

Shell – Semi-Annual Groundwater Monitoring – Harbor Island

Data Review

The data quality review of the 10 primary groundwater samples, two field duplicate groundwater samples and one trip blank collected on March 1st and 2nd, 2012 at the Harbor Island site in Seattle, Washington has been completed. Samples were submitted to Accutest Laboratories of San Jose, California. The samples submitted were analyzed for the following: benzene, toluene, ethylbenzene, and xylene (BTEX; EPA Method 8260B) and gasoline-range petroleum hydrocarbons (NWTPH-Gx).

The review included the analytical data presented in Accutest report C20687. The data were reviewed based on *USEPA Contract Laboratory Program National Functional Guidelines (NFGs) for Organic Data Review*, June 2008 and laboratory quality control criteria. Items reviewed included: chain-of-custody (COC) records, hold times, surrogate recoveries, matrix spike and matrix spike duplicate (MS/MSD) results, laboratory control and laboratory control duplicate (LCS/LCSD) results, laboratory duplicate results, field duplicate results, method blank results and trip blank results. Qualifiers assigned as a result of the review are discussed below. Data qualifiers assigned to sample results during this data review are presented in Table 1.

The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable
- Preservation – Acceptable
- Hold Times – Acceptable
- Trip Blanks – Acceptable
- Method Blanks – Acceptable
- Surrogates – Acceptable
- Laboratory Control Samples (LCS/LCSD) – Acceptable
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable
- Field Duplicate – Sample MW-305D-0312 (C20687-4) was submitted as a field duplicate of primary sample MW-305-0312 (C20687-3) and sample MW-301D-0312 (C20687-13) was submitted as a field duplicate of primary sample MW-301-0312 (C20687-12). Relative percent difference (RPD) calculations were performed on the field duplicate sample pair results when the sample results were greater than five times the method reporting limit. All RPDs for duplicate pairs were within the historical project control limit of 20% with the exception of benzene results for the MW-305D-0312 / MW-305-0312 pair. The RPD for benzene exceeded the 20% limit at 22%. Therefore, benzene results for the primary and duplicate samples were qualified as estimated and flagged ‘J’ due to

Shell – Semi-Annual Groundwater Monitoring – Harbor Island

the RPD exceedances.

- Reporting Limits – The laboratory reported all detections between the MDL and MRL as estimated and flagged the results ‘J’. Additional qualifiers were not added during the data review process. Reporting limits in a few instances were elevated due to the dilutions, no qualifications of the data is necessary.

Overall Assessment of Data

The completeness of the analytical reports for this groundwater monitoring event is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

Data Qualifier Definitions

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
- DNR Do Not Report. Another result is available that is more reliable.

References

USEPA 2008a. U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Organic Data Review. June 2008.

Table 1. Sample Qualification Summary

Client Sample ID	Laboratory Sample ID	Analyte	Qualifier	Rationale
MW-305D-0312	C20687-4	Benzene	J	Field duplicate RPD
MW-305-0312	C20687-3			

Shell – Semi-Annual Groundwater Monitoring – Harbor Island

Data Review

The data quality review of the 12 primary groundwater samples, one field duplicate groundwater samples and one trip blank collected between June 11th and June 13th, 2012, and one primary groundwater sample and one trip blank collected on June 28th, 2012 at the Harbor Island site in Seattle, Washington has been completed. Samples were submitted to Accutest Laboratories of San Jose, California. The samples submitted were analyzed for one or more of the following: benzene, toluene, ethylbenzene, and xylene (BTEX; EPA Method 8260B); TPH gasoline (NWTPH-Gx); TPH diesel and TPH Motor Oil (NWTPH-Dx) with silica gel cleanup; polycyclic aromatic hydrocarbons (PAHs; EPA Method 8260C); and total lead (EPA Method 6010B).

The review included the analytical data presented in Accutest reports C22300 and C22512. The data were reviewed based on *USEPA Contract Laboratory Program National Functional Guidelines (NFGs) for Organic Data Review*, June 2008 and laboratory quality control criteria. Items reviewed included: chain-of-custody (COC) records, hold times, surrogate recoveries, matrix spike and matrix spike duplicate results, laboratory control and laboratory control duplicate results, laboratory duplicate results, field duplicate results, method blank results and trip blank results. Qualifiers assigned as a result of this review are discussed below and presented in Table 1.

The following criteria were evaluated during the review:

- COC Records – Acceptable
Sample MW-301-0612 was collected on June 12th, 2012 and misidentified on the COC as sample MW-302-0612. The field staff was not able to collect a sample at MW-302 during the initial sampling event due to a car being parked over the monitoring well. Field staff returned on June 28th to collect sample MW-302-0612. Table 2 of the Second Quarter Progress Report has been updated to account for the mislabeled sample. No further qualification is necessary.
- Temperature – Acceptable
- Preservation – Acceptable
- Hold Times – Acceptable
- Trip Blanks – Acceptable
- Method Blanks – Acceptable with the following exceptions:
- Surrogates – Acceptable
- Laboratory Control Samples (LCS/LCSD) – Acceptable
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable with the following exceptions:

Shell – Semi-Annual Groundwater Monitoring – Harbor Island

PAHs by EPA Method 8260C – The benzo(b)fluoranthene MSD recovery was below laboratory limits of 41% at 38% in batch ET197. The LCS/LCSD recoveries were acceptable indicating that the analytical batch was in control. Only the parent sample, MW-214D-0612 (C22300-7), result was qualified as estimated and flagged ‘UJ’ to account for the potential low bias.

The MS/MSD relative percent differences (RPDs) for benzo(a)anthracene (49%), benzo(a)pyrene (48%), benzo(b)fluoranthene (46%), benzo(g,h,i)perylene (47%), benzo(k)fluoranthene (52%), chrysene (46%), dibenzo(a,h)anthracene (46%), fluoranthene (42%), indeno(1,2,3-cd)pyrene (48%), and pyrene (33%) exceeded their respective laboratory control limits of 33%, 33%, 34%, 32%, 32%, 31%, 31%, 33%, 34%, and 29%. With the exception of the MSD noted above, all MS/MSD recoveries were acceptable, therefore; no qualification is necessary due to RPD exceedances.

- Field Duplicate – Sample MW-214D-0612 (C22300-7) was submitted as a field duplicate of primary sample MW-214-0612 (C22300-6). RPD calculations were performed on the field duplicate sample pair results when the sample results were greater than five times the method reporting limit. All calculated RPDs for duplicate pairs were within the historical project control limit of 20%.
- Reporting Limits – The laboratory reported all detections between the MDL and MRL as estimated and flagged the results ‘J’. Additional qualifiers were not added during the data review process. Reporting limits in a few instances were elevated due to the dilutions, no qualifications of the data is necessary.

Overall Assessment of Data

The completeness of the analytical reports for this groundwater monitoring event is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable. The data qualifiers assigned by the laboratory are shown on the laboratory reports.

References

USEPA, 2008. U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Organic Data Review. June 2008.

Table 1. Sample Qualification Summary

Client Sample ID	Laboratory Sample ID	Analyte	Qualifier	Rationale
MW-214D-0612	C22300-7	benzo(b)fluoranthene	UJ	Matrix spike recovery

Shell – Third Quarter Progress Report – Harbor Island

Data Review

The data quality review of the 10 primary groundwater samples, two field duplicate groundwater samples and one trip blank collected on September 25th and September 26th, 2012 at the Harbor Island site in Seattle, Washington has been completed. Samples were submitted to Accutest Laboratories of San Jose, California. The samples submitted were analyzed for one or more of the following: benzene, toluene, ethylbenzene, and xylene (BTEX; EPA Method 8260B); and TPH gasoline (NWTPH-Gx).

The review included the analytical data presented in Accutest report C23895. The data were reviewed based on *United States Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines (NFGs) for Organic Data Review*, June 2008 and laboratory quality control criteria. Items reviewed included: chain-of-custody (COC) records, hold times, surrogate recoveries, matrix spike and matrix spike duplicate results, laboratory control and laboratory control duplicate results, laboratory duplicate results, field duplicate results, method blank results and trip blank results. No data qualifiers were assigned as a result of this review.

The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable
- Preservation – Acceptable
- Hold Times – Acceptable
- Trip Blanks – Acceptable
- Method Blanks – Acceptable
- Surrogates – Acceptable
- Laboratory Control Samples (LCS/LCSD) – Acceptable
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable
- Field Duplicate – Sample MW-301D-0912 (C23895-5) was submitted as a field duplicate of primary sample MW-301-0912 (C23895-4) and sample MW-305D-0912 (C23895-11) was submitted as a field duplicate of primary sample MW-305-0912 (C23895-10). Relative percent difference (RPD) calculations were performed on the field duplicate sample pair results when the sample results were greater than five times the method reporting limit. All calculated RPDs for duplicate pairs were within the historical project control limit of 20%.

Reporting Limits – The laboratory reported all detections between the method detection limit (MDL) and method reporting limit (MRL) as estimated and flagged the results ‘J’.

Shell – Third Quarter Progress Report – Harbor Island

Overall Assessment of Data

The completeness of the analytical reports for this groundwater monitoring event is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable. Additional qualifiers were not added during the data review process.

References

USEPA, 2008. U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Organic Data Review. June 2008.

Shell – Fourth Quarter 2012 Progress Report – Harbor Island

Data Review

The data quality review of the 29 primary groundwater samples, three field duplicate groundwater samples and four trip blank collected on November 25th through November 29th, 2012 at the Harbor Island site in Seattle, Washington has been completed. Samples were submitted to Accutest Laboratories of San Jose, California. The samples submitted were analyzed for one or more of the following: benzene, toluene, ethylbenzene, and xylene (BTEX; EPA Method 8260B); TPH gasoline (NWTPH-Gx); TPH diesel and motor oil (NWTPH-Dx) with silica gel cleanup; polycyclic aromatic hydrocarbons (PAH; EPA Method 8270C SIM); methane and carbon dioxide (RSK-175); total metals (lead, calcium, iron and magnesium (EPA Method 6010B); total alkalinity (SM2320B); total hardness (SM 2340B); and sulfate (EPA Method 300).

The review included the analytical data presented in Accutest reports C24954, C24962, C25004, and C25081. The data were reviewed based on *United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines (NFGs) for Organic Data Review*, June 2008, *USEPA CLP NFGs for Inorganic Superfund Data Review*, January 2010, and laboratory quality control criteria. Items reviewed included: chain-of-custody (COC) records, hold times, surrogate recoveries, matrix spike and matrix spike duplicate results, laboratory control and laboratory control duplicate results, laboratory duplicate results, field duplicate results, method blank results and trip blank results. Data qualifiers assigned to sample results during this data review are presented in Table 1.

The following criteria were evaluated during the review:

- COC Records – Acceptable
- Temperature – Acceptable
- Preservation – Acceptable
- Hold Times – Acceptable with the following exceptions:

TPH Gasoline by NWTPH-Gx – MW-102-1112 (C25004-12) was analyzed two days outside the fourteen day recommended holding time. The sample result is qualified as estimated and flagged 'UJ'.

- Trip Blanks – Acceptable
- Method Blanks – Acceptable with the following exceptions:

Carbon Dioxide by RSK175 – Carbon dioxide was detected at a concentration of 29.0 µg/L in the method blank associated with batch GAA71 of report C24962. Associated sample results were greater than five times the detected method blank concentration, therefore; no qualification is necessary.

Total Alkalinity by SM2320B – Total alkalinity was detected at a concentration of 1.6

Shell – Fourth Quarter 2012 Progress Report – Harbor Island

mg/L in the method blank associated with batch GN9635 of report C25004. Associated sample results were greater than five times the detected method blank concentration, therefore; no qualification is necessary.

- Surrogates – Acceptable
- Laboratory Control Samples (LCS/LCSD) – Acceptable
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) – Acceptable
- Laboratory Duplicate - Acceptable
- Field Duplicate – Sample MW-301D-1112 (C25004-4) was submitted as a field duplicate of primary sample MW-301-1112 (C25004-3), sample MW-305D-1112 (C25004-7) was submitted as a field duplicate of primary sample MW-305-1112 (C25004-6) and sample MW-214D-1112 (C25081-6) was submitted as a field duplicate of primary sample MW-214-1122 (C25081-5) Relative percent difference (RPD) calculations were performed on the field duplicate sample pair results when the sample results were greater than five times the method reporting limit (MRL). All calculated RPDs for duplicate pairs were within the historical project control limit of 20%.
- Reporting Limits – The laboratory reported all detections between the method detection limit (MDL) and MRL as estimated and flagged the results ‘J’.

Overall Assessment of Data

The completeness of the analytical reports for this groundwater monitoring event is 100%. The usefulness of the data is based on the USEPA guidance documents referenced in the introduction of this report. Upon consideration of the information presented above, the data are considered usable. Additional qualifiers were not added during the data review process.

Data Qualifier Definitions

- U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.
- R The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria.
- DNR Do Not Report. Another result is available that is more reliable.

Shell – Fourth Quarter 2012 Progress Report – Harbor Island

References

USEPA, 2008. U.S. Environmental Protection Agency (USEPA) Contract Laboratory Program National Functional Guidelines for Organic Data Review. June 2008.

USEPA, 2010. USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review. January 2010.

Table 1. Sample Qualification Summary

Client Sample ID	Laboratory Sample ID	Analyte	Qualifier	Rationale
MW-102-1112	25004-12	TPH as gasoline	UJ	Hold time

Technical Report for

Shell Oil Products

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194315

Accutest Job Number: C20687

Sampling Dates: 03/01/12 - 03/02/12

Report to:

**URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian_pletcher@urscorp.com**

ATTN: Brian Pletcher

Total number of pages in report: 53



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

**Kesavalu M. Bagawandoss,
Ph.D., J.D., Lab Director**

Client Service contact: Vincent Vancil 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	4
2.1: C20687-1: TRIP BLANK	5
2.2: C20687-2: MW-306-0312	7
2.3: C20687-3: MW-305-0312	9
2.4: C20687-4: MW-305D-0312	11
2.5: C20687-5: SH-04-0312	13
2.6: C20687-6: MW-104-0312	15
2.7: C20687-7: MW-304-0312	17
2.8: C20687-8: TX-03A-0312	19
2.9: C20687-9: MW-302-0312	21
2.10: C20687-10: MW-202-0312	23
2.11: C20687-11: MW-303-0312	25
2.12: C20687-12: MW-301-0312	27
2.13: C20687-13: MW-301D-0312	29
Section 3: Misc. Forms	31
3.1: Chain of Custody	32
Section 4: GC/MS Volatiles - QC Data Summaries	35
4.1: Method Blank Summary	36
4.2: Blank Spike/Blank Spike Duplicate Summary	39
4.3: Laboratory Control Sample Summary	42
4.4: Matrix Spike/Matrix Spike Duplicate Summary	44
Section 5: GC Volatiles - QC Data Summaries	47
5.1: Method Blank Summary	48
5.2: Blank Spike Summary	50
5.3: Blank Spike/Blank Spike Duplicate Summary	51
5.4: Matrix Spike/Matrix Spike Duplicate Summary	52
5.5: Duplicate Summary	53

1

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4

5



Sample Summary

Shell Oil Products

Job No: C20687

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
 Project No: 46194315

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C20687-1	03/01/12	00:00 DL	03/06/12	AQ	Trip Blank Water	TRIP BLANK
C20687-2	03/01/12	10:50 DL	03/06/12	AQ	Ground Water	MW-306-0312
C20687-3	03/01/12	11:45 DL	03/06/12	AQ	Ground Water	MW-305-0312
C20687-4	03/01/12	12:00 DL	03/06/12	AQ	Ground Water	MW-305D-0312
C20687-5	03/01/12	13:10 DL	03/06/12	AQ	Ground Water	SH-04-0312
C20687-6	03/01/12	14:15 DL	03/06/12	AQ	Ground Water	MW-104-0312
C20687-7	03/01/12	15:15 DL	03/06/12	AQ	Ground Water	MW-304-0312
C20687-8	03/01/12	16:10 DL	03/06/12	AQ	Ground Water	TX-03A-0312
C20687-9	03/01/12	16:55 DL	03/06/12	AQ	Ground Water	MW-302-0312
C20687-10	03/02/12	08:30 DL	03/06/12	AQ	Ground Water	MW-202-0312
C20687-11	03/02/12	09:20 DL	03/06/12	AQ	Ground Water	MW-303-0312
C20687-12	03/02/12	09:50 DL	03/06/12	AQ	Ground Water	MW-301-0312
C20687-13	03/02/12	10:30 DL	03/06/12	AQ	Ground Water	MW-301D-0312

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 03/01/12
Lab Sample ID: C20687-1		Date Received: 03/06/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N29094.D	1	03/13/12	TF	n/a	n/a	VN951
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 03/01/12
Lab Sample ID: C20687-1		Date Received: 03/06/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26275.D	1	03/09/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	102%		50-150%
460-00-4	4-Bromofluorobenzene	105%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-306-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-2		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N29095.D	10	03/13/12	TF	n/a	n/a	VN951
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	606	10	2.0	ug/l	
108-88-3	Toluene	15.0	10	2.0	ug/l	
100-41-4	Ethylbenzene	35.3	10	2.0	ug/l	
1330-20-7	Xylene (total)	718	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-306-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-2		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26277.D	10	03/09/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.74	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	102%		50-150%
460-00-4	4-Bromofluorobenzene	110%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-3		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N29096.D	20	03/13/12	TF	n/a	n/a	VN951
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1140	20	4.0	ug/l	
108-88-3	Toluene	22.7	20	4.0	ug/l	
100-41-4	Ethylbenzene	38.9	20	4.0	ug/l	
1330-20-7	Xylene (total)	37.5	40	9.2	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-3		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26278.D	10	03/09/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.84	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	109%		50-150%
460-00-4	4-Bromofluorobenzene	121%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305D-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-4		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29232.D	20	03/13/12	TN	n/a	n/a	VW992
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1420	20	4.0	ug/l	
108-88-3	Toluene	22.6	20	4.0	ug/l	
100-41-4	Ethylbenzene	40.0	20	4.0	ug/l	
1330-20-7	Xylene (total)	34.8	40	9.2	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		60-130%
2037-26-5	Toluene-D8	94%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305D-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-4		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26279.D	10	03/09/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	6.00	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	107%		50-150%
460-00-4	4-Bromofluorobenzene	120%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-0312		
Lab Sample ID: C20687-5		Date Sampled: 03/01/12
Matrix: AQ - Ground Water		Date Received: 03/06/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29233.D	10	03/13/12	TN	n/a	n/a	VW992
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	614	10	2.0	ug/l	
108-88-3	Toluene	22.7	10	2.0	ug/l	
100-41-4	Ethylbenzene	93.2	10	2.0	ug/l	
1330-20-7	Xylene (total)	12.4	20	4.6	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-0312		
Lab Sample ID: C20687-5		Date Sampled: 03/01/12
Matrix: AQ - Ground Water		Date Received: 03/06/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26280.D	10	03/09/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.53	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	108%		50-150%
460-00-4	4-Bromofluorobenzene	128%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-6		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29234.D	1	03/13/12	TN	n/a	n/a	VW992
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.79	1.0	0.20	ug/l	J
108-88-3	Toluene	1.5	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	46.7	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	1.6	2.0	0.46	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		60-130%
2037-26-5	Toluene-D8	94%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-6		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26298.D	10	03/12/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.69	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		50-150%
460-00-4	4-Bromofluorobenzene	122%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-304-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-7		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29235.D	10	03/13/12	TN	n/a	n/a	VW992
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	686	10	2.0	ug/l	
108-88-3	Toluene	35.1	10	2.0	ug/l	
100-41-4	Ethylbenzene	214	10	2.0	ug/l	
1330-20-7	Xylene (total)	264	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-304-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-7		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26284.D	10	03/09/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.64	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	113%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-8		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29236.D	20	03/13/12	TN	n/a	n/a	VW992
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1740	20	4.0	ug/l	
108-88-3	Toluene	26.1	20	4.0	ug/l	
100-41-4	Ethylbenzene	27.2	20	4.0	ug/l	
1330-20-7	Xylene (total)	34.5	40	9.2	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-0312	
Lab Sample ID: C20687-8	Date Sampled: 03/01/12
Matrix: AQ - Ground Water	Date Received: 03/06/12
Method: NWTPH-GX	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26285.D	10	03/09/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.58	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	104%		50-150%
460-00-4	4-Bromofluorobenzene	114%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-302-0312		
Lab Sample ID: C20687-9		Date Sampled: 03/01/12
Matrix: AQ - Ground Water		Date Received: 03/06/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29237.D	10	03/13/12	TN	n/a	n/a	VW992
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	831	10	2.0	ug/l	
108-88-3	Toluene	27.5	10	2.0	ug/l	
100-41-4	Ethylbenzene	213	10	2.0	ug/l	
1330-20-7	Xylene (total)	248	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		60-130%
2037-26-5	Toluene-D8	93%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-302-0312		Date Sampled: 03/01/12
Lab Sample ID: C20687-9		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26288.D	10	03/10/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.33	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	105%		50-150%
460-00-4	4-Bromofluorobenzene	117%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-0312		Date Sampled: 03/02/12
Lab Sample ID: C20687-10		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29251.D	1	03/14/12	TN	n/a	n/a	VW993
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5.3	1.0	0.20	ug/l	
108-88-3	Toluene	1.9	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	10.7	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	1.3	2.0	0.46	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	102%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-0312		Date Sampled: 03/02/12
Lab Sample ID: C20687-10		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26289.D	10	03/10/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.87	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	106%		50-150%
460-00-4	4-Bromofluorobenzene	113%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-0312		Date Sampled: 03/02/12
Lab Sample ID: C20687-11		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29252.D	50	03/14/12	TN	n/a	n/a	VW993
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3130	50	10	ug/l	
108-88-3	Toluene	75.9	50	10	ug/l	
100-41-4	Ethylbenzene	760	50	10	ug/l	
1330-20-7	Xylene (total)	232	100	23	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-0312		
Lab Sample ID: C20687-11		Date Sampled: 03/02/12
Matrix: AQ - Ground Water		Date Received: 03/06/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26290.D	40	03/10/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	12.3	8.0	2.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	105%		50-150%
460-00-4	4-Bromofluorobenzene	113%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301-0312		
Lab Sample ID: C20687-12		Date Sampled: 03/02/12
Matrix: AQ - Ground Water		Date Received: 03/06/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29253.D	5	03/14/12	TN	n/a	n/a	VW993
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	240	5.0	1.0	ug/l	
108-88-3	Toluene	13.8	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	9.9	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	21.2	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301-0312		
Lab Sample ID: C20687-12		Date Sampled: 03/02/12
Matrix: AQ - Ground Water		Date Received: 03/06/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26291.D	5	03/10/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.37	1.0	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	107%		50-150%
460-00-4	4-Bromofluorobenzene	137%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301D-0312		Date Sampled: 03/02/12
Lab Sample ID: C20687-13		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W29254.D	5	03/14/12	TN	n/a	n/a	VW993
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	230	5.0	1.0	ug/l	
108-88-3	Toluene	13.7	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	9.5	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	21.1	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		60-130%
2037-26-5	Toluene-D8	94%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301D-0312		Date Sampled: 03/02/12
Lab Sample ID: C20687-13		Date Received: 03/06/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK26292.D	5	03/10/12	TT	n/a	n/a	GJK1065
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.33	1.0	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	106%		50-150%
460-00-4	4-Bromofluorobenzene	135%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Shell Oil Products Chain Of Custody Record

LAB (LOCATION)
 MEXCO ()
 CALSOFINE ()
 TEST AMERICA ()
 SPL ()
 OTHER (ACCUTEST)

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SDRCM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER ()	

Print Bill To Contact Name: _____ INCIDENT # (ENV SERVICES): _____
 CHECK IF NO INCIDENT # APPLIES
 DATE: _____
 PO # _____ SAP # _____
 PAGE: 2 of 2

CONSULTANT COMPANY: URS
 ADDRESS: 111 SW Columbia
 CITY: PORTLAND, OR
 TELEPHONE: 503-222-7200 FAX: _____ EMAIL: brian.pletcher@urs.com
 TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAYS) 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND
 DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

SITE ADDRESS (Street, City and State): 2555 13th AVE. SW SEATTLE, WA
 CONSULTANT PROJECT CONTACT (Report to): Brian Pletcher CONSULTANT PROJECT NO: 46194315

SAMPLER NAME(S) (Print): DAVE LEWIS 206-321-3064 LAB USE ONLY: C20687

TEMPERATURE ON RECEIPT C° Cooler #1 _____ Cooler #2 _____ Cooler #3 _____
 SPECIAL INSTRUCTIONS OR NOTES: SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 PROVIDE LEED DISK

REQUESTED ANALYSIS
BTX
AWTPH-G
5.5±0.1
= 5.6 °C
 Container PID Readings or Laboratory Notes

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	X	X
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER			
11	MW-303-0312	3/5/12	0920	H ₂ O	X					6	X	X
12	MW-301-0312	"	0930	"	X					6	X	X
13	MW-301D-0312	"	1030	"	X					6	X	X

Requisitioned by: (Signature) <u>Dave Lewis</u>	Date: <u>3/5/12 1000</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>3/6/12</u>	Time: <u>9:00</u>
Requisitioned by: (Signature)		Received by: (Signature)	Date:	Time:
Requisitioned by: (Signature)		Received by: (Signature)	Date:	Time:

05/2/08 Revision

31
3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN951-MB	N29077.D	1	03/13/12	TF	n/a	n/a	VN951

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-1, C20687-2, C20687-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	88%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Method Blank Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW992-MB	W29224.D	1	03/13/12	TN	n/a	n/a	VW992

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-4, C20687-5, C20687-6, C20687-7, C20687-8, C20687-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	96% 60-130%
2037-26-5	Toluene-D8	94% 60-130%
460-00-4	4-Bromofluorobenzene	97% 60-130%

Method Blank Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW993-MB	W29249.D	1	03/14/12	TN	n/a	n/a	VW993

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 60-130%
2037-26-5	Toluene-D8	99% 60-130%
460-00-4	4-Bromofluorobenzene	99% 60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW992-BS	W29221.D	1	03/13/12	TN	n/a	n/a	VW992
VW992-BSD	W29222.D	1	03/13/12	TN	n/a	n/a	VW992

The QC reported here applies to the following samples: **Method:** SW846 8260B

C20687-4, C20687-5, C20687-6, C20687-7, C20687-8, C20687-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.5	98	19.5	98	0	60-130/30
100-41-4	Ethylbenzene	20	18.7	94	18.7	94	0	60-130/30
108-88-3	Toluene	20	17.9	90	18.2	91	2	60-130/30
1330-20-7	Xylene (total)	60	57.3	96	57.4	96	0	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	99%	101%	60-130%
2037-26-5	Toluene-D8	92%	92%	60-130%
460-00-4	4-Bromofluorobenzene	98%	97%	60-130%

4.2.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN951-BS	N29078.D	1	03/13/12	TF	n/a	n/a	VN951
VN951-BSD	N29079.D	1	03/13/12	TF	n/a	n/a	VN951

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-1, C20687-2, C20687-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	16.9	85	18.1	91	7	60-130/30
100-41-4	Ethylbenzene	20	17.9	90	19.4	97	8	60-130/30
108-88-3	Toluene	20	17.4	87	19.6	98	12	60-130/30
1330-20-7	Xylene (total)	60	55.0	92	59.6	99	8	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	95%	94%	60-130%
2037-26-5	Toluene-D8	97%	103%	60-130%
460-00-4	4-Bromofluorobenzene	99%	100%	60-130%

4.2.2
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW993-BS	W29246.D	1	03/14/12	TN	n/a	n/a	VW993
VW993-BSD	W29247.D	1	03/14/12	TN	n/a	n/a	VW993

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	18.5	93	19.3	97	4	60-130/30
100-41-4	Ethylbenzene	20	17.9	90	18.7	94	4	60-130/30
108-88-3	Toluene	20	17.4	87	18.4	92	6	60-130/30
1330-20-7	Xylene (total)	60	55.1	92	57.7	96	5	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	107%	102%	60-130%
2037-26-5	Toluene-D8	96%	96%	60-130%
460-00-4	4-Bromofluorobenzene	100%	102%	60-130%

4.2.3
4

Laboratory Control Sample Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW992-LCS	W29223.D	1	03/13/12	TN	n/a	n/a	VW992

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-4, C20687-5, C20687-6, C20687-7, C20687-8, C20687-9

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	60-130%
2037-26-5	Toluene-D8	94%	60-130%
460-00-4	4-Bromofluorobenzene	96%	60-130%

4.3.1
4

Laboratory Control Sample Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW993-LCS	W29248.D	1	03/14/12	TN	n/a	n/a	VW993

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	60-130%
2037-26-5	Toluene-D8	98%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

4.3.2
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C20650-21MS	W29238.D	1	03/13/12	TN	n/a	n/a	VW992
C20650-21MSD	W29239.D	1	03/13/12	TN	n/a	n/a	VW992
C20650-21	W29227.D	1	03/13/12	TN	n/a	n/a	VW992

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-4, C20687-5, C20687-6, C20687-7, C20687-8, C20687-9

CAS No.	Compound	C20650-21 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	18.6	93	18.7	94	1	60-130/25
100-41-4	Ethylbenzene	ND	20	17.3	87	17.5	88	1	60-130/25
108-88-3	Toluene	ND	20	16.9	85	17.0	85	1	60-130/25
1330-20-7	Xylene (total)	ND	60	42.4	71	42.8	71	1	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C20650-21	Limits
1868-53-7	Dibromofluoromethane	98%	103%	104%	60-130%
2037-26-5	Toluene-D8	93%	94%	93%	60-130%
460-00-4	4-Bromofluorobenzene	99%	102%	98%	60-130%

4.4.1
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C20666-7MS	N29097.D	1	03/13/12	TF	n/a	n/a	VN951
C20666-7MSD	N29098.D	1	03/13/12	TF	n/a	n/a	VN951
C20666-7	N29093.D	1	03/13/12	TF	n/a	n/a	VN951

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-1, C20687-2, C20687-3

CAS No.	Compound	C20666-7 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	17.2	86	17.0	85	1	60-130/25
100-41-4	Ethylbenzene	ND	20	17.7	89	17.5	88	1	60-130/25
108-88-3	Toluene	ND	20	17.1	86	16.4	82	4	60-130/25
1330-20-7	Xylene (total)	ND	60	54.9	92	54.4	91	1	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C20666-7	Limits
1868-53-7	Dibromofluoromethane	97%	94%	96%	60-130%
2037-26-5	Toluene-D8	96%	92%	98%	60-130%
460-00-4	4-Bromofluorobenzene	101%	99%	100%	60-130%

4.4.2
4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C20676-2MS	W29265.D	1	03/14/12	TN	n/a	n/a	VW993
C20676-2MSD	W29266.D	1	03/14/12	TN	n/a	n/a	VW993
C20676-2	W29257.D	1	03/14/12	TN	n/a	n/a	VW993

The QC reported here applies to the following samples:

Method: SW846 8260B

C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	C20676-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	20.6	103	19.0	95	8	60-130/25
100-41-4	Ethylbenzene	ND	20	19.3	97	17.8	89	8	60-130/25
108-88-3	Toluene	ND	20	18.5	93	17.3	87	7	60-130/25
1330-20-7	Xylene (total)	ND	60	58.9	98	54.8	91	7	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C20676-2	Limits
1868-53-7	Dibromofluoromethane	98%	100%	96%	60-130%
2037-26-5	Toluene-D8	92%	91%	93%	60-130%
460-00-4	4-Bromofluorobenzene	99%	99%	97%	60-130%

4.4.3
4

GC Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1065-MB	JK26270.D	1	03/09/12	TT	n/a	n/a	GJK1065

The QC reported here applies to the following samples:

Method: NWTPH-GX

C20687-1, C20687-2, C20687-3, C20687-4, C20687-5, C20687-7, C20687-8, C20687-9, C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	103%	50-150%
460-00-4	4-Bromofluorobenzene	107%	50-150%

Method Blank Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1065-MB1	JK26297.D	1	03/12/12	TT	n/a	n/a	GJK1065

The QC reported here applies to the following samples:

Method: NWTPH-GX

C20687-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	93%	50-150%
460-00-4	4-Bromofluorobenzene	97%	50-150%

Blank Spike Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1065-BS1	JK26296.D	1	03/12/12	TT	n/a	n/a	GJK1065

The QC reported here applies to the following samples:

Method: NWTPH-GX

C20687-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (Gasoline)	0.4	0.426	107	60-140

CAS No.	Surrogate Recoveries	BSP	Limits
98-08-8	aaa-Trifluorotoluene	78%	50-150%
460-00-4	4-Bromofluorobenzene	83%	50-150%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1065-BS	JK26268.D	1	03/09/12	TT	n/a	n/a	GJK1065
GJK1065-BSD	JK26269.D	1	03/09/12	TT	n/a	n/a	GJK1065

The QC reported here applies to the following samples: Method: NWTPH-GX

C20687-1, C20687-2, C20687-3, C20687-4, C20687-5, C20687-6, C20687-7, C20687-8, C20687-9, C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.434	109	0.432	108	0	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	98%	102%	50-150%
460-00-4	4-Bromofluorobenzene	103%	105%	50-150%

