FLOYD | SNIDER
strategy ▪ science ▪ engineering

Two Union Square
601 Union Street, Suite 600
Seattle, WA 98101
tel: 206.292.2078 fax: 206.682.7867

Memorandum

To: Tena Seeds, Washington State Department of Ecology

CC: Doug Ciserella and Mike Ciserella, TOC Seattle Terminal 1, LLC
Bill Joyce, Joyce Ziker Partners PLLC
Reid Carscadden and Jamie Stevens, CRETE Consulting

From: Kristin Anderson, LHG, and Lynn Grochala, Floyd|Snider

Date: October 15, 2021

Project No: Cantera-TOC

Re: **Time Oil Bulk Terminal Site: Third Quarter 2021 Progress Report**

Floyd|Snider is providing this quarterly progress report for the Time Oil Bulk Terminal Site (Site), in accordance with Section XII of the Prospective Purchaser Consent Decree (PPCD) between the Washington State Department of Ecology (Ecology) and TOC Seattle Terminal 1, LLC. The reporting period for this progress report includes activities performed by the project team (Floyd|Snider and CRETE Consulting) from July 1, 2021, through September 30, 2021.

SUMMARY OF ACTIVITIES (SECTION XII.A)

Activities completed during this reporting period included the following:

Cleanup Action Construction

On-site cleanup action construction activities began the week of July 12, with contractor mobilization, Site preparation, and a Site construction kick-off meeting with the City of Seattle and Ecology on July 15, 2021. Cleanup action construction activities were performed in accordance with the Ecology-approved June 2021 Engineering Design Report (EDR), including the following:

- Completed excavation and off-site disposal of contaminated soils from the following Cleanup Action Areas (CAAs), in order of completion: CAA-7, CAA-6a, CAA-5, CAA-1a, CAA-1b, and CAA-6b. Please note that light non-aqueous phase liquid (LNAPL) was not observed during remediation of CAA-1a, which was documented in email correspondence with Ecology between August 9 and 16, 2021.
- Completed in-situ solidification and stabilization (ISS) in CAA-2a.

- Initiated excavation, shoring, and off-site disposal of contaminated soils at CAA-2b in early September.
- Initiated ISS work in CAA-4 in mid-September, including installation of shoring along the BNSF property line.
- Decommissioned wells 01MW20, 01MW49, and 01MW50 by a licensed driller (ESN Northwest) on September 13, 2021 (01MW20) and September 28, 2021 (01MW49 and 01MW50). Wells 01MW49 and 01MW50 were planned for removal during the cleanup action. The shallow well 01MW20 was removed because the screened interval was within the excavation depth of CAA-6b. It is anticipated that this well (01MW20) will be re-installed in accordance with the final Groundwater Monitoring Plan after completion of construction activities.
- Collected confirmation soil samples from each excavation in accordance with the EDR to document the completion of remedial excavations in completed CAAs. All excavations were subsequently backfilled with clean fill and compacted based on the specifications in the project drawings. A summary of all confirmation soil samples and copies of laboratory analytical records will be included in the Construction Completion Report.

Deliverables

Cleanup action construction deliverables included the following:

- Submitted weekly cleanup action construction progress summary emails to Ecology beginning on July 22, 2021. These weekly emails also included a projected 3-week contractor look-ahead schedule for construction.
- Completed cleanup action construction reporting in accordance with city and county permits:
    - Submitted Discharge Monitoring Reports (DMRs) under the Construction Stormwater General Permit (CSGP) WAR 310049 on August 15, 2021 (covering the reporting period of July 2021) and September 13, 2021 (covering the reporting period of August 2021).
    - Completed Self-Monitoring Reports (SMRs) under King County Industrial Waste (KCIW) Discharge Authorization 1145-01 on August 9, 2021 (covering the reporting period of July 2021) and September 13, 2021 (covering the reporting period of August 2021).

DESCRIPTION OF DEVIATIONS FROM REQUIRED TASKS (SECTION XII.B)

- None

ANTICIPATED PROBLEMS IN MEETING SCHEDULE OR OBJECTIVES AND ASSOCIATED SOLUTIONS (SECTIONS XII.C AND XII.D)

- There are no anticipated problems in meeting the schedule of deliverables specified in Exhibit D of the PPCD. The current schedule of deliverables and activities specified in Table 8.1 of the Cleanup Action Plan (Exhibit C of the PPCD) are currently on track and ahead of schedule.

SAMPLING, TESTING, OR OTHER DATA REPORTS RECEIVED (SECTION XII.E)

Analytical data for confirmation samples collected for the remedial excavations were received between July 19 and September 15, 2021. In accordance with Section XII.E, copies of analytical data packages are provided in Attachment 1 and include the following:

- CAA-7: Sample delivery group (SDG) 107284
- CAA-6a: SDGs 107439, 107470, 107474, 107499, 107507, 107529, 107530
- CAA-5: SDGs 108011, 108025
- CAA-1a: SDGs 108107, 108108, 108129, 108177
- CAA-1a and CAA-1b: SDG 108153
- CAA-1b: SDGs 108241, 108279, 108430
- CAA-6b: SDGs 109204, 109205, 109128

A summary of these data, and their application to cleanup action implementation, will also be provided in a completion report to be prepared after the completion of cleanup action construction. Analytical data for the samples remaining in place after construction completion will be uploaded to Ecology's Environmental Information Management system, as required by the PPCD.

ACTIVITIES ANTICIPATED TO BE COMPLETED DURING THE NEXT REPORTING PERIOD (SECTION XII.F)

The following activities are anticipated to be completed during the next quarterly reporting period (October to December 2021):

- Completion of remedial construction activities, including the following:
  - Completion of excavation in CAA-2b and application of advanced oxygen release compound in the completed excavation
  - Excavation in CAA-3
  - ISS, installation of upgradient interceptor trench and permeable reactive barrier, and injection of downgradient PlumeStop barrier in CAA-4
  - Additional ISS swell management
  - Site restoration and contractor demobilization

DELIVERABLES ANTICIPATED TO BE COMPLETED DURING THE NEXT REPORTING PERIOD (SECTION XII.G)

The following deliverables are anticipated to be completed during the next quarterly reporting period of October through December 2021:

- Deliverables required under the PPCD are not anticipated to be completed during the next quarterly reporting period.
- The project team will continue to provide routine construction status updates to Ecology via email during cleanup action construction.
- Reporting required per the construction permits, including SMRs under the KCIW Discharge Authorization and DMRs under the Ecology CSGP, will continue to be submitted on a monthly basis during remedial construction.

OTHER PERTINENT INFORMATION, INCLUDING CHANGES IN KEY PERSONNEL

- None

LIST OF ATTACHMENTS

Attachment 1 Laboratory Analytical Reports for Excavation Confirmation Samples

Attachment 1
Laboratory Analytical Reports for
Excavation Confirmation Samples

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 22, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

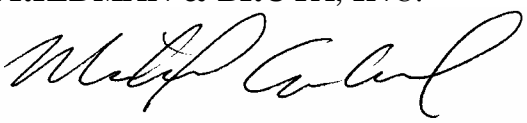
Dear Mr Jones:

Included are the results from the testing of material submitted on July 19, 2021 from the TOC Seattle Terminal 1, F&BI 107284 project. There are 11 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Jamie Stevens, K.im Hempel, Lynn Grochala, Kristin Anderson, Reid Casscadden
CTC0722R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 19, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107284 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107284 -01	CAA7-BASE-19
107284 -02	CAA7-BASE-17
107284 -03	CAA7-BASE-16
107284 -04	CAA7-BASE-15
107284 -05	CAA7-BASE-18
107284 -06	CAA7-BASE-14
107284 -07	CAA7-BASE-13

All quality control requirements were acceptable.

