Analytical Resources, Incorporated
Analytical Chemists and Consultants

14 May 2010

Laura Lee
Parametrix, Inc.
One Bellevue Center
411 108th Avenue NE
Suite 1800
Bellevue, WA 98004-5571

RE: Client Project No. 555-1550-052, Midway Landfill
ARI Job Nos. QU99, QV22, QV41 and QV70

Dear Laura:

Please find enclosed the original Chain-of-Custody (COC) records and the final results for the samples from the project referenced above. Four water samples and one trip blank were received on May 3, 2010. Five water samples, a field blank and one trip blank were received on May 4, 2010. Two water samples and one trip blank were received on May 5, 2010. One sample and one trip blank were received on May 7, 2010. All samples were received intact. The samples were analyzed for VOAs, SIM-vinyl chloride, 1,4-dioxane, dissolved metals and conventional parameters as requested.

There were no analytical complications noted.

Copies of these reports and the associated raw data will remain on file with ARI. Should you have any questions or problems, please feel free to contact me at your convenience.

Sincerely,

ANALYTICAL RESOURCES, INC.

Mark D. Harris
Project Manager
206/695-6210
<markh@arilabs.com>

Enclosures

cc: Min Soon Yim, Seattle Public Utilities
Files QU99, QV22, QV41, QV70

MDH/esj

4611 South 134th Place, Suite 100 • Tukwila WA 98168 • **206-695-6200** • **206-695-6201** fax

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: 0199	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: City of Seattle	Phone: 206-233-2629	Date: 5/3/10	Ice Present? Yes
Client Contact: Min Soon Lim		No. of Coolers: 1	Cooler Temps: 1.4
Client Project Name: Midway Landfill			
Client Project #: 555-1550-052	Samplers: V. Thoma, F. McKenzie, R. Locke		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Sulfate/Chloride	TOC/COD	Dissolved Metals Fe/Mn	VOA	Vinyl Chloride				Notes/Comments
MW29B	5/3/10	0855	W	8	1	1	1	3	2				metals are field filtered
MW31	5/3/10	0950	W	8	1	1	1	3	2				
MW16	5/3/10	1210	W	8	1	1	1	3	2				
MW20B	5/3/10	1405	W	8	1	1	1	3	2				
Trip Blank	—	—		4				2	2				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Valerie Thoma	Printed Name: Tikka Mulumba	Printed Name:	Printed Name:
	Company: City of Seattle	Company: ARI	Company:	Company:
	Date & Time: 5/3/10 1517	Date & Time: 5/3/10 1517	Date & Time:	Date & Time:

Limits of Liability: *ARI will perform all requested services in accordance with appropriate methodology following ARI Standard Operating Procedures and the ARI Quality Assurance Program. This program meets standards for the industry. The total liability of ARI, its officers, agents, employees, or successors, arising out of or in connection with the requested services, shall not exceed the Invoiced amount for said services. The acceptance by the client of a proposal for services by ARI release ARI from any liability in excess thereof, not withstanding any provision to the contrary in any contract, purchase order or co-signed agreement between ARI and the Client.*

Sample Retention Policy: All samples submitted to ARI will be appropriately discarded no sooner than 90 days after receipt or 60 days after submission of hardcopy data, whichever is longer, unless alternate retention schedules have been established by work-order or contract.

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: City of Seattle Project Name: Midway Landfill

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: QU99 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)	1.4	

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90401619

Cooler Accepted by: MM Date: 5/3/10 Time: 1517

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		* YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	NA	YES	(NO)
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	4/20/10	

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

Samples Logged by: AV Date: 5/3/10 Time: 1611

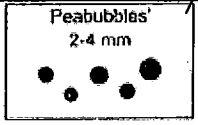
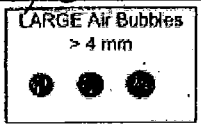
***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

TripBlanks = 2pb *All in bags, Voas all in the same bag

By: AV Date: 5/3/10

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 05/03/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QU99**

Inquiry Number: NONE
Analysis Requested: 05/04/10
Contact: Yim, Min-Soon
Client: City of Seattle
Logged by: AV
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 05/03/10

Project #: 555-1550-052
Project: Midway Landfill
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-10766 **QU99A**	MW29B				pass		DIS pass					pass				Y						
10-10767 **QU99B**	MW31						DIS									Y						
10-10768 **QU99C**	MW16						DIS									Y						
10-10769 **QU99D**	MW20B						DIS									Y						

555-1550 QU99

Checked By AV Date 5/3/10

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QU99

Parameter: Chloride-EPA 325.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW29B	QU99A	05/03/10	05/03/10	N/A	05/06/10
MW31	QU99B	05/03/10	05/03/10	N/A	05/06/10
MW16	QU99C	05/03/10	05/03/10	N/A	05/06/10
MW20B	QU99D	05/03/10	05/03/10	N/A	05/06/10
Method Blank	MB050610	N/A	N/A	N/A	05/06/10
Standard Ref.	SRM050610	N/A	N/A	N/A	05/06/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QU99

Parameter: Sulfate-EPA 375.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW29B	QU99A	05/03/10	05/03/10	N/A	05/12/10
MW31	QU99B	05/03/10	05/03/10	N/A	05/12/10
MW16	QU99C	05/03/10	05/03/10	N/A	05/12/10
MW20B	QU99D	05/03/10	05/03/10	N/A	05/12/10
Method Blank	MB051210	N/A	N/A	N/A	05/12/10
Standard Ref.	SRM051210	N/A	N/A	N/A	05/12/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QU99

Parameter: Chemical Oxygen Demand-EPA 410.4

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW29B	QU99A	05/03/10	05/03/10	N/A	05/03/10
MW31	QU99B	05/03/10	05/03/10	N/A	05/03/10
MW16	QU99C	05/03/10	05/03/10	N/A	05/03/10
MW20B	QU99D	05/03/10	05/03/10	N/A	05/03/10
Method Blank	MB050310	N/A	N/A	N/A	05/03/10
Standard Ref.	SRM050310	N/A	N/A	N/A	05/03/10
MW29B	QU99ADP	05/03/10	05/03/10	N/A	05/03/10
MW29B	QU99AMS	05/03/10	05/03/10	N/A	05/03/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QU99

Parameter: Total Organic Carbon-EPA 415.1

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW29B	QU99A	05/03/10	05/03/10	N/A	05/03/10
MW31	QU99B	05/03/10	05/03/10	N/A	05/03/10
MW16	QU99C	05/03/10	05/03/10	N/A	05/04/10
MW20B	QU99D	05/03/10	05/03/10	N/A	05/04/10
Method Blank	MB050310	N/A	N/A	N/A	05/03/10
Method Blank	MB050410	N/A	N/A	N/A	05/04/10
Standard Ref.	SRM050310	N/A	N/A	N/A	05/03/10
Standard Ref.	SRM050410	N/A	N/A	N/A	05/04/10
MW29B	QU99ADP	05/03/10	05/03/10	N/A	05/03/10
MW29B	QU99AMS	05/03/10	05/03/10	N/A	05/03/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QU99

Parameter: ICP Dissolved Metals-6010B

Matrix: Water

Holding Time: 6 Months

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW29B	QU99A	05/03/10	05/03/10	05/04/10	05/06/10
MW31	QU99B	05/03/10	05/03/10	05/04/10	05/06/10
MW16	QU99C	05/03/10	05/03/10	05/04/10	05/06/10
MW20B	QU99D	05/03/10	05/03/10	05/04/10	05/06/10
Method Blank	MB050410	N/A	N/A	05/04/10	05/06/10
Lab Control	LCS050410	N/A	N/A	05/04/10	05/06/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QU99

Parameter: Volatiles-SW8260B

Matrix: Water

Holding Time: 14 Days Preserved, 7 Days Unpreserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW29B	QU99A	05/03/10	05/03/10	05/05/10	05/05/10
MW31	QU99B	05/03/10	05/03/10	05/05/10	05/05/10
MW16	QU99C	05/03/10	05/03/10	05/05/10	05/05/10
MW20B	QU99D	05/03/10	05/03/10	05/05/10	05/05/10
Trip Blank	QU99E	05/03/10	05/03/10	05/05/10	05/05/10
Method Blank	MB050510	N/A	N/A	05/05/10	05/05/10
Lab Control	LCS050510	N/A	N/A	05/05/10	05/05/10
Lab Control Dup	LCSD050510	N/A	N/A	05/05/10	05/05/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QU99

Parameter: Volatiles-SIM SW8260B

Matrix: Water

Holding Time: 14 Days Preserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW29B	QU99A	05/03/10	05/03/10	05/05/10	05/05/10
MW31	QU99B	05/03/10	05/03/10	05/05/10	05/05/10
MW16	QU99C	05/03/10	05/03/10	05/05/10	05/05/10
MW20B	QU99D	05/03/10	05/03/10	05/05/10	05/05/10
Trip Blank	QU99E	05/03/10	05/03/10	05/05/10	05/05/10
Method Blank	MB050510	N/A	N/A	05/05/10	05/05/10
Lab Control	LCS050510	N/A	N/A	05/05/10	05/05/10
Lab Control Dup	LCSD050510	N/A	N/A	05/05/10	05/05/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-050510**
Page 1 of 1 METHOD BLANK

Lab Sample ID: MB-050510
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 11:31

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	99.7%
Bromofluorobenzene	91.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW29B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99A
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 16:30

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	**cis-1,2-Dichloroethene**	**1.0**	**1.0**	
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	**1,2-Dichloroethane**	**1.0**	**4.7**	
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	102%
d8-Toluene	101%
Bromofluorobenzene	88.4%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW31**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99B
LIMS ID: 10-10767
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 16:56

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	101%
Bromofluorobenzene	88.6%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW16**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99C
LIMS ID: 10-10768
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 17:21

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	102%
Bromofluorobenzene	91.4%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW20B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99D
LIMS ID: 10-10769
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 17:47

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	102%
Bromofluorobenzene	87.8%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: Trip Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99E
LIMS ID: 10-10770
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 12:39

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	103%
Bromofluorobenzene	89.2%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050510**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050510
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/10/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/PKC
LCSD: NT5/PKC
Date Analyzed LCS: 05/05/10 10:40
LCSD: 05/05/10 11:06

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
Bromomethane	10.4	10.0	104%	10.5	10.0	105%	1.0%
Vinyl Chloride	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
Chloroethane	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
Methylene Chloride	9.5	10.0	95.0%	9.6	10.0	96.0%	1.0%
Acetone	48.2	50.0	96.4%	48.7	50.0	97.4%	1.0%
Carbon Disulfide	10.2	10.0	102%	10.2	10.0	102%	0.0%
1,1-Dichloroethene	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,1-Dichloroethane	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
trans-1,2-Dichloroethene	10.0	10.0	100%	10.2	10.0	102%	2.0%
cis-1,2-Dichloroethene	10.2	10.0	102%	10.2	10.0	102%	0.0%
Chloroform	10.3	10.0	103%	10.2	10.0	102%	1.0%
1,2-Dichloroethane	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
2-Butanone	48.9	50.0	97.8%	49.0	50.0	98.0%	0.2%
1,1,1-Trichloroethane	10.2	10.0	102%	10.3	10.0	103%	1.0%
Carbon Tetrachloride	10.5	10.0	105%	10.4	10.0	104%	1.0%
Vinyl Acetate	8.8	10.0	88.0%	9.1	10.0	91.0%	3.4%
Bromodichloromethane	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,2-Dichloropropane	10.4	10.0	104%	10.2	10.0	102%	1.9%
cis-1,3-Dichloropropene	10.2	10.0	102%	10.4	10.0	104%	1.9%
Trichloroethene	10.7	10.0	107%	10.3	10.0	103%	3.8%
Dibromochloromethane	10.5	10.0	105%	10.6	10.0	106%	0.9%
1,1,2-Trichloroethane	10.4	10.0	104%	10.1	10.0	101%	2.9%
Benzene	10.9	10.0	109%	10.6	10.0	106%	2.8%
trans-1,3-Dichloropropene	10.4	10.0	104%	10.3	10.0	103%	1.0%
2-Chloroethylvinylether	9.5	10.0	95.0%	9.4	10.0	94.0%	1.1%
Bromoform	10.5	10.0	105%	10.5	10.0	105%	0.0%
4-Methyl-2-Pentanone (MIBK)	51.3	50.0	103%	49.9	50.0	99.8%	2.8%
2-Hexanone	49.2	50.0	98.4%	50.0	50.0	100%	1.6%
Tetrachloroethene	10.5	10.0	105%	10.3	10.0	103%	1.9%
1,1,2,2-Tetrachloroethane	9.4	10.0	94.0%	9.5	10.0	95.0%	1.1%
Toluene	11.0	10.0	110%	10.8	10.0	108%	1.8%
Chlorobenzene	10.6	10.0	106%	10.7	10.0	107%	0.9%
Ethylbenzene	11.2	10.0	112%	11.3	10.0	113%	0.9%
Styrene	11.4	10.0	114%	11.4	10.0	114%	0.0%
Trichlorofluoromethane	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.0	10.0	100%	10.0	10.0	100%	0.0%
m,p-Xylene	22.8	20.0	114%	22.8	20.0	114%	0.0%
o-Xylene	11.0	10.0	110%	11.0	10.0	110%	0.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050510**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050510 QC Report No: QU99-City of Seattle
LIMS ID: 10-10766 Project: Midway Landfill
Matrix: Water 555-1550-052

