.0
199	5-9% of mass 198	6.9
275	10-30% of mass 198	23.8
365	>1% of mass 198	2.7
441	Present but less than mass 443	14.0 (80.3)
442	>40% of mass 198	91.8
443	17-23% of mass 442	17.5 (19.0)

Report Date: 16-Nov-2022 13:15:52 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Data File: \\chromfs\Denver\ChromData\SMS_Y\20221115-116120.b\Y19305981.D\SMSY_8270C.rslt\spectra.d
Injection Date: 15-Nov-2022 13:42:30
Spectrum: Tune Spec :Average 475-477(3.43-3.44) Bgrd 472(3.41)
Base Peak: 198.00
Minimum % Base Peak: 0
Number of Points: 274

m/z	Y	m/z	Y	m/z	Y	m/z	Y
35.00	171	116.00	726	186.00	13224	273.00	1662
37.00	35	117.00	9552	187.00	3415	274.00	4433
38.00	268	118.00	756	188.00	414	275.00	23184
39.00	2791	119.00	218	189.00	673	276.00	3281
40.00	116	120.00	267	190.00	65	277.00	1915
41.00	241	121.00	201	191.00	437	278.00	297
42.00	68	122.00	877	192.00	1037	281.00	51
48.00	50	123.00	1445	193.00	1249	283.00	181
49.00	256	124.00	655	194.00	267	284.00	187
50.00	9477	125.00	606	195.00	190	285.00	332
51.00	41088	127.00	54560	196.00	2973	286.00	51
52.00	2039	128.00	4125	198.00	97472	289.00	52
53.00	110	129.00	18496	199.00	6693	292.00	53
55.00	226	130.00	1609	200.00	643	293.00	454
56.00	1036	131.00	208	201.00	335	295.00	107
57.00	2631	132.00	177	203.00	700	296.00	6021
58.00	82	133.00	121	204.00	3000	297.00	902
60.00	78	134.00	518	205.00	5252	302.00	228
61.00	587	135.00	1595	206.00	22400	303.00	723
62.00	680	136.00	825	207.00	2944	304.00	199
63.00	1928	137.00	969	208.00	702	308.00	60
64.00	378	138.00	243	209.00	223	313.00	67
65.00	790	139.00	135	210.00	227	314.00	311
66.00	63	140.00	211	211.00	826	315.00	716
67.00	39	141.00	2397	215.00	259	316.00	435
68.00	236	142.00	766	216.00	391	317.00	60
69.00	47152	143.00	587	217.00	5444	321.00	203
70.00	236	144.00	150	218.00	818	323.00	2276
71.00	34	145.00	312	221.00	5371	324.00	405
72.00	138	146.00	451	222.00	135	325.00	51
73.00	344	147.00	1037	223.00	1281	327.00	384
74.00	4382	148.00	2504	224.00	13211	328.00	290
75.00	7612	149.00	439	225.00	3475	332.00	154

Calculation Explosives	**Sample**		
	LCS 280-592924		
Target Analyte	2-nitrotoluene		
	UltraCarb5uODS		
Analyte Response	31924		
M1 coefficient	124433.143		
B coefficient	223.518646		
Dilution Factor (DF)	1		
Volume Sample	10	g	
Extract Volume	40	ml	
	on column amount	0.254759147	ug/ml
		1019.04	ug/kg
	reported result	1020	ug/kg

Calculation Explosives	**Sample**		
	X3-SS-C05-0006		
Target Analyte	3,5-dinitroaniline		
	UltraCarb5uODS		
Analyte Response	4772		
M1 coefficient	229952.779		
B coefficient	-400.45754		
Dilution Factor (DF)	1		
Volume Sample	10.3204	g	
Extract Volume	40	ml	
	on column amount	0.022493564	ug/ml
		87.18	ug/kg
	reported result	87	ug/kg

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100045.D
Lims ID: 280-168718-A-7-B
Client ID: X3-SS-C05-0006
Sample Type: Client
Inject. Date: 11-Nov-2022 03:39:40 ALS Bottle#: 45 Worklist Smp#: 45
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: 280-168718-A-7-B
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:14:00

	Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	OnCol Amt ug/mL	Flags
	2 2,6-diamino-4-nitrotoluene	1		6.452			ND	U
	4 HMX	1		6.571			ND	
	5 2,4-diamino-6-nitrotoluene	1		6.632			ND	
	8 RDX	1		7.558			ND	
	9 2,4,6-Trinitrophenol	1		7.878			ND	
$	10 1,2-Dinitrobenzene	1	8.493	8.505	-0.012	36673	0.2914	
	11 1,3,5-Trinitrobenzene	1		8.625			ND	
	12 1,3-Dinitrobenzene	1	9.227	9.244	-0.018	8206	0.0282	
	13 Nitrobenzene	1		9.638			ND	
	14 3,5-Dinitroaniline	1	9.813	9.832	-0.019	4772	0.0225	
	15 Tetryl	1		9.944			ND	
	16 Nitroglycerin	2		10.404			ND	
	17 2,4,6-Trinitrotoluene	1	10.833	10.851	-0.018	27919	0.1324	
	18 4-Amino-2,6-dinitrotoluene	1	11.000	11.024	-0.024	7169	0.0495	
	19 2-Amino-4,6-dinitrotoluene	1	11.253	11.271	-0.018	9156	0.0469	
	20 2,6-Dinitrotoluene	1		11.458			ND	
	21 2,4-Dinitrotoluene	1	11.600	11.624	-0.024	8379	0.0289	
	22 o-Nitrotoluene	1		12.478			ND	
	23 p-Nitrotoluene	1		12.898			ND	
	24 m-Nitrotoluene	1		13.464			ND	
	25 PETN	2		14.518			ND	

QC Flag Legend

Processing Flags
Review Flags
U - Marked Undetected

Report Date: 11-Nov-2022 12:25:53 Chrom Revision: 2.3 08-Nov-2022 12:31:00

Eurofins Denver
Target Compound Quantitation Report

Data File: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\11100039.D
Lims ID: LCS 280-592924/2-A
Client ID:
Sample Type: LCS
Inject. Date: 11-Nov-2022 01:21:44 ALS Bottle#: 39 Worklist Smp#: 39
Injection Vol: 100.0 ul Dil. Factor: 1.0000
Sample Info: LCS 280-592924/2-A
Operator ID: JZ Instrument ID: CHHPLC_X3

Method: \\chromfs\Denver\ChromData\CHHPLC_X\20221110-115986.b\8330_X3.m
Limit Group: GCSV - 8330
Last Update: 11-Nov-2022 12:25:46 Calib Date: 17-Aug-2022 22:14:06
Integrator: Falcon
Quant Method: External Standard Quant By: Initial Calibration
Last ICal File: \\chromfs\Denver\ChromData\CHHPLC_X\20220817-113546.b\08170026.D

Column 1 : UltraCarb5uODS (20) (4.60 mm) Det: LC DAD1B, 254 nm
Process Host: CTX1677

First Level Reviewer: LV5D Date: 11-Nov-2022 12:10:12

Compound	Det	RT (min.)	Exp RT (min.)	Dlt RT (min.)	Response	Cal Amt ug/mL	OnCol Amt ug/mL	Flags
4 HMX	1	6.565	6.571	-0.006	21170	0.2500	0.2380	M
8 RDX	1	7.552	7.558	-0.006	26513	0.2500	0.2463	
9 2,4,6-Trinitrophenol	1	7.878	7.878	0.000	20463	0.2500	0.2641	
$ 10 1,2-Dinitrobenzene	1	8.505	8.505	0.000	30738	0.2500	0.2443	
11 1,3,5-Trinitrobenzene	1	8.625	8.625	0.000	60473	0.2500	0.2831	
12 1,3-Dinitrobenzene	1	9.245	9.244	0.001	76947	0.2500	0.2648	
13 Nitrobenzene	1	9.631	9.638	-0.007	50489	0.2500	0.2616	
15 Tetryl	1	9.945	9.944	0.001	43347	0.2500	0.2621	
16 Nitroglycerin	2	10.398	10.404	-0.006	167081	2.50	2.71	
17 2,4,6-Trinitrotoluene	1	10.845	10.851	-0.006	50549	0.2500	0.2397	
18 4-Amino-2,6-dinitrotoluene	1	11.018	11.024	-0.006	38476	0.2500	0.2657	
19 2-Amino-4,6-dinitrotoluene	1	11.265	11.271	-0.006	49233	0.2500	0.2522	
20 2,6-Dinitrotoluene	1	11.445	11.458	-0.013	35658	0.2500	0.2508	
21 2,4-Dinitrotoluene	1	11.611	11.624	-0.013	76685	0.2500	0.2643	
22 o-Nitrotoluene	1	12.458	12.478	-0.020	31924	0.2500	0.2548	
23 p-Nitrotoluene	1	12.878	12.898	-0.020	27997	0.2500	0.2503	
24 m-Nitrotoluene	1	13.445	13.464	-0.019	35657	0.2500	0.2585	
25 PETN	2	14.491	14.518	-0.027	186220	2.50	2.57	

QC Flag Legend

Processing Flags
Review Flags
M - Manually Integrated

TETRA TECH

INTERNAL CORRESPONDENCE

TO: **L. KLINK** **DATE:** **JANUARY 18, 2023**

FROM: **TERRI L. SOLOMON** **COPIES:** **DV FILE**

SUBJECT: **DATA VALIDATION – NITROCELLULOSE, PERCENT SOLIDS NAVAL BASE KITSAP (NBK) BANGOR SILVERDALE, WASHINGTON SDG 22K0110**

SAMPLES: 15/Soils
Nitrocellulose, Percent Solids

FD-11012201	FD-11022201
X3-SS-C01-0006	X3-SS-C02-0006
X3-SS-C04-0006	X3-SS-C05-0006
X3-SS-C06-0006	X3-SS-C07-0006
X3-SS-C08-0006	X7-SS-C01-0006
X7-TP-C01-5460	X7-TP-C02-3648
X7-TP-C03-4248	X7-TP-C04-4248
X7B-SS-C01-0006	

Overview

The sample set for NBK Bangor, SDG 22K0110, consisted of fifteen (15) soil environmental samples. All samples were analyzed for nitrocellulose and percent solids as referenced above. Two (2) field duplicate sample pairs, X3-SS-C01-0006 / FD-11012201 and X3-SS-C05-0006 / FD-11022201, were associated with this SDG.

The samples were collected by Tetra Tech, Inc. on November 1, 2 and 3, 2022 and analyzed by APPL Labs. All analyses were conducted in accordance with EPA method 353.2 and ISM02.2 analytical and reporting protocols.

The data contained in this SDG was validated via 90% EPA Stage 2B and 10% EPA Stage 4 with regard to the following parameters:

* • Data Completeness
• Holding Times/Sample Preservation
* • Initial and Continuing Calibrations
* • Laboratory Method Blank Results
* • Laboratory Control Sample Results
• Matrix Spike / Matrix Spike Duplicate Results
• Field Duplicate Results
* • Compound Identification
* • Compound Quantitation
* • Detection Limits

The symbol (*) indicates that all quality control criteria were met for this parameter. Qualified analytical results are presented in Appendix A, results as reported by the laboratory are presented in Appendix B, and documentation supporting these findings is presented in Appendix C.

Nitrocellulose

The 48 hour hold time from sample preparation to analysis was exceeded by approximately 2 days for all samples. The detected results reported in the affected samples were qualified as estimated (J).

Field duplicate imprecision (difference greater than two times the limit of quantitation)) was noted for nitrocellulose for sample pair X3-SS-C05-0006 / FD-11022201. The detected results reported for nitrocellulose for samples X3-SS-C05-0006 and FD-11022201 were qualified as estimated (J).

The matrix spike / matrix spike duplicate (MS/MSD) percent recoveries for nitrocellulose for sample X3-SS-C06-0006 were less than the 10% quality control limit. The MS/MSD relative percent difference for nitrocellulose was outside the quality control limits. All samples were affected. The detected results reported for nitrocellulose in the affected samples were qualified as estimated (J).

Additional Comments

The nitrocellulose results for samples X3-SS-C05-0006 and X7-TP-C01-5460 were checked and verified.

EXECUTIVE SUMMARY

Laboratory Performance Issues: The 48 hour hold time from sample preparation to analysis was exceeded.

Other Factors Affecting Data Quality: MS/MSD percent recoveries and the relative percent difference were outside the quality control limits. Field duplicate imprecision was noted for sample pair X3-SS-C05-0006 / FD-11022201.

The data for these analyses were reviewed with reference to the "National Functional Guidelines for Inorganic Superfund Methods Data Review" (November 2020). The text of this report has been formulated to address only those areas affecting data quality.

Tetra Tech, Inc.
Terri L. Solomon
Chemist/Data Validator

Tetra Tech, Inc.
Joseph A. Samchuck
Data Validation Manager

Attachments:
Appendix A - Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Support Documentation

Data Qualifier Definitions

The following definitions provide brief explanations of the validation qualifiers assigned to results in the data review process.

U	The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the adjusted detection limit.
J	The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the reporting limit).
J+	The result is an estimated quantity, but the result may be biased high.
J-	The result is an estimated quantity, but the result may be biased low.
UJ	The analyte was analyzed for, but was not detected. The reported detection limit is approximate and may be inaccurate or imprecise.
NJ	The analyte has been “tentatively identified” or “presumptively” as present and the associated numerical value is the estimated concentration in the sample.
R	The sample result (detected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
UR	The sample result (nondetected) is unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
X	The sample results (including non-detects) were affected by serious deficiencies in the ability to analyze the sample and meet published method and project quality control criteria. The presence or absence of the analyte cannot be substantiated by the data provided. Acceptance or rejection of the data should be decided by the project team, but exclusion of the data is recommended.

Appendix A

Qualified Analytical Results

Qualifier Codes:

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 standard deviations is greater than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed
Z3 = Tentatively Identified Compound aldol condensate
Z4 = Sample activity is less than the at uncertainty at 3 standard deviations and greater than the MDC
Z5 = Sample activity is less than the at uncertainty at 3 standard deviations and less than the MDC

PROJ_NO: NW194112	NSAMPLE	FD-11012201						FD-11022201			
SDG: 22K0110	LAB_ID	22K0110-02						22K0110-06			
FRACTION: MISC	SAMP_DATE	11/1/2022						11/2/2022			
MEDIA: SOIL	QC_TYPE	NM						NM			
	UNITS	%			MG/KG			%			M
	PCT_SOLIDS	83.9			83.9			82.2			82
	DUP_OF	X3-SS-C01-0006			X3-SS-C01-0006			X3-SS-C05-0006			X3
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROCELLULOSE					12	J	DH				
PERCENT SOLIDS		83.9						82.2			

PROJ_NO: NW194112	NSAMPLE	X3-SS-C01-0006						X3-SS-C02-0006			
SDG: 22K0110	LAB_ID	22K0110-01						22K0110-03			
FRACTION: MISC	SAMP_DATE	11/1/2022						11/1/2022			
MEDIA: SOIL	QC_TYPE	NM						NM			
	UNITS	%			MG/KG			%			M
	PCT_SOLIDS	87.7			87.7			66.9			66
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROCELLULOSE					12	J	DH				
PERCENT SOLIDS		87.7						66.9			

PROJ_NO: NW194112	NSAMPLE	X3-SS-C04-0006						X3-SS-C05-0006			
SDG: 22K0110	LAB_ID	22K0110-04						22K0110-05			
FRACTION: MISC	SAMP_DATE	11/1/2022						11/2/2022			
MEDIA: SOIL	QC_TYPE	NM						NM			
	UNITS	%			MG/KG			%			M
	PCT_SOLIDS	71.9			71.9			88.5			88
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROCELLULOSE					8.7	J	DH				
PERCENT SOLIDS		71.9						88.5			

PROJ_NO: NW194112	NSAMPLE	X3-SS-C06-0006						X3-SS-C07-0006			
SDG: 22K0110	LAB_ID	22K0110-07						22K0110-14			
FRACTION: MISC	SAMP_DATE	11/2/2022						11/3/2022			
MEDIA: SOIL	QC_TYPE	NM						NM			
	UNITS	%			MG/KG			%			M
	PCT_SOLIDS	91.4			91.4			81.6			81
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROCELLULOSE					14	J	DH				
PERCENT SOLIDS		91.4						81.6			

PROJ_NO: NW194112	NSAMPLE	X3-SS-C08-0006						X7B-SS-C01-0006			
SDG: 22K0110	LAB_ID	22K0110-15						22K0110-09			
FRACTION: MISC	SAMP_DATE	11/3/2022						11/2/2022			
MEDIA: SOIL	QC_TYPE	NM						NM			
	UNITS	%			MG/KG			%			M
	PCT_SOLIDS	91.0			91.0			85.8			85
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROCELLULOSE					17	J	DH				
PERCENT SOLIDS		91						85.8			

PROJ_NO: NW194112	NSAMPLE	X7-SS-C01-0006						X7-TP-C01-5460			
SDG: 22K0110	LAB_ID	22K0110-08						22K0110-10			
FRACTION: MISC	SAMP_DATE	11/2/2022						11/2/2022			
MEDIA: SOIL	QC_TYPE	NM						NM			
	UNITS	%			MG/KG			%			M
	PCT_SOLIDS	87.7			87.7			87.0			87
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROCELLULOSE					32	J	DH				
PERCENT SOLIDS		87.7						87			

PROJ_NO: NW194112	NSAMPLE	X7-TP-C02-3648						X7-TP-C03-4248			
SDG: 22K0110	LAB_ID	22K0110-11						22K0110-12			
FRACTION: MISC	SAMP_DATE	11/2/2022						11/2/2022			
MEDIA: SOIL	QC_TYPE	NM						NM			
	UNITS	%			MG/KG			%			M
	PCT_SOLIDS	88.9			88.9			86.2			86
	DUP_OF										
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD	RESULT	VQL	QLCD	RI
NITROCELLULOSE					92	J	DH				
PERCENT SOLIDS		88.9						86.2			

PROJ_NO: NW194112	NSAMPLE	X7-TP-C04-4248					
SDG: 22K0110	LAB_ID	22K0110-13					
FRACTION: MISC	SAMP_DATE	11/3/2022					
MEDIA: SOIL	QC_TYPE	NM					
	UNITS	%			MG/KG		
	PCT_SOLIDS	89.8			89.8		
	DUP_OF						
PARAMETER		RESULT	VQL	QLCD	RESULT	VQL	QLCD
NITROCELLULOSE					4.6	J	DH
PERCENT SOLIDS		89.8					

Appendix B

Results as Reported by the Laboratory

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

Sample: X3-SS-C01-0006
22K0110-01 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	87.7		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	12		11	9.0	4.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: FD-11012201
22K0110-02 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	83.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	12		12	9.5	4.7	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X3-SS-C02-0006
22K0110-03 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	66.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	31		15	12	5.9	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X3-SS-C04-0006
22K0110-04 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	71.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	8.7	J	14	11	5.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X3-SS-C05-0006
22K0110-05 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	88.5		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	120		11	9.0	4.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: FD-11022201

22K0110-06 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	82.2		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	13		12	9.5	4.7	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X3-SS-C06-0006

22K0110-07 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	91.4		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	14		11	8.7	4.4	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X7-SS-C01-0006
22K0110-08 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	87.7		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	32		11	9.1	4.6	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X7B-SS-C01-0006
22K0110-09 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	85.8		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	4.9	J	12	9.3	4.7	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X7-TP-C01-5460
22K0110-10 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	87.0		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	16		11	9.2	4.6	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X7-TP-C02-3648
22K0110-11 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	88.9		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	92		11	9.0	4.5	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results

(Continued)

Sample: X7-TP-C03-4248
22K0110-12 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	86.2		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	9.2	U	11	9.2	4.6	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X7-TP-C04-4248
22K0110-13 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	89.8		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	4.6	J	11	8.8	4.4	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X3-SS-C07-0006
22K0110-14 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	81.6		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	19		12	9.8	4.9	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Sample Results
(Continued)

Sample: X3-SS-C08-0006
22K0110-15 (Solid)

WetLab

Analyte	Result	/Qual	LOQ	LOD	DL	Units	Date Analyzed	DF	Method	Prep Batch
% Solids	91.0		2.00	1.50	0.750	%	11/28/22	1	ISM02.2	BBK0465
NITROCELLULOSE	17		11	8.6	4.3	mg/kg dry	11/23/22	1	EPA 353.2	BBK0378

Appendix C

Support Documentation

ANALYTE	ORIGINAL X3-SS-C01-0006	DUPLICATE FD-11012201	RL	RPD	RPD > 50% Soil	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >
NITROCELLULOSE	12	12	11	0.00	FALSE	FALSE	FALSE	FALSE
PERCENT SOLIDS	87.7	83.9	2	4.43	FALSE	TRUE	TRUE	FALSE

ANALYTE	ORIGINAL X3-SS-C05-0006	DUPLICATE FD-11022201	RL	RPD	RPD > 50% Soil	ORIGINAL SAMPLE CONC >2xRL	DUPLICATE SAMPLE CONC >2xRL	DIFFERENCE >
NITROCELLULOSE	120	13	11	160.90	TRUE	TRUE	FALSE	TRUE
PERCENT SOLIDS	88.5	82.2	2	7.38	FALSE	TRUE	TRUE	TRUE

Chain of Custody Record

Revised 11-7-22 with Baron

eurofins | Environment Testing America

22K0110

R2 11-14-2022 Both pages. M.B.

-7171

Sampler: Mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 20623500
Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 1 of 2
PWSID:			Job #:

Analysis Requested

Due Date Requested:

TAT Requested (days): Standard

Compliance Project: Δ Yes Δ No

PO #: Purchase Order Requested

WO #:

Project #: 28023939

SSOW#:

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Other:

Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	J1366_DOD5 - Explosives, Client list with 3,5-DNA, Picric & Diamino (No ISM)	8321B_NGu - Nitroguanidine	8270E_DOD5 - 2,4-Dinitrophenol, Diphenylamine, N-Nitrosodiphenylamine, Moisture	353.2 MOD Nitrocellulose	Total Number of containers	Special Instructions/Note:
		Preservation Code:				N	N	N	N		
11-1-2022	1235	C	S			X	X	X	X	3	
11-1-2022	1245	C	S			X	X	X	X	3	
11-1-2022	1350	C	S			X	X	X	X	3	
11-1-2022	1430	C	S			X	X	X		3	Discard sample as per agreement w/ PM 11-4-22 M.B 11-7
11-1-2022	1525	C	S			X	X	X	X	3	
11-1-2022	1545	G	W			X	X	X		1	
11-2-2022	0920	C	S			X	X	X	X	3	
11-2-2022	0930	C	S			X	X	X	X	3	
11-2-2022	1015	C	S		X	X	X	X	X	3	Run MS/MSD
11-2-2022	1115	C	S			X	X	X	X	3	
11-2-2022	1150	C	S			X	X	X	X	3	

Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

(specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For Months

Special Instructions/QC Requirements:

Date:	Time:	Method of Shipment:

Sealed in cooler	Date/Time: 11-3-2022 1445	Company: Tetra Tech	Received by:	Date/Time: 11/4/22 1035	Company: ETADEN
	Date/Time: 11/5/22 1345	Company: ETADEN	Received by:	Date/Time:	Company
	Date/Time:	Company	Received by:	Date/Time: 11/7/22 1010	Company
			Cooler Temperature(s) °C and Other Remarks: 3.5, 0.2, 2.7 IR#12 CF-0.0		

IRB: 4.2/1.1

V... 01/16/2019

Table of Contents

Chain of Custody Record

Original

eurofins | Environment Testing America

-7171

Sampler: mitch Baron	Lab PM: Turner, Shelby R	Carrier Tracking No(s):	COC No: 263500
Phone: 360 908-3246	E-Mail: Shelby.Turner@et.eurofinsus.com	State of Origin:	Page: 2 of 2
PWSID:			Job #:

Due Date Requested:

TAT Requested (days): Standard

Compliance Project: Δ Yes Δ No

PO #: Purchase Order Requested

WO #:

Project #: 28023939

SSOW#:

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, Other:

M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)

Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	83308_DOD5 - Explosives, Client list with 3,5-DNA, Picric & Diamine (No ISM)	83218_NGu - Nitroguanidine	83706_DOD5 - 2,4-Dinitrophenol, Diphenylamine, N-Nitrosodiphenylamine, Moisture	353.2 MOD Nitrocellulose	Total Number of containers	Special Instructions/Note:
Preservation Code:						N	N	N	N		
11-2-2022	1420	C	S			X	X	X	X	3	
11-2-2022	1535	C	S			X	X	X	X	3	
11-2-2022	1640	C	S			X	X	X	X	3	
11-3-2022	0920	C	S			X	X	X	X	3	
11-3-2022	1015	C	S			X	X	X	X	3	
11-3-2022	1045	C	S			X	X	X	X	3	

M. Baron 11-3-2022

Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

specify)

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return To Client ☐ Disposal By Lab ☐ Archive For ___ Months

Special Instructions/QC Requirements:

	Date:	Time:	Method of Shipment:
Spiked in cooler			

	Date/Time:	Company	Received by:	Date/Time:	Company
	11-3-2022 1445	Tetra Tech		11/4/22 1035	ETADEN
	11/3/22 1345	ETADEN			
			Received by:	Date/Time:	Company
	Date/Time:	Company	Received by:	Date/Time:	Company
				11/7/22 1010	

Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Table of Contents

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Data Validatable Report

Analysis Case Narrative

In the MS/MSD performed on sample X3-SS-C06-0006, Nitrocellulose recovered outside of control limits. Corrective action: the client was notified.