5.3.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C20687-6MS	JK26299.D	10	03/12/12	TT	n/a	n/a	GJK1065
C20687-6MSD	JK26300.D	10	03/12/12	TT	n/a	n/a	GJK1065
C20687-6	JK26298.D	10	03/12/12	TT	n/a	n/a	GJK1065

The QC reported here applies to the following samples:

Method: NWTPH-GX

C20687-1, C20687-2, C20687-3, C20687-4, C20687-5, C20687-6, C20687-7, C20687-8, C20687-9, C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	C20687-6 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	3.69	4	7.78	102	8.04	109	3	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C20687-6	Limits
98-08-8	aaa-Trifluorotoluene	102%	93%	103%	50-150%
460-00-4	4-Bromofluorobenzene	123%	115%	122%	50-150%

5.4.1
5

Duplicate Summary

Job Number: C20687
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C20687-8DUP	JK26286.D	10	03/09/12	TT	n/a	n/a	GJK1065
C20687-8	JK26285.D	10	03/09/12	TT	n/a	n/a	GJK1065

The QC reported here applies to the following samples:

Method: NWTPH-GX

C20687-1, C20687-2, C20687-3, C20687-4, C20687-5, C20687-6, C20687-7, C20687-8, C20687-9, C20687-10, C20687-11, C20687-12, C20687-13

CAS No.	Compound	C20687-8 mg/l	DUP Q mg/l	Q RPD	Limits
	TPH (Gasoline)	5.58	5.44	3	20

CAS No.	Surrogate Recoveries	DUP	C20687-8	Limits
98-08-8	aaa-Trifluorotoluene	105%	104%	50-150%
460-00-4	4-Bromofluorobenzene	115%	114%	50-150%

5.5.1
5

Technical Report for

Shell Oil Products

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194341

Accutest Job Number: C22300

Sampling Dates: 06/11/12 - 06/13/12

Report to:

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian_pletcher@urscorp.com

ATTN: Brian Pletcher

Total number of pages in report: **78**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Kesavalu M. Bagawandoss,
Ph.D., J.D., Lab Director

Client Service contact: Vincent Vancil 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Sample Results	5
2.1: C22300-1: TRIP BLANK	6
2.2: C22300-2: SH-04-0612	8
2.3: C22300-3: MW-305-0612	11
2.4: C22300-4: MW-306-0612	13
2.5: C22300-5: MW-213-0612	15
2.6: C22300-6: MW-214-0612	19
2.7: C22300-7: MW-214D-0612	23
2.8: C22300-8: TX-03A-0612	27
2.9: C22300-9: MW-302-0612	29
2.10: C22300-10: MW-304-0612	31
2.11: C22300-11: MW-202-0612	33
2.12: C22300-12: MW-203-0612	35
2.13: C22300-13: MW-303-0612	37
2.14: C22300-14: MW-104-0612	39
Section 3: Misc. Forms	42
3.1: Chain of Custody	43
Section 4: GC/MS Volatiles - QC Data Summaries	46
4.1: Method Blank Summary	47
4.2: Blank Spike/Blank Spike Duplicate Summary	50
4.3: Laboratory Control Sample Summary	53
4.4: Matrix Spike/Matrix Spike Duplicate Summary	56
Section 5: GC/MS Semi-volatiles - QC Data Summaries	59
5.1: Method Blank Summary	60
5.2: Blank Spike/Blank Spike Duplicate Summary	61
5.3: Matrix Spike/Matrix Spike Duplicate Summary	62
Section 6: GC Volatiles - QC Data Summaries	63
6.1: Method Blank Summary	64
6.2: Blank Spike/Blank Spike Duplicate Summary	65
6.3: Matrix Spike/Matrix Spike Duplicate Summary	66
6.4: Duplicate Summary	67
Section 7: GC Semi-volatiles - QC Data Summaries	68
7.1: Method Blank Summary	69
7.2: Blank Spike/Blank Spike Duplicate Summary	70
7.3: Matrix Spike/Matrix Spike Duplicate Summary	71
7.4: Duplicate Summary	72
Section 8: Metals Analysis - QC Data Summaries	73
8.1: Prep QC MP5010: Pb	74



Sample Summary

Shell Oil Products

Job No: C22300

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
 Project No: 46194341

Sample Number	Collected		Matrix Received	Code	Type	Client Sample ID
	Date	Time By				
C22300-1	06/11/12	15:13 DL	06/15/12	AQ	Trip Blank Water	TRIP BLANK
C22300-2	06/11/12	11:15 DL	06/15/12	AQ	Ground Water	SH-04-0612
C22300-3	06/11/12	13:00 DL	06/15/12	AQ	Ground Water	MW-305-0612
C22300-4	06/11/12	14:10 DL	06/15/12	AQ	Ground Water	MW-306-0612
C22300-5	06/12/12	09:00 DL	06/15/12	AQ	Ground Water	MW-213-0612
C22300-6	06/12/12	10:00 DL	06/15/12	AQ	Ground Water	MW-214-0612
C22300-7	06/12/12	10:30 DL	06/15/12	AQ	Ground Water	MW-214D-0612
C22300-8	06/12/12	13:05 DL	06/15/12	AQ	Ground Water	TX-03A-0612
C22300-9	06/12/12	13:45 DL	06/15/12	AQ	Ground Water	MW-302-0612
C22300-10	06/12/12	14:45 DL	06/15/12	AQ	Ground Water	MW-304-0612
C22300-11	06/13/12	08:45 DL	06/15/12	AQ	Ground Water	MW-202-0612
C22300-12	06/13/12	11:05 DL	06/15/12	AQ	Ground Water	MW-203-0612
C22300-13	06/13/12	12:55 DL	06/15/12	AQ	Ground Water	MW-303-0612



Sample Summary

(continued)

Shell Oil Products

Job No: C22300

URSOP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Project No: 46194341

Sample Number	Collected		Matrix			Client Sample ID
	Date	Time By	Received	Code	Type	
C22300-14	06/13/12	14:10 DL	06/15/12	AQ	Ground Water	MW-104-0612

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 06/11/12
Lab Sample ID: C22300-1		Date Received: 06/15/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W31380.D	1	06/20/12	TN	n/a	n/a	VW1081
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 06/11/12
Lab Sample ID: C22300-1		Date Received: 06/15/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28161.D	1	06/17/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	100%		50-150%
460-00-4	4-Bromofluorobenzene	104%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-0612		Date Sampled: 06/11/12
Lab Sample ID: C22300-2		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W31381.D	10	06/20/12	TN	n/a	n/a	VW1081
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	426	10	2.0	ug/l	
108-88-3	Toluene	14.2	10	2.0	ug/l	
100-41-4	Ethylbenzene	112	10	2.0	ug/l	
1330-20-7	Xylene (total)	19.8	20	4.6	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		60-130%
2037-26-5	Toluene-D8	98%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-0612		Date Sampled: 06/11/12
Lab Sample ID: C22300-2		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28182.D	10	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	6.00	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	104%		50-150%
460-00-4	4-Bromofluorobenzene	122%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-0612		
Lab Sample ID: C22300-2		Date Sampled: 06/11/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-DX SW846 3510C		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH023275.D	1	06/16/12	JH	06/15/12	OP6122	GHH748
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	1.49	0.10	0.050	mg/l	
	TPH (Motor Oil)	0.393	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	77%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-0612		Date Sampled: 06/11/12
Lab Sample ID: C22300-3		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W31382.D	20	06/20/12	TN	n/a	n/a	VW1081
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1340	20	4.0	ug/l	
108-88-3	Toluene	22.1	20	4.0	ug/l	
100-41-4	Ethylbenzene	51.7	20	4.0	ug/l	
1330-20-7	Xylene (total)	33.1	40	9.2	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-0612		Date Sampled: 06/11/12
Lab Sample ID: C22300-3		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28183.D	10	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.97	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		50-150%
460-00-4	4-Bromofluorobenzene	117%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-306-0612		Date Sampled: 06/11/12
Lab Sample ID: C22300-4		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W31383.D	10	06/20/12	TN	n/a	n/a	VW1081
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	393	10	2.0	ug/l	
108-88-3	Toluene	11.5	10	2.0	ug/l	
100-41-4	Ethylbenzene	50.9	10	2.0	ug/l	
1330-20-7	Xylene (total)	763	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	101%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-306-0612		
Lab Sample ID: C22300-4		Date Sampled: 06/11/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28164.D	10	06/17/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.09	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	108%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-213-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-5		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R10288.D	1	06/25/12	BD	n/a	n/a	VR367
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		60-130%
2037-26-5	Toluene-D8	89%		60-130%
460-00-4	4-Bromofluorobenzene	90%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-213-0612	
Lab Sample ID: C22300-5	Date Sampled: 06/12/12
Matrix: AQ - Ground Water	Date Received: 06/15/12
Method: SW846 8270C BY SIM SW846 3510C	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T4702.D	1	06/18/12	LW	06/15/12	OP6121	ET197
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.50	0.050	ug/l	
208-96-8	Acenaphthylene	ND	0.50	0.050	ug/l	
120-12-7	Anthracene	ND	0.50	0.050	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.053	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.041	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.035	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.039	ug/l	
218-01-9	Chrysene	ND	0.10	0.045	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.035	ug/l	
206-44-0	Fluoranthene	ND	0.50	0.050	ug/l	
86-73-7	Fluorene	ND	0.50	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.035	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-20-3	Naphthalene	ND	0.50	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.50	0.050	ug/l	
129-00-0	Pyrene	ND	0.50	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	44%		25-100%
321-60-8	2-Fluorobiphenyl	42%		25-106%
1718-51-0	Terphenyl-d14	50%		35-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-213-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-5		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28165.D	1	06/17/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	104%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-213-0612		
Lab Sample ID: C22300-5		Date Sampled: 06/12/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-DX SW846 3510C		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH023276.D	1	06/16/12	JH	06/15/12	OP6122	GHH748
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	91%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-6		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R10289.D	1	06/25/12	BD	n/a	n/a	VR367
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214-0612	Date Sampled: 06/12/12
Lab Sample ID: C22300-6	Date Received: 06/15/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T4703.D	1	06/18/12	LW	06/15/12	OP6121	ET197
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.49	0.049	ug/l	
208-96-8	Acenaphthylene	ND	0.49	0.049	ug/l	
120-12-7	Anthracene	ND	0.49	0.049	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.097	0.051	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.097	0.040	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.097	0.034	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.097	0.035	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.097	0.038	ug/l	
218-01-9	Chrysene	ND	0.097	0.044	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.097	0.034	ug/l	
206-44-0	Fluoranthene	ND	0.49	0.049	ug/l	
86-73-7	Fluorene	ND	0.49	0.049	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.097	0.034	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.49	0.097	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.49	0.097	ug/l	
91-20-3	Naphthalene	ND	0.49	0.097	ug/l	
85-01-8	Phenanthrene	ND	0.49	0.049	ug/l	
129-00-0	Pyrene	ND	0.49	0.049	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	45%		25-100%
321-60-8	2-Fluorobiphenyl	45%		25-106%
1718-51-0	Terphenyl-d14	44%		35-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-6		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28166.D	1	06/17/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	102%		50-150%
460-00-4	4-Bromofluorobenzene	108%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214-0612		
Lab Sample ID: C22300-6		Date Sampled: 06/12/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-DX SW846 3510C		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH023277.D	1	06/16/12	JH	06/15/12	OP6122	GHH748
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	0.135	0.20	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	87%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-7		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R10290.D	1	06/25/12	BD	n/a	n/a	VR367
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		60-130%
2037-26-5	Toluene-D8	94%		60-130%
460-00-4	4-Bromofluorobenzene	91%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-0612		
Lab Sample ID: C22300-7		Date Sampled: 06/12/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: SW846 8270C BY SIM SW846 3510C		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T4704.D	1	06/18/12	LW	06/15/12	OP6121	ET197
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.50	0.050	ug/l	
208-96-8	Acenaphthylene	ND	0.50	0.050	ug/l	
120-12-7	Anthracene	ND	0.50	0.050	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.053	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.041	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.035	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.039	ug/l	
218-01-9	Chrysene	ND	0.10	0.045	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.035	ug/l	
206-44-0	Fluoranthene	ND	0.50	0.050	ug/l	
86-73-7	Fluorene	ND	0.50	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.035	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-20-3	Naphthalene	ND	0.50	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.50	0.050	ug/l	
129-00-0	Pyrene	ND	0.50	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	41%		25-100%
321-60-8	2-Fluorobiphenyl	42%		25-106%
1718-51-0	Terphenyl-d14	36%		35-130%

ND = Not detected MDL - Method Detection Limit

RL = Reporting Limit

E = Indicates value exceeds calibration range

J = Indicates an estimated value

B = Indicates analyte found in associated method blank

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-7		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28167.D	1	06/17/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	102%		50-150%
460-00-4	4-Bromofluorobenzene	107%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-0612		
Lab Sample ID: C22300-7		Date Sampled: 06/12/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-DX SW846 3510C		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH023278.D	1	06/16/12	JH	06/15/12	OP6122	GHH748
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	0.148	0.20	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	89%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-0612		
Lab Sample ID: C22300-8		Date Sampled: 06/12/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R10283.D	50	06/25/12	BD	n/a	n/a	VR367
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1570	50	10	ug/l	
108-88-3	Toluene	20.0	50	10	ug/l	J
100-41-4	Ethylbenzene	13.9	50	10	ug/l	J
1330-20-7	Xylene (total)	30.0	100	23	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		60-130%
2037-26-5	Toluene-D8	93%		60-130%
460-00-4	4-Bromofluorobenzene	91%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-8		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28168.D	10	06/17/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	6.78	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	100%		50-150%
460-00-4	4-Bromofluorobenzene	110%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-302-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-9		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N31966.D	10	06/25/12	TF	n/a	n/a	VN1023
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	574	10	2.0	ug/l	
108-88-3	Toluene	15.6	10	2.0	ug/l	
100-41-4	Ethylbenzene	18.3	10	2.0	ug/l	
1330-20-7	Xylene (total)	24.4	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-302-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-9		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28169.D	20	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.18	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	110%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-304-0612		Date Sampled: 06/12/12
Lab Sample ID: C22300-10		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N31967.D	20	06/25/12	TF	n/a	n/a	VN1023
Run #2							

Run #1	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1040	20	4.0	ug/l	
108-88-3	Toluene	40.8	20	4.0	ug/l	
100-41-4	Ethylbenzene	270	20	4.0	ug/l	
1330-20-7	Xylene (total)	218	40	9.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-304-0612		
Lab Sample ID: C22300-10		Date Sampled: 06/12/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28170.D	20	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.98	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	109%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-0612		
Lab Sample ID: C22300-11		Date Sampled: 06/13/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28173.D	10	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.31	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		50-150%
460-00-4	4-Bromofluorobenzene	107%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-0612		Date Sampled: 06/13/12
Lab Sample ID: C22300-11		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH023279.D	1	06/16/12	JH	06/15/12	OP6122	GHH748
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	1.54	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	90%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-203-0612		
Lab Sample ID: C22300-12		Date Sampled: 06/13/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28174.D	1	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	0.459	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	98%		50-150%
460-00-4	4-Bromofluorobenzene	107%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-203-0612		Date Sampled: 06/13/12
Lab Sample ID: C22300-12		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH023280.D	1	06/16/12	JH	06/15/12	OP6122	GHH748
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.134	0.10	0.050	mg/l	
	TPH (Motor Oil)	0.332	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	83%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-0612		Date Sampled: 06/13/12
Lab Sample ID: C22300-13		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N31968.D	50	06/25/12	TF	n/a	n/a	VN1023
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2900	50	10	ug/l	
108-88-3	Toluene	95.7	50	10	ug/l	
100-41-4	Ethylbenzene	884	50	10	ug/l	
1330-20-7	Xylene (total)	268	100	23	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-0612		
Lab Sample ID: C22300-13		Date Sampled: 06/13/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28176.D	20	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	12.5	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		50-150%
460-00-4	4-Bromofluorobenzene	113%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-0612		
Lab Sample ID: C22300-14		Date Sampled: 06/13/12
Matrix: AQ - Ground Water		Date Received: 06/15/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28177.D	10	06/18/12	TT	n/a	n/a	GJK1138
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.78	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		50-150%
460-00-4	4-Bromofluorobenzene	127%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-0612		Date Sampled: 06/13/12
Lab Sample ID: C22300-14		Date Received: 06/15/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH023281.D	1	06/16/12	JH	06/15/12	OP6122	GHH748
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.423	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	86%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-0612	
Lab Sample ID: C22300-14	Date Sampled: 06/13/12
Matrix: AQ - Ground Water	Date Received: 06/15/12
	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	< 10	10	ug/l	1	06/18/12	06/19/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2555

(2) Prep QC Batch: MP5010

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

SHELLWK 3660



Shell Oil Products Chain Of Custody Record

- LAB (LOCATION)
- XEMCO ()
 - CALSCIENCE ()
 - TEST AMERICA ()
 - SPX ()
 - OTHER (ACCUTEST)

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SEARCH	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____

INCIDENT # (ENV SERVICES) _____

PO # _____ SAP # _____

DATE: _____

PAGE: 1 of 2

CONSULTANT COMPANY: URS

ADDRESS: 111 SW COLUMBIA

CITY: PORTLAND OR

TELEPHONE: 503-222-7200 FAX: _____

EMAIL: brian.pletcher@urs.com

TURNAROUND TIME (CALENDAR DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT C° Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SITE ADDRESS (Street, City and State): 7555 13th AVE SW SEATTLE, WA

CONSULTANT PROJECT CONTACT (Name): BRIAN PLETCHER PROJECT ID: 46194341

SAMPLER NAME(S) (Print): DAVE LEWIS 206-321-3064

LAB USE ONLY: C22300

SPECIAL INSTRUCTIONS OR NOTES:

SILICA-GEL CLEANUP ON NWT PH-DX

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

PROVIDE LEDDO DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.	NWT PH-DX	BTEX	NWT PH-DX CLEANUP	TRIAL LEAD PATHS	Container PID Readings or Laboratory Notes
		DATE	TIME		HEC	HRD3	HILSON	NONE	OTHER						
-1	TRIP BLANK	6/1/12	1513	H2O						6	X	X			
-2	SH-04-0612	6/1/12	1115	"	X					8	X	X	X		
-3	MW-305-0612	"	1300	"	X					76	X	X			
-4	MW-306-0612	"	1410	"	X					6	X	X			
-5	MW-213-0612	6/12/12	0900	"	X					10	X	X	X	X	
-6	MW-214-0612	"	1000	"	X					10	X	X	X	X	
-7	MW-214D-0612	"	1030	"	X					10	X	X	X	X	
-8	TX-03A-0612	"	1305	"	X					6	X	X			
-9	MW-302-0612	"	1345	"	X					6	X	X			
-10	MW-304-0612	"	1445	"	X					6	X	X			

5.8-0.4 = 5.4 PC
 3.5-0.4 = 3.1 PC
 2.4-0.4 = 2.0 PC

Requisitioned by (Signature): <u>Dave Lewis</u> 6/14/12 1000	Received by (Signature): _____	Date: _____	Time: _____
Requisitioned by (Signature): <u>Fed Ex</u>	Received by (Signature): <u>[Signature]</u>	Date: <u>6/15/12</u>	Time: <u>8:50</u>

66/09 Revision

31
3



Shell Oil Products Chain Of Custody Record

LAB (LOCATION)

XERO ()

CALSCIENCE ()

TEST AMERICA ()

SPL ()

OTHER (ACCUTEST)

Please Check Appropriate Box:

ENV. SERVICES MOTIVA RETAIL SHELL RETAIL

MOTIVA SDRCH CONSULTANT LUBES

SHELL PIPELINE OTHER ()

Print Bill To Contact Name: _____

INCIDENT # (ENV SERVICES) _____

PO # _____ SAP # _____

DATE: _____

PAGE: 2 of 2

CONSULTANT COMPANY: URS

ADDRESS: 111 SW COLUMBIA PORTLAND OR

TELEPHONE: 503-222-7200 FAX: _____ E MAIL: brian.pletcher@urs.com

TURNAROUND TIME (CAL ENDIAN DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT C° Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SITE ADDRESS (Street, City and State): 2555 13th AVE SW SEATTLE WA

CONSULTANT PROJECT CONTRACT PROJECT ID: BRIAN PLETCHER CONSULTANT PROJECT ID: 46194341

SAMPLER ANALYSIS (P/N): DAVE LEWIS 206-321-3064 LAB USE ONLY: C22300

SPECIAL INSTRUCTIONS OR NOTES:

SILICA-GEL CLEAN UP ON NWTPT-DX

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

PROVIDE LEAD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	TIME	MATRIX	PRESERVATIVE	NO. OF CONT.	RESULTS
-11	MW-202-0612	6/12	0845	H ₂ O	X	5	X X X X X
-12	MW-203-0612	"	1105	"	X	5	X X X X X
-13	MW-303-0612	"	1255	"	X	6	X X X X X
-14	MW-104-0612	"	1410	"	X X	6	X X X X X

Vertical notes in table: NWTPT-CX, BTEX, NWTPT-DX SILICA-GEL CLEAN UP, TOTAL LEAD PARTS

Received by (Signature): Dave Lewis Date: 6/14/12 Time: 1000

Received by (Signature): L. Steph Date: 6/15/12 Time: 850

Received by (Signature): Fed Ex Date: _____ Time: _____

05/05 Revision

31
3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW1081-MB	W31370.D	1	06/20/12	TN	n/a	n/a	VW1081

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-1, C22300-2, C22300-3, C22300-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	98% 60-130%
2037-26-5	Toluene-D8	92% 60-130%
460-00-4	4-Bromofluorobenzene	102% 60-130%

Method Blank Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1023-MB	N31962.D	1	06/25/12	TF	n/a	n/a	VN1023

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-9, C22300-10, C22300-13

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	95%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	97%	60-130%

Method Blank Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR367-MB	R10277.D	1	06/25/12	BD	n/a	n/a	VR367

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-5, C22300-6, C22300-7, C22300-8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	91% 60-130%
2037-26-5	Toluene-D8	94% 60-130%
460-00-4	4-Bromofluorobenzene	91% 60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW1081-BS	W31367.D	1	06/20/12	TN	n/a	n/a	VW1081
VW1081-BSD	W31368.D	1	06/20/12	TN	n/a	n/a	VW1081

The QC reported here applies to the following samples: **Method:** SW846 8260B

C22300-1, C22300-2, C22300-3, C22300-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.4	97	19.4	97	0	60-130/30
100-41-4	Ethylbenzene	20	18.3	92	18.7	94	2	60-130/30
108-88-3	Toluene	20	17.9	90	18.3	92	2	60-130/30
1330-20-7	Xylene (total)	60	54.8	91	55.9	93	2	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	100%	60-130%
2037-26-5	Toluene-D8	90%	92%	60-130%
460-00-4	4-Bromofluorobenzene	103%	103%	60-130%

* = Outside of Control Limits.

4.2.1
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR367-BS	R10274.D	1	06/25/12	BD	n/a	n/a	VR367
VR367-BSD	R10275.D	1	06/25/12	BD	n/a	n/a	VR367

The QC reported here applies to the following samples: **Method:** SW846 8260B

C22300-5, C22300-6, C22300-7, C22300-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.1	96	19.7	99	3	60-130/30
100-41-4	Ethylbenzene	20	19.8	99	21.4	107	8	60-130/30
108-88-3	Toluene	20	19.2	96	20.8	104	8	60-130/30
1330-20-7	Xylene (total)	60	60.2	100	64.3	107	7	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	98%	93%	60-130%
2037-26-5	Toluene-D8	92%	93%	60-130%
460-00-4	4-Bromofluorobenzene	92%	92%	60-130%

* = Outside of Control Limits.

4.2.2
4

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1023-BS	N31963.D	1	06/25/12	TF	n/a	n/a	VN1023
VN1023-BSD	N31964.D	1	06/25/12	TF	n/a	n/a	VN1023

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-9, C22300-10, C22300-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	17.7	89	18.0	90	2	60-130/30
100-41-4	Ethylbenzene	20	18.3	92	18.2	91	1	60-130/30
108-88-3	Toluene	20	18.3	92	17.9	90	2	60-130/30
1330-20-7	Xylene (total)	60	54.9	92	55.0	92	0	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	98%	97%	60-130%
2037-26-5	Toluene-D8	104%	99%	60-130%
460-00-4	4-Bromofluorobenzene	102%	99%	60-130%

* = Outside of Control Limits.

4.2.3
 4

Laboratory Control Sample Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW1081-LCS	W31369.D	1	06/20/12	TN	n/a	n/a	VW1081

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-1, C22300-2, C22300-3, C22300-4

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	60-130%
2037-26-5	Toluene-D8	93%	60-130%
460-00-4	4-Bromofluorobenzene	102%	60-130%

* = Outside of Control Limits.

4.3.1
 4

Laboratory Control Sample Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR367-LCS	R10276.D	1	06/25/12	BD	n/a	n/a	VR367

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-5, C22300-6, C22300-7, C22300-8

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	91%	60-130%
2037-26-5	Toluene-D8	93%	60-130%
460-00-4	4-Bromofluorobenzene	91%	60-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VN1023-LCS	N31965.D	1	06/25/12	TF	n/a	n/a	VN1023

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-9, C22300-10, C22300-13

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
---------	----------	---------------	-------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	96%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22227-11MS	W31387.D	50	06/20/12	TN	n/a	n/a	VW1081
C22227-11MSD	W31388.D	50	06/20/12	TN	n/a	n/a	VW1081
C22227-11	W31373.D	50	06/20/12	TN	n/a	n/a	VW1081

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-1, C22300-2, C22300-3, C22300-4

CAS No.	Compound	C22227-11 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	714	1000	1480	77	1530	82	3	60-130/25
100-41-4	Ethylbenzene	1300	1000	2100	80	2180	88	4	60-130/25
108-88-3	Toluene	197	1000	1040	84	1060	86	2	60-130/25
1330-20-7	Xylene (total)	2830	3000	5270	81	5450	87	3	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C22227-11	Limits
1868-53-7	Dibromofluoromethane	99%	98%	98%	60-130%
2037-26-5	Toluene-D8	98%	98%	94%	60-130%
460-00-4	4-Bromofluorobenzene	101%	101%	106%	60-130%

* = Outside of Control Limits.

4.4.1
 4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22371-2MS	R10295.D	1	06/25/12	BD	n/a	n/a	VR367
C22371-2MSD	R10296.D	1	06/25/12	BD	n/a	n/a	VR367
C22371-2	R10284.D	1	06/25/12	BD	n/a	n/a	VR367

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-5, C22300-6, C22300-7, C22300-8

CAS No.	Compound	C22371-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	19.6	98	18.9	95	4	60-130/25
100-41-4	Ethylbenzene	ND	20	19.7	99	18.1	91	8	60-130/25
108-88-3	Toluene	ND	20	19.2	96	17.7	89	8	60-130/25
1330-20-7	Xylene (total)	ND	60	49.2	82	43.9	73	11	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C22371-2	Limits
1868-53-7	Dibromofluoromethane	92%	96%	97%	60-130%
2037-26-5	Toluene-D8	90%	87%	91%	60-130%
460-00-4	4-Bromofluorobenzene	93%	91%	91%	60-130%

* = Outside of Control Limits.

4.4.2
 4

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22297-5MS	N31982.D	1	06/25/12	TF	n/a	n/a	VN1023
C22297-5MSD	N31983.D	1	06/25/12	TF	n/a	n/a	VN1023
C22297-5	N31975.D	1	06/25/12	TF	n/a	n/a	VN1023

The QC reported here applies to the following samples:

Method: SW846 8260B

C22300-9, C22300-10, C22300-13

CAS No.	Compound	C22297-5 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	21.1	106	18.7	94	12	60-130/25
100-41-4	Ethylbenzene	ND	20	20.9	105	18.7	94	11	60-130/25
108-88-3	Toluene	ND	20	20.6	103	18.4	92	11	60-130/25
1330-20-7	Xylene (total)	ND	60	63.1	105	56.2	94	12	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C22297-5	Limits
1868-53-7	Dibromofluoromethane	100%	100%	102%	60-130%
2037-26-5	Toluene-D8	97%	99%	99%	60-130%
460-00-4	4-Bromofluorobenzene	100%	101%	99%	60-130%

* = Outside of Control Limits.

4.4.3
 4

GC/MS Semi-volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6121-MB	T4695.D	1	06/18/12	LW	06/15/12	OP6121	ET197

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C22300-5, C22300-6, C22300-7

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.50	0.050	ug/l	
208-96-8	Acenaphthylene	ND	0.50	0.050	ug/l	
120-12-7	Anthracene	ND	0.50	0.050	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.053	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.041	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.035	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.039	ug/l	
218-01-9	Chrysene	ND	0.10	0.045	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.035	ug/l	
206-44-0	Fluoranthene	ND	0.50	0.050	ug/l	
86-73-7	Fluorene	ND	0.50	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.035	ug/l	
90-12-0	1-Methylnaphthalene ^a	ND	0.50	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-20-3	Naphthalene	ND	0.50	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.50	0.050	ug/l	
129-00-0	Pyrene	ND	0.50	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	61%	25-100%
321-60-8	2-Fluorobiphenyl	63%	25-106%
1718-51-0	Terphenyl-d14	56%	35-130%

(a) AZ:T2,T6

5.1.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6121-BS	T4696.D	1	06/18/12	LW	06/15/12	OP6121	ET197
OP6121-BSD	T4697.D	1	06/18/12	LW	06/15/12	OP6121	ET197

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C22300-5, C22300-6, C22300-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	5	3.2	64	3.2	64	0	25-130/30
208-96-8	Acenaphthylene	5	3.4	68	3.3	66	3	30-122/30
120-12-7	Anthracene	5	3.5	70	3.4	68	3	39-128/30
56-55-3	Benzo(a)anthracene	5	3.3	66	3.2	64	3	35-132/30
50-32-8	Benzo(a)pyrene	5	3.4	68	3.5	70	3	44-136/30
205-99-2	Benzo(b)fluoranthene	5	3.6	72	3.2	64	12	41-134/30
191-24-2	Benzo(g,h,i)perylene	5	3.3	66	3.3	66	0	30-134/30
207-08-9	Benzo(k)fluoranthene	5	3.1	62	3.6	72	15	40-134/30
218-01-9	Chrysene	5	3.3	66	3.3	66	0	39-134/30
53-70-3	Dibenzo(a,h)anthracene	5	3.4	68	3.3	66	3	33-137/30
206-44-0	Fluoranthene	5	3.3	66	3.3	66	0	40-129/30
86-73-7	Fluorene	5	3.4	68	3.1	62	9	32-125/30
193-39-5	Indeno(1,2,3-cd)pyrene	5	3.2	64	3.3	66	3	33-137/30
90-12-0	1-Methylnaphthalene	5	2.9	58	3.1	62	7	27-124/30
91-57-6	2-Methylnaphthalene	5	3.3	66	3.3	66	0	28-120/30
91-20-3	Naphthalene	5	3.2	64	3.1	62	3	28-122/30
85-01-8	Phenanthrene	5	3.2	64	3.2	64	0	38-128/30
129-00-0	Pyrene	5	3.2	64	3.1	62	3	35-126/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	68%	66%	25-100%
321-60-8	2-Fluorobiphenyl	64%	61%	25-106%
1718-51-0	Terphenyl-d14	60%	61%	35-130%

* = Outside of Control Limits.

5.2.1
 5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6121-MS	T4698.D	1	06/18/12	LW	06/15/12	OP6121	ET197
OP6121-MSD	T4699.D	1	06/18/12	LW	06/15/12	OP6121	ET197
C22300-7	T4704.D	1	06/18/12	LW	06/15/12	OP6121	ET197

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C22300-5, C22300-6, C22300-7

CAS No.	Compound	C22300-7 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	ND	10	4.3	43	3.8	38	12	25-130/32
208-96-8	Acenaphthylene	ND	10	4.6	46	4.1	41	11	30-122/34
120-12-7	Anthracene	ND	10	5.2	52	4.4	44	17	39-128/29
56-55-3	Benzo(a)anthracene	ND	10	6.6	66	4.0	40	49* a	35-132/33
50-32-8	Benzo(a)pyrene	ND	10	7.2	72	4.4	44	48* a	44-136/33
205-99-2	Benzo(b)fluoranthene	ND	10	6.1	61	3.8	38* b	46* a	41-134/34
191-24-2	Benzo(g,h,i)perylene	ND	10	6.8	68	4.2	42	47* a	30-134/32
207-08-9	Benzo(k)fluoranthene	ND	10	7.3	73	4.3	43	52* a	40-134/32
218-01-9	Chrysene	ND	10	6.7	67	4.2	42	46* a	39-134/31
53-70-3	Dibenzo(a,h)anthracene	ND	10	6.9	69	4.3	43	46* a	33-137/31
206-44-0	Fluoranthene	ND	10	6.3	63	4.1	41	42* a	40-129/33
86-73-7	Fluorene	ND	10	4.5	45	3.9	39	14	32-125/35
193-39-5	Indeno(1,2,3-cd)pyrene	ND	10	6.7	67	4.1	41	48* a	33-137/34
90-12-0	1-Methylnaphthalene	ND	10	4.3	43	3.8	38	12	27-124/36
91-57-6	2-Methylnaphthalene	ND	10	4.5	45	4.1	41	9	28-120/33
91-20-3	Naphthalene	ND	10	4.5	45	3.9	39	14	28-122/33
85-01-8	Phenanthrene	ND	10	4.9	49	4.0	40	20	38-128/33
129-00-0	Pyrene	ND	10	5.6	56	4.0	40	33* a	35-126/29

CAS No.	Surrogate Recoveries	MS	MSD	C22300-7	Limits
4165-60-0	Nitrobenzene-d5	45%	42%	41%	25-100%
321-60-8	2-Fluorobiphenyl	47%	41%	42%	25-106%
1718-51-0	Terphenyl-d14	59%	38%	36%	35-130%

- (a) Outside laboratory control limits. AZ:R9
- (b) Outside laboratory control limits. AZ:M2

* = Outside of Control Limits.

