



14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

September 21, 2009

Ron Hicks
Riverside Associates
1123 Pomona Road
Yakima, WA 98901

Re: Analytical Data for Project 809
Laboratory Reference No. 0909-090

Dear Ron:

Enclosed are the analytical results and associated quality control data for samples submitted on September 10, 2009.

The standard policy of OnSite Environmental Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "DB", followed by a long horizontal flourish.

David Baumeister
Project Manager

Enclosures

Date of Report: September 21, 2009
Samples Submitted: September 10, 2009
Laboratory Reference: 0909-090
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Case Narrative

Samples were collected on September 8, 2009, and received by the laboratory on September 10, 2009. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

NWTPH-Dx Analysis

Interferences in the sample matrix prevented concentration of the extract for samples 809A300 and 809A301, resulting in higher than normal PQLs for the lube oil range.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Total Metals EPA 200.8/7470A Analysis

The duplicate RPD for Lead is outside control limits due to the inherently high percentage variability of samples that are within five times the detection limit.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: September 21, 2009
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NWTPH-Dx

Date Extracted: 9-10-09
 Date Analyzed: 9-11-09

Matrix: Water
 Units: mg/L (ppm)

Client ID:	809A300	809A301	809B274
Lab ID:	09-090-01	09-090-02	09-090-03
Diesel Range:	15	14	ND
PQL:	5.2	5.1	0.26
Identification:	Diesel Range Organics	Diesel Range Organics	---
Lube Oil Range:	ND	ND	ND
PQL:	8.3	8.2	0.41
Identification:	---	---	---
Surrogate Recovery			
o-Terphenyl:	---	---	82%
Flags:	Y,S	Y,S	Y

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NWTPH-Dx

Date Extracted: 9-10-09
Date Analyzed: 9-11-09

Matrix: Water
Units: mg/L (ppm)

Client ID: 809B275
Lab ID: 09-090-04

Diesel Range: **ND**
PQL: 0.26
Identification: ---

Lube Oil Range: **ND**
PQL: 0.41
Identification: ---

Surrogate Recovery
o-Terphenyl: 74%

Flags: Y

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NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted: 9-10-09
Date Analyzed: 9-10-09

Matrix: Water
Units: mg/L (ppm)

Lab ID: MB0910W1

Diesel Range: **ND**
PQL: 0.25
Identification: ---

Lube Oil Range: **ND**
PQL: 0.40
Identification: ---

Surrogate Recovery
o-Terphenyl: 87%

Flags: Y

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NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 9-10-09
Date Analyzed: 9-10-09

Matrix: Water
Units: mg/L (ppm)

Lab ID: 09-087-03 09-087-03 DUP

Diesel Range: **ND** **ND**
PQL: 0.25 0.25

RPD: N/A

Surrogate Recovery
o-Terphenyl: 84% 82%

Flags: Y Y

Date of Report: September 21, 2009
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**TOTAL METALS
EPA 200.8/7470A**

Date Extracted: 9-11&16-09
Date Analyzed: 9-11&16-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-090-03
Client ID: 809B274

Analyte	Method	Result	PQL
Arsenic	200.8	6.2	3.3
Barium	200.8	53	28
Cadmium	200.8	ND	4.4
Chromium	200.8	ND	11
Lead	200.8	4.8	1.1
Mercury	7470A	ND	0.50
Selenium	200.8	ND	5.6
Silver	200.8	ND	11

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**TOTAL METALS
EPA 200.8/7470A**

Date Extracted: 9-11&16-09
Date Analyzed: 9-11&16-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-090-04
Client ID: 809B275

Analyte	Method	Result	PQL
Arsenic	200.8	5.9	3.3
Barium	200.8	56	28
Cadmium	200.8	ND	4.4
Chromium	200.8	ND	11
Lead	200.8	1.5	1.1
Mercury	7470A	ND	0.50
Selenium	200.8	ND	5.6
Silver	200.8	ND	11

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**TOTAL METALS
EPA 200.8
METHOD BLANK QUALITY CONTROL**

Date Extracted: 9-16-09
Date Analyzed: 9-16-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0916W2

Analyte	Method	Result	PQL
Arsenic	200.8	ND	3.3
Barium	200.8	ND	28
Cadmium	200.8	ND	4.4
Chromium	200.8	ND	11
Lead	200.8	ND	1.1
Selenium	200.8	ND	5.6
Silver	200.8	ND	11

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**TOTAL METALS
EPA 7470A
METHOD BLANK QUALITY CONTROL**

Date Extracted: 9-11-09
Date Analyzed: 9-11-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0911W1

Analyte	Method	Result	PQL
Mercury	7470A	ND	0.50

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**TOTAL METALS
 EPA 200.8
 DUPLICATE QUALITY CONTROL**

Date Extracted: 9-16-09
 Date Analyzed: 9-16-09

 Matrix: Water
 Units: ug/L (ppb)

 Lab ID: 09-090-04

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	5.89	5.23	12	3.3	
Barium	56.0	49.2	13	28	
Cadmium	ND	ND	NA	4.4	
Chromium	ND	ND	NA	11	
Lead	1.53	1.20	24	1.1	C
Selenium	ND	ND	NA	5.6	
Silver	ND	ND	NA	11	

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**TOTAL METALS
EPA 7470A
DUPLICATE QUALITY CONTROL**

Date Extracted: 9-11-09
Date Analyzed: 9-11-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-090-03

