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

August 8, 2019

Jim Coppernoll
GeoConsulting, Inc.
15306 Plainview Place
Monroe, WA 98272

Re: Analytical Data for Project KWA01
Laboratory Reference No. 1907-347

Dear Jim:

Enclosed are the analytical results and associated quality control data for samples submitted on July 30, 2019.

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,

David Baumeister
Project Manager

Enclosures

Date of Report: August 8, 2019
Samples Submitted: July 30, 2019
Laboratory Reference: 1907-347
Project: KWA01

Case Narrative

Samples were collected on July 29, 2019 and received by the laboratory on July 30, 2019. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise 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 Gx/BTEX Analysis

The chromatogram for sample KMW-1 is not similar to a typical gas.

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: August 8, 2019
Samples Submitted: July 30, 2019
Laboratory Reference: 1907-347
Project: KWA01

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**KMW-1**					
Laboratory ID:	07-347-01					
Benzene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
Toluene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
Ethyl Benzene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
m,p-Xylene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
o-Xylene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
Gasoline	**910**	400	NWTPH-Gx	7-31-19	7-31-19	T
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*59-122*				
Client ID:	**KMW-2**					
Laboratory ID:	07-347-02					
Benzene	**2.2**	1.0	EPA 8021B	7-31-19	7-31-19	
Toluene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
Ethyl Benzene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
m,p-Xylene	**1.1**	1.0	EPA 8021B	7-31-19	7-31-19	
o-Xylene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
Gasoline	**ND**	100	NWTPH-Gx	7-31-19	7-31-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*99*	*59-122*				
Client ID:	**KMW-3**					
Laboratory ID:	07-347-03					
Benzene	**1.6**	1.0	EPA 8021B	7-31-19	7-31-19	
Toluene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
Ethyl Benzene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
m,p-Xylene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
o-Xylene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
Gasoline	**ND**	100	NWTPH-Gx	7-31-19	7-31-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*94*	*59-122*				

Date of Report: August 8, 2019
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GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**IW-3**					
Laboratory ID:	07-347-04					
Benzene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
Toluene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
Ethyl Benzene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
m,p-Xylene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
o-Xylene	**ND**	4.0	EPA 8021B	7-31-19	7-31-19	
Gasoline	**ND**	400	NWTPH-Gx	7-31-19	7-31-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*98*	*59-122*				

Date of Report: August 8, 2019
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Project: KWA01

GASOLINE RANGE ORGANICS/BTEX
NWTPH-Gx/EPA 8021B
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0731W2					
Benzene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
Toluene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
Ethyl Benzene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
m,p-Xylene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
o-Xylene	**ND**	1.0	EPA 8021B	7-31-19	7-31-19	
Gasoline	**ND**	100	NWTPH-Gx	7-31-19	7-31-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Fluorobenzene	*100*	*59-122*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-348-02										
	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	
Gasoline	**ND**	**ND**	NA	NA		NA		NA	NA	30	
Surrogate:											
Fluorobenzene						*105*	*99*	*59-122*			
SPIKE BLANKS											
Laboratory ID:	SB0731W1										
	SB	SBD	SB	SBD		SB	SBD				
Benzene	**50.7**	**53.6**	50.0	50.0		**101**	**107**	76-120	6	11	
Toluene	**50.6**	**53.3**	50.0	50.0		**101**	**107**	80-116	5	12	
Ethyl Benzene	**51.4**	**53.9**	50.0	50.0		**103**	**108**	80-116	5	12	
m,p-Xylene	**50.9**	**53.5**	50.0	50.0		**102**	**107**	76-117	5	12	
o-Xylene	**50.8**	**53.1**	50.0	50.0		**102**	**106**	79-114	4	11	
Surrogate:											
Fluorobenzene						*104*	*104*	*59-122*			

Date of Report: August 8, 2019
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Project: KWA01

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**KMW-1**					
Laboratory ID:	07-347-01					
Diesel Range Organics	**3.6**	0.25	NWTPH-Dx	8-2-19	8-2-19	
Lube Oil Range Organics	**0.96**	0.41	NWTPH-Dx	8-2-19	8-2-19	N1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*92*	*50-150*				
Client ID:	**KMW-2**					
Laboratory ID:	07-347-02					
Diesel Range Organics	**ND**	0.27	NWTPH-Dx	8-2-19	8-2-19	
Lube Oil Range Organics	**ND**	0.44	NWTPH-Dx	8-2-19	8-2-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*93*	*50-150*				
Client ID:	**KMW-3**					
Laboratory ID:	07-347-03					
Diesel Range Organics	**0.34**	0.25	NWTPH-Dx	8-2-19	8-2-19	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	8-2-19	8-2-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*82*	*50-150*				
Client ID:	**IW-3**					
Laboratory ID:	07-347-04					
Diesel Range Organics	**1.6**	0.25	NWTPH-Dx	8-2-19	8-2-19	
Lube Oil Range Organics	**0.86**	0.41	NWTPH-Dx	8-2-19	8-2-19	N1
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*96*	*50-150*				

Date of Report: August 8, 2019
Samples Submitted: July 30, 2019
Laboratory Reference: 1907-347
Project: KWA01

DIESEL AND HEAVY OIL RANGE ORGANICS
NWTPH-Dx
QUALITY CONTROL

Matrix: Water
Units: mg/L (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0802W1					
Diesel Range Organics	**ND**	0.25	NWTPH-Dx	8-2-19	8-2-19	
Lube Oil Range Organics	**ND**	0.40	NWTPH-Dx	8-2-19	8-2-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
o-Terphenyl	*90*	*50-150*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-347-01										
	ORIG	DUP									
Diesel Range Organics	**3.56**	**3.50**	NA	NA		NA		NA	2	NA	
Lube Oil Range Organics	**0.958**	**0.881**	NA	NA		NA		NA	8	NA	N1
Surrogate:											
o-Terphenyl						*92*	*92*	*50-150*			

