

APPENDIX A

1. *Draft Technical Memorandum – Further Assessment of Groundwater in Monitoring Wells MW-3 and MW-7*, December 26, 2012. Prepared by Feige and Associates, Inc.

TECHNICAL MEMORANDUM

To: Mr. Kenneth Thiessen – Oregon Department of Environmental Quality
From: John Wyatt, RG
Date: December 26, 2012
RE: Further Assessment of Groundwater in Monitoring Wells MW-3 and MW-7 -
Former Sunset and Pacific Pride Sites

The purpose of this memorandum is to detail Feige and Associates, Inc. (FAI) recent assessment of groundwater conditions in monitoring well MW-3, located at the Pacific Pride Site (6230 SW Macadam Ave., ECSI #4772) and monitoring well MW-7, located at the Former Sunset site (6140 SW Macadam Ave., ECSI #4723). The assessment was conducted on December 14, 2012, and was completed in conjunction with the Focused Feasibility Study (FFS) being prepared for the site.

The Remedial Investigation (RI) report prepared by FAI, and dated August 22, 2012, discussed that high concentrations of diesel observed in monitoring wells may be a result of oil adsorbed to the organic carbon fraction of suspended particles and/or could be as a result of sampling methodology.

Sampling Methods

Historic groundwater sampling at the site has utilized either bailers or centrifugal pumps to purge and sample the monitoring wells. However, due to mixing of the water during purging and sampling, these techniques have been shown to not yield accurate representations of groundwater in screened sections of aquifers surrounding monitoring wells.

Based on this assessment, FAI concluded that historic sampling methodology may be the basis for high concentrations of diesel historically observed in monitoring wells MW-3 and MW-7. To verify groundwater diesel concentrations in MW-3 and MW-7, FAI sampled groundwater in both wells utilizing low flow techniques.

It has been well documented that samples collected utilizing low flow techniques best represent the concentration of contaminants in an aquifer because the sampling process minimizes stress on the aquifer or well. In addition, low flow sampling also reduces the variability in sampling technique that is common with bailing or traditional pumping procedures.

Low flow groundwater sampling at the site on December 14, 2012, was accomplished utilizing a peristaltic pump, newly dedicated silicon and polyethylene tubing, and a Hanna water quality meter. In order to collect samples that were representative of actual groundwater conditions, the intake of the polyethylene tubing was placed at approximately the middle portion of the well screen interval in both wells. In addition,

the groundwater samples were collected following both purging of approximately 5 gallons of water from each well and stabilization of temperature, pH, and specific conductivity.

Laboratory Analysis

Based on discussions with the analytical laboratory, it was determined that high concentrations of diesel in monitoring wells MW-3 and MW-7 may also be attributed to interference from polar (i.e. non-petroleum) components. In order to remove any interference from the samples, in addition to typical diesel analysis, silica gel cleanup was added to the laboratory analysis of diesel from the groundwater samples.

The groundwater samples for MW-3 and MW7 were submitted to Apex Laboratories of Tigard, Oregon (Apex) on December 14, 2012. All samples were analyzed for diesel range hydrocarbons by Northwest methods NWTPH-Dx and NWTPH-Dx with silica gel cleanup. A copy of the laboratory analytical report is attached.

Sampling Results

The results of the assessment for each well indicated the following:

MW-3

- The water level in MW-3 was measured at 16.42 feet below ground surface (bgs).
- Prior to sampling, a bailer was lowered into the well to measure any product head on the groundwater surface. No measureable product was observed.
- Laboratory analysis of NWTPH-Dx indicated diesel at 10.8 milligrams per liter (mg/L) and oil 1.00 mg/L.
- The laboratory analysis for NWTPH-Dx with silica gel cleanup indicated diesel at 7.33 mg/L and oil was not detected above the laboratory method reporting limit (mrl).
- The laboratory analytical report indicated that the hydrocarbon pattern for MW-3 indicated possible weathered diesel, or contributions from a related component.

MW-7

- The water level in MW-7 was measured at 18.81 feet bgs.
- Prior to sampling, a bailer was lowered into the well to measure any product head on the groundwater surface. No measureable product was observed.
- Laboratory analysis of NWTPH-Dx indicated diesel at 3.5 mg/L. Oil was not detected above the laboratory method reporting limit (mrl).
- The laboratory analysis for NWTPH-Dx with silica gel cleanup indicated diesel at 3.51 mg/L and oil was not detected above the laboratory mrl.
- The laboratory analytical report indicated that the hydrocarbon pattern for MW-7 indicated possible weathered diesel, or contributions from a related component.

Conclusions

The groundwater elevations and the observance of no measureable product in both monitoring wells MW-3 and MW-7 were consistent with past seasonal monitoring events.

The concentrations of diesel in MW-3 were considerably lower than have been observed during previous sampling events. The concentration of diesel in MW-3 (10.8 mg/L) represents a decrease of about 99% since the last sampling event in March 2011. In addition, a further decrease in diesel concentrations (7.33 mg/L) also were observed utilizing silica gel cleanup analysis. The analysis indicates that previous groundwater sampling methodology has been the basis for high concentrations of diesel historically observed in monitoring well MW-3. In addition, it appears that oil absorbed to the organic carbon fraction of suspended particles has also been a contributing factor in high diesel concentrations historically observed in this monitoring well.

The concentrations of diesel in MW-7 were also considerably lower than have been observed during previous sampling events. The relatively low concentration of diesel in MW-7 (3.5 mg/L) also represents a decrease of about 99% since the last sampling event in March 2011. A decrease in diesel concentrations (3.51 mg/L) were not observed utilizing silica gel cleanup analysis. This analysis indicates that sampling methodology has been the basis for high diesel concentrations historically observed in MW-7.

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Thursday, December 27, 2012

John Wyatt
Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

RE: Sunset Macadam / 033

Enclosed are the results of analyses for work order A12L308, which was received by the laboratory on 12/14/2012 at 1:15:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: BCone@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Brian Cone For Allison Greiner, Client Services Manager

Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

Project: **Sunset Macadam**
Project Number: 033
Project Manager: John Wyatt

Reported:
12/27/12 16:28

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW-7	A12L308-01	Water	12/14/12 11:15	12/14/12 13:15
MW-3	A12L308-02	Water	12/14/12 12:30	12/14/12 13:15

Apex Laboratories

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 12/27/12 16:28

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-7 (A12L308-01)			Matrix: Water		Batch: 1212431			
Diesel	3.50	---	0.189	mg/L	1	12/21/12 00:42	NWTPH-Dx	F-11
Oil	ND	---	0.377	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW-3 (A12L308-02)			Matrix: Water		Batch: 1212431			
Diesel	10.8	---	0.385	mg/L	2	12/21/12 01:05	NWTPH-Dx	F-11
Oil	1.00	---	0.769	"	"	"	"	F-16
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 12/27/12 16:28

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW-7 (A12L308-01)			Matrix: Water		Batch: 1212548			
Diesel	3.51	---	0.236	mg/L	1	12/27/12 06:16	NWTPH-Dx/SG	F-11
Oil	ND	---	0.472	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 94 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW-3 (A12L308-02)			Matrix: Water		Batch: 1212548			
Diesel	7.33	---	0.240	mg/L	1	12/27/12 06:39	NWTPH-Dx/SG	F-11
Oil	ND	---	0.481	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 95 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

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Brian Cone For Allison Greiner, Client Services Manager

Feige and Associates, Inc.
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 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 12/27/12 16:28

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1212431 - EPA 3510C (Acid Extraction)						Water						
Blank (1212431-BLK1)						Prepared: 12/20/12 06:54 Analyzed: 12/20/12 21:58						
NWTPH-Dx												
Diesel	ND	---	0.182	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.364	"	"	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 90 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (1212431-BS1)						Prepared: 12/20/12 06:54 Analyzed: 12/20/12 22:22						
NWTPH-Dx												
Diesel	1.16	---	0.200	mg/L	1	1.25	---	93	70-130%	---	---	
Oil	1.17	---	0.400	"	"	"	---	93	"	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 97 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS Dup (1212431-BSD1)						Prepared: 12/20/12 06:54 Analyzed: 12/20/12 22:45						
NWTPH-Dx												
Diesel	1.19	---	0.200	mg/L	1	1.25	---	95	70-130%	3	20%	
Oil	1.17	---	0.400	"	"	"	---	93	"	0.02	20%	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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Brian Cone For Allison Greiner, Client Services Manager

Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 12/27/12 16:28

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx with Silica Gel Cleanup

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1212548 - EPA 3510C (Acid Extraction)						Water						
Blank (1212548-BLK1)						Prepared: 12/20/12 06:54 Analyzed: 12/27/12 05:06						
NWTPH-Dx/SG												
Diesel	ND	---	0.227	mg/L	1	---	---	---	---	---	---	---
Oil	ND	---	0.455	"	"	---	---	---	---	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 88 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (1212548-BS1)						Prepared: 12/20/12 06:54 Analyzed: 12/27/12 05:29						
NWTPH-Dx/SG												
Diesel	1.22	---	0.250	mg/L	1	1.25	---	97	70-130%	---	---	---
Oil	1.26	---	0.500	"	"	"	---	101	"	---	---	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 95 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS Dup (1212548-BSD1)						Prepared: 12/20/12 06:54 Analyzed: 12/27/12 05:53						
NWTPH-Dx/SG												
Diesel	1.26	---	0.250	mg/L	1	1.25	---	101	70-130%	4	20%	---
Oil	1.29	---	0.500	"	"	"	---	103	"	2	20%	---
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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Project: **Sunset Macadam**

Project Number: 033
Project Manager: John Wyatt

Reported:
12/27/12 16:28

Notes and Definitions

Qualifiers:

- F-11 The hydrocarbon pattern indicates possible weathered diesel, or a contribution from a related component.
- F-16 Results for oil are biased high due to overlap from the reported diesel result.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.
- For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.
- Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.
- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.
- *** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

Apex Laboratories

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Brian Cone For Allison Greiner, Client Services Manager

Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

Project: **Sunset Macadam**
Project Number: 033
Project Manager: John Wyatt

Reported:
12/27/12 16:28

APEX LABS **CHAIN OF CUSTODY** Lab # **A12L308** coc 1 of 1

12232 S.W. Garden Place, Tigard, OR 97223 Ph: 503-718-2323 Fax: 503-718-0333

Company: Feige & Assoc.		Project Mgr: John Wyatt		Project Name: Sunset Macadam		Project # 033	
Address:		Phone:		Fax:		Email:	
Sampled by: John Wyatt		Site Location: OR WA		Other:			
SAMPLE ID	DATE	TIME	MATRIX	# OF CONTAINERS	NWTFH-C	NWTFH-G	NWTFH-VOC
1	12/19/12	10:55	W	2	X		
2	12/12/12	13:30	W	2	X		
3							
4							
5							
6							
7							
8							
9							
10							

Normal Turn Around Time (TAT) = 7-10 Business Days		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
TAT Requested (circle)	1 Day	2 Day	3 Day
	4 DAY	5 DAY	Other:

SPECIAL INSTRUCTIONS:
* Have Kent Patton review.
* Hold De w/ cleanup pending NWTFH-De results.

RELINQUISHED BY:	RECEIVED BY:
Signature: John Wyatt	Signature: [Signature]
Date: 12/19/12	Date: 12/14/12
Printed Name: John Wyatt	Printed Name: [Name]
Company: Feige	Company: APEX

Apex Laboratories

Brian L Cone

Brian Cone For Allison Greiner, Client Services Manager

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APPENDIX B

1. *Additional Sampling Methodology Assessment of Groundwater in Monitoring Wells MW-3 and MW-7*, June 3, 2013. Prepared by Feige and Associates, Inc.
2. *Technical Memorandum – Methods and Results of Additional Sampling Methodology Assessment of Groundwater in Monitoring Wells MW-3 and MW-7*, June 3, 2013. Prepared by Feige and Associates, Inc.

FEIGE & ASSOCIATES, INC.
27001 NW St. Helens Rd.
Scappoose, Oregon 97056
Tel: (503) 543-9700
Fax: (503) 543-8757

HANS P. FEIGE, R.G.
hfeige@feige.us

June 3, 2013

Mr. Kenneth Thiessen, Project Manager
Oregon Department of Environmental Quality
Northwest Region Office
2020 SW Fourth Avenue, Suite 400
Portland, Oregon 97201-4987

Subject: Additional Sampling Methodology Assessment of Groundwater in Monitoring
Wells MW-3 and MW-7
Former Sunset Fuel/Pacific Pride Site
6140 and 6230 SW Macadam Avenue
Portland, Oregon 97239
DEQ ECSI Site No. 4723, 4772

Dear Mr. Thiessen:

The purpose of this letter is to present Feige and Associates, Inc. (FAI) assessment of sampling methodologies and groundwater conditions in monitoring well MW-3, located at the Pacific Pride Site (6230 SW Macadam Ave., ECSI #4772) and monitoring well MW-7, located at the Former Sunset site (6140 SW Macadam Ave., ECSI #4723). The assessment was conducted at the request of the Oregon Department of Environmental Quality in a letter entitled *Review Comments on Draft Focused Feasibility Study*, dated April 22, 2013. The assessment was conducted on May 10, 2013, and was completed in conjunction with the Focused Feasibility Study (FFS) being prepared for the site.

