



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

April 22, 2010

Ron Hicks
Riverside Associates
1123 Pomona Road
Yakima, WA 98901

Re: Analytical Data for Project 809
Laboratory Reference No. 1004-084

Dear Ron:

Enclosed are the analytical results and associated quality control data for samples submitted on April 14, 2010.

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", with a long horizontal line extending to the right.

David Baumeister
Project Manager

Enclosures

Date of Report: April 22, 2010
Samples Submitted: April 14, 2010
Laboratory Reference: 1004-084
Project: 809

Case Narrative

Samples were collected on April 12, 2010 and received by the laboratory on April 14, 2010. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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.

BTEX EPA 8021B (soil) Analysis

Per EPA method 5035A, samples were received by the laboratory in pre-weighed 40 ml VOA vials preserved with either Methanol or Sodium Bisulfate.

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: April 22, 2010
Samples Submitted: April 14, 2010
Laboratory Reference: 1004-084
Project: 809

NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Date	Date	Flags
			Prepared	Analyzed	
Lab ID:	04-084-01				
Client ID:	809A323				
Diesel Range	ND	0.26	4-19-10	4-19-10	Y
Lube Oil Range	ND	0.42	4-19-10	4-19-10	Y
Surrogate: o-terphenyl	75%	50-150			

Date of Report: April 22, 2010
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NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted: 4-19-10
Date Analyzed: 4-19-10

Matrix: Water
Units: mg/L (ppm)

Lab ID: MB0419W1

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

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

Surrogate Recovery
o-Terphenyl: 86%

Flags: Y

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NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 4-19-10
Date Analyzed: 4-19-10

Matrix: Water
Units: mg/L (ppm)

Lab ID: 04-085-11 04-085-11 DUP

Diesel Range: **ND** **ND**
PQL: 0.26 0.26

RPD: N/A

Surrogate Recovery
o-Terphenyl: 63% 60%

Flags: Y Y

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NWTPH-Dx

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Date	Date	Flags
			Prepared	Analyzed	
Lab ID:	04-084-02				
Client ID:	809A324				
Diesel Range	ND	29	4-19-10	4-21-10	Y
Lube Oil	150	58	4-19-10	4-21-10	Y
Surrogate: o-terphenyl	74%	50-150			
Lab ID:	04-084-03				
Client ID:	809A325				
Diesel Range	ND	29	4-19-10	4-21-10	Y
Lube Oil	230	58	4-19-10	4-21-10	Y
Surrogate: o-terphenyl	78%	50-150			
Lab ID:	04-084-04				
Client ID:	809A326				
Diesel Range Organics	67	29	4-19-10	4-21-10	Y,N
Lube Oil	400	57	4-19-10	4-21-10	Y
Surrogate: o-terphenyl	74%	50-150			
Lab ID:	04-084-05				
Client ID:	809A327				
Diesel Range Organics	40	29	4-19-10	4-21-10	Y
Lube Oil	200	57	4-19-10	4-21-10	Y
Surrogate: o-terphenyl	78%	50-150			

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NWTPH-Dx
METHOD BLANK QUALITY CONTROL

Date Extracted: 4-19-10
Date Analyzed: 4-20-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0419S1

Diesel Range: **ND**
PQL: 25
Identification: ---

Lube Oil Range: **ND**
PQL: 50
Identification: ---

Surrogate Recovery
o-Terphenyl: 83%

Flags: Y

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NWTPH-Dx
DUPLICATE QUALITY CONTROL

Date Extracted: 4-19-10
Date Analyzed: 4-20-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: 04-074-01 04-074-01 DUP

Diesel Range: **ND** **ND**
PQL: 25 25

RPD: N/A

Surrogate Recovery
o-Terphenyl: 76% 74%

Flags: Y Y

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TOTAL ARSENIC
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	04-084-01					
Client ID:	809A323					
Arsenic	ND	3.3	200.8	4-16-10	4-16-10	

Date of Report: April 22, 2010
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**TOTAL ARSENIC
EPA 200.8
METHOD BLANK QUALITY CONTROL**

Date Extracted: 4-16-10
Date Analyzed: 4-16-10

Matrix: Water
Units: ug/L (ppb)

Lab ID: MB0416W2

Analyte	Method	Result	PQL
Arsenic	200.8	ND	3.3

Date of Report: April 22, 2010
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**TOTAL ARSENIC
EPA 200.8
DUPLICATE QUALITY CONTROL**