5.3.1
 5

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1138-MB	JK28149.D	1	06/17/12	TT	n/a	n/a	GJK1138

The QC reported here applies to the following samples:

Method: NWTPH-GX

C22300-1, C22300-2, C22300-3, C22300-4, C22300-5, C22300-6, C22300-7, C22300-8, C22300-9, C22300-10, C22300-11, C22300-12, C22300-13, C22300-14

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	99%	50-150%
460-00-4	4-Bromofluorobenzene	104%	50-150%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1138-BS	JK28150.D	1	06/17/12	TT	n/a	n/a	GJK1138
GJK1138-BSD	JK28151.D	1	06/17/12	TT	n/a	n/a	GJK1138

The QC reported here applies to the following samples: Method: NWTPH-GX

C22300-1, C22300-2, C22300-3, C22300-4, C22300-5, C22300-6, C22300-7, C22300-8, C22300-9, C22300-10, C22300-11, C22300-12, C22300-13, C22300-14

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.357	89	0.347	87	3	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	95%	84%	50-150%
460-00-4	4-Bromofluorobenzene	103%	96%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22233-2MS	JK28178.D	1	06/18/12	TT	n/a	n/a	GJK1138
C22233-2MSD	JK28179.D	1	06/18/12	TT	n/a	n/a	GJK1138
C22233-2	JK28156.D	1	06/17/12	TT	n/a	n/a	GJK1138

The QC reported here applies to the following samples: Method: NWTPH-GX

C22300-1, C22300-2, C22300-3, C22300-4, C22300-5, C22300-6, C22300-7, C22300-8, C22300-9, C22300-10, C22300-11, C22300-12, C22300-13, C22300-14

CAS No.	Compound	C22233-2 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	ND	0.4	0.351	88	0.345	86	2	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C22233-2	Limits
98-08-8	aaa-Trifluorotoluene	99%	94%	105%	50-150%
460-00-4	4-Bromofluorobenzene	105%	102%	109%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22300-12DUP	JK28175.D	1	06/18/12	TT	n/a	n/a	GJK1138
C22300-12	JK28174.D	1	06/18/12	TT	n/a	n/a	GJK1138

The QC reported here applies to the following samples: Method: NWTPH-GX

C22300-1, C22300-2, C22300-3, C22300-4, C22300-5, C22300-6, C22300-7, C22300-8, C22300-9, C22300-10, C22300-11, C22300-12, C22300-13, C22300-14

CAS No.	Compound	C22300-12 mg/l	DUP Q mg/l	Q RPD	Limits
	TPH (Gasoline)	0.459	0.472	3	20

CAS No.	Surrogate Recoveries	DUP	C22300-12	Limits
98-08-8	aaa-Trifluorotoluene	100%	98%	50-150%
460-00-4	4-Bromofluorobenzene	109%	107%	50-150%

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6122-MB	HH023265.D1		06/16/12	JH	06/15/12	OP6122	GHH748

The QC reported here applies to the following samples:

Method: NWTPH-DX

C22300-2, C22300-5, C22300-6, C22300-7, C22300-11, C22300-12, C22300-14

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	94% 50-150%

7.1.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6122-BS	HH023266.D1		06/16/12	JH	06/15/12	OP6122	GHH748
OP6122-BSD	HH023267.D1		06/16/12	JH	06/15/12	OP6122	GHH748

The QC reported here applies to the following samples: Method: NWTPH-DX

C22300-2, C22300-5, C22300-6, C22300-7, C22300-11, C22300-12, C22300-14

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	1	0.741	74	0.761	76	3	45-140/30
	TPH (Motor Oil)	1	0.934	93	0.998	100	7	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	94%	98%	50-150%

* = Outside of Control Limits.

7.2.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6122-MS	HH023284.D1		06/16/12	JH	06/15/12	OP6122	GHH748
OP6122-MSD	HH023285.D1		06/16/12	JH	06/15/12	OP6122	GHH748
C22300-6	HH023277.D1		06/16/12	JH	06/15/12	OP6122	GHH748

The QC reported here applies to the following samples:

Method: NWTPH-DX

C22300-2, C22300-5, C22300-6, C22300-7, C22300-11, C22300-12, C22300-14

CAS No.	Compound	C22300-6 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	ND	1.94	1.23	63	1.48	76	18	45-140/25
	TPH (Motor Oil)	0.135	J 1.94	2.02	97	2.03	98	0	45-140/25

CAS No.	Surrogate Recoveries	MS	MSD	C22300-6	Limits
630-01-3	Hexacosane	92%	101%	87%	50-150%

* = Outside of Control Limits.

7.3.1
7

Duplicate Summary

Job Number: C22300
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP6122-DUP1	HH023282.D1		06/16/12	JH	06/15/12	OP6122	GHH748
C22300-5	HH023276.D1		06/16/12	JH	06/15/12	OP6122	GHH748

The QC reported here applies to the following samples: Method: NWTPH-DX

C22300-2, C22300-5, C22300-6, C22300-7, C22300-11, C22300-12, C22300-14

CAS No.	Compound	C22300-5 mg/l	DUP Q	DUP mg/l	Q	RPD	Limits
	TPH (Diesel)	ND		ND		nc	25
	TPH (Motor Oil)	ND		ND		nc	25

CAS No.	Surrogate Recoveries	DUP	C22300-5	Limits
630-01-3	Hexacosane	90%	91%	50-150%

* = Outside of Control Limits.

7.4.1
7

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C22300
Account: SHELLWIC - Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5010
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 06/18/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	8.5		
Antimony	6.0	.7	.51		
Arsenic	10	.7	.65		
Barium	200	.4	.35		
Beryllium	5.0	.2	.4		
Boron	100	.9	.64		
Cadmium	2.0	.2	.15		
Calcium	5000	7.1	12		
Chromium	10	.3	.41		
Cobalt	5.0	.2	.3		
Copper	10	1.2	3		
Iron	200	6.4	12		
Lead	10	.7	.85	0.60	<10
Magnesium	5000	27	36		
Manganese	15	.1	1.3		
Molybdenum	20	.2	.22		
Nickel	5.0	.2	.12		
Potassium	10000	18	44		
Selenium	10	1.8	2.2		
Silicon	100	1.2	6.9		
Silver	5.0	.3	.47		
Sodium	10000	15	13		
Strontium	10	.2	.24		
Thallium	10	.5	.54		
Tin	50	.2	.7		
Titanium	10	.4	.34		
Vanadium	10	.3	.3		
Zinc	20	.3	4.2		

Associated samples MP5010: C22300-14

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C22300
 Account: SHELLWIC - Shell Oil Products
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5010
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/18/12

Metal	C22300-14 Original MS		Spike/lot MPIR4A % Rec		QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium	anr				
Beryllium					
Boron					
Cadmium	anr				
Calcium					
Chromium	anr				
Cobalt					
Copper	anr				
Iron					
Lead	3.4	498	500	98.9	75-125
Magnesium					
Manganese					
Molybdenum					
Nickel	anr				
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc	anr				

Associated samples MP5010: C22300-14

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.12
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C22300
 Account: SHELLWIC - Shell Oil Products
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5010
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/18/12

Metal	C22300-14 Original MSD	SpikeLot MPIR4A	% Rec	MSD RPD	QC Limit	
Aluminum						
Antimony						
Arsenic	anr					
Barium	anr					
Beryllium						
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt						
Copper	anr					
Iron						
Lead	3.4	499	500	99.1	0.2	20
Magnesium						
Manganese						
Molybdenum						
Nickel	anr					
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	anr					

Associated samples MP5010: C22300-14

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.12
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C22300
 Account: SHELLWIC - Shell Oil Products
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5010
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/18/12

Metal	BSP Result	Spikelot MPIR4A	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium	anr			
Beryllium				
Boron				
Cadmium	anr			
Calcium				
Chromium	anr			
Cobalt				
Copper	anr			
Iron				
Lead	492	500	98.4	80-120
Magnesium				
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP5010: C22300-14

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.1.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: C22300
 Account: SHELLWIC - Shell Oil Products
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5010
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 06/18/12

Metal	C22300-14 Original SDL 1:5	%DIF	QC Limits
-------	-------------------------------	------	--------------

Aluminum			
Antimony			
Arsenic	anr		
Barium	anr		
Beryllium			
Boron			
Cadmium	anr		
Calcium			
Chromium	anr		
Cobalt			
Copper	anr		
Iron			
Lead	3.40	0.00	100.0(a) 0-10
Magnesium			
Manganese			
Molybdenum			
Nickel	anr		
Potassium			
Selenium	anr		
Silicon			
Silver	anr		
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc	anr		

Associated samples MP5010: C22300-14

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4
8

Technical Report for

Shell Oil Products

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194341

Accutest Job Number: C22512

Sampling Date: 06/28/12

Report to:

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian_pletcher@urscorp.com

ATTN: Brian Pletcher

Total number of pages in report: **30**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Kesavalu M. Bagawandoss,
Ph.D., J.D., Lab Director

Client Service contact: Vincent Vancil 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	5
3.1: C22512-1: TRIP BLANK	6
3.2: C22512-2: MW-302-0612	8
Section 4: Misc. Forms	10
4.1: Chain of Custody	11
Section 5: GC/MS Volatiles - QC Data Summaries	13
5.1: Method Blank Summary	14
5.2: Blank Spike/Blank Spike Duplicate Summary	17
5.3: Laboratory Control Sample Summary	20
5.4: Matrix Spike/Matrix Spike Duplicate Summary	23
Section 6: GC Volatiles - QC Data Summaries	26
6.1: Method Blank Summary	27
6.2: Blank Spike/Blank Spike Duplicate Summary	28
6.3: Matrix Spike/Matrix Spike Duplicate Summary	29
6.4: Duplicate Summary	30

1

2

3

4

5

6



Sample Summary

Shell Oil Products

Job No: C22512

URSOP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Project No: 46194341

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C22512-1	06/28/12	00:00 DL	06/29/12	AQ	Trip Blank Water	TRIP BLANK
C22512-2	06/28/12	11:10 DL	06/29/12	AQ	Ground Water	MW-302-0612

Summary of Hits

Job Number: C22512
Account: Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 06/28/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

C22512-1 TRIP BLANK

< no hits reported in this sample >

C22512-2 MW-302-0612

Benzene	1230	40	8.0	ug/l	SW846 8260B
Toluene	43.7	10	2.0	ug/l	SW846 8260B
Ethylbenzene	403	10	2.0	ug/l	SW846 8260B
Xylene (total)	289	20	4.6	ug/l	SW846 8260B
TPH (Gasoline)	5.65	4.0	1.0	mg/l	NWTPH-GX



Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 06/28/12
Lab Sample ID: C22512-1		Date Received: 06/29/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V07511.D	1	07/03/12	BD	n/a	n/a	VV340
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%
2037-26-5	Toluene-D8	104%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK		
Lab Sample ID: C22512-1		Date Sampled: 06/28/12
Matrix: AQ - Trip Blank Water		Date Received: 06/29/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28745.D	1	07/10/12	TT	n/a	n/a	GJK1158
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		50-150%
460-00-4	4-Bromofluorobenzene	105%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-302-0612		Date Sampled: 06/28/12
Lab Sample ID: C22512-2		Date Received: 06/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U4982.D	10	07/02/12	TN	n/a	n/a	VU187
Run #2	U4997.D	40	07/03/12	TN	n/a	n/a	VU188

Run #	Purge Volume
Run #1	10.0 ml
Run #2	10.0 ml

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1230 ^a	40	8.0	ug/l	
108-88-3	Toluene	43.7	10	2.0	ug/l	
100-41-4	Ethylbenzene	403	10	2.0	ug/l	
1330-20-7	Xylene (total)	289	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%	93%	60-130%
2037-26-5	Toluene-D8	94%	98%	60-130%
460-00-4	4-Bromofluorobenzene	94%	96%	60-130%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-302-0612		Date Sampled: 06/28/12
Lab Sample ID: C22512-2		Date Received: 06/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK28746.D	20	07/10/12	TT	n/a	n/a	GJK1158
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.65	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	100%		50-150%
460-00-4	4-Bromofluorobenzene	111%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Shell Oil Products Chain Of Custody Record SHELLWIC3660

LAB (LOCATION)

- XERO ()
- CALSCIENCE ()
- TEST AMERICA ()
- SPL ()
- OTHER (ACCUTEST)

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SOS/CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name:

INCIDENT # (ENV SERVICES)

CHECK IF NO INCIDENT # APPLIES

PO #

SAP #

DATE: _____ of _____

PAGE: _____ of _____

CONSULTANT COMPANY:

ADDRESS: URS
111 SW Columbia
 CITY: PORTLAND, OR

SITE ADDRESS (Street, City and State):

2555 13th AVE. SW Seattle WA

CONSULTANT PROJECT CONTACT (Name):

BRIAN PLETCHER

CONSULTANT PROJECT NO.:

46194341

SAMPLER NAME(S) (ID#):

DAVE LEWIS 206-321-3064

LAB USE ONLY

C22512

TELEPHONE: 503-222-7200 FAX: _____ EMAIL: brian.pletcher@urs.com

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT °C: Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

REQUESTED ANALYSIS

SPECIAL INSTRUCTIONS OR NOTES:

- SHELL CONTRACT RATE APPLIES
- STATE REIMBURSEMENT RATE APPLIES
- PROVIDE LEDO DISK

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE					NO. OF CONT.			Container PID Readings or Laboratory Notes
		DATE	TIME		HCL	HEX03	HEX04	NOVE	OTHER				
-1	TRIP BLANK			W						3	X	X	
-2	MW-302-0612	6/28/12	1110	W	X					6	X	X	

MWPB-6x BTEX

Requisitioned by (Signature): DAVE LEWIS Date: 6/28/12 Time: 1600

Received by (Signature): [Signature] Date: 6/28/12 Time: 0900

Requisitioned by (Signature): FEDEX Date: _____ Time: _____

Received by (Signature): _____ Date: _____ Time: _____

TEMP = 5.7 - 1.0 = 4.7 °C

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU187-MB	U4966.D	1	07/02/12	TN	n/a	n/a	VU187

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	Result	RL	MDL	Units	Q
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	95% 60-130%
2037-26-5	Toluene-D8	99% 60-130%
460-00-4	4-Bromofluorobenzene	94% 60-130%

Method Blank Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU188-MB	U4992.D	1	07/03/12	TN	n/a	n/a	VU188

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	91%	60-130%
2037-26-5	Toluene-D8	98%	60-130%
460-00-4	4-Bromofluorobenzene	93%	60-130%

Method Blank Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV340-MB	V07510.D	1	07/03/12	BD	n/a	n/a	VV340

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	100% 60-130%
2037-26-5	Toluene-D8	105% 60-130%
460-00-4	4-Bromofluorobenzene	100% 60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU187-BS	U4962.D	1	07/02/12	TN	n/a	n/a	VU187
VU187-BSD	U4963.D	1	07/02/12	TN	n/a	n/a	VU187

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	20	24.3	122	23.5	118	3	60-130/30
108-88-3	Toluene	20	23.9	120	23.4	117	2	60-130/30
1330-20-7	Xylene (total)	60	73.6	123	72.3	121	2	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	96%	94%	60-130%
2037-26-5	Toluene-D8	98%	97%	60-130%
460-00-4	4-Bromofluorobenzene	98%	97%	60-130%

* = Outside of Control Limits.

5.2.1
 5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU188-BS	U4989.D	1	07/03/12	TN	n/a	n/a	VU188
VU188-BSD	U4990.D	1	07/03/12	TN	n/a	n/a	VU188

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.8	99	21.2	106	7	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	91%	90%	60-130%
2037-26-5	Toluene-D8	97%	97%	60-130%
460-00-4	4-Bromofluorobenzene	97%	97%	60-130%

* = Outside of Control Limits.

5.2.2
 5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV340-BS	V07506.D	1	07/03/12	BD	n/a	n/a	VV340
VV340-BSD	V07507.D	1	07/03/12	BD	n/a	n/a	VV340

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	18.3	92	18.5	93	1	60-130/30
100-41-4	Ethylbenzene	20	18.6	93	18.6	93	0	60-130/30
108-88-3	Toluene	20	18.6	93	18.6	93	0	60-130/30
1330-20-7	Xylene (total)	60	56.5	94	56.4	94	0	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	102%	102%	60-130%
2037-26-5	Toluene-D8	102%	103%	60-130%
460-00-4	4-Bromofluorobenzene	102%	103%	60-130%

* = Outside of Control Limits.

5.2.3
 5

Laboratory Control Sample Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU187-LCS	U4965.D	1	07/02/12	TN	n/a	n/a	VU187

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
---------	----------	---------------	-------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	91%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	96%	60-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU188-LCS	U4991.D	1	07/03/12	TN	n/a	n/a	VU188

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
---------	----------	---------------	-------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	90%	60-130%
2037-26-5	Toluene-D8	98%	60-130%
460-00-4	4-Bromofluorobenzene	96%	60-130%

* = Outside of Control Limits.

5.3.2
 5

Laboratory Control Sample Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV340-LCS	V07509.D	1	07/03/12	BD	n/a	n/a	VV340

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-1

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
---------	----------	---------------	-------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	98%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	101%	60-130%

* = Outside of Control Limits.

5.3.3
 5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22421-10MS	U4983.D	5	07/02/12	TN	n/a	n/a	VU187
C22421-10MSD	U4984.D	5	07/02/12	TN	n/a	n/a	VU187
C22421-10	U4969.D	5	07/02/12	TN	n/a	n/a	VU187

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	C22421-10 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
100-41-4	Ethylbenzene	ND	100	114	114	113	113	1	60-130/25
108-88-3	Toluene	ND	100	114	114	113	113	1	60-130/25
1330-20-7	Xylene (total)	ND	300	352	117	349	116	1	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C22421-10	Limits
1868-53-7	Dibromofluoromethane	93%	91%	97%	60-130%
2037-26-5	Toluene-D8	98%	96%	101%	60-130%
460-00-4	4-Bromofluorobenzene	98%	96%	99%	60-130%

* = Outside of Control Limits.

5.4.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22479-2MS	U5011.D	20	07/03/12	TN	n/a	n/a	VU188
C22479-2MSD	U5012.D	20	07/03/12	TN	n/a	n/a	VU188
C22479-2	U4998.D	20	07/03/12	TN	n/a	n/a	VU188

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-2

CAS No.	Compound	C22479-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1320	400	1650	83	1640	80	1	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C22479-2	Limits
1868-53-7	Dibromofluoromethane	95%	90%	93%	60-130%
2037-26-5	Toluene-D8	96%	97%	99%	60-130%
460-00-4	4-Bromofluorobenzene	98%	97%	95%	60-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22519-5MS	V07526.D	1	07/03/12	BD	n/a	n/a	VV340
C22519-5MSD	V07527.D	1	07/04/12	BD	n/a	n/a	VV340
C22519-5	V07518.D	1	07/03/12	BD	n/a	n/a	VV340

The QC reported here applies to the following samples:

Method: SW846 8260B

C22512-1

CAS No.	Compound	C22519-5 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	17.3	87	19.2	96	10	60-130/25
100-41-4	Ethylbenzene	ND	20	17.2	86	18.9	95	9	60-130/25
108-88-3	Toluene	ND	20	17.3	87	19.1	96	10	60-130/25
1330-20-7	Xylene (total)	ND	60	52.2	87	57.0	95	9	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C22519-5	Limits
1868-53-7	Dibromofluoromethane	103%	104%	106%	60-130%
2037-26-5	Toluene-D8	102%	103%	105%	60-130%
460-00-4	4-Bromofluorobenzene	100%	104%	104%	60-130%

* = Outside of Control Limits.

5.4.3
5

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1158-MB	JK28719.D	1	07/09/12	TT	n/a	n/a	GJK1158

The QC reported here applies to the following samples:

Method: NWTPH-GX

C22512-1, C22512-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	98%	50-150%
460-00-4	4-Bromofluorobenzene	105%	50-150%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1158-BS	JK28720.D	1	07/09/12	TT	n/a	n/a	GJK1158
GJK1158-BSD	JK28721.D	1	07/09/12	TT	n/a	n/a	GJK1158

The QC reported here applies to the following samples:

Method: NWTPH-GX

C22512-1, C22512-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.357	89	0.341	85	5	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	96%	101%	50-150%
460-00-4	4-Bromofluorobenzene	105%	109%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22556-2MS	JK28749.D	20	07/10/12	TT	n/a	n/a	GJK1158
C22556-2MSD	JK28750.D	20	07/10/12	TT	n/a	n/a	GJK1158
C22556-2	JK28747.D	20	07/10/12	TT	n/a	n/a	GJK1158

The QC reported here applies to the following samples:

Method: NWTPH-GX

C22512-1, C22512-2

CAS No.	Compound	C22556-2 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	9.67	8	15.7	75	16.9	90	7	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C22556-2	Limits
98-08-8	aaa-Trifluorotoluene	96%	98%	98%	50-150%
460-00-4	4-Bromofluorobenzene	114%	120%	117%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C22512
Account: SHELLWIC Shell Oil Products
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C22476-4DUP	JK28734.D	1	07/09/12	TT	n/a	n/a	GJK1158
C22476-4	JK28733.D	1	07/09/12	TT	n/a	n/a	GJK1158

The QC reported here applies to the following samples:

Method: NWTPH-GX

C22512-1, C22512-2

CAS No.	Compound	C22476-4 mg/l	DUP Q	mg/l	Q	RPD	Limits
	TPH (Gasoline)	ND		ND		nc	20

CAS No.	Surrogate Recoveries	DUP	C22476-4	Limits
98-08-8	aaa-Trifluorotoluene	103%	100%	50-150%
460-00-4	4-Bromofluorobenzene	108%	105%	50-150%

* = Outside of Control Limits.

Technical Report for

Shell Oil Company

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194341

Accutest Job Number: C23895

Sampling Dates: 09/25/12 - 09/26/12

Report to:

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian.pletcher@urs.com

ATTN: Brian Pletcher

Total number of pages in report: **63**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Kesavalu M. Bagawandoss,
Ph.D., J.D., Lab Director

Client Service contact: Vincent Vancil 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	7
3.1: C23895-1: TRIP BLANK	8
3.2: C23895-2: MW-302-0912	10
3.3: C23895-3: TX-03A-0912	12
3.4: C23895-4: MW-301-0912	14
3.5: C23895-5: MW-301D-0912	16
3.6: C23895-6: MW-303-0912	18
3.7: C23895-7: MW-304-0912	20
3.8: C23895-8: SH-04-0912	22
3.9: C23895-9: MW-202-0912	24
3.10: C23895-10: MW-305-0912	26
3.11: C23895-11: MW-305D-0912	28
3.12: C23895-12: MW-306-0912	30
3.13: C23895-13: MW-104-0912	32
Section 4: Misc. Forms	34
4.1: Chain of Custody	35
Section 5: GC/MS Volatiles - QC Data Summaries	38
5.1: Method Blank Summary	39
5.2: Blank Spike/Blank Spike Duplicate Summary	44
5.3: Laboratory Control Sample Summary	48
5.4: Matrix Spike/Matrix Spike Duplicate Summary	51
Section 6: GC Volatiles - QC Data Summaries	55
6.1: Method Blank Summary	56
6.2: Blank Spike/Blank Spike Duplicate Summary	58
6.3: Matrix Spike/Matrix Spike Duplicate Summary	60
6.4: Duplicate Summary	62



Sample Summary

Shell Oil Company

Job No: C23895

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
 Project No: 46194341

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C23895-1	09/25/12	00:00 DRL	09/27/12	AQ	Trip Blank Water	TRIP BLANK
C23895-2	09/25/12	11:30 DRL	09/27/12	AQ	Ground Water	MW-302-0912
C23895-3	09/25/12	12:15 DRL	09/27/12	AQ	Ground Water	TX-03A-0912
C23895-4	09/25/12	13:35 DRL	09/27/12	AQ	Ground Water	MW-301-0912
C23895-5	09/25/12	14:00 DRL	09/27/12	AQ	Ground Water	MW-301D-0912
C23895-6	09/25/12	14:35 DRL	09/27/12	AQ	Ground Water	MW-303-0912
C23895-7	09/25/12	15:20 DRL	09/27/12	AQ	Ground Water	MW-304-0912
C23895-8	09/25/12	16:10 DRL	09/27/12	AQ	Ground Water	SH-04-0912
C23895-9	09/26/12	08:45 DRL	09/27/12	AQ	Ground Water	MW-202-0912
C23895-10	09/26/12	10:50 DRL	09/27/12	AQ	Ground Water	MW-305-0912
C23895-11	09/26/12	11:15 DRL	09/27/12	AQ	Ground Water	MW-305D-0912
C23895-12	09/26/12	11:35 DRL	09/27/12	AQ	Ground Water	MW-306-0912
C23895-13	09/26/12	12:25 DRL	09/27/12	AQ	Ground Water	MW-104-0912

Summary of Hits

Job Number: C23895
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 09/25/12 thru 09/26/12

Lab Sample ID	Client Sample ID	Result/ Analyte	RL	MDL	Units	Method
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C23895-1 TRIP BLANK

No hits reported in this sample.

C23895-2 MW-302-0912

Benzene	657	10	2.0	ug/l	SW846 8260B
Toluene	24.7	10	2.0	ug/l	SW846 8260B
Ethylbenzene	180	10	2.0	ug/l	SW846 8260B
Xylene (total)	106	20	4.6	ug/l	SW846 8260B
TPH (Gasoline)	4.07	2.0	0.50	mg/l	NWTPH-GX

C23895-3 TX-03A-0912

Benzene	1700	25	5.0	ug/l	SW846 8260B
Toluene	29.8	25	5.0	ug/l	SW846 8260B
Ethylbenzene	41.0	25	5.0	ug/l	SW846 8260B
Xylene (total)	50.1	50	12	ug/l	SW846 8260B
TPH (Gasoline)	5.53	4.0	1.0	mg/l	NWTPH-GX

C23895-4 MW-301-0912

Benzene	333	5.0	1.0	ug/l	SW846 8260B
Toluene	13.1	5.0	1.0	ug/l	SW846 8260B
Ethylbenzene	18.6	5.0	1.0	ug/l	SW846 8260B
Xylene (total)	19.2	10	2.3	ug/l	SW846 8260B
TPH (Gasoline)	4.02	2.0	0.50	mg/l	NWTPH-GX

C23895-5 MW-301D-0912

Benzene	346	5.0	1.0	ug/l	SW846 8260B
Toluene	14.0	5.0	1.0	ug/l	SW846 8260B
Ethylbenzene	19.8	5.0	1.0	ug/l	SW846 8260B
Xylene (total)	19.8	10	2.3	ug/l	SW846 8260B
TPH (Gasoline)	3.95	2.0	0.50	mg/l	NWTPH-GX

C23895-6 MW-303-0912

Benzene	1830	25	5.0	ug/l	SW846 8260B
Toluene	63.5	25	5.0	ug/l	SW846 8260B
Ethylbenzene	474	25	5.0	ug/l	SW846 8260B
Xylene (total)	146	50	12	ug/l	SW846 8260B
TPH (Gasoline)	9.14	5.0	1.3	mg/l	NWTPH-GX

Summary of Hits

Job Number: C23895
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 09/25/12 thru 09/26/12

Lab Sample ID	Client Sample ID	Result/ Analyte	Qual	RL	MDL	Units	Method
C23895-7	MW-304-0912						
		Benzene	630	10	2.0	ug/l	SW846 8260B
		Toluene	24.0	10	2.0	ug/l	SW846 8260B
		Ethylbenzene	198	10	2.0	ug/l	SW846 8260B
		Xylene (total)	105	20	4.6	ug/l	SW846 8260B
		TPH (Gasoline)	3.93	2.0	0.50	mg/l	NWTPH-GX
C23895-8	SH-04-0912						
		Benzene	124	5.0	1.0	ug/l	SW846 8260B
		Toluene	18.4	5.0	1.0	ug/l	SW846 8260B
		Ethylbenzene	461	5.0	1.0	ug/l	SW846 8260B
		Xylene (total)	139	10	2.3	ug/l	SW846 8260B
		TPH (Gasoline)	6.52	2.0	0.50	mg/l	NWTPH-GX
C23895-9	MW-202-0912						
		Benzene ^a	5.8	4.0	0.80	ug/l	SW846 8260B
		Toluene ^a	2.9 J	4.0	0.80	ug/l	SW846 8260B
		Ethylbenzene ^a	37.8	4.0	0.80	ug/l	SW846 8260B
		TPH (Gasoline)	4.07	2.0	0.50	mg/l	NWTPH-GX
C23895-10	MW-305-0912						
		Benzene	1270	20	4.0	ug/l	SW846 8260B
		Toluene	22.9	20	4.0	ug/l	SW846 8260B
		Ethylbenzene	38.8	20	4.0	ug/l	SW846 8260B
		Xylene (total)	35.5 J	40	9.2	ug/l	SW846 8260B
		TPH (Gasoline)	5.89	4.0	1.0	mg/l	NWTPH-GX
C23895-11	MW-305D-0912						
		Benzene	1320	20	4.0	ug/l	SW846 8260B
		Toluene	24.5	20	4.0	ug/l	SW846 8260B
		Ethylbenzene	42.3	20	4.0	ug/l	SW846 8260B
		Xylene (total)	35.1 J	40	9.2	ug/l	SW846 8260B
		TPH (Gasoline)	5.85	4.0	1.0	mg/l	NWTPH-GX
C23895-12	MW-306-0912						
		Benzene	1050	20	4.0	ug/l	SW846 8260B
		Toluene	26.1	20	4.0	ug/l	SW846 8260B
		Ethylbenzene	135	20	4.0	ug/l	SW846 8260B
		Xylene (total)	147	40	9.2	ug/l	SW846 8260B

Summary of Hits

Job Number: C23895
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 09/25/12 thru 09/26/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
TPH (Gasoline)		6.56	4.0	1.0	mg/l	NWTPH-GX
C23895-13	MW-104-0912					
Benzene ^a		0.66 J	2.0	0.40	ug/l	SW846 8260B
Toluene ^a		2.4	2.0	0.40	ug/l	SW846 8260B
Ethylbenzene ^a		50.9	2.0	0.40	ug/l	SW846 8260B
Xylene (total) ^a		1.9 J	4.0	0.92	ug/l	SW846 8260B
TPH (Gasoline)		4.54	2.0	0.50	mg/l	NWTPH-GX

(a) Dilution required due to high concentration of non-target hydrocarbons.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		Date Sampled: 09/25/12
Lab Sample ID: C23895-1		Date Received: 09/27/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08496.D	1	10/05/12	TF	n/a	n/a	VV372
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK	
Lab Sample ID: C23895-1	Date Sampled: 09/25/12
Matrix: AQ - Trip Blank Water	Date Received: 09/27/12
Method: NWTPH-GX	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30590.D	1	10/03/12	TT	n/a	n/a	GJK1231
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	109%		50-150%
460-00-4	4-Bromofluorobenzene	117%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-302-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-2		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08499.D	10	10/06/12	TF	n/a	n/a	VV372
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	657	10	2.0	ug/l	
108-88-3	Toluene	24.7	10	2.0	ug/l	
100-41-4	Ethylbenzene	180	10	2.0	ug/l	
1330-20-7	Xylene (total)	106	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	82%		60-130%
2037-26-5	Toluene-D8	93%		60-130%
460-00-4	4-Bromofluorobenzene	93%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-302-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-2		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30591.D	10	10/03/12	TT	n/a	n/a	GJK1231
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.07	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	107%		50-150%
460-00-4	4-Bromofluorobenzene	122%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-3		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08500.D	25	10/06/12	TF	n/a	n/a	VV372
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1700	25	5.0	ug/l	
108-88-3	Toluene	29.8	25	5.0	ug/l	
100-41-4	Ethylbenzene	41.0	25	5.0	ug/l	
1330-20-7	Xylene (total)	50.1	50	12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		60-130%
2037-26-5	Toluene-D8	92%		60-130%
460-00-4	4-Bromofluorobenzene	91%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-0912	
Lab Sample ID: C23895-3	Date Sampled: 09/25/12
Matrix: AQ - Ground Water	Date Received: 09/27/12
Method: NWTPH-GX	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30592.D	20	10/03/12	TT	n/a	n/a	GJK1231
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.53	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	90%		50-150%
460-00-4	4-Bromofluorobenzene	101%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-4		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08501.D	5	10/06/12	TF	n/a	n/a	VV372
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	333	5.0	1.0	ug/l	
108-88-3	Toluene	13.1	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	18.6	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	19.2	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		60-130%
2037-26-5	Toluene-D8	93%		60-130%
460-00-4	4-Bromofluorobenzene	93%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: MW-301-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-4		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30593.D	10	10/03/12	TT	n/a	n/a	GJK1231
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.02	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	110%		50-150%
460-00-4	4-Bromofluorobenzene	132%		50-150%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: MW-301D-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-5		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08502.D	5	10/06/12	TF	n/a	n/a	VV372
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	346	5.0	1.0	ug/l	
108-88-3	Toluene	14.0	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	19.8	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	19.8	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	80%		60-130%
2037-26-5	Toluene-D8	93%		60-130%
460-00-4	4-Bromofluorobenzene	92%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: MW-301D-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-5		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30596.D	10	10/03/12	TT	n/a	n/a	GJK1231
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.95	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		50-150%
460-00-4	4-Bromofluorobenzene	124%		50-150%