Samples in this Report

Lab ID	Sample	Matrix	Date Sampled	Date Received
22K0110-01	X3-SS-C01-0006	Solid	11/01/2022 12:35	11/17/2022
22K0110-02	FD-11012201	Solid	11/01/2022 12:45	11/17/2022
22K0110-03	X3-SS-C02-0006	Solid	11/01/2022 13:50	11/17/2022
22K0110-04	X3-SS-C04-0006	Solid	11/01/2022 15:25	11/17/2022
22K0110-05	X3-SS-C05-0006	Solid	11/02/2022 09:20	11/17/2022
22K0110-06	FD-11022201	Solid	11/02/2022 09:30	11/17/2022
22K0110-07	X3-SS-C06-0006	Solid	11/02/2022 10:15	11/17/2022
22K0110-08	X7-SS-C01-0006	Solid	11/02/2022 11:15	11/17/2022
22K0110-09	X7B-SS-C01-0006	Solid	11/02/2022 11:50	11/17/2022
22K0110-10	X7-TP-C01-5460	Solid	11/02/2022 14:20	11/17/2022
22K0110-11	X7-TP-C02-3648	Solid	11/02/2022 15:35	11/17/2022
22K0110-12	X7-TP-C03-4248	Solid	11/02/2022 16:40	11/17/2022
22K0110-13	X7-TP-C04-4248	Solid	11/03/2022 09:20	11/17/2022
22K0110-14	X3-SS-C07-0006	Solid	11/03/2022 10:15	11/17/2022
22K0110-15	X3-SS-C08-0006	Solid	11/03/2022 10:45	11/17/2022

PREPARATION BATCH SUMMARY

EPA 353.2

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Batch:	BBK0378 Batch Matrix: Solid	Preparation:	EPA 353.2

SAMPLE NAME	LAB SAMPLE ID	DATE PREPARED	INITIAL VOL./WEIGHT g	FINAL VOL. mL
X3-SS-C01-0006	22K0110-01	11/19/22 10:48	2.02	20.00
FD-11012201	22K0110-02	11/19/22 10:48	2.01	20.00
X3-SS-C02-0006	22K0110-03	11/19/22 10:48	2.01	20.00
X3-SS-C04-0006	22K0110-04	11/19/22 10:48	2.02	20.00
X3-SS-C05-0006	22K0110-05	11/19/22 10:48	2.00	20.00
FD-11022201	22K0110-06	11/19/22 10:48	2.05	20.00
X3-SS-C06-0006	22K0110-07	11/19/22 10:48	2.00	20.00
X7-SS-C01-0006	22K0110-08	11/19/22 10:48	2.00	20.00
X7B-SS-C01-0006	22K0110-09	11/19/22 10:48	2.00	20.00
X7-TP-C01-5460	22K0110-10	11/19/22 10:48	2.00	20.00
X7-TP-C02-3648	22K0110-11	11/19/22 10:48	2.00	20.00
X7-TP-C03-4248	22K0110-12	11/19/22 10:48	2.02	20.00
X7-TP-C04-4248	22K0110-13	11/19/22 10:48	2.03	20.00
X3-SS-C07-0006	22K0110-14	11/19/22 10:48	2.00	20.00
X3-SS-C08-0006	22K0110-15	11/19/22 10:48	2.05	20.00
Blank	BBK0378-BLK1	11/19/22 10:48	2.02	20.00
LCS	BBK0378-BS1	11/19/22 10:48	2.01	20.00
X3-SS-C06-0006	BBK0378-MS1	11/19/22 10:48	2.02	20.00
X3-SS-C06-0006	BBK0378-MSD1	11/19/22 10:48	2.00	20.00

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Quality Control

WetLab

Analyte	Result/Qual	LOQ	LOD	MDL	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit
Batch: BBK0378 - EPA 353.2										
Blank (BBK0378-BLK1)						Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:29		
	mg/kg wet									
NITROCELLULOSE	7.9 U	9.9	7.9	4.0						
LCS (BBK0378-BS1)						Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:31		
	mg/kg wet									
NITROCELLULOSE	132				199		66.1	40-120		
Matrix Spike (BBK0378-MS1)	**Source: 22K0110-07**					Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:35		
	mg/kg dry									
NITROCELLULOSE	15.5 MS1				217	13.9	0.721	40-120		
Matrix Spike Dup (BBK0378-MSD1)	**Source: 22K0110-07**					Prepared: 11/19/22 10:48		Analyzed: 11/23/22 09:38		
	mg/kg dry									
NITROCELLULOSE	11.4 MS1				219	13.9	-1.17	40-120	30.8	30
Batch: BBK0465 - ISM02.2										
Duplicate (BBK0465-DUP1)	**Source: 22K0110-07**					Prepared & Analyzed: 11/28/22 13:52				
	%									
% Solids	91.1					91.4			0.381	20
MOISTURE	8.91					8.56			3.98	20

APPL, LLC - 908 N. Temperance Ave., Clovis, CA 93611

Tetra Tech, Inc. Bothell	Project: NB Kitsap Bangor CTO NW194112, WA	
19803 North Creek Parkway	Project Number: 28023939	
Bothell, WA 98011	Project Manager: Mitch Baron	Reported: 12/28/2022 11:56

Notes and Definitions

Item	Definition
J	Estimated value
MS1	Matrix spike recovered below the lower control limit
U	Not detected
Dry	Sample results reported on a dry weight basis.
DL	Dilution Factor
LOD	Limit of Detection
LOQ	Limit of Quantitation
DL	Detection Limit
*	Value outside control limits
RPD	Relative Percent Difference
%REC	Percent Recovery
Source	Sample that was matrix spiked or duplicated.

AQ2 Report

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Kyle S
Date & Time:	2022-12-28 10:17:46
Tray Number:	45
Tray Name:	221123 (A) TOXN

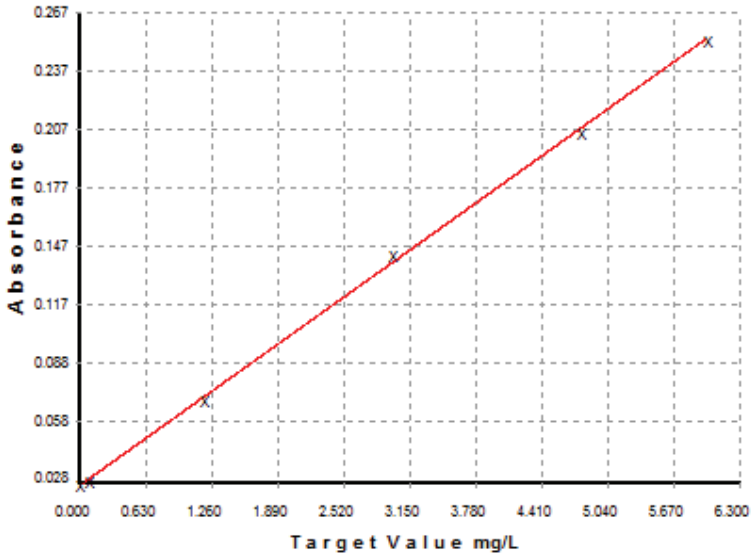
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0278	0.0194	0.0000	
S90	0.0297	0.0689	0.1000	-31.08
S91	0.0709	1.1573	1.2000	-3.56
S92	0.1448	3.1083	3.0000	3.61
S93	0.2072	4.7559	4.8000	-0.92
S94	0.2539	5.9902	6.0000	-0.16
S0	0.0317	0.1215	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9997
Carryover(%):	1.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-7.154081E-001
b =:	2.640624E+001
Date & Time:	2022-11-23 09:17:30

Calibration Graph



Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0278			0.027827			KS	2022-11-23 09:03:46
	S90	Standard 90	0.0297			0.029702			KS	2022-11-23 09:06:03
	S91	Standard 91	0.0709			0.070918			KS	2022-11-23 09:08:20
	S92	Standard 92	0.1448			0.144804			KS	2022-11-23 09:10:38
	S93	Standard 93	0.2072			0.207197			KS	2022-11-23 09:12:55
	S94	Standard 94	0.2539			0.253940			KS	2022-11-23 09:15:12
	S0	Standard 0	0.0317			0.031694			KS	2022-11-23 09:17:30
1	ICV	Seq-ICV1	2.9546	mg/L		0.138981			KS	2022-11-23 09:19:47
	CCV	Seq-CCV	3.0528	mg/L		0.142701			KS	2022-11-23 09:22:05
	CCB	Seq-CCB	0.0701	mg/L		0.029749			KS	2022-11-23 09:24:22
2	U1	Seq-ICB1	-0.0230	mg/L		0.026220			KS	2022-11-23 09:26:43
3	U2	BBK0378-BLK1	0.0397	mg/L		0.028595			KS	2022-11-23 09:29:01
4	U3	BBK0378-BS1	1.8703	mg/L		0.097922			KS	2022-11-23 09:31:19
5	U4	BBK0378-BSD1	0.1604	mg/L		0.033166			KS	2022-11-23 09:33:37
6	U5	BBK0378-MS1	0.2023	mg/L		0.034753			KS	2022-11-23 09:35:54
7	U6	BBK0378-MSD1	0.1469	mg/L		0.032654			KS	2022-11-23 09:38:12
8	U7	22K0110-01	0.1555	mg/L		0.032980			KS	2022-11-23 09:40:30
9	U8	22K0110-02	0.1415	mg/L		0.032453			KS	2022-11-23 09:42:48
10	U9	22K0110-03	0.2994	mg/L		0.038430			KS	2022-11-23 09:45:06
11	U10	22K0110-04	0.0889	mg/L		0.030458			KS	2022-11-23 09:47:24
	CCV	Seq-CCV	3.0792	mg/L		0.143701			KS	2022-11-23 09:49:42
	CCB	Seq-CCB	0.0190	mg/L		0.027812			KS	2022-11-23 09:52:01
12	U11	22K0110-05	1.4967	mg/L		0.083774			KS	2022-11-23 09:54:21
13	U12	22K0110-06	0.1505	mg/L		0.032794			KS	2022-11-23 09:56:40
14	U13	22K0110-07	0.1801	mg/L		0.033912			KS	2022-11-23 09:58:58
15	U14	22K0110-08	0.3923	mg/L		0.041948			KS	2022-11-23 10:01:18
16	U15	22K0110-09	0.0592	mg/L		0.029333			KS	2022-11-23 10:03:37

17	U16	22K0110-10	0.1924	mg/L	0.034379	KS	2022-11-23 10:04:45
18	U17	22K0110-11	1.1582	mg/L	0.070952	KS	2022-11-23 10:05:42
19	U18	22K0110-12	0.0275	mg/L	0.028134	KS	2022-11-23 10:06:38
20	U19	22K0110-13	0.0596	mg/L	0.029348	KS	2022-11-23 10:07:34
21	U20	22K0110-14	0.2216	mg/L	0.035485	KS	2022-11-23 10:08:31
	CCV	Seq-CCV	3.0254	mg/L	0.141663	KS	2022-11-23 10:09:27
	CCB	Seq-CCB	-0.0121	mg/L	0.026633	KS	2022-11-23 10:10:24
22	U21	22K0110-15	0.2229	mg/L	0.035532	KS	2022-11-23 10:11:22
	CCV	Seq-CCV	2.9776	mg/L	0.139853	KS	2022-11-23 10:12:18
	CCB	Seq-CCB	-0.0331	mg/L	0.025838	KS	2022-11-23 10:13:15

INITIAL AND CONTINUING CALIBRATION CHECK

EPA 353.2

Laboratory:	APPL, LLC	Work Order:	22K0110
Client:	Tetra Tech Inc, Bothell	Project:	28023939
Instrument ID:	EVE	Calibration:	UNASSIGNED
		Sequence:	SB03995

Lab Sample ID	Analyte	True	Found	%R	Units	Control Limit
SB03995-ICV1	NITROCELLULOSE	3.00	2.95	98.5	ug/mL	+/- 15.00%
SB03995-CCV1	NITROCELLULOSE	3.00	3.05	102	ug/mL	+/- 15.00%
SB03995-CCV2	NITROCELLULOSE	3.00	3.08	103	ug/mL	+/- 15.00%
SB03995-CCV3	NITROCELLULOSE	3.00	3.03	101	ug/mL	+/- 15.00%
SB03995-CCV4	NITROCELLULOSE	3.00	2.98	99.3	ug/mL	+/- 15.00%

Percent Solid

Method: CLP 4.0 **Analyst:** yml
n Temp: 104℃
QCG: BBK0465
in Oven: 11/28/2022 **Time in Oven:** 13:52
ut Oven: 11/29/2022 **Time out Oven:** 8:17
in Oven: **Time in Oven:**
ut Oven: **Time out Oven:**

Formula Locked Cell

L ID	Pan (g)	Pan Wet (g)	Pan Dry 1 (g)	Pan Dry 2 (g)	% Solid	% MOIST
10-01	0.7961	9.6902	8.5942	8.5942	87.6772	12.3228
10-02	0.8187	9.5275	8.1289	8.1289	83.9404	16.0596
10-03	0.7999	9.6431	6.7168	6.7169	66.9102	33.0898
10-04	0.8073	9.9001	7.3456	7.3457	71.9074	28.0926
10-05	0.7965	9.8153	8.7803	8.7804	88.5251	11.4749
10-06	0.7964	9.3771	7.8475	7.8476	82.1751	17.8249
10-07	0.8016	9.5598	8.8096	8.8097	91.4355	8.5645
5-DUP1	0.8035	9.7429	8.9461	8.9462	91.0878	8.9122
10-08	0.7985	9.4326	8.3666	8.3667	87.6548	12.3452
10-09	0.8079	9.6867	8.4273	8.4273	85.8157	14.1843
10-10	0.7977	9.6445	8.4949	8.4949	87.0055	12.9945
10-11	0.7946	9.6958	8.7105	8.7105	88.9307	11.0693
10-12	0.8061	9.2219	8.0592	8.0593	86.1855	13.8145
10-13	0.8040	9.6510	8.7458	8.7458	89.7683	10.2317
10-14	0.8093	9.4254	7.8391	7.8391	81.5891	18.4109
10-15	0.8112	9.9988	9.1687	9.1687	90.9650	9.0350

Table of Contents

Sample X3-SS-C05-0006
Reported result Nitrocellulose
120 mg/kg

AQ2 Report

Y = 26.40624 * 0.083744 + -0.7154081
=1.4967 mg/L

1.4967 mg/L * 20ml / 2.0g / 0.885 * 7.07 =
119.6 mg/kg

7.07 conversion TOXN to Nitrocellulose

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Kyle S
Date & Time:	2022-12-28 10:17:46
Tray Number:	45
Tray Name:	221123 (A) TOXN

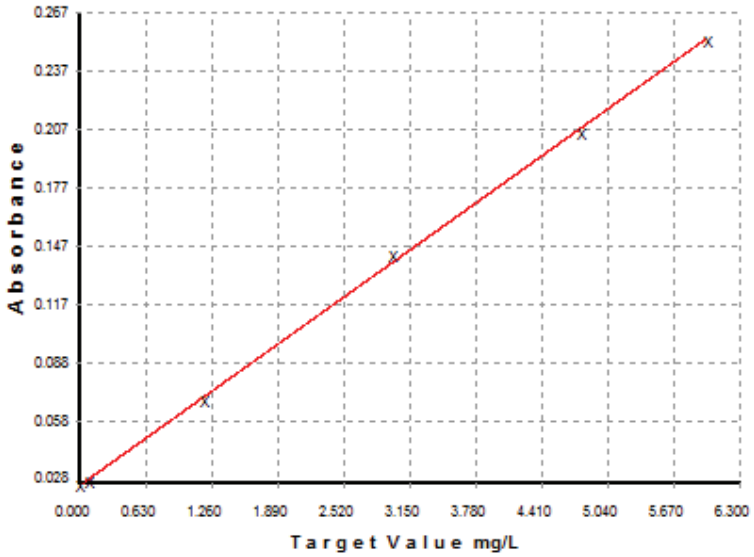
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0278	0.0194	0.0000	
S90	0.0297	0.0689	0.1000	-31.08
S91	0.0709	1.1573	1.2000	-3.56
S92	0.1448	3.1083	3.0000	3.61
S93	0.2072	4.7559	4.8000	-0.92
S94	0.2539	5.9902	6.0000	-0.16
S0	0.0317	0.1215	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9997
Carryover(%):	1.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-7.154081E-001
b =:	2.640624E+001
Date & Time:	2022-11-23 09:17:30

Calibration Graph



Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0278			0.027827			KS	2022-11-23 09:03:46
	S90	Standard 90	0.0297			0.029702			KS	2022-11-23 09:06:03
	S91	Standard 91	0.0709			0.070918			KS	2022-11-23 09:08:20
	S92	Standard 92	0.1448			0.144804			KS	2022-11-23 09:10:38
	S93	Standard 93	0.2072			0.207197			KS	2022-11-23 09:12:55
	S94	Standard 94	0.2539			0.253940			KS	2022-11-23 09:15:12
	S0	Standard 0	0.0317			0.031694			KS	2022-11-23 09:17:30
1	ICV	Seq-ICV1	2.9546	mg/L		0.138981			KS	2022-11-23 09:19:47
	CCV	Seq-CCV	3.0528	mg/L		0.142701			KS	2022-11-23 09:22:05
	CCB	Seq-CCB	0.0701	mg/L		0.029749			KS	2022-11-23 09:24:22
2	U1	Seq-ICB1	-0.0230	mg/L		0.026220			KS	2022-11-23 09:26:43
3	U2	BBK0378-BLK1	0.0397	mg/L		0.028595			KS	2022-11-23 09:29:01
4	U3	BBK0378-BS1	1.8703	mg/L		0.097922			KS	2022-11-23 09:31:19
5	U4	BBK0378-BSD1	0.1604	mg/L		0.033166			KS	2022-11-23 09:33:37
6	U5	BBK0378-MS1	0.2023	mg/L		0.034753			KS	2022-11-23 09:35:54
7	U6	BBK0378-MSD1	0.1469	mg/L		0.032654			KS	2022-11-23 09:38:12
8	U7	22K0110-01	0.1555	mg/L		0.032980			KS	2022-11-23 09:40:30
9	U8	22K0110-02	0.1415	mg/L		0.032453			KS	2022-11-23 09:42:48
10	U9	22K0110-03	0.2994	mg/L		0.038430			KS	2022-11-23 09:45:06
11	U10	22K0110-04	0.0889	mg/L		0.030458			KS	2022-11-23 09:47:24
	CCV	Seq-CCV	3.0792	mg/L		0.143701			KS	2022-11-23 09:49:42
	CCB	Seq-CCB	0.0190	mg/L		0.027812			KS	2022-11-23 09:52:01
12	U11	22K0110-05	1.4967	mg/L		0.083774			KS	2022-11-23 09:54:21
13	U12	22K0110-06	0.1505	mg/L		0.032794			KS	2022-11-23 09:56:40
14	U13	22K0110-07	0.1801	mg/L		0.033912			KS	2022-11-23 09:58:58
15	U14	22K0110-08	0.3923	mg/L		0.041948			KS	2022-11-23 10:01:18
16	U15	22K0110-09	0.0592	mg/L		0.029333			KS	2022-11-23 10:03:37

Sample X7-TP-C01-5460
Reported result Nitrocellulose
16 mg/kg

AQ2 Report

Y = 26.40624 * 0.034379 + -0.7154081
=0.1924 mg/L

0.1924 mg/L * 20ml / 2.0g / 0.870 * 7.07 =
15.63 mg/kg

7.07 conversion TOXN to Nitrocellulose

Serial Number:	190170
Software Version:	2.1.0
Report Requested By:	Kyle S
Date & Time:	2022-12-28 10:17:46
Tray Number:	45
Tray Name:	221123 (A) TOXN

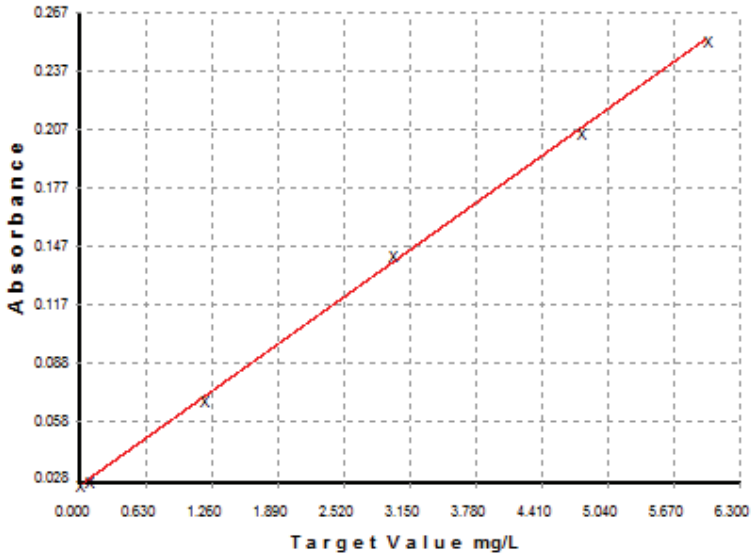
TOXN

Calibration Chart

Type	Absorbance	Calc mg/L	Target mg/L	% Error
S1	0.0278	0.0194	0.0000	
S90	0.0297	0.0689	0.1000	-31.08
S91	0.0709	1.1573	1.2000	-3.56
S92	0.1448	3.1083	3.0000	3.61
S93	0.2072	4.7559	4.8000	-0.92
S94	0.2539	5.9902	6.0000	-0.16
S0	0.0317	0.1215	0.0000	

Polynomial Order:	1
Correlation Coefficient:	0.9997
Carryover(%):	1.7
Calibration equation:	y = bx + a
y =:	Concentration mg/L
x =:	Measured absorbance
a =:	-7.154081E-001
b =:	2.640624E+001
Date & Time:	2022-11-23 09:17:30

Calibration Graph



Cup	Type	ID	Result	Units	QC Pro	Raw Data	Auto Dil.	Man Dil.	User	Time/Date
	S1	Standard 1	0.0278			0.027827			KS	2022-11-23 09:03:46
	S90	Standard 90	0.0297			0.029702			KS	2022-11-23 09:06:03
	S91	Standard 91	0.0709			0.070918			KS	2022-11-23 09:08:20
	S92	Standard 92	0.1448			0.144804			KS	2022-11-23 09:10:38
	S93	Standard 93	0.2072			0.207197			KS	2022-11-23 09:12:55
	S94	Standard 94	0.2539			0.253940			KS	2022-11-23 09:15:12
	S0	Standard 0	0.0317			0.031694			KS	2022-11-23 09:17:30
1	ICV	Seq-ICV1	2.9546	mg/L		0.138981			KS	2022-11-23 09:19:47
	CCV	Seq-CCV	3.0528	mg/L		0.142701			KS	2022-11-23 09:22:05
	CCB	Seq-CCB	0.0701	mg/L		0.029749			KS	2022-11-23 09:24:22
2	U1	Seq-ICB1	-0.0230	mg/L		0.026220			KS	2022-11-23 09:26:43
3	U2	BBK0378-BLK1	0.0397	mg/L		0.028595			KS	2022-11-23 09:29:01
4	U3	BBK0378-BS1	1.8703	mg/L		0.097922			KS	2022-11-23 09:31:19
5	U4	BBK0378-BSD1	0.1604	mg/L		0.033166			KS	2022-11-23 09:33:37
6	U5	BBK0378-MS1	0.2023	mg/L		0.034753			KS	2022-11-23 09:35:54
7	U6	BBK0378-MSD1	0.1469	mg/L		0.032654			KS	2022-11-23 09:38:12
8	U7	22K0110-01	0.1555	mg/L		0.032980			KS	2022-11-23 09:40:30
9	U8	22K0110-02	0.1415	mg/L		0.032453			KS	2022-11-23 09:42:48
10	U9	22K0110-03	0.2994	mg/L		0.038430			KS	2022-11-23 09:45:06
11	U10	22K0110-04	0.0889	mg/L		0.030458			KS	2022-11-23 09:47:24
	CCV	Seq-CCV	3.0792	mg/L		0.143701			KS	2022-11-23 09:49:42
	CCB	Seq-CCB	0.0190	mg/L		0.027812			KS	2022-11-23 09:52:01
12	U11	22K0110-05	1.4967	mg/L		0.083774			KS	2022-11-23 09:54:21
13	U12	22K0110-06	0.1505	mg/L		0.032794			KS	2022-11-23 09:56:40
14	U13	22K0110-07	0.1801	mg/L		0.033912			KS	2022-11-23 09:58:58
15	U14	22K0110-08	0.3923	mg/L		0.041948			KS	2022-11-23 10:01:18
16	U15	22K0110-09	0.0592	mg/L		0.029333			KS	2022-11-23 10:03:37

17	U16	22K0110-10	0.1924	mg/L	0.034379	KS	2022-11-23 10:04:45
18	U17	22K0110-11	1.1582	mg/L	0.070952	KS	2022-11-23 10:05:42
19	U18	22K0110-12	0.0275	mg/L	0.028134	KS	2022-11-23 10:06:38
20	U19	22K0110-13	0.0596	mg/L	0.029348	KS	2022-11-23 10:07:34
21	U20	22K0110-14	0.2216	mg/L	0.035485	KS	2022-11-23 10:08:31
	CCV	Seq-CCV	3.0254	mg/L	0.141663	KS	2022-11-23 10:09:27
	CCB	Seq-CCB	-0.0121	mg/L	0.026633	KS	2022-11-23 10:10:24
22	U21	22K0110-15	0.2229	mg/L	0.035532	KS	2022-11-23 10:11:22
	CCV	Seq-CCV	2.9776	mg/L	0.139853	KS	2022-11-23 10:12:18
	CCB	Seq-CCB	-0.0331	mg/L	0.025838	KS	2022-11-23 10:13:15

From: Greg Salata
To: Solomon, Terri
Subject: Re: Nitrocellulose
Date: Monday, January 16, 2023 5:57:24 PM
Attachments: image001.png

From the wet lab supervisor:

There is another conversion factor, you have to multiply by 7.07 to convert from TOXN to Nitrocellulose. We hydrolize the sample to break down the nitrocellulose into groups with TOXN, and the molecular ratio between the TOXN and Nitrocellulose is 7.07, so it needs to be multiplied by 7.07. We usually add that conversion factor to the instrument before running so that the raw data that is printed already has that 7.07 multiplied to it, but this one was done after the fact in the export file so the raw data shows the result before being multiplied by 7.07 and there is no way to have it print with the 7.07 after the fact. I should have had Phillip note that on the raw data.

Kyle Stansell
Metals and Wetlab Supervisor

On Fri, Jan 13, 2023 at 9:00 AM Solomon, Terri <Terri.Solomon@tetratech.com> wrote:

> Greg,
>
> As per our conversation, I am validating data package 22K0110 for Bangor and I have to be able to reproduce a sample result by hand.
>
> I am looking at page 65 of the data report and at sample 22K0110-01. The result is 0.1555 mg/L and the reported result is 12 mg/kg. When I use 2.02 g and 20 ml from the prep page and divide by the percent solids (87.7) I get a result of 1.816 mg/kg. (0.1555*20ml / 2.02g / 0.877). Is there some other conversion number that I am missing?
>
> Thanks,
>
> Terri
>
> **Terri Solomon** | **Environmental Scientist**
>
> Direct: 412.921.7113 | Main: 412.921.7090 | terri.solomon@tetratech.com
>
> **Tetra Tech** | *Leading with Science*®
>
> 661 Andersen Drive | Suite 200 | Foster Plaza 7 | Pittsburgh, PA 15220-2700 | www.tetratech.com

Appendix H: MEC HA and MRSPP Results

This Page Intentionally Left Blank

Appendix H-1: MEC HA Results

This Page Intentionally Left Blank

MEC HA Summary Information

Comments

Site ID: UXO 3 - [redacted] (Site D)
Date: 2/23/2023

Please identify the single specific area to be assessed in this hazard assessment. From this point forward, all references to "site" or "MRS" refer to the specific area that you have defined.

A. Enter a unique identifier for the site:

UXO 3 - [redacted] (Site D)

Provide a list of information sources used for this hazard assessment. As you are completing the worksheets, use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable information sources from the list below.

Ref. No.	Title (include version, publication date)
1	Site Investigation Report (Internal Draft, Jan 2023)
2	Program Preliminary Assessment Report (Final, Feb 2017)
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

B. Briefly describe the site:

1. Area (include units): 37 acres
2. Past munitions-related use:

OB/OD Area

3. Current land-use activities (list all that occur):

4. Are changes to the future land-use planned?
5. What is the basis for the site boundaries?

Historic documents and field observations.

6. How certain are the site boundaries?

Uncertain; nature and extent have not been defined.

Reference(s) for Part B: [redacted]

C. Historical Clearances

1. Have there been any historical clearances at the site? No, none
2. If a clearance occurred:
   a. What year was the clearance performed?
   b. Provide a description of the clearance activity (e.g., extent, depth, amount of munitions-related items removed, types and sizes of removed items, and whether metal detectors were used):

Reference(s) for Part C: [redacted]

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

UXO 3 - [redacted] (Site D)
2/23/2023

Munitions Information

Munition Type (e.g., mortar, projectile, etc.)	Munition Size	Munition Size Units	Mark/ Model	Energetic Material Type	Is Munition Fuzed?	Fuzing Type	Fuze Condition	Minimum Depth for Munition (ft)	Location of Munitions	Comments (include rationale for munitions that are "subsurface only")
Bombs	100	lb	AN-M46	Pyrotechnic	No			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
Fuzes			AN-M46	High Explosive	No			0.1	Subsurface Only	Booster cup. Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
Fuzes			Mk 19	High Explosive	No	Impact	UNK	0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.