A previous assessment of sampling methodology, which utilized the low flow purge and sample method to assess groundwater conditions in monitoring wells MW-3 and MW-7, was completed by FAI in December 2012. The results of that assessment are included in Appendix A of the Draft FFS Report, which was prepared by FAI and dated February 21, 2013.

The purpose of performing this sampling methodology assessment was to confirm the results obtained during the December 2012 groundwater assessment, which indicated that previous groundwater sampling methodologies utilized at the site were the basis for high concentrations of diesel historically observed in both monitoring wells MW-3 and MW-7. During this sampling methodology assessment, FAI performed a side-by-side assessment utilizing both the low flow purge and sample method and the bailer purge and sample method which had been utilized previously to sample the monitoring well at the site. We have attached a Technical Memorandum that summarizes the sampling methodologies used on May 10, 2013, presents tabulated results from the December 2012 and May 10, 2013 events, and includes the laboratory analytical report from the May 10, 2013 event.

Results

The results of this assessment again indicates that previous groundwater sampling methodology has been the basis for high concentrations of diesel and PAHs historically observed in both monitoring wells MW-3 and MW-7.

The concentrations of diesel range hydrocarbons in both MW-3 and MW-7 were considerably lower when sampled utilizing the low flow purge and sample method and are consistent with the sample results obtained from the December 2012 sampling assessment. In addition, the sample results also indicate a considerable decrease in PAHs when the wells were sampled utilizing the low flow purge and sample method compared to the bailer purge and sample method.

FAI believes that the observed lower concentrations of diesel range hydrocarbons are the result of the low flow purge and sample method, which is designed to capture low turbidity water directly from the surrounding aquifer and therefore does not capture non-dissolved petroleum or petroleum that is sorbed to sediment. The purpose of the low flow purge and sample method is to allow the collection of samples which are representative of groundwater chemistry in the formation surrounding the well screen. Visual observations of groundwater from both MW-3 and MW-7, utilizing the low flow purge and sample method, indicated low to no turbidity during both the May 10, 2013 and December 2012 assessment.

In contrast, the bailer purge and sample method will create turbidity within the well by movement of the bailer through the water column and capture petroleum that is sorbed onto the sediment. Therefore the non-dissolved and non-mobile petroleum constituents, which are sorbed onto the sediment, are drawn into the well and incorporated into the water sample. This is confirmed by the VOCs analysis, which shows similar results for samples obtained from both the low flow and bailer purge and sample methods since dissolved petroleum constituents should not be affected by turbidity in the sample. Visual observations of groundwater from both MW-3 and MW-7, utilizing the bailer purge and sample method, indicated relatively high turbidity during the May 10, 2013 assessment.

Based on the results of the assessment, FAI recommends that no additional sampling needs to be conducted at the site and that the results of this assessment be incorporated into the Revised FFS for the site as indicated in DEQs April 22, 2013 letter.

If there are any questions regarding this assessment, please call me at (503) 543-9700.

Sincerely,



John A. Wyatt, RG
Associate



Expires: 11/30/13

Cc: Mr. Jerry Miesen – Sunset Fuel Co.

FEIGE & ASSOCIATES, INC.

27001 NW Saint Helens Rd.
Scappoose, Oregon 97056
Tel: (503) 543-9700
Fax: (503) 543-8757

TECHNICAL MEMORANDUM

To: Mr. Kenneth Thiessen – Oregon Department of Environmental Quality
From: John Wyatt, RG
Date: June 3, 2013
RE: Methods and Results of Additional Sampling Methodology Assessment of
Groundwater in Monitoring Wells MW-3 and MW-7 - Former Sunset and Pacific
Pride Sites

The purpose of this memorandum is to detail the methods and results of Feige and Associates, Inc. (FAI) assessment of sampling methodologies and groundwater conditions in monitoring well MW-3, located at the Pacific Pride Site (6230 SW Macadam Ave., ECSI #4772) and monitoring well MW-7, located at the Former Sunset site (6140 SW Macadam Ave., ECSI #4723). This Technical Memorandum is provided to accompany the letter prepared by FAI entitled, *Additional Sampling Methodology Assessment of Groundwater in Monitoring Wells MW-3 and MW-7*, dated June 3, 2013.

Sampling Methodology

On May 10, 2013 FAI performed side-by-side sampling of groundwater in monitoring wells MW-3 and MW-7 utilizing both low flow and bailer purge methods.

Low Flow Purge and Sample Method

The low flow purge and sample method, which was performed first in each well, was accomplished utilizing a peristaltic pump, newly dedicated silicon and polyethylene tubing, and a Hanna water quality meter. In order to collect samples that were representative of actual groundwater conditions, the intake of the polyethylene tubing was placed at approximately the middle portion of the well screen interval in both wells. This method ensures that groundwater sampled from the well is representative of actual groundwater chemistry within the screened zone of the monitoring well. Following the generally accepted method for low flow sampling, the groundwater samples were collected following the stabilization of temperature, pH, and specific conductivity (Eh). Field parameters (temperature, pH, Eh) in both wells MW-3 and MW-7 stabilized following about 1 gallon of water purged from each well.

Bailer Purge and Sample Method

The bailer purge and sample method utilized a new polyethylene bailer and string for each monitoring well. Groundwater samples were collected following purging of three casing volumes each from monitoring wells MW-3 and MW-7. The bailer purge and sample method was conducted following the collection of the low flow purge samples in each well.

Laboratory Analysis

The groundwater samples collected utilizing both methods for MW-3 and MW7 were submitted to Apex Laboratories of Tigard, Oregon (Apex) on May 10, 2013. All samples were analyzed for the following:

- Diesel and Oil range hydrocarbons by Northwest method NWTPH-Dx.
- Gasoline range hydrocarbons by Northwest method NWTPH-Gx.
- Volatile Organic Compounds (VOCs) by EPA method 8260B.
- Polycyclic Aromatic Hydrocarbons (PAHs) by EPA method 8270D SIM.
- Total and Dissolved RCRA Metals by EPA Method 6020 (ICPMS).

A copy of the laboratory analytical report is attached.

Sampling Results

Groundwater analytical results for the May 10, 2013 sampling methodology assessment, in addition to the results December 14, 2012 assessment, are presented on the attached Tables 1 through 5. Historic groundwater analytical results are presented in the FFS Report.

The results of the assessment for monitoring wells MW-3 and MW-7 indicated the following:

MW-3

- Laboratory analysis for NWTPH-Dx of the low flow purge sample (MW3-P), indicated diesel at 8.69 milligrams per liter (mg/L) and non-detect for oil.
- Laboratory analysis for NWTPH-Dx of the bailer purge sample (MW3-B), indicated diesel at 253 mg/L and non-detect for oil.
- Laboratory analysis NWTPH-Gx indicated similar detections of gasoline range hydrocarbons in both the low flow (MW3-P) and bailer (MW3-B) purge method samples. Sample detections did not exceed the applicable DEQ Risk Based Concentrations (RBCs) established for the site in either sample.
- Laboratory analysis for PAHs did not indicate any constituent in excess of applicable RBCs established for the site in either the low flow (MW3-P) or bailer (MW3-B) purge samples. However, the sample collected utilizing the bailer purge and sample method (MW3-B) indicated a very large increase in the levels of detection compared to the sample collected low flow purge and sample method (MW3-P).
- Laboratory analysis for VOCs indicated consistent levels of detection for both the low flow (MW3-P) and bailer (MW3-B) purge samples. VOC constituents that were detected were consistent with historic results and did not exceed applicable RBCs established for the site in either sample.
- Laboratory analysis for Total and Dissolved Metals indicated consistent levels of detection for both the low flow (MW3-P) and bailer (MW3-B) purge samples

from both wells. Metals that were detected did not exceed the applicable RBCs established for the site in either sample.

MW-7

- Laboratory analysis for NWTPH-Dx of the low flow purge sample (MW7-P), indicated diesel at 2.12 mg/L and non-detect for oil.
- Laboratory analysis for NWTPH-Dx of the bailer purge sample (MW7-B), indicated diesel at 158 milligrams per liter (mg/L) and non-detect for oil.
- Laboratory analysis NWTPH-Gx indicated a higher detection of gasoline range hydrocarbons for the sample collected utilizing the bailer purge and sample method (MW7-B). However, sample detections utilizing the low flow (MW7-P) or bailer (MW7-B) purge and sample method did not exceed the applicable RBCs established for the site and were consistent with historic results.
- Laboratory analysis for PAHs did not indicate any constituent in excess of applicable RBCs established for the site in either the low flow (MW7-P) or bailer (MW7-B) purge samples. However, the sample collected utilizing the bailer purge and sample method (MW7-B) indicated a large increase in the levels of detection compared to the low flow purge and sample method.
- Laboratory analysis for VOCs indicated consistent levels of detection for both the low flow (MW7-P) and bailer (MW7-B) purge and sample methods. VOC constituents that were detected were consistent with historic results and did not exceed the applicable RBCs established for the site in either sample.
- Laboratory analysis for Total and Dissolved Metals indicated consistent levels of detection for both the low flow (MW7-P) and bailer (MW7-B) purge and sample methods. Metals that were detected did not exceed the applicable RBCs established for the site in either sample.

Table 1
MW3/MW7 Assessment
Groundwater Sample Analytical Results
Total Petroleum Hydrocarbons

Well ID	Date Sampled	NWTPH-Gx (mg/l)	NWTPH-Dx (mg/l)	NWTPH-O (mg/l)	Sampling Method
MW-3	12/14/12	NA	10.8	1.00	Well was purged and sampled utilizing low flow peristaltic pump.
	12/14/12	NA	7.33	<0.481	Well was purged and sampled utilizing low flow peristaltic pump. Sample analyzed for NWTPH-Dx with silica gel cleanup
MW3-P	05/10/13	1.01	8.69	<0.358	Well was purged and sampled utilizing low flow peristaltic pump.
MW3-B	05/10/13	0.936	253	<15.1	Well was purged and sampled utilizing a bailer.
MW-7	12/14/12	NA	3.50	<0.377	Well was purged and sampled utilizing low flow peristaltic pump.
	12/14/12	NA	3.51	<0.472	Well was purged and sampled utilizing low flow peristaltic pump. Sample analyzed for NWTPH-Dx with silica gel cleanup
MW7-P	05/10/13	0.187	2.12	<0.377	Well was purged and sampled utilizing low flow peristaltic pump.
MW7-B	05/10/13	0.762	158	<7.62	Well was purged and sampled utilizing a bailer.
RBC _{we} - Construction and Excavation Worker		14	-	-	

Notes:

NWTPH-Gx = Total Petroleum Hydrocarbons as Gasoline Range Hydrocarbons by Method NWTPH-Gx

NWTPH-Dx = Total Petroleum Hydrocarbons as Diesel Range Hydrocarbons by Method NWTPH-Dx

NWTPH-O = Total Petroleum Hydrocarbons as Heavy-Oil Range Hydrocarbons by Method NWTPH-Dx

<2.43 = Not detected at the reporting limit indicated

mg/l=milligrams per liter (parts per million (ppm))

NA = sample was not analyzed for this constituent

BOLD = Analyte detected at or above method detection limits

RBC_{we} = Risk Based Concentration: Groundwater in Excavation (Revised: June 7, 2012)

- = No Risk Based Concentration Listed

Table 2
MW3/MW7 Assessment
Groundwater Sample Analytical Results
Volatile Organic Compounds

Sample ID	Date Sampled	Acetone (ug/l)	Benzene (ug/l)	2-Butanone (MEK) (ug/l)	n-Butyl benzene (ug/l)	sec-Butyl benzene (ug/l)	tert-Butyl benzene (ug/l)	Chloro ethane (ug/l)	1,2-Dichloro ethane (ug/l)	cis-1,2-Dichloro ethene (ug/l)	trans-1,2-Dichloro ethene (ug/l)	Ethylbenzene (ug/l)	Isopropyl benzene (ug/l)	Methyl tert-butyl ether (ug/l)	Methylene chloride (ug/l)	Naphthalene (ug/l)	n-Propyl benzene (ug/l)	Tetrachloro ethene (ug/l)	Toluene (ug/l)	Trichloro ethene (ug/l)	1,2,4-Trimethyl benzene (ug/l)	1,3,5-Trimethyl benzene (ug/l)	Total Xylenes (m,p and o) (ug/l)
MW3-P	5/10/2013	<20	51.8	<10	1.84	2.06	<1.00	<5.00	<0.500	<0.500	<0.500	<0.500	5.54	1.19	<5.00	<2.00	11.6	<0.500	1.68	<0.500	<1.00	<1.00	2.22
MW3-B	5/10/2013	<20	53.7	<10	2.21	1.78	<1.00	<5.00	<0.500	<0.500	<0.500	<0.500	4.32	1.12	<5.00	<2.00	8.30	<0.500	1.38	<0.500	<1.00	<1.00	2.01
MW7-P	5/10/2013	<20	<0.250	<10	<1.00	<1.00	<1.00	<5.00	<0.500	<0.500	<0.500	<0.500	<1.00	<1.00	<5.00	<2.00	2.58	<0.500	<1.00	<0.500	<1.00	<1.00	<1.50
MW7-B	5/10/2013	<20	<0.250	<10	3.40	3.50	<1.00	<5.00	<0.500	<0.500	<0.500	<0.500	6.08	<1.00	<5.00	<2.00	17.9	<0.500	<1.00	<0.500	<1.00	<1.00	<1.50
RBC _{exc} - Construction and Excavation Worker		-	1,700	-	-	-	-	2,400,000	-	24,000	14,000	4,400	-	62,000	-	500	-	240	210,000	430	1,700	23,000	23,000

Notes:

Well samples denoted with a "P" were purged and sampled utilizing a low flow peristaltic pump.