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA7-BASE-19	Client:	Crete Consulting
Date Received:	07/19/21	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	107284-01
Date Analyzed:	07/20/21	Data File:	107284-01.041
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.98

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA7-BASE-17	Client:	Crete Consulting
Date Received:	07/19/21	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	107284-02
Date Analyzed:	07/20/21	Data File:	107284-02.044
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.66

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA7-BASE-16	Client:	Crete Consulting
Date Received:	07/19/21	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	107284-03
Date Analyzed:	07/20/21	Data File:	107284-03.045
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.06

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA7-BASE-15	Client:	Crete Consulting
Date Received:	07/19/21	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	107284-04
Date Analyzed:	07/20/21	Data File:	107284-04.046
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	3.79

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA7-BASE-18	Client:	Crete Consulting
Date Received:	07/19/21	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	107284-05
Date Analyzed:	07/20/21	Data File:	107284-05.047
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.85

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA7-BASE-14	Client:	Crete Consulting
Date Received:	07/19/21	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	107284-06
Date Analyzed:	07/20/21	Data File:	107284-06.048
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.71

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA7-BASE-13	Client:	Crete Consulting
Date Received:	07/19/21	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	107284-07
Date Analyzed:	07/20/21	Data File:	107284-07.049
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.24

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	Not Applicable	Project:	TOC Seattle Terminal 1, F&BI 107284
Date Extracted:	07/20/21	Lab ID:	I1-441 mb
Date Analyzed:	07/20/21	Data File:	I1-441 mb.037
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 07/22/21
Date Received: 07/19/21
Project: TOC Seattle Terminal 1, F&BI 107284

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 107284-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	5.99	92	94	75-125	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	96	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

107284

SAMPLE CHAIN OF CUSTODY

ME 07/19/21 BT2

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

INVOICE TO

TURNAROUND TIME
- ☐ Standard Turnaround
- ☒ RUSH 24-Hour

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Dispose after 30 days
- ☐ Archive Samples
- ☐ Other

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	TPH-HCID	TPH-Diesel	TPH-Gasoline	BTEX by 8021B	VOCs by 8260C	SVOCs by 8270D	PAHs 8270D SIM	Arsenic				Notes
CAA7-BASE-19	01	7.19.2021	1100	SOIL	1								X				
CAA7-BASE-17	02		1110		1								X				
CAA7-BASE-16	03		1115		1								X				
CAA7-BASE-15	04		1120		1								X				
CAA7-BASE-18	05		1130		1								X				
CAA7-BASE-14	06		1145		1								X				
CAA7-BASE-13	07		1155		1								X				
																	Samples received at 4 °C

ANALYSES REQUESTED

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consulting	7.19.21	1322
Received by:	HONG NGUYEN	FBT	V	V
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

July 28, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

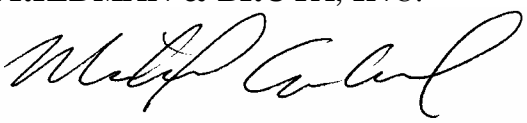
Dear Mr Jones:

Included are the results from the testing of material submitted on July 27, 2021 from the TOC Seattle Terminal 1, F&BI 107439 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1 Group
CTC0728R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 27, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107439 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107439 -01	CAA6A-SS-02
107439 -02	CAA6A-SS-03
107439 -03	CAA6A-SS-04

All quality control requirements were acceptable.

Date of Report: 07/28/21
Date Received: 07/27/21
Project: TOC Seattle Terminal 1, F&BI 107439
Date Extracted: 07/27/21
Date Analyzed: 07/28/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
CAA6A-SS-02 107439-01 1/5	<0.02 j	130	81
CAA6A-SS-03 107439-02	<0.02	<5	88
CAA6A-SS-04 107439-03	<0.02	<5	84
Method Blank 01-1659 MB	<0.02	<5	95

Date of Report: 07/28/21
Date Received: 07/27/21
Project: TOC Seattle Terminal 1, F&BI 107439
Date Extracted: 07/27/21
Date Analyzed: 07/27/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA6A-SS-02 107439-01	510	380	91
CAA6A-SS-03 107439-02	<50	<250	99
CAA6A-SS-04 107439-03	<50	<250	91
Method Blank 01-1743 MB	<50	<250	97

Date of Report: 07/28/21
Date Received: 07/27/21
Project: TOC Seattle Terminal 1, F&BI 107439

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 107425-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	89	69-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 07/28/21
Date Received: 07/27/21
Project: TOC Seattle Terminal 1, F&BI 107439

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 107439-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	440	94	91	64-133	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	94	58-147

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

107439

ME 07/27/21

BOI/WSI

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME

☐ Standard turnaround

☒ RUSH 24 Hour

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082				Notes
CAA6A-SS-02	01 A-E	7.27.21	1340	SOIL	5	X	X	X								Benzene only
CAA6A-SS-03	02	↓	1350	↓	5	X	X	X								↓
CAA6A-SS-04	03	↓	1406	↓	5	X	X	X								

Samples received at ___ °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consulting	7.27.21	1456
Received by:	Khoi Hoang	PBF	7.27.21	1457
Relinquished by:				
Received by:		Samples received at 4 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Eric Young, B.S.

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Seattle, WA 98119-2029
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fbi@isomedia.com
www.friedmanandbruya.com

July 30, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on July 28, 2021 from the TOC Seattle Terminal 1, F&BI 107470 project. There are 7 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1
CTC0730R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 28, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107470 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107470 -01	CAA6A-SS-05
107470 -02	CAA6A-SS-01
107470 -03	CAA6A-SS-09

All quality control requirements were acceptable.

Date of Report: 07/30/21
Date Received: 07/28/21
Project: TOC Seattle Terminal 1, F&BI 107470
Date Extracted: 07/29/21
Date Analyzed: 07/29/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA6A-SS-09 107470-03	<5	86
Method Blank 01-1661 MB2	<5	85

Date of Report: 07/30/21
Date Received: 07/28/21
Project: TOC Seattle Terminal 1, F&BI 107470
Date Extracted: 07/29/21
Date Analyzed: 07/29/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
CAA6A-SS-05 107470-01	<0.02	<5	79
CAA6A-SS-01 107470-02	<0.02	<5	82
Method Blank 01-1661 MB2	<0.02	<5	78

Date of Report: 07/30/21
Date Received: 07/28/21
Project: TOC Seattle Terminal 1, F&BI 107470
Date Extracted: 07/29/21
Date Analyzed: 07/29/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA6A-SS-05 107470-01	<50	<250	95
CAA6A-SS-01 107470-02	<50	<250	99
Method Blank 01-1752 MB	<50	<250	96

Date of Report: 07/30/21
Date Received: 07/28/21
Project: TOC Seattle Terminal 1, F&BI 107470

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 107437-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	90	69-120
Gasoline	mg/kg (ppm)	20	85	71-131

Date of Report: 07/30/21
Date Received: 07/28/21
Project: TOC Seattle Terminal 1, F&BI 107470

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 107470-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	107	64-133	9

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	58-147

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

107470

B01 VS-D5

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company Toc Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones ME 7/28/21

PROJECT NAME: Toc Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
☐ Standard turnaround
☒ RUSH 24-Hour
Rush charges authorized by:

SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA6A-SS-05	01A-E	7.28.21	1530	SOIL	5	X	X	X									Benzene only
CAA6A-SS-01	02	↓	1600	↓	5	X	X	X									↓
CAA6A-SS-09	03	↓	1610	↓	5	~~X~~	X	~~X~~									* cancel Dx + Benzene on 03 per RJ 7/28/21 ME

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	Crete Consulting	7.28.21	1635
Received by: B 7	BISRAT TADESSE	FBI	7/28/21	1635
Relinquished by:				
Received by:		Samples received at 4 °C		

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 2, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

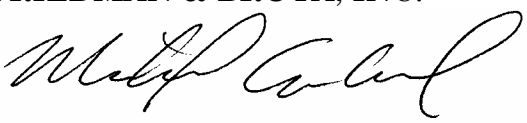
Dear Mr Jones:

Included are the results from the testing of material submitted on July 29, 2021 from the TOC Seattle Terminal 1, F&BI 107474 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1 Group
CTC0802R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 29, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107474 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107474 -01	CAA6A-BASE-01
107474 -02	CAA6A-BASE-02
107474 -03	CAA6A-BASE-03

All quality control requirements were acceptable.