(s) for table above:

[redacted]

plosive Information

Explosive Type	Comments
Not applicable	

(s) for table above:

[redacted]

UXO 3 [redacted] (Site D)
2/23/2023

es Currently Occurring at the Site

	Activity	Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1	Maintenance workers	6	20	**120**	0.1	Maintenance (e.g., culverts) and vegetation management near [redacted]
2	Visitors	8	1	**8**	0.1	No interest at site attracting any visitors of note, Lower Base site
3	Utility workers	4	20	**80**	5	repairs as needed, utilities present at the site.
4						
5						
6						
7						
8						
9						
10						
11						
12						
	Total Potential Contact Time (receptor hrs/yr):			**208**		
	Maximum intrusive depth at site (ft):				**5**	

e(s) for table above:

[redacted]

es Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, on 4)

		Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

e(s) for table above:

O 3 - [redacted] (Site D)
23/2023

emedial or Removal Actions

sponse Action Description	Expected Resulting Minimum MEC Depth (ft)	Expected Resulting Site Accessibility	Will land use activities change if this response action is implemented?	What is the expected scope of cleanup?	Comments

e 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered E, the land use activities will be assessed against current land uses.

Current

or table above:

[redacted]

nd Use Activities Planned After Response Alternative #2:

	ivity	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

ference(s) for table above:

nd Use Activities Planned After Response Alternative #3:

	tivity	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

ference(s) for table above:

nd Use Activities Planned After Response Alternative #4:

ivity	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

ference(s) for table above:

[redacted]

nd Use Activities Planned After Response Alternative #5:

	ivity	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

ference(s) for table above:

Site ID: UXO 3 - [redacted] (Site D)
Date: 2/23/2023

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
High Explosive and Low Explosive Filler in Fragmenting Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'.

	Score
Baseline Conditions:	**100**
Surface Cleanup:	**100**
Subsurface Cleanup:	**100**

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 369 feet
2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No
3. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for current use activities

[redacted]

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

4. Current use activities are 'Outside of the ESQD arc', based on Question 2.'

	Score
Baseline Conditions:	**0**
Surface Cleanup:	**0**
Subsurface Cleanup:	**0**

5. Are there future plans to locate or construct features or facilities where people may congregate within the MRS, or within the ESQD arc?
6. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for future use activities

[redacted]

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

7. Please answer Question 5 above to determine the scores.

	Score
Baseline Conditions:	
Surface Cleanup:	
Subsurface Cleanup:	

Comments

Based on the Hazardous Fragment Distance (HFD).

Site Accessibility Input Factor Categories

The following table is used to determine scores associated with site accessibility:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Full Accessibility	No barriers to entry, including signage but no fencing	80	80	80
Moderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain	55	55	55
Limited Accessibility	Significant barriers to entry, such as unguarded chain link fence or requirements for special transportation to reach the site	15	15	15
Very Limited Accessibility	A site with guarded chain link fence or terrain that requires special equipment and skills (e.g., rock climbing) to access	5	5	5

Current Use Activities ***Score***

Select the category that best describes the site accessibility under the current use scenario:

Moderate Accessibility

High grass and marsh serves as a limited barrier to entry.

Baseline Conditions: **55**
Surface Cleanup: **55**
Subsurface Cleanup: **55**

Future Use Activities

Select the category that best describes the site accessibility under the future use scenario:

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Reference(s) for above information:

Response Alternative No. 1:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Potential Contact Hours Input Factor Categories

The following table is used to determine scores associated with the total potential contact time:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Many Hours	≥1,000,000 receptor-hrs/yr	120	90	30
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20
Few Hours	10,000 to 99,999 receptor-hrs/yr	40	20	10
Very Few Hours	<10,000 receptor-hrs/yr	15	10	5

Current Use Activities:

Input factors are only determined for baseline conditions for current use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: **208** hrs/yr receptor
Based on the table above, this corresponds to a input factor score for baseline conditions of: **15** Score

Future Use Activities:

Input factors are only determined for baseline conditions for future use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: hrs/yr receptor
Based on the table above, this corresponds to a input factor score of: Score

Response Alternative No. 1:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Amount of MEC Input Factor Categories

The following table is used to determine scores associated with the Amount of MEC:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick-outs.	180	110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth-covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5

Select the category that best describes the ***most hazardous*** amount of MEC: ***Score***

OB/OD Area

Baseline Conditions: **180**
Surface Cleanup: **110**
Subsurface Cleanup: **30**

Minimum MEC Depth Relative to the Maximum Intrusive Depth Input Factor Categories

Current Use Activities

The shallowest minimum MEC depth, based on the 'Cased Munitions Information' Worksheet: **0.1** ft
The deepest intrusive depth: **5** ft
The table below is used to determine scores associated with the minimum MEC depth relative to the maximum intrusive depth:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap with minimum MEC depth.	50	N/A	25

Because the shallowest minimum MEC depth is less than or equal to the deepest intrusive depth, the intrusive depth will overlap after cleanup. MECs are located only subsurface, based on the 'Munitions, Bulk Explosive Info' Worksheet. Therefore, the category for this input factor is 'Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.' For 'Current Use Activities', only Baseline Conditions are considered.

150 ***Score***

Future Use Activities
Deepest intrusive depth: ft

Not enough information has been entered to determine the input factor category. ***Score***

Response Alternative No. 1:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Migration Potential Input Factor Categories

Is there any physical or historical evidence that indicates it is possible for natural physical forces in the area (e.g., frost heave, erosion) to expose subsurface MEC items, or move surface or subsurface MEC items? Yes

If "yes", describe the nature of natural forces. Indicate key areas of potential migration (e.g., overland water flow) on a map as appropriate (attach a map to the bottom of this sheet, or as a separate worksheet).

Erosion may cause exposure/burial of near surface items.

The following table is used to determine scores associated with the migration potential:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Possible	30	30	10
Unlikely	10	10	10

Based on the question above, migration potential is 'Possible.' ***Score***

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **10**

Reference(s) for above information:

MEC Classification Input Factor Categories

Cased munitions information has been inputed into the 'Munitions, Bulk Explosive Info' Worksheet; therefore, bulk explosives do not comprise all MECs for this MRS.

The 'Amount of MEC' category is 'OB/OD Area'.

Has a technical assessment shown that MEC in the OB/OD Area is DMM? No

Are any of the munitions listed in the 'Munitions, Bulk Explosive Info' Worksheet: Yes

- Submunitions
- Rifle-propelled 40mm projectiles (often called 40mm grenades)
- Munitions with white phosphorus filler
- High explosive anti-tank (HEAT) rounds
- Hand grenades
- Fuzes
- Mortars

None of the items listed in the 'Munitions, Bulk Explosive Info' Worksheet were identified as 'fuzed'.

The following table is used to determine scores associated with MEC classification categories:

UXO Special Case	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
UXO Special Case	180	180	180
UXO	110	110	110
Fuzed DMM Special Case	105	105	105
Fuzed DMM	55	55	55
Unfuzed DMM	45	45	45
Bulk Explosives	45	45	45

Based on your answers above, the MEC classification is 'UXO Special Case'. ***Score***

Baseline Conditions: **180**
Surface Cleanup: **180**
Subsurface Cleanup: **180**

MEC Size Input Factor Categories

The following table is used to determine scores associated with MEC Size:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation	40	40	40
Large	All munitions weigh more than 90 lbs; too large to move without equipment	0	0	0

Based on the definitions above and the types of munitions at the site (see 'Munitions, Bulk Explosive Info' Worksheet), the MEC Size Input Factor is: Small

Score

Baseline Conditions: **40**
Surface Cleanup: **40**
Subsurface Cleanup: **40**

Scoring Summary

Site ID:	UXO 3 - [redacted] (Site D)	a. Scoring Summary for Current Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors		Outside of the ESQD arc	0
III. Site Accessibility		Moderate Accessibility	55
IV. Potential Contact Hours		<10,000 receptor-hrs/yr	15
V. Amount of MEC		OB/OD Area	180
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150
VII. Migration Potential		Possible	30
VIII. MEC Classification		UXO Special Case	180
IX. MEC Size		Small	40
		Total Score	750
		Hazard Level Category	2

Site ID:	UXO 3 - [redacted] (Site	b. Scoring Summary for Future Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors			
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	180
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	30
VIII. MEC Classification		UXO Special Case	180
IX. MEC Size		Small	40
		Total Score	530
		Hazard Level Category	3

Site ID:	UXO 3 - [redacted] (Site	c. Scoring Summary for Response Alternative 1:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID: UXO 3 - [redacted] (Site	d. Scoring Summary for Response Alternative 2:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Outside of the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 3 - [redacted] (Site	e. Scoring Summary for Response Alternative 3:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Outside of the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 3 - [redacted] (Site	f. Scoring Summary for Response Alternative 4:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Outside of the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID:	UXO 3 - [redacted] (Sit	g. Scoring Summary for Response Alternative 5:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 3 - [redacted] (Sit	h. Scoring Summary for Response Alternative 6:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

MEC HA Hazard Level Determination		
Site ID: UXO 3 - [redacted] (Site D) Date: 2/23/2023	Hazard Level Category	Score
a. Current Use Activities	2	750
b. Future Use Activities	3	530
c. Response Alternative 1:		
d. Response Alternative 2:		
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		

Characteristics of the MRS	
Is critical infrastructure located within the MRS or within the ESQD arc?	
Are cultural resources located within the MRS or within the ESQD arc?	
Are significant ecological resources located within the MRS or within the ESQD arc?	

MEC HA Summary Information

Comments

Site ID: UXO 6 - [redacted] (Site 22)
Date: 2/26/2023

Please identify the single specific area to be assessed in this hazard assessment. From this point forward, all references to "site" or "MRS" refer to the specific area that you have defined.

A. Enter a unique identifier for the site:

UXO 6 - Debris Area 2 (Site 22)

Provide a list of information sources used for this hazard assessment. As you are completing the worksheets, use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable information sources from the list below.

Ref. No.	Title (include version, publication date)
1	Site Inspection Report (Internal Draft, Feb 2023)
2	Program Preliminary Assessment Report (Final, Feb 2017)
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

B. Briefly describe the site:

1. Area (include units): 1 acre
2. Past munitions-related use:

Storage

Comments: Surface disposal only expected

3. Current land-use activities (list all that occur):

4. Are changes to the future land-use planned?
5. What is the basis for the site boundaries?

Historic documents and field observations.

6. How certain are the site boundaries?

Mostly certain; nature still not defined but extent has been defined.

Reference(s) for Part B: [redacted]

C. Historical Clearances

1. Have there been any historical clearances at the site? No, none
2. If a clearance occurred:
   a. What year was the clearance performed?
   b. Provide a description of the clearance activity (e.g., extent, depth, amount of munitions-related items removed, types and sizes of removed items, and whether metal detectors were used):

Reference(s) for Part C: [redacted]

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

Site ID: **UXO 6 - [redacted] (Site 22)**
Date: **2/26/2023**

Cased Munitions Information

Item No.	Munition Type (e.g., mortar, projectile, etc.)	Munition Size	Munition Size Units	Mark/ Model	Energetic Material Type	Is Munition Fuzed?	Fuzing Type	Fuze Condition	Minimum Depth for Munition (ft)	Location of Munitions	Comments (include rationale for munitions that are "subsurface only")
1	Fuzes			AN-M46	Low Explosive Filler in a fragmenting round	No			0	Surface and Subsurface	Surface MEC encountered during RI. Subsurface burial is not likely due to the presence of steep slopes.
2	Fuzes			Mk 2 Mod 1	Low Explosive Filler in a fragmenting round	No			0	Surface and Subsurface	Surface MEC encountered during RI. Subsurface burial is not likely due to the presence of steep slopes.
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Reference(s) for table above:

[redacted]

Bulk Explosive Information

Item No.	Explosive Type	Comments
1	Not applicable	
2		
3		
4		
5		
6		
7		
8		
9		
10		

Reference(s) for table above:

[redacted]

Site ID: **UXO 6 - [redacted] (Site 22)**
Date: **2/26/2023**

Activities Currently Occurring at the Site

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1	[redacted] training	50	6	**300**	0.1	limited [redacted] training.
2	Visitors	8	1	**8**	0.1	No interest at site attracting any visitors of note, Lower Base site in restricted [redacted]
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
	Total Potential Contact Time (receptor hrs/yr):			**308**		
	Maximum intrusive depth at site (ft):				**0.1**	

Reference(s) for table above:

[redacted]

Activities Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, Question 4)

Activity No.		Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Installation knowledge and Navy input

Site ID: **UXO 6 - [redacted] (Site 22)**
Date: **2/26/2023**

Planned Remedial or Removal Actions

Response Action No.	Response Action Description	Expected Resulting Minimum MEC Depth (ft)	Expected Resulting Site Accessibility	Will land use activities change if this response action is implemented?	What is the expected scope of cleanup?	Comments
1						
2						
3						
4						
5						
6						

According to the 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered 'No' in Column E, the land use activities will be assessed against current land uses.

Current

Reference(s) for table above:

[redacted]

Land Use Activities Planned After Response Alternative #2:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #3:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #4:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #5:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: **UXO 6 - [redacted] (Site 22)**
Date: **2/26/2023**

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
High Explosive and Low Explosive Filler in Fragmenting Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'.

	Score
Baseline Conditions:	**100**
Surface Cleanup:	**100**
Subsurface Cleanup:	**100**

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 22 feet
2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No
3. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for current use activities

Item #1. Fuzes (Low Explosive Filler in a fragmenting round)

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

4. Current use activities are 'Outside of the ESQD arc', based on Question 2.'

	Score
Baseline Conditions:	**0**
Surface Cleanup:	**0**
Subsurface Cleanup:	**0**

5. Are there future plans to locate or construct features or facilities where people may congregate within the MRS, or within the ESQD arc?
6. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for future use activities

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

7. Please answer Question 5 above to determine the scores.

	Score
Baseline Conditions:	
Surface Cleanup:	
Subsurface Cleanup:	

Comments

Based on the Hazardous Fragment Distance (HFD).

Site Accessibility Input Factor Categories

The following table is used to determine scores associated with site accessibility:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Full Accessibility	No barriers to entry, including signage but no fencing	80	80	80
Moderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain	55	55	55
Limited Accessibility	Significant barriers to entry, such as unguarded chain link fence or requirements for special transportation to reach the site	15	15	15
Very Limited Accessibility	A site with guarded chain link fence or terrain that requires special equipment and skills (e.g., rock climbing) to access	5	5	5

Current Use Activities ***Score***

Select the category that best describes the site accessibility under the current use scenario:

Very Limited Accessibility

Baseline Conditions: **5**
Surface Cleanup: **5**
Subsurface Cleanup: **5**

MEC is only present in the areas where extremely steep slopes serve as a barrier to entry. SI conducted using fall protection rope access. Also, UXO danger signs installed at site.

Future Use Activities

Select the category that best describes the site accessibility under the future use scenario:

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Reference(s) for above information:

Response Alternative No. 1:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Potential Contact Hours Input Factor Categories

The following table is used to determine scores associated with the total potential contact time:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Many Hours	≥1,000,000 receptor-hrs/yr	120	90	30
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20
Few Hours	10,000 to 99,999 receptor-hrs/yr	40	20	10
Very Few Hours	<10,000 receptor-hrs/yr	15	10	5

Current Use Activities:

Input factors are only determined for baseline conditions for current use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: **308** hrs/yr receptor
Based on the table above, this corresponds to a input factor score for baseline conditions of: **15** Score

Future Use Activities:

Input factors are only determined for baseline conditions for future use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: hrs/yr receptor
Based on the table above, this corresponds to a input factor score of: Score

Response Alternative No. 1:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Amount of MEC Input Factor Categories

The following table is used to determine scores associated with the Amount of MEC:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick-outs.	180	110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth-covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5

Select the category that best describes the ***most hazardous*** amount of MEC: ***Score***

Storage

Surface disposal only expected

Baseline Conditions: **25**
Surface Cleanup: **10**
Subsurface Cleanup: **5**

Minimum MEC Depth Relative to the Maximum Intrusive Depth Input Factor Categories

Current Use Activities

The shallowest minimum MEC depth, based on the 'Cased Munitions Information' Worksheet: **0** ft
The deepest intrusive depth: **0.1** ft

The table below is used to determine scores associated with the minimum MEC depth relative to the maximum intrusive depth:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap with minimum MEC depth.	50	N/A	25

Because the shallowest minimum MEC depth is less than or equal to the deepest intrusive depth, the intrusive depth will overlap after cleanup. MECs are located at both the surface and subsurface, based on the 'Munitions, Bulk Explosive Info' Worksheet. Therefore, the category for this input factor is 'Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.' For 'Current Use Activities', only Baseline Conditions are considered.

240 ***Score***

Future Use Activities
Deepest intrusive depth: ft

Not enough information has been entered to determine the input factor category. ***Score***

Response Alternative No. 1:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Migration Potential Input Factor Categories

Is there any physical or historical evidence that indicates it is possible for natural physical forces in the area (e.g., frost heave, erosion) to expose subsurface MEC items, or move surface or subsurface MEC items? Yes

If "yes", describe the nature of natural forces. Indicate key areas of potential migration (e.g., overland water flow) on a map as appropriate (attach a map to the bottom of this sheet, or as a separate worksheet).

Erosion may cause exposure/burial of near surface items.

The following table is used to determine scores associated with the migration potential:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Possible	30	30	10
Unlikely	10	10	10

Based on the question above, migration potential is 'Possible.'

Score

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **10**

Reference(s) for above information:

MEC Classification Input Factor Categories

Cased munitions information has been inputed into the 'Munitions, Bulk Explosive Info' Worksheet; therefore, bulk explosives do not comprise all MECs for this MRS.

The 'Amount of MEC' category is 'Storage'. It is assumed that the MEC items in this MRS are DMM.

Has a technical assessment shown that MEC in the OB/OD Area is DMM?

Are any of the munitions listed in the 'Munitions, Bulk Explosive Info' Worksheet: Yes

- Submunitions
- Rifle-propelled 40mm projectiles (often called 40mm grenades)
- Munitions with white phosphorus filler
- High explosive anti-tank (HEAT) rounds
- Hand grenades
- Fuzes
- Mortars

None of the items listed in the 'Munitions, Bulk Explosive Info' Worksheet were identified as 'fuzed'.

The following table is used to determine scores associated with MEC classification categories:

Fuzed DMM Special Case	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
UXO Special Case	180	180	180
UXO	110	110	110
Fuzed DMM Special Case	105	105	105
Fuzed DMM	55	55	55
Unfuzed DMM	45	45	45
Bulk Explosives	45	45	45

Based on your answers above, the MEC classification is 'Fuzed DMM Special Case'.

Score

Baseline Conditions: **105**
Surface Cleanup: **105**
Subsurface Cleanup: **105**

MEC Size Input Factor Categories

The following table is used to determine scores associated with MEC Size:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation	40	40	40
Large	All munitions weigh more than 90 lbs; too large to move without equipment	0	0	0

Based on the definitions above and the types of munitions at the site (see 'Munitions, Bulk Explosive Info' Worksheet), the MEC Size Input Factor is: Small

Score

Baseline Conditions: **40**
Surface Cleanup: **40**
Subsurface Cleanup: **40**

Scoring Summary

Site ID:	UXO 6 - [redacted] (Site 22)	a. Scoring Summary for Current Use Activities	
Date:	2/26/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors		Outside of the ESQD arc	0
III. Site Accessibility		Very Limited Accessibility	5
IV. Potential Contact Hours		<10,000 receptor-hrs/yr	15
V. Amount of MEC		Storage	25
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240
VII. Migration Potential		Possible	30
VIII. MEC Classification		Fuzed DMM Special Case	105
IX. MEC Size		Small	40
		Total Score	**560**
		Hazard Level Category	**3**

Site ID:	UXO 6 - [redacted] (Site 22)	b. Scoring Summary for Future Use Activities	
Date:	2/26/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors			
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	25
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	30
VIII. MEC Classification		Fuzed DMM Special Case	105
IX. MEC Size		Small	40
		Total Score	**300**
		Hazard Level Category	**4**

Site ID:	UXO 6 - [redacted] (Site 22)	c. Scoring Summary for Response Alternative 1:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 6 - [redacted] (Site 22)	D. Scoring Summary for Response Alternative 2:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 6 - [redacted] (Site 22)	E. Scoring Summary for Response Alternative 3:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 6 - [redacted] (Site 22)	F. Scoring Summary for Response Alternative 4:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 6 - [redacted] (Site 22)	5. Scoring Summary for Response Alternative 5:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 6 - [redacted] (Site 22)	6. Scoring Summary for Response Alternative 6:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

MEC HA Hazard Level Determination		
UXO 6 - [redacted] (Site Site ID: 22) Date: 2/26/2023	Hazard Level Category	Score
a. Current Use Activities	3	560
b. Future Use Activities	4	300
c. Response Alternative 1:		
d. Response Alternative 2:		
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		
Characteristics of the MRS		
Is critical infrastructure located within the MRS or within the ESQD arc?	No	
Are cultural resources located within the MRS or within the ESQD arc?	No	
Are significant ecological resources located within the MRS or within the ESQD arc?	Yes	

MEC HA Summary Information

Comments

Site ID: UXO 7 - [redacted] (Site 23)
Date: 2/23/2023

Please identify the single specific area to be assessed in this hazard assessment. From this point forward, all references to "site" or "MRS" refer to the specific area that you have defined.

A. Enter a unique identifier for the site:

UXO 7 - [redacted] (Site 23)

Provide a list of information sources used for this hazard assessment. As you are completing the worksheets, use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable information sources from the list below.

Ref. No.	Title (include version, publication date)
1	Site Investigation Report (Internal Draft, an 2023)
2	Program Preliminary Assessment Report (Final, Feb 2017)
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

B. Briefly describe the site:

1. Area (include units): 1 acre
2. Past munitions-related use:

Burial Pit

Comments: Earthen mounds present in the MRS.

3. Current land-use activities (list all that occur):
4. Are changes to the future land-use planned?
5. What is the basis for the site boundaries?

Historic documents and field observations.

6. How certain are the site boundaries?

Uncertain; nature and extent have not been defined.

Reference(s) for Part B: [redacted]

C. Historical Clearances

1. Have there been any historical clearances at the site? No, none
2. If a clearance occurred:
   a. What year was the clearance performed?
   b. Provide a description of the clearance activity (e.g., extent, depth, amount of munitions-related items removed, types and sizes of removed items, and whether metal detectors were used):

Reference(s) for Part C: [redacted]

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

Site ID: **UXO 7 - [redacted] (Site 23)**
Date: **2/23/2023**

Cased Munitions Information

Item No.	Munition Type (e.g., mortar, projectile, etc.)	Munition Size	Munition Size Units	Mark/ Model	Energetic Material Type	Is Munition Fuzed?	Fuzing Type	Fuze Condition	Minimum Depth for Munition (ft)	Location of Munitions	Comments (include rationale for munitions that are "subsurface only")
1	Bombs	6	lb	M6	Incendiary	No			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
2											
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Reference(s) for table above:

[redacted]

Bulk Explosive Information

Item No.	Explosive Type	Comments
1	Not applicable	
2		
3		
4		
5		
6		
7		
8		
9		
10		

Reference(s) for table above:

[redacted]

Site ID: **UXO 7 [redacted] (Site 23)**
Date: **2/23/2023**

Activities Currently Occurring at the Site

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1	Maintenance workers	6	20	**120**	0.1	Maintenance such as vegetation management.
2	Visitors	8	1	**8**	0.1	No interest at site attracting any visitors of note, Lower Base [redacted]
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
	Total Potential Contact Time (receptor hrs/yr):			**128**		
	Maximum intrusive depth at site (ft):				**0.1**	

Reference(s) for table above:

[redacted]

Activities Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, Question 4)

Activity No.		Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: **UXO 7 [redacted] (Site 23)**
Date: **2/23/2023**

Planned Remedial or Removal Actions

Response Action No.	Response Action Description	Expected Resulting Minimum MEC Depth (ft)	Expected Resulting Site Accessibility	Will land use activities change if this response action is implemented?	What is the expected scope of cleanup?	Comments
1						
2						
3						
4						
5						
6						

According to the 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered 'No' in Column E, the land use activities will be assessed against current land uses.

Current

Reference(s) for table above:

[redacted]

Land Use Activities Planned After Response Alternative #2:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #3:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #4:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #5:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: **UXO 7 - [redacted] (Site 23)**
Date: **2/23/2023**

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
High Explosive and Low Explosive Filler in Fragmenting Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'Incendiary'.

Score

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **30**

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 86 feet
2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? Yes
3. Please describe the facility or feature.

[redacted] that is located within the ESQD arc.

MEC Item(s) used to calculate the ESQD for current use activities

[redacted]

Item #1. Bombs (6lb, Incendiary)

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

4. Current use activities are 'Inside the MRS or inside the ESQD arc', based on Question 2.'

Score

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **30**

5. Are there future plans to locate or construct features or facilities where people may congregate within the MRS, or within the ESQD arc?
6. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for future use activities

[redacted]

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

7. Please answer Question 5 above to determine the scores.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Comments

Based on the Hazardous Fragment Distance (HFD).

Site Accessibility Input Factor Categories

The following table is used to determine scores associated with site accessibility:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Full Accessibility	No barriers to entry, including signage but no fencing	80	80	80
Moderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain	55	55	55
Limited Accessibility	Significant barriers to entry, such as unguarded chain link fence or requirements for special transportation to reach the site	15	15	15
Very Limited Accessibility	A site with guarded chain link fence or terrain that requires special equipment and skills (e.g., rock climbing) to access	5	5	5

Current Use Activities ***Score***

Select the category that best describes the site accessibility under the current use scenario:

ll Accessibility

Baseline Conditions: **80**
Surface Cleanup: **80**
Subsurface Cleanup: **80**

Future Use Activities

Select the category that best describes the site accessibility under the future use scenario:

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Reference(s) for above information:

Response Alternative No. 1:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Potential Contact Hours Input Factor Categories

The following table is used to determine scores associated with the total potential contact time:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Many Hours	≥1,000,000 receptor-hrs/yr	120	90	30
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20
Few Hours	10,000 to 99,999 receptor-hrs/yr	40	20	10
Very Few Hours	<10,000 receptor-hrs/yr	15	10	5

Current Use Activities:

Input factors are only determined for baseline conditions for current use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: **128** hrs/yr receptor
Based on the table above, this corresponds to a input factor score for baseline conditions of: **15** Score

Future Use Activities:

Input factors are only determined for baseline conditions for future use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: hrs/yr receptor
Based on the table above, this corresponds to a input factor score of: Score

Response Alternative No. 1:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Amount of MEC Input Factor Categories

The following table is used to determine scores associated with the Amount of MEC:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick-outs.	180	110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth-covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5

Select the category that best describes the ***most hazardous*** amount of MEC: ***Score***

rial it

Surface disposal only expected

Baseline Conditions: **140**
Surface Cleanup: **140**
Subsurface Cleanup: **10**

Minimum MEC Depth Relative to the Maximum Intrusive Depth Input Factor Categories

Current Use Activities

The shallowest minimum MEC depth, based on the 'Cased Munitions Information' Worksheet: **0.1** ft
The deepest intrusive depth: **0.1** ft

The table below is used to determine scores associated with the minimum MEC depth relative to the maximum intrusive depth:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap with minimum MEC depth.	50	N/A	25

Because the shallowest minimum MEC depth is less than or equal to the deepest intrusive depth, the intrusive depth will overlap after cleanup. MECs are located only subsurface, based on the 'Munitions, Bulk Explosive Info' Worksheet. Therefore, the category for this input factor is 'Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.' For 'Current Use Activities', only Baseline Conditions are considered.

150 ***Score***

Future Use Activities
Deepest intrusive depth: ft

Not enough information has been entered to determine the input factor category. ***Score***

Response Alternative No. 1:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Migration Potential Input Factor Categories

Is there any physical or historical evidence that indicates it is possible for natural physical forces in the area (e.g., frost heave, erosion) to expose subsurface MEC items, or move surface or subsurface MEC items? Yes

If "yes", describe the nature of natural forces. Indicate key areas of potential migration (e.g., overland water flow) on a map as appropriate (attach a map to the bottom of this sheet, or as a separate worksheet).