ND = Not detected	MDL - Method Detection Limit	J = Indicates an estimated value
RL = Reporting Limit		B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-0912		
Lab Sample ID: C23895-6		Date Sampled: 09/25/12
Matrix: AQ - Ground Water		Date Received: 09/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08503.D	25	10/06/12	TF	n/a	n/a	VV372
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1830	25	5.0	ug/l	
108-88-3	Toluene	63.5	25	5.0	ug/l	
100-41-4	Ethylbenzene	474	25	5.0	ug/l	
1330-20-7	Xylene (total)	146	50	12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	84%		60-130%
2037-26-5	Toluene-D8	93%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-0912		
Lab Sample ID: C23895-6		Date Sampled: 09/25/12
Matrix: AQ - Ground Water		Date Received: 09/27/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30597.D	25	10/03/12	TT	n/a	n/a	GJK1231
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	9.14	5.0	1.3	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	106%		50-150%
460-00-4	4-Bromofluorobenzene	119%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-304-0912		
Lab Sample ID: C23895-7		Date Sampled: 09/25/12
Matrix: AQ - Ground Water		Date Received: 09/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08579.D	10	10/09/12	TF	n/a	n/a	VV374
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	630	10	2.0	ug/l	
108-88-3	Toluene	24.0	10	2.0	ug/l	
100-41-4	Ethylbenzene	198	10	2.0	ug/l	
1330-20-7	Xylene (total)	105	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		60-130%
2037-26-5	Toluene-D8	92%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-304-0912		Date Sampled: 09/25/12
Lab Sample ID: C23895-7		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30598.D	10	10/03/12	TT	n/a	n/a	GJK1231
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.93	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	78%		50-150%
460-00-4	4-Bromofluorobenzene	90%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-0912	Date Sampled: 09/25/12
Lab Sample ID: C23895-8	Date Received: 09/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	V08538.D	5	10/08/12	TF	n/a	n/a	VV373
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	124	5.0	1.0	ug/l	
108-88-3	Toluene	18.4	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	461	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	139	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		60-130%
2037-26-5	Toluene-D8	92%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-0912	Date Sampled: 09/25/12
Lab Sample ID: C23895-8	Date Received: 09/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: NWTPH-GX	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30618.D	10	10/03/12	TT	n/a	n/a	GJK1233
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	6.52	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	111%		50-150%
460-00-4	4-Bromofluorobenzene	129%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-0912		
Lab Sample ID: C23895-9		Date Sampled: 09/26/12
Matrix: AQ - Ground Water		Date Received: 09/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	W34187.D	4	10/06/12	KN	n/a	n/a	VW1188
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5.8	4.0	0.80	ug/l	
108-88-3	Toluene	2.9	4.0	0.80	ug/l	J
100-41-4	Ethylbenzene	37.8	4.0	0.80	ug/l	
1330-20-7	Xylene (total)	ND	8.0	1.8	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

(a) Dilution required due to high concentration of non-target hydrocarbons.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-0912	Date Sampled: 09/26/12
Lab Sample ID: C23895-9	Date Received: 09/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: NWTPH-GX	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30619.D	10	10/03/12	TT	n/a	n/a	GJK1233
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.07	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	110%		50-150%
460-00-4	4-Bromofluorobenzene	119%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-0912		
Lab Sample ID: C23895-10		Date Sampled: 09/26/12
Matrix: AQ - Ground Water		Date Received: 09/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W34184.D	20	10/06/12	KN	n/a	n/a	VW1188
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1270	20	4.0	ug/l	
108-88-3	Toluene	22.9	20	4.0	ug/l	
100-41-4	Ethylbenzene	38.8	20	4.0	ug/l	
1330-20-7	Xylene (total)	35.5	40	9.2	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-0912		
Lab Sample ID: C23895-10		Date Sampled: 09/26/12
Matrix: AQ - Ground Water		Date Received: 09/27/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30620.D	20	10/03/12	TT	n/a	n/a	GJK1233
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.89	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	112%		50-150%
460-00-4	4-Bromofluorobenzene	124%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305D-0912		
Lab Sample ID: C23895-11		Date Sampled: 09/26/12
Matrix: AQ - Ground Water		Date Received: 09/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W34185.D	20	10/06/12	KN	n/a	n/a	VW1188
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1320	20	4.0	ug/l	
108-88-3	Toluene	24.5	20	4.0	ug/l	
100-41-4	Ethylbenzene	42.3	20	4.0	ug/l	
1330-20-7	Xylene (total)	35.1	40	9.2	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	87%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305D-0912		Date Sampled: 09/26/12
Lab Sample ID: C23895-11		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30622.D	20	10/04/12	TT	n/a	n/a	GJK1233
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.85	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	109%		50-150%
460-00-4	4-Bromofluorobenzene	122%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-306-0912		Date Sampled: 09/26/12
Lab Sample ID: C23895-12		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	W34186.D	20	10/06/12	KN	n/a	n/a	VW1188
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1050	20	4.0	ug/l	
108-88-3	Toluene	26.1	20	4.0	ug/l	
100-41-4	Ethylbenzene	135	20	4.0	ug/l	
1330-20-7	Xylene (total)	147	40	9.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	94%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-306-0912		Date Sampled: 09/26/12
Lab Sample ID: C23895-12		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30623.D	20	10/04/12	TT	n/a	n/a	GJK1233
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	6.56	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	100%		50-150%
460-00-4	4-Bromofluorobenzene	112%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-0912		Date Sampled: 09/26/12
Lab Sample ID: C23895-13		Date Received: 09/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	W34188.D	2	10/06/12	KN	n/a	n/a	VW1188
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.66	2.0	0.40	ug/l	J
108-88-3	Toluene	2.4	2.0	0.40	ug/l	
100-41-4	Ethylbenzene	50.9	2.0	0.40	ug/l	
1330-20-7	Xylene (total)	1.9	4.0	0.92	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		60-130%
2037-26-5	Toluene-D8	98%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

(a) Dilution required due to high concentration of non-target hydrocarbons.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-0912	Date Sampled: 09/26/12
Lab Sample ID: C23895-13	Date Received: 09/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: NWTPH-GX	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK30644.D	10	10/04/12	TT	n/a	n/a	GJK1233
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.54	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	108%		50-150%
460-00-4	4-Bromofluorobenzene	143%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

LAB (LOCATION)

- XEROX ()
- CALSCIENCE ()
- TEST AMERICA ()
- SPL ()
- OTHER (Accutest)



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SD&CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____ INCIDENT # (ENV-SERVICES) _____

PO # _____ SAP # _____

DATE: 9/26/12

PAGE: 2 of 2

CONSULTANT COMPANY: URS

ADDRESS: 111 SW Columbia Portland OR

TELEPHONE: 503-222-7200 FAX: _____ EMAIL: brian.pletcher@urs.com

TURNAROUND TIME (CALENDAR DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

SITE ADDRESS (Street, City and State): 2555 13th Ave SW Seattle WA

CONSULTANT PROJECT CONTACT (Report to): Brian Pletcher CONSULTANT PROJECT ID: 46194341

SAMPLER NAME(S) (Print): Dave Lewis (200) 321-3064 LAB USE ONLY: C23895

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT C° Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SPECIAL INSTRUCTIONS OR NOTES: SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 PROVIDE LEDD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE						NO. OF CONT.	Container PID Readings or Laboratory Notes		
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER					
-11	MW-305D-0912	9/26/12	1115	H2O	X						6	X	X	BTEX NWTPH-EX
-12	MW-306-0912	"	1135	"	X						6	X	X	
-13	MW-104-0912	"	1225	"	X						6	X	X	

Requested by (Signature): <u>Dave Lewis</u>	Received by (Signature): _____	Date: <u>9/26/12</u>	Time: <u>1430</u>
Requested by (Signature): <u>F2003</u>	Received by (Signature): <u>[Signature]</u>	Date: <u>9/27/12</u>	Time: <u>0545</u>

ES-200 Revision

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C23895 **Client:** SHELL OIL **Project:** 2555 13TH AVE SW
Date / Time Received: 9/27/2012 **Delivery Method:** FedEx **Airbill #s:**

Cooler Temps (Initial/Adjusted): #1: (3.5/3.6): 0

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input type="checkbox"/>	<input type="checkbox"/>	4. SmpI Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y or N</u>	
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y or N</u>	
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	Intact	

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV372-MB1	V08488.D	1	10/05/12	TF	n/a	n/a	VV372

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	85%	60-130%
2037-26-5	Toluene-D8	94%	60-130%
460-00-4	4-Bromofluorobenzene	92%	60-130%

Method Blank Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW1188-MB	W34171.D	1	10/06/12	KN	n/a	n/a	VW1188

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	90%	60-130%
2037-26-5	Toluene-D8	97%	60-130%
460-00-4	4-Bromofluorobenzene	92%	60-130%

Method Blank Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV373-MB	V08531.D	1	10/08/12	TF	n/a	n/a	VV373

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-8

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	85%	60-130%
2037-26-5	Toluene-D8	95%	60-130%
460-00-4	4-Bromofluorobenzene	93%	60-130%

Method Blank Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV374-MB	V08575.D	1	10/09/12	TF	n/a	n/a	VV374

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-7

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	85%	60-130%
2037-26-5	Toluene-D8	94%	60-130%
460-00-4	4-Bromofluorobenzene	92%	60-130%

Method Blank Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV372-MB	V08481.D	1	10/05/12	TF	n/a	n/a	VV372

The QC reported here applies to the following samples:

Method: SW846 8260B

VV372-BSD, VV372-BS, VV372-LCS

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	87%	60-130%
2037-26-5	Toluene-D8	93%	60-130%
460-00-4	4-Bromofluorobenzene	91%	60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV372-BS	V08482.D	1	10/05/12	TF	n/a	n/a	VV372
VV372-BSD	V08483.D	1	10/05/12	TF	n/a	n/a	VV372

The QC reported here applies to the following samples: **Method:** SW846 8260B

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	20.9	105	20.3	102	3	60-130/30
100-41-4	Ethylbenzene	20	22.0	110	21.5	108	2	60-130/30
108-88-3	Toluene	20	21.8	109	21.4	107	2	60-130/30
1330-20-7	Xylene (total)	60	66.7	111	65.3	109	2	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	86%	84%	60-130%
2037-26-5	Toluene-D8	91%	93%	60-130%
460-00-4	4-Bromofluorobenzene	94%	94%	60-130%

* = Outside of Control Limits.

5.2.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW1188-BS	W34168.D	1	10/06/12	KN	n/a	n/a	VW1188
VW1188-BSD	W34169.D	1	10/06/12	KN	n/a	n/a	VW1188

The QC reported here applies to the following samples: **Method:** SW846 8260B

C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.2	96	19.0	95	1	60-130/30
100-41-4	Ethylbenzene	20	19.4	97	18.4	92	5	60-130/30
108-88-3	Toluene	20	20.1	101	19.5	98	3	60-130/30
1330-20-7	Xylene (total)	60	60.4	101	58.8	98	3	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	90%	91%	60-130%
2037-26-5	Toluene-D8	96%	96%	60-130%
460-00-4	4-Bromofluorobenzene	96%	94%	60-130%

* = Outside of Control Limits.

5.2.2
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV373-BS	V08532.D	1	10/08/12	TF	n/a	n/a	VV373
VV373-BSD	V08533.D	1	10/08/12	TF	n/a	n/a	VV373

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	20.6	103	19.7	99	4	60-130/30
100-41-4	Ethylbenzene	20	21.3	107	20.3	102	5	60-130/30
108-88-3	Toluene	20	21.2	106	20.2	101	5	60-130/30
1330-20-7	Xylene (total)	60	64.6	108	62.2	104	4	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	88%	88%	60-130%
2037-26-5	Toluene-D8	92%	90%	60-130%
460-00-4	4-Bromofluorobenzene	95%	95%	60-130%

* = Outside of Control Limits.

5.2.3
 5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV374-BS	V08576.D	1	10/09/12	TF	n/a	n/a	VV374
VV374-BSD	V08577.D	1	10/09/12	TF	n/a	n/a	VV374

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.8	99	19.9	100	1	60-130/30
100-41-4	Ethylbenzene	20	20.1	101	21.3	107	6	60-130/30
108-88-3	Toluene	20	20.3	102	20.8	104	2	60-130/30
1330-20-7	Xylene (total)	60	61.5	103	63.6	106	3	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	91%	84%	60-130%
2037-26-5	Toluene-D8	92%	92%	60-130%
460-00-4	4-Bromofluorobenzene	97%	94%	60-130%

* = Outside of Control Limits.

5.2.4
5

Laboratory Control Sample Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV372-LCS	V08484.D	1	10/05/12	TF	n/a	n/a	VV372

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	87%	60-130%
2037-26-5	Toluene-D8	93%	60-130%
460-00-4	4-Bromofluorobenzene	93%	60-130%

* = Outside of Control Limits.

5.3.1
5

Laboratory Control Sample Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VW1188-LCS	W34170.D	1	10/06/12	KN	n/a	n/a	VW1188

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
---------	----------	---------------	-------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	90%	60-130%
2037-26-5	Toluene-D8	97%	60-130%
460-00-4	4-Bromofluorobenzene	93%	60-130%

* = Outside of Control Limits.

5.3.2
 5

Laboratory Control Sample Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VV373-LCS	V08534.D	1	10/08/12	TF	n/a	n/a	VV373

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-8

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	81%	60-130%
2037-26-5	Toluene-D8	94%	60-130%
460-00-4	4-Bromofluorobenzene	91%	60-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C23879-1MS	V08505.D	1	10/06/12	TF	n/a	n/a	VV372
C23879-1MSD	V08506.D	1	10/06/12	TF	n/a	n/a	VV372
C23879-1	V08489.D	1	10/05/12	TF	n/a	n/a	VV372

The QC reported here applies to the following samples: **Method:** SW846 8260B

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6

CAS No.	Compound	C23879-1 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	19.9	100	19.0	95	5	60-130/25
100-41-4	Ethylbenzene	ND	20	20.6	103	19.2	96	7	60-130/25
108-88-3	Toluene	ND	20	20.8	104	19.5	98	6	60-130/25
1330-20-7	Xylene (total)	ND	60	63.1	105	58.9	98	7	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C23879-1	Limits
1868-53-7	Dibromofluoromethane	83%	80%	88%	60-130%
2037-26-5	Toluene-D8	91%	91%	93%	60-130%
460-00-4	4-Bromofluorobenzene	92%	92%	94%	60-130%

* = Outside of Control Limits.

5.4.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C23920-8MS	W34189.D	1	10/06/12	KN	n/a	n/a	VW1188
C23920-8MSD	W34190.D	1	10/06/12	KN	n/a	n/a	VW1188
C23920-8	W34179.D	1	10/06/12	KN	n/a	n/a	VW1188

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	C23920-8 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	18.4	92	18.2	91	1	60-130/25
100-41-4	Ethylbenzene	ND	20	17.4	87	17.0	85	2	60-130/25
108-88-3	Toluene	ND	20	18.8	94	18.8	94	0	60-130/25
1330-20-7	Xylene (total)	ND	60	57.3	96	55.7	93	3	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C23920-8	Limits
1868-53-7	Dibromofluoromethane	88%	88%	96%	60-130%
2037-26-5	Toluene-D8	96%	96%	98%	60-130%
460-00-4	4-Bromofluorobenzene	93%	92%	99%	60-130%

* = Outside of Control Limits.

5.4.2
 5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C23994-1MS	V08551.D	1	10/08/12	TF	n/a	n/a	VV373
C23994-1MSD	V08552.D	1	10/08/12	TF	n/a	n/a	VV373
C23994-1	V08541.D	1	10/08/12	TF	n/a	n/a	VV373

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-8

CAS No.	Compound	C23994-1 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	21.5	108	20.3	102	6	60-130/25
100-41-4	Ethylbenzene	ND	20	21.9	110	20.6	103	6	60-130/25
108-88-3	Toluene	ND	20	21.6	108	20.5	103	5	60-130/25
1330-20-7	Xylene (total)	ND	60	66.2	110	61.8	103	7	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C23994-1	Limits
1868-53-7	Dibromofluoromethane	86%	89%	88%	60-130%
2037-26-5	Toluene-D8	91%	91%	93%	60-130%
460-00-4	4-Bromofluorobenzene	93%	96%	94%	60-130%

* = Outside of Control Limits.

5.4.3
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24017-4MS	V08595.D	1	10/09/12	TF	n/a	n/a	VV374
C24017-4MSD	V08596.D	1	10/09/12	TF	n/a	n/a	VV374
C24017-4	V08585.D	1	10/09/12	TF	n/a	n/a	VV374

The QC reported here applies to the following samples:

Method: SW846 8260B

C23895-7

CAS No.	Compound	C24017-4 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	19.8	99	20.4	102	3	60-130/25
100-41-4	Ethylbenzene	ND	20	19.6	98	20.8	104	6	60-130/25
108-88-3	Toluene	ND	20	19.5	98	20.7	104	6	60-130/25
1330-20-7	Xylene (total)	ND	60	58.2	97	61.5	103	6	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C24017-4	Limits
1868-53-7	Dibromofluoromethane	92%	87%	94%	60-130%
2037-26-5	Toluene-D8	91%	90%	93%	60-130%
460-00-4	4-Bromofluorobenzene	98%	94%	93%	60-130%

* = Outside of Control Limits.

5.4.4
 5

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1231-MB	JK30572.D	1	10/02/12	TT	n/a	n/a	GJK1231

The QC reported here applies to the following samples:

Method: NWTPH-GX

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6, C23895-7

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	95%	50-150%
460-00-4	4-Bromofluorobenzene	103%	50-150%

Method Blank Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1233-MB	JK30638.D	1	10/04/12	TT	n/a	n/a	GJK1233

The QC reported here applies to the following samples:

Method: NWTPH-GX

C23895-8, C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	109% 50-150%
460-00-4	4-Bromofluorobenzene	120% 50-150%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1231-BS	JK30573.D	1	10/02/12	TT	n/a	n/a	GJK1231
GJK1231-BSD	JK30574.D	1	10/02/12	TT	n/a	n/a	GJK1231

The QC reported here applies to the following samples: Method: NWTPH-GX

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6, C23895-7

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.365	91	0.379	95	4	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	102%	99%	50-150%
460-00-4	4-Bromofluorobenzene	112%	109%	50-150%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1233-BS	JK30616.D	1	10/03/12	TT	n/a	n/a	GJK1233
GJK1233-BSD	JK30617.D	1	10/03/12	TT	n/a	n/a	GJK1233

The QC reported here applies to the following samples: Method: NWTPH-GX

C23895-8, C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.363	91	0.376	94	4	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	108%	88%	50-150%
460-00-4	4-Bromofluorobenzene	118%	95%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C23806-10MS	JK30599.D	1	10/03/12	TT	n/a	n/a	GJK1231
C23806-10MSD	JK30600.D	1	10/03/12	TT	n/a	n/a	GJK1231
C23806-10	JK30587.D	1	10/03/12	TT	n/a	n/a	GJK1231

The QC reported here applies to the following samples: Method: NWTPH-GX

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6, C23895-7

CAS No.	Compound	C23806-10 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	ND	0.4	0.351	88	0.351	88	0	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C23806-10	Limits
98-08-8	aaa-Trifluorotoluene	84%	74%	95%	50-150%
460-00-4	4-Bromofluorobenzene	92%	80%	107%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C23949-12MS	JK30642.D	1	10/04/12	TT	n/a	n/a	GJK1233
C23949-12MSD	JK30643.D	1	10/04/12	TT	n/a	n/a	GJK1233
C23949-12	JK30639.D	1	10/04/12	TT	n/a	n/a	GJK1233

The QC reported here applies to the following samples: Method: NWTPH-GX

C23895-8, C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	C23949-12 mg/l	Spike Q	mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.126	J	0.4	0.455	82	0.452	82	1	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C23949-12	Limits
98-08-8	aaa-Trifluorotoluene	98%	114%	101%	50-150%
460-00-4	4-Bromofluorobenzene	113%	126%	111%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C23806-11DUP	JK30589.D	1	10/03/12	TT	n/a	n/a	GJK1231
C23806-11	JK30588.D	1	10/03/12	TT	n/a	n/a	GJK1231

The QC reported here applies to the following samples: Method: NWTPH-GX

C23895-1, C23895-2, C23895-3, C23895-4, C23895-5, C23895-6, C23895-7

CAS No.	Compound	C23806-11 mg/l	DUP Q	C23806-11 mg/l	Q	RPD	Limits
	TPH (Gasoline)	ND		ND		nc	20

CAS No.	Surrogate Recoveries	DUP	C23806-11	Limits
98-08-8	aaa-Trifluorotoluene	98%	102%	50-150%
460-00-4	4-Bromofluorobenzene	106%	110%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C23895
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C23895-10DUP	JK30621.D	20	10/04/12	TT	n/a	n/a	GJK1233
C23895-10	JK30620.D	20	10/03/12	TT	n/a	n/a	GJK1233

The QC reported here applies to the following samples: Method: NWTPH-GX

C23895-8, C23895-9, C23895-10, C23895-11, C23895-12, C23895-13

CAS No.	Compound	C23895-10 mg/l	DUP Q mg/l	Q RPD	Limits
	TPH (Gasoline)	5.89	5.67	4	20

CAS No.	Surrogate Recoveries	DUP	C23895-10	Limits
98-08-8	aaa-Trifluorotoluene	104%	112%	50-150%
460-00-4	4-Bromofluorobenzene	119%	124%	50-150%

* = Outside of Control Limits.

Technical Report for

Shell Oil Company



URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194341.GW12U

Accutest Job Number: C24954

Sampling Dates: 11/25/12 - 11/26/12

Report to:

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian.pletcher@urs.com

ATTN: Brian Pletcher

Total number of pages in report: **80**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.



James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	6
3.1: C24954-1: TRIP BLANK	7
3.2: C24954-2: TX-06A-1112	9
3.3: C24954-3: SH-04-1112	12
3.4: C24954-4: MW-112A-1112	15
3.5: C24954-5: MW-302-1112	18
3.6: C24954-6: TX-04-1112	20
3.7: C24954-7: MW-101-1112	23
3.8: C24954-8: MW-307-1112	26
3.9: C24954-9: MW-308-1112	31
3.10: C24954-10: TES-MW-1-1112	36
3.11: C24954-11: MW-105-1112	39
Section 4: Misc. Forms	43
4.1: Chain of Custody	44
Section 5: GC/MS Volatiles - QC Data Summaries	47
5.1: Method Blank Summary	48
5.2: Blank Spike/Blank Spike Duplicate Summary	50
5.3: Laboratory Control Sample Summary	52
5.4: Matrix Spike/Matrix Spike Duplicate Summary	54
Section 6: GC Volatiles - QC Data Summaries	56
6.1: Method Blank Summary	57
6.2: Blank Spike Summary	60
6.3: Blank Spike/Blank Spike Duplicate Summary	61
6.4: Matrix Spike/Matrix Spike Duplicate Summary	62
6.5: Duplicate Summary	63
Section 7: GC Semi-volatiles - QC Data Summaries	65
7.1: Method Blank Summary	66
7.2: Blank Spike/Blank Spike Duplicate Summary	67
7.3: Duplicate Summary	68
Section 8: Metals Analysis - QC Data Summaries	69
8.1: Prep QC MP5572: Ca,Fe,Pb,Mg	70
Section 9: General Chemistry - QC Data Summaries	75
9.1: Method Blank and Spike Results Summary	76
9.2: Blank Spike Duplicate Results Summary	77
9.3: Duplicate Results Summary	78
9.4: Matrix Spike Results Summary	79
9.5: Matrix Spike Duplicate Results Summary	80



Sample Summary

Shell Oil Company

Job No: C24954

URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
 Project No: 46194341.GW12U

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C24954-1	11/25/12	00:00 DRL	11/27/12	AQ	Trip Blank Water	TRIP BLANK
C24954-2	11/25/12	09:30 DRL	11/27/12	AQ	Ground Water	TX-06A-1112
C24954-3	11/25/12	10:35 DRL	11/27/12	AQ	Ground Water	SH-04-1112
C24954-4	11/25/12	11:45 DRL	11/27/12	AQ	Ground Water	MW-112A-1112
C24954-5	11/25/12	12:35 DRL	11/27/12	AQ	Ground Water	MW-302-1112
C24954-6	11/26/12	08:30 DRL	11/27/12	AQ	Ground Water	TX-04-1112
C24954-7	11/26/12	10:50 DRL	11/27/12	AQ	Ground Water	MW-101-1112
C24954-8	11/26/12	12:50 DRL	11/27/12	AQ	Ground Water	MW-307-1112
C24954-9	11/26/12	13:25 DRL	11/27/12	AQ	Ground Water	MW-308-1112
C24954-10	11/26/12	14:15 DRL	11/27/12	AQ	Ground Water	TES-MW-1-1112
C24954-11	11/26/12	15:25 DRL	11/27/12	AQ	Ground Water	MW-105-1112

Summary of Hits

Job Number: C24954
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/25/12 thru 11/26/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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C24954-1 TRIP BLANK

No hits reported in this sample.

C24954-2 TX-06A-1112

TPH (Diesel)	0.716	0.098	0.049	mg/l	NWTPH-DX
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C24954-3 SH-04-1112

Benzene	73.0	10	2.0	ug/l	SW846 8260B
Toluene	7.9 J	10	2.0	ug/l	SW846 8260B
Ethylbenzene	609	10	2.0	ug/l	SW846 8260B
Xylene (total)	326	20	4.6	ug/l	SW846 8260B
TPH (Gasoline)	8.15	2.0	0.50	mg/l	NWTPH-GX
TPH (Diesel)	0.762	0.098	0.049	mg/l	NWTPH-DX

C24954-4 MW-112A-1112

Benzene	5.8	1.0	0.20	ug/l	SW846 8260B
Toluene	0.22 J	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene	0.37 J	1.0	0.20	ug/l	SW846 8260B
TPH (Gasoline)	0.197 J	0.20	0.050	mg/l	NWTPH-GX
TPH (Diesel)	0.282	0.10	0.050	mg/l	NWTPH-DX

C24954-5 MW-302-1112

Benzene	449	10	2.0	ug/l	SW846 8260B
Toluene	15.2	10	2.0	ug/l	SW846 8260B
Ethylbenzene	191	10	2.0	ug/l	SW846 8260B
Xylene (total)	177	20	4.6	ug/l	SW846 8260B
TPH (Gasoline)	4.58	2.0	0.50	mg/l	NWTPH-GX

C24954-6 TX-04-1112

Benzene	1.3	1.0	0.20	ug/l	SW846 8260B
Toluene	0.38 J	1.0	0.20	ug/l	SW846 8260B
Xylene (total)	0.52 J	2.0	0.46	ug/l	SW846 8260B
TPH (Gasoline)	0.0980 J	0.20	0.050	mg/l	NWTPH-GX
TPH (Diesel)	0.0807 J	0.10	0.050	mg/l	NWTPH-DX

C24954-7 MW-101-1112

TPH (Gasoline)	0.188 J	0.20	0.050	mg/l	NWTPH-GX
TPH (Diesel)	0.0937 J	0.10	0.050	mg/l	NWTPH-DX

Summary of Hits

Job Number: C24954
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/25/12 thru 11/26/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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C24954-8 MW-307-1112

Benzene	2150	25	5.0	ug/l	SW846 8260B
Toluene	85.8	25	5.0	ug/l	SW846 8260B
Ethylbenzene	833	25	5.0	ug/l	SW846 8260B
Xylene (total)	513	50	12	ug/l	SW846 8260B
TPH (Gasoline)	10.9	4.0	1.0	mg/l	NWTPH-GX
Methane	7920	25	13	ug/l	RSK-175
Carbon Dioxide	16000	5000	400	ug/l	RSK-175
Calcium	21800	5000		ug/l	SW846 6010B
Iron	33500	200		ug/l	SW846 6010B
Magnesium	7390	5000		ug/l	SW846 6010B
Alkalinity, Total as CaCO ₃	144	5.0		mg/l	SM18 2320B
Hardness, Total as CaCO ₃ ^a	84.9	33		mg/l	SW846 6010B/SM 2340B
Sulfate	1.5	0.50		mg/l	EPA 300/SW846 9056A

C24954-9 MW-308-1112

Benzene	144	2.0	0.40	ug/l	SW846 8260B
Toluene	1.0 J	2.0	0.40	ug/l	SW846 8260B
Ethylbenzene	7.2	2.0	0.40	ug/l	SW846 8260B
Xylene (total)	1.3 J	4.0	0.92	ug/l	SW846 8260B
TPH (Gasoline)	0.778	0.40	0.10	mg/l	NWTPH-GX
Methane	2490	25	13	ug/l	RSK-175
Carbon Dioxide	6170	5000	400	ug/l	RSK-175
Calcium	135000	5000		ug/l	SW846 6010B
Iron	542	200		ug/l	SW846 6010B
Magnesium	11400	5000		ug/l	SW846 6010B
Alkalinity, Total as CaCO ₃	298	5.0		mg/l	SM18 2320B
Hardness, Total as CaCO ₃ ^a	384	33		mg/l	SW846 6010B/SM 2340B
Sulfate	97.0	5.0		mg/l	EPA 300/SW846 9056A

C24954-10 TES-MW-1-1112

No hits reported in this sample.