Well samples denoted with a "B" were purged and sampled utilizing a bailer.

<2.43 =Not Detected at the Reporting Limit indicated

ug/l=micrograms per liter (parts per billion (ppb))

BOLD = Analyte detected at or above method detection limits

RBC_{exc} = Risk Based Concentration: Groundwater in Excavation (Revised June 7, 2012)

- = No Risk Based Concentration Listed

Table 3
MW3/MW7 Assessment
Groundwater Sample Analytical Results
Polycyclic Aromatic Hydrocarbons

Sample ID	Date Sampled	Acenaphthene (ug/l)	Acenaphthylene (ug/l)	Anthracene (ug/l)	Benzo (a) anthracene (ug/l)	Benzo (a) pyrene (ug/l)	Benzo (b) fluoroanthene (ug/l)	Benzo (ghi) perylene (ug/l)	Benzo (k) fluoranthene (ug/l)	Chrysene (ug/l)	Dibenzo (a,h) anthracene (ug/l)	Dibenzofuran (ug/l)	Fluoroanthene (ug/l)	Fluorene (ug/l)	Indeno (1,2,3-cd) pyrene (ug/l)	1-Methylnaphthalene (ug/L)	2-Methylnaphthalene (ug/L)	Naphthalene (ug/l)	Phenanthrene (ug/l)	Pyrene (ug/l)
MW3-P	5/10/2013	<1.98	<0.566	<0.377	<0.377	<0.377	<0.377	<0.377	<0.377	<0.377	<0.377	1.68	<0.377	5.52	<0.377	57.5	<0.755	<0.755	4.24	<0.377
MW3-B	5/10/2013	<26.9	16.0	<8.02	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	<1.89	24.5	4.37	79.9	<1.89	455	<3.77	<6.60	137	5.45
MW7-P	5/10/2013	<0.632	<0.123	<0.113	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	<0.0377	0.657	0.0494	2.02	<0.0377	0.949	<0.0849	<0.189	0.216	0.0873
MW7-B	5/10/2013	<4.85	<3.88	<3.88	<3.88	<3.88	<3.88	<3.88	<3.88	<3.88	<3.88	<5.83	<3.88	15.9	<3.88	15.7	<7.77	<7.77	7.57	<3.88
RBC _{wg} - Construction and Excavation Worker		-	-	-	9.1	0.53	-	-	-	-	0.21		-	-	-			500	-	-

Notes:

Well samples denoted with a "P" were purged and sampled utilizing a low flow peristaltic pump.

Well samples denoted with a "B" were purged and sampled utilizing a bailer.

BOLD = Analyte detected at or above method detection limits

<2.43 = Not Detected at the Reporting Limit indicated

ug/l=micrograms per liter (parts per billion (ppb))

RBC_{wg} = Risk Based Concentration: Groundwater in Excavation (Revised: June 7, 2012)

- = No Risk Based Concentration Listed

Table 4
MW3/MW7 Assessment
Groundwater Sample Analytical Results
Total Metals

Sample ID	Date Sampled	Arsenic (ug/L)	Barium (ug/L)	Cadmium (ug/L)	Chromium (ug/L)	Lead (ug/L)	Mercury (ug/L)	Selenium (ug/L)	Silver (ug/L)
MW3-B	5/10/2013	10.0	138	<1.00	<2.00	2.66	<0.0800	<2.00	<1.00
MW7-B	5/10/2013	2.59	74.5	<1.00	<2.00	1.13	<0.0800	<2.00	<1.00
RBC _{we} - Construction and Excavation Worker		5,800	25,000,000	57,000	8,700	-	-	-	1,000,000

Notes:

Well samples denoted with a "B" were purged and sampled utilizing a bailer.

BOLD = Analyte detected at or above method detection limits

<2.43 =Not Detected at the Reporting Limit indicated

ug/l=micrograms per liter (parts per billion (ppb))

RBC_{we} = Risk Based Concentration: Groundwater in Excavation (Revised: June 7, 2012)

- = No Risk Based Concentration Listed

Table 5
MW3/MW7 Assessment
Groundwater Sample Analytical Results
Dissolved Metals

Sample ID	Date Sampled	Arsenic (ug/L)	Barium (ug/L)	Cadmium (ug/L)	Chromium (ug/L)	Lead (ug/L)	Mercury (ug/L)	Selenium (ug/L)	Silver (ug/L)
MW3-P	5/10/2013	7.86	138	<1.00	2.10	<1.00	<0.0800	<2.00	<1.00
MW7-P	5/10/2013	<2.00	55.2	<1.00	<2.00	<1.00	<0.0800	<2.00	<1.00
RBC _{we} - Construction and Excavation Worker		5,800	25,000,000	57,000	8,700	-	-	-	1,000,000

Notes:

Well samples denoted with a "P" were purged and sampled utilizing a low flow peristaltic pump.

BOLD = Analyte detected at or above method detection limits

<2.43 =Not Detected at the Reporting Limit indicated

ug/l=micrograms per liter (parts per billion (ppb))

RBC_{we} = Risk Based Concentration: Groundwater in Excavation (Revised: June 7, 2012)

- = No Risk Based Concentration Listed

Apex Labs

12232 S.W. Garden Place
Tigard, OR 97223
503-718-2323 Phone
503-718-0333 Fax

Friday, May 24, 2013

John Wyatt
Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

RE: Sunset Macadam / 033

Enclosed are the results of analyses for work order A3E0273, which was received by the laboratory on 5/10/2013 at 2:00:00PM.

Thank you for using Apex Labs. We appreciate your business and strive to provide the highest quality services to the environmental industry.

If you have any questions concerning this report or the services we offer, please feel free to contact me by email at: cwoodcock@apex-labs.com, or by phone at 503-718-2323.

Apex Laboratories



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Christina M. Woodcock, PM Support

Page 1 of 46

Feige and Associates, Inc.

27001 NW St. Helens Rd.
Scappoose, OR 97056

Project: **Sunset Macadam**

Project Number: 033

Project Manager: John Wyatt

Reported:

05/24/13 14:47

ANALYTICAL REPORT FOR SAMPLES

SAMPLE INFORMATION

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
MW7-P	A3E0273-01	Water	05/10/13 10:15	05/10/13 14:00
MW7-B	A3E0273-02	Water	05/10/13 10:45	05/10/13 14:00
MW3-P	A3E0273-03	Water	05/10/13 11:45	05/10/13 14:00
MW3-B	A3E0273-04	Water	05/10/13 12:45	05/10/13 14:00

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Christina M. Woodcock, PM Support

Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW7-P (A3E0273-01)			Matrix: Water		Batch: 3050400			
Diesel	2.12	---	0.189	mg/L	1	05/16/13 23:06	NWTPH-Dx	
Oil	ND	---	0.377	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW7-B (A3E0273-02)			Matrix: Water		Batch: 3050400			
Diesel	158	---	3.81	mg/L	20	05/16/13 23:30	NWTPH-Dx	
Oil	ND	---	7.62	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: %</i>	<i>Limits: 50-150 %</i>	"	"	"	S-01
MW3-P (A3E0273-03)			Matrix: Water		Batch: 3050400			
Diesel	8.69	---	0.192	mg/L	1	05/16/13 23:54	NWTPH-Dx	
Oil	ND	---	0.385	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: 99 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW3-B (A3E0273-04)			Matrix: Water		Batch: 3050400			
Diesel	253	---	7.55	mg/L	40	05/17/13 00:17	NWTPH-Dx	
Oil	ND	---	15.1	"	"	"	"	
<i>Surrogate: o-Terphenyl (Surr)</i>			<i>Recovery: %</i>	<i>Limits: 50-150 %</i>	"	"	"	S-01

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW7-P (A3E0273-01)			Matrix: Water		Batch: 3050344			
Gasoline Range Organics	0.187	---	0.100	mg/L	1	05/14/13 14:21	NWTPH-Gx (MS)	A-01
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 90 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>93 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW7-B (A3E0273-02RE1)			Matrix: Water		Batch: 3050337			
Gasoline Range Organics	0.762	---	0.100	mg/L	1	05/14/13 17:17	NWTPH-Gx (MS)	A-01
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 96 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>85 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW3-P (A3E0273-03)			Matrix: Water		Batch: 3050344			
Gasoline Range Organics	1.01	---	0.100	mg/L	1	05/14/13 14:49	NWTPH-Gx (MS)	A-01
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 100 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>90 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
MW3-B (A3E0273-04RE1)			Matrix: Water		Batch: 3050337			
Gasoline Range Organics	0.936	---	0.100	mg/L	1	05/14/13 17:44	NWTPH-Gx (MS)	A-01
<i>Surrogate: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 92 %</i>	<i>Limits: 50-150 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Sur)</i>			<i>80 %</i>	<i>Limits: 50-150 %</i>	"	"	"	

Apex Laboratories

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Christina M. Woodcock, PM Support

Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW7-P (A3E0273-01)			Matrix: Water		Batch: 3050344			
Acetone	ND	---	20.0	ug/L	1	05/14/13 14:21	EPA 8260B	
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	ND	---	1.00	"	"	"	"	
sec-Butylbenzene	ND	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW7-P (A3E0273-01)			Matrix: Water		Batch: 3050344			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	ND	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	2.58	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 109 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>108 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>110 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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Christina M. Woodcock, PM Support

Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW7-B (A3E0273-02RE1)			Matrix: Water		Batch: 3050337			
Acetone	ND	---	20.0	ug/L	1	05/14/13 17:17	EPA 8260B	Q-30
Benzene	ND	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	3.40	---	1.00	"	"	"	"	
sec-Butylbenzene	3.50	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW7-B (A3E0273-02RE1)			Matrix: Water		Batch: 3050337			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	6.08	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	17.9	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	ND	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	1.00	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	ND	---	1.00	"	"	"	"	
o-Xylene	ND	---	0.500	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 105 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>96 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>99 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>108 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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Christina M. Woodcock, PM Support

Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW3-P (A3E0273-03)			Matrix: Water		Batch: 3050344			
Acetone	ND	---	20.0	ug/L	1	05/14/13 14:49	EPA 8260B	
Benzene	51.8	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	1.84	---	1.00	"	"	"	"	
sec-Butylbenzene	2.06	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	0.510	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW3-P (A3E0273-03)			Matrix: Water		Batch: 3050344			
trans-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	5.54	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	1.19	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	11.6	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	1.68	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	0.500	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	1.34	---	1.00	"	"	"	"	
o-Xylene	0.880	---	0.500	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 101 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>99 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>105 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>103 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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Project: **Sunset Macadam**
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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW3-B (A3E0273-04RE1)			Matrix: Water		Batch: 3050337			
Acetone	ND	---	20.0	ug/L	1	05/14/13 17:44	EPA 8260B	Q-30
Benzene	53.7	---	0.250	"	"	"	"	
Bromobenzene	ND	---	0.500	"	"	"	"	
Bromochloromethane	ND	---	1.00	"	"	"	"	
Bromodichloromethane	ND	---	1.00	"	"	"	"	
Bromoform	ND	---	1.00	"	"	"	"	
Bromomethane	ND	---	5.00	"	"	"	"	
2-Butanone (MEK)	ND	---	10.0	"	"	"	"	
n-Butylbenzene	2.21	---	1.00	"	"	"	"	
sec-Butylbenzene	1.78	---	1.00	"	"	"	"	
tert-Butylbenzene	ND	---	1.00	"	"	"	"	
Carbon tetrachloride	ND	---	0.500	"	"	"	"	
Chlorobenzene	ND	---	0.500	"	"	"	"	
Chloroethane	ND	---	5.00	"	"	"	"	
Chloroform	ND	---	1.00	"	"	"	"	
Chloromethane	ND	---	5.00	"	"	"	"	
2-Chlorotoluene	ND	---	1.00	"	"	"	"	
4-Chlorotoluene	ND	---	1.00	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	"	"	
Dibromochloromethane	ND	---	1.00	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	"	"	
Dibromomethane	ND	---	1.00	"	"	"	"	
1,2-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,3-Dichlorobenzene	ND	---	0.500	"	"	"	"	
1,4-Dichlorobenzene	ND	---	0.500	"	"	"	"	
Dichlorodifluoromethane	ND	---	1.00	"	"	"	"	
1,1-Dichloroethane	ND	---	0.500	"	"	"	"	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	"	"	
1,1-Dichloroethene	ND	---	0.500	"	"	"	"	
cis-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	"	"	
1,2-Dichloropropane	ND	---	0.500	"	"	"	"	
1,3-Dichloropropane	ND	---	1.00	"	"	"	"	
2,2-Dichloropropane	ND	---	1.00	"	"	"	"	
1,1-Dichloropropene	ND	---	1.00	"	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW3-B (A3E0273-04RE1)			Matrix: Water		Batch: 3050337			
cis-1,3-Dichloropropene	ND	---	1.00	ug/L	1	"	EPA 8260B	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	"	"	
Ethylbenzene	ND	---	0.500	"	"	"	"	
Hexachlorobutadiene	ND	---	5.00	"	"	"	"	
2-Hexanone	ND	---	10.0	"	"	"	"	
Isopropylbenzene	4.32	---	1.00	"	"	"	"	
4-Isopropyltoluene	ND	---	1.00	"	"	"	"	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	"	"	
Methyl tert-butyl ether (MTBE)	1.12	---	1.00	"	"	"	"	
Methylene chloride	ND	---	5.00	"	"	"	"	
Naphthalene	ND	---	2.00	"	"	"	"	
n-Propylbenzene	8.30	---	0.500	"	"	"	"	
Styrene	ND	---	1.00	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	"	"	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	"	"	
Toluene	1.38	---	1.00	"	"	"	"	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	"	"	
1,1,1-Trichloroethane	ND	---	0.500	"	"	"	"	
1,1,2-Trichloroethane	ND	---	1.00	"	"	"	"	
Trichloroethene (TCE)	ND	---	0.500	"	"	"	"	
Trichlorofluoromethane	ND	---	2.00	"	"	"	"	
1,2,3-Trichloropropane	ND	---	1.00	"	"	"	"	
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	"	"	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	"	"	
Vinyl chloride	ND	---	0.500	"	"	"	"	
m,p-Xylene	1.29	---	1.00	"	"	"	"	
o-Xylene	0.720	---	0.500	"	"	"	"	
<i>Surrogate: Dibromofluoromethane (Surr)</i>			<i>Recovery: 104 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>1,4-Difluorobenzene (Surr)</i>			<i>94 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>Toluene-d8 (Surr)</i>			<i>98 %</i>	<i>Limits: 80-120 %</i>	"	"	"	
<i>4-Bromofluorobenzene (Surr)</i>			<i>109 %</i>	<i>Limits: 80-120 %</i>	"	"	"	

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Project: **Sunset Macadam**
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 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW7-P (A3E0273-01)			Matrix: Water		Batch: 3050416			
Acenaphthene	ND	---	0.632	ug/L	1	05/17/13 14:31	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.123	"	"	"	"	R-02
Anthracene	ND	---	0.113	"	"	"	"	R-02
Benz(a)anthracene	ND	---	0.0377	"	"	"	"	
Benzo(a)pyrene	ND	---	0.0377	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.0377	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.0377	"	"	"	"	
Chrysene	ND	---	0.0377	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.0377	"	"	"	"	
Dibenzofuran	0.657	---	0.0377	"	"	"	"	
Fluoranthene	0.0494	---	0.0377	"	"	"	"	
Fluorene	2.02	---	0.0377	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.0377	"	"	"	"	
1-Methylnaphthalene	0.949	---	0.0755	"	"	"	"	
2-Methylnaphthalene	ND	---	0.0849	"	"	"	"	R-02
Naphthalene	ND	---	0.189	"	"	"	"	R-02
Phenanthrene	0.216	---	0.0377	"	"	"	"	
Pyrene	0.0873	---	0.0377	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 63 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>74 %</i>	<i>Limits: 30-120 %</i>	"	"	"	

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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW7-B (A3E0273-02RE1)			Matrix: Water		Batch: 3050416			
Acenaphthene	ND	---	4.85	ug/L	100	05/17/13 17:10	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	3.88	"	"	"	"	
Anthracene	ND	---	3.88	"	"	"	"	
Benz(a)anthracene	ND	---	3.88	"	"	"	"	
Benzo(a)pyrene	ND	---	3.88	"	"	"	"	
Benzo(b)fluoranthene	ND	---	3.88	"	"	"	"	
Benzo(k)fluoranthene	ND	---	3.88	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	3.88	"	"	"	"	
Chrysene	ND	---	3.88	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	3.88	"	"	"	"	
Dibenzofuran	ND	---	5.83	"	"	"	"	R-02
Fluoranthene	ND	---	3.88	"	"	"	"	
Fluorene	15.9	---	3.88	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	3.88	"	"	"	"	
1-Methylnaphthalene	15.7	---	7.77	"	"	"	"	
2-Methylnaphthalene	ND	---	7.77	"	"	"	"	
Naphthalene	ND	---	7.77	"	"	"	"	
Phenanthrene	7.57	---	3.88	"	"	"	"	M-02
Pyrene	ND	---	3.88	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 77 %</i>	<i>Limits: 45-120 %</i>	"	"	"	<i>S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>67 %</i>	<i>Limits: 30-120 %</i>	"	"	"	<i>S-05</i>

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW3-P (A3E0273-03)			Matrix: Water		Batch: 3050416			
Acenaphthene	ND	---	1.98	ug/L	10	05/17/13 15:51	EPA 8270D (SIM)	R-02
Acenaphthylene	ND	---	0.566	"	"	"	"	R-02
Anthracene	ND	---	0.377	"	"	"	"	
Benz(a)anthracene	ND	---	0.377	"	"	"	"	
Benzo(a)pyrene	ND	---	0.377	"	"	"	"	
Benzo(b)fluoranthene	ND	---	0.377	"	"	"	"	
Benzo(k)fluoranthene	ND	---	0.377	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	0.377	"	"	"	"	
Chrysene	ND	---	0.377	"	"	"	"	
Dibenz(a,h)anthracene	ND	---	0.377	"	"	"	"	
Dibenzofuran	1.68	---	0.377	"	"	"	"	
Fluoranthene	ND	---	0.377	"	"	"	"	
Fluorene	5.52	---	0.377	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	0.377	"	"	"	"	
1-Methylnaphthalene	57.5	---	0.755	"	"	"	"	
2-Methylnaphthalene	ND	---	0.755	"	"	"	"	
Naphthalene	ND	---	0.755	"	"	"	"	
Phenanthrene	4.24	---	0.377	"	"	"	"	
Pyrene	ND	---	0.377	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 90 %</i>	<i>Limits: 45-120 %</i>	"	"	"	
<i>p-Terphenyl-d14 (Surr)</i>			<i>81 %</i>	<i>Limits: 30-120 %</i>	"	"	"	

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Reported:
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ANALYTICAL SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting		Dilution	Date Analyzed	Method	Notes
			Limit	Units				
MW3-B (A3E0273-04)			Matrix: Water		Batch: 3050416			
Acenaphthene	ND	---	26.9	ug/L	50	05/17/13 16:17	EPA 8270D (SIM)	R-02
Acenaphthylene	16.0	---	16.0	"	"	"	"	R-02
Anthracene	ND	---	8.02	"	"	"	"	R-02
Benz(a)anthracene	ND	---	1.89	"	"	"	"	
Benzo(a)pyrene	ND	---	1.89	"	"	"	"	
Benzo(b)fluoranthene	ND	---	1.89	"	"	"	"	
Benzo(k)fluoranthene	ND	---	1.89	"	"	"	"	
Benzo(g,h,i)perylene	ND	---	1.89	"	"	"	"	
Chrysene	ND	---	2.36	"	"	"	"	R-02
Dibenz(a,h)anthracene	ND	---	1.89	"	"	"	"	
Dibenzofuran	24.5	---	24.5	"	"	"	"	R-02
Fluoranthene	4.37	---	1.89	"	"	"	"	M-02
Fluorene	79.9	---	1.89	"	"	"	"	
Indeno(1,2,3-cd)pyrene	ND	---	1.89	"	"	"	"	
1-Methylnaphthalene	455	---	3.77	"	"	"	"	
2-Methylnaphthalene	ND	---	3.77	"	"	"	"	
Naphthalene	ND	---	6.60	"	"	"	"	R-02
Phenanthrene	137	---	1.89	"	"	"	"	
Pyrene	5.45	---	1.89	"	"	"	"	
<i>Surrogate: 2-Fluorobiphenyl (Surr)</i>			<i>Recovery: 100 %</i>	<i>Limits: 45-120 %</i>	"	"	"	<i>S-05</i>
<i>p-Terphenyl-d14 (Surr)</i>			<i>69 %</i>	<i>Limits: 30-120 %</i>	"	"	"	<i>S-05</i>

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Reported:
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ANALYTICAL SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW7-B (A3E0273-02)			Matrix: Water					
Batch: 3050324								
Arsenic	2.59	---	2.00	ug/L	1	05/14/13 19:05	EPA 6020A	
Barium	74.5	---	1.00	"	"	"	"	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	2.00	"	"	"	"	
Lead	1.13	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	05/15/13 13:07	"	
Selenium	ND	---	2.00	"	"	05/14/13 19:05	"	
Silver	ND	---	1.00	"	"	"	"	
MW3-B (A3E0273-04)			Matrix: Water					
Batch: 3050324								
Arsenic	10.0	---	2.00	ug/L	1	05/14/13 19:08	EPA 6020A	
Barium	138	---	1.00	"	"	"	"	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	2.00	"	"	"	"	
Lead	2.66	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	05/15/13 13:10	"	
Selenium	ND	---	2.00	"	"	05/14/13 19:08	"	
Silver	ND	---	1.00	"	"	"	"	

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 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

ANALYTICAL SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Date Analyzed	Method	Notes
MW7-P (A3E0273-01)			Matrix: Water					
Batch: 3050315								
Arsenic	ND	---	2.00	ug/L	1	05/16/13 12:13	EPA 6020A (Diss)	
Barium	55.2	---	1.00	"	"	"	"	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	ND	---	2.00	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	"	"	
Selenium	ND	---	2.00	"	"	"	"	
Silver	ND	---	1.00	"	"	"	"	
MW3-P (A3E0273-03)			Matrix: Water					
Batch: 3050315								
Arsenic	7.86	---	2.00	ug/L	1	05/16/13 12:16	EPA 6020A (Diss)	
Barium	138	---	1.00	"	"	"	"	
Cadmium	ND	---	1.00	"	"	"	"	
Chromium	2.10	---	2.00	"	"	"	"	
Lead	ND	---	1.00	"	"	"	"	
Mercury	ND	---	0.0800	"	"	"	"	
Selenium	ND	---	2.00	"	"	"	"	
Silver	ND	---	1.00	"	"	"	"	

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Project: **Sunset Macadam**
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 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Diesel and Oil Hydrocarbons by NWTPH-Dx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050400 - EPA 3510C (Acid Extraction)						Water						
Blank (3050400-BLK1)						Prepared: 05/16/13 07:01 Analyzed: 05/16/13 21:55						
NWTPH-Dx												
Diesel	ND	---	0.182	mg/L	1	---	---	---	---	---	---	
Oil	ND	---	0.364	"	"	---	---	---	---	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 92 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS (3050400-BS1)						Prepared: 05/16/13 07:01 Analyzed: 05/16/13 22:19						
NWTPH-Dx												
Diesel	1.13	---	0.200	mg/L	1	1.25	---	90	70-130%	---	---	
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 94 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
LCS Dup (3050400-BSD1)						Prepared: 05/16/13 07:01 Analyzed: 05/16/13 22:43						
NWTPH-Dx												
Diesel	1.17	---	0.200	mg/L	1	1.25	---	94	70-130%	4	20%	Q-19
<i>Surr: o-Terphenyl (Surr)</i>		<i>Recovery: 96 %</i>		<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050337 - EPA 5030B						Water						
Blank (3050337-BLK1)						Prepared: 05/14/13 08:33 Analyzed: 05/14/13 10:33						
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 86 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>83 %</i>	<i>50-150 %</i>		<i>"</i>						
LCS (3050337-BS2)						Prepared: 05/14/13 08:33 Analyzed: 05/14/13 10:06						
NWTPH-Gx (MS)												
Gasoline Range Organics	0.431	---	0.100	mg/L	1	0.500	---	86	70-130%	---	---	---
<i>Surr: 4-Bromofluorobenzene (Sur)</i>			<i>Recovery: 84 %</i>	<i>Limits: 50-150 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Sur)</i>			<i>83 %</i>	<i>50-150 %</i>		<i>"</i>						