Recontamination from ad acent EOD range is possible.

The following table is used to determine scores associated with the migration potential:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Possible	30	30	10
Unlikely	10	10	10

Based on the question above, migration potential is 'Possible.'

Score

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **10**

Reference(s) for above information:

MEC Classification Input Factor Categories

Cased munitions information has been inputed into the 'Munitions, Bulk Explosive Info' Worksheet; therefore, bulk explosives do not comprise all MECs for this MRS.

The 'Amount of MEC' category is 'Burial Pit'. It is assumed that the MEC items in this MRS are DMM.

Has a technical assessment shown that MEC in the OB/OD Area is DMM?

Are any of the munitions listed in the 'Munitions, Bulk Explosive Info' Worksheet: No

- Submunitions
- Rifle-propelled 40mm projectiles (often called 40mm grenades)
- Munitions with white phosphorus filler
- High explosive anti-tank (HEAT) rounds
- Hand grenades
- Fuzes
- Mortars

None of the items listed in the 'Munitions, Bulk Explosive Info' Worksheet were identified as 'fuzed'.

The following table is used to determine scores associated with MEC classification categories:

Unfuzed DMM	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
UXO Special Case	180	180	180
UXO	110	110	110
Fuzed DMM Special Case	105	105	105
Fuzed DMM	55	55	55
Unfuzed DMM	45	45	45
Bulk Explosives	45	45	45

Based on your answers above, the MEC classification is 'Unfuzed DMM'.

Score

Baseline Conditions: **45**
Surface Cleanup: **45**
Subsurface Cleanup: **45**

MEC Size Input Factor Categories

The following table is used to determine scores associated with MEC Size:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation	40	40	40
Large	All munitions weigh more than 90 lbs; too large to move without equipment	0	0	0

Based on the definitions above and the types of munitions at the site (see 'Munitions, Bulk Explosive Info' Worksheet), the MEC Size Input Factor is: Small

Score

Baseline Conditions: **40**
Surface Cleanup: **40**
Subsurface Cleanup: **40**

Scoring Summary

Site ID:	UXO 7 [redacted] (Site 23)	a. Scoring Summary for Current Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		Incendiary	30
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	30
III. Site Accessibility		Full Accessibility	80
IV. Potential Contact Hours		<10,000 receptor-hrs/yr	15
V. Amount of MEC		Burial Pit	140
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150
VII. Migration Potential		Possible	30
VIII. MEC Classification		Unfuzed DMM	45
IX. MEC Size		Small	40
		Total Score	**560**
		Hazard Level Category	**3**

Site ID:	UXO 7 [redacted] (Site 23)	b. Scoring Summary for Future Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		Incendiary	30
II. Location of Additional Human Receptors			
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Burial Pit	140
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	30
VIII. MEC Classification		Unfuzed DMM	45
IX. MEC Size		Small	40
		Total Score	**285**
		Hazard Level Category	**4**

Site ID:	UXO 7 [redacted] (Site 23)	c. Scoring Summary for Response Alternative 1:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		Incendiary	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Burial Pit	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Unfuzed DMM	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID: UXO 7 [redacted] (Site 23)	D. Scoring Summary for Response Alternative 2:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	Incendiary	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Burial Pit	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	Unfuzed DMM	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 7 [redacted] (Site 23)	E. Scoring Summary for Response Alternative 3:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	Incendiary	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Burial Pit	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	Unfuzed DMM	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 7 [redacted] (Site 23)	F. Scoring Summary for Response Alternative 4:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	Incendiary	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Burial Pit	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	Unfuzed DMM	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID:	UXO 7 [redacted] (Site 23)	8. Scoring Summary for Response Alternative 5:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		Incendiary	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Burial Pit	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Unfuzed DMM	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 7 [redacted] (Site 23)	9. Scoring Summary for Response Alternative 6:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		Incendiary	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Burial Pit	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Unfuzed DMM	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

MEC HA Hazard Level Determination		
UXO 7 [redacted] (Site Site ID: 23) Date: 2/23/2023	Hazard Level Category	Score
a. Current Use Activities	3	560
b. Future Use Activities	4	285
c. Response Alternative 1:		
d. Response Alternative 2:		
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		
Characteristics of the MRS		
Is critical infrastructure located within the MRS or within the ESQD arc?	No	
Are cultural resources located within the MRS or within the ESQD arc?	No	
Are significant ecological resources located within the MRS or within the ESQD arc?	No	

MEC HA Summary Information

Comments

Site ID: UXO 7B [redacted] (OU1 Site A)
Date: 2/26/2023

Please identify the single specific area to be assessed in this hazard assessment. From this point forward, all references to "site" or "MRS" refer to the specific area that you have defined.

A. Enter a unique identifier for the site:

UXO 7B - [redacted] (OU1 Site A)

Provide a list of information sources used for this hazard assessment. As you are completing the worksheets, use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable information sources from the list below.

Ref. No.	Title (include version, publication date)
1	Site Investigation Report (Internal Draft, an 2023)
2	Program Preliminary Assessment Report (Final, Feb 2017)
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

B. Briefly describe the site:

1. Area (include units): 37 acres
2. Past munitions-related use:

OB/OD Area

3. Current land-use activities (list all that occur):

4. Are changes to the future land-use planned?
5. What is the basis for the site boundaries?

Historic documents.

6. How certain are the site boundaries?

Uncertain; nature and extent have not been defined.

Reference(s) for Part B: [redacted]

C. Historical Clearances

1. Have there been any historical clearances at the site? No, none
2. If a clearance occurred:
   a. What year was the clearance performed?
   b. Provide a description of the clearance activity (e.g., extent, depth, amount of munitions-related items removed, types and sizes of removed items, and whether metal detectors were used):

Reference(s) for Part C: [redacted]

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

Site ID: **UXO 7B [redacted] (OU1 Site A)**
Date: **2/26/2023**

Cased Munitions Information

Item No.	Munition Type (e.g., mortar, projectile, etc.)	Munition Size	Munition Size Units	Mark/ Model	Energetic Material Type	Is Munition Fuzed?	Fuzing Type	Fuze Condition	Minimum Depth for Munition (ft)	Location of Munitions	Comments (include rationale for munitions that are "subsurface only")
1	Artillery	75	mm	Unknown	High Explosive	UN			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
2	Artillery	40	mm	Mk 2 HE-I	High Explosive	UN			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
3	Artillery	40	mm	Unknown	High Explosive	UN			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
4	Pyrotechnic	2.	inches	Mk 25, Mod 1-3	hite Phosphorus	UN			0.1	Subsurface Only	Suspected Red Phosphorous filler; Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Reference(s) for table above:

[redacted]

Bulk Explosive Information

Item No.	Explosive Type	Comments
1	Not applicable	
2		
3		
4		
5		
6		
7		
8		
9		
10		

Reference(s) for table above:

[redacted]

Site ID: **UXO 7B [redacted] (OU1 Site A)**
Date: **2/26/2023**

Activities Currently Occurring at the Site

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1	Maintenance workers	6	20	**120**	0.1	Maintenance such as vegetation management.
2	Visitors	8	1	**8**	0.1	No interest at site attracting any visitors of note, Lower Base [redacted].
3	LUC inspections	2	24	**48**	0.1	Existing LUCs in place encompassing area.
4	P operations	2	400	**800**	0.1	P O M within site
5	Utility workers	4	20	**80**	5	repairs as needed, utilities present at the site.
6	[redacted] workers	4	520	**2,080**	0.1	Assumed 10hrs wk x 52 weeks/yr
7	roundwater monitoring	2	80	**160**	0	Assumed 20 hrs event x 4 uarterly events/yr
8						
9						
10						
11						
12						
	Total Potential Contact Time (receptor hrs/yr):			**3,296**		
	Maximum intrusive depth at site (ft):				**5**	

Reference(s) for table above:

[redacted]

Activities Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, Question 4)

Activity No.		Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: **UXO 7B [redacted] (OU1 Site A)**
Date: **2/26/2023**

Planned Remedial or Removal Actions

Response Action No.	Response Action Description	Expected Resulting Minimum MEC Depth (ft)	Expected Resulting Site Accessibility	Will land use activities change if this response action is implemented?	What is the expected scope of cleanup?	Comments
1						
2						
3						
4						
5						
6						

According to the 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered 'No' in Column E, the land use activities will be assessed against current land uses.

Current

Reference(s) for table above:

[redacted]

Land Use Activities Planned After Response Alternative #2:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #3:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #4:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #5:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: UXO 7B [redacted] (OU1 Site A)
Date: 2/26/2023

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
High Explosive and Low Explosive Filler in Fragmenting Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'. ***Score***

Baseline Conditions: **100**
Surface Cleanup: **100**
Subsurface Cleanup: **100**

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 23 feet
2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? Yes
3. Please describe the facility or feature.

[redacted] is located within the MRS.

MEC Item(s) used to calculate the ESQD for current use activities

[redacted]

Item #1. Artillery (75mm, High Explosive)

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

4. Current use activities are 'Inside the MRS or inside the ESQD arc', based on Question 2.' ***Score***

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **30**

5. Are there future plans to locate or construct features or facilities where people may congregate within the MRS, or within the ESQD arc?
6. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for future use activities

[redacted]

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

7. Please answer Question 5 above to determine the scores. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Comments

Based on the Hazardous Fragment Distance (HFD) for the Mk 1 75mm pro ectile.

Site Accessibility Input Factor Categories

The following table is used to determine scores associated with site accessibility:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Full Accessibility	No barriers to entry, including signage but no fencing	80	80	80
Moderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain	55	55	55
Limited Accessibility	Significant barriers to entry, such as unguarded chain link fence or requirements for special transportation to reach the site	15	15	15
Very Limited Accessibility	A site with guarded chain link fence or terrain that requires special equipment and skills (e.g., rock climbing) to access	5	5	5

Current Use Activities ***Score***

Select the category that best describes the site accessibility under the current use scenario:

oderate Accessibility

Site is partially fenced

Baseline Conditions: **55**
Surface Cleanup: **55**
Subsurface Cleanup: **55**

Future Use Activities

Select the category that best describes the site accessibility under the future use scenario:

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Reference(s) for above information:

Response Alternative No. 1:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Potential Contact Hours Input Factor Categories

The following table is used to determine scores associated with the total potential contact time:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Many Hours	≥1,000,000 receptor-hrs/yr	120	90	30
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20
Few Hours	10,000 to 99,999 receptor-hrs/yr	40	20	10
Very Few Hours	<10,000 receptor-hrs/yr	15	10	5

Current Use Activities:

Input factors are only determined for baseline conditions for current use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: **3,296** receptor hrs/yr
Based on the table above, this corresponds to a input factor score for baseline conditions of: **15** Score

Future Use Activities:

Input factors are only determined for baseline conditions for future use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: receptor hrs/yr
Based on the table above, this corresponds to a input factor score of: Score

Response Alternative No. 1:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Amount of MEC Input Factor Categories

The following table is used to determine scores associated with the Amount of MEC:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick-outs.	180	110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth-covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5

Select the category that best describes the ***most hazardous*** amount of MEC: ***Score***

Area

Baseline Conditions: **180**
Surface Cleanup: **110**
Subsurface Cleanup: **30**

Minimum MEC Depth Relative to the Maximum Intrusive Depth Input Factor Categories

Current Use Activities

The shallowest minimum MEC depth, based on the 'Cased Munitions Information' Worksheet: **0.1** ft
The deepest intrusive depth: **5** ft

The table below is used to determine scores associated with the minimum MEC depth relative to the maximum intrusive depth:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap with minimum MEC depth.	50	N/A	25

Because the shallowest minimum MEC depth is less than or equal to the deepest intrusive depth, the intrusive depth will overlap after cleanup. MECs are located only subsurface, based on the 'Munitions, Bulk Explosive Info' Worksheet. Therefore, the category for this input factor is 'Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.' For 'Current Use Activities', only Baseline Conditions are considered.

150 ***Score***

Future Use Activities
Deepest intrusive depth: ft

Not enough information has been entered to determine the input factor category. ***Score***

Response Alternative No. 1:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

	Score
Baseline Conditions:	
Surface Cleanup:	
Subsurface Cleanup:	

Migration Potential Input Factor Categories

Is there any physical or historical evidence that indicates it is possible for natural physical forces in the area (e.g., frost heave, erosion) to expose subsurface MEC items, or move surface or subsurface MEC items? Yes

If "yes", describe the nature of natural forces. Indicate key areas of potential migration (e.g., overland water flow) on a map as appropriate (attach a map to the bottom of this sheet, or as a separate worksheet).

Recontamination from [redacted] within UXO 7B footprint is possible.

The following table is used to determine scores associated with the migration potential:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Possible	30	30	10
Unlikely	10	10	10

Based on the question above, migration potential is 'Possible.'

	Score
Baseline Conditions:	**30**
Surface Cleanup:	**30**
Subsurface Cleanup:	**10**

Reference(s) for above information: [redacted]

MEC Classification Input Factor Categories

Cased munitions information has been inputed into the 'Munitions, Bulk Explosive Info' Worksheet; therefore, bulk explosives do not comprise all MECs for this MRS.

The 'Amount of MEC' category is 'OB/OD Area'.

Has a technical assessment shown that MEC in the OB/OD Area is DMM? No

Are any of the munitions listed in the 'Munitions, Bulk Explosive Info' Worksheet: Yes

- Submunitions
- Rifle-propelled 40mm projectiles (often called 40mm grenades)
- Munitions with white phosphorus filler
- High explosive anti-tank (HEAT) rounds
- Hand grenades
- Fuzes
- Mortars

None of the items listed in the 'Munitions, Bulk Explosive Info' Worksheet were identified as 'fuzed'.

The following table is used to determine scores associated with MEC classification categories:

UXO Special Case	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
UXO Special Case	180	180	180
UXO	110	110	110
Fuzed DMM Special Case	105	105	105
Fuzed DMM	55	55	55
Unfuzed DMM	45	45	45
Bulk Explosives	45	45	45

Based on your answers above, the MEC classification is 'UXO Special Case'.

	Score
Baseline Conditions:	**180**
Surface Cleanup:	**180**
Subsurface Cleanup:	**180**

MEC Size Input Factor Categories

The following table is used to determine scores associated with MEC Size:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation	40	40	40
Large	All munitions weigh more than 90 lbs; too large to move without equipment	0	0	0

Based on the definitions above and the types of munitions at the site (see 'Munitions, Bulk Explosive Info' Worksheet), the MEC Size Input Factor is: Small

	Score
Baseline Conditions:	**40**
Surface Cleanup:	**40**
Subsurface Cleanup:	**40**

Scoring Summary

Site ID:	UXO 7B [redacted] (OU1 Site A)	a. Scoring Summary for Current Use Activities	
Date:	2/26/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	30
III. Site Accessibility		Moderate Accessibility	55
IV. Potential Contact Hours		<10,000 receptor-hrs/yr	15
V. Amount of MEC		OB/OD Area	180
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150
VII. Migration Potential		Possible	30
VIII. MEC Classification		UXO Special Case	180
IX. MEC Size		Small	40
		Total Score	**780**
		Hazard Level Category	**2**

Site ID:	UXO 7B [redacted] (OU	b. Scoring Summary for Future Use Activities	
Date:	2/26/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors			
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	180
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	30
VIII. MEC Classification		UXO Special Case	180
IX. MEC Size		Small	40
		Total Score	**530**
		Hazard Level Category	**3**

Site ID:	UXO 7B [redacted] (OU	c. Scoring Summary for Response Alternative 1:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID: UXO 7B [redacted] (OU	D. Scoring Summary for Response Alternative 2:	
Date: 2/26/2023	Response Action Cleanup:	
Input Factor	**Input Factor Category**	**Score**
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 7B [redacted] (OU	E. Scoring Summary for Response Alternative 3:	
Date: 2/26/2023	Response Action Cleanup:	
Input Factor	**Input Factor Category**	**Score**
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 7B [redacted] (OU	F. Scoring Summary for Response Alternative 4:	
Date: 2/26/2023	Response Action Cleanup:	
Input Factor	**Input Factor Category**	**Score**
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID:	UXO 7B - Site A Debris Area (OU	5. Scoring Summary for Response Alternative 5:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 7B - Site A Debris Area (OU	6. Scoring Summary for Response Alternative 6:	
Date:	2/26/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		OB/OD Area	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

MEC HA Hazard Level Determination		
Site ID: UXO 7B [redacted] (OU1 Site A) Date: 2/26/2023	Hazard Level Category	Score
a. Current Use Activities	2	780
b. Future Use Activities	3	530
c. Response Alternative 1:		
d. Response Alternative 2:		
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		
Characteristics of the MRS		
Is critical infrastructure located within the MRS or within the ESQD arc?	Yes	
Are cultural resources located within the MRS or within the ESQD arc?	No	
Are significant ecological resources located within the MRS or within the ESQD arc?	Yes	

MEC HA Summary Information

Comments

Site ID: UXO [redacted] (Site OO)
Date: 2/23/2023

Please identify the single specific area to be assessed in this hazard assessment. From this point forward, all references to "site" or "MRS" refer to the specific area that you have defined.

A. Enter a unique identifier for the site:

UXO [redacted] (Site OO)

Provide a list of information sources used for this hazard assessment. As you are completing the worksheets, use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable information sources from the list below.

Ref. No.	Title (include version, publication date)
1	Site Investigation Report (Internal Draft, an 2023)
2	Program Preliminary Assessment Report (Final, Feb 2017)
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

B. Briefly describe the site:

1. Area (include units): 7 acres
2. Past munitions-related use:

Safety Buffer Areas

3. Current land-use activities (list all that occur):

4. Are changes to the future land-use planned?
5. What is the basis for the site boundaries?

Historic documents and previous EOD responses.

6. How certain are the site boundaries?

Fairly certain, entire site boundary investigated during SI.

Reference(s) for Part B: [redacted]

C. Historical Clearances

1. Have there been any historical clearances at the site? No, none
2. If a clearance occurred:
   a. What year was the clearance performed?
   b. Provide a description of the clearance activity (e.g., extent, depth, amount of munitions-related items removed, types and sizes of removed items, and whether metal detectors were used):

Reference(s) for Part C: [redacted]

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

Site ID: **UXO 9 - [redacted] (Site OO)**
Date: **2/23/2023**

Cased Munitions Information

Item No.	Munition Type (e.g., mortar, projectile, etc.)	Munition Size	Munition Size Units	Mark/ Model	Energetic Material Type	Is Munition Fuzed?	Fuzing Type	Fuze Condition	Minimum Depth for Munition (ft)	Location of Munitions	Comments (include rationale for munitions that are "subsurface only")
1	Pyrotechnic			L312	Pyrotechnic	No			0.1	Subsurface Only	Signal Flare; Surface item removed during SI. Presumed to be in subsurface based on site history.
2	Pyrotechnic			M18	Pyrotechnic	No			0.1	Subsurface Only	Smoke renade; Surface item removed during SI. Historical item presumed to be in subsurface based on site history.
3											
4											
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Reference(s) for table above:

[redacted]

Bulk Explosive Information

Item No.	Explosive Type	Comments
1	Not applicable	
2		
3		
4		
5		
6		
7		
8		
9		
10		

Reference(s) for table above:

[redacted]

Site ID: **UXO 9 [redacted] (Site OO)**
Date: **2/23/2023**

Activities Currently Occurring at the Site

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1	Recreational users/visitors	150	120	**18,000**	0.25	alking trail at site; assumed 10hrs/month
2	USACE seeding/tree planting	4	120	**480**	3	Assumed 10hrs/month
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
	Total Potential Contact Time (receptor hrs/yr):			**18,480**		
	Maximum intrusive depth at site (ft):				**3**	

Reference(s) for table above:

[redacted]

Activities Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, Question 4)

Activity No.		Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: **UXO 9 [redacted] (Site OO)**
Date: **2/23/2023**

Planned Remedial or Removal Actions

Response Action No.	Response Action Description	Expected Resulting Minimum MEC Depth (ft)	Expected Resulting Site Accessibility	Will land use activities change if this response action is implemented?	What is the expected scope of cleanup?	Comments
1						
2						
3						
4						
5						
6						

According to the 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered 'No' in Column E, the land use activities will be assessed against current land uses.

Current

Reference(s) for table above:

[redacted]

Land Use Activities Planned After Response Alternative #2:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #3:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #4:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #5:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: UXO 9 - [redacted] (Site 00)
Date: 2/23/2023

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
High Explosive and Low Explosive Filler in Fragmenting Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'Pyrotechnic'. ***Score***

Baseline Conditions:	**60**
Surface Cleanup:	**60**
Subsurface Cleanup:	**60**

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 0 feet
2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? No
3. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for current use activities

[redacted]

Item #1. Pyrotechnic (Pyrotechnic)

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

4. Current use activities are 'Outside of the ESQD arc', based on Question 2.' ***Score***

Baseline Conditions:	**0**
Surface Cleanup:	**0**
Subsurface Cleanup:	**0**

5. Are there future plans to locate or construct features or facilities where people may congregate within the MRS, or within the ESQD arc?
6. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for future use activities

[redacted]

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

7. Please answer Question 5 above to determine the scores. ***Score***

Baseline Conditions:	
Surface Cleanup:	
Subsurface Cleanup:	

Comments

Non-fragmenting munitions items with no overpressure hazard

Site Accessibility Input Factor Categories

The following table is used to determine scores associated with site accessibility:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Full Accessibility	No barriers to entry, including signage but no fencing	80	80	80
Moderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain	55	55	55
Limited Accessibility	Significant barriers to entry, such as unguarded chain link fence or requirements for special transportation to reach the site	15	15	15
Very Limited Accessibility	A site with guarded chain link fence or terrain that requires special equipment and skills (e.g., rock climbing) to access	5	5	5

Current Use Activities ***Score***

Select the category that best describes the site accessibility under the current use scenario:

oderate Accessibility

Baseline Conditions: **55**
Surface Cleanup: **55**
Subsurface Cleanup: **55**

Future Use Activities

Select the category that best describes the site accessibility under the future use scenario:

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Reference(s) for above information:

Response Alternative No. 1:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:
Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Surface water and soft sediment are natural barriers to accessing the site

Potential Contact Hours Input Factor Categories

The following table is used to determine scores associated with the total potential contact time:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Many Hours	≥1,000,000 receptor-hrs/yr	120	90	30
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20
Few Hours	10,000 to 99,999 receptor-hrs/yr	40	20	10
Very Few Hours	<10,000 receptor-hrs/yr	15	10	5

Current Use Activities:

Input factors are only determined for baseline conditions for current use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: **18,480** receptor hrs/yr
Based on the table above, this corresponds to a input factor score for baseline conditions of: **40** Score

Future Use Activities:

Input factors are only determined for baseline conditions for future use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: receptor hrs/yr
Based on the table above, this corresponds to a input factor score of: Score

Response Alternative No. 1:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Amount of MEC Input Factor Categories

The following table is used to determine scores associated with the Amount of MEC:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick-outs.	180	110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth-covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5

Select the category that best describes the ***most hazardous*** amount of MEC: ***Score***

Sa ety er Areas

Baseline Conditions: **30**
Surface Cleanup: **10**
Subsurface Cleanup: **5**

Minimum MEC Depth Relative to the Maximum Intrusive Depth Input Factor Categories

Current Use Activities

The shallowest minimum MEC depth, based on the 'Cased Munitions Information' Worksheet: **0.1** ft
The deepest intrusive depth: **3** ft

The table below is used to determine scores associated with the minimum MEC depth relative to the maximum intrusive depth:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap with minimum MEC depth.	50	N/A	25

Because the shallowest minimum MEC depth is less than or equal to the deepest intrusive depth, the intrusive depth will overlap after cleanup. MECs are located only subsurface, based on the 'Munitions, Bulk Explosive Info' Worksheet. Therefore, the category for this input factor is 'Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.' For 'Current Use Activities', only Baseline Conditions are considered.

150 ***Score***

Future Use Activities
Deepest intrusive depth: ft

Not enough information has been entered to determine the input factor category. ***Score***

Response Alternative No. 1:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Migration Potential Input Factor Categories

Is there any physical or historical evidence that indicates it is possible for natural physical forces in the area (e.g., frost heave, erosion) to expose subsurface MEC items, or move surface or subsurface MEC items? Yes

If "yes", describe the nature of natural forces. Indicate key areas of potential migration (e.g., overland water flow) on a map as appropriate (attach a map to the bottom of this sheet, or as a separate worksheet).

Erosion is possible due to surface water flooding.

The following table is used to determine scores associated with the migration potential:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Possible	30	30	10
Unlikely	10	10	10

Based on the question above, migration potential is 'Possible.'

Score

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **10**

Reference(s) for above information:

MEC Classification Input Factor Categories

Cased munitions information has been inputed into the 'Munitions, Bulk Explosive Info' Worksheet; therefore, bulk explosives do not comprise all MECs for this MRS.

The 'Amount of MEC' category is 'Safety Buffer Areas'. It cannot be automatically assumed that the MEC items from this category are DMM. Therefore, the conservative assumption is that the MEC items in this MRS are UXO.

Has a technical assessment shown that MEC in the OB/OD Area is DMM?

Are any of the munitions listed in the 'Munitions, Bulk Explosive Info' Worksheet: No

- Submunitions
- Rifle-propelled 40mm projectiles (often called 40mm grenades)
- Munitions with white phosphorus filler
- High explosive anti-tank (HEAT) rounds
- Hand grenades
- Fuzes
- Mortars

None of the items listed in the 'Munitions, Bulk Explosive Info' Worksheet were identified as 'fuzed'.

The following table is used to determine scores associated with MEC classification categories:

UXO	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
UXO Special Case	180	180	180
UXO	110	110	110
Fuzed DMM Special Case	105	105	105
Fuzed DMM	55	55	55
Unfuzed DMM	45	45	45
Bulk Explosives	45	45	45

Based on your answers above, the MEC classification is 'UXO'.

Score

Baseline Conditions: **110**
Surface Cleanup: **110**
Subsurface Cleanup: **110**

MEC Size Input Factor Categories

The following table is used to determine scores associated with MEC Size:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation	40	40	40
Large	All munitions weigh more than 90 lbs; too large to move without equipment	0	0	0

Based on the definitions above and the types of munitions at the site (see 'Munitions, Bulk Explosive Info' Worksheet), the MEC Size Input Factor is: Small

Score

Baseline Conditions: **40**
Surface Cleanup: **40**
Subsurface Cleanup: **40**

Scoring Summary

Site ID:	UXO 9 [redacted] (Site OO)	a. Scoring Summary for Current Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		Pyrotechnic	60
II. Location of Additional Human Receptors		Outside of the ESQD arc	0
III. Site Accessibility		Moderate Accessibility	55
IV. Potential Contact Hours		10,000 to 99,999 receptor-hrs/yr	40
V. Amount of MEC		Safety Buffer Areas	30
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150
VII. Migration Potential		Possible	30
VIII. MEC Classification		UXO	110
IX. MEC Size		Small	40
		Total Score	**515**
		Hazard Level Category	**4**

Site ID:	UXO 9 [redacted] (Site	b. Scoring Summary for Future Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		Pyrotechnic	60
II. Location of Additional Human Receptors			
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Safety Buffer Areas	30
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	30
VIII. MEC Classification		UXO	110
IX. MEC Size		Small	40
		Total Score	**270**
		Hazard Level Category	**4**

Site ID:	UXO 9 [redacted] (Site	c. Scoring Summary for Response Alternative 1:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		Pyrotechnic	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Safety Buffer Areas	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID: UXO 9 [redacted] (Site	D. Scoring Summary for Response Alternative 2:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	Pyrotechnic	
II. Location of Additional Human Receptors	Outside of the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Safety Buffer Areas	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 9 [redacted] (Site	E. Scoring Summary for Response Alternative 3:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	Pyrotechnic	
II. Location of Additional Human Receptors	Outside of the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Safety Buffer Areas	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 9 [redacted] (Site	F. Scoring Summary for Response Alternative 4:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	Pyrotechnic	
II. Location of Additional Human Receptors	Outside of the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Safety Buffer Areas	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	UXO	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID:	UXO 9 [redacted] (Site 9)	Scoring Summary for Response Alternative 5:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		Pyrotechnic	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Safety Buffer Areas	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 9 [redacted] (Site 9)	Scoring Summary for Response Alternative 6:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		Pyrotechnic	
II. Location of Additional Human Receptors		Outside of the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Safety Buffer Areas	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		UXO	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

MEC HA Hazard Level Determination		
UXO 9 [redacted] Site ID: (Site OO) Date: 2/23/2023	Hazard Level Category	Score
a. Current Use Activities	4	515
b. Future Use Activities	4	270
c. Response Alternative 1:		
d. Response Alternative 2:		
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		
Characteristics of the MRS		
Is critical infrastructure located within the MRS or within the ESQD arc?	No	
Are cultural resources located within the MRS or within the ESQD arc?	No	
Are significant ecological resources located within the MRS or within the ESQD arc?	Yes	

MEC HA Summary Information

Comments

Site ID: UXO 17 [redacted] (Site 2)
Date: 2/23/2023

Please identify the single specific area to be assessed in this hazard assessment. From this point forward, all references to "site" or "MRS" refer to the specific area that you have defined.