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107474
Date Extracted: 07/29/21
Date Analyzed: 07/29/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
CAA6A-BASE-01 107474-01	<0.02	40	101
CAA6A-BASE-02 107474-02	0.038	<5	101
CAA6A-BASE-03 107474-03	0.077	<5	101
Method Blank 01-1663 MB	<0.02	<5	103

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107474
Date Extracted: 07/29/21
Date Analyzed: 07/29/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA6A-BASE-01 107474-01	98	<250	102
CAA6A-BASE-02 107474-02	<50	<250	109
CAA6A-BASE-03 107474-03	<50	<250	103
Method Blank 01-1753 MB	<50	<250	100

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107474

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 107474-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	40	41	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	92	69-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107474

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 107473-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	83	117	115	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	84	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

107474

SAMPLE CHAIN OF CUSTODY

ME 07-29-21

Page # 1 of 1 VSI

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME B01

☐ Standard turnaround

☒ RUSH 24-Hour

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CA16A-BASE-01	01 A-E	7.29.2021	0905	SOIL	5	X	X	X									Benzene only
CA16A-BASE-02	02	↓	0910	↓	5	X	X	X									↓
~~CA16A~~ CA16A-BASE-03	03	↓	0915	↓	5	X	X	X									↓
													Samples received at 4 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CREEE Consulting	7.29.21	1015
Received by: Khan Phan	Khan Phan	FEBT	7/29/21	1015
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 2, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

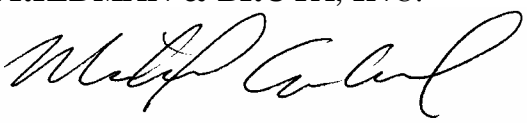
Dear Mr Jones:

Included are the results from the testing of material submitted on July 29, 2021 from the TOC Seattle Terminal 1, F&BI 107499 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1 Group
CTC0802R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 29, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107499 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107499 -01	CAA6A-SS-06

All quality control requirements were acceptable.

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107499
Date Extracted: 07/30/21
Date Analyzed: 07/30/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
CAA6A-SS-06 107499-01	<0.02	<5	79
Method Blank 01-1665 MB	<0.02	<5	81

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107499
Date Extracted: 07/30/21
Date Analyzed: 07/30/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA6A-SS-06 107499-01	<50	<250	109
Method Blank 01-1756 MB	<50	<250	100

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107499

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 107499-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	91	66-121
Gasoline	mg/kg (ppm)	20	105	61-153

Date of Report: 08/02/21
Date Received: 07/29/21
Project: TOC Seattle Terminal 1, F&BI 107499

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 107499-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	120	118	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	115	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

107499

SAMPLE CHAIN OF CUSTODY

ME 7/29/21

B01 VS-D2

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company ToC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R. Jones	
PROJECT NAME ToC Seattle Terminal 1	PO #
REMARKS Project specific RLs? - Yes / No	INVOICE TO

TURNAROUND TIME
☐ Standard turnaround
☒ RUSH 24 Hr
Rush charges authorized by:
SAMPLE DISPOSAL
☐ Archive samples
☐ Other
Default: Dispose after 30 days

						ANALYSES REQUESTED											
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA6A-SS-06	01A-E	7.29.21	1505	Soil	5	X	X	X									Benzene only

Samples received at 7 °C

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	R. Jones	Rusty Jones	CRETE Consulting	7.29.21	1530
Received by:	[signature]	Vinh	FB1	7/29/21	1530
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 3, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on July 30, 2021 from the TOC Seattle Terminal 1, F&BI 107507 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0803R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 30, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107507 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107507 -01	CAA6A-Base-04

All quality control requirements were acceptable.

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107507
Date Extracted: 07/30/21
Date Analyzed: 07/30/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) Limit 50-150)
CAA6A-Base-04 107507-01	<0.02	<5	94
Method Blank 01-1663 MB2	<0.02	<5	102

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107507
Date Extracted: 07/30/21
Date Analyzed: 07/30/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA6A-Base-04 107507-01	<50	<250	95
Method Blank 01-1757 MB	<50	<250	97

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107507

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 107474-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	41	53	26 hr

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	92	69-120
Gasoline	mg/kg (ppm)	20	90	71-131

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107507

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 107500-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	106	104	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	102	58-147

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

107507

SAMPLE CHAIN OF CUSTODY

ME 07/30/21 VS-05/801

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

Page # 1 of 1

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 24 Hour
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA6A-BASE-04	01A-E	7.30.21	0825	SOIL	5	X	X	X									Benzene only

Samples received at 5 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consulting	7.30.21	0905
Received by:	Nhan Phan	FCBT	7/30/21	0905
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 3, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

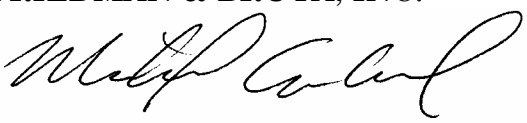
Dear Mr Jones:

Included are the results from the testing of material submitted on July 30, 2021 from the TOC Seattle Terminal 1, F&BI 107529 project. There are 5 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0803R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 30, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107529 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107529 -01	CAA6A-Base-01-8
107529 -02	CAA6A-Base-02A-8
107529 -03	CAA6A-Base-03-8

All quality control requirements were acceptable.

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107529
Date Extracted: 08/02/21
Date Analyzed: 08/02/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
CAA6A-Base-01-8 107529-01	<5	83
Method Blank 01-1666 MB	<5	69

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107529
Date Extracted: 08/02/21
Date Analyzed: 08/02/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE
USING METHOD 8021B

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Surrogate (% Recovery) (Limit 50-150)
CAA6A-Base-02A-8 107529-02	<0.02	102
CAA6A-Base-03-8 107529-03	<0.02	101
Method Blank 01-1666 MB	<0.02	87

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107529

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Laboratory Code: 107523-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	85	69-120
Gasoline	mg/kg (ppm)	20	110	71-131

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

107529

ME 07/30/21

VSI / 1 B01

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company ToC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: ToC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 24 Hr

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA6A-BASE-01-8	01 A-E	7.30.21	1445	SOIL	5		X										
CAA6A-BASE-02A-8	02	↓	1505	↓	5			X									Benzene only
CAA6A-BASE-03-8	03	↓	1525	↓	5			X									↓ ↓

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CREE Consulting	7.30.21	1624
Received by:	JOE MOHAMMED	F&BI	7/30/21	1624
Relinquished by:	Samples received at 4 °C			
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Arina Podnozova, B.S.
Eric Young, B.S.