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichloroethane			95.1%			95.4%	
d8-Toluene			100%			99.4%	
Bromofluorobenzene			93.4%			95.4%	

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MB-050510**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-050510
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 10:23

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	111%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: MW29B
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99A
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 11:50

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	0.65	

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	95.1%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MW31**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99B
LIMS ID: 10-10767
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 12:16

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	117%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: MW16
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99C
LIMS ID: 10-10768
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 12:42

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	113%

FORM I

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MW20B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QU99D
LIMS ID: 10-10769
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 13:07

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	0.27	

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	97.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: Trip Blank SAMPLE**

Lab Sample ID: QU99E
LIMS ID: 10-10770
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 10:59

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	107%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: LCS-050510**
Page 1 of 1 **LAB CONTROL SAMPLE**

Lab Sample ID: LCS-050510
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT7/MH
LCSD: NT7/MH
Date Analyzed LCS: 05/05/10 09:32
LCSD: 05/05/10 09:58

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Vinyl Chloride	1.06	1.00	106%	1.08	1.00	108%	1.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	96.6%	93.4%

METHOD BLANK RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Chloride	EPA 325.2	05/06/10	mg/L	< 1.0 U	
Sulfate	EPA 375.2	05/12/10	mg/L	< 2.0 U	
Chemical Oxygen Demand	EPA 410.4	05/03/10	mg/L	< 5.00 U	
Total Organic Carbon	EPA 415.1	05/03/10	mg/L	< 1.50 U	
		05/04/10		< 1.50 U	

SAMPLE RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Client ID: MW29B
ARI ID: 10-10766 QU99A

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	5.0	32.9
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	23.0
Chemical Oxygen Demand	05/03/10 050310#1	EPA 410.4	mg/L	5.00	10.4
Total Organic Carbon	05/03/10 050310#1	EPA 415.1	mg/L	1.50	2.37

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Client ID: MW31
ARI ID: 10-10767 QU99B

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	1.0	8.3
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	27.9
Chemical Oxygen Demand	05/03/10 050310#1	EPA 410.4	mg/L	5.00	< 5.00 U
Total Organic Carbon	05/03/10 050310#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Client ID: MW16
ARI ID: 10-10768 QU99C

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	1.0	8.4
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	28.4
Chemical Oxygen Demand	05/03/10 050310#1	EPA 410.4	mg/L	5.00	< 5.00 U
Total Organic Carbon	05/04/10 050410#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Client ID: MW20B
ARI ID: 10-10769 QU99D

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	10.0	44.7
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	8.9
Chemical Oxygen Demand	05/03/10 050310#1	EPA 410.4	mg/L	5.00	17.0
Total Organic Carbon	05/04/10 050410#1	EPA 415.1	mg/L	1.50	6.47

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QU99A Client ID: MW29B							
Chemical Oxygen Demand	EPA 410.4	05/03/10	mg/L	10.4	53.3	48.0	89.4%
Total Organic Carbon	EPA 415.1	05/03/10	mg/L	2.37	21.9	20.0	97.6%

REPLICATE RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QU99A Client ID: MW29B						
Chemical Oxygen Demand	EPA 410.4	05/03/10	mg/L	10.4	10.1	2.9%
Total Organic Carbon	EPA 415.1	05/03/10	mg/L	2.37	2.13	10.7%

STANDARD REFERENCE RESULTS-CONVENTIONALS
QU99-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Chloride ERA #38084	EPA 325.2	05/06/10	mg/L	4.9	5.0	98.0%
Sulfate ERA #37065	EPA 375.2	05/12/10	mg/L	27.1	25.0	108.4%
Chemical Oxygen Demand Thermo Orion #I01	EPA 410.4	05/03/10	mg/L	87.5	90.0	97.2%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	05/03/10 05/04/10	mg/L	21.0 21.7	20.0 20.0	105.0% 108.5%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QU99MB
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/04/10	6010B	05/06/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/04/10	6010B	05/06/10	7439-96-5	Manganese	0.001	0.001	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW29B
SAMPLE

Lab Sample ID: QU99A
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/04/10	6010B	05/06/10	7439-89-6	Iron	0.05	15.0	
6010B	05/04/10	6010B	05/06/10	7439-96-5	Manganese	0.001	0.980	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW31
SAMPLE

Lab Sample ID: QU99B
LIMS ID: 10-10767
Matrix: Water
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/04/10	6010B	05/06/10	**7439-89-6**	**Iron**	0.05	**0.25**	
6010B	05/04/10	6010B	05/06/10	**7439-96-5**	**Manganese**	0.001	**0.094**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW16
SAMPLE

Lab Sample ID: QU99C
LIMS ID: 10-10768
Matrix: Water
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/04/10	6010B	05/06/10	**7439-89-6**	**Iron**	0.05	**0.25**	
6010B	05/04/10	6010B	05/06/10	**7439-96-5**	**Manganese**	0.001	**0.094**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS

Sample ID: MW20B
SAMPLE

Lab Sample ID: QU99D
LIMS ID: 10-10769
Matrix: Water
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/03/10
Date Received: 05/03/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/04/10	6010B	05/06/10	**7439-89-6**	**Iron**	0.05	**9.48**	
6010B	05/04/10	6010B	05/06/10	**7439-96-5**	**Manganese**	0.001	**3.24**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QU99LCS
LIMS ID: 10-10766
Matrix: Water
Data Release Authorized:
Reported: 05/07/10

QC Report No: QU99-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	6010B	2.04	2.00	102%	
Manganese	6010B	0.466	0.500	93.2%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QV22	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: City of Seattle	Phone: 206-233-2629	Date: 5/4/10	Ice Present? Y
Client Contact: Min Soon Lim		No. of Coolers: 2	Cooler Temps: 1.7, 3.9
Client Project Name: midway Landfill			
Client Project #: 555-1550-052	Samplers: V. Thoma, F. McKenzie, R. Locke		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Sulfate Chloride	TOC, COD	Dissolved metals Fe, Mn	VOA	Vinyl Chloride	Dioxane			Notes/Comments
MW 35	5/4/10	0810	W	10	1	1	1	3	2	2			Metals are field filtered
MW 17B	5/4/10	0925	W	10	1	1	1	3	2	2			
MW 14B	5/4/10	1115	W	10	1	1	1	3	2	2			
MW 21B	5/4/10	1240	W	10	1	1	1	3	2	2			
MW 21A	5/4/10	1345	W	8	1	1	1	3	2				
Field Blank	5/4/10	1410	W	10	1	1	1	3	2	2			
Trip Blank	—	—		4				2	2				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Valerie Thoma	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: City of Seattle	Company: ARI	Company:	Company:
	Date & Time: 5/4/10 1617	Date & Time: 5/4/10 1617	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: City of Seattle
Project Name: Midway Landfill
COC No(s): _____ (NA)
Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____
Assigned ARI Job No: QV22
Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 4.7 3.9 ___ ___
If cooler temperature is out of compliance fill out form 00070F
Temp Gun ID#: 90941619

Cooler Accepted by: AV Date: 5/4/10 Time: 1617

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used? ... Bubble Wrap (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other: _____			
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	NA	YES	(NO)
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	4/20/10	

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

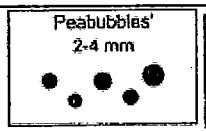
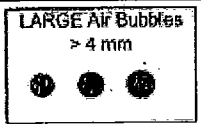
Samples Logged by: JP Date: 5/4/10 Time: 1655

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm	
			Small → "sm"
			Peabubbles → "pb" 2 of 4 Trip Blank
			Large → "lg"
			Headspace → "hs"

PRESERVATION VERIFICATION 05/04/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QV22**

Inquiry Number: NONE
Analysis Requested: 05/05/10
Contact: Yim, Min-Soon
Client: City of Seattle
Logged by: JP
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 05/04/10

Project #: 555-1550-052
Project: Midway Landfill
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-10945 **QV22A**	MW35				PASS		DIS PASS					PASS				Y						
10-10946 **QV22B**	MW17B						DIS									Y						
10-10947 **QV22C**	MW14B						DIS									Y						
10-10948 **QV22D**	MW21B						DIS									Y						
10-10949 **QV22E**	MW21A						DIS									Y						
10-10950 **QV22F**	Field Blank				PASS		DIS PASS					PASS				Y						

555-1550-052

Checked By JP Date 5/4/10

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: Chloride-EPA 325.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	N/A	05/06/10
MW17B	QV22B	05/04/10	05/04/10	N/A	05/06/10
MW14B	QV22C	05/04/10	05/04/10	N/A	05/06/10
MW21B	QV22D	05/04/10	05/04/10	N/A	05/06/10
MW21A	QV22E	05/04/10	05/04/10	N/A	05/06/10
Field Blank	QV22F	05/04/10	05/04/10	N/A	05/06/10
Method Blank	MB050610	N/A	N/A	N/A	05/06/10
Standard Ref.	SRM050610	N/A	N/A	N/A	05/06/10
MW35	QV22ADP	05/04/10	05/04/10	N/A	05/06/10
MW35	QV22AMS	05/04/10	05/04/10	N/A	05/06/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: Sulfate-EPA 375.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	N/A	05/12/10
MW17B	QV22B	05/04/10	05/04/10	N/A	05/12/10
MW14B	QV22C	05/04/10	05/04/10	N/A	05/12/10
MW21B	QV22D	05/04/10	05/04/10	N/A	05/12/10
MW21A	QV22E	05/04/10	05/04/10	N/A	05/12/10
Field Blank	QV22F	05/04/10	05/04/10	N/A	05/12/10
Method Blank	MB051210	N/A	N/A	N/A	05/12/10
Standard Ref.	SRM051210	N/A	N/A	N/A	05/12/10
MW35	QV22ADP	05/04/10	05/04/10	N/A	05/12/10
MW35	QV22AMS	05/04/10	05/04/10	N/A	05/12/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: Chemical Oxygen Demand-EPA 410.4

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	N/A	05/11/10
MW17B	QV22B	05/04/10	05/04/10	N/A	05/12/10
MW14B	QV22C	05/04/10	05/04/10	N/A	05/12/10
MW21B	QV22D	05/04/10	05/04/10	N/A	05/12/10
MW21A	QV22E	05/04/10	05/04/10	N/A	05/12/10
Field Blank	QV22F	05/04/10	05/04/10	N/A	05/12/10
Method Blank	MB051110	N/A	N/A	N/A	05/11/10
Method Blank	MB051210	N/A	N/A	N/A	05/12/10
Standard Ref.	SRM051110	N/A	N/A	N/A	05/11/10
Standard Ref.	SRM051210	N/A	N/A	N/A	05/12/10
MW35	QV22ADP	05/04/10	05/04/10	N/A	05/11/10
MW35	QV22AMS	05/04/10	05/04/10	N/A	05/11/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: Total Organic Carbon-EPA 415.1

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	N/A	05/06/10
MW17B	QV22B	05/04/10	05/04/10	N/A	05/06/10
MW14B	QV22C	05/04/10	05/04/10	N/A	05/06/10
MW21B	QV22D	05/04/10	05/04/10	N/A	05/06/10
MW21A	QV22E	05/04/10	05/04/10	N/A	05/06/10
Field Blank	QV22F	05/04/10	05/04/10	N/A	05/06/10
Method Blank	MB050610	N/A	N/A	N/A	05/06/10
Standard Ref.	SRM050610	N/A	N/A	N/A	05/06/10
MW35	QV22ADP	05/04/10	05/04/10	N/A	05/06/10
MW35	QV22AMS	05/04/10	05/04/10	N/A	05/06/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: ICP Dissolved Metals-6010B

Matrix: Water

Holding Time: 6 Months

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	05/05/10	05/11/10
MW17B	QV22B	05/04/10	05/04/10	05/05/10	05/11/10
MW14B	QV22C	05/04/10	05/04/10	05/05/10	05/11/10
MW21B	QV22D	05/04/10	05/04/10	05/05/10	05/11/10
MW21A	QV22E	05/04/10	05/04/10	05/05/10	05/11/10
Field Blank	QV22F	05/04/10	05/04/10	05/05/10	05/11/10
Method Blank	MB050510	N/A	N/A	05/05/10	05/11/10
Lab Control	LCS050510	N/A	N/A	05/05/10	05/11/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: Volatiles-SW8260B