A. Enter a unique identifier for the site:

UXO 17 [redacted] (Site 2)

Provide a list of information sources used for this hazard assessment. As you are completing the worksheets, use the "Select Ref(s)" buttons at the ends of each subsection to select the applicable information sources from the list below.

Ref. No.	Title (include version, publication date)
1	Site Investigation Report (Internal Draft, an 2023)
2	Program Preliminary Assessment Report (Final, Feb 2017)
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	

B. Briefly describe the site:

1. Area (include units): .3 acres
2. Past munitions-related use:

Storage

3. Current land-use activities (list all that occur):

4. Are changes to the future land-use planned?
5. What is the basis for the site boundaries?

Historic documents and field observations/munitions finds.

6. How certain are the site boundaries?

Uncertain; nature and extent have not been defined.

Reference(s) for Part B: [redacted]

C. Historical Clearances

1. Have there been any historical clearances at the site? Yes, surface clearance
2. If a clearance occurred:
   a. What year was the clearance performed? 2017
   b. Provide a description of the clearance activity (e.g., extent, depth, amount of munitions-related items removed, types and sizes of removed items, and whether metal detectors were used):

Limited surface clearance conducted during the Preliminary Assessment

Reference(s) for Part C: [redacted]

D. Attach maps of the site below (select 'Insert/Picture' on the menu bar.)

Site ID: **UXO 17 [redacted] (Site 2)**
Date: **2/23/2023**

Cased Munitions Information

Item No.	Munition Type (e.g., mortar, projectile, etc.)	Munition Size	Munition Size Units	Mark/ Model	Energetic Material Type	Is Munition Fuzed?	Fuzing Type	Fuze Condition	Minimum Depth for Munition (ft)	Location of Munitions	Comments (include rationale for munitions that are "subsurface only")
1	Rockets	5	inches	Mk 6	High Explosive	UN			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
2	Artillery	5	inches	Mk 38, Mod 3	High Explosive	UN			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
3	Artillery	5	inches	Mk 46, Mod 2	High Explosive	UN			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
4	Artillery	3	inches		High Explosive	UN			0.1	Subsurface Only	Surface items removed during SI. Presumed to be in subsurface based on geophysical data and site history.
5											
6											
7											
8											
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Reference(s) for table above:

[redacted]

Bulk Explosive Information

Item No.	Explosive Type	Comments
1	Not applicable	
2		
3		
4		
5		
6		
7		
8		
9		
10		

Reference(s) for table above:

[redacted]

Site ID: **UXO 17 [redacted] (Site 2)**
Date: **2/23/2023**

Activities Currently Occurring at the Site

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1	Recreational users/visitors	150	144	**21,600**	0.1	alkers at site, open access, assumed 12 hrs/month
2	Crane operator personnel	4	288	**1,152**	0.1	Assumed 24 hours/month
3	Maintenance workers	6	144	**864**	0.25	Maintenance such as vegetation management, assumed 12 hours/month
4						
5						
6						
7						
8						
9						
10						
11						
12						
	Total Potential Contact Time (receptor hrs/yr):			**23,616**		
	Maximum intrusive depth at site (ft):				**0.25**	

Reference(s) for table above:

[redacted]

Activities Planned for the Future at the Site (If any are planned: see 'Summary Info' Worksheet, Question 4)

Activity No.		Number of people per year who participate in the activity	Number of hours per year a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: **UXO 17 [redacted] (Site 2)**
Date: **2/23/2023**

Planned Remedial or Removal Actions

Response Action No.	Response Action Description	Expected Resulting Minimum MEC Depth (ft)	Expected Resulting Site Accessibility	Will land use activities change if this response action is implemented?	What is the expected scope of cleanup?	Comments
1						
2						
3						
4						
5						
6						

According to the 'Summary Info' worksheet, no future land uses are planned. For those alternatives where you answered 'No' in Column E, the land use activities will be assessed against current land uses.

Current

Reference(s) for table above:

[redacted]

Land Use Activities Planned After Response Alternative #2:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #3:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #4:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Land Use Activities Planned After Response Alternative #5:

Activity No.	Activity	Number of people per year who participate in the activity	Number of hours a single person spends on the activity	Potential Contact Time (receptor hours/year)	Maximum intrusive depth (ft)	Comments
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						

Total Potential Contact Time (receptor hrs/yr):

Maximum intrusive depth at site (ft):

Reference(s) for table above:

Site ID: UXO 17 [redacted] (Site 2)
Date: 2/23/2023

Energetic Material Type Input Factor Categories

The following table is used to determine scores associated with the energetic materials. Materials are listed in order from most hazardous to least hazardous.

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
High Explosive and Low Explosive Filler in Fragmenting Rounds	100	100	100
White Phosphorus	70	70	70
Pyrotechnic	60	60	60
Propellant	50	50	50
Spotting Charge	40	40	40
Incendiary	30	30	30

The most hazardous type of energetic material listed in the 'Munitions, Bulk Explosive Info' Worksheet falls under the category 'High Explosive and Low Explosive Filler in Fragmenting Rounds'.

	Score
Baseline Conditions:	**100**
Surface Cleanup:	**100**
Subsurface Cleanup:	**100**

Location of Additional Human Receptors Input Factor Categories

1. What is the Explosive Safety Quantity Distance (ESQD) from the Explosive Siting Plan or the Explosive Safety Submission for the MRS? 35 feet

2. Are there currently any features or facilities where people may congregate within the MRS, or within the ESQD arc? Yes

3. Please describe the facility or feature.

Recreational vehicle parking lot is located to the west within the ESQD arc.

MEC Item(s) used to calculate the ESQD for current use activities

[redacted]

Item #2. Artillery (5inches, High Explosive)

The following table is used to determine scores associated with the location of additional human receptors (current use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

4. Current use activities are 'Inside the MRS or inside the ESQD arc', based on Question 2.'

	Score
Baseline Conditions:	**30**
Surface Cleanup:	**30**
Subsurface Cleanup:	**30**

5. Are there future plans to locate or construct features or facilities where people may congregate within the MRS, or within the ESQD arc?

6. Please describe the facility or feature.

MEC Item(s) used to calculate the ESQD for future use activities

[redacted]

The following table is used to determine scores associated with the location of additional human receptors (future use activities):

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Inside the MRS or inside the ESQD arc	30	30	30
Outside of the ESQD arc	0	0	0

7. Please answer Question 5 above to determine the scores.

	Score
Baseline Conditions:	
Surface Cleanup:	
Subsurface Cleanup:	

Comments

Based on the Hazardous Fragment Distance (HFD) of the 5-inch Mk 41, Mod 0.

Site Accessibility Input Factor Categories

The following table is used to determine scores associated with site accessibility:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Full Accessibility	No barriers to entry, including signage but no fencing	80	80	80
Moderate Accessibility	Some barriers to entry, such as barbed wire fencing or rough terrain	55	55	55
Limited Accessibility	Significant barriers to entry, such as unguarded chain link fence or requirements for special transportation to reach the site	15	15	15
Very Limited Accessibility	A site with guarded chain link fence or terrain that requires special equipment and skills (e.g., rock climbing) to access	5	5	5

Current Use Activities ***Score***

Select the category that best describes the site accessibility under the current use scenario:

ll Accessibility

Baseline Conditions: **80**
Surface Cleanup: **80**
Subsurface Cleanup: **80**

Future Use Activities

Select the category that best describes the site accessibility under the future use scenario:

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Reference(s) for above information:

Response Alternative No. 1:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Please enter site accessibility information in the 'Planned Remedial or Removal Actions' Worksheet to continue.

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Potential Contact Hours Input Factor Categories

The following table is used to determine scores associated with the total potential contact time:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Many Hours	≥1,000,000 receptor-hrs/yr	120	90	30
Some Hours	100,000 to 999,999 receptor hrs/yr	70	50	20
Few Hours	10,000 to 99,999 receptor-hrs/yr	40	20	10
Very Few Hours	<10,000 receptor-hrs/yr	15	10	5

Current Use Activities:

Input factors are only determined for baseline conditions for current use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: **23,616** hrs/yr receptor
Based on the table above, this corresponds to a input factor score for baseline conditions of: **40** Score

Future Use Activities:

Input factors are only determined for baseline conditions for future use activities. Based on the 'Current and Future Activities' Worksheet, the Total Potential Contact Time is: hrs/yr receptor
Based on the table above, this corresponds to a input factor score of: Score

Response Alternative No. 1:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: ***Score***
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Total Potential Contact Time
Based on the table above, this corresponds to input factor scores of: **Score**
Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Amount of MEC Input Factor Categories

The following table is used to determine scores associated with the Amount of MEC:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Target Area	Areas at which munitions fire was directed	180	120	30
OB/OD Area	Sites where munitions were disposed of by open burn or open detonation methods. This category refers to the core activity area of an OB/OD area. See the "Safety Buffer Areas" category for safety fans and kick-outs.	180	110	30
Function Test Range	Areas where the serviceability of stored munitions or weapons systems are tested. Testing may include components, partial functioning or complete functioning of stockpile or developmental items.	165	90	25
Burial Pit	The location of a burial of large quantities of MEC items.	140	140	10
Maneuver Areas	Areas used for conducting military exercises in a simulated conflict area or war zone	115	15	5
Firing Points	The location from which a projectile, grenade, ground signal, rocket, guided missile, or other device is to be ignited, propelled, or released.	75	10	5
Safety Buffer Areas	Areas outside of target areas, test ranges, or OB/OD areas that were designed to act as a safety zone to contain munitions that do not hit targets or to contain kick-outs from OB/OD areas.	30	10	5
Storage	Any facility used for the storage of military munitions, such as earth-covered magazines, above-ground magazines, and open-air storage areas.	25	10	5
Explosive-Related Industrial Facility	Former munitions manufacturing or demilitarization sites and TNT production plants	20	10	5

Select the category that best describes the ***most hazardous*** amount of MEC: ***Score***

Storage

Baseline Conditions: **25**
Surface Cleanup: **10**
Subsurface Cleanup: **5**

Minimum MEC Depth Relative to the Maximum Intrusive Depth Input Factor Categories

Current Use Activities

The shallowest minimum MEC depth, based on the 'Cased Munitions Information' Worksheet: **0.1** ft
The deepest intrusive depth: **0.25** ft

The table below is used to determine scores associated with the minimum MEC depth relative to the maximum intrusive depth:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Baseline Condition: MEC located surface and subsurface. After Cleanup: Intrusive depth overlaps with subsurface MEC.	240	150	95
Baseline Condition: MEC located surface and subsurface, After Cleanup: Intrusive depth does not overlap with subsurface MEC.	240	50	25
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150	N/A	95
Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth does not overlap with minimum MEC depth.	50	N/A	25

Because the shallowest minimum MEC depth is less than or equal to the deepest intrusive depth, the intrusive depth will overlap after cleanup. MECs are located only subsurface, based on the 'Munitions, Bulk Explosive Info' Worksheet. Therefore, the category for this input factor is 'Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.' For 'Current Use Activities', only Baseline Conditions are considered.

150 ***Score***

Future Use Activities
Deepest intrusive depth: ft

Not enough information has been entered to determine the input factor category. ***Score***

Response Alternative No. 1:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 2:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 3:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 4:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 5:
Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft
Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor. ***Score***

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Response Alternative No. 6:

Expected minimum MEC depth (from the 'Planned Remedial or Removal Actions' Worksheet): ft

Not enough information has been entered in the 'Planned Remedial or Removal Actions' Worksheet. Please complete the table before returning to this section.

Maximum Intrusive Depth ft

Not enough information has been entered to calculate this input factor.

Score

Baseline Conditions:
Surface Cleanup:
Subsurface Cleanup:

Migration Potential Input Factor Categories

Is there any physical or historical evidence that indicates it is possible for natural physical forces in the area (e.g., frost heave, erosion) to expose subsurface MEC items, or move surface or subsurface MEC items? Yes

If "yes", describe the nature of natural forces. Indicate key areas of potential migration (e.g., overland water flow) on a map as appropriate (attach a map to the bottom of this sheet, or as a separate worksheet).

Erosion may cause exposure/burial of near surface items.

The following table is used to determine scores associated with the migration potential:

	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Possible	30	30	10
Unlikely	10	10	10

Based on the question above, migration potential is 'Possible.'

Score

Baseline Conditions: **30**
Surface Cleanup: **30**
Subsurface Cleanup: **10**

Reference(s) for above information:

MEC Classification Input Factor Categories

Cased munitions information has been inputed into the 'Munitions, Bulk Explosive Info' Worksheet; therefore, bulk explosives do not comprise all MECs for this MRS.

The 'Amount of MEC' category is 'Storage'. It is assumed that the MEC items in this MRS are DMM.

Has a technical assessment shown that MEC in the OB/OD Area is DMM?

Are any of the munitions listed in the 'Munitions, Bulk Explosive Info' Worksheet: Yes

- Submunitions
- Rifle-propelled 40mm projectiles (often called 40mm grenades)
- Munitions with white phosphorus filler
- High explosive anti-tank (HEAT) rounds
- Hand grenades
- Fuzes
- Mortars

None of the items listed in the 'Munitions, Bulk Explosive Info' Worksheet were identified as 'fuzed'.

The following table is used to determine scores associated with MEC classification categories:

Fuzed DMM Special Case	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
UXO Special Case	180	180	180
UXO	110	110	110
Fuzed DMM Special Case	105	105	105
Fuzed DMM	55	55	55
Unfuzed DMM	45	45	45
Bulk Explosives	45	45	45

Based on your answers above, the MEC classification is 'Fuzed DMM Special Case'.

Score

Baseline Conditions: **105**
Surface Cleanup: **105**
Subsurface Cleanup: **105**

MEC Size Input Factor Categories

The following table is used to determine scores associated with MEC Size:

	Description	Baseline Conditions	Surface Cleanup	Subsurface Cleanup
Small	Any munitions (from the 'Munitions, Bulk Explosive Info' Worksheet) weigh less than 90 lbs; small enough for a receptor to be able to move and initiate a detonation	40	40	40
Large	All munitions weigh more than 90 lbs; too large to move without equipment	0	0	0

Based on the definitions above and the types of munitions at the site (see 'Munitions, Bulk Explosive Info' Worksheet), the MEC Size Input Factor is: Small

Score

Baseline Conditions: **40**
Surface Cleanup: **40**
Subsurface Cleanup: **40**

Scoring Summary

Site ID:	UXO 17 [redacted] (Site 2)	a. Scoring Summary for Current Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	30
III. Site Accessibility		Full Accessibility	80
IV. Potential Contact Hours		10,000 to 99,999 receptor-hrs/yr	40
V. Amount of MEC		Storage	25
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		Baseline Condition: MEC located only subsurface. Baseline Condition or After Cleanup: Intrusive depth overlaps with minimum MEC depth.	150
VII. Migration Potential		Possible	30
VIII. MEC Classification		Fuzed DMM Special Case	105
IX. MEC Size		Small	40
		Total Score	**600**
		Hazard Level Category	**3**

Site ID:	UXO 17 [redacted] (Site 2)	b. Scoring Summary for Future Use Activities	
Date:	2/23/2023	Response Action Cleanup:	No Response Action
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	100
II. Location of Additional Human Receptors			
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	25
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	30
VIII. MEC Classification		Fuzed DMM Special Case	105
IX. MEC Size		Small	40
		Total Score	**300**
		Hazard Level Category	**4**

Site ID:	UXO 17 [redacted] (Site 2)	c. Scoring Summary for Response Alternative 1:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		**Input Factor Category**	**Score**
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID: UXO 17 [redacted] (Site	D. Scoring Summary for Response Alternative 2:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	Fuzed DMM Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 17 [redacted] (Site	E. Scoring Summary for Response Alternative 3:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	Fuzed DMM Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID: UXO 17 [redacted] (Site	F. Scoring Summary for Response Alternative 4:	
Date: 2/23/2023	Response Action Cleanup:	
Input Factor	Input Factor Category	Score
I. Energetic Material Type	High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors	Inside the MRS or inside the ESQD arc	
III. Site Accessibility		
IV. Potential Contact Hours		
V. Amount of MEC	Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth		
VII. Migration Potential	Possible	
VIII. MEC Classification	Fuzed DMM Special Case	
IX. MEC Size	Small	
	Total Score	
	Hazard Level Category	

Site ID:	UXO 17 - [redacted] (Site 3)	Scoring Summary for Response Alternative 5:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

Site ID:	UXO 17 - [redacted] (Site 3)	Scoring Summary for Response Alternative 6:	
Date:	2/23/2023	Response Action Cleanup:	
Input Factor		Input Factor Category	Score
I. Energetic Material Type		High Explosive and Low Explosive Filler in Fragmenting Rounds	
II. Location of Additional Human Receptors		Inside the MRS or inside the ESQD arc	
III. Site Accessibility			
IV. Potential Contact Hours			
V. Amount of MEC		Storage	
VI. Minimum MEC Depth Relative to Maximum Intrusive Depth			
VII. Migration Potential		Possible	
VIII. MEC Classification		Fuzed DMM Special Case	
IX. MEC Size		Small	
		Total Score	
		Hazard Level Category	

MEC HA Hazard Level Determination		
UXO 17 [redacted] Site ID: (Site 2) Date: 2/23/2023	Hazard Level Category	Score
a. Current Use Activities	3	600
b. Future Use Activities	4	300
c. Response Alternative 1:		
d. Response Alternative 2:		
e. Response Alternative 3:		
f. Response Alternative 4:		
g. Response Alternative 5:		
h. Response Alternative 6:		
Characteristics of the MRS		
Is critical infrastructure located within the MRS or within the ESQD arc?	Yes	
Are cultural resources located within the MRS or within the ESQD arc?	No	
Are significant ecological resources located within the MRS or within the ESQD arc?	No	

Appendix H-2: MRSPP Results

This Page Intentionally Left Blank

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 2 [redacted] (Site CC)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 2 [redacted] (Site CC)/Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 2 is a disposal area located within the Lower Base in the southeastern portion of Naval Base Kitsap (NBK) Bangor. The overall Munitions Response Site (MRS) comprises approximately 19 acres along a railroad line which operated from 1946 to present day. [redacted]

In February 2015, Navy Explosive Ordnance Disposal (EOD) responded to the site because material potentially presenting an explosive hazard (MPPEH) was observed on the ground surface along the railroad tracks during routine vegetation management activities. Four discrete areas were observed with metallic debris; and three of these areas were observed to contain various munitions-related debris, MPPEH, and small arms ammunition including ammunition cans, ordnance storage containers, 40mm cartridge casings, .50-caliber cartridge casings, and a potential smoke pot. The EOD response team reportedly did not specifically identify explosives or explosive residue within the inspected MPPEH; however, the MPPEH were not designated as materials documented as safe (MDAS) and the area was not completely investigated and delineated. Based on the presence of MPPEH and the potential presence of Munitions Constituents (MC) contamination, the area was classified by the Navy as a Munitions Response Program (MRP) area of concern (AOC) requiring further investigation (Battelle, 2017).

The 2017 Preliminary Assessment recommended that a removal action for the surface removal of MPPEH/munitions and explosives of concern (MEC) be performed followed by confirmatory MC soil sampling. A previously planned detector-aided survey was not completed because of the presence of very dense vegetation[redacted]. During the Site Inspection (SI) planning phase site visit conducted in September 2019, an ammo box was identified within the area of investigation on the ground surface.

The SI field work consisted of vegetation clearance and a detector-aided surface investigation covering an area of approximately 3.5 linear acres that is approximately 80 feet wide and approximately 1900 feet in length along the railroad tracks. The UXO detector-aided surface surveys identified a total of 660 items identified as MDAS. The findings included 582 MK2/3 40 mm cartridge cases and 78 unknown model 20-mm cartridge cases. All 660 items were located in the southern portion of UXO 2 with 658 items located

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

together near a dump site that also contained visible ammo cans and other shipping containers. Based on the results of the SI field investigation, it was determined that a step-out investigation was warranted. The step-out was conducted to address the dump site area east of the shipping containers and numerous MDAS items encountered within the investigation footprint. The step-out extended 50 feet to the east and west of the subject investigation area on the southern end of UXO 2. The UXO detector-aided surface surveys did not identify any additional MDAS and/or MEC in the step-out. The UXO team did encounter four empty shipping containers across three locations in the eastern portion of the site.

Description of Receptors (Human and Ecological):

Current and potential future human receptors include installation personnel (limited activity rail line operation [redacted]), site workers (including limited activity rail line maintenance and vegetation management at the railroad tracks), and Keyport Annex visitors (limited [redacted]). If surficial MEC exist at the site (none encountered to date), a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact. However, this scenario is unlikely as UXO 2 was a surface disposal site only.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 2 includes young alder, cedar, and Douglas-fir along both sides of the railroad tracks, which is the portion of the site identified for SI investigation. Overall, within the site boundary, ground cover consists primarily of ferns, common mullein, and scattered Scotch broom. The UXO 2 SI investigation area is bounded by [redacted] a ditch along the east side, which was reviewed during the survey and determined to be upland. No wetlands are present at UXO 2. The Marbled Murrelet was conservatively identified to possibly be present at UXO 2 but was not identified during the SI field work. During the 2020 survey, species considered sensitive or species of concern were documented, specifically, one pileated woodpecker (Dryocopus pileatus) call was heard directly west of UXO 2.

References:

Battelle, 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*, Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MPPEH found at the site included 40mm and 20mm cartridge casings. While MEC in the form of DMM is not suspected to be present, it cannot be ruled out.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that UXO 2 was previously used as a surface disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] access to the MRS by authorized visitors is only limited by the extremely dense vegetation.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

During the 2020 survey, species considered sensitive or species of concern were documented, specifically, one pileated woodpecker (Dryocopus pileatus) call was heard directly west of UXO 2. There is a potential for Marbled Murrelet (birds) to be present at or near the MRS, although none were encountered during the 2020 survey or the 2022 SI field work.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**20**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**10**	**18**
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**18**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	3	
EHE MODULE TOTAL			**56**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**E**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the MRS.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26
HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC hazard exists within the MRS.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**6**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 3 [redacted] (Site D)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 3 – [redacted] (Site D)/Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 3 is located within the Lower Base in the central portion of Naval Base Kitsap (NBK) Bangor. The overall site comprises approximately 37 acres [redacted]. Site D is a former ordnance disposal area and served as the principal area for ordnance burning and detonating (i.e., open burning/open detonation [OB/OD]) at NBK Bangor from 1946 until 1963 when such activities were transferred to another site. However, indications are that sporadic use of the area for these activities probably occurred as late as 1965. Onsite locations of waste disposal included a small arms incinerator, a trench, and smaller burn areas or mounds. The trench is estimated to be 15 to 20 feet wide and 200 feet long. The depth of the trench is unknown; however, it is expected to be less than 10 feet deep because of the shallow groundwater elevation in the area. The exact location of the trench was not able to be determined during previous site visits. There are six mounds at the site ranging in size from approximately 15 feet square to approximately 40 feet wide and 80 feet long (B&V, 1990).

Between 1944 and 1957, explosive D (ammonium picrate) sludge from tanks used in the steam cleaning of projectiles from other areas was transferred to Site D for disposal. It is not known if this material was burned or buried (B&V, 1990).

Other items burned or detonated at Site D may have included smokeless powder, black powder, rocket propellant, white phosphorous shells, compound B (2,4,6-trinitrotoluene [TNT] and hexahydro-1,3,5-trinitro-1,3,5-triazine [RDX]), Amatol (ammonia nitrate and trinitrotoluene), and ordnance wastes containing TNT and RDX. Propulsion missile grains from approximately 600 obsolete rocket motors were destroyed in a series of trenches at the site. The missile grains were ignited with smokeless powder and upon completion of the burning the trenches were soaked with water. Additionally, a small arms incinerator was in operation prior to 1964 (B&V, 1990).

During the Preliminary Assessment (PA), a masonry block structure was observed that appears likely to have been the small arms ammunition incinerator; adjacent to this structure was an accumulation of .30-caliber and 20mm munitions residues, and an area of staining and little vegetation (Battelle, 2017). During the September 2019 Site Inspection (SI) planning phase site visit, 20-millimeter (mm) caps were observed on the ground surface within the area of investigation.

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

The SI field work consisted of a surface and subsurface investigation that included vegetation clearance, surface clearance, and electromagnetic induction (EMI) and magnetometry Digital Geophysical Mapping (DGM) surveys using the EM61 and TEM-8g sensors, respectively.

The UXO detector-aided surface surveys identified a total of 416 items with 14 determined to be munitions and explosives of concern (MEC) and 402 determined to be material documented as safe (MDAS). The MEC findings included 13 AN-M46 Photoflash Bombs/AN-M46 Photoflash Bomb Booster Cups and 1 Mk 19 Base Detonating Fuze. Several of the AN-M46 Photoflash Bombs were determined to be not safe to move as the exposed photoflash powder fill was highly sensitive to heat, shock, and friction. The MEC/MDAS were scattered all over UXO 3 and with some areas of saturated findings, including near a suspected burn trench and in the northwest portion of the site.

Geophysics was conducted at the site during the SI. UXO 3 EM61-HP and TEM-8g data exhibit the presence of widespread metallic debris across the majority of the site, consistent with historic disposal activities.

At UXO 3, a total of seven composite soil samples were collected from 0 to 5 inches below ground surface based on the results of the UXO detector-aided surface surveys. Samples were collected at locations were MEC and/or MDAS were identified, on the west side of the incinerator area, and at burn mound locations. Of the seven composite samples, three samples and one duplicate had exceedances of the Project Screening Levels (PSLs). The remaining four samples had concentrations either below the PSLs or were non-detect.

Description of Receptors (Human and Ecological):

Current and potential future human receptors include installation personnel, site workers (including utility maintenance in subsurface utilities/culverts and road maintenance), site visitors (limited [redacted]), and installation traffic from road intersecting site. If surficial MEC remain at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 3 is described as surrounded by dense Douglas-fir stands outside of the UXO 3 boundary, whereas the majority of the investigation area has moderate canopy cover with scattered patches of open canopy and dense understory. The canopy is dominated by 10- to 20-inch alder with sparse 10-inch average cedar and Douglas-fir. The understory has moderate cover with sword fern, large holy bushes up to 10 feet tall, salmonberry, nettle, horsetail and tall fescue and reed canary grass. Concerning wetlands, in summary, for UXO 3, 16.73 acres of wetlands was determined and 0.09 acres of waters. During the 2020 survey, Oregon Junco birds and ground nests with eggs were encountered, and avoided, during SI field work at UXO 3.