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Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 3, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

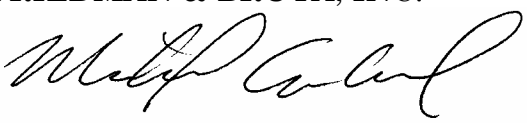
Dear Mr Jones:

Included are the results from the testing of material submitted on July 30, 2021 from the TOC Seattle Terminal 1, F&BI 107530 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0803R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on July 30, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 107530 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
107530 -01	CAA6A-SS-07
107530 -02	CAA6A-SS-08
107530 -03	CAA6A-Base-01-4
107530 -04	CAA6A-Base-02A-5
107530 -05	CAA6A-Base-03-4

All quality control requirements were acceptable.

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107530
Date Extracted: 08/02/21
Date Analyzed: 08/02/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA6A-Base-01-4 107530-03	<5	84
Method Blank 01-1666 MB	<5	69

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107530
Date Extracted: 08/02/21
Date Analyzed: 08/02/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES
FOR BENZENE
USING METHOD 8021B

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Surrogate (% Recovery) (Limit 50-132)
CAA6A-Base-02A-5 107530-04	0.044	80
CAA6A-Base-03-4 107530-05	<0.02	82
Method Blank 01-1666 MB	<0.02	87

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107530
Date Extracted: 08/02/21
Date Analyzed: 08/02/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHOD 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
CAA6A-SS-07 107530-01	<0.02	<5	81
CAA6A-SS-08 107530-02	<0.02	<5	78
Method Blank 01-1666 MB	<0.02	<5	87

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107530
Date Extracted: 08/02/21
Date Analyzed: 08/02/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA6A-SS-07 107530-01	<50	<250	97
CAA6A-SS-08 107530-02	<50	<250	93
Method Blank 01-1761 MB	<50	<250	93

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107530

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 107523-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	85	69-120
Gasoline	mg/kg (ppm)	20	110	71-131

Date of Report: 08/03/21
Date Received: 07/30/21
Project: TOC Seattle Terminal 1, F&BI 107530

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 107537-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	83	83	64-133	0

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	92	58-147

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

107530

SAMPLE CHAIN OF CUSTODY

ME 07/30/21 USI / B02

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 24 Hr
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA6A-SS-07	01 A-E	7.30.21	1325	SOIL	5	X	X	X									Benzene only
CAA6A-SS-08	02	↓	1355	↓	5	X	X	X									↓ ↓
CAA6A-BASE-01-4	03		1435		5		X										
CAA6A-BASE-02A-5	04		1455		5			X									Benzene only
CAA6A-BASE-03-4	05	↓	1515	↓	5			X									↓ ↓

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consulting	7.30.21	1624
Received by:	JOE MOHAMMED	FSSI	7.30.21	1624
Relinquished by:	Samples received at 4 °C			
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Eric Young, B.S.

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Seattle, WA 98119-2029
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fbi@isomedia.com
www.friedmanandbruya.com

August 4, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on August 2, 2021 from the TOC Seattle Terminal 1, F&BI 108011 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0804R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 2, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108011 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108011 -01	CAA5-SS-02
108011 -02	CAA5-SS-03

All quality control requirements were acceptable.

Date of Report: 08/04/21
Date Received: 08/02/21
Project: TOC Seattle Terminal 1, F&BI 108011
Date Extracted: 08/03/21
Date Analyzed: 08/03/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA5-SS-02 108011-01	<50	<250	95
CAA5-SS-03 108011-02	<50	<250	91
Method Blank 01-1766 MB	<50	<250	98

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA5-SS-02	Client:	Crete Consulting
Date Received:	08/02/21	Project:	TOC Seattle Terminal 1, F&BI 108011
Date Extracted:	08/03/21	Lab ID:	108011-01 x5
Date Analyzed:	08/03/21	Data File:	108011-01 x5.073
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.63

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA5-SS-03	Client:	Crete Consulting
Date Received:	08/02/21	Project:	TOC Seattle Terminal 1, F&BI 108011
Date Extracted:	08/03/21	Lab ID:	108011-02 x5
Date Analyzed:	08/03/21	Data File:	108011-02 x5.070
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	6.36

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	TOC Seattle Terminal 1, F&BI 108011
Date Extracted:	08/03/21	Lab ID:	I1-470 mb
Date Analyzed:	08/03/21	Data File:	I1-470 mb.040
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 08/04/21
Date Received: 08/02/21
Project: TOC Seattle Terminal 1, F&BI 108011

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108011-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	84	88	64-133	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	82	58-147

Date of Report: 08/04/21
Date Received: 08/02/21
Project: TOC Seattle Terminal 1, F&BI 108011

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 108010-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	82	77	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	91	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108011

SAMPLE CHAIN OF CUSTODY

ME 8/02/21 DL 1

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 24-Hours

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic (6010/6020)				Notes
CAA5-SS-02	01	8.2.21	1505	SOIL	1	X							X				
CAA5-SS-03	02	↓	1515	↓	1	X							X				
																	Samples received at 5°C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R Jones	Rusty Jones	Crete Consulting	8.2.21	1349
Received by:	HONG NGUYEN	FBI	✓	✓
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
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Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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fbi@isomedia.com
www.friedmanandbruya.com

August 5, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

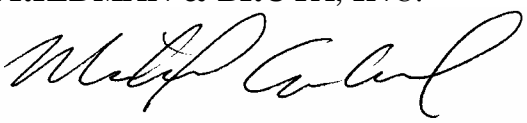
Dear Mr Jones:

Included are the results from the testing of material submitted on August 3, 2021 from the TOC Seattle Terminal 1, F&BI 108025 project. There are 8 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0805R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 3, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108025 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108025 -01	CAA5-SS-04
108025 -02	CAA5-SS-01

All quality control requirements were acceptable.

Date of Report: 08/05/21
Date Received: 08/03/21
Project: TOC Seattle Terminal 1, F&BI 108025
Date Extracted: 08/03/21
Date Analyzed: 08/03/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 56-165)
CAA5-SS-04 108025-01	<50	<250	79
CAA5-SS-01 108025-02	3,200	2,000	84
Method Blank 01-1792 MB	<50	<250	91

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA5-SS-04	Client:	Crete Consulting
Date Received:	08/03/21	Project:	TOC Seattle Terminal 1, F&BI 108025
Date Extracted:	08/04/21	Lab ID:	108025-01
Date Analyzed:	08/04/21	Data File:	108025-01.052
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	4.08

Analysis For Total Metals By EPA Method 6020B

Client ID:	CAA5-SS-01	Client:	Crete Consulting
Date Received:	08/03/21	Project:	TOC Seattle Terminal 1, F&BI 108025
Date Extracted:	08/04/21	Lab ID:	108025-02
Date Analyzed:	08/04/21	Data File:	108025-02.053
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	5.26

Analysis For Total Metals By EPA Method 6020B

Client ID:	Method Blank	Client:	Crete Consulting
Date Received:	NA	Project:	TOC Seattle Terminal 1, F&BI 108025
Date Extracted:	08/04/21	Lab ID:	I1-470 mb2
Date Analyzed:	08/04/21	Data File:	I1-470 mb2.051
Matrix:	Soil	Instrument:	ICPMS2
Units:	mg/kg (ppm) Dry Weight	Operator:	SP

Analyte:	Concentration mg/kg (ppm)
Arsenic	<1

Date of Report: 08/05/21
Date Received: 08/03/21
Project: TOC Seattle Terminal 1, F&BI 108025

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108025-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	83	84	63-146	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	82	79-144

Date of Report: 08/05/21
Date Received: 08/03/21
Project: TOC Seattle Terminal 1, F&BI 108025

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TOTAL METALS USING EPA METHOD 6020B

Laboratory Code: 108010-01 x5 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Arsenic	mg/kg (ppm)	10	<5	85	90	75-125	6

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Arsenic	mg/kg (ppm)	10	83	80-120

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108025

SAMPLE CHAIN OF CUSTODY

ME 08/03/21

Page # 1 of 1

BT1

Report To R. Jones, J. Stevens, K Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 24-Hour

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082	Arsenic (6010/6020)				Notes
SS CAAS-SS-01	01	8.3.2021	1010	SOIL	1	X							X				
SS CAAS-SS-01	02	↓	1020	SOIL	1	X							X				
													Samples received at 4 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R Jones	Rusty Jones	CRETE Consulting	8.3.2021	1120
Received by:	Nhan Phan	FEBT	8/3/21	1120
Relinquished by:				
Received by:				

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FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Eric Young, B.S.