Matrix: Water

Holding Time: 14 Days Preserved, 7 Days Unpreserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	05/05/10	05/05/10
MW35	QV22ADL	05/04/10	05/04/10	05/06/10	05/06/10
MW17B	QV22B	05/04/10	05/04/10	05/05/10	05/05/10
MW14B	QV22C	05/04/10	05/04/10	05/05/10	05/05/10
MW21B	QV22D	05/04/10	05/04/10	05/05/10	05/05/10
MW21B	QV22DDL	05/04/10	05/04/10	05/06/10	05/06/10
MW21A	QV22E	05/04/10	05/04/10	05/05/10	05/05/10
Field Blank	QV22F	05/04/10	05/04/10	05/05/10	05/05/10
Trip Blank	QV22G	05/04/10	05/04/10	05/05/10	05/05/10
Method Blank	MB050510	N/A	N/A	05/05/10	05/05/10
Method Blank	MB050610	N/A	N/A	05/06/10	05/06/10
Lab Control	LCS050510	N/A	N/A	05/05/10	05/05/10
Lab Control	LCS050610	N/A	N/A	05/06/10	05/06/10
Lab Control Dup	LCSD050510	N/A	N/A	05/05/10	05/05/10
Lab Control Dup	LCSD050610	N/A	N/A	05/06/10	05/06/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: Volatiles-SIM SW8260B

Matrix: Water

Holding Time: 14 Days Preserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	05/05/10	05/05/10
MW17B	QV22B	05/04/10	05/04/10	05/05/10	05/05/10
MW14B	QV22C	05/04/10	05/04/10	05/05/10	05/05/10
MW21B	QV22D	05/04/10	05/04/10	05/05/10	05/05/10
MW21A	QV22E	05/04/10	05/04/10	05/05/10	05/05/10
Field Blank	QV22F	05/04/10	05/04/10	05/05/10	05/05/10
Trip Blank	QV22G	05/04/10	05/04/10	05/05/10	05/05/10
Method Blank	MB050510	N/A	N/A	05/05/10	05/05/10
Lab Control	LCS050510	N/A	N/A	05/05/10	05/05/10
Lab Control Dup	LCSD050510	N/A	N/A	05/05/10	05/05/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV22

Parameter: Semivolatiles-SW8270D

Matrix: Water

Holding Time: 7 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW35	QV22A	05/04/10	05/04/10	05/06/10	05/11/10
MW17B	QV22B	05/04/10	05/04/10	05/06/10	05/11/10
MW14B	QV22C	05/04/10	05/04/10	05/06/10	05/11/10
MW21B	QV22D	05/04/10	05/04/10	05/06/10	05/11/10
Field Blank	QV22F	05/04/10	05/04/10	05/06/10	05/11/10
Method Blank	MB050610	N/A	N/A	05/06/10	05/11/10
Lab Control	LCS050610	N/A	N/A	05/06/10	05/11/10
Lab Control Dup	LCSD050610	N/A	N/A	05/06/10	05/11/10

Preparation Summary Table

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-050510**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-050510
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 11:31

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	99.7%
Bromofluorobenzene	91.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-050610**
METHOD BLANK
Page 1 of 1

Lab Sample ID: MB-050610
LIMS ID: 10-10948
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/06/10 11:29

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	100%
d8-Toluene	99.8%
Bromofluorobenzene	89.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW35**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22A
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 18:13

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	**1,1-Dichloroethene**	**1.0**	**3.6**	
75-34-3	**1,1-Dichloroethane**	**1.0**	**3.6**	
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	**1,1,1-Trichloroethane**	**1.0**	**3.9**	
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	**Trichloroethene**	**1.0**	**5.1**	
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	**Tetrachloroethene**	**1.0**	**130**	**E**
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	**Trichlorofluoromethane**	**1.0**	**4.3**	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	107%
d8-Toluene	101%
Bromofluorobenzene	88.0%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW35 DILUTION**

Lab Sample ID: QV22A
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/06/10 12:55

Sample Amount: 2.00 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	5.0	< 5.0	U
74-83-9	Bromomethane	5.0	< 5.0	U
75-01-4	Vinyl Chloride	5.0	< 5.0	U
75-00-3	Chloroethane	5.0	< 5.0	U
75-09-2	Methylene Chloride	10	< 10	U
67-64-1	Acetone	50	< 50	U
75-15-0	Carbon Disulfide	5.0	< 5.0	U
75-35-4	1,1-Dichloroethene	5.0	< 5.0	U
75-34-3	1,1-Dichloroethane	5.0	< 5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	< 5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	< 5.0	U
67-66-3	Chloroform	5.0	< 5.0	U
107-06-2	1,2-Dichloroethane	5.0	< 5.0	U
78-93-3	2-Butanone	25	< 25	U
71-55-6	1,1,1-Trichloroethane	5.0	< 5.0	U
56-23-5	Carbon Tetrachloride	5.0	< 5.0	U
108-05-4	Vinyl Acetate	25	< 25	U
75-27-4	Bromodichloromethane	5.0	< 5.0	U
78-87-5	1,2-Dichloropropane	5.0	< 5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	< 5.0	U
79-01-6	**Trichloroethene**	**5.0**	**5.0**	
124-48-1	Dibromochloromethane	5.0	< 5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	< 5.0	U
71-43-2	Benzene	5.0	< 5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	< 5.0	U
110-75-8	2-Chloroethylvinylether	25	< 25	U
75-25-2	Bromoform	5.0	< 5.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	25	< 25	U
591-78-6	2-Hexanone	25	< 25	U
127-18-4	**Tetrachloroethene**	**5.0**	**130**	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	< 5.0	U
108-88-3	Toluene	5.0	< 5.0	U
108-90-7	Chlorobenzene	5.0	< 5.0	U
100-41-4	Ethylbenzene	5.0	< 5.0	U
100-42-5	Styrene	5.0	< 5.0	U
75-69-4	Trichlorofluoromethane	5.0	< 5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	10	< 10	U
179601-23-1	m,p-Xylene	10	< 10	U
95-47-6	o-Xylene	5.0	< 5.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	107%
d8-Toluene	101%
Bromofluorobenzene	87.3%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW17B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22B
LIMS ID: 10-10946
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 18:38

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	**Chloroethane**	**1.0**	**1.4**	
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	**1,1-Dichloroethene**	**1.0**	**2.6**	
75-34-3	**1,1-Dichloroethane**	**1.0**	**36**	
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	**cis-1,2-Dichloroethene**	**1.0**	**3.8**	
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	**1,2-Dichloroethane**	**1.0**	**4.4**	
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	103%
Bromofluorobenzene	89.0%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW14B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22C
LIMS ID: 10-10947
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 19:04

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	**1,1-Dichloroethane**	**1.0**	**1.5**	
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	**cis-1,2-Dichloroethene**	**1.0**	**4.5**	
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	100%
Bromofluorobenzene	89.3%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW21B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22D
LIMS ID: 10-10948
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 19:30

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	**1,1-Dichloroethene**	**1.0**	**3.6**	
75-34-3	**1,1-Dichloroethane**	**1.0**	**3.6**	
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	**1,1,1-Trichloroethane**	**1.0**	**3.8**	
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	**Trichloroethene**	**1.0**	**4.8**	
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	**Tetrachloroethene**	**1.0**	**130**	**E**
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	**Trichlorofluoromethane**	**1.0**	**4.4**	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	101%
Bromofluorobenzene	85.4%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW21B**
Page 1 of 1 **DILUTION**

Lab Sample ID: QV22D
LIMS ID: 10-10948
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/06/10 13:20

Sample Amount: 2.00 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	5.0	< 5.0	U
74-83-9	Bromomethane	5.0	< 5.0	U
75-01-4	Vinyl Chloride	5.0	< 5.0	U
75-00-3	Chloroethane	5.0	< 5.0	U
75-09-2	Methylene Chloride	10	< 10	U
67-64-1	Acetone	50	< 50	U
75-15-0	Carbon Disulfide	5.0	< 5.0	U
75-35-4	1,1-Dichloroethene	5.0	< 5.0	U
75-34-3	1,1-Dichloroethane	5.0	< 5.0	U
156-60-5	trans-1,2-Dichloroethene	5.0	< 5.0	U
156-59-2	cis-1,2-Dichloroethene	5.0	< 5.0	U
67-66-3	Chloroform	5.0	< 5.0	U
107-06-2	1,2-Dichloroethane	5.0	< 5.0	U
78-93-3	2-Butanone	25	< 25	U
71-55-6	1,1,1-Trichloroethane	5.0	< 5.0	U
56-23-5	Carbon Tetrachloride	5.0	< 5.0	U
108-05-4	Vinyl Acetate	25	< 25	U
75-27-4	Bromodichloromethane	5.0	< 5.0	U
78-87-5	1,2-Dichloropropane	5.0	< 5.0	U
10061-01-5	cis-1,3-Dichloropropene	5.0	< 5.0	U
79-01-6	**Trichloroethene**	**5.0**	**5.2**	
124-48-1	Dibromochloromethane	5.0	< 5.0	U
79-00-5	1,1,2-Trichloroethane	5.0	< 5.0	U
71-43-2	Benzene	5.0	< 5.0	U
10061-02-6	trans-1,3-Dichloropropene	5.0	< 5.0	U
110-75-8	2-Chloroethylvinylether	25	< 25	U
75-25-2	Bromoform	5.0	< 5.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	25	< 25	U
591-78-6	2-Hexanone	25	< 25	U
127-18-4	**Tetrachloroethene**	**5.0**	**130**	
79-34-5	1,1,2,2-Tetrachloroethane	5.0	< 5.0	U
108-88-3	Toluene	5.0	< 5.0	U
108-90-7	Chlorobenzene	5.0	< 5.0	U
100-41-4	Ethylbenzene	5.0	< 5.0	U
100-42-5	Styrene	5.0	< 5.0	U
75-69-4	Trichlorofluoromethane	5.0	< 5.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	10	< 10	U
179601-23-1	m,p-Xylene	10	< 10	U
95-47-6	o-Xylene	5.0	< 5.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	101%
Bromofluorobenzene	89.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW21A**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22E
LIMS ID: 10-10949
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 19:55

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	**Trichlorofluoromethane**	**1.0**	**2.5**	
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	108%
d8-Toluene	104%
Bromofluorobenzene	87.2%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: Field Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22F
LIMS ID: 10-10950
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 13:31

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	103%
Bromofluorobenzene	89.4%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: Trip Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22G
LIMS ID: 10-10951
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/05/10 13:05

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	103%
Bromofluorobenzene	89.8%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050510**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050510
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/PKC
LCSD: NT5/PKC
Date Analyzed LCS: 05/05/10 10:40
LCSD: 05/05/10 11:06