References:

B&V (B&V Waste Science and Technology Corp). 1990. *Draft Final RI/FS Work Plan, U.S. Navy CLEAN Program Operable Unit 6 (Sites D and C-East)*. Naval Submarine Base Bangor, Bangor, Washington. December.

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**30**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MEC encountered in UXO 3 was determined not safe to move because of exposed, sensitive filler material.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results confirm the reported use of the MRS as an OB/OD area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**25**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] access to the MRS by authorized visitors is only limited by the extremely dense vegetation.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

The site includes wetlands with Oregon Juncos, as observed during the 2022 SI field work.
Also, cultural resources are present (not identified considering sensitive information).

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**30**	**38**
Source of Hazard	Table 2	**8**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	25	33
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**20**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**5**	
EHE MODULE TOTAL			**91**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**B**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No MC impacts to groundwater have been identified in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No MC impacts to surface water have been identified in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No MC impacts to sediment have been identified in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No MC impacts to surface water have been identified in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No MC impacts to sediment have been identified in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio
1,3,5-Trinitrobenzene	0.130	1,800	0.000
2,4,6-Trinitrotoluene	17.000	31	0.548
2,4-Dinitrotoluene	8.300	120	0.069
2,6-Dinitrotoluene	0.430	61	0.007
N-Nitrosodiphenyl-amine	0.590	1,200	0.000
CHF Scale	**CHF Value**	**Sum the Ratios**	**0.624**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		**L**

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**M**

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**M**

No Known or Suspected Surface Soil MC Hazard ☐

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	L	M	M		LMM		G

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	**G**

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**3**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 4 [redacted] (Site 9)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 4 – [redacted] (Site 9)/Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 4 is located within the Upper Base in the south-central portion of Naval Base Kitsap Bangor. The overall site comprises approximately 6 acres which operated between 1951 and 1977. Site 9 was used for the disposal of inert ordnance-related items, scrap metal, and railroad ties (Battelle, 2017). [redacted]

The 2017 Preliminary Assessment (PA) recommended a detailed surface inspection be conducted to identify the extent of material potentially presenting an explosive hazard (MPPEH) at the surface based on a single 40-mm projectile observed. During the SI planning phase, an area of interest was identified on historical aerial photographs.

The primary area of concern investigated during the SI covered an area of approximately 3.3. acres, which is intersected by [redacted] and runs through the center of the area of investigation in a northwest to southeast direction. The SI field investigation activities included vegetation management and UXO sweeps followed by geophysical surveys (EM61, TEM-8g, and GPR).

The UXO detector-aided surface survey identified a total of 101 items identified as material documented as safe (MDAS). The findings included 1 M25 Dummy 40 mm Cartridge, 6 Unknown Fuze/Fuze adaptors, 40 Unknown various munitions debris, and 54 AN-M109A1/AN-M103A1 Fin Assemblies. All MDAS items were located in upper base, [redacted]. MDAS was scattered within the southern portion of the site with a saturated area of findings located in the center of UXO 4 [redacted]. In addition to the MDAS, various trash piles and shipping containers were identified. The majority of MDAS were located in and around the trash piles and shipping containers with a few stray items present.

Geophysics was conducted during the SI. UXO 4 EM61-HP and TEM-8g data exhibit widespread metallic debris across much of the site, however it is not known if associated with metallic debris from rail cars potentially disposed in the area, or with metallic, mineral-rich ballast rock associated with the rail spur extending along the western edge of the site. Based on historic images of the site that

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

depict a clearing, the area has undergone significant disturbance associated with the construction of [redacted] These conditions limited efficacy of GPR surveying at the site, where the GPR signal attenuation was too high in the shallow subsurface (e.g., upper 1 foot) to provide meaningful interpretation at depth.

Description of Receptors (Human and Ecological):

Current and potential future human receptors include installation personnel, site workers (including utility maintenance in subsurface utilities/culverts and road maintenance), site visitors (limited [redacted]), and installation traffic from road intersecting site. If surficial MEC remain at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 4 includes a canopy consisting of 5- to15-inch Douglas-fir, scattered alder, and western white pine, some cedar saplings in understory with variations of moderate to dense understory cover consisting of various mixes of sword fern, Oregon grape, creeping blackberry, bracken fern, rhododendron, geranium, huckleberry and salal. The survey determined that no stand number changes were needed. No wetlands are present in UXO 4.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MPPEH found at the site includes 40mm projectile and various fuzes. While MEC in the form of UXO or DMM is not suspected to be present, it cannot be ruled out.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that UXO 4 was previously used as a disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted], access to the MRS by authorized visitors is only limited by the extremely dense vegetation.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**20**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**10**	**18**
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**18**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**3**	
EHE MODULE TOTAL			**56**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**E**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**6**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 6 – [redacted] (Site 22)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 6 [redacted] (Site 22)/Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 6 is located within the Lower Base in the northern portion of Naval Base Kitsap Bangor. The overall site comprises approximately 1 acre and was used from 1965 to 1973 as an area for the disposal of old paint cans and drums, ammunition and boxes, and other metal debris (Battelle, 2017).

During the Preliminary Assessment (PA), an area of metallic debris and material potentially presenting an explosive hazard (MPPEH) (including ammunition boxes, ordnance storage containers, and large cartridge casings [generally 40 mm]), was observed in a locally steep ravine area between Site A and the [redacted]. The PA recommended that a removal action for MPPEH be performed in the ravine area followed by confirmatory geophysical surveying and MC soil sampling. During the September 2019 SI planning phase site visit, paint cans and metal strapping were observed in the northeast portion of the site.

The primary area of concern investigation during the SI included the entire 1-acre site, which is located in a heavily wooded area. The SI field activities included vegetation management and UXO detector-aided surface surveys using rope access of the steep slopes.

The UXO detector-aided surface surveys identified a total of 16 items with 6 munitions and explosives of concern (MEC) and 10 material documented as safe (MDAS) items. MEC findings included 5 unfired Mk 22 percussion primers fitted into empty Mk 2 cartridge cases and 1 unfired Mk 2 Mod 1 primer from an unknown item. All items were determined safe to move and transported to the Keyport Annex magazine the next day for storage until the end of the project when detonations were conducted. The 10 MDAS items were determined to be various unknown pieces of munitions debris.

When conducting UXO sweeps along the northern portion of the UXO 6 slope, there was a cascading swath of metal debris, drums, and ammo cans scattered down the slope. Among the various debris, were scattered MDAS and MEC. In one grouping, at least 11 MEC items were observed - unfired percussion primers for various caliber artillery cartridge cases. Two (2) similar MEC items were observed further up the hillside. Many MDAS items were scattered down the slope as well; these items were empty/fired cartridge cases and various signaling devices. No staining was present at the site of observed debris, drums, ammo cans, MEC, or MDAS and

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

all MEC items appear to be intact. Based on the results of the SI field investigation, it was determined that a step-out investigation was warranted. The step-out was conducted to address the swath of metal debris, drums, and ammo cans identified along the slope at the northern site boundary of UXO 6. The step-out extended north covering a portion of area that was flat at the top of the slope as well as a portion of the sloped hillside. The UXO sweeps were conducted in 20 foot transects moving north to south. The UXO detector-aided surface surveys did not identify any additional MDAS and/or MEC in the step-out. Various, unknown/unmarked drums were identified within the southern portion of the step-out. All observed drums were open and empty. There was no indication of their remnants, no staining, and no noticeable odors associated with, or near the drums.

Description of Pathways for Human and Ecological Receptors:

A portion of the site is located at a top of a steep hill and is accessible to current and potential future receptors including installation personnel (including training[redacted]), site workers, site visitors (limited[redacted] no reason to visit, [redacted]); however, a complete UXO surface clearance was conducted at the top of the hill at UXO 6 eliminating any exposure to surface MEC. The remaining portion of the site, where the MEC, MDAS and debris was identified, is located down a steep hillside and is inaccessible to all receptors. Only [redacted] could possibly access the steep sloped area during training although rope fall protection would be necessary. Additionally, existing and newly installed signage are located along the top of the hill at UXO 6 and identify the area down the hillside as a restricted area. For MEC that remain downslope, a receptor could contact it through direct contact. Subsurface MEC is unlikely because this site was used for surface disposal only.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 6 includes steeper hillside with mature western hemlock and Douglas-fir. Understory consists of scattered ferns and rhododendron. Concerning wetlands, mapping of wetlands areas barely extends inside the western boundary of UXO 06. The wetland, of less than 0.01 acre,[redacted]", located near the toe of a very steep forested slope. The wetland was not delineated because no SI work was to occur in the area. The Marbled Murrelet was conservatively identified to possibly be present at UXO 6 but was not identified during the SI field work.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MEC findings included 5 unfired Mk 22 percussion primers fitted into empty Mk 2 cartridge cases and 1 unfired Mk 2 Mod 1 primer from an unknown item.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that UXO 6 was previously used as a disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**25**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted], access to the MRS by authorized visitors is limited by both the extremely dense vegetation and the steep hillside.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

There is a potential for Marbled Murrelet (birds) to be present in the MRS although not observed during the 2020 survey or 2022 SI field work.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**20**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**25**	**33**
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**18**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	3	
EHE MODULE TOTAL			**71**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**C**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**4**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 7 – [redacted] (Site 23)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 7 – [redacted] Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 7 is located within the Lower Base in the northern portion of Naval Base Kitsap Bangor. The overall site comprises approximately 1 acre and was operational between 1965 and 1973. UXO 7 was used for burying inert ordnance-related items, including ammunition cans (Battelle, 2017).

The 2017 Preliminary Assessment (PA) recommended that a detailed surface inspection and geophysical survey be conducted to identify potential surface and subsurface material potentially presenting and explosive hazard (MPPEH). While MPPEH is generally not expected at the ground surface, historically possible MPPEH items may have been identified on the ground surface at the northern end of the site, research indicates that the larger concern is with buried munitions items that could contain possible RDX/TNT, PETN, Black Powder, Smokeless Powder, and explosive "D."

The primary area of concern investigation during the Site Inspection (SI) covered an area of approximately 1 acre that had earth mounds approximately 5 to 6 feet high located along the eastern boundary of the site. The SI field investigation activities included vegetation management and UXO sweeps followed by geophysical surveys (EM61, TEM-8g, and GPR).

The UXO detector-aided surface surveys identified a total of 1 munitions and explosives of concern (MEC) and 2 material documented as safe (MDAS) items. The MEC was identified as a M69 incomplete incendiary bomb with residue that was located in the north-central portion of UXO 7. The MEC was determined safe to move and transported to the Keyport Annex Magazine for storage until the end of the project when detonations were conducted. The two MDAS items, a L-60 40mm cartridge case and broken of remains of a M48 series fuze, found in the southern and northwest portions of the site, respectively, were stored in drums at the laydown yard.

Geophysics was conducted at the site during the SI. UXO 7 EM61-HP and TEM-8g data depict widespread metallic debris across the majority of the site, consistent with historic disposal activities and suspected disposal features are consistent with the topographic mounds in the eastern portion of this site containing buried metal. The lateral extent of this feature appears to extend beyond the northern limit of the UXO 7 boundary (i.e., into UXO 7B), as evidenced by TEM-8g data collected when the towed array was turned

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

around, and still collecting data. GPR data. GPR data indicate suspected buried debris to be within the upper 5 feet of the subsurface and, across the mounds in the eastern portion of the site, indicate an approximate 2- to 2.5-feet thick soil cover atop buried debris. Buried debris appears to extend to depths of between 7.5 feet and 10 feet bgs beneath the mounds.

Description of Pathways for Human and Ecological Receptors:

Current and potential future human receptors include installation personnel, site workers (including training [redacted]), site workers (no utilities within work area), and site visitors (limited [redacted] If surficial MEC remain at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 7 consists of the wooded area to the south of the site, which is predominately alder, and the remainder consists of disturbed grassland, described as having been cleared and planted with mostly weedy grassland species. No wetlands are present in UXO 7. The Marbled Murrelet was conservatively identified to possibly be present at UXO 7 but was not identified during the SI field work.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**25**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MEC encountered in the MRS includes a M69 incomplete incendiary bomb with explosive residue. Encountered MPPEH includes a 40mm cartridge case and broken of remains of a M48 series fuze.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that UXO 7 was previously used as a disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**25**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted], access to the MRS by authorized visitors is only limited by the extremely dense vegetation.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

There is a potential for Marbled Murrelet (birds) to be present at or near the MRS, although not observed during the 2020 survey or 2022 SI field work.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**25**	**30**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**25**	**33**
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**18**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**3**	
EHE MODULE TOTAL			**81**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**C**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No viable source of MC has been identified in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS.

Table 26
HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio
HMX	4.2	3100	0.001
RDX	65.0	180	0.361
CHF Scale	**CHF Value**	**Sum the Ratios**	**0.362**
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		**L**

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**L**

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	**L**

No Known or Suspected Surface Soil MC Hazard ☑

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

-One site-related MC sample was collected for MC explosives at potential MEC release location. Nitrocellulose was the only explosives analyte detected in the soil sample; nitrocellulose does not have a human health comparison value in the MRSPP.

-Also, detonations of MEC occurred at the end of the project to address MEC at all of the SI sites and temporarily stored at the Keyport Annex magazine until the end of the project. These detonations occurred at 4 constructed pits at UXO 7 and subsurface MC contamination (HMX and RDX) resulted from the donor explosives. No other explosives constituents were detected. Therefore, although there is no known or suspected surface soil MC hazard, subsurface soils have been impacted.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	C
HML	D
MMM	D
HLL	E
MML	E
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC hazard. See notes on Table 26.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**4**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 7B [redacted] (OU Site A)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 7B [redacted] (OU Site A)/Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 7B, which includes Operable Unit (OU) 1 Site A, is located within the Lower Base in the northern portion of Naval Base Kitsap Bangor. The overall site comprises approximately 37 acres and operated from 1962 to 1975. UXO 7B was used by the Navy to detonate and incinerate various ordnance materials. Emergency disposal of ordnance items was conducted at [redacted] by Navy Explosive Ordnance Disposal (EOD) (Battelle, 2017). Site A is located on an elevated plateau (approximately 160 feet above msl), approximately one mile east of Hood Canal and is surrounded by dense timber. The burn area covers approximately eight to 10 aces and contains several munitions storage bunkers, detonation pits, and raised berms.

Site A originally consisted of a burn area; a stormwater discharge area; burn mounds; facilities for personnel, fire suppression vehicles and equipment; an incinerator for small arms ammunition; and a blast pit for ordnance detonation. Buildings at the site were demolished and burned on site in 1977. Grading and redistribution of soil at the Site A burn area continued through 1984 (Navy, 2005).

A RI completed at the site included the collection and chemical analysis of surface and subsurface soil, groundwater, surface water, marine sediment, and fish and shellfish tissue to characterize the nature and extent of contamination at the site. The risk assessment concluded that contaminants in groundwater in the shallow aquifer beneath the burn area and in soil in the burn area and Debris Area 2 (UXO 6) pose an unacceptable risk to human health, assuming residential site use. The primary COCs driving estimated human health risks are TNT, 2,6-dinitrotoluene (2,6-DNT), and RDX in the soil; and RDX in the groundwater. No unacceptable risks were identified for the stormwater discharge area (Navy, 2005). However, a Record of Decision (ROD) was completed in December 1991 and then modified through three Explanations of Significant Differences (Battelle, 2017), which addresses these impacts. Because of land use controls and institutional controls in place for UXO 7B, only the surface of this site was investigated during the SI.

The 2017 Preliminary Assessment (PA) recommended that geophysical surveying in the former detonation area be performed to identify potentially buried material potentially presenting an explosive hazard (MPPEH). Most of the former OB/OD area activities appear to have been located in the open area [redacted].

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

During the SI planning phase, the OB/OD area was identified on historical aerial photographs. The primary area of concern investigation during the SI included approximately 9.5 acres located around the former open burning area. The SI field investigation activities included vegetation management and UXO sweeps.

The UXO detector-aided surface surveys identified a total of 47 items with 4 munitions and explosives of concern (MEC) and 43 material documented as safe (MDAS) items. MEC findings included three types of projectiles (Unknown Model 40 mm projectile, Mk 2 HE-I HE 40 mm projectile, and Unknown model HE 75 mm projectile) and one Mk 25 Mod 1-3 Marine Location Marker. One MEC item, Mk 25 Mod 1-3 Marine Location Marker (ID #07B03) appeared to have remnants of red phosphorous and so the item was unsafe to store and required special disposal. Navy Explosive Ordnance Disposal (EOD) was notified to manage disposition. The MDAS findings included 1 unknown model bomb MD, 1 Mk 19 Mod 1 Exploder Mechanism MD, 4 types of cartridge cases (Mk 2 cartridge case, Unknown model 75 mm cartridge MD, unknown model cartridge case), 3 types of fuzes (unknown fuze MD, Mk 376 Tail Fuze MD, and M48 Series Fuze MD), and 31 unknown item MD.

Based on the results of the SI field investigation, it was determined that a step-out investigation was warranted per decision rules included in the MEC QAPP. The step-out was conducted to address a debris pile and potential additional MEC/MDAS located to the north of the investigation boundary. The step-out was located 50 feet on each side, [redacted] to determine if items were deposited to either side of [redacted] Road. The UXO detector-aided surface surveys identified 2 MDAS items, Unknown Model Cartridge Cases, which were located to the west of [redacted] Road along with a debris pile.

The MEC/MDAS were scattered around the [redacted], which indicates there could be kickouts from the [redacted]. To further support this, a piece of munitions debris found during the field work had the following writing scribed on it: "Bangor NBK EOD."

Description of Pathways for Human and Ecological Receptors:

Current and potential future human receptors include installation personnel, site workers ([redacted]), site workers (including utilities maintenance, WWTP operations and maintenance, groundwater monitoring well sampling and maintenance, institutional controls inspections, and vegetation management), and site visitors (limited [redacted]. If surficial MEC remain at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 7B is primarily weedy grassland with clover and dandelions and is likely a seed mix that didn't take, with scotch broom dominating the edges. Another area is dominated by tall fescue and sword fern. This area also includes forest dominated by second-growth Douglas-fir, and minimal red cedar. Concerning wetlands, the only wetland observed within the UXO 7B investigation area was a drainage ditch located along the west side and an old water treatment pond, neither of which are unlikely to be considered formal wetlands. The ditch was inside of a [redacted]. There was water in the ditch along with wetland plants. The ditch would not be impacted and so was not accessed [redacted] during the survey and was not included in the SI effort. Within the extreme southwest corner of the UXO 7B site boundary is a small portion of the [redacted] wetland, located at the toe of a very steep forested slope (same wetland noted for UXO 6 that lies within UXO 7B). The wetland was not delineated because no work would occur in the area. The Marbled Murrelet was conservatively identified to possibly be present at UXO 7B but was not identified during the SI field work.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Navy. 2005. *Second Five-Year Review of Record of Decision*. Naval Base Kitsap at Bangor, Silverdale, Washington. April.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**30**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MEC findings included two types of 40mm and one type of 75mm projectiles. Additionally, one Mk 25 Mod 1-3 Marine Location Marker MEC was encountered with remnants of red phosphorous. MDAS findings included 1 unknown model bomb MD, 1 Mk 19 Mod 1 Exploder Mechanism MD, 4 types of cartridge cases, 3 types of fuzes, and 31 unknown item MD.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results are consistent with UXO 7B being previously used as an OB/OD area .

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**25**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted].

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

T Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

There is a potential for Marbled Murrelet (birds) to be present at or near the MRS, although not observed during the 2020 survey or 2022 SI field work.

Also, cultural resources are present (not identified considering sensitive information).

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**30**	**38**
Source of Hazard	Table 2	**8**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**25**	**33**
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**20**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**5**	
EHE MODULE TOTAL			**91**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**B**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No viable source of MC has been identified in the MRS except for those that are already being addressed.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS except for those that are already being addressed.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS except for those that are already being addressed.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS except for those that are already being addressed.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No viable source of MC has been identified in the MRS except for those that are already being addressed.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

MC sample was collected for MC explosives at potential MEC release location. Nitrocellulose was the only explosives analyte detected in the soil sample; nitrocellulose does not have a human health comparison value in the MRSPP.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**3**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 9 – [redacted] (Site OO)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 9 [redacted] (Site OO)/Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 9 is located within Lower Base in the northern portion of Naval Base Kitsap Bangor. The overall site comprises approximately 7 acres and was operational between 1946 and 1965. [redacted] An historical Navy Explosive Ordnance Disposal (EOD) response action to retrieve material potentially presenting an explosive hazard (MPPEH) was reported for this area. Items found include a signal flare in its original container and a smoke grenade which was found in the marsh area during its construction. Records also indicate that old ammunition was observed during a controlled burn at [redacted] (Battelle, 2017).

The 2017 Preliminary Assessment (PA) recommended a detailed surface inspection of accessible portions of the site to be performed to identify potential MPPEH at the surface. The primary area of concern investigation during the Site Inspection (SI) included approximately 7 acres of a large wetland [redacted].

The SI field investigation activities included only UXO sweeps. Vegetation management was only conducted at this site to cut an access path of a non-wetlands area from a recreational trail that is located outside the investigation site boundary south of UXO 9.

The UXO detector-aided surface survey identified one MEC item, which was a M18 Smoke Hand Grenade that was located in the northeastern corner of the investigation area. Upon inspection, the item was determined not safe to move and Navy EOD was contacted to address the item.

Description of Pathways for Human and Ecological Receptors:

Current and potential future human receptors include installation personnel (including training [redacted]), ecological management by USACE (e.g., seeding/tree planting), site workers, installation traffic on adjacent roads, and site visitors (limited [redacted] however, a walking trail is present on the west side of the site), and installation traffic from road intersecting site. If surficial MEC remain at the site, a receptor could contact it through direct contact. Although receptors are able to access UXO 9, the

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

majority of the site are wetlands and receptors accessing the site would be infrequent/not occur without reason. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as USACE planting activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact. However, UXO 9 is only a surface disposal concern and so subsurface contact is unexpected unless a surface item sunk downward in the marsh.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 9 is a large freshwater wetland [redacted]. Surrounding forested stands consist of mature Douglas-fir with red cedar. No changes to the existing stand numbers were suggested during the survey. As documented from the nearby bridge during the survey, a small beaver pond was present upstream, and a single river otter was spotted foraging near the bridge. Wetlands for UXO 9 were determined as freshwater, of 5.79 acres. During the 2020 survey, species considered sensitive or species of concern were documented, specifically, great blue heron (Ardea Herodias) and bald eagle (Haliaeetus leucocephalus) directly adjacent to UXO 9 near the mouth of [redacted] marsh. Also, the Marbled Murrelet was conservatively identified to possibly be present at UXO 9 but was not identified during the SI field work. Salmon spawning concerns were also addressed during the SI via field constraints.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*, Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**20**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MEC and MPPEH encountered at the site include a signal flare and two smoke grenades, removed from site.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that the use of UXO 9 is consistent with [redacted]

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**25**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted], access to the MRS by authorized visitors is only limited by the presence of a wetland that is not easily navigable by foot.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

During the 2020 survey, species considered sensitive or species of concern were documented, specifically, great blue heron (Ardea Herodias) and bald eagle (Haliaeetus leucocephalus) directly adjacent to UXO 9 near the mouth of [redacted] marsh. Also, there is a potential for Marbled Murrelet (birds) and spawning salmon to be present at or near the MRS although none were encountered during the 2020 survey or 2022 SI field work. .

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**20**	**25**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**25**	**33**
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**73**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

Surface clearance was completed for the entirety of UXO 9 accessible during the SI.

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Known or Suspected Hazard**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 9B [redacted] (OU Site B)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 9B [redacted] (OU Site B)/Site Inspection

Date Information Entered/Updated: *January 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 9B is located within Lower Base in the northwest portion of Naval Base Kitsap Bangor. The overall site comprises approximately 6 acres of natural shoreline along Hood Canal. [redacted] is located within OU 7, and pyrotechnic testing was reportedly completed at [redacted] in the 1950s and 1960s. Black powder was also reportedly burned. [redacted] was also used for station dumping (including pit disposal, landfilling, and trash burning) from approximately 1950 to 1968. In 1966 and 1967, the site was also reportedly used for open burning of RDX and TNT residuals from Site F (Navy, 2005). Two Polaris missile motors are reportedly entombed in a retaining wall at the site (Battelle, 2017). Detonators and primers, star signals, smoke cans (aluminum types), smoke pots, and hand grenades were reportedly disposed of in this area.

The 2017 Preliminary Assessment (PA) recommended geophysical surveying and exploratory test pits to further define the extent of subsurface waste and potential material potentially presenting an explosive hazard (MPPEH). During the Site Inspection (SI) planning phase, UXO 9B was identified on historical maps and aerial photographs.

Based on the desktop investigation of UXO 9B evaluation of historical aerial photographs and mapping during SI preparation, investigation of this site has been eliminated from the SI field investigation. A remedy was implemented at this site (i.e., cap and erosion controls) in 1997 (Battelle, 2017), and a Record of Decision (ROD) is in place that will be amended to identify munitions concerns; the cap covers the entirety of UXO 9B and, therefore, the UXO 9B site was not included in the SI field work effort.

Description of Pathways for Human and Ecological Receptors:

A remedy was implemented at this site (i.e., cap and erosion controls) in 1997 (Battelle, 2017), and a ROD is in place. The remedy for Site B [redacted]) included covering areas of contaminated soil, installing shoreline protection and stormwater drainage systems to control erosion, monitoring sediment and clam tissue, and installing signs notifying visitors that the site is to be used for recreational purposes only and approval is required for digging or mowing. LUCs and engineering controls prevent exposure to contaminated soil at Sites B. Recreational boating was restricted within 500 feet of the mean lower low water.

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat As per the Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection (Tetra Tech, 2020), the general habitat at UXO 9B is a fairly disturbed area including access roads throughout. A portion of the area is covered with Himalayan blackberry. Wetlands area for UXO 9B was determined by the survey as 0.39 acres.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Navy. 2005. *Second Five-Year Review of Record of Decision*. Naval Base Kitsap at Bangor, Silverdale, Washington. April.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

The MRS was used for pyrotechnic testing, burning black powder, and open burning of RDX and TNT. Two Polaris missile motors are reportedly entombed in a retaining wall at the site. Detonators and primers, star signals, smoke cans (aluminum types), smoke pots, and hand grenades were reportedly disposed of in this area.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

Historic documentation indicates the MRS was used for open burning activities and disposal of munitions.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

Not applicable.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**23**
Source of Hazard	Table 2	**8**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**10**	**20**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**58**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Longer Required**

The remedy is in place; prioritization is not required for this MRS.

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	C
HML	D
MMM	D
HLL	E
MML	E
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

The remedy is in place; prioritization is not required for this MRS.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Longer Required**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 11 [redacted] (Site 14)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 11 [redacted] (Site 14)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 11 is located within Lower Base in the southeast portion of Naval Base Kitsap Bangor. The overall site comprises approximately 2 acres and was operational between 1946 and 1973. The site was used as a disposal area for drums and inert ordnance-related items including ammunition cans and boxes (Battelle, 2017).

The 2017 Preliminary Assessment (PA) recommended that additional document/records research be performed to define the site location and site history/use, and that a detailed surface inspection be performed to identify surface material potentially presenting and explosive hazard (MPPEH). A single ammunition can was observed during the PA. During the September 2019 Site Inspection (SI) planning phase site visit, metal drums were observed in the west-central part of the investigation area. UXO 11 was identified on historical aerial photographs. The SI field work consisted of a surface and subsurface investigation including vegetation clearance, surface clearance, and geophysical surveys (DGM and GPR). The portion of the site where MPPEH, if any, is most likely to be present and that was investigated during the SI included an area of approximately 1.3 acres [redacted].