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fbi@isomedia.com
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August 10, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

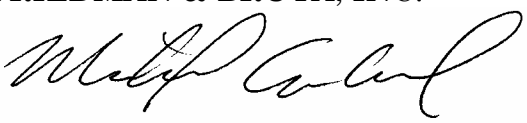
Dear Mr Jones:

Included are the results from the testing of material submitted on August 6, 2021 from the TOC Seattle Terminal 1, F&BI 108107 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0810R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 6, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108107 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108107 -01	CAA1A-TP3-7
108107 -02	CAA1A-TP3-9
108107 -03	CAA1A-TP4-8
108107 -04	CAA1A-TP4-12.2
108107 -05	CAA1A-TP4-13.9

All quality control requirements were acceptable.

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108107
Date Extracted: 08/06/21
Date Analyzed: 08/06/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA1A-TP3-7 108107-01	<5	85
CAA1A-TP3-9 108107-02	<5	81
CAA1A-TP4-8 108107-03	35	87
CAA1A-TP4-12.2 108107-04	<5	82
CAA1A-TP4-13.9 108107-05	<5	83
Method Blank 01-1768 MB	<5	96

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108107
Date Extracted: 08/06/21
Date Analyzed: 08/06/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA1A-TP3-7 108107-01	<50	<250	95
CAA1A-TP3-9 108107-02	<50	<250	95
CAA1A-TP4-8 108107-03	280	<250	95
CAA1A-TP4-12.2 108107-04	<50	<250	95
CAA1A-TP4-13.9 108107-05	<50	<250	94
Method Blank 01-1818 MB	<50	<250	99

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108107

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	85	85	71-131	0

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108107

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108107-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	100	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108107

SAMPLE CHAIN OF CUSTODY

ME 8/6/21 Col/vs

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME

☐ Standard turnaround

☒ RUSH 8/9 Morning

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA1A-TP3-7	-01 A-E	8.6.2021	1505	SOIL	5	X	X										
CAA1A-TP3-9	-02 A-E	↓	1510	↓	5	X	X										
CAA1A-TP4-8	03A-E	↓	1500	↓	5	X	X										
CAA1A-TP4-12.2	04 A-E	↓	1515	↓	5	X	X										
CAA1A-TP4-13.9	05 A-E	↓	1520	↓	5	X	X										
																	Samples ~~received at~~ 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	Crete Consulting	8.6.21	1552
Received by:	Khoi Hoang	FBT	8.6.21	1552
Relinquished by:				
Received by:				

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Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Eric Young, B.S.

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Seattle, WA 98119-2029
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fbi@isomedia.com
www.friedmanandbruya.com

August 10, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on August 6, 2021 from the TOC Seattle Terminal 1, F&BI 108108 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0810R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 6, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108108 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108108 -01	CAA1A-SS-04
108108 -02	CAA1A-SS-03

All quality control requirements were acceptable.

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108108
Date Extracted: 08/06/21
Date Analyzed: 08/06/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA1A-SS-04 108108-01	<5	82
CAA1A-SS-03 108108-02	<5	80
Method Blank 01-1768 MB	<5	96

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108108
Date Extracted: 08/06/21
Date Analyzed: 08/06/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA1A-SS-04 108108-01	<50	<250	94
CAA1A-SS-03 108108-02	<50	<250	96
Method Blank 01-1818 MB	<50	<250	99

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108108

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	85	85	71-131	0

Date of Report: 08/10/21
Date Received: 08/06/21
Project: TOC Seattle Terminal 1, F&BI 108108

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108107-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	98	100	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	98	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108108

SAMPLE CHAIN OF CUSTODY

ME 8/6/21 CO,VS3

Page # 1 of 1

Report To R. Jones, Je Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 8/9 Morning

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA1A-SS-04	01A-E	8.6.21	1145	SOIL	5	X	X										
CAA1A-SS-03	02A-E	↓	1155	↓	5	X	X										
																	Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	Crete Consulting	8.6.21	1552
Received by:	Khoi Hoang	FBE	8.6.21	1552
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 11, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on August 9, 2021 from the TOC Seattle Terminal 1, F&BI 108129 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0811R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 9, 2020 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108129 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108129 -01	CAA1A-BASE-01
108129 -02	CAA1A-BASE-03
108129 -03	CAA1A-SS-05

All quality control requirements were acceptable.

Date of Report: 08/11/21
Date Received: 08/09/21
Project: TOC Seattle Terminal 1, F&BI 108129
Date Extracted: 08/09/21
Date Analyzed: 08/10/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
CAA1A-BASE-01 108129-01 1/50	4,400	ip
CAA1A-BASE-03 108129-02	<5	101
CAA1A-SS-05 108129-03 1/10	2,700	135
Method Blank 01-1770 MB	<5	89

Date of Report: 08/11/21
Date Received: 08/09/21
Project: TOC Seattle Terminal 1, F&BI 108129
Date Extracted: 08/09/21
Date Analyzed: 08/09/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA1A-BASE-01 108129-01	31,000	3,500 x	ip
CAA1A-BASE-03 108129-02	<50	<250	92
CAA1A-SS-05 108129-03	38,000	14,000 x	ip
Method Blank 01-1826 MB	<50	<250	94

Date of Report: 08/11/21
Date Received: 08/09/21
Project: TOC Seattle Terminal 1, F&BI 108129

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 108111-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	120	71-131

Date of Report: 08/11/21
Date Received: 08/09/21
Project: TOC Seattle Terminal 1, F&BI 108129

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108113-02 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	94	97	73-135	3

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108129

SAMPLE CHAIN OF CUSTODY

ME 08/09/21

Page # 1 of 1 VSI

Report To R. Jones, J. Stevens, K. Hempel

Company ToC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: ToC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME C01

☐ Standard turnaround

☒ RUSH 24-Hour

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA1A-BASE-01	01 A-E	8.9.2021	1240	SOIL	5	X	X										
CAA1A-BASE-03	02	↓	1250	↓	5	X	X										
CAA1A-SS-05	03	↓	1300	↓	5	X	X										
												Samples received at					4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consulting	8.9.21	1404
Received by:	Nhan Phan	FCBT	8/9/21	1404
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 12, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on August 10, 2021 from the TOC Seattle Terminal 1, F&BI 108153 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0812R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 10, 2020 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108153 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108153 -01	CAA1B-SS-03
108153 -02	CAA1B-BASE-01
108153 -03	CAA1B-SS-02
108153 -04	CAA1B-SS-01
108153 -05	CAA1A-SS-02
108153 -06	CAA1A-BASE-02

All quality control requirements were acceptable.