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.7	10.0	97.0%	9.8	10.0	98.0%	1.0%
Bromomethane	10.4	10.0	104%	10.5	10.0	105%	1.0%
Vinyl Chloride	9.8	10.0	98.0%	9.8	10.0	98.0%	0.0%
Chloroethane	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
Methylene Chloride	9.5	10.0	95.0%	9.6	10.0	96.0%	1.0%
Acetone	48.2	50.0	96.4%	48.7	50.0	97.4%	1.0%
Carbon Disulfide	10.2	10.0	102%	10.2	10.0	102%	0.0%
1,1-Dichloroethene	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,1-Dichloroethane	9.9	10.0	99.0%	10.0	10.0	100%	1.0%
trans-1,2-Dichloroethene	10.0	10.0	100%	10.2	10.0	102%	2.0%
cis-1,2-Dichloroethene	10.2	10.0	102%	10.2	10.0	102%	0.0%
Chloroform	10.3	10.0	103%	10.2	10.0	102%	1.0%
1,2-Dichloroethane	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
2-Butanone	48.9	50.0	97.8%	49.0	50.0	98.0%	0.2%
1,1,1-Trichloroethane	10.2	10.0	102%	10.3	10.0	103%	1.0%
Carbon Tetrachloride	10.5	10.0	105%	10.4	10.0	104%	1.0%
Vinyl Acetate	8.8	10.0	88.0%	9.1	10.0	91.0%	3.4%
Bromodichloromethane	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,2-Dichloropropane	10.4	10.0	104%	10.2	10.0	102%	1.9%
cis-1,3-Dichloropropene	10.2	10.0	102%	10.4	10.0	104%	1.9%
Trichloroethene	10.7	10.0	107%	10.3	10.0	103%	3.8%
Dibromochloromethane	10.5	10.0	105%	10.6	10.0	106%	0.9%
1,1,2-Trichloroethane	10.4	10.0	104%	10.1	10.0	101%	2.9%
Benzene	10.9	10.0	109%	10.6	10.0	106%	2.8%
trans-1,3-Dichloropropene	10.4	10.0	104%	10.3	10.0	103%	1.0%
2-Chloroethylvinylether	9.5	10.0	95.0%	9.4	10.0	94.0%	1.1%
Bromoform	10.5	10.0	105%	10.5	10.0	105%	0.0%
4-Methyl-2-Pentanone (MIBK)	51.3	50.0	103%	49.9	50.0	99.8%	2.8%
2-Hexanone	49.2	50.0	98.4%	50.0	50.0	100%	1.6%
Tetrachloroethene	10.5	10.0	105%	10.3	10.0	103%	1.9%
1,1,2,2-Tetrachloroethane	9.4	10.0	94.0%	9.5	10.0	95.0%	1.1%
Toluene	11.0	10.0	110%	10.8	10.0	108%	1.8%
Chlorobenzene	10.6	10.0	106%	10.7	10.0	107%	0.9%
Ethylbenzene	11.2	10.0	112%	11.3	10.0	113%	0.9%
Styrene	11.4	10.0	114%	11.4	10.0	114%	0.0%
Trichlorofluoromethane	10.3	10.0	103%	10.3	10.0	103%	0.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.0	10.0	100%	10.0	10.0	100%	0.0%
m,p-Xylene	22.8	20.0	114%	22.8	20.0	114%	0.0%
o-Xylene	11.0	10.0	110%	11.0	10.0	110%	0.0%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050510**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050510 QC Report No: QV22-City of Seattle
LIMS ID: 10-10945 Project: Midway Landfill
Matrix: Water 555-1550-052

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichloroethane		95.1%	95.4%				
d8-Toluene		100%	99.4%				
Bromofluorobenzene		93.4%	95.4%				

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050610**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050610
LIMS ID: 10-10948
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/PKC
LCSD: NT5/PKC
Date Analyzed LCS: 05/06/10 10:38
LCSD: 05/06/10 11:04

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Bromomethane	10.2	10.0	102%	10.0	10.0	100%	2.0%
Vinyl Chloride	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Chloroethane	9.5	10.0	95.0%	9.3	10.0	93.0%	2.1%
Methylene Chloride	9.2	10.0	92.0%	8.9	10.0	89.0%	3.3%
Acetone	46.1	50.0	92.2%	46.9	50.0	93.8%	1.7%
Carbon Disulfide	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
1,1-Dichloroethene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
1,1-Dichloroethane	9.6	10.0	96.0%	9.5	10.0	95.0%	1.0%
trans-1,2-Dichloroethene	9.7	10.0	97.0%	9.5	10.0	95.0%	2.1%
cis-1,2-Dichloroethene	9.8	10.0	98.0%	9.4	10.0	94.0%	4.2%
Chloroform	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
1,2-Dichloroethane	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
2-Butanone	47.1	50.0	94.2%	46.2	50.0	92.4%	1.9%
1,1,1-Trichloroethane	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
Carbon Tetrachloride	10.3	10.0	103%	10.1	10.0	101%	2.0%
Vinyl Acetate	8.4	10.0	84.0%	8.4	10.0	84.0%	0.0%
Bromodichloromethane	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
1,2-Dichloropropane	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
cis-1,3-Dichloropropene	10.4	10.0	104%	9.9	10.0	99.0%	4.9%
Trichloroethene	10.4	10.0	104%	10.1	10.0	101%	2.9%
Dibromochloromethane	10.2	10.0	102%	10.1	10.0	101%	1.0%
1,1,2-Trichloroethane	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Benzene	10.5	10.0	105%	10.1	10.0	101%	3.9%
trans-1,3-Dichloropropene	10.1	10.0	101%	10.0	10.0	100%	1.0%
2-Chloroethylvinylether	9.0	10.0	90.0%	9.1	10.0	91.0%	1.1%
Bromoform	10.4	10.0	104%	10.4	10.0	104%	0.0%
4-Methyl-2-Pentanone (MIBK)	48.4	50.0	96.8%	48.4	50.0	96.8%	0.0%
2-Hexanone	46.9	50.0	93.8%	46.1	50.0	92.2%	1.7%
Tetrachloroethene	10.4	10.0	104%	10.0	10.0	100%	3.9%
1,1,2,2-Tetrachloroethane	9.3	10.0	93.0%	9.2	10.0	92.0%	1.1%
Toluene	10.8	10.0	108%	10.4	10.0	104%	3.8%
Chlorobenzene	10.4	10.0	104%	10.1	10.0	101%	2.9%
Ethylbenzene	10.7	10.0	107%	10.6	10.0	106%	0.9%
Styrene	11.1	10.0	111%	10.8	10.0	108%	2.7%
Trichlorofluoromethane	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	9.8	10.0	98.0%	9.5	10.0	95.0%	3.1%
m,p-Xylene	22.2	20.0	111%	21.8	20.0	109%	1.8%
o-Xylene	10.6	10.0	106%	10.3	10.0	103%	2.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050610**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050610 QC Report No: QV22-City of Seattle
LIMS ID: 10-10948 Project: Midway Landfill
Matrix: Water 555-1550-052

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichloroethane			95.6%	94.6%			
d8-Toluene			103%	101%			
Bromofluorobenzene			94.7%	95.5%			

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MB-050510**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-050510
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 10:23

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	111%
d8-Toluene	99.0%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MW35**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22A
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 13:33

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	92.2%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MW17B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22B
LIMS ID: 10-10946
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 13:59

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	0.22	

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	94.6%
d8-Toluene	95.8%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MW14B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22C
LIMS ID: 10-10947
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 14:24

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	0.63	

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	100%
d8-Toluene	95.6%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MW21B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22D
LIMS ID: 10-10948
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 14:50

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	103%
d8-Toluene	91.9%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: MW21A
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22E
LIMS ID: 10-10949
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 15:15

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	118%
d8-Toluene	99.5%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: Field Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22F
LIMS ID: 10-10950
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 15:41

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	112%
d8-Toluene	99.6%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: Trip Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV22G
LIMS ID: 10-10951
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/05/10 11:25

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	115%
d8-Toluene	98.3%

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ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: LCS-050510**
Page 1 of 1 **LAB CONTROL SAMPLE**

Lab Sample ID: LCS-050510
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/06/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT7/MH
LCSD: NT7/MH
Date Analyzed LCS: 05/05/10 09:32
LCSD: 05/05/10 09:58

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Vinyl Chloride	1.06	1.00	106%	1.08	1.00	108%	1.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	96.6%	93.4%
d8-Toluene	99.3%	99.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MB-050610
METHOD BLANK

Lab Sample ID: MB-050610
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Date Extracted: 05/06/10
Date Analyzed: 05/11/10 19:54
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
123-91-1	1,4-Dioxane	2.0	< 2.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery	
d8-1,4-Dioxane	79.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW35
SAMPLE

Lab Sample ID: QV22A
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Date Extracted: 05/06/10
Date Analyzed: 05/11/10 21:34
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
123-91-1	1,4-Dioxane	2.0	5.8

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d8-1,4-Dioxane	74.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW17B
SAMPLE

Lab Sample ID: QV22B
LIMS ID: 10-10946
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Date Extracted: 05/06/10
Date Analyzed: 05/11/10 22:07
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
123-91-1	1,4-Dioxane	2.0	2.4

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d8-1,4-Dioxane	68.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW14B
SAMPLE

Lab Sample ID: QV22C
LIMS ID: 10-10947
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Date Extracted: 05/06/10
Date Analyzed: 05/11/10 22:40
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
123-91-1	1,4-Dioxane	2.0	17

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery	
d8-1,4-Dioxane	73.2%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: MW21B
SAMPLE

Lab Sample ID: QV22D
LIMS ID: 10-10948
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Date Extracted: 05/06/10
Date Analyzed: 05/11/10 23:14
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
123-91-1	1,4-Dioxane	2.0	5.3

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d8-1,4-Dioxane	73.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: Field Blank
SAMPLE

Lab Sample ID: QV22F
LIMS ID: 10-10950
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Date Extracted: 05/06/10
Date Analyzed: 05/11/10 23:47
Instrument/Analyst: NT4/JZ

Sample Amount: 500 mL
Final Extract Volume: 1.0 mL
Dilution Factor: 1.00

CAS Number	Analyte	RL	Result
123-91-1	1,4-Dioxane	2.0	< 2.0 U

Reported in µg/L (ppb)

Semivolatile Surrogate Recovery

d8-1,4-Dioxane	70.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Semivolatiles by SW8270D GC/MS
Page 1 of 1

Sample ID: LCS-050610
LCS/LCSD

Lab Sample ID: LCS-050610
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/13/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Date Extracted LCS/LCSD: 05/06/10

Date Analyzed LCS: 05/11/10 20:27
LCSD: 05/11/10 21:00
Instrument/Analyst LCS: NT4/JZ
LCSD: NT4/JZ
GPC Cleanup: NO

Sample Amount LCS: 500 mL
LCSD: 500 mL
Final Extract Volume LCS: 1.0 mL
LCSD: 1.0 mL
Dilution Factor LCS: 1.00
LCSD: 1.00

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
1,4-Dioxane	35.4	50.0	70.8%	40.2	50.0	80.4%	12.7%

Semivolatile Surrogate Recovery

	LCS	LCSD
d8-1,4-Dioxane	71.2%	76.8%

Results reported in µg/L
RPD calculated using sample concentrations per SW846.

METHOD BLANK RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Chloride	EPA 325.2	05/06/10	mg/L	< 1.0 U	
Sulfate	EPA 375.2	05/12/10	mg/L	< 2.0 U	
Chemical Oxygen Demand	EPA 410.4	05/11/10	mg/L	< 5.00 U	
		05/12/10		< 5.00 U	
Total Organic Carbon	EPA 415.1	05/06/10	mg/L	< 1.50 U	

SAMPLE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Client ID: MW35
ARI ID: 10-10945 QV22A

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	2.0	15.2
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	10.0	133
Chemical Oxygen Demand	05/11/10 051110#1	EPA 410.4	mg/L	5.00	< 5.00 U
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Client ID: MW17B
ARI ID: 10-10946 QV22B

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	1.0	9.6
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	23.7
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	5.68
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Client ID: MW14B
ARI ID: 10-10947 QV22C

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	5.0	18.0
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	30.9
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	< 5.00 U
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	2.30

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Client ID: MW21B
ARI ID: 10-10948 QV22D

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	2.0	15.0
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	10.0	133
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	11.8
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Client ID: MW21A
ARI ID: 10-10949 QV22E

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	1.0	6.6
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	39.1
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	5.36
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Client ID: Field Blank
ARI ID: 10-10950 QV22F

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/06/10 050610#1	EPA 325.2	mg/L	1.0	< 1.0 U
Sulfate	05/12/10 051210#1	EPA 375.2	mg/L	2.0	2.3
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	< 5.00 U
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

MS/MSD RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QV22A Client ID: MW35							
Chloride	EPA 325.2	05/06/10	mg/L	15.2	39.6	25.0	97.6%
Sulfate	EPA 375.2	05/12/10	mg/L	133	346	200	106.5%
Chemical Oxygen Demand	EPA 410.4	05/11/10	mg/L	< 5.00	106	91.0	116.5%
Total Organic Carbon	EPA 415.1	05/06/10	mg/L	< 1.50	21.6	20.0	108.0%

REPLICATE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QV22A Client ID: MW35						
Chloride	EPA 325.2	05/06/10	mg/L	15.2	15.0	1.3%
Sulfate	EPA 375.2	05/12/10	mg/L	133	133	0.0%
Chemical Oxygen Demand	EPA 410.4	05/11/10	mg/L	< 5.00	< 5.00	NA
Total Organic Carbon	EPA 415.1	05/06/10	mg/L	< 1.50	< 1.50	NA

STANDARD REFERENCE RESULTS-CONVENTIONALS
QV22-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Chloride ERA #38084	EPA 325.2	05/06/10	mg/L	4.9	5.0	98.0%
Sulfate ERA #37065	EPA 375.2	05/12/10	mg/L	27.1	25.0	108.4%
Chemical Oxygen Demand Thermo Orion #I01	EPA 410.4	05/11/10 05/12/10	mg/L	90.6 90.0	90.0 90.0	100.7% 100.0%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	05/06/10	mg/L	20.6	20.0	103.0%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QV22MB
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/05/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/05/10	6010B	05/11/10	7439-96-5	Manganese	0.001	0.001	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW35
SAMPLE

Lab Sample ID: QV22A
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/05/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/05/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.408**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW17B
SAMPLE