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Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Blank (3050344-BLK1)						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 12:05						
NWTPH-Gx (MS)												
Gasoline Range Organics	ND	---	0.100	mg/L	1	---	---	---	---	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 97 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			89 %	50-150 %		"						
LCS (3050344-BS2)						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 11:37						
NWTPH-Gx (MS)												
Gasoline Range Organics	0.514	---	0.100	mg/L	1	0.500	---	103	70-130%	---	---	
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 98 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			91 %	50-150 %		"						
Duplicate (3050344-DUP1)						Prepared: 05/14/13 11:35 Analyzed: 05/14/13 15:43						
QC Source Sample: MW7-B (A3E0273-02)												
NWTPH-Gx (MS)												
Gasoline Range Organics	0.820	---	0.500	mg/L	5	---	0.693	---	---	17	30%	A-01
Surr: 4-Bromofluorobenzene (Sur)			Recovery: 102 %	Limits: 50-150 %		Dilution: 1x						
1,4-Difluorobenzene (Sur)			90 %	50-150 %		"						

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050337 - EPA 5030B						Water						
Blank (3050337-BLK1)						Prepared: 05/14/13 08:33 Analyzed: 05/14/13 10:33						
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	Q-30
Benzene	ND	---	0.250	"	"	---	---	---	---	---	---	
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromodichloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	

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 Project Manager: John Wyatt

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 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050337 - EPA 5030B						Water						
Blank (3050337-BLK1)						Prepared: 05/14/13 08:33 Analyzed: 05/14/13 10:33						
cis-1,2-Dichloroethene	ND	---	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	1.00	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	

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Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050337 - EPA 5030B						Water						
Blank (3050337-BLK1)						Prepared: 05/14/13 08:33 Analyzed: 05/14/13 10:33						
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>		<i>Recovery: 106 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Surr)</i>		<i>96 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>Toluene-d8 (Surr)</i>		<i>100 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>109 %</i>		<i>80-120 %</i>		<i>"</i>						

LCS (3050337-BS1)

Prepared: 05/14/13 08:33 Analyzed: 05/14/13 09:40

EPA 8260B												
Acetone	26.4	---	20.0	ug/L	1	40.0	---	66	70-130%	---	---	Q-30
Benzene	19.7	---	0.250	"	"	20.0	---	99	"	---	---	
Bromobenzene	22.4	---	0.500	"	"	"	---	112	"	---	---	
Bromochloromethane	20.6	---	1.00	"	"	"	---	103	"	---	---	
Bromodichloromethane	18.2	---	1.00	"	"	"	---	91	"	---	---	
Bromoform	24.2	---	1.00	"	"	"	---	121	"	---	---	
Bromomethane	14.4	---	5.00	"	"	"	---	72	"	---	---	
2-Butanone (MEK)	30.9	---	10.0	"	"	40.0	---	77	"	---	---	
n-Butylbenzene	18.4	---	1.00	"	"	20.0	---	92	"	---	---	
sec-Butylbenzene	20.1	---	1.00	"	"	"	---	101	"	---	---	
tert-Butylbenzene	18.8	---	1.00	"	"	"	---	94	"	---	---	
Carbon tetrachloride	21.9	---	0.500	"	"	"	---	110	"	---	---	
Chlorobenzene	21.9	---	0.500	"	"	"	---	109	"	---	---	
Chloroethane	18.5	---	5.00	"	"	"	---	93	"	---	---	
Chloroform	18.2	---	1.00	"	"	"	---	91	"	---	---	
Chloromethane	15.2	---	5.00	"	"	"	---	76	"	---	---	
2-Chlorotoluene	21.4	---	1.00	"	"	"	---	107	"	---	---	
4-Chlorotoluene	18.6	---	1.00	"	"	"	---	93	"	---	---	
1,2-Dibromo-3-chloroprop ane	21.4	---	5.00	"	"	"	---	107	"	---	---	

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050337 - EPA 5030B						Water						
LCS (3050337-BS1)						Prepared: 05/14/13 08:33 Analyzed: 05/14/13 09:40						
Dibromochloromethane	23.1	---	1.00	ug/L	"	"	---	115	"	---	---	
1,2-Dibromoethane (EDB)	22.3	---	0.500	"	"	"	---	112	"	---	---	
Dibromomethane	21.4	---	1.00	"	"	"	---	107	"	---	---	
1,2-Dichlorobenzene	21.6	---	0.500	"	"	"	---	108	"	---	---	
1,3-Dichlorobenzene	22.1	---	0.500	"	"	"	---	110	"	---	---	
1,4-Dichlorobenzene	21.3	---	0.500	"	"	"	---	107	"	---	---	
Dichlorodifluoromethane	16.0	---	1.00	"	"	"	---	80	"	---	---	
1,1-Dichloroethane	21.6	---	0.500	"	"	"	---	108	"	---	---	
1,2-Dichloroethane (EDC)	21.2	---	0.500	"	"	"	---	106	"	---	---	
1,1-Dichloroethene	20.8	---	0.500	"	"	"	---	104	"	---	---	
cis-1,2-Dichloroethene	19.3	---	0.500	"	"	"	---	97	"	---	---	
trans-1,2-Dichloroethene	20.8	---	0.500	"	"	"	---	104	"	---	---	
1,2-Dichloropropane	21.0	---	0.500	"	"	"	---	105	"	---	---	
1,3-Dichloropropane	21.3	---	1.00	"	"	"	---	106	"	---	---	
2,2-Dichloropropane	18.7	---	1.00	"	"	"	---	93	"	---	---	
1,1-Dichloropropene	18.0	---	1.00	"	"	"	---	90	"	---	---	
cis-1,3-Dichloropropene	19.7	---	1.00	"	"	"	---	99	"	---	---	
trans-1,3-Dichloropropene	20.6	---	1.00	"	"	"	---	103	"	---	---	
Ethylbenzene	19.9	---	0.500	"	"	"	---	100	"	---	---	
Hexachlorobutadiene	23.4	---	5.00	"	"	"	---	117	"	---	---	
2-Hexanone	37.6	---	10.0	"	"	40.0	---	94	"	---	---	
Isopropylbenzene	21.1	---	1.00	"	"	20.0	---	105	"	---	---	
4-Isopropyltoluene	21.1	---	1.00	"	"	"	---	106	"	---	---	
4-Methyl-2-pentanone (MiBK)	42.4	---	10.0	"	"	40.0	---	106	"	---	---	
Methyl tert-butyl ether (MTBE)	17.8	---	1.00	"	"	20.0	---	89	"	---	---	
Methylene chloride	18.7	---	5.00	"	"	"	---	93	"	---	---	
Naphthalene	20.6	---	2.00	"	"	"	---	103	"	---	---	
n-Propylbenzene	19.3	---	0.500	"	"	"	---	97	"	---	---	
Styrene	21.3	---	1.00	"	"	"	---	106	"	---	---	
1,1,1,2-Tetrachloroethane	23.9	---	0.500	"	"	"	---	120	"	---	---	

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050337 - EPA 5030B						Water						
LCS (3050337-BS1)						Prepared: 05/14/13 08:33 Analyzed: 05/14/13 09:40						
1,1,2,2-Tetrachloroethane	18.8	---	0.500	"	"	"	---	94	"	---	---	
Tetrachloroethene (PCE)	23.8	---	0.500	"	"	"	---	119	"	---	---	
Toluene	19.6	---	1.00	"	"	"	---	98	"	---	---	
1,2,3-Trichlorobenzene	20.2	---	2.00	"	"	"	---	101	"	---	---	
1,2,4-Trichlorobenzene	22.5	---	2.00	"	"	"	---	113	"	---	---	
1,1,1-Trichloroethane	18.8	---	0.500	"	"	"	---	94	"	---	---	
1,1,2-Trichloroethane	20.3	---	1.00	"	"	"	---	102	"	---	---	
Trichloroethene (TCE)	22.2	---	0.500	"	"	"	---	111	"	---	---	
Trichlorofluoromethane	20.9	---	2.00	"	"	"	---	104	"	---	---	
1,2,3-Trichloropropane	22.1	---	1.00	"	"	"	---	110	"	---	---	
1,2,4-Trimethylbenzene	20.2	---	1.00	"	"	"	---	101	"	---	---	
1,3,5-Trimethylbenzene	20.1	---	1.00	"	"	"	---	101	"	---	---	
Vinyl chloride	18.4	---	0.500	"	"	"	---	92	"	---	---	
m,p-Xylene	40.4	---	1.00	"	"	40.0	---	101	"	---	---	
o-Xylene	19.8	---	0.500	"	"	20.0	---	99	"	---	---	

Surr: Dibromofluoromethane (Surr)	Recovery: 104 %	Limits: 80-120 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	95 %	80-120 %	"
Toluene-d8 (Surr)	102 %	80-120 %	"
4-Bromofluorobenzene (Surr)	110 %	80-120 %	"

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Christina M. Woodcock, PM Support

Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Blank (3050344-BLK1)						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 12:05						
EPA 8260B												
Acetone	ND	---	20.0	ug/L	1	---	---	---	---	---	---	---
Benzene	ND	---	0.250	"	"	---	---	---	---	---	---	---
Bromobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Bromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
Bromodichloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
Bromoform	ND	---	1.00	"	"	---	---	---	---	---	---	---
Bromomethane	ND	---	5.00	"	"	---	---	---	---	---	---	---
2-Butanone (MEK)	ND	---	10.0	"	"	---	---	---	---	---	---	---
n-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	---
sec-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	---
tert-Butylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	---
Carbon tetrachloride	ND	---	0.500	"	"	---	---	---	---	---	---	---
Chlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Chloroethane	ND	---	5.00	"	"	---	---	---	---	---	---	---
Chloroform	ND	---	1.00	"	"	---	---	---	---	---	---	---
Chloromethane	ND	---	5.00	"	"	---	---	---	---	---	---	---
2-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	---
4-Chlorotoluene	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,2-Dibromo-3-chloropropane	ND	---	5.00	"	"	---	---	---	---	---	---	---
Dibromochloromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,2-Dibromoethane (EDB)	ND	---	0.500	"	"	---	---	---	---	---	---	---
Dibromomethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,2-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,3-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,4-Dichlorobenzene	ND	---	0.500	"	"	---	---	---	---	---	---	---
Dichlorodifluoromethane	ND	---	1.00	"	"	---	---	---	---	---	---	---
1,1-Dichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,2-Dichloroethane (EDC)	ND	---	0.500	"	"	---	---	---	---	---	---	---
1,1-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	---

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Feige and Associates, Inc.
 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Blank (3050344-BLK1)						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 12:05						
cis-1,2-Dichloroethene	ND	---	0.500	ug/L	"	---	---	---	---	---	---	
trans-1,2-Dichloroethene	ND	---	0.500	"	"	---	---	---	---	---	---	
1,2-Dichloropropane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,3-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
2,2-Dichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
cis-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
trans-1,3-Dichloropropene	ND	---	1.00	"	"	---	---	---	---	---	---	
Ethylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Hexachlorobutadiene	ND	---	5.00	"	"	---	---	---	---	---	---	
2-Hexanone	ND	---	10.0	"	"	---	---	---	---	---	---	
Isopropylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Isopropyltoluene	ND	---	1.00	"	"	---	---	---	---	---	---	
4-Methyl-2-pentanone (MiBK)	ND	---	10.0	"	"	---	---	---	---	---	---	
Methyl tert-butyl ether (MTBE)	ND	---	1.00	"	"	---	---	---	---	---	---	
Methylene chloride	ND	---	5.00	"	"	---	---	---	---	---	---	
Naphthalene	ND	---	2.00	"	"	---	---	---	---	---	---	
n-Propylbenzene	ND	---	0.500	"	"	---	---	---	---	---	---	
Styrene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,1,1,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2,2-Tetrachloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Tetrachloroethene (PCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Toluene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,2,3-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,4-Trichlorobenzene	ND	---	2.00	"	"	---	---	---	---	---	---	
1,1,1-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
1,1,2-Trichloroethane	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichloroethene (TCE)	ND	---	0.500	"	"	---	---	---	---	---	---	
Trichlorofluoromethane	ND	---	2.00	"	"	---	---	---	---	---	---	
1,2,3-Trichloropropane	ND	---	1.00	"	"	---	---	---	---	---	---	