Date of Report: 08/12/21
Date Received: 08/10/21
Project: TOC Seattle Terminal 1, F&BI 108153
Date Extracted: 08/11/21
Date Analyzed: 08/11/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
CAA1B-SS-03 108153-01	9.7	97
CAA1B-BASE-01 108153-02	13	100
CAA1B-SS-02 108153-03 1/20	2,600	ip
CAA1B-SS-01 108153-04	8.0	100
CAA1A-SS-02 108153-05 1/5	330	114
CAA1A-BASE-02 108153-06 1/10	1,100	ip
Method Blank 01-1773 MB	<5	81

Date of Report: 08/12/21
Date Received: 08/10/21
Project: TOC Seattle Terminal 1, F&BI 108153
Date Extracted: 08/11/21
Date Analyzed: 08/11/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA1B-SS-03 108153-01	<50	<250	96
CAA1B-BASE-01 108153-02	<50	<250	83
CAA1B-SS-02 108153-03	30,000	1,400 x	ip
CAA1B-SS-01 108153-04	<50	<250	96
CAA1A-SS-02 108153-05	3,000	<250	94
CAA1A-BASE-02 108153-06	560	<250	96
Method Blank 01-1831 MB2	<50	<250	93

Date of Report: 08/12/21
Date Received: 08/10/21
Project: TOC Seattle Terminal 1, F&BI 108153

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 108153-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	9.7	13	29 a

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	120	71-131

Date of Report: 08/12/21
Date Received: 08/10/21
Project: TOC Seattle Terminal 1, F&BI 108153

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108137-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	520	91	96	73-135	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY ME 8/10/21

108153

VS1/C02

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R-Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 24-Hour

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
						ANALYSES REQUESTED											
CAAIB-SS-03	01 A-E	8.10.2021	1225	SOIL	5	X	X										
CAAIB-BASE-01	02		1235		5	X	X										
CAAIB-SS-02	03		1245		5	X	X										
CAAIB-SS-01	04		1250		5	X	X										
CAAIA-SS-02	05		1500		5	X	X										
CAAIA-BASE-02	06	↓	1450	↓	5	X	X										

Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	Crete Consulting	8.10.21	1521
Received by:	Khoi Hoang	FBF	8.10.21	15:21
Relinquished by:				
Received by:				

KP

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 13, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

Dear Mr Jones:

Included are the results from the testing of material submitted on August 11, 2021 from the TOC Seattle Terminal 1, F&BI 108177 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0813R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 11, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108177 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108177 -01	CAA1A-SS-06
108177 -02	CAA1A-SS-01

All quality control requirements were acceptable.

Date of Report: 08/13/21
Date Received: 08/11/21
Project: TOC Seattle Terminal 1, F&BI 108177
Date Extracted: 08/12/21
Date Analyzed: 08/12/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
CAA1A-SS-06 108177-01	<5	77
CAA1A-SS-01 108177-02	120	118
Method Blank 01-1775 MB	<5	88

Date of Report: 08/13/21
Date Received: 08/11/21
Project: TOC Seattle Terminal 1, F&BI 108177
Date Extracted: 08/12/21
Date Analyzed: 08/12/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA1A-SS-06 108177-01	<50	<250	89
CAA1A-SS-01 108177-02	330	<250	92
Method Blank 01-1872 MB2	<50	<250	86

Date of Report: 08/13/21
Date Received: 08/11/21
Project: TOC Seattle Terminal 1, F&BI 108177

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 108177-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	110	71-131

Date of Report: 08/13/21
Date Received: 08/11/21
Project: TOC Seattle Terminal 1, F&BI 108177

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108164-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	100	98	64-133	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	100	58-147

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108177

SAMPLE CHAIN OF CUSTODY

08-11-21

COI/VST

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company Toc Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (signature) Rusty Jones R. Jones

PROJECT NAME: Toc Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME

☐ Standard turnaround

☒ RUSH 24 Hour ✓

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA1A-SS-06	01 A-E	8.11.2021	1415	SOIL	5	X	X										
CAA1A-SS-01	02 ↓	↓	1420	↓	5	X	X										
													Samples received at 4 °C				

	SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:	R. Jones	Rusty Jones	CRETE Consulting	8.11.2021	1554
Received by:		VINA	FBI	8/11/21	1554
Relinquished by:					
Received by:					

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 18, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

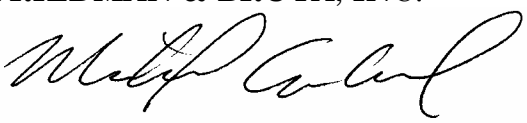
Dear Mr Jones:

Included are the results from the testing of material submitted on August 16, 2021 from the TOC Seattle Terminal 1, F&BI 108241 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: Time Oil Terminal 1
CTC0818R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 16, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108241 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108241 -01	CAA1B-SS-06
108241 -02	CAA1B-SS-07

All quality control requirements were acceptable.

Date of Report: 08/18/21
Date Received: 08/16/21
Project: TOC Seattle Terminal 1, F&BI 108241
Date Extracted: 08/16/21
Date Analyzed: 08/17/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA1B-SS-06 108241-01 1/100	5,200	105
Method Blank 01-1779 MB	<5	82

Date of Report: 08/18/21
Date Received: 08/16/21
Project: TOC Seattle Terminal 1, F&BI 108241
Date Extracted: 08/17/21
Date Analyzed: 08/17/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA1B-SS-06 108241-01	8,100	350 x	92
Method Blank 01-1887 MB2	<50	<250	89

Date of Report: 08/18/21
Date Received: 08/16/21
Project: TOC Seattle Terminal 1, F&BI 108241

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 108221-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	105	71-131

Date of Report: 08/18/21
Date Received: 08/16/21
Project: TOC Seattle Terminal 1, F&BI 108241

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108228-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	102	103	73-135	1

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	100	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108241

SAMPLE CHAIN OF CUSTODY

ME 8/16/21

VS-D4 COI

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME

☐ Standard turnaround

☒ RUSH 24 Hour

Rush charges authorized by:

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
						ANALYSES REQUESTED											
CAA1B-SS-06	01 A→E	8.16.2021	1115	SOIL	5	X	X										
CAA1B-SS-07	02 ↓	↓	1125	↓	5												HOLD
													Samples received at 4 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consulting	8.16.21	1152
Received by:	Michael Erdahl	F&B	8/16/21	1152
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

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Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

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(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 23, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

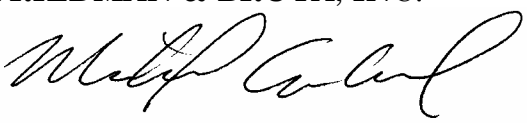
Dear Mr Jones:

Included are the results from the testing of material submitted on August 18, 2021 from the TOC Seattle Terminal 1, F&BI 108279 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1
CTC0823R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 18, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108279 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108279 -01	CAA1B-SS-08
108279 -02	CAA1B-SS-09

All quality control requirements were acceptable.