Lab Sample ID: QV22B
LIMS ID: 10-10946
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/05/10	6010B	05/11/10	**7439-89-6**	**Iron**	0.05	**0.05**	
6010B	05/05/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.053**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW14B
SAMPLE

Lab Sample ID: QV22C
LIMS ID: 10-10947
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/05/10	6010B	05/11/10	**7439-89-6**	**Iron**	0.05	**11.2**	
6010B	05/05/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.961**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW21B
SAMPLE

Lab Sample ID: QV22D
LIMS ID: 10-10948
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/05/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/05/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.405**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW21A
SAMPLE

Lab Sample ID: QV22E
LIMS ID: 10-10949
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/05/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/05/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.016**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: Field Blank
SAMPLE

Lab Sample ID: QV22F
LIMS ID: 10-10950
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/04/10
Date Received: 05/04/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/05/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/05/10	6010B	05/11/10	7439-96-5	Manganese	0.001	0.001	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: LAB CONTROL**

Lab Sample ID: QV22LCS
LIMS ID: 10-10945
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV22-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	6010B	2.05	2.00	102%	
Manganese	6010B	0.476	0.500	95.2%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number: QV41	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: City of Seattle	Phone: 206-233-2629	Date: 5/5/10	Ice Present? Y
Client Contact: Min Soon Yim		No. of Coolers: 1	Cooler Temps: 1.8
Client Project Name: Midway Landfill			
Client Project #: 555-1550-052	Samplers: V. Thoma, F. McKenzie, R Locke		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Sulfate Chloride	TOC/COD	Dissolved metals Fe, Mn	VOA	Vinyl Chloride				Notes/Comments
MW8B	5/5/10	0910	W	8	1	1	1	3	2				metals are field filtered
MW30C	5/5/10	1105	W	8	1	1	1	3	2				
Trip Blank	—	—		4				2	2				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Valerie Thoma			
	Printed Name: Valerie Thoma	Printed Name: A. Volgardsen	Printed Name:	Printed Name:
	Company: City of Seattle	Company: ARI	Company:	Company:
	Date & Time: 5/5/10 1512	Date & Time: 5/5/10 1512	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: City of Seattle Project Name: Midway Landfill

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other:_____

Assigned ARI Job No: QV41 Tracking No: _____ (NA)

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO

Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry)..... 1.8

If cooler temperature is out of compliance fill out form 00070F Temp Gun ID#: 90941619

Cooler Accepted by: AV Date: 5/5/10 Time: 1512

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?			YES (NO)
What kind of packing material was used? ...	(Bubble Wrap) (Wet Ice) Gel Packs (Baggies) Foam Block Paper Other:_____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		(YES)	NO
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)...	NA	(YES)	NO
Were all VOC vials free of air bubbles?	NA	(YES)	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	4/20/10 5/3/10	

Was Sample Split by ARI : (NA) YES Date/Time:_____ Equipment:_____ Split by:_____

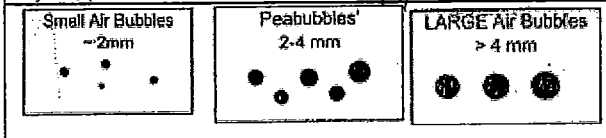
Samples Logged by: JP Date: 5/5/10 Time: 1530

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: JP Date: 5/5/10



Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

QV99 : 00105

PRESERVATION VERIFICATION 05/05/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QV41**

Inquiry Number: NONE
Analysis Requested: 05/05/10
Contact: Yim, Min-Soon
Client: City of Seattle
Logged by: JP
Sample Set Used: Yes-481
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 05/05/10

Project #: 555-1550-052
Project: Midway Landfill
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-11040 **QV41A**	MW8B				PASS		DIS PASS					PASS				Y						
10-11041 **QV41B**	MW30C				PASS		DIS PASS					PASS				Y						

J1556 : 5515

Checked By JP Date 5/5/10

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U Indicates that the target analyte was not detected at the reported concentration

* Duplicate RPD is not within established control limits

B Reported value is less than the CRDL but ≥ the Reporting Limit

N Matrix Spike recovery not within established control limits

NA Not Applicable, analyte not spiked

H The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible

L Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U Indicates that the target analyte was not detected at the reported concentration

* Flagged value is not within established control limits

B Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.

J Estimated concentration when the value is less than ARI's established reporting limits

D The spiked compound was not detected due to sample extract dilution

E Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.

Q Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).

S Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV41

Parameter: Chloride-EPA 325.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW8B	QV41A	05/05/10	05/05/10	N/A	05/13/10
MW30C	QV41B	05/05/10	05/05/10	N/A	05/13/10
Method Blank	MB051310	N/A	N/A	N/A	05/13/10
Standard Ref.	SRM051310	N/A	N/A	N/A	05/13/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV41

Parameter: Sulfate-EPA 375.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW8B	QV41A	05/05/10	05/05/10	N/A	05/13/10
MW30C	QV41B	05/05/10	05/05/10	N/A	05/13/10
Method Blank	MB051310	N/A	N/A	N/A	05/13/10
Standard Ref.	SRM051310	N/A	N/A	N/A	05/13/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV41

Parameter: Chemical Oxygen Demand-EPA 410.4

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW8B	QV41A	05/05/10	05/05/10	N/A	05/12/10
MW30C	QV41B	05/05/10	05/05/10	N/A	05/12/10
Method Blank	MB051210	N/A	N/A	N/A	05/12/10
Standard Ref.	SRM051210	N/A	N/A	N/A	05/12/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV41

Parameter: Total Organic Carbon-EPA 415.1

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW8B	QV41A	05/05/10	05/05/10	N/A	05/06/10
MW30C	QV41B	05/05/10	05/05/10	N/A	05/06/10
Method Blank	MB050610	N/A	N/A	N/A	05/06/10
Standard Ref.	SRM050610	N/A	N/A	N/A	05/06/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV41

Parameter: ICP Dissolved Metals-6010B

Matrix: Water

Holding Time: 6 Months

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW8B	QV41A	05/05/10	05/05/10	05/06/10	05/11/10
MW30C	QV41B	05/05/10	05/05/10	05/06/10	05/11/10
Method Blank	MB050610	N/A	N/A	05/06/10	05/11/10
Lab Control	LCS050610	N/A	N/A	05/06/10	05/11/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV41

Parameter: Volatiles-SW8260B

Matrix: Water

Holding Time: 14 Days Preserved, 7 Days Unpreserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW8B	QV41A	05/05/10	05/05/10	05/06/10	05/06/10
MW30C	QV41B	05/05/10	05/05/10	05/06/10	05/06/10
Trip Blank	QV41C	05/05/10	05/05/10	05/06/10	05/06/10
Method Blank	MB050610	N/A	N/A	05/06/10	05/06/10
Lab Control	LCS050610	N/A	N/A	05/06/10	05/06/10
Lab Control Dup	LCSD050610	N/A	N/A	05/06/10	05/06/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV41

Parameter: Volatiles-SIM SW8260B

Matrix: Water

Holding Time: 14 Days Preserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW8B	QV41A	05/05/10	05/05/10	05/12/10	05/12/10
MW30C	QV41B	05/05/10	05/05/10	05/12/10	05/12/10
Trip Blank	QV41C	05/05/10	05/05/10	05/12/10	05/12/10
Method Blank	MB051210	N/A	N/A	05/12/10	05/12/10
Lab Control	LCS051210	N/A	N/A	05/12/10	05/12/10
Lab Control Dup	LCSD051210	N/A	N/A	05/12/10	05/12/10

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-050610**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-050610
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/06/10 11:29

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	100%
d8-Toluene	99.8%
Bromofluorobenzene	89.9%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW8B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV41A
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/06/10 14:37

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	103%
Bromofluorobenzene	88.4%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW30C**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV41B
LIMS ID: 10-11041
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/06/10 15:03

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	109%
d8-Toluene	103%
Bromofluorobenzene	89.4%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: Trip Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV41C
LIMS ID: 10-11042
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/06/10 12:03

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	99.3%
d8-Toluene	100%
Bromofluorobenzene	87.5%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-050610**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-050610
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/11/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/PKC
LCSD: NT5/PKC
Date Analyzed LCS: 05/06/10 10:38
LCSD: 05/06/10 11:04

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Bromomethane	10.2	10.0	102%	10.0	10.0	100%	2.0%
Vinyl Chloride	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Chloroethane	9.5	10.0	95.0%	9.3	10.0	93.0%	2.1%
Methylene Chloride	9.2	10.0	92.0%	8.9	10.0	89.0%	3.3%
Acetone	46.1	50.0	92.2%	46.9	50.0	93.8%	1.7%
Carbon Disulfide	9.9	10.0	99.0%	9.7	10.0	97.0%	2.0%
1,1-Dichloroethene	9.8	10.0	98.0%	9.7	10.0	97.0%	1.0%
1,1-Dichloroethane	9.6	10.0	96.0%	9.5	10.0	95.0%	1.0%
trans-1,2-Dichloroethene	9.7	10.0	97.0%	9.5	10.0	95.0%	2.1%
cis-1,2-Dichloroethene	9.8	10.0	98.0%	9.4	10.0	94.0%	4.2%
Chloroform	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
1,2-Dichloroethane	9.7	10.0	97.0%	9.4	10.0	94.0%	3.1%
2-Butanone	47.1	50.0	94.2%	46.2	50.0	92.4%	1.9%
1,1,1-Trichloroethane	10.0	10.0	100%	9.7	10.0	97.0%	3.0%
Carbon Tetrachloride	10.3	10.0	103%	10.1	10.0	101%	2.0%
Vinyl Acetate	8.4	10.0	84.0%	8.4	10.0	84.0%	0.0%
Bromodichloromethane	10.2	10.0	102%	9.8	10.0	98.0%	4.0%
1,2-Dichloropropane	10.2	10.0	102%	9.9	10.0	99.0%	3.0%
cis-1,3-Dichloropropene	10.4	10.0	104%	9.9	10.0	99.0%	4.9%
Trichloroethene	10.4	10.0	104%	10.1	10.0	101%	2.9%
Dibromochloromethane	10.2	10.0	102%	10.1	10.0	101%	1.0%
1,1,2-Trichloroethane	10.0	10.0	100%	9.8	10.0	98.0%	2.0%
Benzene	10.5	10.0	105%	10.1	10.0	101%	3.9%
trans-1,3-Dichloropropene	10.1	10.0	101%	10.0	10.0	100%	1.0%
2-Chloroethylvinylether	9.0	10.0	90.0%	9.1	10.0	91.0%	1.1%
Bromoform	10.4	10.0	104%	10.4	10.0	104%	0.0%
4-Methyl-2-Pentanone (MIBK)	48.4	50.0	96.8%	48.4	50.0	96.8%	0.0%
2-Hexanone	46.9	50.0	93.8%	46.1	50.0	92.2%	1.7%
Tetrachloroethene	10.4	10.0	104%	10.0	10.0	100%	3.9%
1,1,2,2-Tetrachloroethane	9.3	10.0	93.0%	9.2	10.0	92.0%	1.1%
Toluene	10.8	10.0	108%	10.4	10.0	104%	3.8%
Chlorobenzene	10.4	10.0	104%	10.1	10.0	101%	2.9%
Ethylbenzene	10.7	10.0	107%	10.6	10.0	106%	0.9%
Styrene	11.1	10.0	111%	10.8	10.0	108%	2.7%
Trichlorofluoromethane	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	9.8	10.0	98.0%	9.5	10.0	95.0%	3.1%
m,p-Xylene	22.2	20.0	111%	21.8	20.0	109%	1.8%
o-Xylene	10.6	10.0	106%	10.3	10.0	103%	2.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C
Page 2 of 2

Sample ID: LCS-050610
LAB CONTROL SAMPLE

Lab Sample ID: LCS-050610
LIMS ID: 10-11040
Matrix: Water

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichloroethane			95.6%	94.6%			
d8-Toluene			103%	101%			
Bromofluorobenzene			94.7%	95.5%			

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MB-051210**
 METHOD BLANK

Lab Sample ID: MB-051210
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT7/MH
Date Analyzed: 05/12/10 08:09

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%
d8-Toluene	98.5%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: MW8B
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV41A
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/12/10 09:58

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	113%
d8-Toluene	98.6%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: MW30C
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV41B
LIMS ID: 10-11041
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/12/10 10:24

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	98.6%
d8-Toluene	99.0%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: Trip Blank SAMPLE**
Page 1 of 1

Lab Sample ID: QV41C
LIMS ID: 10-11042
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/12/10 09:07

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	112%
d8-Toluene	98.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: LCS-051210
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-051210
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT7/MH
LCSD: NT7/MH
Date Analyzed LCS: 05/12/10 07:17
LCSD: 05/12/10 07:43