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 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Blank (3050344-BLK1)						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 12:05						
1,2,4-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
1,3,5-Trimethylbenzene	ND	---	1.00	"	"	---	---	---	---	---	---	
Vinyl chloride	ND	---	0.500	"	"	---	---	---	---	---	---	
m,p-Xylene	ND	---	1.00	"	"	---	---	---	---	---	---	
o-Xylene	ND	---	0.500	"	"	---	---	---	---	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>		<i>Recovery: 99 %</i>		<i>Limits: 80-120 %</i>		<i>Dilution: 1x</i>						
<i>1,4-Difluorobenzene (Surr)</i>		<i>98 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>Toluene-d8 (Surr)</i>		<i>104 %</i>		<i>80-120 %</i>		<i>"</i>						
<i>4-Bromofluorobenzene (Surr)</i>		<i>105 %</i>		<i>80-120 %</i>		<i>"</i>						
LCS (3050344-BS1)						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 11:11						
EPA 8260B												
Acetone	39.1	---	20.0	ug/L	1	40.0	---	98	70-130%	---	---	
Benzene	20.3	---	0.250	"	"	20.0	---	101	"	---	---	
Bromobenzene	21.3	---	0.500	"	"	"	---	107	"	---	---	
Bromochloromethane	18.7	---	1.00	"	"	"	---	94	"	---	---	
Bromodichloromethane	20.3	---	1.00	"	"	"	---	101	"	---	---	
Bromoform	23.3	---	1.00	"	"	"	---	116	"	---	---	
Bromomethane	17.5	---	5.00	"	"	"	---	87	"	---	---	
2-Butanone (MEK)	37.4	---	10.0	"	"	40.0	---	94	"	---	---	
n-Butylbenzene	21.1	---	1.00	"	"	20.0	---	106	"	---	---	
sec-Butylbenzene	21.2	---	1.00	"	"	"	---	106	"	---	---	
tert-Butylbenzene	20.0	---	1.00	"	"	"	---	100	"	---	---	
Carbon tetrachloride	20.8	---	0.500	"	"	"	---	104	"	---	---	
Chlorobenzene	21.0	---	0.500	"	"	"	---	105	"	---	---	
Chloroethane	66.1	---	5.00	"	"	"	---	330	"	---	---	EST
Chloroform	20.6	---	1.00	"	"	"	---	103	"	---	---	
Chloromethane	16.2	---	5.00	"	"	"	---	81	"	---	---	
2-Chlorotoluene	21.4	---	1.00	"	"	"	---	107	"	---	---	
4-Chlorotoluene	21.3	---	1.00	"	"	"	---	107	"	---	---	
1,2-Dibromo-3-chloroprop ane	19.7	---	5.00	"	"	"	---	98	"	---	---	

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Feige and Associates, Inc.
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 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
LCS (3050344-BS1)						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 11:11						
Dibromochloromethane	21.4	---	1.00	ug/L	"	"	---	107	"	---	---	
1,2-Dibromoethane (EDB)	20.5	---	0.500	"	"	"	---	103	"	---	---	
Dibromomethane	19.3	---	1.00	"	"	"	---	97	"	---	---	
1,2-Dichlorobenzene	21.8	---	0.500	"	"	"	---	109	"	---	---	
1,3-Dichlorobenzene	21.4	---	0.500	"	"	"	---	107	"	---	---	
1,4-Dichlorobenzene	21.3	---	0.500	"	"	"	---	106	"	---	---	
Dichlorodifluoromethane	17.4	---	1.00	"	"	"	---	87	"	---	---	
1,1-Dichloroethane	19.0	---	0.500	"	"	"	---	95	"	---	---	
1,2-Dichloroethane (EDC)	19.9	---	0.500	"	"	"	---	100	"	---	---	
1,1-Dichloroethene	20.4	---	0.500	"	"	"	---	102	"	---	---	
cis-1,2-Dichloroethene	20.2	---	0.500	"	"	"	---	101	"	---	---	
trans-1,2-Dichloroethene	19.8	---	0.500	"	"	"	---	99	"	---	---	
1,2-Dichloropropane	19.0	---	0.500	"	"	"	---	95	"	---	---	
1,3-Dichloropropane	20.3	---	1.00	"	"	"	---	102	"	---	---	
2,2-Dichloropropane	21.4	---	1.00	"	"	"	---	107	"	---	---	
1,1-Dichloropropene	20.1	---	1.00	"	"	"	---	100	"	---	---	
cis-1,3-Dichloropropene	19.7	---	1.00	"	"	"	---	98	"	---	---	
trans-1,3-Dichloropropene	20.5	---	1.00	"	"	"	---	102	"	---	---	
Ethylbenzene	21.2	---	0.500	"	"	"	---	106	"	---	---	
Hexachlorobutadiene	20.8	---	5.00	"	"	"	---	104	"	---	---	
2-Hexanone	39.6	---	10.0	"	"	40.0	---	99	"	---	---	
Isopropylbenzene	21.0	---	1.00	"	"	20.0	---	105	"	---	---	
4-Isopropyltoluene	22.0	---	1.00	"	"	"	---	110	"	---	---	
4-Methyl-2-pentanone (MiBK)	36.0	---	10.0	"	"	40.0	---	90	"	---	---	
Methyl tert-butyl ether (MTBE)	18.1	---	1.00	"	"	20.0	---	91	"	---	---	
Methylene chloride	20.2	---	5.00	"	"	"	---	101	"	---	---	
Naphthalene	24.8	---	2.00	"	"	"	---	124	"	---	---	
n-Propylbenzene	21.0	---	0.500	"	"	"	---	105	"	---	---	
Styrene	21.4	---	1.00	"	"	"	---	107	"	---	---	
1,1,1,2-Tetrachloroethane	21.4	---	0.500	"	"	"	---	107	"	---	---	

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Christina M. Woodcock, PM Support

Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

Project: **Sunset Macadam**
Project Number: 033
Project Manager: John Wyatt

Reported:
05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B												
						Water						
LCS (3050344-BS1)												
						Prepared: 05/14/13 08:35 Analyzed: 05/14/13 11:11						
1,1,2,2-Tetrachloroethane	20.9	---	0.500	"	"	"	---	104	"	---	---	
Tetrachloroethene (PCE)	22.2	---	0.500	"	"	"	---	111	"	---	---	
Toluene	21.5	---	1.00	"	"	"	---	107	"	---	---	
1,2,3-Trichlorobenzene	22.9	---	2.00	"	"	"	---	115	"	---	---	
1,2,4-Trichlorobenzene	25.6	---	2.00	"	"	"	---	128	"	---	---	
1,1,1-Trichloroethane	19.8	---	0.500	"	"	"	---	99	"	---	---	
1,1,2-Trichloroethane	21.0	---	0.500	"	"	"	---	105	"	---	---	
Trichloroethene (TCE)	21.3	---	0.500	"	"	"	---	107	"	---	---	
Trichlorofluoromethane	76.6	---	2.00	"	"	"	---	383	"	---	---	EST
1,2,3-Trichloropropane	18.7	---	1.00	"	"	"	---	93	"	---	---	
1,2,4-Trimethylbenzene	21.0	---	1.00	"	"	"	---	105	"	---	---	
1,3,5-Trimethylbenzene	21.0	---	1.00	"	"	"	---	105	"	---	---	
Vinyl chloride	18.4	---	0.500	"	"	"	---	92	"	---	---	
m,p-Xylene	42.8	---	1.00	"	"	40.0	---	107	"	---	---	
o-Xylene	21.0	---	0.500	"	"	20.0	---	105	"	---	---	

<i>Surr: Dibromofluoromethane (Surr)</i>	<i>Recovery: 97 %</i>	<i>Limits: 80-120 %</i>	<i>Dilution: 1x</i>
<i>1,4-Difluorobenzene (Surr)</i>	<i>97 %</i>	<i>80-120 %</i>	<i>"</i>
<i>Toluene-d8 (Surr)</i>	<i>104 %</i>	<i>80-120 %</i>	<i>"</i>
<i>4-Bromofluorobenzene (Surr)</i>	<i>103 %</i>	<i>80-120 %</i>	<i>"</i>

Duplicate (3050344-DUP1)

Prepared: 05/14/13 11:35 Analyzed: 05/14/13 15:43

QC Source Sample: MW7-B (A3E0273-02)

EPA 8260B

Acetone	ND	---	100	ug/L	5	---	ND	---	---	---	30%
Benzene	ND	---	1.25	"	"	---	ND	---	---	---	30%
Bromobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%
Bromochloromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%
Bromodichloromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%
Bromoform	ND	---	5.00	"	"	---	ND	---	---	---	30%
Bromomethane	ND	---	25.0	"	"	---	ND	---	---	---	30%
2-Butanone (MEK)	ND	---	50.0	"	"	---	ND	---	---	---	30%
n-Butylbenzene	ND	---	5.00	"	"	---	3.10	---	---	***	30%

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Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

Project: **Sunset Macadam**
Project Number: 033
Project Manager: John Wyatt

Reported:
05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B												
Water												
Duplicate (3050344-DUP1)						Prepared: 05/14/13 11:35 Analyzed: 05/14/13 15:43						
QC Source Sample: MW7-B (A3E0273-02)												
sec-Butylbenzene	ND	---	5.00	ug/L	"	---	3.40	---	---	***	30%	
tert-Butylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Carbon tetrachloride	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Chlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Chloroethane	ND	---	25.0	"	"	---	ND	---	---	---	30%	
Chloroform	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Chloromethane	ND	---	25.0	"	"	---	ND	---	---	---	30%	
2-Chlorotoluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
4-Chlorotoluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromo-3-chloropropane	ND	---	25.0	"	"	---	ND	---	---	---	30%	
Dibromochloromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2-Dibromoethane (EDB)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Dibromomethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2-Dichlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,3-Dichlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,4-Dichlorobenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Dichlorodifluoromethane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,2-Dichloroethane (EDC)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,1-Dichloroethene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
cis-1,2-Dichloroethene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
trans-1,2-Dichloroethene	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,2-Dichloropropane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,3-Dichloropropane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
2,2-Dichloropropane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,1-Dichloropropene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
cis-1,3-Dichloropropene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
trans-1,3-Dichloropropene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Ethylbenzene	ND	---	2.50	"	"	---	ND	---	---	---	30%	

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 27001 NW St. Helens Rd.
 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Duplicate (3050344-DUP1)						Prepared: 05/14/13 11:35 Analyzed: 05/14/13 15:43						
QC Source Sample: MW7-B (A3E0273-02)												
Hexachlorobutadiene	ND	---	25.0	ug/L	"	---	ND	---	---	---	30%	
2-Hexanone	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Isopropylbenzene	ND	---	5.00	"	"	---	4.10	---	---	***	30%	
4-Isopropyltoluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
4-Methyl-2-pentanone (MiBK)	ND	---	50.0	"	"	---	ND	---	---	---	30%	
Methyl tert-butyl ether (MTBE)	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Methylene chloride	ND	---	25.0	"	"	---	ND	---	---	---	30%	
Naphthalene	ND	---	10.0	"	"	---	ND	---	---	---	30%	
n-Propylbenzene	15.8	---	2.50	"	"	---	17.0	---	---	7	30%	
Styrene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,1,1,2-Tetrachloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,1,2,2-Tetrachloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Tetrachloroethene (PCE)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Toluene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2,3-Trichlorobenzene	ND	---	10.0	"	"	---	ND	---	---	---	30%	
1,2,4-Trichlorobenzene	ND	---	10.0	"	"	---	ND	---	---	---	30%	
1,1,1-Trichloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
1,1,2-Trichloroethane	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Trichloroethene (TCE)	ND	---	2.50	"	"	---	ND	---	---	---	30%	
Trichlorofluoromethane	ND	---	10.0	"	"	---	ND	---	---	---	30%	
1,2,3-Trichloropropane	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,2,4-Trimethylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
1,3,5-Trimethylbenzene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
Vinyl chloride	ND	---	2.50	"	"	---	ND	---	---	---	30%	
m,p-Xylene	ND	---	5.00	"	"	---	ND	---	---	---	30%	
o-Xylene	ND	---	2.50	"	"	---	ND	---	---	---	30%	

Surr: Dibromofluoromethane (Surr)	Recovery: 101 %	Limits: 80-120 %	Dilution: 1x
1,4-Difluorobenzene (Surr)	100 %	80-120 %	"
Toluene-d8 (Surr)	106 %	80-120 %	"

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Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