The UXO detector-aided surface survey identified one material documented as safe (MDAS) item, a Mk2 40-mm cartridge case. The MDAS item was located near a pile of drums that were identified along the western investigation boundary.

In addition to MDAS, approximately 2 dozen drums were also observed. The drums were old and rusted, mostly on the ground surface however some were partially buried. All drums were of the same size, approximately 55 gallons. No markings or notations were observed on any of the drums. A few drums appeared to be bung top while most appeared to be open top drums with lids missing however no lids were observed within the area. Most of the drums had man made puncture marks (hatchet slice marks or square puncture holes) in the bottom ends. No ground staining was observed and no signs of stressed vegetation was noted. No odors were noted throughout the drum area. A PID was used to test the drum interiors where open or through access holes, volatile vapors were not detected within any drum or from ground surface surrounding the drums. Additionally no debris or other material was observed within or around the drums. As such, there was no current evidence of a chemical hazard associated with the drums.

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Based on the results of the SI field investigation, it was determined that a step-out investigation was warranted per the decision rules included in the MEC QAPP. The step-out was conducted to address the remainder of the rusted/deteriorated drum area identified outside the site/investigation boundary to the west. While no munitions items were encountered in the portion of the drum area investigated, a MDAS item was identified along the western boundary of UXO 11, which added to the rationale of conducting the step-out investigation. The UXO detector-aided surface step-out survey did not identify any MEC/MDAS; however, more old, rusted drums were observed within the inspection area. No staining or stressed vegetation was noted within the site or within/near the drums. A few deteriorating railroad ties were also observed within the drums. Based on the step-out findings, it was determined that the contingency step-out was not warranted and was not completed.

Geophysics was conducted during the SI. UXO 11 EM61-HP data depict SRAs coincident with known surface obstructions - either excessive metal debris piles not removed during surface clearance or former cultural sites.

Description of Pathways for Human and Ecological Receptors:

Current and potential future human receptors include installation personnel, site workers, and site visitors (limited [redacted]). However, the entire surface of UXO 11 has had a UXO surface sweep with no MEC items encountered and wo there is an incomplete pathway.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 11 is a cleared area (associated with the overhead power line), which is dominated by grasses, blackberry, tansy ragwort, scotch broom. No wetlands were present at UXO 11.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MPPEH found at the site include a 40mm projectile cartridge case. However, the site has had a UXO surface clearance during the SI.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that UXO 11 was used as a disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] there are no access restrictions to the MRS by authorized visitors.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**20**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**10**	**20**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**55**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

Surface clearance was completed for the entirety of UXO 11 accessible during the SI. No explosive hazard was identified during SI, or historically, and MEC presence is not indicated based on data available to date. Geophysics data do not indicate a disposal site. Deteriorated drums on site are believed to be smoke barrels.

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Known or Suspected Hazard**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 11B [redacted] (Site 8)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 11B [redacted] (Site 8)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 11B is located within Lower Base in the southeast portion of Naval Base Kitsap Bangor. The overall site comprises approximately 2 acres and was operational between 1946 and 1973. The site was used for the disposal of inert ordnance-related items, including ammunition cans and tanks. The tanks are reported to be propellent tanks (Battelle, 2017).

The 2017 Preliminary Assessment (PA) recommended a detailed surface inspection be conducted to identify the extent of material potentially presenting an explosive hazard (MPPEH) at the surface based on the observation of a single ammunition box. During the Site Inspection (SI) planning phase, the former disposal area was identified based on historical aerial photographs. The SI field work consisted of a surface and subsurface investigation including vegetation clearance, surface clearance, and geophysical surveys (DGM and GPR). The SI footprint consisted of the approximately 2-acre area where munitions, if present, were most likely to be encountered.

The UXO detector-aided surface survey identified one material documented as safe (MDAS) item, a Mk 2 cartridge case, which was located in the central/west-central portion of the investigation area. In addition to the identified MDAS item, a pile of ammunition cans, also located in the central/west-central portion, and a pile of shipping containers, located near the southern boundary of the site, were identified. The ammunition containers were discovered in a visible alcove that led to a subsurface structure. The UXO team retrieved as many exposed wooden ammunition containers as possible that could be reached from the surface without entering the structure. The ammunition containers were empty and so there were no MEC/MPPEH concerns; however, the alcove structure continues underneath a large tree and would be an unsafe area to enter to remove the remaining items that are visible from the surface that may or may not be ammunition cans.

Geophysics was conducted during the SI. UXO 11B EM61-HP data depict SRAs coincident with known surface obstructions - either excessive metal debris piles not removed during surface clearance or former cultural sites. UXO 11B surface debris piles and cultural feature create SRAs in the DGM data.

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Description of Pathways for Human and Ecological Receptors:

Current and potential future human receptors include installation personnel, site workers, and site visitors (limited [redacted] with no reason to visit). If surficial MEC remain at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact. However, no explosive hazard was identified during SI, or historically, and MEC presence is not indicated based on data available to date, although observed but inaccessible MPPEH remains in an alcove, which is also a cultural site. Geophysics data do not indicate a disposal site.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the general habitat at UXO 11B is described as having a fairly open canopy of 12- to 15-inch red cedar and Douglas-fir, some 3- to 10-inch alder, and western white pine. The understory is fairly open with creeping blackberry, some salal, sword fern, rhododendron, holly, and scotch broom. No wetlands were present at UXO 11B.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection.*Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MPPEH found at the site include a 40mm projectile cartridge case which indicates the possibility, although unlikely, that Mk 2 DMM may be present.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that UXO 11B was used as a disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] there are no access restrictions to the MRS by authorized visitors.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

There is a potential for Marbled Murrelet (birds) to be present in the MRS although not observed during the 2020 survey or 2022 SI field work.

Also, cultural resources are present (not identified considering sensitive information).

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**20**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**10**	**20**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**20**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**5**	
EHE MODULE TOTAL			**60**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**D**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**5**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 12 – [redacted] (Site HH)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 12 [redacted] (Site HH)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 12 is located within Lower Base in the west-central portion of Naval Base Kitsap Bangor. The overall site, which is an area of approximately 0.72 acres, operated as a rail car siding between 1946 and 1973. Site HH was identified on historical drawings as a single barricaded railroad siding [redacted]. Historically, rail cars on the Western Barricaded Sidings, may have been used to temporarily store various metallic debris/wastes including ordnance-related materials (Battelle, 2017) and so surface disposal is of concern.

The 2017 Preliminary Assessment (PA) recommended that a detailed Site Inspection (SI) be conducted in order to verify that the siding does not contain material potentially presenting an explosive hazard (MPPEH). During the SI planning phase, the Barricade Siding P-1 was identified on historical aerial photographs. The SI field work consisted of a surface investigation including vegetation clearance and surface clearance. The SI footprint included a 0.25-acre area along the siding and 5 feet around the siding portion of the site where MEC/MPPEH, if any, is most likely to be present.

No munitions-related items were encountered during the UXO detector-aided surface survey.

Description of Pathways for Human and Ecological Receptors:

An incomplete exposure pathway exists for human receptors to MEC in soil due to the lack of munitions-related findings at UXO 12.

As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), UXO 12 is described as an area that runs along an old railroad with cement walls covered in vines and moss, with an understory consisting of sword fern, blackberry, ivy, ribes sp., and upper canopy 6- to12-inch alder and 12-inch big leaf maple. The survey confirmed wetlands determined to be less than 0.01 acre and waters were determined as 0.03 acre.

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection.* Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

Not applicable.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

Not applicable.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] access to the MRS by authorized visitors is unrestricted.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**0**	**0**
Source of Hazard	Table 2	**0**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**0**	**10**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**25**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No viable source of MC exists in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 26
HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No viable source of MC exists in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

<u>**Contaminant Hazard Factor (CHF)**</u>

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Known or Suspected Hazards**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 13 [redacted] (Site 4 [redacted])

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 13 – [redacted] (Site 4 [redacted])/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 13 is located within Lower Base in the west-central portion of Naval Base Kitsap Bangor. The overall site comprises approximately 4.1 acres and was operational between 1946 and 1973. The site was reportedly used as a former detonation area for the disposal of fuzes and as an OB/OD area (Battelle, 2017). The area is currently used as a worker laydown area [redacted].

The 2017 Preliminary Assessment (PA) recommended that a detailed Site Inspection (SI) be performed, and that geophysical surveying be performed in the wooded areas where ordnance disposal was reportedly conducted. A search of historical documents and aerial photographs was conducted during the SI planning phase. While UXO 13 was located in the historical aerial photographs, the only feature to note was a road located [redacted] of the area of investigation. The SI field work consisted of a surface and subsurface investigation including vegetation clearance, surface clearance, and a DGM survey. The SI footprint included an approximately 2.5-acre area located along the eastern site boundary where MEC/MPPEH, if any, is most likely to be present.

No munitions-related items were encountered during the UXO detector-aided surface survey; however, various areas were inaccessible to surveying due to the steep slopes.

Geophysics was conducted during the SI. UXO 13 EM-61-HP survey transects data did not demonstrate any SRAs or other features consistent with a disposal site. Discrete geophysical anomalies were identified along the survey transects. Localized steep slopes within the project area limit the ability to collect 100 percent digital DGM data across the entire site.

Description of Pathways for Human and Ecological Receptors:

Current and potential future human receptors include installation personnel, site workers (including utility maintenance in subsurface utilities/culverts and road maintenance), and site visitors (limited [redacted]). If surficial MEC remain at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact. However, there is an incomplete exposure pathway for human receptors to MEC in soil due to the lack of munitions-related findings at UXO 13.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), the UXO 13 habitat is described as dominated by cedar and maple, with a sparse understory of sisal, Oregon grape, some tall fescue and bracken fern, as well as scotch broom. Concerning wetlands, the survey confirmed that the existing are estuarine and marine deepwater [redacted], outside of the SI investigation area.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**25**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

No explosive hazard was identified during SI. Also, no explosive hazard was identified historically during the OU 7 RIFS (including biased 3 test pits in suspect areas of the site allegedly of holes as the result of disposal of ordnance ignition devices) and no remedial action was warranted for OU 7 for either MEC hazard or MC. Therefore, MEC/MPPEH presence is not indicated based on data collected to date. Also, SI geophysics data do not indicate a disposal site.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

While not confirmed, the reported site uses consisted of a disposal and/or OB/OD area.
No explosive hazard was identified during SI. Also, no explosive hazard was identified historically during the OU 7 RIFS (including biased 3 test pits in suspect areas of the site allegedly of holes as the result of disposal of ordnance ignition devices) and no remedial action was warranted for OU 7 for either MEC hazard or MC. Therefore, MEC/MPPEH presence is not indicated based on data collected to date. Also, SI geophysics data do not indicate a disposal site.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] access to the MRS by authorized visitors is unrestricted.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Cultural resources are present (not identified considering sensitive information).

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**28**	**36**
Source of Hazard	Table 2	**8**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**5**	**15**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**18**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**3**	
EHE MODULE TOTAL			**69**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

No explosive hazard was identified during SI. Also, no explosive hazard was identified historically during the OU 7 RIFS (including biased 3 test pits in suspect areas of the site allegedly of holes as the result of disposal of ordnance ignition devices) and no remedial action was warranted for OU 7 for either MEC hazard or MC. Therefore, MEC/MPPEH presence is not indicated based on data collected to date. Also, SI geophysics data do not indicate a disposal site.

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No source of MC has been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No source of MC has been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No source of MC has been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No source of MC has been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No source of MC has been encountered in the MRS.

Table 26
HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No source of MC has been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	C
HML	D
MMM	D
HLL	E
MML	E
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC Hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Known or Suspected Hazard**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 14 [redacted] (Site JJ)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 14 [redacted] (Site JJ)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 14 is located within the [redacted] restricted area on Lower Base in the northwest portion of Naval Base Kitsap Bangor. The overall site comprises approximately 0.5 acres and was operational as a rail car siding between 1946 and 1973. Site JJ was identified on historical drawings as a single barricaded railroad siding [redacted]. Historically, rail cars on the Western Barricaded Railroad Sidings may have been used to temporarily store munitions items (Battelle, 2017) and so surface disposal is of concern.

The 2017 Preliminary Assessment (PA) recommended that a detailed Site Inspection (SI) be conducted to verify the siding does not contain material potentially presenting an explosive hazard (MPPEH). During the SI planning phase, the siding was identified on historical maps and aerial photographs. The SI field work consisted of a surface investigation including vegetation clearance and surface clearance. The SI footprint included a 0.33-acre area along the siding and 5 feet around each siding wall portion of the site where MPPEH, if any, is most likely to be present.

No munitions-related items were encountered during the UXO detector-aided surface survey.

Description of Pathways for Human and Ecological Receptors:

An incomplete exposure pathway exists for human receptors to MEC in soil due to the lack of munitions-related findings at UXO 14.

As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), UXO 14 is described as a rail car shoot area with concrete sides. During the survey, vegetation included ~22 alders ranging from 6- to 14-inch. Scattered understory consists of some English ivy and Himalayan blackberry. The UXO 14 wetlands area was determined to be less than 0.01 acre.

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report*. Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

Not applicable.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

Not applicable.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] access to the MRS by authorized visitors is unrestricted.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**3**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**0**	**0**
Source of Hazard	Table 2	**0**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**0**	**10**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**25**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No viable source of MC exists in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 26
HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No viable source of MC exists in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Known or Suspected Hazards**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 17 – [redacted] (Site 2)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 17 [redacted] (Site 2)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 17 is located within the Upper Base in the far southern portion of Naval Base Kitsap Bangor. The overall site comprises approximately 9.3 acres and was used as a classification yard and storage area from 1964 to 1973. A former landfill is also located within the site boundary in the northern portion of the site.

Site 2 is located within UXO 17 in a north-south-trending ravine along the shoulders of a gravel road between [redacted] near the Classification Yard parking area. Site 2 was used for the disposal of steel scrap and other waste, including empty drums, ordnance dunnage, and waste oils and paints (Battelle, 2017). Site 2 was divided into two subareas designated Sites 2A and 2B. Site 2A was a disposal area for small-caliber projectiles. Site 2B is located between the gravel road and [redacted], down the embankment adjacent to [redacted] and was an unauthorized disposal area for wastes that included paint sludge, waste oil, inert ordnance, and drums. A cleanup of surface debris at Site 2A was completed in 1986 and 1987. A removal action for debris and drums from Site 2B was completed in 1993. Soils excavated during this action were placed in two stockpiles on site, referred to as Containment Cell Nos. 1 and 2 (Navy, 2005).

The 2017 Preliminary Assessment (PA) recommended that a detailed Site Inspection (SI) and geophysical survey be conducted to identify the extent of surface and potentially buried material potentially presenting an explosive hazard (MPPEH), and also that confirmatory soil sampling be performed in areas with identified MPPEH. Small arms ammunition and a single 40-mm cartridge were observed during the PA. Munitions recovered on the surface of the site include 40-mm, 57-mm anti-tank, .50-cal projectiles, M168 bomb fuzes, 5-inch shells, and 3-inch shells (Battelle, 2017). During the SI planning phase, the classification yard was identified on historical maps and aerial photographs. The SI field work consisted of a surface and subsurface investigation including vegetation clearance, surface clearance, and geophysical surveys (DGM and GPR). The SI footprint included the entire 9.3 acres of the site.

The UXO detector-aided surface surveys identified a total of 20 items with 5 munitions and explosives of concern (MEC) and 20 material documented as safe (MDAS) items. MEC findings included one Mk 6 unknown Mod 5-inch warhead and four projectiles (1 Mk 38 Mod 3 Special Common 5-inch projectile and 3 Mk 46 Mod 2 Special Common 5-inch projectile). The MEC were determined

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

safe to move and were transported to the Keyport Annex magazine for storage until the end of the project when detonations were conducted. The MDAS items included 1 Mk 6 Mod 7 Practice 5-inch warhead and 14 cartridge cases of various types (Mk 2 cartridge case, Mk 3 cartridge case, Unknown cartridge case, Mk 2 40 mm cartridge case, Mk 3 40 mm cartridge case, and a Mk 7 Mod 1 3-inch cartridge case).

The majority of the MEC/MDAS were found in the northern portion of the site near and around the approximate location of the former landfill. Also found in the northern portion of the investigation boundary was a trash pile with various MDAS found in or around the pile and MEC found around the outside of the pile. One MDAS item and a rebar pit was found in the central portion of the site; however, no items were recovered in the southern portion of UXO 17.

Geophysics was conducted during the SI. UXO 17 EM61-HP and TEM-8g data depict large areas of elevated DGM response, which appears to be consistent with a former disposal site, and suggest debris was disposed in pits or trenches or was subjected to earthwork activities. Metallic debris was observed protruding from the ground in the northern portion of the site. Delineated SRAs indicate a high-response area in the DGM data extending beyond the current site boundary. GPR surveys were focused in the central and northern portions of the MRP site. The top of buried debris along the western side of the site, near the base of the current western slope, suggests a thicker layer of cover soil, with the top of debris at around 5 feet bgs. Elsewhere within the site, the GPR data suggest the top of the buried debris is relatively shallow at approximately 2 to 2.5 feet bgs. The GPR data and observations during field work indicate the site was subjected to earthwork activities, with materials likely pushed towards the north and eastern portion of the MRP site during re-development since its prior use as a disposal area.

Description of Pathways for Human and Ecological Receptors:

Current and potential future receptors for Lower Base include installation personnel (including crane testing and dog training), site workers (including utility maintenance and vegetation management of the ballfield), and site visitors (general public and recreational uses [redacted] Upper Ballfields/walking trail). If surficial MEC exist at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance such as construction activities, or by persons picking up an item/direct contact.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), UXO 17 habitat includes young alder, cedar, and Douglas-fir along the sides of the site. Ground cover consisted primarily of ferns, common mullein, and scattered Scotch broom. The hillside is scattered 10- to 14-inch diameter Douglas-fir at breast height with moderate understory of rhododendron and salal. The UXO 17 Investigation area is bounded by [redacted] and a ditch along the east side which was reviewed during the survey and determined to be upland. Concerning wetlands, existing wetlands area was confirmed as 0.73 acre. Also, the survey delineated an ephemeral channel/excavated ditch on the northeast edge of the ball field, which roughly follows the configuration of existing wetlands mapping (the channel continues to the southeast outside of the UXO 17 site boundary); waters were determined as 0.07 acre, and vegetation within the channel is predominantly composed of non-wetland plants.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Navy. 2005. *Second Five-Year Review of Record of Decision*. Naval Base Kitsap at Bangor, Silverdale, Washington. April.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MEC findings included one Mk 6 unknown Mod 5-inch warhead and four projectiles (1 Mk 38 Mod 3 Special Common 5-inch projectile and 3 Mk 46 Mod 2 Special Common 5-inch projectile). The MDAS items included 1 Mk 6 Mod 7 Practice 5-inch warhead and 14 cartridge cases of various types (Mk 2 cartridge case, Mk 3 cartridge case, Unknown cartridge case, Mk 2 40 mm cartridge case, Mk 3 40 mm cartridge case, and a Mk 7 Mod 1 3-inch cartridge case).

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI findings are consistent with the MRS being used as a disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**25**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] to the MRS by authorized visitors is unrestricted public access.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**20**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**20**	**30**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**65**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**D**

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	C
HML	D
MMM	D
HLL	E
MML	E
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC Hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**5**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 17B [redacted] (Site 1)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 2 – [redacted] (Site CC)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 17B is located within the Upper Base in the southern portion of Naval Base Kitsap Bangor. The overall site comprises approximately 67 acres and includes a central railroad line with several spurs branching off both sides of the line. The sidings may have been used by rail cars to store various debris/wastes including ordnance-related items and were used from 1946 to 1973. The site was also used as a disposal area for mostly inert items, including building rubble and metal scrap. Polaris missile motors were reportedly disposed in the former sidings area (Battelle, 2017). The sidings currently contain fill material up to depths of approximately 15 feet.

The 2017 Preliminary Assessment (PA) recommended a detailed Site Inspection (SI), geodetic surveying, and soil sampling to identify potential munitions constituents (MC) contamination. The SI field work consisted of a surface and subsurface investigation including vegetation clearance, surface clearance, and geophysical surveys (DGM and GPR). The SI footprint included approximately 13.3 acres consisting of the main railroad line and the 20 spurs that run the length of the central line where munitions, if any, are most likely to be present.

The UXO detector-aided surface survey identified one MDAS item, a M212 practice cartridge case, which was located along the northern portion of the former main rail line.

Geophysics was conducted at the site during the SI. UXO 17B data exhibit the presence of widespread metallic debris across the majority of the site, with a large number of discrete targets and mapped SRAs and suggest one or more of the following: (1) evidence of debris or scrap offloaded and dumped from rail cars, (2) more recent earthwork activities spread metal within the shallow subsurface, and (3) the responses are predominately associated with demolition and removal of the former rail line and ballast rock. GPR data depict changes in subsurface geology and hydrogeology throughout the site and less evidence of widespread disposal of buried debris. Moving southward through the site, wetter, softer ground due to poorer soil drainage after precipitation events, demonstrate potential impacts from shallow groundwater table and wet soils at the surface. Depending on precipitation levels, these conditions potentially limit the efficacy of GPR at the site.

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Description of Receptors (Human and Ecological):

Current and potential future human receptors include installation personnel, site workers (including utility maintenance in subsurface utilities/culverts and road maintenance), site visitors (limited [redacted]), and installation traffic from road intersecting site. If surficial MEC remain at the site, a receptor could contact it through direct contact. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), UXO 17B habitat consists of a large relatively weedy grassland dominated by scotch broom, reed canary grass, dandelion, tansy ragwort, scattered/trace plantago lancealate, horsetail, juncus spp., and apple trees. The forested portion of this area has moderate canopy cover of 8- to 12-inch Douglas-fir, cedar, sparse, western white pine, and a moderately open cover understory within the railroad of reed canary grass with interspersed surrounding understory species such as sword fern, salal, creeping blackberry, and scotch broom. Wetlands was determined as 0.45 acre.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**15**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

MPPEH found at the site included a M212 cartridge case. While MEC in the form of DMM is not suspected to be present, it cannot be ruled out.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

The SI results indicate that UXO 17B was previously used as a disposal area.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**8**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] access to the MRS by authorized visitors is only limited by the steep slopes and dense vegetation.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6
EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**15**	**20**
Source of Hazard	Table 2	**5**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**10**	**18**
Ease of Access	Table 4	**8**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	0	
EHE MODULE TOTAL			**53**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

No explosive hazard was identified during SI, or historically, and MEC/MPPEH presence is not indicated based on data available to date. SI geophysics indicates widespread buried metallic debris, however, it is assumed to be from non-MEC/MPPEH sources. Review of historical information regarding disposal at UXO 17B of debris from former metallurgy building (Building 274) indicates that the debris was demolition rubble from the building (brass shell casings were tested in the building) with no evidence of ordnance disposal, as per the Site 5/OU 5 RI/FS. The procedure involved heating

casings coated with mercurous nitrate and apparently reduced and volatized the mercury, which condensed on the walls of the building. The results of the various historical analyses conducted at UXO 17B railroad sidings, including soil, groundwater, and surface water did not indicate the presence of mercury above natural background concentrations or PSLs. The results of the long-term vapor monitoring indicated the presence of low concentrations of mercury. Based on the Site 5/OU 5 risk evaluation results, no further action was required and a FS was not prepared. As documented in the OU 5 ROD, the selected remedial action at OU 5 was the no action alternative.

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the MRS.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 26
HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No potential sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	C
HML	D
MMM	D
HLL	E
MML	E
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

No known or suspected MC Hazard.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Known or Suspected Hazard**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 17C [redacted] (Site BB)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 17C [redacted] (Site BB)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 17C is located within Upper Base in the south-central portion of Naval Base Kitsap Bangor. The overall site comprises 71 acres and was operational between 1946 and 1973. The site appears on numerous installation drawings and is still present; the sidings may have been filled with various debris/wastes including ordnance-related material (Battelle, 2017). All sidings but one currently contain fill material and vegetation.

The 2017 Preliminary Assessment (PA) recommended that a detailed Site Inspection (SI) be performed to verify that the sidings do not contain debris/material potentially presenting an explosive hazard (MPPEH), and to further evaluate one siding that appears to contain concrete rubble. The SI field work consisted of a surface investigation including vegetation clearance and surface clearance. The SI footprint included approximately 11.8 acres consisting of the main railroad line and the 19 spurs that run the length of the central line where munitions, if any, are most likely to be present.

No munitions-related items were encountered during the UXO detector-aided surface survey.

Description of Pathways for Human and Ecological Receptors:

Current and potential future human receptors include installation personnel, site workers, and site visitors. UXO 17C is located in Upper Base. The only way for a receptor to encounter subsurface MEC (if present) would be through soil-disturbing activities such as utilities work or construction activities. Munitions items (if present) may be transported by erosion/redeposition, land disturbance activities, or by persons picking up an item/direct contact. However, there is an incomplete exposure pathway for human receptors to MEC in soil due to the lack of munitions-related findings at UXO 17C.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech, 2020), UXO 17C habitat within the barricade centers were observed during the survey as highly vegetated contiguous with

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

surrounding habitat vegetation. There was moderate canopy cover of 8- to 12-inch western white pine, alder and Douglas-fir, and some western hemlock, and the understory is dense with sword fern, sisal, creeping blackberry, and scotch broom. No wetlands were present at UXO 17C.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

Not applicable.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

Not applicable.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

[redacted] access to the MRS by authorized visitors is unrestricted.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**0**	**0**
Source of Hazard	Table 2	**0**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**0**	**10**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**25**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Known or Suspected Explosive Hazard**

No explosive hazard was identified at UXO 17C during SI, or historically, and MEC/MPPEH presence is not indicated based on data available to date. UXO 17C also relied on similar site UXO 17B, for decision making.

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No viable source of MC exists in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No viable source of MC exists in the MRS.

Table 26
HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No viable source of MC exists in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Known or Suspected Hazards**	

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

Munitions Response Site Name: UXO 17D [redacted] (Site 13)

Component: Department of the Navy

Installation/Property Name: Naval Base Kitsap Bangor

Location (City, County, State): Silverdale, Kitsap County, Washington

Site Name/Project Name (Project No.): UXO 17D [redacted] (Site 13)/Site Inspection

Date Information Entered/Updated: *February 2023*

Point of Contact (Name/Phone): *Janice Horton, Remedial Project Manager, NAVFAC-Northwest (360) 556-0621*

Project Phase (check only one):

❑ PA	■ SI	❑ RI	❑ FS	❑ RD
❑ RA-C	❑ RIP	❑ RA-O	❑ RC	❑ LTM

Media Evaluated (check all that apply):

❑ Groundwater	❑ Sediment (human receptor)
■ Surface soil	❑ Surface Water (ecological receptor)
❑ Sediment (ecological receptor)	❑ Surface Water (human receptor)

MRS Description: Describe the munitions-related activities that occurred at the installation, the dates of operation, and the UXO, DMM, or MC known or suspected to be present. When possible, identify munitions, CWM, and MC by type:

UXO 17D is located within Upper Base in the southeast portion of Naval Base Kitsap Bangor. The overall site comprises approximately 90.6 acres with the former brass yard comprising approximately 20.8 acres. The site was operational between 1946 and 1973. Site 13 was used as a storage area primarily for brass and other metals (Battelle, 2017). The area may have been decontaminated prior to 1979 at the start of site development. This site is highly developed, and the area contains commercial buildings, roads, parking lots, and landscaped areas.

The 2017 Preliminary Assessment (PA) recommended that additional document/records research be performed to better define the site location, site history, and use. As part of the Site Inspection (SI) planning phase, historical documentation was reviewed including aerial photographs. A former brass yard was identified on historical maps and aerial photographs.

Based on the desktop investigation of UXO 17D evaluation of historical aerial photographs and mapping during SI planning, investigation of this site was eliminated from the SI field investigation since the area of concern is in a highly developed area, and any potential munitions onsite would have been identified during development of the area.