C24954-11 MW-105-1112

TPH (Diesel)	0.291	0.098	0.049	mg/l	NWTPH-DX
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(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		
Lab Sample ID: C24954-1		Date Sampled: 11/25/12
Matrix: AQ - Trip Blank Water		Date Received: 11/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7772.D	1	11/28/12	YP	n/a	n/a	VU296
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	117%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	78%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK		
Lab Sample ID: C24954-1		Date Sampled: 11/25/12
Matrix: AQ - Trip Blank Water		Date Received: 11/27/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31904.D	1	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		50-150%
460-00-4	4-Bromofluorobenzene	101%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: TX-06A-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-2		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7773.D	1	11/28/12	YP	n/a	n/a	VU296
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	84%		60-130%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: TX-06A-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-2		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31905.D	1	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		50-150%
460-00-4	4-Bromofluorobenzene	103%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: TX-06A-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-2		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028581.D	1	11/29/12	JH	11/27/12	OP7112	GHH867
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.716	0.098	0.049	mg/l	
	TPH (Motor Oil)	ND	0.20	0.098	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	81%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-1112		
Lab Sample ID: C24954-3		Date Sampled: 11/25/12
Matrix: AQ - Ground Water		Date Received: 11/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7783.D	10	11/28/12	YP	n/a	n/a	VU296
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	73.0	10	2.0	ug/l	
108-88-3	Toluene	7.9	10	2.0	ug/l	J
100-41-4	Ethylbenzene	609	10	2.0	ug/l	
1330-20-7	Xylene (total)	326	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		60-130%
2037-26-5	Toluene-D8	112%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-3		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31906.D	10	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	8.15	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	108%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: SH-04-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-3		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028582.D	1	11/29/12	JH	11/27/12	OP7112	GHH867
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.762	0.098	0.049	mg/l	
	TPH (Motor Oil)	ND	0.20	0.098	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	70%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-112A-1112		
Lab Sample ID: C24954-4		Date Sampled: 11/25/12
Matrix: AQ - Ground Water		Date Received: 11/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7774.D	1	11/28/12	YP	n/a	n/a	VU296
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	5.8	1.0	0.20	ug/l	
108-88-3	Toluene	0.22	1.0	0.20	ug/l	J
100-41-4	Ethylbenzene	0.37	1.0	0.20	ug/l	J
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		60-130%
2037-26-5	Toluene-D8	91%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: MW-112A-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-4		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31907.D	1	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	0.197	0.20	0.050	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		50-150%
460-00-4	4-Bromofluorobenzene	106%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: MW-112A-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-4		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028583.D	1	11/29/12	JH	11/27/12	OP7112	GHH867
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.282	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	82%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-302-1112		
Lab Sample ID: C24954-5		Date Sampled: 11/25/12
Matrix: AQ - Ground Water		Date Received: 11/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7784.D	10	11/28/12	YP	n/a	n/a	VU296
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	449	10	2.0	ug/l	
108-88-3	Toluene	15.2	10	2.0	ug/l	
100-41-4	Ethylbenzene	191	10	2.0	ug/l	
1330-20-7	Xylene (total)	177	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		60-130%
2037-26-5	Toluene-D8	106%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: MW-302-1112		Date Sampled: 11/25/12
Lab Sample ID: C24954-5		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31908.D	10	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.58	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	110%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-04-1112		
Lab Sample ID: C24954-6		Date Sampled: 11/26/12
Matrix: AQ - Ground Water		Date Received: 11/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7775.D	1	11/28/12	YP	n/a	n/a	VU296
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.3	1.0	0.20	ug/l	
108-88-3	Toluene	0.38	1.0	0.20	ug/l	J
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	0.52	2.0	0.46	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-04-1112	Date Sampled: 11/26/12
Lab Sample ID: C24954-6	Date Received: 11/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: NWTPH-GX	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31909.D	1	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	0.0980	0.20	0.050	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	98%		50-150%
460-00-4	4-Bromofluorobenzene	105%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.6
3

Client Sample ID: TX-04-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-6		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028584.D	1	11/29/12	JH	11/27/12	OP7112	GHH867
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.0807	0.10	0.050	mg/l	J
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	83%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-101-1112		
Lab Sample ID: C24954-7		Date Sampled: 11/26/12
Matrix: AQ - Ground Water		Date Received: 11/27/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7776.D	1	11/28/12	YP	n/a	n/a	VU296
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		60-130%
2037-26-5	Toluene-D8	99%		60-130%
460-00-4	4-Bromofluorobenzene	98%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-101-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-7		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31910.D	1	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	0.188	0.20	0.050	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	85%		50-150%
460-00-4	4-Bromofluorobenzene	93%		50-150%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-101-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-7		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028585.D	1	11/29/12	JH	11/27/12	OP7112	GHH867
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.0937	0.10	0.050	mg/l	J
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	84%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-307-1112	Date Sampled: 11/26/12
Lab Sample ID: C24954-8	Date Received: 11/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R12997.D	25	11/28/12	YP	n/a	n/a	VR463
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2150	25	5.0	ug/l	
108-88-3	Toluene	85.8	25	5.0	ug/l	
100-41-4	Ethylbenzene	833	25	5.0	ug/l	
1330-20-7	Xylene (total)	513	50	12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	107%		60-130%
460-00-4	4-Bromofluorobenzene	104%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis



Client Sample ID: MW-307-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-8		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSK-175		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA001682.D	50	11/28/12	PH	n/a	n/a	GAA71
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	7920	25	13	ug/l	
124-38-9	Carbon Dioxide	16000	5000	400	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-307-1112		
Lab Sample ID: C24954-8		Date Sampled: 11/26/12
Matrix: AQ - Ground Water		Date Received: 11/27/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31913.D	20	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	10.9	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		50-150%
460-00-4	4-Bromofluorobenzene	105%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-307-1112	Date Sampled: 11/26/12
Lab Sample ID: C24954-8	Date Received: 11/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	21800	5000	ug/l	1	11/28/12	11/28/12 RS	SW846 6010B ¹	SW3010A ²
Iron	33500	200	ug/l	1	11/28/12	11/28/12 RS	SW846 6010B ¹	SW3010A ²
Magnesium	7390	5000	ug/l	1	11/28/12	11/28/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2855

(2) Prep QC Batch: MP5572

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-307-1112	Date Sampled: 11/26/12
Lab Sample ID: C24954-8	Date Received: 11/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	144	5.0	mg/l	1	11/28/12	AC	SM18 2320B
Hardness, Total as CaCO ₃ ^a	84.9	33	mg/l	1	11/28/12 22:01	RS	SW846 6010B/SM 2340B
Sulfate	1.5	0.50	mg/l	1	11/29/12 14:34	RL	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

3.9
3

Client Sample ID: MW-308-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-9		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R12998.D	2	11/28/12	YP	n/a	n/a	VR463
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	144	2.0	0.40	ug/l	
108-88-3	Toluene	1.0	2.0	0.40	ug/l	J
100-41-4	Ethylbenzene	7.2	2.0	0.40	ug/l	
1330-20-7	Xylene (total)	1.3	4.0	0.92	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		60-130%
2037-26-5	Toluene-D8	105%		60-130%
460-00-4	4-Bromofluorobenzene	104%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-308-1112	
Lab Sample ID: C24954-9	Date Sampled: 11/26/12
Matrix: AQ - Ground Water	Date Received: 11/27/12
Method: RSK-175	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA001685.D	50	11/28/12	PH	n/a	n/a	GAA71
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	2490	25	13	ug/l	
124-38-9	Carbon Dioxide	6170	5000	400	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-308-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-9		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31914.D	2	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	0.778	0.40	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		50-150%
460-00-4	4-Bromofluorobenzene	105%		50-150%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-308-1112	Date Sampled: 11/26/12
Lab Sample ID: C24954-9	Date Received: 11/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	135000	5000	ug/l	1	11/28/12	11/28/12 RS	SW846 6010B ¹	SW3010A ²
Iron	542	200	ug/l	1	11/28/12	11/28/12 RS	SW846 6010B ¹	SW3010A ²
Magnesium	11400	5000	ug/l	1	11/28/12	11/28/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2855

(2) Prep QC Batch: MP5572

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-308-1112	Date Sampled: 11/26/12
Lab Sample ID: C24954-9	Date Received: 11/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	298	5.0	mg/l	1	11/28/12	AC	SM18 2320B
Hardness, Total as CaCO ₃ ^a	384	33	mg/l	1	11/28/12 22:08	RS	SW846 6010B/SM 2340B
Sulfate	97.0	5.0	mg/l	10	11/29/12 14:51	RL	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

Client Sample ID: TES-MW-1-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-10		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7777.D	1	11/28/12	YP	n/a	n/a	VU296
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	113%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	86%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TES-MW-1-1112	
Lab Sample ID: C24954-10	Date Sampled: 11/26/12
Matrix: AQ - Ground Water	Date Received: 11/27/12
Method: NWTPH-GX	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31915.D	1	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	96%		50-150%
460-00-4	4-Bromofluorobenzene	100%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TES-MW-1-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-10		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028598.D	1	11/30/12	JH	11/27/12	OP7112	GHH867
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	81%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-105-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-11		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7778.D	1	11/28/12	YP	n/a	n/a	VU296
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	112%		60-130%
2037-26-5	Toluene-D8	89%		60-130%
460-00-4	4-Bromofluorobenzene	88%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-105-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-11		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31917.D	1	12/01/12	TT	n/a	n/a	GJK1277
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	75%		50-150%
460-00-4	4-Bromofluorobenzene	78%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-105-1112		Date Sampled: 11/26/12
Lab Sample ID: C24954-11		Date Received: 11/27/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028563.D	1	11/29/12	JH	11/27/12	OP7112	GHH867
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.291	0.098	0.049	mg/l	
	TPH (Motor Oil)	ND	0.20	0.098	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	81%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-105-1112	Date Sampled: 11/26/12
Lab Sample ID: C24954-11	Date Received: 11/27/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Lead	< 10	10	ug/l	1	11/28/12	11/28/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2855

(2) Prep QC Batch: MP5572

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

LAB (LOCATION)

- XENCO ()
- CALSIBURCE ()
- TEST AMERICA ()
- SPL ()
- OTHER (Accutest)



Shell Oil Products Chain Of Custody Record

SHELLWIC3660

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SOOCH	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> KUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____

INCIDENT # (ENV SERVICES) _____

PO # _____

SAP # _____

DATE: _____

PAGE: 1 of 2

CONSIGNEE COMPANY: URS

ADDRESS: 111 SW COLUMBIA

CITY: PORTLAND OR.

TELEPHONE: 503-222-7200 FAX: _____ E-MAIL: brian.pletcher@urs.com

TURNS AROUND TIME (CAL ENDORSE DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT °C: _____ Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SPECIAL INSTRUCTIONS OR NOTES: _____

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

PROVIDE LEAD DISK

SITE ADDRESS (Street, City and State): SHELL HARBOR ISLAND 2555 13th AVE SW SEATTLE, WA

CONSIGNEE CONTACT PERSON: BRIAN PLETCHER

CONSIGNEE PROJECT NO: 46194341, 6W12 U

LAB USE ONLY: DAVE LEWIS C24954

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	TIME	MATRIX	PRESERVATIVE	NO. OF CONT.	OTHER	ANALYSIS
-1	TRIP BLANK	11/21/12	-	H ₂ O		3	X	
-2	TX-06A-1112	11/21/12	0930	"	X	8	X	
-3	SH-04-1112	"	1035	"	X	8	X	
-4	MW-112A-1112	"	1145	"	X	8	X	
-5	MW-302-1112	"	1235	"	X	6	X	
-6	TX-04-1112	11/21/12	0830	"	X	8	X	
-7	MW-101-1112	"	1050	"	X	8	X	
-8	MW-307-1112	"	1250	"	X	12	X	X X X X X X X
-9	MW-308-1112	"	1325	"	X	12	X	X X X X X X X
-10	TES-MW-1-1112	"	1415	"	X	8	X	

ANALYSIS: TOTAL LEAD, HARDNESS, TOTAL IRON, ALKALINITY, SULFATE, CO₂, FERROUS IRON, METHANE

LAB USE ONLY: SILICA-GEL CLEAN-UP ON TPH-DX

24 hr hold on CO₂ Container PID Readings or Laboratory Notes

Released by (Signature): <u>Dave Lewis</u>	Received by (Signature): _____	Date: _____	Time: _____
Released by (Signature): <u>FEDEx</u>	Received by (Signature): <u>Lee Banta</u>	Date: <u>11/27/12</u>	Time: <u>0945</u>

* CUSTODY SEALS INTACT TEMP = 3.8°C / 5.1°C

LAB (LOCATION)

- XENCO ()
- CALSCEFC ()
- TEST AMERICA ()
- SPI ()
- OTHER ACCUTEST



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SOACH	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____ INCIDENT # (ENV SERVICES) _____

PO # _____ SAP # _____

DATE: _____

PAGE: 2 of 2

CONSULTANT COMPANY: URS

ADDRESS: 111 SW COLUMBIA

CITY: PORTLAND OR.

TELEPHONE: 503-222-7200 FAX: _____ E-MAIL: brian.pletcher@urs.com

TURNAROUND TIME (CAL FINDER DAYS):
 STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT °C: Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SPECIAL INSTRUCTIONS OR NOTES: _____
 SHELL CONTRACT RATE APPLIES
 STATE REIMBURSEMENT RATE APPLIES
 PROVIDE LEAD DISK

SITE ADDRESS (Street, City and State): SHELL HARBOR ISLAND 2555 13th AVE SW SEATTLE WA

CONSULTANT PROJECT CONTACT (Project): BRIAN PLETCHER CONSULTANT PROJECT ID: 46194341_6W12 U

SAMPLER NAME (If Any): DAVE LEWIS LAB USE ONLY: C24954

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE						NO. OF CONT.	NUTPH-GX	BTX	NUTPH-DX	PAH	TOTAL LEAD	HARDNESS	TOTAL IRON	ALKALINITY	SULFATE	CO2	FERROUS IRON	METHANE	Container PID Readings or Laboratory Notes		
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER																	
-11	MW-105-112	11/26/12	1525	H2O	X							9	X	X	X	X									SILICA-GEL CLEAN-UP ON TPH-DX 24hr. hold in CO2	

Requested by (Signature): <u>Dave Lewis</u> 11/26/12 1630	Received by (Signature): _____	Date:	Time:
Requested by (Signature): <u>FEDIX</u>	Received by (Signature): <u>Lee Bau</u>	Date:	Time:
Requested by (Signature): _____	Received by (Signature): _____	Date:	Time:
Requested by (Signature): _____	Received by (Signature): _____	Date:	Time:

CS/06/Revision

4.1
4



Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C24954 **Client:** SHELLWIC **Project:** HARBOR ISLAND
Date / Time Received: 11/27/2012 **Delivery Method:** FedEx **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.8/3.8); #2: (5.1/5.1); 0

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	2	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y or N</u>	
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y</u>	<u>or</u>	<u>N</u>
1. Sample recvd within HT:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>		<input type="checkbox"/>
3. Condition of sample:	Intact		

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR463-MB	R12990.D	1	11/28/12	YP	n/a	n/a	VR463

The QC reported here applies to the following samples:

Method: SW846 8260B

C24954-8, C24954-9

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits	
1868-53-7	Dibromofluoromethane	108%	60-130%
2037-26-5	Toluene-D8	108%	60-130%
460-00-4	4-Bromofluorobenzene	104%	60-130%

Method Blank Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU296-MB	U7771.D	1	11/28/12	YP	n/a	n/a	VU296

The QC reported here applies to the following samples:

Method: SW846 8260B

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-10, C24954-11

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	113% 60-130%
2037-26-5	Toluene-D8	89% 60-130%
460-00-4	4-Bromofluorobenzene	90% 60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU296-BS	U7768.D	1	11/28/12	YP	n/a	n/a	VU296
VU296-BSD	U7769.D	1	11/28/12	YP	n/a	n/a	VU296

The QC reported here applies to the following samples: **Method:** SW846 8260B

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-10, C24954-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	20.8	104	20.3	102	2	60-130/30
100-41-4	Ethylbenzene	20	23.1	116	23.0	115	0	60-130/30
108-88-3	Toluene	20	22.5	113	21.8	109	3	60-130/30
1330-20-7	Xylene (total)	60	67.3	112	66.9	112	1	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	108%	103%	60-130%
2037-26-5	Toluene-D8	104%	98%	60-130%
460-00-4	4-Bromofluorobenzene	103%	104%	60-130%

* = Outside of Control Limits.

5.2.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR463-BS	R12988.D	1	11/28/12	YP	n/a	n/a	VR463
VR463-BSD	R12991.D	1	11/28/12	YP	n/a	n/a	VR463

The QC reported here applies to the following samples:

Method: SW846 8260B

C24954-8, C24954-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	21.6	108	20.5	103	5	60-130/30
100-41-4	Ethylbenzene	20	23.4	117	21.9	110	7	60-130/30
108-88-3	Toluene	20	22.3	112	20.8	104	7	60-130/30
1330-20-7	Xylene (total)	60	71.6	119	66.6	111	7	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	110%	109%	60-130%
2037-26-5	Toluene-D8	107%	107%	60-130%
460-00-4	4-Bromofluorobenzene	106%	107%	60-130%

* = Outside of Control Limits.

5.2.2
 5

Laboratory Control Sample Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR463-LCS	R12989.D	1	11/28/12	YP	n/a	n/a	VR463

The QC reported here applies to the following samples:

Method: SW846 8260B

C24954-8, C24954-9

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	60-130%
2037-26-5	Toluene-D8	107%	60-130%
460-00-4	4-Bromofluorobenzene	105%	60-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU296-LCS	U7770.D	1	11/28/12	YP	n/a	n/a	VU296

The QC reported here applies to the following samples: Method: SW846 8260B

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-10, C24954-11

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	60-130%
2037-26-5	Toluene-D8	97%	60-130%
460-00-4	4-Bromofluorobenzene	93%	60-130%

* = Outside of Control Limits.

5.3.2
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24943-3MS	R13001.D	10	11/28/12	YP	n/a	n/a	VR463
C24943-3MSD	R13002.D	10	11/28/12	YP	n/a	n/a	VR463
C24943-3	R12993.D	10	11/28/12	YP	n/a	n/a	VR463

The QC reported here applies to the following samples:

Method: SW846 8260B

C24954-8, C24954-9

CAS No.	Compound	C24943-3 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	200	229	115	203	102	12	60-130/25
100-41-4	Ethylbenzene	ND	200	247	124	216	108	13	60-130/25
108-88-3	Toluene	ND	200	233	117	205	103	13	60-130/25
1330-20-7	Xylene (total)	ND	600	743	124	654	109	13	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C24943-3	Limits
1868-53-7	Dibromofluoromethane	108%	106%	109%	60-130%
2037-26-5	Toluene-D8	106%	106%	105%	60-130%
460-00-4	4-Bromofluorobenzene	104%	105%	102%	60-130%

* = Outside of Control Limits.

5.4.1
 5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24954-2MS	U7785.D	1	11/28/12	YP	n/a	n/a	VU296
C24954-2MSD	U7786.D	1	11/28/12	YP	n/a	n/a	VU296
C24954-2	U7773.D	1	11/28/12	YP	n/a	n/a	VU296

The QC reported here applies to the following samples: **Method:** SW846 8260B

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-10, C24954-11

CAS No.	Compound	C24954-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	21.0	105	21.3	107	1	60-130/25
100-41-4	Ethylbenzene	ND	20	21.4	107	20.9	105	2	60-130/25
108-88-3	Toluene	ND	20	20.9	105	20.6	103	1	60-130/25
1330-20-7	Xylene (total)	ND	60	53.8	90	51.4	86	5	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C24954-2	Limits
1868-53-7	Dibromofluoromethane	96%	97%	112%	60-130%
2037-26-5	Toluene-D8	100%	99%	96%	60-130%
460-00-4	4-Bromofluorobenzene	102%	101%	84%	60-130%

* = Outside of Control Limits.

5.4.2
5

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1277-MB	JK31888.D	1	11/30/12	TT	n/a	n/a	GJK1277

The QC reported here applies to the following samples:

Method: NWTPH-GX

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-8, C24954-9, C24954-10, C24954-11

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	99%	50-150%
460-00-4	4-Bromofluorobenzene	102%	50-150%

Method Blank Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA71-MB	AA001679.D 1		11/28/12	PH	n/a	n/a	GAA71

The QC reported here applies to the following samples:

Method: RSK-175

C24954-8, C24954-9

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.25	ug/l	
124-38-9	Carbon Dioxide	ND	100	7.9	ug/l	

6.1.2

6

Method Blank Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA71-MB1	AA001690.D 1		11/29/12	PH	n/a	n/a	GAA71

The QC reported here applies to the following samples:

Method: RSK-175

C24949-1DUP

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.25	ug/l	
124-38-9	Carbon Dioxide	29.0	100	7.9	ug/l	J



Blank Spike Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA71-BS	AA001680.D 1		11/28/12	PH	n/a	n/a	GAA71

The QC reported here applies to the following samples:

Method: RSK-175

C24954-8, C24954-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	19.9	93	70-130
124-38-9	Carbon Dioxide	77.1	76.7	99	70-130

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1277-BS	JK31889.D	1	11/30/12	TT	n/a	n/a	GJK1277
GJK1277-BSD	JK31890.D	1	11/30/12	TT	n/a	n/a	GJK1277

The QC reported here applies to the following samples: Method: NWTPH-GX

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-8, C24954-9, C24954-10, C24954-11

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.397	99	0.400	100	1	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	96%	98%	50-150%
460-00-4	4-Bromofluorobenzene	102%	103%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24916-3MS	JK31918.D	1	12/01/12	TT	n/a	n/a	GJK1277
C24916-3MSD	JK31919.D	1	12/01/12	TT	n/a	n/a	GJK1277
C24916-3	JK31896.D	1	11/30/12	TT	n/a	n/a	GJK1277

The QC reported here applies to the following samples:

Method: NWTPH-GX

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-8, C24954-9, C24954-10, C24954-11

CAS No.	Compound	C24916-3 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	ND	0.4	0.375	94	0.394	99	5	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C24916-3	Limits
98-08-8	aaa-Trifluorotoluene	80%	94%	98%	50-150%
460-00-4	4-Bromofluorobenzene	86%	101%	103%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24954-10DUP	JK31916.D	1	12/01/12	TT	n/a	n/a	GJK1277
C24954-10	JK31915.D	1	12/01/12	TT	n/a	n/a	GJK1277

The QC reported here applies to the following samples:

Method: NWTPH-GX

C24954-1, C24954-2, C24954-3, C24954-4, C24954-5, C24954-6, C24954-7, C24954-8, C24954-9, C24954-10, C24954-11

CAS No.	Compound	C24954-10 mg/l	DUP Q	DUP mg/l	Q	RPD	Limits
	TPH (Gasoline)	ND		ND		nc	20

CAS No.	Surrogate Recoveries	DUP	C24954-10	Limits
98-08-8	aaa-Trifluorotoluene	100%	96%	50-150%
460-00-4	4-Bromofluorobenzene	104%	100%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24949-1DUP	AA001698.D 1		11/29/12	PH	n/a	n/a	GAA71
C24949-1	AA001697.D 1		11/29/12	PH	n/a	n/a	GAA71

The QC reported here applies to the following samples:

Method: RSK-175

C24954-8, C24954-9

CAS No.	Compound	C24949-1		DUP		Q	RPD	Limits
		ug/l	Q	ug/l	Q			
74-82-8	Methane	79.5		75.2			6	30
124-38-9	Carbon Dioxide	134000	E	131000	E		3	30

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7112-MB	HH028555.D1		11/29/12	JH	11/27/12	OP7112	GHH867

The QC reported here applies to the following samples:

Method: NWTPH-DX

C24954-2, C24954-3, C24954-4, C24954-6, C24954-7, C24954-10, C24954-11

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	82% 50-150%

7.1.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7112-BS	HH028556.D1		11/29/12	JH	11/27/12	OP7112	GHH867
OP7112-BSD	HH028557.D1		11/29/12	JH	11/27/12	OP7112	GHH867

The QC reported here applies to the following samples: Method: NWTPH-DX

C24954-2, C24954-3, C24954-4, C24954-6, C24954-7, C24954-10, C24954-11

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	1	0.779	78	0.759	76	3	45-140/30
	TPH (Motor Oil)	1	0.920	92	0.887	89	4	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	84%	79%	50-150%

* = Outside of Control Limits.

7.2.1
7

Duplicate Summary

Job Number: C24954
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7112-DUP1	HH028574.D1		11/29/12	JH	11/27/12	OP7112	GHH867
C24954-11	HH028563.D1		11/29/12	JH	11/27/12	OP7112	GHH867

The QC reported here applies to the following samples: Method: NWTPH-DX

C24954-2, C24954-3, C24954-4, C24954-6, C24954-7, C24954-10, C24954-11

CAS No.	Compound	C24954-11		Q	RPD	Limits
		mg/l	DUP mg/l			
	TPH (Diesel)	0.291	0.287		1	25
	TPH (Motor Oil)	ND	ND		nc	25

CAS No.	Surrogate Recoveries	DUP	C24954-11	Limits
630-01-3	Hexacosane	81%	81%	50-150%

* = Outside of Control Limits.

7.3.1
7

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C24954
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5572
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 11/28/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	8.5		
Antimony	6.0	.7	.51		
Arsenic	10	.7	.65		
Barium	200	.4	.35		
Beryllium	5.0	.2	.4		
Bismuth	20		2.9		
Boron	100	.9	.64		
Cadmium	2.0	.2	.15		
Calcium	5000	7.1	12	81.5	<5000
Chromium	10	.3	.41		
Cobalt	5.0	.2	.3		
Copper	10	1.2	3		
Iron	200	6.4	12	1.9	<200
Lead	10	.7	.85	0.70	<10
Lithium	50		2		
Magnesium	5000	27	36	-9.9	<5000
Manganese	15	.1	1.3		
Molybdenum	20	.2	.22		
Nickel	5.0	.2	.12		
Potassium	10000	18	44		
Selenium	10	1.8	2.2		
Silicon	100	1.2	6.9		
Silver	5.0	.3	.47		
Sodium	10000	15	13		
Strontium	10	.2	.24		
Thallium	10	.5	.54		
Tin	50	.2	.7		
Titanium	10	.4	.34		
Vanadium	10	.3	.3		
Zinc	20	.3	4.2		

Associated samples MP5572: C24954-8, C24954-9, C24954-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.1.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C24954
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5572
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/28/12

Metal	C24899-17 Original MS	SpikeLot MPIR4	% Rec	QC Limits	
Aluminum	anr				
Antimony					
Arsenic	anr				
Barium					
Beryllium					
Bismuth					
Boron					
Cadmium	anr				
Calcium	49.9	5170	5000	102.4	75-125
Chromium	anr				
Cobalt					
Copper	anr				
Iron	0.0	522	500	104.4	75-125
Lead	0.0	482	500	96.4	75-125
Lithium					
Magnesium	0.0	5050	5000	101.0	75-125
Manganese					
Molybdenum					
Nickel	anr				
Potassium					
Selenium					
Silicon					
Silver	anr				
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc	anr				

Associated samples MP5572: C24954-8, C24954-9, C24954-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.1.2
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C24954
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5572
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/28/12

Metal	C24899-17 Original MSD	SpikeLot MPIR4	% Rec	MSD RPD	QC Limit	
Aluminum	anr					
Antimony						
Arsenic	anr					
Barium						
Beryllium						
Bismuth						
Boron						
Cadmium	anr					
Calcium	49.9	5140	5000	101.8	0.6	20
Chromium	anr					
Cobalt						
Copper	anr					
Iron	0.0	517	500	103.4	1.0	20
Lead	0.0	475	500	95.0	1.5	20
Lithium						
Magnesium	0.0	5080	5000	101.6	0.6	20
Manganese						
Molybdenum						
Nickel	anr					
Potassium						
Selenium						
Silicon						
Silver	anr					
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc	anr					

Associated samples MP5572: C24954-8, C24954-9, C24954-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.12
8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C24954
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5572
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/28/12

Metal	BSP Result	Spikelot MPIR4	% Rec	QC Limits
Aluminum	anr			
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Bismuth				
Boron				
Cadmium	anr			
Calcium	5200	5000	104.0	80-120
Chromium	anr			
Cobalt				
Copper	anr			
Iron	515	500	103.0	80-120
Lead	477	500	95.4	80-120
Lithium				
Magnesium	4980	5000	99.6	80-120
Manganese				
Molybdenum				
Nickel	anr			
Potassium				
Selenium				
Silicon				
Silver	anr			
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP5572: C24954-8, C24954-9, C24954-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.1.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: C24954
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5572
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/28/12

Metal	C24899-17 Original SDL 1:5	%DIF	QC Limits
Aluminum	anr		
Antimony			
Arsenic	anr		
Barium			
Beryllium			
Bismuth			
Boron			
Cadmium	anr		
Calcium	49.9	66.9	34.1 (a) 0-10
Chromium	anr		
Cobalt			
Copper	anr		
Iron	0.00	0.00	NC 0-10
Lead	0.00	0.00	NC 0-10
Lithium			
Magnesium	0.00	0.00	NC 0-10
Manganese			
Molybdenum			
Nickel	anr		
Potassium			
Selenium			
Silicon			
Silver	anr		
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc	anr		

Associated samples MP5572: C24954-8, C24954-9, C24954-11

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4
8

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24954
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN9559	5.0	0.0	mg/l	250	250	100.0	75-125%
Chloride	GP4380/GN9574	0.50	0.0	mg/l	5	4.83	96.6	90-110%
Fluoride	GP4380/GN9574	0.10	0.020	mg/l	5	4.71	94.2	90-110%
Nitrogen, Nitrate	GP4380/GN9574	0.10	0.0	mg/l	5	4.87	97.4	90-110%
Nitrogen, Nitrite	GP4380/GN9574	0.10	0.0	mg/l	5	4.84	96.8	90-110%
Sulfate	GP4380/GN9574	0.50	0.0	mg/l	5	4.92	98.4	90-110%

Associated Samples:

Batch GN9559: C24954-8, C24954-9

Batch GP4380: C24954-8, C24954-9

(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24954
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN9559	mg/l	250	252	0.8	
Chloride	GP4380/GN9574	mg/l	5	4.81	0.4	25%
Fluoride	GP4380/GN9574	mg/l	5	4.71	0.0	25%
Nitrogen, Nitrate	GP4380/GN9574	mg/l	5	4.88	0.2	25%
Nitrogen, Nitrite	GP4380/GN9574	mg/l	5	4.83	0.2	25%
Sulfate	GP4380/GN9574	mg/l	5	4.95	0.6	25%

Associated Samples:

Batch GN9559: C24954-8, C24954-9

Batch GP4380: C24954-8, C24954-9

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24954
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN9559	C24954-8	mg/l	144	144	0.0	0-25%

Associated Samples:

Batch GN9559: C24954-8, C24954-9

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24954
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP4380/GN9574	C24976-1	mg/l	2170	200	1990	113.0(a)	80-120%
Chloride	GP4380/GN9574	C24976-1	mg/l	1760	200	1990	113.0(a)	80-120%
Fluoride	GP4380/GN9574	C24976-1	mg/l	2.9	200	190	93.6	80-120%
Nitrogen, Nitrate	GP4380/GN9574	C24976-1	mg/l	9.5	200	198	94.3	80-120%
Nitrogen, Nitrite	GP4380/GN9574	C24976-1	mg/l	0.0	200	190	95.0	80-120%
Sulfate	GP4380/GN9574	C24976-1	mg/l	365	200	560	97.5	80-120%

Associated Samples:

Batch GP4380: C24954-8, C24954-9

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24954
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP4380/GN9574	C24976-1	mg/l	2170	200	1990	0.0(a)	
Chloride	GP4380/GN9574	C24976-1	mg/l	1760	200	1990	0.0(a)	
Fluoride	GP4380/GN9574	C24976-1	mg/l	2.9	200	192	1.0	
Nitrogen, Nitrate	GP4380/GN9574	C24976-1	mg/l	9.5	200	198	0.0	
Nitrogen, Nitrite	GP4380/GN9574	C24976-1	mg/l	0.0	200	190	0.0	
Sulfate	GP4380/GN9574	C24976-1	mg/l	365	200	559	0.2	

Associated Samples:

Batch GP4380: C24954-8, C24954-9

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

Technical Report for

Shell Oil Company

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194341.GW12U

Accutest Job Number: C24962

Sampling Date: 11/27/12

Report to:

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian.pletcher@urs.com

ATTN: Brian Pletcher

Total number of pages in report: **65**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	6
3.1: C24962-1: TRIP BLANK	7
3.2: C24962-2: MW-206A-1112	9
3.3: C24962-3: MW-204-1112	12
3.4: C24962-4: MW-201-1112	15
3.5: C24962-5: MW-202-1112	18
3.6: C24962-6: MW-203-1112	24
Section 4: Misc. Forms	29
4.1: Chain of Custody	30
Section 5: GC/MS Volatiles - QC Data Summaries	32
5.1: Method Blank Summary	33
5.2: Blank Spike/Blank Spike Duplicate Summary	35
5.3: Laboratory Control Sample Summary	37
5.4: Matrix Spike/Matrix Spike Duplicate Summary	39
Section 6: GC Volatiles - QC Data Summaries	41
6.1: Method Blank Summary	42
6.2: Blank Spike Summary	44
6.3: Blank Spike/Blank Spike Duplicate Summary	45
6.4: Matrix Spike/Matrix Spike Duplicate Summary	46
6.5: Duplicate Summary	47
Section 7: GC Semi-volatiles - QC Data Summaries	49
7.1: Method Blank Summary	50
7.2: Blank Spike/Blank Spike Duplicate Summary	51
7.3: Duplicate Summary	52
Section 8: Metals Analysis - QC Data Summaries	53
8.1: Prep QC MP5576: Ca,Fe,Mg	54
Section 9: General Chemistry - QC Data Summaries	60
9.1: Method Blank and Spike Results Summary	61
9.2: Blank Spike Duplicate Results Summary	62
9.3: Duplicate Results Summary	63
9.4: Matrix Spike Results Summary	64
9.5: Matrix Spike Duplicate Results Summary	65

1

2

3

4

5

6

7

8

9



Sample Summary

Shell Oil Company

Job No: C24962

URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
 Project No: 46194341.GW12U

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C24962-1	11/27/12	00:00 DL	11/28/12	AQ	Trip Blank Water	TRIP BLANK
C24962-2	11/27/12	08:55 DL	11/28/12	AQ	Ground Water	MW-206A-1112
C24962-3	11/27/12	10:15 DL	11/28/12	AQ	Ground Water	MW-204-1112
C24962-4	11/27/12	11:25 DL	11/28/12	AQ	Ground Water	MW-201-1112
C24962-5	11/27/12	13:30 DL	11/28/12	AQ	Ground Water	MW-202-1112
C24962-6	11/27/12	14:45 DL	11/28/12	AQ	Ground Water	MW-203-1112

Summary of Hits

Job Number: C24962
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/27/12

2

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

C24962-1 TRIP BLANK

No hits reported in this sample.