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Vinyl Chloride	0.998	1.00	99.8%	1.02	1.00	102%	2.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	91.4%	91.8%
d8-Toluene	98.9%	100%

METHOD BLANK RESULTS-CONVENTIONALS
QV41-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Chloride	EPA 325.2	05/13/10	mg/L	< 1.0 U	
Sulfate	EPA 375.2	05/13/10	mg/L	< 2.0 U	
Chemical Oxygen Demand	EPA 410.4	05/12/10	mg/L	< 5.00 U	
Total Organic Carbon	EPA 415.1	05/06/10	mg/L	< 1.50 U	

SAMPLE RESULTS-CONVENTIONALS
QV41-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Client ID: MW8B
ARI ID: 10-11040 QV41A

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/13/10 051310#1	EPA 325.2	mg/L	1.0	5.3
Sulfate	05/13/10 051310#1	EPA 375.2	mg/L	2.0	17.9
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	< 5.00 U
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

SAMPLE RESULTS-CONVENTIONALS
QV41-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Client ID: MW30C
ARI ID: 10-11041 QV41B

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/13/10 051310#1	EPA 325.2	mg/L	5.0	12.9
Sulfate	05/13/10 051310#1	EPA 375.2	mg/L	2.0	12.9
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	6.00
Total Organic Carbon	05/06/10 050610#1	EPA 415.1	mg/L	1.50	< 1.50 U

RL Analytical reporting limit
U Undetected at reported detection limit

STANDARD REFERENCE RESULTS-CONVENTIONALS
QV41-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Chloride ERA #38084	EPA 325.2	05/13/10	mg/L	5.0	5.0	100.0%
Sulfate ERA #37065	EPA 375.2	05/13/10	mg/L	25.2	25.0	100.8%
Chemical Oxygen Demand Thermo Orion #I01	EPA 410.4	05/12/10	mg/L	90.0	90.0	100.0%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	05/06/10	mg/L	20.6	20.0	103.0%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: METHOD BLANK

Lab Sample ID: QV41MB
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/06/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/06/10	6010B	05/11/10	7439-96-5	Manganese	0.001	0.001	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW8B
SAMPLE

Lab Sample ID: QV41A
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/06/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/06/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.004**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW30C
SAMPLE

Lab Sample ID: QV41B
LIMS ID: 10-11041
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/05/10
Date Received: 05/05/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/06/10	6010B	05/11/10	**7439-89-6**	**Iron**	0.05	**2.74**	
6010B	05/06/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.706**	

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: LAB CONTROL

Lab Sample ID: QV41LCS
LIMS ID: 10-11040
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV41-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	6010B	2.04	2.00	102%	
Manganese	6010B	0.476	0.500	95.2%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%

Chain of Custody Record & Laboratory Analysis Request

ARI Assigned Number:	Turn-around Requested:	Page: 1 of 1	
ARI Client Company: City of Seattle	Phone: 206-233-2629	Date: 5/7/10	Ice Present? yes
Client Contact: Min Soon Yim		No. of Coolers: 1	Cooler Temps: 0.4
Client Project Name: Midway Landfill			
Client Project #: 555-1550-052	Samplers: V. Thoma, F. McKenzie, R. Locke		

Analytical Resources, Incorporated
Analytical Chemists and Consultants
4611 South 134th Place, Suite 100
Tukwila, WA 98168
206-695-6200 206-695-6201 (fax)

Sample ID	Date	Time	Matrix	No. Containers	Analysis Requested: Sulfate, Chloride	TOC, COD	Dissolved Metals Fe, Mn	VOA	Vinyl Chloride				Notes/Comments
MW 23B	5/7/10	0855	W	8	1	1	1	3	2				metals are field filtered
Trip Blank	—	—		4				2	2				

Comments/Special Instructions	Relinquished by: (Signature)	Received by: (Signature)	Relinquished by: (Signature)	Received by: (Signature)
	Printed Name: Valerie Thoma	Printed Name: D. Peterson	Printed Name:	Printed Name:
	Company: City of Seattle	Company: ARI	Company:	Company:
	Date & Time: 5/7/10 1351	Date & Time: 5/7/10 1351	Date & Time:	Date & Time:

Analytical Resources, Incorporated
Analytical Chemists and Consultants

Cooler Receipt Form

ARI Client: City of Seattle Project Name: Midway Landfill

COC No(s): _____ (NA) Delivered by: Fed-Ex UPS Courier Hand Delivered Other: _____

Assigned ARI Job No: _____ Tracking No: _____ NA

Preliminary Examination Phase:

Were intact, properly signed and dated custody seals attached to the outside of to cooler?	YES	(NO)
Were custody papers included with the cooler?	(YES)	NO
Were custody papers properly filled out (ink, signed, etc.)	(YES)	NO
Temperature of Cooler(s) (°C) (recommended 2.0-6.0 °C for chemistry) 0.4		
If cooler temperature is out of compliance fill out form 00070F	Temp Gun ID#: 90941617	

Cooler Accepted by: JP Date: 5/7/10 Time: 1350

Complete custody forms and attach all shipping documents

Log-In Phase:

Was a temperature blank included in the cooler?		YES	(NO)
What kind of packing material was used?	Bubble Wrap (Wet Ice) Gel Packs Baggies Foam Block Paper Other: _____		
Was sufficient ice used (if appropriate)?	NA	(YES)	NO
Were all bottles sealed in individual plastic bags?		YES	(NO)
Did all bottles arrive in good condition (unbroken)?		(YES)	NO
Were all bottle labels complete and legible?		(YES)	NO
Did the number of containers listed on COC match with the number of containers received?		(YES)	NO
Did all bottle labels and tags agree with custody papers?		(YES)	NO
Were all bottles used correct for the requested analyses?		(YES)	NO
Do any of the analyses (bottles) require preservation? (attach preservation sheet, excluding VOCs)	(NA)	(YES)	NO
Were all VOC vials free of air bubbles?	NA	(YES)	NO
Was sufficient amount of sample sent in each bottle?		(YES)	NO
Date VOC Trip Blank was made at ARI	NA	5/4/10	5/5/10

Was Sample Split by ARI : (NA) YES Date/Time: _____ Equipment: _____ Split by: _____

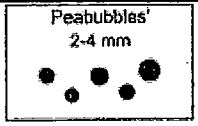
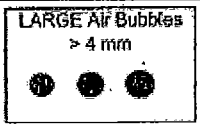
Samples Logged by: [signature] Date: 5/7/10 Time: 1500

***** Notify Project Manager of discrepancies or concerns *****

Sample ID on Bottle	Sample ID on COC	Sample ID on Bottle	Sample ID on COC

Additional Notes, Discrepancies, & Resolutions:

By: Date:

Small Air Bubbles ~2mm	Peabubbles 2-4 mm	LARGE Air Bubbles > 4 mm
		

Small → "sm"
Peabubbles → "pb"
Large → "lg"
Headspace → "hs"

PRESERVATION VERIFICATION 05/07/10
Page 1 of 1

ANALYTICAL RESOURCES INCORPORATED

ARI Job No: **QV70**

Inquiry Number:
Analysis Requested: 05/07/10
Contact: Yim, Min-Soon
Client: City of Seattle
Logged by: MM
Sample Set Used: Yes-050
Validatable Package: No
Deliverables:

PC: Mark
VTSR: 05/07/10

Project #: 555-1550-052
Project: Midway Landfill
Sample Site:
SDG No:
Analytical Protocol: In-house

LOGNUM ARI ID	CLIENT ID	CN >12	WAD >12	NH3 <2	COD <2	FOG <2	MET <2	PHEN <2	PHOS <2	TKN <2	NO23 <2	TOC <2	S2 >9	AK102 <2	Fe2+ <2	DMET FLT	DOC FLT	PARAMETER	ADJUSTED TO	LOT NUMBER	AMOUNT ADDED	DATE/BY
10-11174 **QV70A**	MW23B				pass		DIS pass					pass				Y						

Checked By [signature] Date 5/7/10

Data Reporting Qualifiers

Effective 7/10/2009

Inorganic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Duplicate RPD is not within established control limits
B	Reported value is less than the CRDL but ≥ the Reporting Limit
N	Matrix Spike recovery not within established control limits
NA	Not Applicable, analyte not spiked
H	The natural concentration of the spiked element is so much greater than the concentration spiked that an accurate determination of spike recovery is not possible
L	Analyte concentration is ≤5 times the Reporting Limit and the replicate control limit defaults to ±1 RL instead of the normal 20% RPD

Organic Data

U	Indicates that the target analyte was not detected at the reported concentration
*	Flagged value is not within established control limits
B	Analyte detected in an associated Method Blank at a concentration greater than one-half of ARI's Reporting Limit or 5% of the regulatory limit or 5% of the analyte concentration in the sample.
J	Estimated concentration when the value is less than ARI's established reporting limits
D	The spiked compound was not detected due to sample extract dilution
E	Estimated concentration calculated for an analyte response above the valid instrument calibration range. A dilution is required to obtain an accurate quantification of the analyte.
Q	Indicates a detected analyte with an initial or continuing calibration that does not meet established acceptance criteria (<20%RSD, <20%Drift or minimum RRF).
S	Indicates an analyte response that has saturated the detector. The calculated concentration is not valid; a dilution is required to obtain valid quantification of the analyte

NA The flagged analyte was not analyzed for

NR Spiked compound recovery is not reported due to chromatographic interference

NS The flagged analyte was not spiked into the sample

M Estimated value for an analyte detected and confirmed by an analyst but with low spectral match parameters. This flag is used only for GC-MS analyses

M2 The sample contains PCB congeners that do not match any standard Aroclor pattern. The PCBs are identified and quantified as the Aroclor whose pattern most closely matches that of the sample. The reported value is an estimate.

N The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification"

Y The analyte is not detected at or above the reported concentration. The reporting limit is raised due to chromatographic interference. The Y flag is equivalent to the U flag with a raised reporting limit.

C The analyte was positively identified on only one of two chromatographic columns. Chromatographic interference prevented a positive identification on the second column

P The analyte was detected on both chromatographic columns but the quantified values differ by ≥40% RPD with no obvious chromatographic interference

Geotechnical Data

A The total of all fines fractions. This flag is used to report total fines when only sieve analysis is requested and balances total grain size with sample weight.

F Samples were frozen prior to particle size determination

SM Sample matrix was not appropriate for the requested analysis. This normally refers to samples contaminated with an organic product that interferes with the sieving process and/or moisture content, porosity and saturation calculations

SS Sample did not contain the proportion of "fines" required to perform the pipette portion of the grain size analysis

W Weight of sample in some pipette aliquots was below the level required for accurate weighting

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV70

Parameter: Chloride-EPA 325.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW23B	QV70A	05/07/10	05/07/10	N/A	05/13/10
Method Blank	MB051310	N/A	N/A	N/A	05/13/10
Standard Ref.	SRM051310	N/A	N/A	N/A	05/13/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV70

Parameter: Sulfate-EPA 375.2

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW23B	QV70A	05/07/10	05/07/10	N/A	05/13/10
Method Blank	MB051310	N/A	N/A	N/A	05/13/10
Standard Ref.	SRM051310	N/A	N/A	N/A	05/13/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV70

Parameter: Chemical Oxygen Demand-EPA 410.4

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW23B	QV70A	05/07/10	05/07/10	N/A	05/12/10
Method Blank	MB051210	N/A	N/A	N/A	05/12/10
Standard Ref.	SRM051210	N/A	N/A	N/A	05/12/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV70

Parameter: Total Organic Carbon-EPA 415.1

Matrix: Water

Holding Time: 28 Days

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW23B	QV70A	05/07/10	05/07/10	N/A	05/10/10
Method Blank	MB051010	N/A	N/A	N/A	05/10/10
Standard Ref.	SRM051010	N/A	N/A	N/A	05/10/10
MW23B	QV70ADP	05/07/10	05/07/10	N/A	05/10/10
MW23B	QV70AMS	05/07/10	05/07/10	N/A	05/10/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV70

Parameter: ICP Dissolved Metals-6010B

Matrix: Water

Holding Time: 6 Months

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW23B	QV70A	05/07/10	05/07/10	05/10/10	05/11/10
Method Blank	MB051010	N/A	N/A	05/10/10	05/11/10
Lab Control	LCS051010	N/A	N/A	05/10/10	05/11/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV70

Parameter: Volatiles-SW8260B

Matrix: Water

Holding Time: 14 Days Preserved, 7 Days Unpreserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW23B	QV70A	05/07/10	05/07/10	05/10/10	05/10/10
Trip Blank	QV70B	05/07/10	05/07/10	05/10/10	05/10/10
Method Blank	MB051010	N/A	N/A	05/10/10	05/10/10
Lab Control	LCS051010	N/A	N/A	05/10/10	05/10/10
Lab Control Dup	LCSD051010	N/A	N/A	05/10/10	05/10/10