Date Extracted: 4-16-10
Date Analyzed: 4-16-10

Matrix: Water
Units: ug/L (ppb)

Lab ID: 04-084-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	ND	ND	NA	3.3	

Date of Report: April 22, 2010
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**TOTAL ARSENIC
EPA 200.8
MS/MSD QUALITY CONTROL**

Date Extracted: 4-16-10
Date Analyzed: 4-16-10

Matrix: Water
Units: ug/L (ppb)

Lab ID: 04-084-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	110	110	100	102	93	7	

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**TOTAL ARSENIC
EPA 6010B**

Matrix: Soil
 Units: mg/kg (ppm)

				Date	Date	
Analyte	Result	PQL	EPA Method	Prepared	Analyzed	Flags
Lab ID:	04-084-02					
Client ID:	809A324					
Arsenic	ND	12	6010B	4-15-10	4-15-10	
Lab ID:	04-084-03					
Client ID:	809A325					
Arsenic	ND	12	6010B	4-15-10	4-15-10	
Lab ID:	04-084-04					
Client ID:	809A326					
Arsenic	ND	11	6010B	4-15-10	4-15-10	
Lab ID:	04-084-05					
Client ID:	809A327					
Arsenic	ND	11	6010B	4-15-10	4-15-10	

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**TOTAL ARSENIC
EPA 6010B
METHOD BLANK QUALITY CONTROL**

Date Extracted: 4-15-10
Date Analyzed: 4-15-10

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB0415S2

Analyte	Method	Result	PQL
Arsenic	6010B	ND	10

Date of Report: April 22, 2010
Samples Submitted: April 14, 2010
Laboratory Reference: 1004-084
Project: 809

**TOTAL ARSENIC
EPA 6010B
DUPLICATE QUALITY CONTROL**

Date Extracted: 4-15-10

Date Analyzed: 4-15-10

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 04-088-01

Analyte	Sample Result	Duplicate Result	RPD	PQL	Flags
Arsenic	24.6	36.4	39	10	C

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**TOTAL ARSENIC
EPA 6010B
MS/MSD QUALITY CONTROL**

Date Extracted: 4-15-10

Date Analyzed: 4-15-10

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 04-088-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Arsenic	100	120	95	114	90	5	

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**BTEX
 EPA 8021B**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	809A323					
Laboratory ID:	04-084-01					
Benzene	ND	1.0	EPA 8021	4-14-10	4-14-10	
Toluene	ND	1.0	EPA 8021	4-14-10	4-14-10	
Ethyl Benzene	ND	1.0	EPA 8021	4-14-10	4-14-10	
m,p-Xylene	ND	1.0	EPA 8021	4-14-10	4-14-10	
o-Xylene	ND	1.0	EPA 8021	4-14-10	4-14-10	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	99	74-121				

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**BTEX
 EPA 8021B
 QUALITY CONTROL**

Matrix: Water
 Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0414W2					
Benzene	ND	1.0	EPA 8021	4-14-10	4-14-10	
Toluene	ND	1.0	EPA 8021	4-14-10	4-14-10	
Ethyl Benzene	ND	1.0	EPA 8021	4-14-10	4-14-10	
m,p-Xylene	ND	1.0	EPA 8021	4-14-10	4-14-10	
o-Xylene	ND	1.0	EPA 8021	4-14-10	4-14-10	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	98	74-121				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-084-01							
	ORIG	DUP						
Benzene	ND	ND	NA	NA	NA	NA	NA	30
Toluene	ND	ND	NA	NA	NA	NA	NA	30
Ethyl Benzene	ND	ND	NA	NA	NA	NA	NA	30
m,p-Xylene	ND	ND	NA	NA	NA	NA	NA	30
o-Xylene	ND	ND	NA	NA	NA	NA	NA	30
Surrogate:								
Fluorobenzene				99	99	74-121		

MATRIX SPIKES

Laboratory ID:	04-084-01									
	MS	MSD	MS	MSD		MS	MSD			
Benzene	47.8	45.9	50.0	50.0	ND	96	92	78-118	4	8
Toluene	47.8	46.2	50.0	50.0	ND	96	92	81-119	3	8
Ethyl Benzene	48.3	47.0	50.0	50.0	ND	97	94	81-121	3	8
m,p-Xylene	48.0	46.7	50.0	50.0	ND	96	93	79-123	3	8
o-Xylene	47.8	47.0	50.0	50.0	ND	96	94	79-121	2	8
Surrogate:										
Fluorobenzene						94	93	74-121		