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1,2-DIBROMOETHANE (EDB)
EPA 8011

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**KMW-1**					
Laboratory ID:	07-347-01					
EDB	**ND**	0.0098	EPA 8011	8-8-19	8-8-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*75*	*25-143*				

Date of Report: August 8, 2019
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Project: KWA01

1,2-DIBROMOETHANE (EDB)
EPA 8011
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0808W1					
EDB	**ND**	0.010	EPA 8011	8-8-19	8-8-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
TCMX	*74*	*25-143*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0808W1										
	SB	SBD	SB	SBD		SB	SBD				
EDB	**0.0803**	**0.0787**	0.100	0.100	N/A	**80**	**79**	57-124	2	15	
Surrogate:											
TCMX						*59*	*67*	*25-143*			

Date of Report: August 8, 2019
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TOTAL LEAD
EPA 200.8

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**KMW-1**					
Laboratory ID:	07-347-01					
Lead	**ND**	1.1	EPA 200.8	8-1-19	8-1-19	

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Project: KWA01

TOTAL LEAD
EPA 200.8
QUALITY CONTROL

Matrix: Water
Units: ug/L (ppb)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0801WM1					
Lead	**ND**	1.1	EPA 200.8	8-1-19	8-1-19	

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
DUPLICATE											
Laboratory ID:	07-321-01										
	ORIG	DUP									
Lead	**ND**	**ND**	NA	NA		NA		NA	NA	20	
MATRIX SPIKES											
Laboratory ID:	07-321-01										
	MS	MSD	MS	MSD		MS	MSD				
Lead	**124**	**128**	111	111	ND	**112**	**115**	75-125	3	20	

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VOLATILE ORGANICS EPA 8260C

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**KMW-1**					
Laboratory ID:	07-347-01					
1,2-Dichloroethane	ND	4.0	EPA 8260C	8-1-19	8-1-19	
Naphthalene	23	20	EPA 8260C	8-1-19	8-1-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*103*	*75-127*				
Toluene-d8	*98*	*80-127*				
4-Bromofluorobenzene	*98*	*78-125*				

Date of Report: August 8, 2019
Samples Submitted: July 30, 2019
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Project: KWA01

VOLATILE ORGANICS EPA 8260C
METHOD BLANK QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Laboratory ID:	MB0801W1					
1,2-Dichloroethane	ND	0.20	EPA 8260C	8-1-19	8-1-19	
Naphthalene	ND	1.0	EPA 8260C	8-1-19	8-1-19	
Surrogate:	*Percent Recovery*	*Control Limits*				
Dibromofluoromethane	*102*	*75-127*				
Toluene-d8	*99*	*80-127*				
4-Bromofluorobenzene	*97*	*78-125*				

Date of Report: August 8, 2019
Samples Submitted: July 30, 2019
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Project: KWA01

VOLATILE ORGANICS EPA 8260C
SB/SBD QUALITY CONTROL

Matrix: Water
Units: ug/L

Analyte	Result		Spike Level		Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS										
Laboratory ID:	SB0801W1									
	SB	SBD	SB	SBD	SB	SBD				
1,1-Dichloroethene	**10.3**	**10.3**	10.0	10.0	103	103	63-130	0	17	
Benzene	**10.1**	**10.1**	10.0	10.0	101	101	76-125	0	19	
Trichloroethene	**10.7**	**10.5**	10.0	10.0	107	105	76-121	2	18	
Toluene	**10.0**	**9.99**	10.0	10.0	100	100	80-124	0	18	
Chlorobenzene	**10.8**	**10.7**	10.0	10.0	108	107	75-120	1	19	
Surrogate:										
Dibromofluoromethane					*101*	*101*	*75-127*			
Toluene-d8					*99*	*98*	*80-127*			
4-Bromofluorobenzene					*98*	*96*	*78-125*			

OnSite Environmental Inc.

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 diesel range are impacting lube oil range results.

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 gas.

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.

X1- Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

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OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: GeoConsulting, Inc.
Project Number: KWA01
Project Name:
Project Manager: Jim Copperno11
Sampled by: Jim Copperno11

Turnaround Request (in working days)
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Days ☐ 3 Days
☒ Standard (7 Days)
☐ _____ (other)

Laboratory Number: 07-347

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Gx	NWTPH-Dx (☐ Acid / SG Clean-up)	Volatiles 8260C	Halogenated Volatiles 8260C	EDB EPA 8011 (Waters Only)	Semivolatiles 8270D/SIM (with low-level PAHs)	PAHs 8270D/SIM (low-level)	PCBs 8082A	Organochlorine Pesticides 8081B	Organophosphorus Pesticides 8270D/SIM	Chlorinated Acid Herbicides 8151A	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664A	TOTAL LEAD	EDC 8260	Naphthalene 8260		% Moisture
1	KMW-1	7/29	1300	W	12		X		X			X											X	X	X		
2	KMW-2	"	1245	W	5		X		X														X	X	X		
3	KMW-3	"	1230	W	5		X		X			~~X~~ NO		D7									~~X~~	~~X~~	~~X~~ NO	D7	
4	TW-3	"	1315	W	5		X		X																		

	Signature	Company	Date	Time
Relinquished	James D Copperno11	GeoConsulting, Inc	7/29/19	3:50p
Received	Matt Gibson	OT	7/30/19	3:50
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Data Package: Standard ☐ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