Project: **Sunset Macadam**
Project Number: 033
Project Manager: John Wyatt

Reported:
05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Duplicate (3050344-DUP1)						Prepared: 05/14/13 11:35 Analyzed: 05/14/13 15:43						
QC Source Sample: MW7-B (A3E0273-02)												
Surr: 4-Bromofluorobenzene (Surr)			Recovery: 105 %		Limits: 80-120 %		Dilution: 1x					
Matrix Spike (3050344-MS1)						Prepared: 05/14/13 11:35 Analyzed: 05/14/13 16:37						
QC Source Sample: MW3-B (A3E0273-04)												
EPA 8260B												
Acetone	109	---	100	ug/L	5	200	ND	55	70-130%	---	---	Q-01
Benzene	148	---	1.25	"	"	100	50.0	98	"	---	---	
Bromobenzene	101	---	2.50	"	"	"	ND	101	"	---	---	
Bromochloromethane	90.2	---	5.00	"	"	"	ND	90	"	---	---	
Bromodichloromethane	102	---	5.00	"	"	"	ND	102	"	---	---	
Bromoform	114	---	5.00	"	"	"	ND	114	"	---	---	
Bromomethane	68.1	---	25.0	"	"	"	ND	68	"	---	---	Q-01
2-Butanone (MEK)	165	---	50.0	"	"	200	ND	83	"	---	---	
n-Butylbenzene	94.3	---	5.00	"	"	100	ND	94	"	---	---	
sec-Butylbenzene	95.8	---	5.00	"	"	"	ND	96	"	---	---	
tert-Butylbenzene	93.6	---	5.00	"	"	"	ND	94	"	---	---	
Carbon tetrachloride	106	---	2.50	"	"	"	ND	106	"	---	---	
Chlorobenzene	97.0	---	2.50	"	"	"	ND	97	"	---	---	
Chloroethane	273	---	25.0	"	"	"	ND	273	"	---	---	EST
Chloroform	101	---	5.00	"	"	"	ND	101	"	---	---	
Chloromethane	79.2	---	25.0	"	"	"	ND	79	"	---	---	
2-Chlorotoluene	99.0	---	5.00	"	"	"	ND	99	"	---	---	
4-Chlorotoluene	98.6	---	5.00	"	"	"	ND	99	"	---	---	
1,2-Dibromo-3-chloropropane	112	---	25.0	"	"	"	ND	112	"	---	---	
Dibromochloromethane	105	---	5.00	"	"	"	ND	105	"	---	---	
1,2-Dibromoethane (EDB)	101	---	2.50	"	"	"	ND	101	"	---	---	
Dibromomethane	96.8	---	5.00	"	"	"	ND	97	"	---	---	
1,2-Dichlorobenzene	101	---	2.50	"	"	"	ND	101	"	---	---	
1,3-Dichlorobenzene	97.0	---	2.50	"	"	"	ND	97	"	---	---	
1,4-Dichlorobenzene	96.8	---	2.50	"	"	"	ND	97	"	---	---	

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QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Matrix Spike (3050344-MS1)						Prepared: 05/14/13 11:35 Analyzed: 05/14/13 16:37						
QC Source Sample: MW3-B (A3E0273-04)												
Dichlorodifluoromethane	85.2	---	5.00	ug/L	"	"	ND	85	"	---	---	
1,1-Dichloroethane	93.4	---	2.50	"	"	"	ND	93	"	---	---	
1,2-Dichloroethane (EDC)	98.4	---	2.50	"	"	"	ND	98	"	---	---	
1,1-Dichloroethene	104	---	2.50	"	"	"	ND	104	"	---	---	
cis-1,2-Dichloroethene	100	---	2.50	"	"	"	ND	100	"	---	---	
trans-1,2-Dichloroethene	97.8	---	2.50	"	"	"	ND	98	"	---	---	
1,2-Dichloropropane	92.8	---	2.50	"	"	"	ND	93	"	---	---	
1,3-Dichloropropane	99.2	---	5.00	"	"	"	ND	99	"	---	---	
2,2-Dichloropropane	96.4	---	5.00	"	"	"	ND	96	"	---	---	
1,1-Dichloropropene	102	---	5.00	"	"	"	ND	102	"	---	---	
cis-1,3-Dichloropropene	92.4	---	5.00	"	"	"	ND	92	"	---	---	
trans-1,3-Dichloropropene	96.6	---	5.00	"	"	"	ND	97	"	---	---	
Ethylbenzene	98.1	---	2.50	"	"	"	ND	98	"	---	---	
Hexachlorobutadiene	81.2	---	25.0	"	"	"	ND	81	"	---	---	
2-Hexanone	164	---	50.0	"	"	200	ND	82	"	---	---	
Isopropylbenzene	99.1	---	5.00	"	"	100	ND	99	"	---	---	
4-Isopropyltoluene	99.9	---	5.00	"	"	"	ND	100	"	---	---	
4-Methyl-2-pentanone (MiBK)	189	---	50.0	"	"	200	ND	94	"	---	---	
Methyl tert-butyl ether (MTBE)	94.9	---	5.00	"	"	100	ND	95	"	---	---	
Methylene chloride	100	---	25.0	"	"	"	ND	100	"	---	---	
Naphthalene	146	---	10.0	"	"	"	ND	146	"	---	---	Q-01
n-Propylbenzene	104	---	2.50	"	"	"	5.55	99	"	---	---	
Styrene	100	---	5.00	"	"	"	ND	100	"	---	---	
1,1,1,2-Tetrachloroethane	102	---	2.50	"	"	"	ND	102	"	---	---	
1,1,2,2-Tetrachloroethane	108	---	2.50	"	"	"	ND	108	"	---	---	
Tetrachloroethene (PCE)	103	---	2.50	"	"	"	ND	103	"	---	---	
Toluene	101	---	5.00	"	"	"	ND	101	"	---	---	
1,2,3-Trichlorobenzene	115	---	10.0	"	"	"	ND	115	"	---	---	
1,2,4-Trichlorobenzene	119	---	10.0	"	"	"	ND	119	"	---	---	

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Feige and Associates, Inc.
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 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Volatile Organic Compounds by EPA 8260B

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050344 - EPA 5030B						Water						
Matrix Spike (3050344-MS1)						Prepared: 05/14/13 11:35 Analyzed: 05/14/13 16:37						
QC Source Sample: MW3-B (A3E0273-04)												
1,1,1-Trichloroethane	101	---	2.50	"	"	"	ND	101	"	---	---	
1,1,2-Trichloroethane	101	---	2.50	"	"	"	ND	101	"	---	---	
Trichloroethene (TCE)	103	---	2.50	"	"	"	ND	103	"	---	---	
Trichlorofluoromethane	405	---	10.0	"	"	"	ND	405	"	---	---	EST
1,2,3-Trichloropropane	94.9	---	5.00	"	"	"	ND	95	"	---	---	
1,2,4-Trimethylbenzene	97.3	---	5.00	"	"	"	ND	97	"	---	---	
1,3,5-Trimethylbenzene	97.0	---	5.00	"	"	"	ND	97	"	---	---	
Vinyl chloride	87.4	---	2.50	"	"	"	ND	87	"	---	---	
m,p-Xylene	196	---	5.00	"	"	200	ND	98	"	---	---	
o-Xylene	98.2	---	2.50	"	"	100	ND	98	"	---	---	
<i>Surr: Dibromofluoromethane (Surr)</i>			<i>Recovery: 103 %</i>	<i>Limits: 80-120 %</i>			<i>Dilution: 1x</i>					
<i>1,4-Difluorobenzene (Surr)</i>			<i>100 %</i>	<i>80-120 %</i>			<i>"</i>					
<i>Toluene-d8 (Surr)</i>			<i>105 %</i>	<i>80-120 %</i>			<i>"</i>					
<i>4-Bromofluorobenzene (Surr)</i>			<i>104 %</i>	<i>80-120 %</i>			<i>"</i>					

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Project: **Sunset Macadam**
Project Number: 033
Project Manager: John Wyatt

Reported:
05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050416 - EPA 3510C (Acid Extraction)						Water						
Blank (3050416-BLK1)						Prepared: 05/16/13 13:38 Analyzed: 05/17/13 12:46						
EPA 8270D (SIM)												
Acenaphthene	ND	---	0.0364	ug/L	1	---	---	---	---	---	---	---
Acenaphthylene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Benz(a)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Benzo(a)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Benzo(b)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Benzo(k)fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Benzo(b+k)fluoranthene(s)	ND	---	0.0727	"	"	---	---	---	---	---	---	---
Benzo(g,h,i)perylene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Chrysene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Dibenz(a,h)anthracene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Dibenzofuran	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Fluoranthene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Fluorene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Indeno(1,2,3-cd)pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
1-Methylnaphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	---
2-Methylnaphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	---
Naphthalene	ND	---	0.0727	"	"	---	---	---	---	---	---	---
Phenanthrene	ND	---	0.0364	"	"	---	---	---	---	---	---	---
Pyrene	ND	---	0.0364	"	"	---	---	---	---	---	---	---

Surr: 2-Fluorobiphenyl (Surr) Recovery: 76 % Limits: 45-120 % Dilution: 1x
p-Terphenyl-d14 (Surr) 97 % 30-120 % "

LCS (3050416-BS1)

Prepared: 05/16/13 13:38 Analyzed: 05/17/13 13:12

EPA 8270D (SIM)												
Acenaphthene	6.85	---	0.0400	ug/L	1	8.00	---	86	45-125%	---	---	---
Acenaphthylene	7.03	---	0.0400	"	"	"	---	88	50-125%	---	---	---
Anthracene	7.95	---	0.0400	"	"	"	---	99	55-125%	---	---	---
Benz(a)anthracene	7.42	---	0.0400	"	"	"	---	93	"	---	---	---
Benzo(a)pyrene	8.16	---	0.0400	"	"	"	---	102	"	---	---	---
Benzo(b)fluoranthene	7.72	---	0.0400	"	"	"	---	96	45-125%	---	---	---

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Feige and Associates, Inc.
27001 NW St. Helens Rd.
Scappoose, OR 97056

Project: **Sunset Macadam**
Project Number: 033
Project Manager: John Wyatt

Reported:
05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050416 - EPA 3510C (Acid Extraction)						Water						
LCS (3050416-BS1)						Prepared: 05/16/13 13:38		Analyzed: 05/17/13 13:12				
Benzo(k)fluoranthene	7.32	---	0.0400	"	"	"	---	92	"	---	---	
Benzo(b+k)fluoranthene(s)	15.0	---	0.0800	"	"	16.0	---	93	"	---	---	
Benzo(g,h,i)perylene	7.34	---	0.0400	"	"	8.00	---	92	40-125%	---	---	
Chrysene	7.09	---	0.0400	"	"	"	---	89	55-125%	---	---	
Dibenz(a,h)anthracene	7.31	---	0.0400	"	"	"	---	91	40-125%	---	---	
Dibenzofuran	6.89	---	0.0400	"	"	"	---	86	55-125%	---	---	
Fluoranthene	8.21	---	0.0400	"	"	"	---	103	"	---	---	
Fluorene	7.01	---	0.0400	"	"	"	---	88	50-125%	---	---	
Indeno(1,2,3-cd)pyrene	6.92	---	0.0400	"	"	"	---	86	45-125%	---	---	
1-Methylnaphthalene	6.33	---	0.0800	"	"	"	---	79	"	---	---	
2-Methylnaphthalene	6.30	---	0.0800	"	"	"	---	79	"	---	---	
Naphthalene	5.81	---	0.0800	"	"	"	---	73	40-125%	---	---	
Phenanthrene	7.40	---	0.0400	"	"	"	---	93	50-125%	---	---	
Pyrene	8.00	---	0.0400	"	"	"	---	100	"	---	---	

Surr: 2-Fluorobiphenyl (Surr) Recovery: 82 % Limits: 45-120 % Dilution: 1x
p-Terphenyl-d14 (Surr) 89 % 30-120 % "

LCS Dup (3050416-BSD1)						Prepared: 05/16/13 13:38		Analyzed: 05/17/13 13:39			Q-19	
EPA 8270D (SIM)												
Acenaphthene	6.74	---	0.0400	ug/L	1	8.00	---	84	45-125%	2	30%	
Acenaphthylene	6.98	---	0.0400	"	"	"	---	87	50-125%	0.8	30%	
Anthracene	7.79	---	0.0400	"	"	"	---	97	55-125%	2	30%	
Benz(a)anthracene	6.90	---	0.0400	"	"	"	---	86	"	7	30%	
Benzo(a)pyrene	7.94	---	0.0400	"	"	"	---	99	"	3	30%	
Benzo(b)fluoranthene	7.69	---	0.0400	"	"	"	---	96	45-125%	0.3	30%	
Benzo(k)fluoranthene	7.03	---	0.0400	"	"	"	---	88	"	4	30%	
Benzo(b+k)fluoranthene(s)	14.6	---	0.0800	"	"	16.0	---	91	"	2	30%	
Benzo(g,h,i)perylene	7.19	---	0.0400	"	"	8.00	---	90	40-125%	2	30%	
Chrysene	7.18	---	0.0400	"	"	"	---	90	55-125%	1	30%	
Dibenz(a,h)anthracene	7.17	---	0.0400	"	"	"	---	90	40-125%	2	30%	
Dibenzofuran	6.81	---	0.0400	"	"	"	---	85	55-125%	1	30%	
Fluoranthene	7.87	---	0.0400	"	"	"	---	98	"	4	30%	