C24962-2 MW-206A-1112

TPH (Diesel)	0.116	0.10	0.050	mg/l	NWTPH-DX
TPH (Motor Oil)	0.111 J	0.20	0.10	mg/l	NWTPH-DX

C24962-3 MW-204-1112

TPH (Diesel)	0.975	0.10	0.050	mg/l	NWTPH-DX
--------------	-------	------	-------	------	----------

C24962-4 MW-201-1112

TPH (Diesel)	0.122	0.10	0.050	mg/l	NWTPH-DX
--------------	-------	------	-------	------	----------

C24962-5 MW-202-1112

Benzene	11.3	1.0	0.20	ug/l	SW846 8260B
Toluene	3.4	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene	27.4	1.0	0.20	ug/l	SW846 8260B
Xylene (total)	2.2	2.0	0.46	ug/l	SW846 8260B
TPH (Gasoline)	6.07	4.0	1.0	mg/l	NWTPH-GX
Methane	1070	10	5.0	ug/l	RSK-175
Carbon Dioxide	10600	2000	160	ug/l	RSK-175
TPH (Diesel)	2.67	0.30	0.15	mg/l	NWTPH-DX
Calcium	15700	5000		ug/l	SW846 6010B
Iron	35900	200		ug/l	SW846 6010B
Magnesium	15100	5000		ug/l	SW846 6010B
Alkalinity, Total as CaCO ₃	110	5.0		mg/l	SM18 2320B
Hardness, Total as CaCO ₃ ^a	101	33		mg/l	SW846 6010B/SM 2340B
Sulfate	15.0	1.3		mg/l	EPA 300/SW846 9056A

C24962-6 MW-203-1112

TPH (Gasoline)	1.05	0.40	0.10	mg/l	NWTPH-GX
Methane	582	25	13	ug/l	RSK-175
Carbon Dioxide	16700	5000	400	ug/l	RSK-175
TPH (Diesel)	0.0943 J	0.10	0.050	mg/l	NWTPH-DX
Calcium	45700	5000		ug/l	SW846 6010B
Iron	21200	200		ug/l	SW846 6010B
Magnesium	6390	5000		ug/l	SW846 6010B
Alkalinity, Total as CaCO ₃	170	5.0		mg/l	SM18 2320B
Hardness, Total as CaCO ₃ ^a	140	33		mg/l	SW846 6010B/SM 2340B

Summary of Hits

Job Number: C24962
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/27/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
		24.4	1.3		mg/l	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		
Lab Sample ID: C24962-1		Date Sampled: 11/27/12
Matrix: AQ - Trip Blank Water		Date Received: 11/28/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7796.D	1	11/29/12	YP	n/a	n/a	VU297
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		60-130%
2037-26-5	Toluene-D8	100%		60-130%
460-00-4	4-Bromofluorobenzene	85%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: TRIP BLANK		Date Sampled: 11/27/12
Lab Sample ID: C24962-1		Date Received: 11/28/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31929.D	1	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	98%		50-150%
460-00-4	4-Bromofluorobenzene	103%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-206A-1112		
Lab Sample ID: C24962-2		Date Sampled: 11/27/12
Matrix: AQ - Ground Water		Date Received: 11/28/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13045.D	1	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		60-130%
2037-26-5	Toluene-D8	104%		60-130%
460-00-4	4-Bromofluorobenzene	102%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-206A-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-2		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31930.D	1	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	94%		50-150%
460-00-4	4-Bromofluorobenzene	99%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-206A-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-2		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028672.D	1	12/03/12	JH	11/29/12	OP7127	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.116	0.10	0.050	mg/l	
	TPH (Motor Oil)	0.111	0.20	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	75%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-204-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-3		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13046.D	1	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		60-130%
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	107%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-204-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-3		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31932.D	1	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	81%		50-150%
460-00-4	4-Bromofluorobenzene	85%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-204-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-3		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028673.D	1	12/03/12	JH	11/29/12	OP7127	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.975	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	73%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-201-1112		
Lab Sample ID: C24962-4		Date Sampled: 11/27/12
Matrix: AQ - Ground Water		Date Received: 11/28/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13047.D	1	11/30/12	YP	n/a	n/a	VR465
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		60-130%
2037-26-5	Toluene-D8	104%		60-130%
460-00-4	4-Bromofluorobenzene	104%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: MW-201-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-4		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31933.D	1	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	94%		50-150%
460-00-4	4-Bromofluorobenzene	98%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: MW-201-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-4		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028674.D	1	12/03/12	JH	11/29/12	OP7127	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.122	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-1112		
Lab Sample ID: C24962-5		Date Sampled: 11/27/12
Matrix: AQ - Ground Water		Date Received: 11/28/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13048.D	1	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11.3	1.0	0.20	ug/l	
108-88-3	Toluene	3.4	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	27.4	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	2.2	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%
2037-26-5	Toluene-D8	107%		60-130%
460-00-4	4-Bromofluorobenzene	115%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-1112	
Lab Sample ID: C24962-5	Date Sampled: 11/27/12
Matrix: AQ - Ground Water	Date Received: 11/28/12
Method: RSK-175	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA001694.D	20	11/29/12	PH	n/a	n/a	GAA71
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	1070	10	5.0	ug/l	
124-38-9	Carbon Dioxide	10600	2000	160	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-5		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31927.D	20	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	6.07	4.0	1.0	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		50-150%
460-00-4	4-Bromofluorobenzene	102%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-5		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028680.D	3	12/03/12	JH	11/29/12	OP7127	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	2.67	0.30	0.15	mg/l	
	TPH (Motor Oil)	ND	0.60	0.30	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	63%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-202-1112	Date Sampled: 11/27/12
Lab Sample ID: C24962-5	Date Received: 11/28/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	15700	5000	ug/l	1	11/29/12	11/29/12 RS	SW846 6010B ¹	SW3010A ²
Iron	35900	200	ug/l	1	11/29/12	11/29/12 RS	SW846 6010B ¹	SW3010A ²
Magnesium	15100	5000	ug/l	1	11/29/12	11/29/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2858

(2) Prep QC Batch: MP5576

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-202-1112	Date Sampled: 11/27/12
Lab Sample ID: C24962-5	Date Received: 11/28/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	110	5.0	mg/l	1	11/28/12	AC	SM18 2320B
Hardness, Total as CaCO ₃ ^a	101	33	mg/l	1	11/29/12 20:48	RS	SW846 6010B/SM 2340B
Sulfate	15.0	1.3	mg/l	2.5	11/28/12 20:07	RL	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-203-1112		
Lab Sample ID: C24962-6		Date Sampled: 11/27/12
Matrix: AQ - Ground Water		Date Received: 11/28/12
Method: RSK-175		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA001696.D	50	11/29/12	PH	n/a	n/a	GAA71
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	582	25	13	ug/l	
124-38-9	Carbon Dioxide	16700	5000	400	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-203-1112		
Lab Sample ID: C24962-6		Date Sampled: 11/27/12
Matrix: AQ - Ground Water		Date Received: 11/28/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31934.D	2	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	1.05	0.40	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	96%		50-150%
460-00-4	4-Bromofluorobenzene	106%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-203-1112		Date Sampled: 11/27/12
Lab Sample ID: C24962-6		Date Received: 11/28/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028676.D	1	12/03/12	JH	11/29/12	OP7127	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.0943	0.10	0.050	mg/l	J
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	78%		50-150%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-203-1112	Date Sampled: 11/27/12
Lab Sample ID: C24962-6	Date Received: 11/28/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	45700	5000	ug/l	1	11/29/12	11/29/12 RS	SW846 6010B ¹	SW3010A ²
Iron	21200	200	ug/l	1	11/29/12	11/29/12 RS	SW846 6010B ¹	SW3010A ²
Magnesium	6390	5000	ug/l	1	11/29/12	11/29/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2858

(2) Prep QC Batch: MP5576

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-203-1112	Date Sampled: 11/27/12
Lab Sample ID: C24962-6	Date Received: 11/28/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	170	5.0	mg/l	1	11/28/12	AC	SM18 2320B
Hardness, Total as CaCO ₃ ^a	140	33	mg/l	1	11/29/12 20:56	RS	SW846 6010B/SM 2340B
Sulfate	24.4	1.3	mg/l	2.5	11/28/12 20:25	RL	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody



Shell Oil Products Chain Of Custody Record

SHELLWIC3660

- LAB (LOCATION)
- XERO ()
 - CALSCIENCE ()
 - TEST AMERICA ()
 - SPL ()
 - OTHER (ACCUTEST)

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTVA SDB/CM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____

INCIDENT # (ENV SERVICES) _____

PO # _____ SAP # _____

DATE: _____

PAGE: 1 of 1

CONSULTANT COMPANY: URS

ADDRESS: 111 SW COLUMBIA

CITY: PORTLAND OR.

TELEPHONE: 503-222-7208 FAX: _____

TURNAROUND TIME (CAL. FROM DATE):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT °C: _____ Cooler #1: _____ Cooler #2: _____ Cooler #3: _____

SPECIAL INSTRUCTIONS OR NOTES: _____

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

PROVIDE LEAD DISK

SITE ADDRESS (Street, City and State): SHELL/HARBOR ISLAND 2555 13th AVE. SW SEATTLE, WA

CONSULTANT PROJECT CONTACT (Project ID): BRIAN PLETCHER

CONSULTANT PROJECT NO: 46194341. EW12 U

SAMPLE NAME(S) (If Any): DAVE LEWIS

LAB USE ONLY: C24962

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING		MATRIX	PRESERVATIVE							NO. OF CONT.	TESTS	RESULTS
		DATE	TIME		HCL	HNO3	H2SO4	NONE	OTHER	TESTS	RESULTS			
-1	TRIP BLANK	11/11/12	11:40	H ₂ O								3	X X X	
-2	MW-206A-1112	11/21/12	0855	"	X							8	X X X	
-3	MW-204-1112	"	1015	"	X							8	X X X	
-4	MW-201-1112	"	1125	"	X							8	X X X	
-5	MW-202-1112	"	1330	"	X							14	X X X	X X X X X X X
-6	MW-203-1112	"	1445	"	X							11	X X X	X X X X X X X

SILICA-GEL CLEAN-UP ON TPH-DX

Container PID Readings or Laboratory Notes

Reinforced by: (Signature) <u>Dave Lewis</u> 11/27/12 1930	Received by: (Signature) _____	Date: _____	Time: _____
Reinforced by: (Signature) <u>Fed Ex</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>11/28/12</u>	Time: <u>9:10 AM</u>

* Custody seals intact

temp: 4.5 °C
2.7 °C

650206 Revision

4.1
4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C24962 **Client:** SHELL OIL **Project:** HARBOR ISLAND
Date / Time Received: 11/28/2012 **Delivery Method:** FedEx **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.7/2.7); #2: (4.5/4.5); 0

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. SmpI Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	2	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y or N</u>	
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y or N</u>	
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	Intact	

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments Ferrous Iron Samples - Subbed to McCampbell Analytical**

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU297-MB	U7795.D	1	11/29/12	YP	n/a	n/a	VU297

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	112% 60-130%
2037-26-5	Toluene-D8	99% 60-130%
460-00-4	4-Bromofluorobenzene	83% 60-130%

Method Blank Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR465-MB	R13038.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-2, C24962-3, C24962-4, C24962-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	107% 60-130%
2037-26-5	Toluene-D8	106% 60-130%
460-00-4	4-Bromofluorobenzene	104% 60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU297-BS	U7792.D	1	11/29/12	YP	n/a	n/a	VU297
VU297-BSD	U7793.D	1	11/29/12	YP	n/a	n/a	VU297

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	19.6	98	20.0	100	2	60-130/30
100-41-4	Ethylbenzene	20	22.3	112	22.8	114	2	60-130/30
108-88-3	Toluene	20	21.6	108	22.2	111	3	60-130/30
1330-20-7	Xylene (total)	60	63.7	106	65.7	110	3	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	93%	92%	60-130%
2037-26-5	Toluene-D8	102%	106%	60-130%
460-00-4	4-Bromofluorobenzene	101%	106%	60-130%

* = Outside of Control Limits.

5.2.1
 5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR465-BS	R13036.D	1	11/30/12	YP	n/a	n/a	VR465
VR465-BSD	R13039.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-2, C24962-3, C24962-4, C24962-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	17.7	89	16.5	83	7	60-130/30
100-41-4	Ethylbenzene	20	19.7	99	17.7	89	11	60-130/30
108-88-3	Toluene	20	18.3	92	16.7	84	9	60-130/30
1330-20-7	Xylene (total)	60	59.5	99	54.0	90	10	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	107%	105%	60-130%
2037-26-5	Toluene-D8	106%	106%	60-130%
460-00-4	4-Bromofluorobenzene	106%	107%	60-130%

* = Outside of Control Limits.

5.2.2
 5

Laboratory Control Sample Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU297-LCS	U7794.D	1	11/29/12	YP	n/a	n/a	VU297

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-1

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	105%	60-130%
2037-26-5	Toluene-D8	111%	60-130%
460-00-4	4-Bromofluorobenzene	93%	60-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR465-LCS	R13037.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-2, C24962-3, C24962-4, C24962-5

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	103%	60-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24965-6MS	U7812.D	1	11/29/12	YP	n/a	n/a	VU297
C24965-6MSD	U7813.D	1	11/29/12	YP	n/a	n/a	VU297
C24965-6	U7800.D	1	11/29/12	YP	n/a	n/a	VU297

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-1

CAS No.	Compound	C24965-6 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	21.7	109	20.1	101	8	60-130/25
100-41-4	Ethylbenzene	ND	20	22.4	112	21.8	109	3	60-130/25
108-88-3	Toluene	ND	20	21.6	108	20.8	104	4	60-130/25
1330-20-7	Xylene (total)	ND	60	63.3	106	61.7	103	3	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C24965-6	Limits
1868-53-7	Dibromofluoromethane	104%	107%	111%	60-130%
2037-26-5	Toluene-D8	95%	97%	99%	60-130%
460-00-4	4-Bromofluorobenzene	98%	100%	91%	60-130%

* = Outside of Control Limits.

5.4.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24962-2MS	R13055.D	1	11/30/12	YP	n/a	n/a	VR465
C24962-2MSD	R13056.D	1	11/30/12	YP	n/a	n/a	VR465
C24962-2	R13045.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples:

Method: SW846 8260B

C24962-2, C24962-3, C24962-4, C24962-5

CAS No.	Compound	C24962-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	17.4	87	16.9	85	3	60-130/25
100-41-4	Ethylbenzene	ND	20	18.8	94	18.0	90	4	60-130/25
108-88-3	Toluene	ND	20	17.7	89	16.9	85	5	60-130/25
1330-20-7	Xylene (total)	ND	60	56.0	93	53.4	89	5	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C24962-2	Limits
1868-53-7	Dibromofluoromethane	106%	108%	107%	60-130%
2037-26-5	Toluene-D8	106%	106%	104%	60-130%
460-00-4	4-Bromofluorobenzene	106%	107%	102%	60-130%

* = Outside of Control Limits.

5.4.2
 5

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1278-MB	JK31924.D	1	12/03/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples:

Method: NWTPH-GX

C24962-1, C24962-2, C24962-3, C24962-4, C24962-5, C24962-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	99%	50-150%
460-00-4	4-Bromofluorobenzene	103%	50-150%

Method Blank Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA71-MB1	AA001690.D	1	11/29/12	PH	n/a	n/a	GAA71

The QC reported here applies to the following samples:

Method: RSK-175

C24962-5, C24962-6

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.25	ug/l	
124-38-9	Carbon Dioxide	29.0	100	7.9	ug/l	J



Blank Spike Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA71-BS1	AA001691.D 1		11/29/12	PH	n/a	n/a	GAA71

The QC reported here applies to the following samples:

Method: RSK-175

C24962-5, C24962-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	20.6	96	70-130
124-38-9	Carbon Dioxide	77.1	79.7	103	70-130

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1278-BS	JK31925.D	1	12/03/12	TT	n/a	n/a	GJK1278
GJK1278-BSD	JK31926.D	1	12/03/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples: Method: NWTPH-GX

C24962-1, C24962-2, C24962-3, C24962-4, C24962-5, C24962-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.395	99	0.391	98	1	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	88%	92%	50-150%
460-00-4	4-Bromofluorobenzene	95%	100%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24962-3MS	JK31951.D	1	12/04/12	TT	n/a	n/a	GJK1278
C24962-3MSD	JK31952.D	1	12/04/12	TT	n/a	n/a	GJK1278
C24962-3	JK31932.D	1	12/03/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples: Method: NWTPH-GX

C24962-1, C24962-2, C24962-3, C24962-4, C24962-5, C24962-6

CAS No.	Compound	C24962-3 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	ND	0.4	0.363	91	0.401	100	10	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C24962-3	Limits
98-08-8	aaa-Trifluorotoluene	96%	99%	81%	50-150%
460-00-4	4-Bromofluorobenzene	102%	106%	85%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24962-2DUP	JK31931.D	1	12/03/12	TT	n/a	n/a	GJK1278
C24962-2	JK31930.D	1	12/03/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples: Method: NWTPH-GX

C24962-1, C24962-2, C24962-3, C24962-4, C24962-5, C24962-6

CAS No.	Compound	C24962-2 mg/l	DUP Q mg/l	Q RPD	Limits
	TPH (Gasoline)	ND	ND	nc	20

CAS No.	Surrogate Recoveries	DUP	C24962-2	Limits
98-08-8	aaa-Trifluorotoluene	97%	94%	50-150%
460-00-4	4-Bromofluorobenzene	101%	99%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24949-1DUP	AA001698.D 1		11/29/12	PH	n/a	n/a	GAA71
C24949-1	AA001697.D 1		11/29/12	PH	n/a	n/a	GAA71

The QC reported here applies to the following samples:

Method: RSK-175

C24962-5, C24962-6

CAS No.	Compound	C24949-1 ug/l	DUP Q	ug/l	Q	RPD	Limits
74-82-8	Methane	79.5		75.2		6	30
124-38-9	Carbon Dioxide	134000	E	131000	E	3	30

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7127-MB	HH028669.D1		12/03/12	JH	11/29/12	OP7127	GHH869

The QC reported here applies to the following samples:

Method: NWTPH-DX

C24962-2, C24962-3, C24962-4, C24962-5, C24962-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	71% 50-150%

7.1.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7127-BS	HH028670.D1		12/03/12	JH	11/29/12	OP7127	GHH869
OP7127-BSD	HH028671.D1		12/03/12	JH	11/29/12	OP7127	GHH869

The QC reported here applies to the following samples: Method: NWTPH-DX

C24962-2, C24962-3, C24962-4, C24962-5, C24962-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	1	0.658	66	0.768	77	15	45-140/30
	TPH (Motor Oil)	1	0.879	88	0.889	89	1	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	78%	79%	50-150%

* = Outside of Control Limits.

7.2.1
7

Duplicate Summary

Job Number: C24962
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7127-DUP1	HH028677.D1		12/03/12	JH	11/29/12	OP7127	GHH869
C24962-6	HH028676.D1		12/03/12	JH	11/29/12	OP7127	GHH869

The QC reported here applies to the following samples:

Method: NWTPH-DX

C24962-2, C24962-3, C24962-4, C24962-5, C24962-6

CAS No.	Compound	C24962-6 mg/l	DUP Q	DUP mg/l	Q	RPD	Limits
	TPH (Diesel)	0.0943	J	0.0935	J	1	25
	TPH (Motor Oil)	ND		ND		nc	25

CAS No.	Surrogate Recoveries	DUP	C24962-6	Limits
630-01-3	Hexacosane	74%	78%	50-150%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C24962
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5576
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 11/29/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	8.5		
Antimony	6.0	.7	.51		
Arsenic	10	.7	.65		
Barium	200	.4	.35		
Beryllium	5.0	.2	.4		
Bismuth	20		2.9		
Boron	100	.9	.64		
Cadmium	2.0	.2	.15		
Calcium	5000	7.1	12	-4.4	<5000
Chromium	10	.3	.41		
Cobalt	5.0	.2	.3		
Copper	10	1.2	3		
Iron	200	6.4	12	0.10	<200
Lead	10	.7	.85		
Lithium	50		2		
Magnesium	5000	27	36	10.6	<5000
Manganese	15	.1	1.3		
Molybdenum	20	.2	.22		
Nickel	5.0	.2	.12		
Potassium	10000	18	44		
Selenium	10	1.8	2.2		
Silicon	100	1.2	6.9		
Silver	5.0	.3	.47		
Sodium	10000	15	13		
Strontium	10	.2	.24		
Thallium	10	.5	.54		
Tin	50	.2	.7		
Titanium	10	.4	.34		
Vanadium	10	.3	.3		
Zinc	20	.3	4.2		

Associated samples MP5576: C24962-5, C24962-6

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C24962
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5576
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/29/12

Metal	C24967-1 Original MS		SpikeLot MPIR4	% Rec	QC Limits
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium	70300	74700	5000	88.0	75-125
Chromium	anr				
Cobalt					
Copper	anr				
Iron	16.5	526	500	101.9	75-125
Lead	anr				
Lithium					
Magnesium	27600	32200	5000	92.0	75-125
Manganese	anr				
Molybdenum					
Nickel	anr				
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Thallium	anr				
Tin					
Titanium					
Vanadium					
Zinc	anr				

Associated samples MP5576: C24962-5, C24962-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.12
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C24962
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5576
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/29/12

Metal	C24967-1 Original MSD		SpikeLot MPIR4	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	70300	73500	5000	64.0 (a)	1.6	20
Chromium	anr					
Cobalt						
Copper	anr					
Iron	16.5	526	500	101.9	0.0	20
Lead	anr					
Lithium						
Magnesium	27600	31600	5000	80.0	1.9	20
Manganese	anr					
Molybdenum						
Nickel	anr					
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium						
Zinc	anr					

Associated samples MP5576: C24962-5, C24962-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.12
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C24962
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5576
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

8.1.2

8

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C24962
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5576
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/29/12

Metal	BSP Result	Spikelot MPIR4	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	4900	5000	98.0	80-120
Chromium	anr			
Cobalt				
Copper	anr			
Iron	507	500	101.4	80-120
Lead	anr			
Lithium				
Magnesium	4880	5000	97.6	80-120
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP5576: C24962-5, C24962-6

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.1.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: C24962
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5576
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 11/29/12

Metal	C24967-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	70300	75500	7.3	0-10
Chromium	anr			
Cobalt				
Copper	anr			
Iron	16.5	0.00	100.0(a)	0-10
Lead	anr			
Lithium				
Magnesium	27600	29100	5.7	0-10
Manganese	anr			
Molybdenum				
Nickel	anr			
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium				
Zinc	anr			

Associated samples MP5576: C24962-5, C24962-6

Results < IDL are shown as zero for calculation purposes

(*) Outside of QC limits

(anr) Analyte not requested

(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4
8

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24962
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN9559	5.0	0.0	mg/l	250	250	100.0	75-125%
Chloride	GP4380/GN9574	0.50	0.0	mg/l	5	4.83	96.6	90-110%
Fluoride	GP4380/GN9574	0.10	0.020	mg/l	5	4.71	94.2	90-110%
Nitrogen, Nitrate	GP4380/GN9574	0.10	0.0	mg/l	5	4.87	97.4	90-110%
Nitrogen, Nitrite	GP4380/GN9574	0.10	0.0	mg/l	5	4.84	96.8	90-110%
Sulfate	GP4380/GN9574	0.50	0.0	mg/l	5	4.92	98.4	90-110%

Associated Samples:

Batch GN9559: C24962-5, C24962-6

Batch GP4380: C24962-5, C24962-6

(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24962
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN9559	mg/l	250	252	0.8	
Chloride	GP4380/GN9574	mg/l	5	4.81	0.4	25%
Fluoride	GP4380/GN9574	mg/l	5	4.71	0.0	25%
Nitrogen, Nitrate	GP4380/GN9574	mg/l	5	4.88	0.2	25%
Nitrogen, Nitrite	GP4380/GN9574	mg/l	5	4.83	0.2	25%
Sulfate	GP4380/GN9574	mg/l	5	4.95	0.6	25%

Associated Samples:

Batch GN9559: C24962-5, C24962-6

Batch GP4380: C24962-5, C24962-6

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24962
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN9559	C24954-8	mg/l	144	144	0.0	0-25%

Associated Samples:

Batch GN9559: C24962-5, C24962-6

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24962
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP4380/GN9574	C24976-1	mg/l	2170	200	1990	113.0	80-120%
Chloride	GP4380/GN9574	C24976-1	mg/l	1760	200	1990	113.0	80-120%
Fluoride	GP4380/GN9574	C24976-1	mg/l	2.9	200	190	93.6	80-120%
Nitrogen, Nitrate	GP4380/GN9574	C24976-1	mg/l	9.5	200	198	94.3	80-120%
Nitrogen, Nitrite	GP4380/GN9574	C24976-1	mg/l	0.0	200	190	95.0	80-120%
Sulfate	GP4380/GN9574	C24976-1	mg/l	365	200	560	97.5	80-120%

Associated Samples:

Batch GP4380: C24962-5, C24962-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C24962
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP4380/GN9574	C24976-1	mg/l	2170	200	1990	0.0	
Chloride	GP4380/GN9574	C24976-1	mg/l	1760	200	1990	0.0	
Fluoride	GP4380/GN9574	C24976-1	mg/l	2.9	200	192	1.0	
Nitrogen, Nitrate	GP4380/GN9574	C24976-1	mg/l	9.5	200	198	0.0	
Nitrogen, Nitrite	GP4380/GN9574	C24976-1	mg/l	0.0	200	190	0.0	
Sulfate	GP4380/GN9574	C24976-1	mg/l	365	200	559	0.2	

Associated Samples:

Batch GP4380: C24962-5, C24962-6

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Technical Report for

Shell Oil Company

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194341.GW12U

Accutest Job Number: C25004

Sampling Date: 11/28/12

Report to:

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian.pletcher@urs.com

ATTN: Brian Pletcher

Total number of pages in report: **87**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	7
3.1: C25004-1: TRIP BLANK	8
3.2: C25004-2: MW-304-1112	10
3.3: C25004-3: MW-301-1112	12
3.4: C25004-4: MW-301D-1112	14
3.5: C25004-5: MW-303-1112	16
3.6: C25004-6: MW-305-1112	18
3.7: C25004-7: MW-305D-1112	20
3.8: C25004-8: MW-306-1112	22
3.9: C25004-9: TX-03A-1112	24
3.10: C25004-10: MW-309-1112	29
3.11: C25004-11: MW-310-1112	34
3.12: C25004-12: MW-102-1112	39
Section 4: Misc. Forms	42
4.1: Chain of Custody	43
Section 5: GC/MS Volatiles - QC Data Summaries	46
5.1: Method Blank Summary	47
5.2: Blank Spike/Blank Spike Duplicate Summary	49
5.3: Laboratory Control Sample Summary	51
5.4: Matrix Spike/Matrix Spike Duplicate Summary	53
Section 6: GC Volatiles - QC Data Summaries	55
6.1: Method Blank Summary	56
6.2: Blank Spike Summary	60
6.3: Blank Spike/Blank Spike Duplicate Summary	62
6.4: Matrix Spike/Matrix Spike Duplicate Summary	64
6.5: Duplicate Summary	66
Section 7: GC Semi-volatiles - QC Data Summaries	70
7.1: Method Blank Summary	71
7.2: Blank Spike/Blank Spike Duplicate Summary	72
7.3: Duplicate Summary	73
Section 8: Metals Analysis - QC Data Summaries	74
8.1: Prep QC MP5591: Ca,Fe,Mg	75
Section 9: General Chemistry - QC Data Summaries	82
9.1: Method Blank and Spike Results Summary	83
9.2: Blank Spike Duplicate Results Summary	84
9.3: Duplicate Results Summary	85
9.4: Matrix Spike Results Summary	86
9.5: Matrix Spike Duplicate Results Summary	87



Sample Summary

Shell Oil Company

Job No: C25004

URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
 Project No: 46194341.GW12U

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C25004-1	11/28/12	00:00 DL	11/29/12	AQ	Trip Blank Water	TRIP BLANK
C25004-2	11/28/12	09:10 DL	11/29/12	AQ	Ground Water	MW-304-1112
C25004-3	11/28/12	08:58 DL	11/29/12	AQ	Ground Water	MW-301-1112
C25004-4	11/28/12	00:00 DL	11/29/12	AQ	Ground Water	MW-301D-1112
C25004-5	11/28/12	10:05 DL	11/29/12	AQ	Ground Water	MW-303-1112
C25004-6	11/28/12	11:05 DL	11/29/12	AQ	Ground Water	MW-305-1112
C25004-7	11/28/12	00:00 DL	11/29/12	AQ	Ground Water	MW-305D-1112
C25004-8	11/28/12	11:12 DL	11/29/12	AQ	Ground Water	MW-306-1112
C25004-9	11/28/12	13:10 DL	11/29/12	AQ	Ground Water	TX-03A-1112
C25004-10	11/28/12	13:25 DL	11/29/12	AQ	Ground Water	MW-309-1112
C25004-11	11/28/12	14:27 DL	11/29/12	AQ	Ground Water	MW-310-1112
C25004-12	11/28/12	14:45 DL	11/29/12	AQ	Ground Water	MW-102-1112

Summary of Hits

Job Number: C25004
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/28/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
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C25004-1 TRIP BLANK

No hits reported in this sample.

C25004-2 MW-304-1112

Benzene	411	10	2.0	ug/l	SW846 8260B
Toluene	24.4	10	2.0	ug/l	SW846 8260B
Ethylbenzene	306	10	2.0	ug/l	SW846 8260B
Xylene (total)	252	20	4.6	ug/l	SW846 8260B
TPH (Gasoline)	5.89	2.0	0.50	mg/l	NWTPH-GX

C25004-3 MW-301-1112

Benzene	241	5.0	1.0	ug/l	SW846 8260B
Toluene	9.9	5.0	1.0	ug/l	SW846 8260B
Ethylbenzene	12.5	5.0	1.0	ug/l	SW846 8260B
Xylene (total)	10.6	10	2.3	ug/l	SW846 8260B
TPH (Gasoline)	2.76	1.0	0.25	mg/l	NWTPH-GX

C25004-4 MW-301D-1112

Benzene	256	5.0	1.0	ug/l	SW846 8260B
Toluene	9.9	5.0	1.0	ug/l	SW846 8260B
Ethylbenzene	13.1	5.0	1.0	ug/l	SW846 8260B
Xylene (total)	10.5	10	2.3	ug/l	SW846 8260B
TPH (Gasoline)	3.01	1.0	0.25	mg/l	NWTPH-GX

C25004-5 MW-303-1112

Benzene	1940	50	10	ug/l	SW846 8260B
Toluene	87.3	50	10	ug/l	SW846 8260B
Ethylbenzene	1180	50	10	ug/l	SW846 8260B
Xylene (total)	319	100	23	ug/l	SW846 8260B
TPH (Gasoline)	12.6	10	2.5	mg/l	NWTPH-GX

C25004-6 MW-305-1112

Benzene	286	5.0	1.0	ug/l	SW846 8260B
Toluene	6.1	5.0	1.0	ug/l	SW846 8260B
Ethylbenzene	3.2 J	5.0	1.0	ug/l	SW846 8260B
Xylene (total)	14.0	10	2.3	ug/l	SW846 8260B
TPH (Gasoline)	1.53	0.80	0.20	mg/l	NWTPH-GX

Summary of Hits

Job Number: C25004
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/28/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
C25004-7	MW-305D-1112					
Benzene		303	5.0	1.0	ug/l	SW846 8260B
Toluene		6.3	5.0	1.0	ug/l	SW846 8260B
Ethylbenzene		2.8 J	5.0	1.0	ug/l	SW846 8260B
Xylene (total)		13.7	10	2.3	ug/l	SW846 8260B
TPH (Gasoline)		1.58	0.80	0.20	mg/l	NWTPH-GX
C25004-8	MW-306-1112					
Benzene		393	10	2.0	ug/l	SW846 8260B
Toluene		12.5	10	2.0	ug/l	SW846 8260B
Ethylbenzene		18.3	10	2.0	ug/l	SW846 8260B
Xylene (total)		89.5	20	4.6	ug/l	SW846 8260B
TPH (Gasoline)		3.06	0.80	0.20	mg/l	NWTPH-GX
C25004-9	TX-03A-1112					
Benzene		1180	20	4.0	ug/l	SW846 8260B
Toluene		18.8 J	20	4.0	ug/l	SW846 8260B
Ethylbenzene		23.2	20	4.0	ug/l	SW846 8260B
Xylene (total)		35.7 J	40	9.2	ug/l	SW846 8260B
TPH (Gasoline)		4.91	2.0	0.50	mg/l	NWTPH-GX
Methane		6080	20	10	ug/l	RSK-175
Carbon Dioxide		16400	4000	320	ug/l	RSK-175
Calcium		24700	5000		ug/l	SW846 6010B
Iron		33900	200		ug/l	SW846 6010B
Magnesium		15800	5000		ug/l	SW846 6010B
Alkalinity, Total as CaCO ₃		164	5.0		mg/l	SM18 2320B
Hardness, Total as CaCO ₃ ^a		127	33		mg/l	SW846 6010B/SM 2340B
C25004-10	MW-309-1112					
Methane		188	0.50	0.25	ug/l	RSK-175
Carbon Dioxide		7340	2000	160	ug/l	RSK-175
Calcium		28000	5000		ug/l	SW846 6010B
Iron		36600	200		ug/l	SW846 6010B
Magnesium		6010	5000		ug/l	SW846 6010B
Alkalinity, Total as CaCO ₃		84.0	5.0		mg/l	SM18 2320B
Hardness, Total as CaCO ₃ ^a		94.7	33		mg/l	SW846 6010B/SM 2340B
Sulfate		32.1	2.5		mg/l	EPA 300/SW846 9056A
C25004-11	MW-310-1112					
Benzene		860	20	4.0	ug/l	SW846 8260B

Summary of Hits

Job Number: C25004
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/28/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
		26.5	20	4.0	ug/l	SW846 8260B
		211	20	4.0	ug/l	SW846 8260B
		147	40	9.2	ug/l	SW846 8260B
		5.74	2.0	0.50	mg/l	NWTPH-GX
		6700	20	10	ug/l	RSK-175
		13300	4000	320	ug/l	RSK-175
		35100	5000		ug/l	SW846 6010B
		29300	200		ug/l	SW846 6010B
		10700	5000		ug/l	SW846 6010B
		158	5.0		mg/l	SM18 2320B
		132	33		mg/l	SW846 6010B/SM 2340B

C25004-12 **MW-102-1112**

No hits reported in this sample.