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Mercury	ND	ND	NA	0.50	

Date of Report: September 21, 2009
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**TOTAL METALS
 EPA 200.8
 MS/MSD QUALITY CONTROL**

Date Extracted: 9-16-09
 Date Analyzed: 9-16-09

 Matrix: Water
 Units: ug/L (ppb)

 Lab ID: 09-090-04

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	110	123	107	122	105	1	
Barium	110	161	96	160	95	1	
Cadmium	110	110	100	111	101	0	
Chromium	110	95.5	87	92.6	84	3	
Lead	110	108	97	108	97	0	
Selenium	110	117	106	119	108	2	
Silver	110	113	102	117	107	4	

Date of Report: September 21, 2009
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**TOTAL METALS
EPA 7470A
MS/MSD QUALITY CONTROL**

Date Extracted: 9-11-09
Date Analyzed: 9-11-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: 09-090-03

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Mercury	12.5	12.2	98	11.9	95	3	

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**BTEX
 EPA 8021B**

Date Extracted: 9-16&17-09
 Date Analyzed: 9-16&17-09

Matrix: Water
 Units: ug/L (ppb)

Client ID: **809A300** **809A301**
 Lab ID: 09-090-01 09-090-02

	Result	Flags	PQL	Result	Flags	PQL
Benzene	6100		100	6600		1000
Toluene	10000		100	11000		1000
Ethyl Benzene	710		100	770		50
m,p-Xylene	2600		100	2700		50
o-Xylene	1200		100	1300		50

Surrogate Recovery:
 Fluorobenzene 93% 94%

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**BTEX
EPA 8021B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 9-16-09
Date Analyzed: 9-16-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0916W2

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0

Surrogate Recovery:
Fluorobenzene 102%

Date of Report: September 21, 2009
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**BTEX
EPA 8021B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 9-17-09
Date Analyzed: 9-17-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0917W2

	Result	Flags	PQL
Benzene	ND		1.0
Toluene	ND		1.0
Ethyl Benzene	ND		1.0
m,p-Xylene	ND		1.0
o-Xylene	ND		1.0

Surrogate Recovery:
Fluorobenzene 103%

Date of Report: September 21, 2009
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**BTEX
EPA 8021B
DUPLICATE QUALITY CONTROL**

Date Extracted: 9-16-09
Date Analyzed: 9-16-09

Matrix: Water
Units: ug/L (ppb)

Lab ID:	09-089-10 Original	09-089-10 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	101%	105%		

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**BTEX
 EPA 8021B
 SB/SBD QUALITY CONTROL**

Date Extracted: 9-16-09
 Date Analyzed: 9-16-09

Matrix: Water
 Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	SB0916W1 SB	Percent Recovery	SBD0916W1 SBD	Percent Recovery	RPD	Flags
Benzene	48.5	97	49.7	100	3	
Toluene	51.6	103	51.5	103	0	
Ethyl Benzene	53.3	107	53.0	106	1	
m,p-Xylene	54.1	108	53.4	107	1	
o-Xylene	53.8	108	54.0	108	0	

Surrogate Recovery:		
Fluorobenzene	104%	103%

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TOTAL ARSENIC
EPA 200.8

Date Extracted: 9-16-09
Date Analyzed: 9-16-09

Matrix: Water
Units: ug/L (ppb)

Client ID	Lab ID	Result	PQL
809A300	09-090-01	18	3.3
809A301	09-090-02	18	3.3

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**TOTAL ARSENIC
EPA 200.8
METHOD BLANK QUALITY CONTROL**

Date Extracted: 9-16-09
Date Analyzed: 9-16-09

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0916W2

Analyte	Method	Result	PQL
Arsenic	200.8	ND	3.3

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**TOTAL ARSENIC
EPA 200.8
DUPLICATE QUALITY CONTROL**

Date Extracted: 9-16-09

Date Analyzed: 9-16-09

Matrix: Water

Units: ug/L (ppb)

Lab ID: 09-090-04

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	5.89	5.23	12	3.3	

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TOTAL ARSENIC
EPA 200.8
MS/MSD QUALITY CONTROL

Date Extracted: 9-16-09

Date Analyzed: 9-16-09

Matrix: Water

Units: ug/L (ppb)

Lab ID: 09-090-04

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	110	123	107	122	105	1	



Data Qualifiers and Abbreviations

- A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.
- B - The analyte indicated was also found in the blank sample.
- C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.
- E - The value reported exceeds the quantitation range and is an estimate.
- F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.
- H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.
- I - Compound recovery is outside of the control limits.
- J - The value reported was below the practical quantitation limit. The value is an estimate.
- K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.
- L - The RPD is outside of the control limits.
- M - Hydrocarbons in the gasoline range are impacting the diesel range result.
- M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.
- N - Hydrocarbons in the lube oil range are impacting the diesel range result.
- N1 - Hydrocarbons in the diesel range are impacting the lube oil range result.
- O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.
- P - The RPD of the detected concentrations between the two columns is greater than 40.
- Q - Surrogate recovery is outside of the control limits.
- S - Surrogate recovery data is not available due to the necessary dilution of the sample.
- T - The sample chromatogram is not similar to a typical _____.
- U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
- U1 - The practical quantitation limit is elevated due to interferences present in the sample.
- V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.
- W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.
- X - Sample extract treated with a mercury cleanup procedure.
- Y - Sample extract treated with an acid/silica gel cleanup procedure.
- Z -
- ND - Not Detected at PQL
- PQL - Practical Quantitation Limit
- RPD - Relative Percent Difference



Environmental Inc.

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Chain of Custody

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