ANALYTICAL RESOURCES INCORPORATED

Client Project ID: 555-1550-052, Midway Landfill

ARI Job No: QV70

Parameter: Volatiles-SIM SW8260B

Matrix: Water

Holding Time: 14 Days Preserved

Date Reported: 05/14/10

Client Sample ID	ARI Sample ID	Date Sampled	Date Received	Date Extracted	Date Analyzed
MW23B	QV70A	05/07/10	05/07/10	05/12/10	05/12/10
Trip Blank	QV70B	05/07/10	05/07/10	05/12/10	05/12/10
Method Blank	MB051210	N/A	N/A	05/12/10	05/12/10
Lab Control	LCS051210	N/A	N/A	05/12/10	05/12/10
Lab Control Dup	LCSD051210	N/A	N/A	05/12/10	05/12/10

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MB-051010**
Page 1 of 1 METHOD BLANK

Lab Sample ID: MB-051010
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/12/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/10/10 11:18

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	101%
d8-Toluene	98.9%
Bromofluorobenzene	90.4%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: MW23B**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV70A
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/12/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/10/10 13:32

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	**cis-1,2-Dichloroethene**	**1.0**	**3.4**	
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	**1,2-Dichloroethane**	**1.0**	**2.7**	
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	105%
d8-Toluene	100%
Bromofluorobenzene	91.8%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: Trip Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV70B
LIMS ID: 10-11175
Matrix: Water
Data Release Authorized:
Reported: 05/12/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Instrument/Analyst: NT5/PKC
Date Analyzed: 05/10/10 13:07

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
74-87-3	Chloromethane	1.0	< 1.0	U
74-83-9	Bromomethane	1.0	< 1.0	U
75-01-4	Vinyl Chloride	1.0	< 1.0	U
75-00-3	Chloroethane	1.0	< 1.0	U
75-09-2	Methylene Chloride	2.0	< 2.0	U
67-64-1	Acetone	10	< 10	U
75-15-0	Carbon Disulfide	1.0	< 1.0	U
75-35-4	1,1-Dichloroethene	1.0	< 1.0	U
75-34-3	1,1-Dichloroethane	1.0	< 1.0	U
156-60-5	trans-1,2-Dichloroethene	1.0	< 1.0	U
156-59-2	cis-1,2-Dichloroethene	1.0	< 1.0	U
67-66-3	Chloroform	1.0	< 1.0	U
107-06-2	1,2-Dichloroethane	1.0	< 1.0	U
78-93-3	2-Butanone	5.0	< 5.0	U
71-55-6	1,1,1-Trichloroethane	1.0	< 1.0	U
56-23-5	Carbon Tetrachloride	1.0	< 1.0	U
108-05-4	Vinyl Acetate	5.0	< 5.0	U
75-27-4	Bromodichloromethane	1.0	< 1.0	U
78-87-5	1,2-Dichloropropane	1.0	< 1.0	U
10061-01-5	cis-1,3-Dichloropropene	1.0	< 1.0	U
79-01-6	Trichloroethene	1.0	< 1.0	U
124-48-1	Dibromochloromethane	1.0	< 1.0	U
79-00-5	1,1,2-Trichloroethane	1.0	< 1.0	U
71-43-2	Benzene	1.0	< 1.0	U
10061-02-6	trans-1,3-Dichloropropene	1.0	< 1.0	U
110-75-8	2-Chloroethylvinylether	5.0	< 5.0	U
75-25-2	Bromoform	1.0	< 1.0	U
108-10-1	4-Methyl-2-Pentanone (MIBK)	5.0	< 5.0	U
591-78-6	2-Hexanone	5.0	< 5.0	U
127-18-4	Tetrachloroethene	1.0	< 1.0	U
79-34-5	1,1,2,2-Tetrachloroethane	1.0	< 1.0	U
108-88-3	Toluene	1.0	< 1.0	U
108-90-7	Chlorobenzene	1.0	< 1.0	U
100-41-4	Ethylbenzene	1.0	< 1.0	U
100-42-5	Styrene	1.0	< 1.0	U
75-69-4	Trichlorofluoromethane	1.0	< 1.0	U
76-13-1	1,1,2-Trichloro-1,2,2-trifluoroe	2.0	< 2.0	U
179601-23-1	m,p-Xylene	2.0	< 2.0	U
95-47-6	o-Xylene	1.0	< 1.0	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	104%
d8-Toluene	103%
Bromofluorobenzene	90.2%

2-Chloroethylvinylether is an acid labile compound and may not be recovered from an acid preserved sample.

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-051010**
Page 1 of 2 **LAB CONTROL SAMPLE**

Lab Sample ID: LCS-051010
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/12/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT5/PKC
LCSD: NT5/PKC
Date Analyzed LCS: 05/10/10 10:26
LCSD: 05/10/10 10:52

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Chloromethane	9.6	10.0	96.0%	9.4	10.0	94.0%	2.1%
Bromomethane	8.5 Q	10.0	85.0%	8.8 Q	10.0	88.0%	3.5%
Vinyl Chloride	9.5	10.0	95.0%	9.5	10.0	95.0%	0.0%
Chloroethane	10.0	10.0	100%	9.9	10.0	99.0%	1.0%
Methylene Chloride	9.4	10.0	94.0%	9.2	10.0	92.0%	2.2%
Acetone	42.4	50.0	84.8%	42.4	50.0	84.8%	0.0%
Carbon Disulfide	10.1	10.0	101%	10.0	10.0	100%	1.0%
1,1-Dichloroethene	10.2	10.0	102%	10.0	10.0	100%	2.0%
1,1-Dichloroethane	9.6	10.0	96.0%	9.6	10.0	96.0%	0.0%
trans-1,2-Dichloroethene	9.9	10.0	99.0%	9.8	10.0	98.0%	1.0%
cis-1,2-Dichloroethene	9.8	10.0	98.0%	9.9	10.0	99.0%	1.0%
Chloroform	10.0	10.0	100%	10.0	10.0	100%	0.0%
1,2-Dichloroethane	9.6	10.0	96.0%	9.6	10.0	96.0%	0.0%
2-Butanone	44.9	50.0	89.8%	44.9	50.0	89.8%	0.0%
1,1,1-Trichloroethane	10.2	10.0	102%	10.2	10.0	102%	0.0%
Carbon Tetrachloride	10.4	10.0	104%	10.4	10.0	104%	0.0%
Vinyl Acetate	8.4	10.0	84.0%	8.5	10.0	85.0%	1.2%
Bromodichloromethane	10.2	10.0	102%	10.1	10.0	101%	1.0%
1,2-Dichloropropane	10.0	10.0	100%	10.2	10.0	102%	2.0%
cis-1,3-Dichloropropene	10.2	10.0	102%	10.5	10.0	105%	2.9%
Trichloroethene	10.4	10.0	104%	10.7	10.0	107%	2.8%
Dibromochloromethane	10.1	10.0	101%	10.4	10.0	104%	2.9%
1,1,2-Trichloroethane	10.1	10.0	101%	10.5	10.0	105%	3.9%
Benzene	10.4	10.0	104%	10.6	10.0	106%	1.9%
trans-1,3-Dichloropropene	10.2	10.0	102%	10.3	10.0	103%	1.0%
2-Chloroethylvinylether	9.0	10.0	90.0%	9.2	10.0	92.0%	2.2%
Bromoform	10.0	10.0	100%	10.6	10.0	106%	5.8%
4-Methyl-2-Pentanone (MIBK)	48.1	50.0	96.2%	49.1	50.0	98.2%	2.1%
2-Hexanone	43.9	50.0	87.8%	44.2	50.0	88.4%	0.7%
Tetrachloroethene	10.1	10.0	101%	10.3	10.0	103%	2.0%
1,1,2,2-Tetrachloroethane	8.8	10.0	88.0%	9.0	10.0	90.0%	2.2%
Toluene	10.6	10.0	106%	11.0	10.0	110%	3.7%
Chlorobenzene	10.2	10.0	102%	10.5	10.0	105%	2.9%
Ethylbenzene	10.7	10.0	107%	11.0	10.0	110%	2.8%
Styrene	10.9	10.0	109%	11.1	10.0	111%	1.8%
Trichlorofluoromethane	10.2	10.0	102%	10.0	10.0	100%	2.0%
1,1,2-Trichloro-1,2,2-trifluoroetha	10.0	10.0	100%	9.6	10.0	96.0%	4.1%
m,p-Xylene	21.9	20.0	110%	22.2	20.0	111%	1.4%
o-Xylene	10.4	10.0	104%	10.6	10.0	106%	1.9%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C **Sample ID: LCS-051010**
 LAB CONTROL SAMPLE

Lab Sample ID: LCS-051010 QC Report No: QV70-City of Seattle
LIMS ID: 10-11174 Project: Midway Landfill
Matrix: Water 555-1550-052

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
d4-1,2-Dichloroethane			94.1%	93.6%			
d8-Toluene			99.7%	104%			
Bromofluorobenzene			96.3%	96.2%			

Data File: /chem1/nt5.i/10MAY10.b/05101002.d
Report Date: 10-May-2010 10:54

Analytical Resources, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt5.i
Lab File ID: 05101002.d
Analysis Type: WATER
Lab Sample ID: CC0510
Method: /chem1/nt5.i/10MAY10.b/8260c042010L.m

Injection Date: 10-MAY-2010 10:01
Init. Cal. Date(s): 20-APR-2010 20-APR-2010
Init. Cal. Times: 11:22 14:22
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE	
1 Dichlorodifluoromethane	0.86026	0.80009	0.010	-6.99478	20.00000	Averaged	
2 Chloromethane	1.29032	1.20603	0.100	-6.53223	20.00000	Averaged	
3 Vinyl Chloride	1.29275	1.21346	0.100	-6.13350	20.00000	Averaged	
4 Bromomethane	0.52080	0.36780	0.100	-29.37721	20.00000	Averaged	<-
5 Chloroethane	0.77495	0.74181	0.010	-4.27684	20.00000	Averaged	
6 Trichlorofluoromethane	1.11523	1.14955	0.010	3.07712	20.00000	Averaged	
12 Acrolein	0.10331	0.08741	0.010	-15.38861	20.00000	Averaged	
9 112Trichloro122Trifluoroeth	0.81428	0.82506	0.010	1.32273	20.00000	Averaged	
14 Acetone	0.12079	0.10625	0.010	-12.04066	20.00000	Averaged	
7 1,1-Dichloroethene	0.78057	0.80045	0.100	2.54691	20.00000	Averaged	
11 Bromoethane	0.56646	0.57363	0.010	1.26654	20.00000	Averaged	
10 Iodomethane	0.87873	0.74382	0.010	-15.35325	20.00000	Averaged	
13 Methylene Chloride	0.89317	0.85750	0.010	-3.99391	20.00000	Averaged	
18 Acrylonitrile	0.19242	0.16080	0.010	-16.43603	20.00000	Averaged	
16 Methyl tert butyl ether	1.83610	1.70690	0.010	-7.03657	20.00000	Averaged	
8 Carbon Disulfide	3.26512	3.36318	0.010	3.00319	20.00000	Averaged	
15 Trans-1,2-Dichloroethene	0.84758	0.83315	0.010	-1.70243	20.00000	Averaged	
19 Vinyl Acetate	1.28904	1.07362	0.010	-16.71165	20.00000	Averaged	
17 1,1-Dichloroethane	1.73216	1.66311	0.200	-3.98633	20.00000	Averaged	
29 2-Butanone	0.05875	0.05361	0.010	-8.74907	20.00000	Averaged	
21 2,2-Dichloropropane	1.33306	1.37396	0.010	3.06801	20.00000	Averaged	
20 Cis-1,2-Dichloroethene	0.87212	0.86033	0.010	-1.35193	20.00000	Averaged	
23 Chloroform	1.41676	1.43086	0.200	0.99468	20.00000	Averaged	
22 Bromochloromethane	0.31440	0.32346	0.010	2.88187	20.00000	Averaged	
$ 25 Dibromofluoromethane	0.48148	0.49707	0.010	3.23686	20.00000	Averaged	
26 1,1,1-Trichloroethane	1.22600	1.25676	0.100	2.50910	20.00000	Averaged	
28 1,1-Dichloropropene	0.63547	0.62779	0.010	-1.20847	20.00000	Averaged	
24 Carbon Tetrachloride	0.51002	0.54079	0.100	6.03296	20.00000	Averaged	
$ 31 d4-1,2-Dichloroethane	0.61759	0.58281	0.010	-5.63221	20.00000	Averaged	
33 1,2-Dichloroethane	0.48931	0.48966	0.100	0.07177	20.00000	Averaged	
30 Benzene	1.87312	1.95122	0.500	4.16931	20.00000	Averaged	
34 Trichloroethene	0.38412	0.40866	0.200	6.38950	20.00000	Averaged	
38 1,2-Dichloropropane	0.48204	0.49095	0.100	1.84811	20.00000	Averaged	
39 Bromodichloromethane	0.50102	0.52585	0.200	4.95577	20.00000	Averaged	
37 Dibromomethane	0.18511	0.18394	0.010	-0.63421	20.00000	Averaged	