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

Sample Results

Report of Analysis

Report of Analysis

3.1
3

Client Sample ID: TRIP BLANK		Date Sampled: 11/28/12
Lab Sample ID: C25004-1		Date Received: 11/29/12
Matrix: AQ - Trip Blank Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13041.D	1	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	111%		60-130%
2037-26-5	Toluene-D8	105%		60-130%
460-00-4	4-Bromofluorobenzene	104%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: TRIP BLANK	Date Sampled: 11/28/12
Lab Sample ID: C25004-1	Date Received: 11/29/12
Matrix: AQ - Trip Blank Water	Percent Solids: n/a
Method: NWTPH-GX	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31937.D	1	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		50-150%
460-00-4	4-Bromofluorobenzene	102%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-304-1112		
Lab Sample ID: C25004-2		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7831.D	10	11/30/12	YP	n/a	n/a	VU298
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	411	10	2.0	ug/l	
108-88-3	Toluene	24.4	10	2.0	ug/l	
100-41-4	Ethylbenzene	306	10	2.0	ug/l	
1330-20-7	Xylene (total)	252	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	95%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-304-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-2	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: NWTPH-GX	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31938.D	10	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.89	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		50-150%
460-00-4	4-Bromofluorobenzene	106%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301-1112		
Lab Sample ID: C25004-3		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7832.D	5	11/30/12	YP	n/a	n/a	VU298
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	241	5.0	1.0	ug/l	
108-88-3	Toluene	9.9	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	12.5	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	10.6	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-3	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: NWTPH-GX	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31939.D	5	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	2.76	1.0	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	121%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301D-1112	
Lab Sample ID: C25004-4	Date Sampled: 11/28/12
Matrix: AQ - Ground Water	Date Received: 11/29/12
Method: SW846 8260B	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7833.D	5	11/30/12	YP	n/a	n/a	VU298
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	256	5.0	1.0	ug/l	
108-88-3	Toluene	9.9	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	13.1	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	10.5	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		60-130%
2037-26-5	Toluene-D8	92%		60-130%
460-00-4	4-Bromofluorobenzene	97%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-301D-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-4		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31940.D	5	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.01	1.0	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	125%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-1112		
Lab Sample ID: C25004-5		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7834.D	50	11/30/12	YP	n/a	n/a	VU298
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1940	50	10	ug/l	
108-88-3	Toluene	87.3	50	10	ug/l	
100-41-4	Ethylbenzene	1180	50	10	ug/l	
1330-20-7	Xylene (total)	319	100	23	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		60-130%
2037-26-5	Toluene-D8	105%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-303-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-5		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31941.D	50	12/03/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	12.6	10	2.5	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	108%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-1112		
Lab Sample ID: C25004-6		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13050.D	5	11/30/12	YP	n/a	n/a	VR465
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	286	5.0	1.0	ug/l	
108-88-3	Toluene	6.1	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	3.2	5.0	1.0	ug/l	J
1330-20-7	Xylene (total)	14.0	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	106%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-6		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31942.D	4	12/04/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	1.53	0.80	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		50-150%
460-00-4	4-Bromofluorobenzene	107%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-305D-1112		
Lab Sample ID: C25004-7		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13051.D	5	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	303	5.0	1.0	ug/l	
108-88-3	Toluene	6.3	5.0	1.0	ug/l	
100-41-4	Ethylbenzene	2.8	5.0	1.0	ug/l	J
1330-20-7	Xylene (total)	13.7	10	2.3	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%
2037-26-5	Toluene-D8	94%		60-130%
460-00-4	4-Bromofluorobenzene	105%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

37
3

Client Sample ID: MW-305D-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-7		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31943.D	4	12/04/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	1.58	0.80	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	56%		50-150%
460-00-4	4-Bromofluorobenzene	67%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

38
3

Client Sample ID: MW-306-1112	
Lab Sample ID: C25004-8	Date Sampled: 11/28/12
Matrix: AQ - Ground Water	Date Received: 11/29/12
Method: SW846 8260B	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13052.D	10	11/30/12	YP	n/a	n/a	VR465
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	393	10	2.0	ug/l	
108-88-3	Toluene	12.5	10	2.0	ug/l	
100-41-4	Ethylbenzene	18.3	10	2.0	ug/l	
1330-20-7	Xylene (total)	89.5	20	4.6	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		60-130%
2037-26-5	Toluene-D8	106%		60-130%
460-00-4	4-Bromofluorobenzene	105%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-306-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-8		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31944.D	4	12/04/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	3.06	0.80	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	103%		50-150%
460-00-4	4-Bromofluorobenzene	120%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-1112		
Lab Sample ID: C25004-9		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13053.D	20	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1180	20	4.0	ug/l	
108-88-3	Toluene	18.8	20	4.0	ug/l	J
100-41-4	Ethylbenzene	23.2	20	4.0	ug/l	
1330-20-7	Xylene (total)	35.7	40	9.2	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		60-130%
2037-26-5	Toluene-D8	108%		60-130%
460-00-4	4-Bromofluorobenzene	107%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.9
3

Client Sample ID: TX-03A-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-9		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSK-175		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA001711.D	40	12/03/12	PH	n/a	n/a	GAA72
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	6080	20	10	ug/l	
124-38-9	Carbon Dioxide	16400	4000	320	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-9		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31945.D	10	12/04/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	4.91	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	101%		50-150%
460-00-4	4-Bromofluorobenzene	112%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TX-03A-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-9	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	24700	5000	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²
Iron	33900	200	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²
Magnesium	15800	5000	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2864

(2) Prep QC Batch: MP5591

RL = Reporting Limit

Report of Analysis

Client Sample ID: TX-03A-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-9	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	164	5.0	mg/l	1	12/07/12	AC	SM18 2320B
Hardness, Total as CaCO ₃ ^a	127	33	mg/l	1	12/03/12 21:16	RS	SW846 6010B/SM 2340B
Sulfate	< 0.50	0.50	mg/l	1	12/14/12 17:38	PH	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-309-1112		
Lab Sample ID: C25004-10		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13043.D	1	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		60-130%
2037-26-5	Toluene-D8	101%		60-130%
460-00-4	4-Bromofluorobenzene	105%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-309-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-10		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSK-175		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA001712.D	1	12/03/12	PH	n/a	n/a	GAA72
Run #2	AA001721.D	20	12/04/12	PH	n/a	n/a	GAA73

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	188	0.50	0.25	ug/l	
124-38-9	Carbon Dioxide	7340 ^a	2000	160	ug/l	

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-309-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-10		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31948.D	1	12/04/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		50-150%
460-00-4	4-Bromofluorobenzene	99%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-309-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-10	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	28000	5000	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²
Iron	36600	200	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²
Magnesium	6010	5000	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2864

(2) Prep QC Batch: MP5591

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-309-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-10	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	84.0	5.0	mg/l	1	12/07/12	AC	SM18 2320B
Hardness, Total as CaCO ₃ ^a	94.7	33	mg/l	1	12/03/12 21:23	RS	SW846 6010B/SM 2340B
Sulfate	32.1	2.5	mg/l	5	12/17/12 16:15	RL	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-310-1112		
Lab Sample ID: C25004-11		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13054.D	20	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	860	20	4.0	ug/l	
108-88-3	Toluene	26.5	20	4.0	ug/l	
100-41-4	Ethylbenzene	211	20	4.0	ug/l	
1330-20-7	Xylene (total)	147	40	9.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		60-130%
2037-26-5	Toluene-D8	106%		60-130%
460-00-4	4-Bromofluorobenzene	105%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-310-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-11		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: RSK-175		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	AA001722.D	40	12/04/12	PH	n/a	n/a	GAA73
Run #2							

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	6700	20	10	ug/l	
124-38-9	Carbon Dioxide	13300	4000	320	ug/l	

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-310-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-11		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31950.D	10	12/04/12	TT	n/a	n/a	GJK1278
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	5.74	2.0	0.50	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	100%		50-150%
460-00-4	4-Bromofluorobenzene	110%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-310-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-11	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	35100	5000	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²
Iron	29300	200	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²
Magnesium	10700	5000	ug/l	1	12/03/12	12/03/12 RS	SW846 6010B ¹	SW3010A ²

(1) Instrument QC Batch: MA2864

(2) Prep QC Batch: MP5591

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-310-1112	Date Sampled: 11/28/12
Lab Sample ID: C25004-11	Date Received: 11/29/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO ₃	158	5.0	mg/l	1	12/07/12	AC	SM18 2320B
Hardness, Total as CaCO ₃ ^a	132	33	mg/l	1	12/03/12 21:30	RS	SW846 6010B/SM 2340B
Sulfate	< 0.50	0.50	mg/l	1	12/14/12 18:13	PH	EPA 300/SW846 9056A

(a) Calculated as: (Calcium * 2.497) + (Magnesium * 4.118)

RL = Reporting Limit

Report of Analysis

Client Sample ID: MW-102-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-12		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R13044.D	1	11/30/12	YP	n/a	n/a	VR465
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		60-130%
2037-26-5	Toluene-D8	103%		60-130%
460-00-4	4-Bromofluorobenzene	104%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-102-1112		
Lab Sample ID: C25004-12		Date Sampled: 11/28/12
Matrix: AQ - Ground Water		Date Received: 11/29/12
Method: NWTPH-GX		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	JK32233.D	1	12/14/12	TT	n/a	n/a	GJK1288
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	93%		50-150%
460-00-4	4-Bromofluorobenzene	102%		50-150%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-102-1112		Date Sampled: 11/28/12
Lab Sample ID: C25004-12		Date Received: 11/29/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028678.D	1	12/03/12	JH	11/29/12	OP7127	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

LAB (LOCATION)

- XERO ()
- CALSCEANCE ()
- TEST AMERICA ()
- SPL ()
- OTHER (Accutest)



Shell Oil Products Chain Of Custody Record

SHELLWIC3660

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SOBCH	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name:

INCIDENT # (ENV SERVICES)

CHECK IF NO INCIDENT # APPLIES

PO #

SAP #

DATE:

PAGE: 1 of 2

CONSULTANT COMPANY

URS

ADDRESS

111 SW COLUMBIA

CITY

PORTLAND OR.

TELEPHONE

503-222-7200

FAX

E-MAIL

brian.pletcher@ursem

SITE ADDRESS (Street, City and State)

SHELL/HARBOR ISLAND 2555 13th NE SW SEATTLE WA

CONSULTANT PROJECT CONTRACT # (PROJECT)

BRIAN PLETCHER

CONSULTANT PROJECT #

4614341, 6W12 U

SAMPLE NAME (OPTION)

DAVE LEWIS

LAB USE ONLY

C25004

TURNAROUND TIME (CAL FRIEDAY DAYS)

STANDARD (14 DAY)

5 DAYS

3 DAYS

2 DAYS

24 HOURS

RESULTS NEEDED ON WEEKEND

DELIVERABLES:

LEVEL 1

LEVEL 2

LEVEL 3

LEVEL 4

OTHER (SPECIFY)

TEMPERATURE ON RECEIPT °C

Cooler #1

Cooler #2

Cooler #3

SPECIAL INSTRUCTIONS OR NOTES:

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

PROVIDE LEAD DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	DATE	TIME	MATRIX	PRESERVATIVE	NO. OF CONT.	MPH-6X	BTEX R260	MPH-DX SILICA GEL CLEAN-UP	PAH	TOTAL LEAD	HARDNESS	TOTAL IRON	ALKALINITY	SULFATE	CO ₂	FERRIC IRON	METHANE
1	TRIP BLANK	11/13	-	H2O		3	X	X										
2	MW-304-1112	11/28	0910	H2O	X	6	X	X										
3	MW-301-1112	"	0836	H2O	X	6	X	X										
4	MW-301D-1112	"	"	"	X	6	X	X										
5	MW-303-1112	"	1005	"	X	6	X	X										
6	MW-305-1112	"	1105	"	X	6	X	X										
7	MW-305D-1112	"	"	"	X	6	X	X										
8	MW-306-1112	"	1112	"	X	6	X	X										
9	TX-03A-1112	"	1310	"	X	12	X	X			X	X	X	X	X	X	X	
10	MW-309-1112	"	1325	"	X	12	X	X			X	X	X	X	X	X	X	

SILICA-GEL CLEAN-UP ON TPH-DX

Container PID Readings or Laboratory Notes

Received by (Signature) Dave Lewis 11/28/12 1700

Received by (Signature)

Date

Time

Received by (Signature) PEDEX

Received by (Signature) Lee Bantz

Date

Time

11/29/12

0900

TEMP = 3.9 - 1.0 = 2.9 °C

C25004: Chain of Custody

Page 1 of 3

LAB (LOCATION)

- XENCO ()
- CALSCIENCE ()
- TEST AMERICA ()
- SPL ()
- OTHER (Accutest)



Shell Oil Products Chain Of Custody Record

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SDCOM	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____ INCIDENT # (ENV SERVICES) _____

PO # _____ SAP # _____

DATE: _____ PAGE: 2 of 2

CONTRACT NUMBER: _____

ADDRESS: URS

CITY: 111 SW COLUMBIA

STATE: PORTLAND OR

TELEPHONE: 503-222-7200 FAX: _____ E-MAIL: brian.pletcher@urscorp.com

THIRDPARTY TIME (CAL FRI-DAY) STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT: Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SITE ADDRESS (Street, City and State): SHELL/HARBOR ISLAND 2555 13th AVE SW SEATTLE, WA

CONSULTANT (FIRM) (SEE CONTACT INFORMATION): BRIAN PLETCHER CONSULTANT PHONE (734): 46194341, 6.W.I.Z.U

LAB USE ONLY: DAVE LEWIS LAB USE ONLY: C25004

SPECIAL INSTRUCTIONS OR NOTES: _____

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

PROVIDE LEDO DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	SAMPLING TIME	MATRIX	PRESERVATIVE	NO. OF CONT.	ASTM-EX	BITEX B260	ASTM-PA-DX CLEANUP	PAH	TOTAL LEAD	HARDNESS	TOTAL IRON	ALKALINITY	SULFATE	CO ₂	FERROUS IRON	METALLOID	Container PID Readings or Laboratory Notes
✓ 11	MW-310-1112	11/28/12	1427	1420	X	12	X	X			X	X	X	X	X	X	X		SILICA-GEL CLEAN-UP ON TPH-DX
✓ 12	MW-102-1112	"	1445	0	X	8	X	X											

Requested by (Signature): <u>Dave Lewis</u>	Received by (Signature): _____	Date: _____	Time: _____
Requested by (Signature): <u>PEDEX</u>	Received by (Signature): <u>Lee Bant...</u>	Date: <u>11/29/12</u>	Time: <u>0900</u>
Requested by (Signature): _____	Received by (Signature): _____	Date: _____	Time: _____

6/9/08 Revision

4.1
4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C25004 **Client:** SHELL OIL **Project:** SHELL/HARBOR ISLAND
Date / Time Received: 11/29/2012 **Delivery Method:** FedEx **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.9/2.9): 0

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input type="checkbox"/>	<input checked="" type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input type="checkbox"/>	<input type="checkbox"/>	4. Smpl Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y or N</u>	
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y or N</u>	
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	Intact	

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU298-MB	U7822.D	1	11/30/12	YP	n/a	n/a	VU298

The QC reported here applies to the following samples:

Method: SW846 8260B

C25004-2, C25004-3, C25004-4, C25004-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	111% 60-130%
2037-26-5	Toluene-D8	97% 60-130%
460-00-4	4-Bromofluorobenzene	88% 60-130%

Method Blank Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR465-MB	R13038.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples:

Method: SW846 8260B

C25004-1, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11, C25004-12

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	107% 60-130%
2037-26-5	Toluene-D8	106% 60-130%
460-00-4	4-Bromofluorobenzene	104% 60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU298-BS	U7819.D	1	11/30/12	YP	n/a	n/a	VU298
VU298-BSD	U7820.D	1	11/30/12	YP	n/a	n/a	VU298

The QC reported here applies to the following samples: **Method:** SW846 8260B

C25004-2, C25004-3, C25004-4, C25004-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	20.3	102	20.3	102	0	60-130/30
100-41-4	Ethylbenzene	20	22.2	111	22.2	111	0	60-130/30
108-88-3	Toluene	20	21.2	106	21.5	108	1	60-130/30
1330-20-7	Xylene (total)	60	63.9	107	64.0	107	0	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	98%	101%	60-130%
2037-26-5	Toluene-D8	99%	101%	60-130%
460-00-4	4-Bromofluorobenzene	101%	103%	60-130%

* = Outside of Control Limits.

5.2.1
5

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR465-BS	R13036.D	1	11/30/12	YP	n/a	n/a	VR465
VR465-BSD	R13039.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples: **Method:** SW846 8260B

C25004-1, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11, C25004-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	17.7	89	16.5	83	7	60-130/30
100-41-4	Ethylbenzene	20	19.7	99	17.7	89	11	60-130/30
108-88-3	Toluene	20	18.3	92	16.7	84	9	60-130/30
1330-20-7	Xylene (total)	60	59.5	99	54.0	90	10	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	107%	105%	60-130%
2037-26-5	Toluene-D8	106%	106%	60-130%
460-00-4	4-Bromofluorobenzene	106%	107%	60-130%

* = Outside of Control Limits.

5.2.2
5

Laboratory Control Sample Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU298-LCS	U7821.D	1	11/30/12	YP	n/a	n/a	VU298

The QC reported here applies to the following samples:

Method: SW846 8260B

C25004-2, C25004-3, C25004-4, C25004-5

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
---------	----------	---------------	-------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	60-130%
2037-26-5	Toluene-D8	101%	60-130%
460-00-4	4-Bromofluorobenzene	88%	60-130%

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VR465-LCS	R13037.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples: Method: SW846 8260B

C25004-1, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11, C25004-12

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
---------	----------	---------------	-------------	----------	--------

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	60-130%
2037-26-5	Toluene-D8	106%	60-130%
460-00-4	4-Bromofluorobenzene	103%	60-130%

* = Outside of Control Limits.

5.3.2
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24962-2MS	R13055.D	1	11/30/12	YP	n/a	n/a	VR465
C24962-2MSD	R13056.D	1	11/30/12	YP	n/a	n/a	VR465
C24962-2	R13045.D	1	11/30/12	YP	n/a	n/a	VR465

The QC reported here applies to the following samples: **Method:** SW846 8260B

C25004-1, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11, C25004-12

CAS No.	Compound	C24962-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	17.4	87	16.9	85	3	60-130/25
100-41-4	Ethylbenzene	ND	20	18.8	94	18.0	90	4	60-130/25
108-88-3	Toluene	ND	20	17.7	89	16.9	85	5	60-130/25
1330-20-7	Xylene (total)	ND	60	56.0	93	53.4	89	5	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C24962-2	Limits
1868-53-7	Dibromofluoromethane	106%	108%	107%	60-130%
2037-26-5	Toluene-D8	106%	106%	104%	60-130%
460-00-4	4-Bromofluorobenzene	106%	107%	102%	60-130%

* = Outside of Control Limits.

5.4.1
5

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25028-2MS	U7840.D	1	11/30/12	YP	n/a	n/a	VU298
C25028-2MSD	U7841.D	1	11/30/12	YP	n/a	n/a	VU298
C25028-2 ^a	U7824.D	1	11/30/12	YP	n/a	n/a	VU298

The QC reported here applies to the following samples:

Method: SW846 8260B

C25004-2, C25004-3, C25004-4, C25004-5

CAS No.	Compound	C25028-2 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND	20	20.6	103	20.4	102	1	60-130/25
100-41-4	Ethylbenzene	ND	20	22.4	112	22.7	114	1	60-130/25
108-88-3	Toluene	ND	20	21.4	107	21.5	108	0	60-130/25
1330-20-7	Xylene (total)	ND	60	64.5	108	65.1	109	1	60-130/25

CAS No.	Surrogate Recoveries	MS	MSD	C25028-2	Limits
1868-53-7	Dibromofluoromethane	95%	99%	117%	60-130%
2037-26-5	Toluene-D8	99%	101%	101%	60-130%
460-00-4	4-Bromofluorobenzene	100%	103%	86%	60-130%

(a) Sample was not preserved to a pH < 2.



* = Outside of Control Limits.

5.4.2
5

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1278-MB	JK31924.D	1	12/03/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25004-1, C25004-2, C25004-3, C25004-4, C25004-5, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	99%	50-150%
460-00-4	4-Bromofluorobenzene	103%	50-150%

Method Blank Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1288-MB	JK32230.D	1	12/14/12	TT	n/a	n/a	GJK1288

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25004-12

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	96%	50-150%
460-00-4	4-Bromofluorobenzene	104%	50-150%

Method Blank Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA72-MB	AA001705.D 1		12/03/12	PH	n/a	n/a	GAA72

The QC reported here applies to the following samples:

Method: RSK-175

C25004-9, C25004-10

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.25	ug/l	
124-38-9	Carbon Dioxide	ND	100	7.9	ug/l	

Method Blank Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA73-MB	AA001719.D1		12/04/12	PH	n/a	n/a	GAA73

The QC reported here applies to the following samples:

Method: RSK-175

C25004-10, C25004-11

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.50	0.25	ug/l	
124-38-9	Carbon Dioxide	ND	100	7.9	ug/l	

Blank Spike Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA72-BS	AA001706.D 1		12/03/12	PH	n/a	n/a	GAA72

The QC reported here applies to the following samples:

Method: RSK-175

C25004-9, C25004-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	19.4	90	70-130
124-38-9	Carbon Dioxide	77.1	75.0	97	70-130

* = Outside of Control Limits.

Blank Spike Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA73-BS	AA001720.D 1		12/04/12	PH	n/a	n/a	GAA73

The QC reported here applies to the following samples:

Method: RSK-175

C25004-10, C25004-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
74-82-8	Methane	21.5	24.0	112	70-130
124-38-9	Carbon Dioxide	77.1	92.7	120	70-130

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1278-BS	JK31925.D	1	12/03/12	TT	n/a	n/a	GJK1278
GJK1278-BSD	JK31926.D	1	12/03/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples: Method: NWTPH-GX

C25004-1, C25004-2, C25004-3, C25004-4, C25004-5, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.395	99	0.391	98	1	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	88%	92%	50-150%
460-00-4	4-Bromofluorobenzene	95%	100%	50-150%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1288-BS	JK32231.D	1	12/14/12	TT	n/a	n/a	GJK1288
GJK1288-BSD	JK32232.D	1	12/14/12	TT	n/a	n/a	GJK1288

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25004-12

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.411	103	0.407	102	1	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	94%	89%	50-150%
460-00-4	4-Bromofluorobenzene	104%	99%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24962-3MS	JK31951.D	1	12/04/12	TT	n/a	n/a	GJK1278
C24962-3MSD	JK31952.D	1	12/04/12	TT	n/a	n/a	GJK1278
C24962-3	JK31932.D	1	12/03/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25004-1, C25004-2, C25004-3, C25004-4, C25004-5, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11

CAS No.	Compound	C24962-3 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	ND	0.4	0.363	91	0.401	100	10	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C24962-3	Limits
98-08-8	aaa-Trifluorotoluene	96%	99%	81%	50-150%
460-00-4	4-Bromofluorobenzene	102%	106%	85%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25004-12MS	JK32235.D	1	12/14/12	TT	n/a	n/a	GJK1288
C25004-12MSD	JK32236.D	1	12/14/12	TT	n/a	n/a	GJK1288
C25004-12 ^a	JK32233.D	1	12/14/12	TT	n/a	n/a	GJK1288

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25004-12

CAS No.	Compound	C25004-12 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	ND	0.4	0.402	101	0.407	102	1	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C25004-12	Limits
98-08-8	aaa-Trifluorotoluene	94%	94%	93%	50-150%
460-00-4	4-Bromofluorobenzene	105%	105%	102%	50-150%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

* = Outside of Control Limits.

Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25004-10DUP	JK31949.D	1	12/04/12	TT	n/a	n/a	GJK1278
C25004-10	JK31948.D	1	12/04/12	TT	n/a	n/a	GJK1278

The QC reported here applies to the following samples: Method: NWTPH-GX

C25004-1, C25004-2, C25004-3, C25004-4, C25004-5, C25004-6, C25004-7, C25004-8, C25004-9, C25004-10, C25004-11

CAS No.	Compound	C25004-10 mg/l	DUP Q	mg/l	Q	RPD	Limits
	TPH (Gasoline)	ND		0.0655	J	200* a	20

CAS No.	Surrogate Recoveries	DUP	C25004-10	Limits
98-08-8	aaa-Trifluorotoluene	98%	95%	50-150%
460-00-4	4-Bromofluorobenzene	101%	99%	50-150%

(a) High RPD due to low concentrations of hits.

* = Outside of Control Limits.

Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25004-12DUP	JK32234.D	1	12/14/12	TT	n/a	n/a	GJK1288
C25004-12 ^a	JK32233.D	1	12/14/12	TT	n/a	n/a	GJK1288

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25004-12

CAS No.	Compound	C25004-12 mg/l	DUP Q	C25004-12 mg/l	Q	RPD	Limits
	TPH (Gasoline)	ND		ND		nc	20

CAS No.	Surrogate Recoveries	DUP	C25004-12	Limits
98-08-8	aaa-Trifluorotoluene	97%	93%	50-150%
460-00-4	4-Bromofluorobenzene	106%	102%	50-150%

(a) Sample analyzed beyond hold time; reported results are considered minimum values.

* = Outside of Control Limits.

Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24949-2DUP	AA001708.D 1		12/03/12	PH	n/a	n/a	GAA72
C24949-2	AA001707.D 1		12/03/12	PH	n/a	n/a	GAA72

The QC reported here applies to the following samples:

Method: RSK-175

C25004-9, C25004-10

CAS No.	Compound	C24949-2 ug/l	DUP Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	92.7		90.2		3	30
124-38-9	Carbon Dioxide	72400	E	73200	E	1	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C24965-1DUP	AA001724.D 1		12/04/12	PH	n/a	n/a	GAA73
C24965-1	AA001723.D 1		12/04/12	PH	n/a	n/a	GAA73

The QC reported here applies to the following samples:

Method: RSK-175

C25004-10, C25004-11

CAS No.	Compound	C24965-1 ug/l	DUP Q	ug/l	Q	RPD	Limits
74-82-8	Methane	65.1		71.5		9	30
124-38-9	Carbon Dioxide	145000	E	156000	E	8	30

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7127-MB	HH028669.D1		12/03/12	JH	11/29/12	OP7127	GHH869

The QC reported here applies to the following samples:

Method: NWTPH-DX

C25004-12

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	71% 50-150%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7127-BS	HH028670.D1		12/03/12	JH	11/29/12	OP7127	GHH869
OP7127-BSD	HH028671.D1		12/03/12	JH	11/29/12	OP7127	GHH869

The QC reported here applies to the following samples: Method: NWTPH-DX

C25004-12

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	1	0.658	66	0.768	77	15	45-140/30
	TPH (Motor Oil)	1	0.879	88	0.889	89	1	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	78%	79%	50-150%

* = Outside of Control Limits.

7.2.1
7

Duplicate Summary

Job Number: C25004
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7127-DUP1	HH028677.D1		12/03/12	JH	11/29/12	OP7127	GHH869
C24962-6	HH028676.D1		12/03/12	JH	11/29/12	OP7127	GHH869

The QC reported here applies to the following samples:

Method: NWTPH-DX

C25004-12

CAS No.	Compound	C24962-6 mg/l	DUP Q	DUP mg/l	Q	RPD	Limits
	TPH (Diesel)	0.0943	J	0.0935	J	1	25
	TPH (Motor Oil)	ND		ND		nc	25

CAS No.	Surrogate Recoveries	DUP	C24962-6	Limits
630-01-3	Hexacosane	74%	78%	50-150%

* = Outside of Control Limits.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5591
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 12/03/12

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	13	8.5		
Antimony	6.0	.7	.51		
Arsenic	10	.7	.65		
Barium	200	.4	.35		
Beryllium	5.0	.2	.4		
Bismuth	20		2.9		
Boron	100	.9	.64		
Cadmium	2.0	.2	.15		
Calcium	5000	7.1	12	59.8	<5000
Chromium	10	.3	.41		
Cobalt	5.0	.2	.3		
Copper	10	1.2	3		
Iron	200	6.4	12	3.7	<200
Lead	10	.7	.85		
Lithium	50		2		
Magnesium	5000	27	36	21.1	<5000
Manganese	15	.1	1.3		
Molybdenum	20	.2	.22		
Nickel	5.0	.2	.12		
Potassium	10000	18	44		
Selenium	10	1.8	2.2		
Silicon	100	1.2	6.9		
Silver	5.0	.3	.47		
Sodium	10000	15	13		
Strontium	10	.2	.24		
Thallium	10	.5	.54		
Tin	50	.2	.7		
Titanium	10	.4	.34		
Vanadium	10	.3	.3		
Zinc	20	.3	4.2		

Associated samples MP5591: C25004-9, C25004-10, C25004-11

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C25004
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5591
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 12/03/12

Metal	C25003-1F Original MS	SpikeLot MPIR4	% Rec	QC Limits	
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium	202000	207000	5000	100.0	75-125
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron	23.6	514	500	100.5	75-125
Lead	anr				
Lithium					
Magnesium	101000	107000	5000	120.0	75-125
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Thallium	anr				
Tin					
Titanium					
Vanadium	anr				
Zinc	anr				

Associated samples MP5591: C25004-9, C25004-10, C25004-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.12
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C25004
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5591
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 12/03/12

Metal	C25003-1F Original MSD	SpikeLot MPIR4	% Rec	MSD RPD	QC Limit	
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth						
Boron						
Cadmium	anr					
Calcium	202000	208000	5000	120.0	0.5	20
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	23.6	522	500	102.1	1.5	20
Lead	anr					
Lithium						
Magnesium	101000	108000	5000	140.0(a)	0.9	20
Manganese	anr					
Molybdenum	anr					
Nickel	anr					
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium	anr					
Zinc	anr					

Associated samples MP5591: C25004-9, C25004-10, C25004-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (N) Matrix Spike Rec. outside of QC limits
 (anr) Analyte not requested

8.12
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5591
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: C25004
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5591
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 12/03/12

Metal	BSP Result	Spikelot MPIR4	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	anr			
Beryllium	anr			
Bismuth				
Boron				
Cadmium	anr			
Calcium	5350	5000	107.0	80-120
Chromium	anr			
Cobalt	anr			
Copper	anr			
Iron	518	500	103.6	80-120
Lead	anr			
Lithium				
Magnesium	5030	5000	100.6	80-120
Manganese	anr			
Molybdenum	anr			
Nickel	anr			
Potassium				
Selenium	anr			
Silicon				
Silver	anr			
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	anr			

Associated samples MP5591: C25004-9, C25004-10, C25004-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested

8.1.3
8

SERIAL DILUTION RESULTS SUMMARY

Login Number: C25004
 Account: SHELLWIC - Shell Oil Company
 Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5591
 Matrix Type: AQUEOUS

Methods: SW846 6010B
 Units: ug/l

Prep Date: 12/03/12

Metal	C25003-1F Original	SDL 1:5	%DIF	QC Limits	
Aluminum	anr				
Antimony	anr				
Arsenic	anr				
Barium	anr				
Beryllium	anr				
Bismuth					
Boron					
Cadmium	anr				
Calcium	202000	238000	18.0*(a)	0-10	
Chromium	anr				
Cobalt	anr				
Copper	anr				
Iron	33.0	0.00	100.0(b)	0-10	
Lead	anr				
Lithium					
Magnesium	101000	116000	14.8*(a)	0-10	
Manganese	anr				
Molybdenum	anr				
Nickel	anr				
Potassium					
Selenium	anr				
Silicon					
Silver	anr				
Sodium	anr				
Strontium					
Thallium	anr				
Tin					
Titanium					
Vanadium	anr				
Zinc	anr				

Associated samples MP5591: C25004-9, C25004-10, C25004-11

Results < IDL are shown as zero for calculation purposes
 (*) Outside of QC limits
 (anr) Analyte not requested
 (a) Serial dilution indicates possible matrix interference.