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 Scappoose, OR 97056

Project: **Sunset Macadam**
 Project Number: 033
 Project Manager: John Wyatt

Reported:
 05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050416 - EPA 3510C (Acid Extraction)						Water						
LCS Dup (3050416-BSD1)						Prepared: 05/16/13 13:38 Analyzed: 05/17/13 13:39						Q-19
Fluorene	6.97	---	0.0400	"	"	"	---	87	50-125%	0.6	30%	
Indeno(1,2,3-cd)pyrene	6.83	---	0.0400	"	"	"	---	85	45-125%	1	30%	
1-Methylnaphthalene	6.26	---	0.0800	"	"	"	---	78	"	1	30%	
2-Methylnaphthalene	6.24	---	0.0800	"	"	"	---	78	"	1	30%	
Naphthalene	5.62	---	0.0800	"	"	"	---	70	40-125%	3	30%	
Phenanthrene	7.24	---	0.0400	"	"	"	---	91	50-125%	2	30%	
Pyrene	7.70	---	0.0400	"	"	"	---	96	"	4	30%	
<i>Surr: 2-Fluorobiphenyl (Surr)</i>		<i>Recovery: 79 %</i>		<i>Limits: 45-120 %</i>		<i>Dilution: 1x</i>						
<i>p-Terphenyl-d14 (Surr)</i>		<i>83 %</i>		<i>30-120 %</i>		<i>"</i>						

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Project: **Sunset Macadam**
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Reported:
05/24/13 14:47

QUALITY CONTROL (QC) SAMPLE RESULTS

Total Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050324 - EPA 3015A						Water						
Blank (3050324-BLK1)						Prepared: 05/13/13 15:30 Analyzed: 05/14/13 19:26						
EPA 6020A												
Arsenic	ND	---	2.00	ug/L	1	---	---	---	---	---	---	
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	
Chromium	ND	---	2.00	"	"	---	---	---	---	---	---	
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	
Selenium	ND	---	2.00	"	"	---	---	---	---	---	---	
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	
Blank (3050324-BLK2)						Prepared: 05/13/13 15:30 Analyzed: 05/15/13 12:28						
EPA 6020A												
Mercury	ND	---	0.0800	ug/L	1	---	---	---	---	---	---	Q-16
LCS (3050324-BS1)						Prepared: 05/13/13 15:30 Analyzed: 05/14/13 19:29						
EPA 6020A												
Arsenic	54.1	---	2.00	ug/L	1	55.6	---	97	85-115%	---	---	
Barium	54.7	---	1.00	"	"	"	---	98	80-120%	---	---	
Cadmium	55.1	---	1.00	"	"	"	---	99	"	---	---	
Chromium	55.0	---	2.00	"	"	"	---	99	"	---	---	
Lead	55.4	---	1.00	"	"	"	---	100	"	---	---	
Selenium	26.6	---	2.00	"	"	27.8	---	96	"	---	---	
Silver	27.5	---	1.00	"	"	"	---	99	"	---	---	
LCS (3050324-BS2)						Prepared: 05/13/13 15:30 Analyzed: 05/15/13 12:31						
EPA 6020A												
Mercury	1.12	---	0.0800	ug/L	1	1.11	---	101	80-120%	---	---	Q-16

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Reported:
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QUALITY CONTROL (QC) SAMPLE RESULTS

Dissolved Metals by EPA 6020 (ICPMS)

Analyte	Result	MDL	Reporting Limit	Units	Dil.	Spike Amount	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 3050315 - Matrix Matched Direct Inject						Water						
Blank (3050315-BLK1)						Prepared: 05/13/13 12:33 Analyzed: 05/16/13 11:39						
EPA 6020A (Diss)												
Arsenic	ND	---	2.00	ug/L	1	---	---	---	---	---	---	---
Barium	ND	---	1.00	"	"	---	---	---	---	---	---	---
Cadmium	ND	---	1.00	"	"	---	---	---	---	---	---	---
Chromium	ND	---	2.00	"	"	---	---	---	---	---	---	---
Lead	ND	---	1.00	"	"	---	---	---	---	---	---	---
Mercury	ND	---	0.0800	"	"	---	---	---	---	---	---	---
Selenium	ND	---	2.00	"	"	---	---	---	---	---	---	---
Silver	ND	---	1.00	"	"	---	---	---	---	---	---	---
LCS (3050315-BS1)						Prepared: 05/13/13 12:33 Analyzed: 05/16/13 11:42						
EPA 6020A (Diss)												
Arsenic	51.5	---	2.00	ug/L	1	55.6	---	93	80-120%	---	---	---
Barium	55.1	---	1.00	"	"	"	---	99	"	---	---	---
Cadmium	54.1	---	1.00	"	"	"	---	97	"	---	---	---
Chromium	55.4	---	2.00	"	"	"	---	100	"	---	---	---
Lead	56.0	---	1.00	"	"	"	---	101	"	---	---	---
Mercury	1.04	---	0.0800	"	"	1.11	---	93	"	---	---	---
Selenium	26.8	---	2.00	"	"	27.8	---	97	"	---	---	---
Silver	27.4	---	1.00	"	"	"	---	99	"	---	---	---

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Project: **Sunset Macadam**
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Project Manager: John Wyatt

Reported:
05/24/13 14:47

SAMPLE PREPARATION INFORMATION

Diesel and Oil Hydrocarbons by NWTPH-Dx

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 3050400							
A3E0273-01	Water	NWTPH-Dx	05/10/13 10:15	05/16/13 07:01	1060mL/5mL	1000mL/5mL	0.94
A3E0273-02	Water	NWTPH-Dx	05/10/13 10:45	05/16/13 07:01	1050mL/5mL	1000mL/5mL	0.95
A3E0273-03	Water	NWTPH-Dx	05/10/13 11:45	05/16/13 07:01	1040mL/5mL	1000mL/5mL	0.96
A3E0273-04	Water	NWTPH-Dx	05/10/13 12:45	05/16/13 07:01	1060mL/5mL	1000mL/5mL	0.94

Gasoline Range Hydrocarbons (Benzene to Naphthalene) by NWTPH-Gx

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 3050337							
A3E0273-02RE1	Water	NWTPH-Gx (MS)	05/10/13 10:45	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00
A3E0273-04RE1	Water	NWTPH-Gx (MS)	05/10/13 12:45	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00
Batch: 3050344							
A3E0273-01	Water	NWTPH-Gx (MS)	05/10/13 10:15	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00
A3E0273-03	Water	NWTPH-Gx (MS)	05/10/13 11:45	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00

Volatile Organic Compounds by EPA 8260B

Prep: EPA 5030B

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 3050337							
A3E0273-02RE1	Water	EPA 8260B	05/10/13 10:45	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00
A3E0273-04RE1	Water	EPA 8260B	05/10/13 12:45	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00
Batch: 3050344							
A3E0273-01	Water	EPA 8260B	05/10/13 10:15	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00
A3E0273-03	Water	EPA 8260B	05/10/13 11:45	05/14/13 11:35	5mL/5mL	5mL/5mL	1.00

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 3050416							
A3E0273-01	Water	EPA 8270D (SIM)	05/10/13 10:15	05/16/13 13:38	1060mL/2mL	1000mL/2mL	0.94
A3E0273-02RE1	Water	EPA 8270D (SIM)	05/10/13 10:45	05/16/13 13:38	1030mL/2mL	1000mL/2mL	0.97
A3E0273-03	Water	EPA 8270D (SIM)	05/10/13 11:45	05/16/13 13:38	1060mL/2mL	1000mL/2mL	0.94

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Reported:
 05/24/13 14:47

SAMPLE PREPARATION INFORMATION

Polyaromatic Hydrocarbons (PAHs) by EPA 8270D SIM

Prep: EPA 3510C (Acid Extraction)

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
A3E0273-04	Water	EPA 8270D (SIM)	05/10/13 12:45	05/16/13 13:38	1060mL/2mL	1000mL/2mL	0.94

Total Metals by EPA 6020 (ICPMS)

Prep: EPA 3015A

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 3050324							
A3E0273-02	Water	EPA 6020A	05/10/13 10:45	05/13/13 15:30	45mL/50mL	45mL/50mL	1.00
A3E0273-04	Water	EPA 6020A	05/10/13 12:45	05/13/13 15:30	45mL/50mL	45mL/50mL	1.00

Dissolved Metals by EPA 6020 (ICPMS)

Prep: Matrix Matched Direct Inject

Lab Number	Matrix	Method	Sampled	Prepared	Sample Initial/Final	Default Initial/Final	RL Prep Factor
Batch: 3050315							
A3E0273-01	Water	EPA 6020A (Diss)	05/10/13 10:15	05/13/13 12:33	45mL/50mL	45mL/50mL	1.00
A3E0273-03	Water	EPA 6020A (Diss)	05/10/13 11:45	05/13/13 12:33	45mL/50mL	45mL/50mL	1.00

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Project: **Sunset Macadam**

Project Number: 033
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Reported:
05/24/13 14:47

Notes and Definitions

Qualifiers:

- A-01 Detected pattern is due to a complex mixture of gasoline range as well as diesel range organics.
- EST Result reported as an Estimated Value. Recovery for Lab Control Spike (LCS) is above the upper control limit. Data may be biased high.
- M-02 Due to matrix interference, this analyte cannot be accurately quantified. The reported result is estimated.
- Q-01 Spike recovery and/or RPD is outside acceptance limits.
- Q-16 Reanalysis of an original Batch QC sample.
- Q-19 Blank Spike Duplicate (BSD) sample analyzed in place of Matrix Spike/Duplicate samples due to limited sample amount available for analysis.
- Q-30 Recovery for Lab Control Spike (LCS) is below the lower control limit. Data may be biased low.
- R-02 The Reporting Limit for this analyte has been raised to account for interference from coeluting organic compounds present in the sample.
- S-01 Surrogate recovery for this sample is not available due to sample dilution required from high analyte concentration and/or matrix interference.
- S-05 Surrogate recovery is estimated due to sample dilution required for high analyte concentration and/or matrix interference.

Notes and Conventions:

- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis. Results listed as 'wet' or without 'dry' designation are not dry weight corrected.
- RPD Relative Percent Difference
- MDL If MDL is not listed, data has been evaluated to the Method Reporting Limit only.
- WMSC Water Miscible Solvent Correction has been applied to Results and MRLs for volatiles soil samples per EPA 8000C.
- Batch QC Unless specifically requested, this report contains only results for Batch QC derived from client samples included in this report. All analyses were performed with the appropriate Batch QC (including Sample Duplicates, Matrix Spikes and/or Matrix Spike Duplicates) in order to meet or exceed method and regulatory requirements. Any exceptions to this will be qualified in this report. Complete Batch QC results are available upon request. In cases where there is insufficient sample provided for Sample Duplicates and/or Matrix Spikes, a Lab Control Sample Duplicate (LCS Dup) is analyzed to demonstrate accuracy and precision of the extraction and analysis.
- Blank Policy Apex assesses blank data for potential high bias down to a level equal to 1/2 the method reporting limit (MRL), except for conventional chemistry and HCID analyses which are assessed only to the MRL. Sample results flagged with a B or B-02 qualifier are potentially biased high if they are less than ten times the level found in the blank for inorganic analyses or less than five times the level found in the blank for organic analyses.

For accurate comparison of volatile results to the level found in the blank; water sample results should be divided by the dilution factor, and soil sample results should be divided by 1/50 of the sample dilution to account for the sample prep factor.

Results qualified as reported below the MRL may include a potential high bias if associated with a B or B-02 qualified blank. B and B-02 qualifications are not applied to J qualified results reported below the MRL.

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05/24/13 14:47

--- QC results are not applicable. For example, % Recoveries for Blanks and Duplicates, % RPD for Blanks, Blank Spikes and Matrix Spikes, etc.

*** Used to indicate a possible discrepancy with the Sample and Sample Duplicate results when the %RPD is not available. In this case, either the Sample or the Sample Duplicate has a reportable result for this analyte, while the other is Non Detect (ND).

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Christina M. Woodcock, PM Support