Data File: /chem1/nt5.i/10MAY10.b/05101002.d
Report Date: 10-May-2010 10:54

Analytical Resources, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt5.i
Lab File ID: 05101002.d
Analysis Type: WATER
Lab Sample ID: CC0510
Method: /chem1/nt5.i/10MAY10.b/8260c042010L.m

Injection Date: 10-MAY-2010 10:01
Init. Cal. Date(s): 20-APR-2010 20-APR-2010
Init. Cal. Times: 11:22 14:22
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
40 2-Chloroethyl Vinyl Ether	0.19393	0.17099	0.010	-11.83213	20.00000	Averaged
45 4-Methyl-2-Pentanone	0.09416	0.09103	0.010	-3.32599	20.00000	Averaged
41 Cis 1,3-dichloropropene	0.69771	0.71045	0.200	1.82539	20.00000	Averaged
$ 42 d8-Toluene	1.20089	1.23961	0.010	3.22403	20.00000	Averaged
43 Toluene	1.11036	1.21736	0.400	9.63644	20.00000	Averaged
46 Trans 1,3-Dichloropropene	0.56743	0.57800	0.100	1.86254	20.00000	Averaged
51 2-Hexanone	0.17825	0.15738	0.010	-11.70847	20.00000	Averaged
47 1,1,2-Trichloroethane	0.26415	0.27224	0.100	3.06575	20.00000	Averaged
49 1,3-Dichloropropane	0.60274	0.57412	0.010	-4.74869	20.00000	Averaged
44 Tetrachloroethene	0.38674	0.38537	0.200	-0.35482	20.00000	Averaged
48 Chlorodibromomethane	0.29402	0.29258	0.010	-0.49156	20.00000	Averaged
50 1,2-Dibromoethane	0.24368	0.24917	0.010	2.25512	20.00000	Averaged
53 Chlorobenzene	1.20049	1.19363	0.500	-0.57199	20.00000	Averaged
54 Ethyl Benzene	2.44004	2.57654	0.100	5.59430	20.00000	Averaged
55 1,1,1,2-Tetrachloroethane	0.37718	0.38473	0.010	2.00198	20.00000	Averaged
56 m,p-xylene	0.81839	0.87405	0.100	6.80126	20.00000	Averaged
57 o-Xylene	0.78525	0.79696	0.300	1.49083	20.00000	Averaged
58 Styrene	1.28124	1.37186	0.300	7.07329	20.00000	Averaged
60 Isopropyl Benzene	4.41171	4.42696	0.010	0.34557	20.00000	Averaged
59 Bromoform	0.28578	0.29525	0.100	3.31235	20.00000	Averaged
64 1,1,2,2-Tetrachloroethane	0.67348	0.61169	0.300	-9.17420	20.00000	Averaged
$ 61 4-Bromofluorobenzene	0.49264	0.46002	0.010	-6.62172	20.00000	Averaged
66 1,2,3-Trichloropropane	0.17703	0.16108	0.010	-9.00653	20.00000	Averaged
68 Trans-1,4-Dichloro 2-Butene	0.25822	0.23559	0.010	-8.76441	20.00000	Averaged
63 N-Propyl Benzene	5.52855	5.57347	0.010	0.81253	20.00000	Averaged
62 Bromobenzene	0.87209	0.82195	0.010	-5.74903	20.00000	Averaged
67 1,3,5-Trimethyl Benzene	3.70735	3.64204	0.010	-1.76162	20.00000	Averaged
65 2-Chloro Toluene	3.35314	3.24273	0.010	-3.29261	20.00000	Averaged
69 4-Chloro Toluene	3.49318	3.36891	0.010	-3.55738	20.00000	Averaged
70 T-Butyl Benzene	3.05539	2.96901	0.010	-2.82709	20.00000	Averaged
71 1,2,4-Trimethylbenzene	3.71638	3.74466	0.010	0.76072	20.00000	Averaged
72 S-Butyl Benzene	4.83267	4.77272	0.010	-1.24047	20.00000	Averaged
73 4-Isopropyl Toluene	3.72440	3.68127	0.010	-1.15815	20.00000	Averaged
74 1,3-Dichlorobenzene	1.84116	1.82290	0.600	-0.99215	20.00000	Averaged
76 1,4-Dichlorobenzene	1.87531	1.79374	0.400	-4.34936	20.00000	Averaged

Data File: /chem1/nt5.i/10MAY10.b/05101002.d
Report Date: 10-May-2010 10:54

Analytical Resources, Inc.

CONTINUING CALIBRATION COMPOUNDS

Instrument ID: nt5.i
Lab File ID: 05101002.d
Analysis Type: WATER
Lab Sample ID: CC0510
Method: /chem1/nt5.i/10MAY10.b/8260c042010L.m

Injection Date: 10-MAY-2010 10:01
Init. Cal. Date(s): 20-APR-2010 20-APR-2010
Init. Cal. Times: 11:22 14:22
Quant Type: ISTD

COMPOUND	RRF / AMOUNT	RF10	MIN RRF	%D / %DRIFT	MAX %D / %DRIFT	CURVE TYPE
77 N-Butyl Benzene	3.97986	3.83269	0.010	-3.69784	20.00000	Averaged
$ 78 d4-1,2-Dichlorobenzene	0.88966	0.86723	0.010	-2.52100	20.00000	Averaged
79 1,2-Dichlorobenzene	1.67243	1.56599	0.400	-6.36486	20.00000	Averaged
81 1,2-Dibromo 3-Chloropropane	0.13591	0.10962	0.010	-19.34525	20.00000	Averaged
83 1,2,4-Trichlorobenzene	1.03307	0.88011	0.010	-14.80665	20.00000	Averaged
82 Hexachloro 1,3-Butadiene	0.43478	0.36482	0.010	-16.09141	20.00000	Averaged
84 Naphthalene	2.07811	1.67861	0.010	-19.22434	20.00000	Averaged
85 1,2,3-Trichlorobenzene	0.84646	0.73165	0.010	-13.56441	20.00000	Averaged

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: MB-051210**
Page 1 of 1 **METHOD BLANK**

Lab Sample ID: MB-051210
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst: NT7/MH
Date Analyzed: 05/12/10 08:09

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: MW23B
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV70A
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/12/10 09:33

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	0.27	

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	93.8%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM **Sample ID: Trip Blank**
Page 1 of 1 **SAMPLE**

Lab Sample ID: QV70B
LIMS ID: 10-11175
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Instrument/Analyst: NT7/MH
Date Analyzed: 05/12/10 08:41

Sample Amount: 10.0 mL
Purge Volume: 10.0 mL

CAS Number	Analyte	RL	Result	Q
75-01-4	Vinyl Chloride	0.20	< 0.20	U

Reported in µg/L (ppb)

Volatile Surrogate Recovery

d4-1,2-Dichloroethane	110%

ANALYTICAL RESOURCES INCORPORATED

ORGANICS ANALYSIS DATA SHEET
Volatiles by Purge & Trap GC/MS-Method SW8260C-SIM Sample ID: LCS-051210
Page 1 of 1 **LAB CONTROL SAMPLE**

Lab Sample ID: LCS-051210
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/14/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Instrument/Analyst LCS: NT7/MH
LCSD: NT7/MH
Date Analyzed LCS: 05/12/10 07:17
LCSD: 05/12/10 07:43

Sample Amount LCS: 10.0 mL
LCSD: 10.0 mL
Purge Volume LCS: 10.0 mL
LCSD: 10.0 mL

Analyte	LCS	Spike Added-LCS	LCS Recovery	LCSD	Spike Added-LCSD	LCSD Recovery	RPD
Vinyl Chloride	0.998	1.00	99.8%	1.02	1.00	102%	2.2%

Reported in µg/L (ppb)

RPD calculated using sample concentrations per SW846.

Volatile Surrogate Recovery

	LCS	LCSD
d4-1,2-Dichloroethane	91.4%	91.8%

METHOD BLANK RESULTS-CONVENTIONALS
QV70-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte	Method	Date	Units	Blank	ID
Chloride	EPA 325.2	05/13/10	mg/L	< 1.0 U	
Sulfate	EPA 375.2	05/13/10	mg/L	< 2.0 U	
Chemical Oxygen Demand	EPA 410.4	05/12/10	mg/L	< 5.00 U	
Total Organic Carbon	EPA 415.1	05/10/10	mg/L	< 1.50 U	

SAMPLE RESULTS-CONVENTIONALS
QV70-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Client ID: MW23B
ARI ID: 10-11174 QV70A

Analyte	Date Batch	Method	Units	RL	Sample
Chloride	05/13/10 051310#1	EPA 325.2	mg/L	5.0	14.8
Sulfate	05/13/10 051310#1	EPA 375.2	mg/L	2.0	33.0
Chemical Oxygen Demand	05/12/10 051210#1	EPA 410.4	mg/L	5.00	5.68
Total Organic Carbon	05/10/10 051010#1	EPA 415.1	mg/L	1.50	1.90

RL Analytical reporting limit
U Undetected at reported detection limit

STANDARD REFERENCE RESULTS-CONVENTIONALS
QV70-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: NA
Date Received: NA

Analyte/SRM ID	Method	Date	Units	SRM	True Value	Recovery
Chloride ERA #38084	EPA 325.2	05/13/10	mg/L	5.0	5.0	100.0%
Sulfate ERA #37065	EPA 375.2	05/13/10	mg/L	25.2	25.0	100.8%
Chemical Oxygen Demand Thermo Orion #I01	EPA 410.4	05/12/10	mg/L	90.0	90.0	100.0%
Total Organic Carbon ERA 0506-09-01	EPA 415.1	05/10/10	mg/L	21.4	20.0	107.0%

REPLICATE RESULTS-CONVENTIONALS
QV70-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Analyte	Method	Date	Units	Sample	Replicate(s)	RPD/RSD
ARI ID: QV70A Client ID: MW23B						
Total Organic Carbon	EPA 415.1	05/10/10	mg/L	1.90	1.62	15.9%

MS/MSD RESULTS-CONVENTIONALS
QV70-City of Seattle

ANALYTICAL RESOURCES INCORPORATED

Matrix: Water
Data Release Authorized:
Reported: 05/13/10

Project: Midway Landfill
Event: 555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Analyte	Method	Date	Units	Sample	Spike	Spike Added	Recovery
ARI ID: QV70A Client ID: MW23B							
Total Organic Carbon	EPA 415.1	05/10/10	mg/L	1.90	21.4	20.0	97.5%

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: METHOD BLANK**

Lab Sample ID: QV70MB
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/10/10	6010B	05/11/10	7439-89-6	Iron	0.05	0.05	U
6010B	05/10/10	6010B	05/11/10	7439-96-5	Manganese	0.001	0.001	U

U-Analyte undetected at given RL
RL-Reporting Limit

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS
Page 1 of 1

Sample ID: MW23B
SAMPLE

Lab Sample ID: QV70A
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: 05/07/10
Date Received: 05/07/10

Prep Meth	Prep Date	Analysis Method	Analysis Date	CAS Number	Analyte	RL	mg/L	Q
6010B	05/10/10	6010B	05/11/10	**7439-89-6**	**Iron**	0.05	**8.67**	
6010B	05/10/10	6010B	05/11/10	**7439-96-5**	**Manganese**	0.001	**0.153**	

U-Analyte undetected at given RL
RL-Reporting Limit

FORM-I

ANALYTICAL RESOURCES INCORPORATED

INORGANICS ANALYSIS DATA SHEET
DISSOLVED METALS **Sample ID: LAB CONTROL**

Lab Sample ID: QV70LCS
LIMS ID: 10-11174
Matrix: Water
Data Release Authorized:
Reported: 05/17/10

QC Report No: QV70-City of Seattle
Project: Midway Landfill
555-1550-052
Date Sampled: NA
Date Received: NA

BLANK SPIKE QUALITY CONTROL REPORT

Analyte	Analysis Method	Spike Found	Spike Added	% Recovery	Q
Iron	6010B	2.03	2.00	102%	
Manganese	6010B	0.461	0.500	92.2%	

Reported in mg/L

N-Control limit not met
Control Limits: 80-120%