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**BTEX
EPA 8021B**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	809A324					
Laboratory ID:	04-084-02					
Benzene	ND	0.020	EPA 8021	4-14-10	4-15-10	
Toluene	ND	0.027	EPA 8021	4-14-10	4-15-10	
Ethyl Benzene	ND	0.027	EPA 8021	4-14-10	4-15-10	
m,p-Xylene	ND	0.027	EPA 8021	4-14-10	4-15-10	
o-Xylene	ND	0.027	EPA 8021	4-14-10	4-15-10	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	90	55-127				
Client ID:	809A325					
Laboratory ID:	04-084-03					
Benzene	ND	0.020	EPA 8021	4-14-10	4-14-10	
Toluene	ND	0.042	EPA 8021	4-14-10	4-14-10	
Ethyl Benzene	ND	0.042	EPA 8021	4-14-10	4-14-10	
m,p-Xylene	ND	0.042	EPA 8021	4-14-10	4-14-10	
o-Xylene	ND	0.042	EPA 8021	4-14-10	4-14-10	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	122	55-127				
Client ID:	809A326					
Laboratory ID:	04-084-04					
Benzene	ND	0.020	EPA 8021	4-14-10	4-15-10	
Toluene	ND	0.032	EPA 8021	4-14-10	4-15-10	
Ethyl Benzene	ND	0.032	EPA 8021	4-14-10	4-15-10	
m,p-Xylene	ND	0.032	EPA 8021	4-14-10	4-15-10	
o-Xylene	ND	0.032	EPA 8021	4-14-10	4-15-10	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	109	55-127				
Client ID:	809A327					
Laboratory ID:	04-084-05					
Benzene	ND	0.020	EPA 8021	4-14-10	4-15-10	
Toluene	ND	0.035	EPA 8021	4-14-10	4-15-10	
Ethyl Benzene	ND	0.035	EPA 8021	4-14-10	4-15-10	
m,p-Xylene	ND	0.035	EPA 8021	4-14-10	4-15-10	
o-Xylene	ND	0.035	EPA 8021	4-14-10	4-15-10	
<i>Surrogate:</i>	<i>Percent Recovery</i>	<i>Control Limits</i>				
<i>Fluorobenzene</i>	96	55-127				

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**BTEX
 EPA 8021B
 QUALITY CONTROL**

Matrix: Soil
 Units: mg/kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0414S1					
Benzene	ND	0.020	EPA 8021	4-14-10	4-14-10	
Toluene	ND	0.050	EPA 8021	4-14-10	4-14-10	
Ethyl Benzene	ND	0.050	EPA 8021	4-14-10	4-14-10	
m,p-Xylene	ND	0.050	EPA 8021	4-14-10	4-14-10	
o-Xylene	ND	0.050	EPA 8021	4-14-10	4-14-10	
Surrogate:	Percent Recovery	Control Limits				
Fluorobenzene	93	55-127				

Analyte	Result	Spike Level	Source Result	Percent Recovery	Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE								
Laboratory ID:	04-084-05							
	ORIG	DUP						
Benzene	ND	ND	NA	NA	NA	NA	NA	30
Toluene	ND	ND	NA	NA	NA	NA	NA	30
Ethyl Benzene	ND	ND	NA	NA	NA	NA	NA	30
m,p-Xylene	ND	ND	NA	NA	NA	NA	NA	30
o-Xylene	ND	ND	NA	NA	NA	NA	NA	30
Surrogate:								
Fluorobenzene				96	94	55-127		

SPIKE BLANKS

Laboratory ID:	SB0414S1								
	SB	SBD	SB	SBD	SB	SBD			
Benzene	0.894	0.910	1.00	1.00	89	91	75-113	2	9
Toluene	0.917	0.925	1.00	1.00	92	93	75-116	1	10
Ethyl Benzene	0.921	0.932	1.00	1.00	92	93	82-117	1	10
m,p-Xylene	0.920	0.928	1.00	1.00	92	93	81-122	1	10
o-Xylene	0.934	0.934	1.00	1.00	93	93	83-118	0	10
Surrogate:									
Fluorobenzene					89	90	55-127		

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% MOISTURE

Date Analyzed: 4-14-10

Client ID	Lab ID	% Moisture
809A324	04-084-02	13
809A325	04-084-03	13
809A326	04-084-04	13
809A327	04-084-05	13



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



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Chain of Custody

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