Description of Pathways for Human and Ecological Receptors:

A remedy was implemented at this site (i.e., cap and erosion controls) in 1997 (Battelle, 2017), and a ROD is in place. The remedy for Site B ([redacted]) included covering areas of contaminated soil, installing shoreline protection and stormwater drainage systems to control erosion, monitoring sediment and clam tissue, and installing signs notifying visitors that the site is to be used for recreational purposes only and approval is required for digging or mowing. LUCs and engineering controls prevent exposure to contaminated soil at Sites B. Recreational boating was restricted within 500 feet of the mean lower low water.

Basewide, incidental wildlife observations, including migratory birds, were recorded during habitat and wildlife surveys to document the presence of listed or sensitive species within the project areas. As per the Habitat/Endangered Species Survey (Tetra Tech,

Table A

MRS Background Information

DIRECTIONS: Record the background information below for the MRS to be evaluated. Much of this information is available from Service and DoD databases. If the MRS is located on a FUDS property, the suitable FUDS property information should be substituted. In the **MRS Summary**, briefly describe the UXO, DMM, or MC that are known or suspected to be present, the exposure setting (the MRS's physical environment), any other incidental non munitions-related contaminants (e.g., benzene, trichloroethylene) found at the MRS, and any potentially exposed human and ecological receptors. If possible, include a map of the MRS.

2020), this area was not reviewed in the field as it is a highly disturbed, active part of the base. There are no wetlands and limited value wildlife habitat at UXO 17D.

References:

Battelle. 2017. *Military Munitions Response Program Preliminary Assessment Report.* Naval Base Kitsap Bangor, Bangor, Washington. February 24.

Tetra Tech, 2020. *Summary Report Habitat/Endangered Species Survey for Munitions and Explosives of Concern Site Inspection*. Naval Base Kitsap Bangor, Washington. Draft accepted as final.

Table 1

EHE Module: Munitions Type Data Element Table

DIRECTIONS: Below are 11 classifications of munitions and their descriptions. Circle the scores that correspond with **all** the munitions types known or suspected to be present at the MRS.

Note: The terms *practice munitions, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Sensitive	◆ UXO that are considered most likely to function upon any interaction with exposed persons (e.g., submunitions, 40mm high-explosive [HE] grenades, white phosphorus [WP] munitions, high-explosive antitank [HEAT] munitions, and practice munitions with sensitive fuzes, but excluding all other practice munitions). ◆ Hand grenades containing energetic filler. ◆ Bulk primary explosives, or mixtures of these with environmental media, such that the mixture poses an explosive hazard.	30
High explosive (used or damaged)	◆ UXO containing a high-explosive filler (e.g., RDX, Composition B), that are not considered "sensitive." ◆ DMM containing a high-explosive filler that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	25
Pyrotechnic (used or damaged)	◆ UXO containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades). ◆ DMM containing a pyrotechnic filler other than white phosphorus (e.g., flares, signals, simulators, smoke grenades) that have: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	20
High explosive (unused)	◆ DMM containing a high-explosive filler that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	15
Propellant	◆ UXO containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor) that are: ▪ Damaged by burning or detonation ▪ Deteriorated to the point of instability.	15
Bulk secondary high explosives, pyrotechnics, or propellant	◆ DMM containing mostly single-, double-, or triple-based propellant, or composite propellants (e.g., a rocket motor). ◆ DMM that are bulk secondary high explosives, pyrotechnic compositions, or propellant (not contained in a munition), or mixtures of these with environmental media such that the mixture poses an explosive hazard.	10
Pyrotechnic (not used or damaged)	◆ DMM containing a pyrotechnic filler (i.e., red phosphorus), other than white phosphorus filler, that: ▪ Have not been damaged by burning or detonation ▪ Are not deteriorated to the point of instability.	10
Practice	◆ UXO that are practice munitions that are not associated with a sensitive fuze. ◆ DMM that are practice munitions that are not associated with a sensitive fuze and that have not: ▪ Been damaged by burning or detonation ▪ Deteriorated to the point of instability.	5
Riot control	◆ UXO or DMM containing a riot control agent filler (e.g., tear gas).	3
Small arms	◆ Used munitions or DMM that are categorized as small arms ammunition. (Physical evidence or historical evidence that no other types of munitions [e.g., grenades, subcaliber training rockets, demolition charges] were used or are present on the MRS is required for selection of this category.)	2
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
MUNITIONS TYPE	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**10**

Directions: Document any MRS-specific data used in selecting the *Munitions Type* classifications in the space provided.

Any munitions, if present, would have been removed or are covered by infrastructure.

Table 2

EHE Module: Source of Hazard Data Element Table

DIRECTIONS: Below are 11 classifications describing sources of explosive hazards. Circle the scores that correspond with **all** the sources of explosive hazards known or suspected to be present at the MRS.

Note: The terms *former range, practice munitions, small arms range, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Former range	◆ The MRS is a former military range where munitions (including practice munitions with sensitive fuzes) have been used. Such areas include impact or target areas and associated buffer and safety zones.	10
Former munitions treatment (i.e., OB/OD) unit	◆ The MRS is a location where UXO or DMM (e.g., munitions, bulk explosives, bulk pyrotechnic, or bulk propellants) were burned or detonated for the purpose of treatment prior to disposal.	8
Former practice munitions range	◆ The MRS is a former military range on which only practice munitions without sensitive fuzes were used.	6
Former maneuver area	◆ The MRS is a former maneuver area where no munitions other than flares, simulators, smokes, and blanks were used. There must be evidence that no other munitions were used at the location to place an MRS into this category.	5
Former burial pit or other disposal area	◆ The MRS is a location where DMM were buried or disposed of (e.g., disposed of into a water body) without prior thermal treatment.	5
Former industrial operating facilities	◆ The MRS is a location that is a former munitions maintenance, manufacturing, or demilitarization facility.	4
Former firing points	◆ The MRS is a firing point, where the firing point is delineated as an MRS separate from the rest of a former military range.	4
Former missile or air defense artillery emplacements	◆ The MRS is a former missile defense or air defense artillery (ADA) emplacement not associated with a military range.	2
Former storage or transfer points	◆ The MRS is a location where munitions were stored or handled for transfer between different modes of transportation (e.g., rail to truck, truck to weapon system).	2
Former small arms range	◆ The MRS is a former military range where only small arms ammunition was used. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that no UXO or DMM are present, or there is historical evidence indicating that no UXO or DMM are present.	0
SOURCE OF HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**2**

DIRECTIONS: Document any MRS-specific data used in selecting the *Source of Hazard* classifications in the space provided.

Historic documentation indicates the MRS was used for munitions storage.

Table 3

EHE Module: Location of Munitions Data Element Table

DIRECTIONS: Below are eight classifications of munitions locations and their descriptions. Circle the scores that correspond with **all** the locations where munitions are known or suspected to be present at the MRS.

Note: The terms *confirmed, surface, subsurface, small arms ammunition, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
Confirmed surface	◆ Physical evidence indicates that there are UXO or DMM on the surface of the MRS. ◆ Historical evidence (i.e., a confirmed report such as an explosive ordnance disposal [EOD], police, or fire department report that an incident or accident that involved UXO or DMM occurred) indicates there are UXO or DMM on the surface of the MRS.	25
Confirmed subsurface, active	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS, and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena (e.g., drought, flooding, erosion, frost heave, tidal action), or intrusive activities (e.g., plowing, construction, dredging) at the MRS are likely to expose UXO or DMM.	20
Confirmed subsurface, stable	◆ Physical evidence indicates the presence of UXO or DMM in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed. ◆ Historical evidence indicates that UXO or DMM are located in the subsurface of the MRS and the geological conditions at the MRS are not likely to cause UXO or DMM to be exposed, in the future, by naturally occurring phenomena, or intrusive activities at the MRS are not likely to cause UXO or DMM to be exposed.	15
Suspected (physical evidence)	◆ There is physical evidence (e.g., munitions debris such as fragments, penetrators, projectiles, shell casings, links, fins), other than the documented presence of UXO or DMM, indicating that UXO or DMM may be present at the MRS.	10
Suspected (historical evidence)	◆ There is historical evidence indicating that UXO or DMM may be present at the MRS.	5
Subsurface, physical constraint	◆ There is physical or historical evidence indicating that UXO or DMM may be present in the subsurface, but there is a physical constraint (e.g., pavement, water depth over 120 feet) preventing direct access to the UXO or DMM.	2
Small arms (regardless of location)	◆ The presence of small arms ammunition is confirmed or suspected, regardless of other factors such as geological stability. (There must be evidence that no other types of munitions [e.g., grenades] were used or are present at the MRS to place an MRS into this category.)	1
Evidence of no munitions	◆ Following investigation of the MRS, there is physical evidence that there are no UXO or DMM present, or there is historical evidence indicating that no UXO or DMM are present.	0
LOCATION OF MUNITIONS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 25).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the *Location of Munitions* classifications in the space provided.

Refer to the comments provided in Tables 1 and 2.

Table 4

EHE Module: Ease of Access Data Element Table

DIRECTIONS: Below are four classifications of barrier types that can surround an MRS and their descriptions. The barrier type is directly related to the ease of public access to the MRS. Circle the score that corresponds with the ease of access to the MRS.

Note: The term *barrier* is defined in Appendix C of the Primer.

Classification	Description	Score
No barrier	◆ There is no barrier preventing access to any part of the MRS (i.e., all parts of the MRS are accessible).	10
Barrier to MRS access is incomplete	◆ There is a barrier preventing access to parts of the MRS, but not the entire MRS.	8
Barrier to MRS access is complete but not monitored	◆ There is a barrier preventing access to all parts of the MRS, but there is no surveillance (e.g., by a guard) to ensure that the barrier is effectively preventing access to all parts of the MRS.	5
Barrier to MRS access is complete and monitored	◆ There is a barrier preventing access to all parts of the MRS, and there is active, continual surveillance (e.g., by a guard, video monitoring) to ensure that the barrier is effectively preventing access to all parts of the MRS.	0
EASE OF ACCESS	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 10).	**10**

DIRECTIONS: Document any MRS-specific data used in selecting the Ease of Access classification in the space provided.

Not applicable.

Table 5

EHE Module: Status of Property Data Element Table

DIRECTIONS: Below are three classifications of the status of a property within the Department of Defense (DoD) and their descriptions. Circle the score that corresponds with the status of property at the MRS.

Classification	Description	Score
Non-DoD control	◆ The MRS is at a location that is no longer owned by, leased to, or otherwise possessed or used by DoD. Examples are privately owned land or water bodies; land or water bodies owned or controlled by state, tribal, or local governments; and land or water bodies managed by other federal agencies. ◆ The MRS is at a location that is owned by DoD, but that DoD has leased to another entity and for which DoD does not control access 24 hours per day.	5
Scheduled for transfer from DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD, and DoD plans to transfer that land or water body to the control of another entity (e.g., a state, tribal, or local government; a private party; another federal agency) within 3 years from the date the Protocol is applied.	3
DoD control	◆ The MRS is on land or is a water body that is owned, leased, or otherwise possessed by DoD. With respect to property that is leased or otherwise possessed, DoD must control access to the MRS 24 hours per day, every day of the calendar year.	0
STATUS OF PROPERTY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the Status of Property classification in the space provided.

The site is currently under the control of the DoD and is not slated to be transferred out of DoD control.

Table 6

EHE Module: Population Density Data Element Table

DIRECTIONS: Below are three classifications for population density and their descriptions. Determine the population density per square mile that most closely corresponds with the population of the MRS, including the area within a two-mile radius of the MRS's perimeter. Circle the most appropriate score.

Note: Use the U.S. Census Bureau tract data available to capture the **highest** population density within a two-mile radius of the perimeter of the MRS.

Classification	Description	Score
> 500 persons per square mile	◆ There are more than 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	5
100–500 persons per square mile	◆ There are 100 to 500 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	3
< 100 persons per square mile	◆ There are fewer than 100 persons per square mile in the U.S. Census Bureau tract in which the MRS is located.	1
POPULATION DENSITY	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Density classification in the space provided.

The site is located near Silverdale, Washington, which has a population density of approximately 1,677 persons per square mile (https://worldpopulationreview.com/us-cities/silverdale-wa-population).

Table 7

EHE Module: Population Near Hazard Data Element Table

DIRECTIONS: Below are six classifications describing the number of inhabited structures near the MRS. The number of inhabited buildings relates to the potential population near the MRS. Determine the number of inhabited structures within two miles of the MRS boundary and circle the score that corresponds with the number of inhabited structures.

Note: The term *inhabited structures* is defined in Appendix C of the Primer.

Classification	Description	Score
26 or more inhabited structures	◆ There are 26 or more inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	5
16 to 25 inhabited structures	◆ There are 16 to 25 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	4
11 to 15 inhabited structures	◆ There are 11 to 15 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	3
6 to 10 inhabited structures	◆ There are 6 to 10 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	2
1 to 5 inhabited structures	◆ There are 1 to 5 inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	1
0 inhabited structures	◆ There are no inhabited structures located up to 2 miles from the boundary of the MRS, within the boundary of the MRS, or both.	0
POPULATION NEAR HAZARD	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Population Near Hazard classification in the space provided.

Identified through review of aerial photography.

Table 8

EHE Module: Types of Activities/Structures Data Element Table

DIRECTIONS: Below are five classifications of activities and/or inhabited structures and their descriptions. Review the types of activities that occur and/or structures that are present within two miles of the MRS and circle the scores that correspond with **all** the activities/structure classifications at the MRS.

Note: The term *inhabited structure* is defined in Appendix C of the Primer.

Classification	Description	Score
Residential, educational, commercial, or subsistence	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with any of the following purposes: residential, educational, child care, critical assets (e.g., hospitals, fire and rescue, police stations, dams), hotels, commercial, shopping centers, playgrounds, community gathering areas, religious sites, or sites used for subsistence hunting, fishing, and gathering.	5
Parks and recreational areas	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with parks, nature preserves, or other recreational uses.	4
Agricultural, forestry	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with agriculture or forestry.	3
Industrial or warehousing	◆ Activities are conducted, or inhabited structures are located up to two miles from the MRS's boundary or within the MRS's boundary, that are associated with industrial activities or warehousing.	2
No known or recurring activities	◆ There are no known or recurring activities occurring up to two miles from the MRS's boundary or within the MRS's boundary.	1
TYPES OF ACTIVITIES/STRUCTURES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**5**

DIRECTIONS: Document any MRS-specific data used in selecting the Types of Activities/Structures classifications in the space provided.

See comments provided on Tables 6 and 7.

Table 9

EHE Module: Ecological and/or Cultural Resources Data Element Table

DIRECTIONS: Below are four classifications of ecological and/or cultural resources and their descriptions. Review the types of resources present and circle the score that corresponds with the ecological and/or cultural resources present on the MRS.

Note: The terms *ecological resources* and *cultural resources* are defined in Appendix C of the Primer.

Classification	Description	Score
Ecological and cultural resources present	◆ There are both ecological and cultural resources present on the MRS.	5
Ecological resources present	◆ There are ecological resources present on the MRS.	3
Cultural resources present	◆ There are cultural resources present on the MRS.	3
No ecological or cultural resources present	◆ There are no ecological resources or cultural resources present on the MRS.	0
ECOLOGICAL AND/OR CULTURAL RESOURCES	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 5).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *Ecological and/or Cultural Resources* classification in the space provided.

Not applicable.

Table 10
Determining the EHE Module Rating

DIRECTIONS:

1. From Tables 1–9, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **EHE Module Total** box below.
4. Circle the appropriate range for the **EHE Module Total** below.
5. Circle the **EHE Module Rating** that corresponds to the range selected and record this value in the **EHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
Explosive Hazard Factor Data Elements			
Munitions Type	Table 1	**10**	**12**
Source of Hazard	Table 2	**2**	
Accessibility Factor Data Elements			
Location of Munitions	Table 3	**0**	**10**
Ease of Access	Table 4	**10**	
Status of Property	Table 5	**0**	
Receptor Factor Data Elements			
Population Density	Table 6	**5**	**15**
Population Near Hazard	Table 7	**5**	
Types of Activities/Structures	Table 8	**5**	
Ecological and/or Cultural Resources	Table 9	**0**	
EHE MODULE TOTAL			**37**

EHE Module Total	EHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected Explosive Hazard
EHE MODULE RATING	**No Longer Required**

Any hazards potentially present have likely been removed; prioritization is not required for this MRS.

Table 11

CHE Module: CWM Configuration Data Element Table

DIRECTIONS: Below are seven classifications of CWM configuration and their descriptions. Circle the scores that correspond with **all** the CWM configurations known or suspected to be present at the MRS.

Note: The terms *CWM/UXO, CWM/DMM, physical evidence,* and *historical evidence* are defined in Appendix C of the Primer.

Classification	Description	Score
CWM, that are either UXO, or explosively configured damaged DMM	The CWM known or suspected of being present at the MRS are: ◆ CWM that are UXO (i.e., CWM/UXO) ◆ Explosively configured CWM that are DMM (i.e., CWM/DMM) that have been damaged.	30
CWM mixed with UXO	◆ The CWM known or suspected of being present at the MRS are undamaged CWM/DMM or CWM not configured as a munition that are commingled with conventional munitions that are UXO.	25
CWM, explosive configuration that are undamaged DMM	◆ The CWM known or suspected of being present at the MRS are explosively configured CWM/DMM that have not been damaged.	20
CWM/DMM, not explosively configured or CWM, bulk container	The CWM known or suspected of being present at the MRS are: ◆ Nonexplosively configured CWM/DMM either damaged or undamaged ◆ Bulk CWM (e.g., ton container).	15
CAIS K941 and CAIS K942	◆ The CWM/DMM known or suspected of being present at the MRS are CAIS K941-toxic gas set M-1 or CAIS K942-toxic gas set M-2/E11.	12
CAIS (chemical agent identification sets)	◆ CAIS, other than CAIS K941 and K942, are known or suspected of being present at the MRS.	10
Evidence of no CWM	◆ Following investigation, the physical evidence indicates that CWM are not present at the MRS, or the historical evidence indicates that CWM are not present at the MRS.	0
CWM CONFIGURATION	**DIRECTIONS:** Record **the single highest score** from above in the box to the right (maximum score = 30).	**0**

DIRECTIONS: Document any MRS-specific data used in selecting the *CWM Configuration* classifications in the space provided.

There is no historical or current evidence of CWM use associated with the site.

Tables 12 through 19 are Not Applicable and Intentionally Omitted

Table 20
Determining the CHE Module Rating

DIRECTIONS:

1. From Tables 11–19, record the data element scores in the **Score** boxes to the right.
2. Add the **Score** boxes for each of the three factors and record this number in the **Value** boxes to the right.
3. Add the three **Value** boxes and record this number in the **CHE Module Total** box below.
4. Circle the appropriate range for the **CHE Module Total** below.
5. Circle the **CHE Module Rating** that corresponds to the range selected and record this value in the **CHE Module Rating** box found at the bottom of the table.

Note:
An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more data elements, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

	Source	Score	Value
CWM Hazard Factor Data Elements			
CWM Configuration	Table 11	**0**	**0**
Sources of CWM	Table 12	**N/A**	
Accessibility Factor Data Elements			
Location of CWM	Table 13	**N/A**	**N/A**
Ease of Access	Table 14	**N/A**	
Status of Property	Table 15	**N/A**	
Receptor Factor Data Elements			
Population Density	Table 16	**N/A**	**N/A**
Population Near Hazard	Table 17	**N/A**	
Types of Activities/Structures	Table 18	**N/A**	
Ecological and/or Cultural Resources	Table 19	**N/A**	
CHE MODULE TOTAL			**0**

CHE Module Total	CHE Module Rating
92 to 100	A
82 to 91	B
71 to 81	C
60 to 70	D
48 to 59	E
38 to 47	F
less than 38	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected CWM Hazard
CHE MODULE RATING	**No Known or Suspected CWM Hazard**

Table 21

HHE Module: Groundwater Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's groundwater and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the groundwater, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the groundwater is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in groundwater has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the groundwater to a potential point of exposure (possibly due to geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the groundwater receptors at the MRS.

Classification	Description	Value
Identified	There is a threatened water supply well downgradient of the source and the groundwater is a current source of drinking water or source of water for other beneficial uses such as irrigation/agriculture (equivalent to Class I or IIA aquifer).	H
Potential	There is no threatened water supply well downgradient of the source and the groundwater is currently or potentially usable for drinking water, irrigation, or agriculture (equivalent to Class I, IIA, or IIB aquifer).	M
Limited	There is no potentially threatened water supply well downgradient of the source and the groundwater is not considered a potential source of drinking water and is of limited beneficial use (equivalent to Class IIIA or IIIB aquifer, or where perched aquifer exists only).	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Groundwater MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 22

HHE Module: Surface Water – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios

CHF Scale	CHF Value	Sum The Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Human Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 23

HHE Module: Sediment – Human Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the site's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for human endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios
CHF Scale	**CHF Value**	**Sum The Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Human Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 24

HHE Module: Surface Water – Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface water and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the surface water, select the box at the bottom of the table.

Note: Use dissolved, rather than total, metals analyses when both are available.

Contaminant	Maximum Concentration (µg/L)	Comparison Value (µg/L)	Ratios
CHF Scale	**CHF Value**	**Sum the Ratios**	
CHF > 100	**H (High)**	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	**M (Medium)**		
2 > CHF	**L (Low)**		
CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).		

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface water is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface water has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface water to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface water to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface water to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface water to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Water (Ecological Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 25

HHE Module: Sediment– Ecological Endpoint Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's sediment and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard for ecological endpoints present in the sediment, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratios

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the sediment is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in sediment has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the sediment to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L

MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface water receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to sediment to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to sediment to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to sediment to which contamination has moved or can move.	L

RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Sediment (Ecological Endpoint) MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 26

HHE Module: Surface Soil – Data Element Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Record the **maximum concentrations** of all contaminants in the MRS's surface soil and their **comparison values** (from Appendix B) in the table below. Additional contaminants can be recorded on Table 27. Calculate and record the **ratios** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** by adding the **ratios** for each medium together, including additional contaminants recorded on Table 27. Based on the **CHF**, use the **CHF Scale** to determine and record the **CHF Value**. If there is no known or suspected MC hazard present in the surface soil, select the box at the bottom of the table.

Contaminant	Maximum Concentration (mg/kg)	Comparison Value (mg/kg)	Ratio

CHF Scale	CHF Value	Sum the Ratios	
CHF > 100	H (High)	$CHF = \sum \frac{\text{[Maximum Concentration of Contaminant]}}{\text{[Comparison Value for Contaminant]}}$	
100 > CHF > 2	M (Medium)		
2 > CHF	L (Low)		

CONTAMINANT HAZARD FACTOR	**DIRECTIONS:** Record **the CHF Value** from above in the box to the right (maximum value = H).	

Migratory Pathway Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil migratory pathway at the MRS.

Classification	Description	Value
Evident	Analytical data or observable evidence indicates that contamination in the surface soil is present at, moving toward, or has moved to a point of exposure.	H
Potential	Contamination in surface soil has moved only slightly beyond the source (i.e., tens of feet), could move but is not moving appreciably, or information is not sufficient to make a determination of Evident or Confined.	M
Confined	Information indicates a low potential for contaminant migration from the source via the surface soil to a potential point of exposure (possibly due to presence of geological structures or physical controls).	L
MIGRATORY PATHWAY FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

Receptor Factor

DIRECTIONS: Circle the value that corresponds most closely to the surface soil receptors at the MRS.

Classification	Description	Value
Identified	Identified receptors have access to surface soil to which contamination has moved or can move.	H
Potential	Potential for receptors to have access to surface soil to which contamination has moved or can move.	M
Limited	Little or no potential for receptors to have access to surface soil to which contamination has moved or can move.	L
RECEPTOR FACTOR	**DIRECTIONS:** Record **the single highest value** from above in the box to the right (maximum value = H).	

No Known or Suspected Surface Soil MC Hazard ☑

No viable sources of MC have been encountered in the MRS.

Table 27

HHE Module: Supplemental Contaminant Hazard Factor Table

Contaminant Hazard Factor (CHF)

DIRECTIONS: Only use this table if there are more than five contaminants present at the MRS. This is a supplemental table designed to hold information about contaminants that do not fit in the previous tables. Indicate the **media** in which these contaminants are present. Then record all **contaminants**, their **maximum concentrations** and their **comparison values** (from Appendix B) in the table below. Calculate and record the **ratio** for each contaminant by dividing the **maximum concentration** by the **comparison value**. Determine the **CHF** for each medium on the appropriate media-specific tables.

Note: Remember not to add ratios from different media.

Media	Contaminant	Maximum Concentration	Comparison Value	Ratio

Table 28
Determining the HHE Module Rating

DIRECTIONS:

1. Record the letter values (H, M, L) for the **Contaminant Hazard, Migration Pathway, and Receptor Factors** for the media (from Tables 21–26) in the corresponding boxes below.
2. Record the media's three-letter combinations in the **Three-Letter Combination** boxes below (three-letter combinations are arranged from Hs to Ms to Ls).
3. Using the reference provided below, determine each media's rating (A–G) and record the letter in the corresponding **Media Rating** box below.

Media (Source)	Contaminant Hazard Factor Value	Migratory Pathway Factor Value	Receptor Factor Value		Three-Letter Combination (Hs-Ms-Ls)		Media Rating (A-G)
Groundwater (Table 21)	-	-	-		-		-
Surface Water/Human Endpoint (Table 22)	-	-	-		-		-
Sediment/Human Endpoint (Table 23)	-	-	-		-		-
Surface Water/Ecological Endpoint (Table 24)	-	-	-		-		-
Sediment/Ecological Endpoint (Table 25)	-	-	-		-		-
Surface Soil (Table 26)	-	-	-		-		-

DIRECTIONS (cont.):

4. Select the single highest Media Rating (A is highest; G is lowest) and enter the letter in the **HHE Module Rating** box below.

Note:

An alternative module rating may be assigned when a module letter rating is inappropriate. An alternative module rating is used when more information is needed to score one or more media, contamination at an MRS was previously addressed, or there is no reason to suspect contamination was ever present at an MRS.

HHE MODULE RATING	-

HHE Ratings (for reference only)

Combination	Rating
HHH	A
HHM	B
HHL	C
HMM	
HML	D
MMM	
HLL	E
MML	
MLL	F
LLL	G
Alternative Module Ratings	Evaluation Pending
	No Longer Required
	No Known or Suspected MC Hazard

Any potential sources of MC have likely been removed; prioritization is not required for this MRS.

Table 29
MRS Priority

DIRECTIONS: In the chart below, circle the letter **rating** for each module recorded in Table 10 (EHE), Table 20 (CHE), and Table 28 (HHE). Circle the corresponding numerical **priority** for each module. If information to determine the module rating is not available, choose the appropriate alternative module rating. The MRS priority is the single highest priority; record this number in the **MRS or Alternative Priority** box at the bottom of the table.

Note: An MRS assigned Priority 1 has the highest relative priority; an MRS assigned Priority 8 has the lowest relative priority. Only an MRS with CWM known or suspected to be present can be assigned Priority 1; an MRS that has CWM known or suspected to be present cannot be assigned Priority 8.

EHE Rating	Priority	CHE Rating	Priority	HHE Rating	Priority
		A	1		
A	2	B	2	A	2
B	3	C	3	B	3
C	4	D	4	C	4
D	5	E	5	D	5
E	6	F	6	E	6
F	7	G	7	F	7
G	8			G	8
Evaluation Pending		Evaluation Pending		Evaluation Pending	
No Longer Required		No Longer Required		No Longer Required	
No Known or Suspected Explosive Hazard		No Known or Suspected CWM Hazard		No Known or Suspected MC Hazard	
MRS or ALTERNATIVE PRIORITY				**No Longer Required**	