Date of Report: 08/23/21
Date Received: 08/18/21
Project: TOC Seattle Terminal 1, F&BI 108279
Date Extracted: 08/18/21
Date Analyzed: 08/18/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA1B-SS-08 108279-01 1/20	4,500	ip
Method Blank 01-1781 MB	<5	91

Date of Report: 08/23/21
Date Received: 08/18/21
Project: TOC Seattle Terminal 1, F&BI 108279
Date Extracted: 08/18/21
Date Analyzed: 08/18/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 53-144)
CAA1B-SS-08 108279-01	8,900	320 x	90
Method Blank 01-1892 MB	<50	<250	87

Date of Report: 08/23/21
Date Received: 08/18/21
Project: TOC Seattle Terminal 1, F&BI 108279

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 108249-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	99	14	150 a

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	110	61-153

Date of Report: 08/23/21
Date Received: 08/18/21
Project: TOC Seattle Terminal 1, F&BI 108279

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108272-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	5,100	105	100	64-133	5

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	96	58-147

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

SAMPLE CHAIN OF CUSTODY

108279

ME 8/18/21

DOI VS-D4

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH SAME DAY

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	ANALYSES REQUESTED: NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA1B-SS-08	01 A-E	8.18.21	1100	Soil	5	X	X										
CAA1B-SS-09	02 ↓	↓	1110	↓	5												Hold
													Samples received at 4 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE CONSULTING	8.18.21	1127
Received by: Will Radford	Will Radford	F & B I	8.18.21	11:27
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

August 30, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

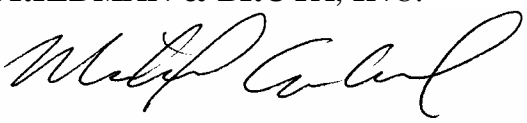
Dear Mr Jones:

Included are the results from the testing of material submitted on August 26, 2021 from the TOC Seattle Terminal 1, F&BI 108430 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1
NAACTC0830R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on August 26, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 108430 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
108430 -01	CAA1B-BASE-02

All quality control requirements were acceptable.

Date of Report: 08/30/21
Date Received: 08/26/21
Project: TOC Seattle Terminal 1, F&BI 108430
Date Extracted: 08/27/21
Date Analyzed: 08/27/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA1B-BASE-02 108430-01 1/5	57	99
Method Blank 01-1913 MB	<5	93

Date of Report: 08/30/21
Date Received: 08/26/21
Project: TOC Seattle Terminal 1, F&BI 108430
Date Extracted: 08/27/21
Date Analyzed: 08/27/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA1B-BASE-02 108430-01	<50	<250	94
Method Blank 01-2033 MB	<50	<250	95

Date of Report: 08/30/21
Date Received: 08/26/21
Project: TOC Seattle Terminal 1, F&BI 108430

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Percent Recovery LCSD	Acceptance Criteria	RPD (Limit 20)
Gasoline	mg/kg (ppm)	20	130	120	61-153	8

Date of Report: 08/30/21
Date Received: 08/26/21
Project: TOC Seattle Terminal 1, F&BI 108430

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 108430-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	107	109	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	106	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

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ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

108430

SAMPLE CHAIN OF CUSTODY

ME 08/26/21 VSI/DQI

Page # 1 of 1

Report To R. Jones / J. Stevens / K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone 206 713 4372 Email

SAMPLERS (*signature*)

PROJECT NAME	PO #
TOC Seattle Terminal 1	
REMARKS	**INVOICE TO**
Project specific RLs? - Yes / No	

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA13-~~SS~~ BASE 02	01A.E	8/24/2021	1500	Soil		X	X										
per RJ 8/27/21 ME																	
																	Samples received at 4 °C

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by:		CRETE CONSULTING	8/26/21	1500
Received by:			8/27/21	1500
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

September 15, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

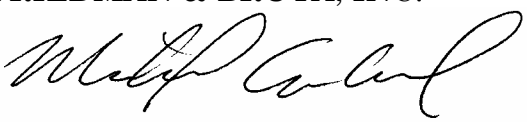
Dear Mr Jones:

Included are the results from the testing of material submitted on September 13, 2021 from the TOC Seattle Terminal 1, F&BI 109204 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1
CTC0915R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 13, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 109204 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
109204 -01	CAA6B-SS-02
109204 -02	CAA6B-BASE-01

All quality control requirements were acceptable.

Date of Report: 09/15/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109204
Date Extracted: 09/13/21
Date Analyzed: 09/13/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) (Limit 50-132)
CAA6B-SS-02 109204-01	<0.02	<5	77
CAA6B-BASE-01 109204-02	<0.02	91	85
Method Blank 01-1936 MB	<0.02	<5	76

Date of Report: 09/15/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109204
Date Extracted: 09/13/21
Date Analyzed: 09/13/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA6B-SS-02 109204-01	<50	<250	94
CAA6B-BASE-01 109204-02	290 x	<250	95
Method Blank 01-2095 MB	<50	<250	102

Date of Report: 09/15/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109204

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING EPA METHOD 8021B AND NWTPH-Gx

Laboratory Code: 109204-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	74	66-121
Gasoline	mg/kg (ppm)	20	90	61-153

Date of Report: 09/15/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109204

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 109184-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	122	120	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	130	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

109204

SAMPLE CHAIN OF CUSTODY

ME 09-13-2021 US1 / A01

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company ToC Seattle Terminal

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R Jones

PROJECT NAME: ToC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH SAME DAY

Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other

Default: Dispose after 30 days

Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
						ANALYSES REQUESTED											
CA16B-SS-02	01 A-E	9.13.21	1000	Soil	5	X	X	X									Benzene only
CA16B-BASE-01	02	↓	1015	↓	5	X	X	X									Benzene only
													Samples received at 4 °C				

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE CONSULTING	9.13.21	1126
Received by:	Nhan Phan	FEBJ	9-13-21	1126
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
Michael Erdahl, B.S.
Arina Podnozova, B.S.
Eric Young, B.S.

3012 16th Avenue West
Seattle, WA 98119-2029
(206) 285-8282
fbi@isomedia.com
www.friedmanandbruya.com

September 16, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

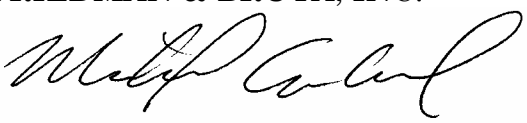
Dear Mr Jones:

Included are the results from the testing of material submitted on September 13, 2021 from the TOC Seattle Terminal 1, F&BI 109205 project. There are 6 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1
CTC0916R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 13, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 109205 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
109205 -01	CAA6B-SS-01

All quality control requirements were acceptable.

Date of Report: 09/16/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109205
Date Extracted: 09/13/21
Date Analyzed: 09/14/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHODS 8021B AND NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Benzene	Gasoline Range	Surrogate (% Recovery) (Limit 50-150)
CAA6B-SS-01 109205-01	<0.02	<5	94
Method Blank 01-1935 MB	<0.02	<5	87

Date of Report: 09/16/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109205
Date Extracted: 09/13/21
Date Analyzed: 09/13/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL AND MOTOR OIL USING METHOD NWTPH-Dx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Diesel Range (C_{10}-C_{25})	Motor Oil Range (C_{25}-C_{36})	Surrogate (% Recovery) (Limit 48-168)
CAA6B-SS-01 109205-01	<50	<250	96
Method Blank 01-2095 MB	<50	<250	102

Date of Report: 09/16/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109205

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR BENZENE AND TPH AS GASOLINE USING METHOD 8021B AND NWTPH-Gx

Laboratory Code: 109160-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Benzene	mg/kg (ppm)	<0.02	<0.02	nm
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Benzene	mg/kg (ppm)	0.5	99	69-120
Gasoline	mg/kg (ppm)	20	95	71-131

Date of Report: 09/16/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109205

QUALITY ASSURANCE RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS DIESEL EXTENDED USING METHOD NWTPH-Dx

Laboratory Code: 109184-01 (Matrix Spike)

Analyte	Reporting Units	Spike Level	Sample Result (Wet Wt)	Percent Recovery MS	Percent Recovery MSD	Acceptance Criteria	RPD (Limit 20)
Diesel Extended	mg/kg (ppm)	5,000	<50	122	120	73-135	2

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Diesel Extended	mg/kg (ppm)	5,000	130	74-139

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

ip - Recovery fell outside of control limits due to sample matrix effects.

j - The analyte concentration is reported below the lowest calibration standard. The value reported is an estimate.