8.1.4
 8

SERIAL DILUTION RESULTS SUMMARY

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

QC Batch ID: MP5591
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

8.1.4

8

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN9635	5.0	1.6	mg/l	250	248	99.2	75-125%
Chloride	GP4432/GN9697	0.50	0.0	mg/l	5	5.03	100.6	90-110%
Nitrogen, Nitrate	GP4432/GN9697	0.10	0.0	mg/l	5	5.05	101.0	90-110%
Nitrogen, Nitrite	GP4432/GN9697	0.10	0.0	mg/l	5	5.01	100.2	90-110%
Sulfate	GP4432/GN9697	0.50	0.0	mg/l	5	5.03	100.6	90-110%
Sulfate	GP4442/GN9712	0.50	0.0	mg/l	5	4.94	98.8	90-110%

Associated Samples:

Batch GN9635: C25004-9, C25004-10, C25004-11

Batch GP4432: C25004-9, C25004-11

Batch GP4442: C25004-10

(*) Outside of QC limits

BLANK SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	Units	Spike Amount	BSD Result	RPD	QC Limit
Alkalinity, Total as CaCO3	GN9635	mg/l	250	250	0.8	
Chloride	GP4432/GN9697	mg/l	5	5.04	0.2	25%
Nitrogen, Nitrate	GP4432/GN9697	mg/l	5	5.05	0.0	25%
Nitrogen, Nitrite	GP4432/GN9697	mg/l	5	5.01	0.0	25%
Sulfate	GP4432/GN9697	mg/l	5	5.03	0.0	25%
Sulfate	GP4442/GN9712	mg/l	5	4.98	0.8	25%

Associated Samples:

Batch GN9635: C25004-9, C25004-10, C25004-11

Batch GP4432: C25004-9, C25004-11

Batch GP4442: C25004-10

(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN9635	C25076-2	mg/l	266	268	0.7	0-25%

Associated Samples:

Batch GN9635: C25004-9, C25004-10, C25004-11

(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP4432/GN9697	C25127-2	mg/l	53.4	160	234	112.9	80-120%
Nitrogen, Nitrate	GP4432/GN9697	C25127-2	mg/l	41.5	160	221	112.2	80-120%
Nitrogen, Nitrite	GP4432/GN9697	C25127-2	mg/l	0.0	160	174	108.8	80-120%
Sulfate	GP4432/GN9697	C25127-2	mg/l	384	160	565	113.1	80-120%
Sulfate	GP4442/GN9712	C25004-10	mg/l	32.1	20	51.4	96.5	80-120%

Associated Samples:

Batch GP4432: C25004-9, C25004-11

Batch GP4442: C25004-10

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: C25004
Account: SHELLWIC - Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP4432/GN9697	C25127-2	mg/l	53.4	160	234	0.0	
Nitrogen, Nitrate	GP4432/GN9697	C25127-2	mg/l	41.5	160	221	0.0	
Nitrogen, Nitrite	GP4432/GN9697	C25127-2	mg/l	0.0	160	173	0.6	
Sulfate	GP4432/GN9697	C25127-2	mg/l	384	160	566	0.2	
Sulfate	GP4442/GN9712	C25004-10	mg/l	32.1	20	51.5	0.2	

Associated Samples:

Batch GP4432: C25004-9, C25004-11

Batch GP4442: C25004-10

(*) Outside of QC limits

(N) Matrix Spike Rec. outside of QC limits

Technical Report for

Shell Oil Company

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

46194341.GW12U

Accutest Job Number: C25081

Sampling Date: 11/29/12

Report to:

URS Corporation
111 SW Columbia, Suite 1500
Portland, OR 97201-5850
brian.pletcher@urs.com

ATTN: Brian Pletcher

Total number of pages in report: **53**



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

James J. Rhudy
Lab Director

Client Service contact: Nutan Kabir 408-588-0200

Certifications: CA (08258CA) AZ (AZ0762) DoD/ISO/IEC 17025:2005 (L2242)

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Test results relate only to samples analyzed.

Table of Contents

-1-

Section 1: Sample Summary	3
Section 2: Summary of Hits	4
Section 3: Sample Results	5
3.1: C25081-1: TRIP BLANK	6
3.2: C25081-2: MW-05-1112	8
3.3: C25081-3: MW-104-1112	11
3.4: C25081-4: MW-213-1112	14
3.5: C25081-5: MW-214-1112	18
3.6: C25081-6: MW-214D-1112	22
3.7: C25081-7: MW-111-1112	26
Section 4: Misc. Forms	29
4.1: Chain of Custody	30
Section 5: GC/MS Volatiles - QC Data Summaries	32
5.1: Method Blank Summary	33
5.2: Blank Spike/Blank Spike Duplicate Summary	34
5.3: Laboratory Control Sample Summary	35
5.4: Matrix Spike/Matrix Spike Duplicate Summary	36
Section 6: GC/MS Semi-volatiles - QC Data Summaries	37
6.1: Method Blank Summary	38
6.2: Blank Spike/Blank Spike Duplicate Summary	39
Section 7: GC Volatiles - QC Data Summaries	40
7.1: Method Blank Summary	41
7.2: Blank Spike/Blank Spike Duplicate Summary	43
7.3: Matrix Spike/Matrix Spike Duplicate Summary	45
7.4: Duplicate Summary	47
Section 8: GC Semi-volatiles - QC Data Summaries	49
8.1: Method Blank Summary	50
8.2: Blank Spike/Blank Spike Duplicate Summary	51
8.3: Matrix Spike/Matrix Spike Duplicate Summary	52
8.4: Duplicate Summary	53

1

2

3

4

5

6

7

8



Sample Summary

Shell Oil Company

Job No: C25081

URSOPR: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
 Project No: 46194341.GW12U

Sample Number	Collected		Received	Matrix		Client Sample ID
	Date	Time By		Code	Type	
C25081-1	11/29/12	00:00 DRW	12/01/12	AQ	Trip Blank Water	TRIP BLANK
C25081-2	11/29/12	09:15 DRW	12/01/12	AQ	Ground Water	MW-05-1112
C25081-3	11/29/12	09:05 DRW	12/01/12	AQ	Ground Water	MW-104-1112
C25081-4	11/29/12	11:30 DRW	12/01/12	AQ	Ground Water	MW-213-1112
C25081-5	11/29/12	11:40 DRW	12/01/12	AQ	Ground Water	MW-214-1112
C25081-6	11/29/12	00:00 DRW	12/01/12	AQ	Ground Water	MW-214D-1112
C25081-7	11/29/12	14:20 DRW	12/01/12	AQ	Ground Water	MW-111-1112

Summary of Hits

Job Number: C25081
Account: Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA
Collected: 11/29/12

Lab Sample ID	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
---------------	------------------	-----------------	----	-----	-------	--------

C25081-1 TRIP BLANK

No hits reported in this sample.

C25081-2 MW-05-1112

TPH (Diesel)	0.0954	0.095	0.048	mg/l	NWTPH-DX
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C25081-3 MW-104-1112

Benzene	0.38 J	1.0	0.20	ug/l	SW846 8260B
Toluene	0.37 J	1.0	0.20	ug/l	SW846 8260B
Ethylbenzene	11.3	1.0	0.20	ug/l	SW846 8260B
TPH (Gasoline)	0.592	0.50	0.13	mg/l	NWTPH-GX
TPH (Diesel)	0.315	0.098	0.049	mg/l	NWTPH-DX

C25081-4 MW-213-1112

No hits reported in this sample.

C25081-5 MW-214-1112

No hits reported in this sample.

C25081-6 MW-214D-1112

No hits reported in this sample.

C25081-7 MW-111-1112

Benzene	24.8	1.0	0.20	ug/l	SW846 8260B
Toluene	1.0	1.0	0.20	ug/l	SW846 8260B
Xylene (total)	1.2 J	2.0	0.46	ug/l	SW846 8260B
TPH (Gasoline)	0.371	0.20	0.050	mg/l	NWTPH-GX
TPH (Diesel)	0.269	0.10	0.050	mg/l	NWTPH-DX

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRIP BLANK		
Lab Sample ID: C25081-1		Date Sampled: 11/29/12
Matrix: AQ - Trip Blank Water		Date Received: 12/01/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7912.D	1	12/05/12	YP	n/a	n/a	VU302
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		60-130%
2037-26-5	Toluene-D8	95%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.1
3

Client Sample ID: TRIP BLANK	
Lab Sample ID: C25081-1	Date Sampled: 11/29/12
Matrix: AQ - Trip Blank Water	Date Received: 12/01/12
Method: NWTPH-GX	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31975.D	1	12/04/12	TT	n/a	n/a	GJK1279
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		50-150%
460-00-4	4-Bromofluorobenzene	104%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-05-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-2		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7913.D	1	12/05/12	YP	n/a	n/a	VU302
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		60-130%
2037-26-5	Toluene-D8	87%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-05-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-2		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31978.D	1	12/04/12	TT	n/a	n/a	GJK1279
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	98%		50-150%
460-00-4	4-Bromofluorobenzene	103%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

32
3

Client Sample ID: MW-05-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-2		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028699.D	1	12/04/12	JH	12/03/12	OP7141	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.0954	0.095	0.048	mg/l	
	TPH (Motor Oil)	ND	0.19	0.095	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	78%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-1112	Date Sampled: 11/29/12
Lab Sample ID: C25081-3	Date Received: 12/01/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7914.D	1	12/05/12	YP	n/a	n/a	VU302
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.38	1.0	0.20	ug/l	J
108-88-3	Toluene	0.37	1.0	0.20	ug/l	J
100-41-4	Ethylbenzene	11.3	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		60-130%
2037-26-5	Toluene-D8	90%		60-130%
460-00-4	4-Bromofluorobenzene	103%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-3		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31979.D	2.5	12/04/12	TT	n/a	n/a	GJK1279
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	0.592	0.50	0.13	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	98%		50-150%
460-00-4	4-Bromofluorobenzene	116%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-104-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-3		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028700.D	1	12/04/12	JH	12/03/12	OP7141	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1020 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.315	0.098	0.049	mg/l	
	TPH (Motor Oil)	ND	0.20	0.098	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	79%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-213-1112	Date Sampled: 11/29/12
Lab Sample ID: C25081-4	Date Received: 12/01/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8260B	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7915.D	1	12/05/12	YP	n/a	n/a	VU302
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	99%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-213-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-4		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X26806.D	1	12/04/12	LW	12/04/12	OP7143	EX1211
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.50	0.050	ug/l	
208-96-8	Acenaphthylene	ND	0.50	0.050	ug/l	
120-12-7	Anthracene	ND	0.50	0.050	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.053	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.041	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.035	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.039	ug/l	
218-01-9	Chrysene	ND	0.10	0.045	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.035	ug/l	
206-44-0	Fluoranthene	ND	0.50	0.050	ug/l	
86-73-7	Fluorene	ND	0.50	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.035	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-20-3	Naphthalene	ND	0.50	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.50	0.050	ug/l	
129-00-0	Pyrene	ND	0.50	0.050	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	95%		25-100%
321-60-8	2-Fluorobiphenyl	79%		25-106%
1718-51-0	Terphenyl-d14	84%		35-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: MW-213-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-4		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31980.D	1	12/05/12	TT	n/a	n/a	GJK1279
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		50-150%
460-00-4	4-Bromofluorobenzene	106%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.4
3

Client Sample ID: MW-213-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-4		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028702.D	1	12/04/12	JH	12/03/12	OP7141	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	77%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: MW-214-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-5		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8260B		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7916.D	1	12/05/12	YP	n/a	n/a	VU302
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	110%		60-130%
2037-26-5	Toluene-D8	96%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-5		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X26807.D	1	12/04/12	LW	12/04/12	OP7143	EX1211
Run #2							

Run #1	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.47	0.047	ug/l	
208-96-8	Acenaphthylene	ND	0.47	0.047	ug/l	
120-12-7	Anthracene	ND	0.47	0.047	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.094	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.094	0.039	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.094	0.033	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.094	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.094	0.037	ug/l	
218-01-9	Chrysene	ND	0.094	0.042	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.094	0.033	ug/l	
206-44-0	Fluoranthene	ND	0.47	0.047	ug/l	
86-73-7	Fluorene	ND	0.47	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.094	0.033	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.47	0.094	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.47	0.094	ug/l	
91-20-3	Naphthalene	ND	0.47	0.094	ug/l	
85-01-8	Phenanthrene	ND	0.47	0.047	ug/l	
129-00-0	Pyrene	ND	0.47	0.047	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	100%		25-100%
321-60-8	2-Fluorobiphenyl	87%		25-106%
1718-51-0	Terphenyl-d14	86%		35-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

3.5
3

Client Sample ID: MW-214-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-5		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31981.D	1	12/05/12	TT	n/a	n/a	GJK1279
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	97%		50-150%
460-00-4	4-Bromofluorobenzene	104%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-5		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028703.D	1	12/04/12	JH	12/03/12	OP7141	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.095	0.048	mg/l	
	TPH (Motor Oil)	ND	0.19	0.095	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	72%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-1112		
Lab Sample ID: C25081-6		Date Sampled: 11/29/12
Matrix: AQ - Ground Water		Date Received: 12/01/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7917.D	1	12/05/12	YP	n/a	n/a	VU302
Run #2							

	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		60-130%
2037-26-5	Toluene-D8	97%		60-130%
460-00-4	4-Bromofluorobenzene	96%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-1112		
Lab Sample ID: C25081-6		Date Sampled: 11/29/12
Matrix: AQ - Ground Water		Date Received: 12/01/12
Method: SW846 8270C BY SIM SW846 3510C		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X26808.D	1	12/04/12	LW	12/04/12	OP7143	EX1211
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1060 ml	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.47	0.047	ug/l	
208-96-8	Acenaphthylene	ND	0.47	0.047	ug/l	
120-12-7	Anthracene	ND	0.47	0.047	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.094	0.050	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.094	0.039	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.094	0.033	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.094	0.034	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.094	0.037	ug/l	
218-01-9	Chrysene	ND	0.094	0.042	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.094	0.033	ug/l	
206-44-0	Fluoranthene	ND	0.47	0.047	ug/l	
86-73-7	Fluorene	ND	0.47	0.047	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.094	0.033	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.47	0.094	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.47	0.094	ug/l	
91-20-3	Naphthalene	ND	0.47	0.094	ug/l	
85-01-8	Phenanthrene	ND	0.47	0.047	ug/l	
129-00-0	Pyrene	ND	0.47	0.047	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	98%		25-100%
321-60-8	2-Fluorobiphenyl	87%		25-106%
1718-51-0	Terphenyl-d14	88%		35-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-1112	
Lab Sample ID: C25081-6	Date Sampled: 11/29/12
Matrix: AQ - Ground Water	Date Received: 12/01/12
Method: NWTPH-GX	Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK31982.D	1	12/05/12	TT	n/a	n/a	GJK1279
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	95%		50-150%
460-00-4	4-Bromofluorobenzene	103%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-214D-1112	Date Sampled: 11/29/12
Lab Sample ID: C25081-6	Date Received: 12/01/12
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: NWTPH-DX SW846 3510C	
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 ^a	HH028704.D	1	12/04/12	JH	12/03/12	OP7141	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	500 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.20	0.10	mg/l	
	TPH (Motor Oil)	ND	0.40	0.20	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	73%		50-150%

(a) Reporting Limits raised due to insufficient sample volume.



ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-111-1112		
Lab Sample ID: C25081-7		Date Sampled: 11/29/12
Matrix: AQ - Ground Water		Date Received: 12/01/12
Method: SW846 8260B		Percent Solids: n/a
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U7918.D	1	12/05/12	YP	n/a	n/a	VU302
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	24.8	1.0	0.20	ug/l	
108-88-3	Toluene	1.0	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	1.2	2.0	0.46	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		60-130%
2037-26-5	Toluene-D8	90%		60-130%
460-00-4	4-Bromofluorobenzene	100%		60-130%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-111-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-7		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-GX		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	JK32006.D	1	12/05/12	TT	n/a	n/a	GJK1280
Run #2							

Run #	Purge Volume
Run #1	10.0 ml
Run #2	

Northwest TPH-Gx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	0.371	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
98-08-8	aaa-Trifluorotoluene	99%		50-150%
460-00-4	4-Bromofluorobenzene	121%		50-150%

ND = Not detected MDL - Method Detection Limit J = Indicates an estimated value
 RL = Reporting Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-111-1112		Date Sampled: 11/29/12
Lab Sample ID: C25081-7		Date Received: 12/01/12
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: NWTPH-DX SW846 3510C		
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	HH028705.D	1	12/04/12	JH	12/03/12	OP7141	GHH869
Run #2							

Run #	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

Northwest TPH-Dx

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	0.269	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
630-01-3	Hexacosane	76%		50-150%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

LAB (LOCATION)

- MEXICO ()
- CALIFORNIA ()
- TEST AMERICA ()
- SPX ()
- OTHER (Accutest)



Shell Oil Products Chain Of Custody Record

SHELLWIC3660

Please Check Appropriate Box:

<input type="checkbox"/> ENV. SERVICES	<input type="checkbox"/> MOTIVA RETAIL	<input type="checkbox"/> SHELL RETAIL
<input type="checkbox"/> MOTIVA SERVICE	<input type="checkbox"/> CONSULTANT	<input type="checkbox"/> LUBES
<input type="checkbox"/> SHELL PIPELINE	<input type="checkbox"/> OTHER	

Print Bill To Contact Name: _____ INCIDENT # (ENV SERVICES) _____

PO # _____ SAP # _____

DATE: _____

PAGE: 1 of 1

CONSIGNEE (SHIP TO)

ADDRESS: URS

CITY: 111 SW COLUMBIA

STATE: PORTLAND OR.

TELEPHONE: 503-222-7200 FAX: _____

CONTACT PERSON: brian.pletcher@urscorp.com

TURNAROUND TIME (CALC IN BUSINESS DAYS):

STANDARD (14 DAY) 5 DAYS 3 DAYS 2 DAYS 24 HOURS RESULTS NEEDED ON WEEKEND

DELIVERABLES: LEVEL 1 LEVEL 2 LEVEL 3 LEVEL 4 OTHER (SPECIFY) _____

TEMPERATURE ON RECEIPT °C: Cooler #1 _____ Cooler #2 _____ Cooler #3 _____

SITE ADDRESS (Street, City and State): SHELL/HARBOR ISLAND 2555 13th AVE SW SEATTLE, WA

CLIENT (FIRM OR PROJECT NAME): BRIAN PLETCHER

OPERATION PROJECT ID: 46194341_6W12_U

LAB USE ONLY: DAVE LEWIS C25081

SPECIAL INSTRUCTIONS OR NOTES:

SHELL CONTRACT RATE APPLIES

STATE REIMBURSEMENT RATE APPLIES

PROVIDE LEDO DISK

REQUESTED ANALYSIS

LAB USE ONLY	Field Sample Identification	SAMPLING DATE	TIME	MATRIX	PRESERVATIVE	NO. OF CONT.	W/TPH-GX	BITEX B260	W/TPH-DX SILEX OF PAH	TOTAL LEAD	HARDNESS	TOTAL IRON	ALKALINITY	SULFATE	CO ₂	FERROUS IRON	METHANOL	Container PID Readings or Laboratory Notes
1	TRIP BLANK	11/30/12	0915	H2O		3	X	X										
2	MW-05-1112	11/29/12	0915	"	X	8	X	X	X									
3	MW-104-1112	"	0905	"	X	8	X	X	X									
4	MW-213-1112	"	1130	"	X	10	X	X	X									
5	MW-214-1112	"	1140	"	X	10	X	X	X									
6	MW-214D-1112	"	-	"	X	10	X	X	X									2-11 2-10 JOML
7	MW-111-1112	"	1420	"	X	8	X	X	X									

Requested By (Signature): <u>DAVE LEWIS</u>	Date: <u>11/30/12 1200</u>	Received By (Signature): <u>[Signature]</u>	Date: <u>12-01-12</u>	Time: <u>09:20</u>
Requested By (Signature): _____	Date: _____	Received By (Signature): _____	Date: _____	Time: _____
Requested By (Signature): _____	Date: _____	Received By (Signature): _____	Date: _____	Time: _____

TEMP: ① 4.1 °C
② 5.3 °C

C2508 Revision

4.1
4

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: C25081 **Client:** SHELL OIL **Project:** SHELL/HARBOR ISLAND, SEATTLE, WA
Date / Time Received: 12/1/2012 **Delivery Method:** FedEx **Airbill #s:**

Cooler Temps (Initial/Adjusted): #1: (4.1/4.1); #2: (5.3/5.3); 0

<u>Cooler Security</u>	<u>Y or N</u>		<u>Y or N</u>	
1. Custody Seals Present:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	3. COC Present:	<input checked="" type="checkbox"/> <input type="checkbox"/>
2. Custody Seals Intact:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	4. Smp'l Dates/Time OK	<input checked="" type="checkbox"/> <input type="checkbox"/>

<u>Cooler Temperature</u>	<u>Y or N</u>	
1. Temp criteria achieved:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Cooler temp verification:	IR Gun	
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	2	

<u>Quality Control Preservation</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Trip Blank present / cooler:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
2. Trip Blank listed on COC:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
3. Samples preserved properly:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. VOCs headspace free:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Documentation</u>	<u>Y or N</u>	
1. Sample labels present on bottles:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Container labeling complete:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Sample container label / COC agree:	<input checked="" type="checkbox"/>	<input type="checkbox"/>

<u>Sample Integrity - Condition</u>	<u>Y or N</u>	
1. Sample recvd within HT:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. All containers accounted for:	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Condition of sample:	Intact	

<u>Sample Integrity - Instructions</u>	<u>Y</u>	<u>or</u>	<u>N</u>	<u>N/A</u>
1. Analysis requested is clear:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
2. Bottles received for unspecified tests	<input type="checkbox"/>		<input checked="" type="checkbox"/>	
3. Sufficient volume recvd for analysis:	<input checked="" type="checkbox"/>		<input type="checkbox"/>	
4. Compositing instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>
5. Filtering instructions clear:	<input type="checkbox"/>		<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments

4.1
4

GC/MS Volatiles

5

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU302-MB	U7911.D	1	12/05/12	YP	n/a	n/a	VU302

The QC reported here applies to the following samples:

Method: SW846 8260B

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	2.0	0.46	ug/l	

CAS No.	Surrogate Recoveries	Limits
1868-53-7	Dibromofluoromethane	104% 60-130%
2037-26-5	Toluene-D8	100% 60-130%
460-00-4	4-Bromofluorobenzene	100% 60-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU302-BS	U7908.D	1	12/05/12	YP	n/a	n/a	VU302
VU302-BSD	U7909.D	1	12/05/12	YP	n/a	n/a	VU302

The QC reported here applies to the following samples: **Method:** SW846 8260B

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	20	20.8	104	22.1	111	6	60-130/30
100-41-4	Ethylbenzene	20	21.3	107	21.9	110	3	60-130/30
108-88-3	Toluene	20	21.6	108	22.4	112	4	60-130/30
1330-20-7	Xylene (total)	60	64.0	107	65.9	110	3	60-130/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	108%	107%	60-130%
2037-26-5	Toluene-D8	98%	97%	60-130%
460-00-4	4-Bromofluorobenzene	104%	101%	60-130%

* = Outside of Control Limits.

5.2.1
5

Laboratory Control Sample Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VU302-LCS	U7910.D	1	12/05/12	YP	n/a	n/a	VU302

The QC reported here applies to the following samples:

Method: SW846 8260B

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
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CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	106%	60-130%
2037-26-5	Toluene-D8	100%	60-130%
460-00-4	4-Bromofluorobenzene	98%	60-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25082-6MS	U7928.D	10	12/05/12	YP	n/a	n/a	VU302
C25082-6MSD	U7929.D	10	12/05/12	YP	n/a	n/a	VU302
C25082-6	U7927.D	10	12/05/12	YP	n/a	n/a	VU302

The QC reported here applies to the following samples: **Method:** SW846 8260B

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	C25082-6 ug/l	Spike Q ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	348	200	611	132* a	594	123	3	60-130/25
100-41-4	Ethylbenzene	654	200	963	155* b	953	150* b	1	60-130/25
108-88-3	Toluene	35.2	200	253	109	249	107	2	60-130/25
1330-20-7	Xylene (total)	681	600	1420	123	1410	122	1	60-130/25



CAS No.	Surrogate Recoveries	MS	MSD	C25082-6	Limits
1868-53-7	Dibromofluoromethane	102%	102%	104%	60-130%
2037-26-5	Toluene-D8	99%	98%	99%	60-130%
460-00-4	4-Bromofluorobenzene	111%	113%	108%	60-130%

- (a) Outside control limits.
- (b) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

5.4.1
5

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7143-MB	X26801.D	1	12/04/12	LW	12/04/12	OP7143	EX1211

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C25081-4, C25081-5, C25081-6

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.50	0.050	ug/l	
208-96-8	Acenaphthylene	ND	0.50	0.050	ug/l	
120-12-7	Anthracene	ND	0.50	0.050	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.053	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.041	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.035	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.036	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.039	ug/l	
218-01-9	Chrysene	ND	0.10	0.045	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.035	ug/l	
206-44-0	Fluoranthene	ND	0.50	0.050	ug/l	
86-73-7	Fluorene	ND	0.50	0.050	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.035	ug/l	
90-12-0	1-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-57-6	2-Methylnaphthalene	ND	0.50	0.10	ug/l	
91-20-3	Naphthalene	ND	0.50	0.10	ug/l	
85-01-8	Phenanthrene	ND	0.50	0.050	ug/l	
129-00-0	Pyrene	ND	0.50	0.050	ug/l	

CAS No.	Surrogate Recoveries	Limits	
4165-60-0	Nitrobenzene-d5	78%	25-100%
321-60-8	2-Fluorobiphenyl	71%	25-106%
1718-51-0	Terphenyl-d14	111%	35-130%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7143-BS	X26802.D	1	12/04/12	LW	12/04/12	OP7143	EX1211
OP7143-BSD	X26803.D	1	12/04/12	LW	12/04/12	OP7143	EX1211

The QC reported here applies to the following samples:

Method: SW846 8270C BY SIM

C25081-4, C25081-5, C25081-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	5	4.6	92	4.3	86	7	25-130/30
208-96-8	Acenaphthylene	5	4.8	96	4.6	92	4	30-122/30
120-12-7	Anthracene	5	5.1	102	4.9	98	4	39-128/30
56-55-3	Benzo(a)anthracene	5	5.9	118	5.7	114	3	35-132/30
50-32-8	Benzo(a)pyrene	5	5.4	108	5.3	106	2	44-136/30
205-99-2	Benzo(b)fluoranthene	5	5.4	108	5.4	108	0	41-134/30
191-24-2	Benzo(g,h,i)perylene	5	6.2	124	6.1	122	2	30-134/30
207-08-9	Benzo(k)fluoranthene	5	5.5	110	5.1	102	8	40-134/30
218-01-9	Chrysene	5	5.2	104	5.0	100	4	39-134/30
53-70-3	Dibenzo(a,h)anthracene	5	5.8	116	5.8	116	0	33-137/30
206-44-0	Fluoranthene	5	5.5	110	5.3	106	4	40-129/30
86-73-7	Fluorene	5	4.9	98	4.7	94	4	32-125/30
193-39-5	Indeno(1,2,3-cd)pyrene	5	6.3	126	6.2	124	2	33-137/30
90-12-0	1-Methylnaphthalene	5	4.5	90	4.2	84	7	27-124/30
91-57-6	2-Methylnaphthalene	5	4.5	90	4.2	84	7	28-120/30
91-20-3	Naphthalene	5	4.4	88	4.0	80	10	28-122/30
85-01-8	Phenanthrene	5	4.7	94	4.6	92	2	38-128/30
129-00-0	Pyrene	5	5.0	100	4.7	94	6	35-126/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	98%	90%	25-100%
321-60-8	2-Fluorobiphenyl	90%	84%	25-106%
1718-51-0	Terphenyl-d14	105%	98%	35-130%

* = Outside of Control Limits.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1279-MB	JK31955.D	1	12/04/12	TT	n/a	n/a	GJK1279

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits	
98-08-8	aaa-Trifluorotoluene	93%	50-150%
460-00-4	4-Bromofluorobenzene	97%	50-150%

7.1.1
7

Method Blank Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1280-MB	JK31989.D	1	12/05/12	TT	n/a	n/a	GJK1280

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25081-7

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Gasoline)	ND	0.20	0.050	mg/l	

CAS No.	Surrogate Recoveries	Limits
98-08-8	aaa-Trifluorotoluene	85% 50-150%
460-00-4	4-Bromofluorobenzene	91% 50-150%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1279-BS	JK31956.D	1	12/04/12	TT	n/a	n/a	GJK1279
GJK1279-BSD	JK31957.D	1	12/04/12	TT	n/a	n/a	GJK1279

The QC reported here applies to the following samples: Method: NWTPH-GX

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.389	97	0.378	95	3	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	97%	92%	50-150%
460-00-4	4-Bromofluorobenzene	104%	97%	50-150%

* = Outside of Control Limits.

7.2.1
7

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GJK1280-BS	JK31990.D	1	12/05/12	TT	n/a	n/a	GJK1280
GJK1280-BSD	JK31991.D	1	12/05/12	TT	n/a	n/a	GJK1280

The QC reported here applies to the following samples: Method: NWTPH-GX

C25081-7

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.4	0.405	101	0.402	101	1	60-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
98-08-8	aaa-Trifluorotoluene	93%	89%	50-150%
460-00-4	4-Bromofluorobenzene	101%	100%	50-150%

* = Outside of Control Limits.

7.2.2
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25081-2MS	JK31985.D	1	12/05/12	TT	n/a	n/a	GJK1279
C25081-2MSD	JK31986.D	1	12/05/12	TT	n/a	n/a	GJK1279
C25081-2	JK31978.D	1	12/04/12	TT	n/a	n/a	GJK1279

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6

CAS No.	Compound	C25081-2 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	ND	0.4	0.421	105	0.417	104	1	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C25081-2	Limits
98-08-8	aaa-Trifluorotoluene	96%	96%	98%	50-150%
460-00-4	4-Bromofluorobenzene	103%	104%	103%	50-150%

* = Outside of Control Limits.

7.3.1
7

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25082-7MS	JK32002.D	1	12/05/12	TT	n/a	n/a	GJK1280
C25082-7MSD	JK32003.D	1	12/05/12	TT	n/a	n/a	GJK1280
C25082-7	JK32000.D	1	12/05/12	TT	n/a	n/a	GJK1280

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25081-7

CAS No.	Compound	C25082-7 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Gasoline)	0.289	0.4	0.653	91	0.672	96	3	60-140/20

CAS No.	Surrogate Recoveries	MS	MSD	C25082-7	Limits
98-08-8	aaa-Trifluorotoluene	93%	96%	96%	50-150%
460-00-4	4-Bromofluorobenzene	105%	108%	107%	50-150%

* = Outside of Control Limits.

7.3.2
7

Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25081-6DUP	JK31983.D	1	12/05/12	TT	n/a	n/a	GJK1279
C25081-6	JK31982.D	1	12/05/12	TT	n/a	n/a	GJK1279

The QC reported here applies to the following samples: Method: NWTPH-GX

C25081-1, C25081-2, C25081-3, C25081-4, C25081-5, C25081-6

CAS No.	Compound	C25081-6 mg/l	DUP Q	mg/l	Q	RPD	Limits
	TPH (Gasoline)	ND		ND		nc	20

CAS No.	Surrogate Recoveries	DUP	C25081-6	Limits
98-08-8	aaa-Trifluorotoluene	93%	95%	50-150%
460-00-4	4-Bromofluorobenzene	102%	103%	50-150%

* = Outside of Control Limits.

7.4.1
7

Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
C25082-3DUP	JK31995.D	1	12/05/12	TT	n/a	n/a	GJK1280
C25082-3	JK31994.D	1	12/05/12	TT	n/a	n/a	GJK1280

The QC reported here applies to the following samples:

Method: NWTPH-GX

C25081-7

CAS No.	Compound	C25082-3 mg/l	DUP Q	mg/l	Q	RPD	Limits
	TPH (Gasoline)	ND		ND		nc	20

CAS No.	Surrogate Recoveries	DUP	C25082-3	Limits
98-08-8	aaa-Trifluorotoluene	94%	95%	50-150%
460-00-4	4-Bromofluorobenzene	101%	101%	50-150%

* = Outside of Control Limits.

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7141-MB	HH028683.D1		12/03/12	JH	12/03/12	OP7141	GHH869

The QC reported here applies to the following samples:

Method: NWTPH-DX

C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (Diesel)	ND	0.10	0.050	mg/l	
	TPH (Motor Oil)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Limits
630-01-3	Hexacosane	77% 50-150%

Blank Spike/Blank Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7141-BS	HH028681.D1		12/03/12	JH	12/03/12	OP7141	GHH869
OP7141-BSD	HH028682.D1		12/03/12	JH	12/03/12	OP7141	GHH869

The QC reported here applies to the following samples: Method: NWTPH-DX

C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	BSD mg/l	BSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	1	0.736	74	0.708	71	4	45-140/30
	TPH (Motor Oil)	1	0.921	92	0.895	90	3	45-140/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
630-01-3	Hexacosane	81%	83%	50-150%

8.2.1
8

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7141-MS	HH028708.D1		12/04/12	JH	12/03/12	OP7141	GHH869
OP7141-MSD	HH028709.D1		12/04/12	JH	12/03/12	OP7141	GHH869
C25055-8	HH028698.D1		12/03/12	JH	12/03/12	OP7141	GHH869

The QC reported here applies to the following samples:

Method: NWTPH-DX

C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	C25055-8 mg/l	Spike Q mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (Diesel)	0.116	1.96	1.19	55	1.04	47	13	45-140/25
	TPH (Motor Oil)	ND	1.96	1.26	64	1.24	63	2	45-140/25

CAS No.	Surrogate Recoveries	MS	MSD	C25055-8	Limits
630-01-3	Hexacosane	64%	59%	64%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: C25081
Account: SHELLWIC Shell Oil Company
Project: URSORP: Shell/Harbor Island - 2555 13th Ave SW., Seattle, WA

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP7141-DUP1	HH028695.D1		12/03/12	JH	12/03/12	OP7141	GHH869
C25054-2	HH028685.D1		12/03/12	JH	12/03/12	OP7141	GHH869

The QC reported here applies to the following samples: Method: NWTPH-DX

C25081-2, C25081-3, C25081-4, C25081-5, C25081-6, C25081-7

CAS No.	Compound	C25054-2 mg/l	DUP Q mg/l	Q	RPD	Limits
	TPH (Diesel)	0.0985	0.0834	J	17	25
	TPH (Motor Oil)	ND	ND		nc	25

CAS No.	Surrogate Recoveries	DUP	C25054-2	Limits
630-01-3	Hexacosane	73%	77%	50-150%

8.4.1
8

* = Outside of Control Limits.