J - The internal standard associated with the analyte is out of control limits. The reported concentration is an estimate.

jl - The laboratory control sample(s) percent recovery and/or RPD were out of control limits. The reported concentration should be considered an estimate.

js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

109205

SAMPLE CHAIN OF CUSTODY

ME 09-13-21

VSI/AZI

Page # 1 of 1

Report To R. Jones, J. Stevens, K. Hempel

Company ToC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*)

PROJECT NAME	PO #
ToC Seattle Terminal 1	
REMARKS	INVOICE TO
Project specific RLs? - Yes / No	

TURNAROUND TIME
- ☐ Standard turnaround
- ☒ RUSH 2-day
- Rush charges authorized by:

SAMPLE DISPOSAL
- ☐ Archive samples
- ☐ Other
- Default: Dispose after 30 days

						ANALYSES REQUESTED											
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CAA6B-SS-01	01A-E	9.13.21	1030	SOIL	5	X	X	X									Benzene only
												Samples received at 4°C					

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R. Jones	Rusty Jones	CRETE Consulting	9.13.21	1126
Received by:	Nhan Phan	FEBT	9-13-21	1126
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282

FRIEDMAN & BRUYA, INC.

ENVIRONMENTAL CHEMISTS

James E. Bruya, Ph.D.
Yelena Aravkina, M.S.
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Arina Podnozova, B.S.
Eric Young, B.S.

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Seattle, WA 98119-2029
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fbi@isomedia.com
www.friedmanandbruya.com

September 15, 2021

Rusty Jones, Project Manager
Crete Consulting
16300 Christensen Road, Suite 214
Tukwila, WA 98188

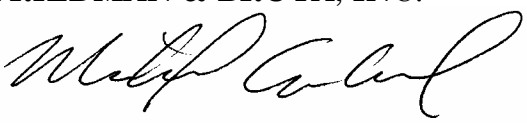
Dear Mr Jones:

Included are the results from the testing of material submitted on September 13, 2021 from the TOC Seattle Terminal 1, F&BI 109218 project. There are 4 pages included in this report. Any samples that may remain are currently scheduled for disposal in 30 days, or as directed by the Chain of Custody document. If you would like us to return your samples or arrange for long term storage at our offices, please contact us as soon as possible.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.



Michael Erdahl
Project Manager

Enclosures
c: TOC Seattle Terminal 1
CTC0915R.DOC

CASE NARRATIVE

This case narrative encompasses samples received on September 13, 2021 by Friedman & Bruya, Inc. from the Crete Consulting TOC Seattle Terminal 1, F&BI 109218 project. Samples were logged in under the laboratory ID's listed below.

Laboratory ID	Crete Consulting
109218 -01	CAA6B-BASE-02
109218 -02	CAA6B-BASE-03
109218 -03	CAA6B-BASE-04

All quality control requirements were acceptable.

Date of Report: 09/15/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109218
Date Extracted: 09/12/21
Date Analyzed: 09/12/21

RESULTS FROM THE ANALYSIS OF SOIL SAMPLES FOR TOTAL PETROLEUM HYDROCARBONS AS GASOLINE USING METHOD NWTPH-Gx

Results Reported on a Dry Weight Basis
Results Reported as mg/kg (ppm)

Sample ID Laboratory ID	Gasoline Range	Surrogate (% Recovery) (Limit 58-139)
CAA6B-BASE-02 109218-01	24	102
Method Blank 01-1936 MB	<5	90

Date of Report: 09/15/21
Date Received: 09/13/21
Project: TOC Seattle Terminal 1, F&BI 109218

QUALITY ASSURANCE RESULTS FOR THE ANALYSIS OF SOIL SAMPLES FOR TPH AS GASOLINE USING METHOD NWTPH-Gx

Laboratory Code: 109204-01 (Duplicate)

Analyte	Reporting Units	Sample Result (Wet Wt)	Duplicate Result (Wet Wt)	RPD (Limit 20)
Gasoline	mg/kg (ppm)	<5	<5	nm

Laboratory Code: Laboratory Control Sample

Analyte	Reporting Units	Spike Level	Percent Recovery LCS	Acceptance Criteria
Gasoline	mg/kg (ppm)	20	90	61-153

Data Qualifiers & Definitions

a - The analyte was detected at a level less than five times the reporting limit. The RPD results may not provide reliable information on the variability of the analysis.

b - The analyte was spiked at a level that was less than five times that present in the sample. Matrix spike recoveries may not be meaningful.

ca - The calibration results for the analyte were outside of acceptance criteria. The value reported is an estimate.

c - The presence of the analyte may be due to carryover from previous sample injections.

cf - The sample was centrifuged prior to analysis.

d - The sample was diluted. Detection limits were raised and surrogate recoveries may not be meaningful.

dv - Insufficient sample volume was available to achieve normal reporting limits.

f - The sample was laboratory filtered prior to analysis.

fb - The analyte was detected in the method blank.

fc - The analyte is a common laboratory and field contaminant.

hr - The sample and duplicate were reextracted and reanalyzed. RPD results were still outside of control limits. Variability is attributed to sample inhomogeneity.

hs - Headspace was present in the container used for analysis.

ht – The analysis was performed outside the method or client-specified holding time requirement.

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js - The surrogate associated with the analyte is out of control limits. The reported concentration should be considered an estimate.

lc - The presence of the analyte is likely due to laboratory contamination.

L - The reported concentration was generated from a library search.

nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

pc - The sample was received with incorrect preservation or in a container not approved by the method. The value reported should be considered an estimate.

ve - The analyte response exceeded the valid instrument calibration range. The value reported is an estimate.

vo - The value reported fell outside the control limits established for this analyte.

x - The sample chromatographic pattern does not resemble the fuel standard used for quantitation.

109218

SAMPLE CHAIN OF CUSTODY

ME 09-13-21

Page # 1 of 1 V51

Report To R. Jones, J. Stevens, K. Hempel

Company TOC Seattle Terminal 1

Address

City, State, ZIP

Phone Email

SAMPLERS (*signature*) Rusty Jones R. Jones

PROJECT NAME: TOC Seattle Terminal 1

PO #

REMARKS

Project specific RLs? - Yes / No

INVOICE TO

TURNAROUND TIME CI

☐ Standard turnaround

☒ RUSH First Am per RT 9/13/21

Rush charges authorized by: ME

SAMPLE DISPOSAL

☐ Archive samples

☐ Other

Default: Dispose after 30 days

						ANALYSES REQUESTED											
Sample ID	Lab ID	Date Sampled	Time Sampled	Sample Type	# of Jars	NWTPH-Dx	NWTPH-Gx	BTEX EPA 8021	NWTPH-HCID	VOCs EPA 8260	PAHs EPA 8270	PCBs EPA 8082					Notes
CA6B-BASE-02	01 A-E	9.13.21		SOIL	5		X										
CA6B-BASE-03	02	↓		↓	5												HOLD
CA6B-BASE-04	03	↓		↓	5												HOLD
																Samples received at 4 °C	

SIGNATURE	PRINT NAME	COMPANY	DATE	TIME
Relinquished by: R Jones	Rusty Jones	CRETE CONSULTING	9.13.21	1607
Received by: D. M-B	Liz Wesber-Bruya	F:B	9/13/21	1607
Relinquished by:				
Received by:				

Friedman & Bruya, Inc.
3012 16th Avenue West
Seattle, WA 98119-2029
Ph. (206) 285-8282