



July 12, 2019

Olsson Associates

James Hix

1525 Raleigh St, Suite 400

Denver

CO 80204

Project Name - BFARM

Project Number - 019-1976

Attached are your analytical results for BFARM received by Origins Laboratory, Inc. July 11, 2019. This project is associated with Origins project number Y907169-01.

The analytical results in the following report were analyzed under the guidelines of EPA Methods. These methods are identified as follows; "SW" are defined in SW-846, "EPA" are defined in 40CFR part 136 and "SM" are defined in the most current revision of Standard Methods For the Examination of Water and Wastewater.

The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody. As such, this report shall not be reproduced except in full, without the written approval of Origin's laboratory.

Unless otherwise noted, the analytical results for all soil samples are reported on a wet weight basis. All analytical analyses were performed under NELAP guidelines unless noted by a data qualifier.

Any holding time exceedances, deviations from the method specifications or deviations from Origins Laboratory's Standard Operating Procedures are outlined in the case narrative.

Thank you for selecting Origins for your analytical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com



1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Olsson Associates

1525 Raleigh St, Suite 400

Denver CO 80204

James Hix

Project Number: 019-1976

Project: BFARM

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01-1	Y907169-01	Soil	July 11, 2019 12:00	07/11/2019 13:30
SS02-1	Y907169-02	Soil	July 11, 2019 12:10	07/11/2019 13:30
SS03-1	Y907169-03	Soil	July 11, 2019 12:15	07/11/2019 13:30
SS04-1	Y907169-04	Soil	July 11, 2019 12:20	07/11/2019 13:30
SS05-1	Y907169-05	Soil	July 11, 2019 12:25	07/11/2019 13:30
SS06-1	Y907169-06	Soil	July 11, 2019 12:30	07/11/2019 13:30
SS07-1	Y907169-07	Soil	July 11, 2019 12:35	07/11/2019 13:30

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Olsson Associates
1525 Raleigh St, Suite 400
Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

Origins Laboratory

F-012207-01-R1
Effective Date: 01/09/12

Sample Receipt Checklist

Origins Work Order: 7907169

Client: Olsson Assoc.

Client Project ID: BFARM

Checklist Completed by: Dan Lee

Shipped Via: 4D

(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 7-11-19

Airbill #: PA

Matrix(s) Received: (Check all that apply): ☒ Soil/Solid ☐ Water ☐ Other: _____

(Describe)

Cooler Number/Temperature: 1169 °C 1 °C 1 °C 1 °C

Thermometer ID: 1003

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to ≤ 6°C ⁽¹⁾ ?		<input checked="" type="checkbox"/>		Sampled Same Day
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>			
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Are custody seals present on each sample container? (if so, document in comments if they are signed and dated, broken or intact)		<input checked="" type="checkbox"/>		
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>			
For volatiles in water – is there headspace (> ¼ inch bubble) present? If yes, contact client and note in narrative.			<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked ⁽¹⁾ ? (note ID of confirmation instrument used in comments) / (preservation is not confirmed for subcontracted analyses in order to insure sample integrity)/(pH < 2 for samples preserved with HNO ₃ , HCL, H ₂ SO ₄) / (pH > 10 for samples preserved with NaAsO ₂ +NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾If NO, then contact the client before proceeding with analysis and note date/time and person contacted as well as the corrective action to in the additional comments (above) and the case narrative.

Reviewed by (Project Manager) JP

Date/Time Reviewed 7/12/19

Origins Laboratory, Inc.

Jen Pellegrini

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Olsson Associates
1525 Raleigh St, Suite 400
Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

SS01-1

7/11/2019 12:00:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y907169-01 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B9G1106	KDK	07/11/2019	07/11/2019	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	92.2 %	70-130			"	"	"
Surrogate: Toluene-d8	104 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	96.6 %	70-130			"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B9G1107	KDK	07/11/2019	07/11/2019	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	75.2 %	50-150			"	"	"
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Olsson Associates
1525 Raleigh St, Suite 400
Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

SS02-1

7/11/2019 12:10:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y907169-02 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.002	mg/kg	1	B9G1106	KDK	07/11/2019	07/11/2019	U
Toluene	ND	0.002	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.002	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.002	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	92.8 %	70-130	"	"	"
Surrogate: Toluene-d8	97.7 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.4 %	70-130	"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B9G1107	KDK	07/11/2019	07/11/2019	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	85.1 %	50-150	"	"	"
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

Olsson Associates
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Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

SS03-1

7/11/2019 12:15:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y907169-03 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B9G1106	KDK	07/11/2019	07/12/2019	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.3 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	98.1 %	70-130			"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B9G1107	KDK	07/11/2019	07/11/2019	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	76.4 %	50-150			"	"	"
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James Hix
Project Number: 019-1976
Project: BFARM

SS04-1

7/11/2019 12:20:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y907169-04 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B9G1106	KDK	07/11/2019	07/12/2019	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	98.5 %	70-130	"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B9G1107	KDK	07/11/2019	07/11/2019	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	77.0 %	50-150	"	"	"
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James Hix
Project Number: 019-1976
Project: BFARM

SS05-1

7/11/2019 12:25:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y907169-05 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B9G1106	KDK	07/11/2019	07/12/2019	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	98.6 %	70-130			"	"	"
Surrogate: Toluene-d8	100 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	101 %	70-130			"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B9G1107	KDK	07/11/2019	07/11/2019	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	86.4 %	50-150			"	"	"
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Olsson Associates
1525 Raleigh St, Suite 400
Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

SS06-1

7/11/2019 12:30:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y907169-06 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B9G1106	KDK	07/11/2019	07/12/2019	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	99.4 %	70-130	"	"	"
Surrogate: Toluene-d8	100 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	99.9 %	70-130	"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B9G1107	KDK	07/11/2019	07/11/2019	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	86.5 %	50-150	"	"	"
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Olsson Associates
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Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

SS07-1

7/11/2019 12:35:00PM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc. Y907169-07 (Soil)

BTEX by EPA 8260D

Benzene	ND	0.050	mg/kg	25	B9G1106	KDK	07/11/2019	07/12/2019	U
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.050	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.050	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	101 %	70-130			"	"	"
Surrogate: Toluene-d8	99.6 %	70-130			"	"	"
Surrogate: 4-Bromofluorobenzene	97.9 %	70-130			"	"	"

GRO (TVPH)/DRO (TEPH) by EPA 8015D

Gasoline (C6-C10)	ND	50.0	mg/kg	1	B9G1107	KDK	07/11/2019	07/11/2019	U
Diesel (C10-C28)	ND	50.0	"	"	"	KDK	"	"	U

Surrogate: o-Terphenyl	90.2 %	50-150			"	"	"
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Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1106 - EPA 5030 (soil)										
Blank (B9G1106-BLK1)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	ND	0.002	mg/kg							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		85.3	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.9	70-130			

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Jen Pellegrini, Project Manager

Olsson Associates
1525 Raleigh St, Suite 400
Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1106 - EPA 5030 (soil)										
Blank (B9G1106-BLK2)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	ND	0.002	mg/kg							U
Toluene	ND	0.002	"							U
Ethylbenzene	ND	0.002	"							U
Xylenes, total	ND	0.002	"							U
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		92.2	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		98.3	70-130			

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James Hix
Project Number: 019-1976
Project: BFARM

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1106 - EPA 5030 (soil)										
LCS (B9G1106-BS1)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	0.106	0.002	mg/kg	0.100		106	70-130			
Toluene	0.098	0.002	"	0.100		98.2	70-130			
Ethylbenzene	0.108	0.002	"	0.100		108	70-130			
m,p-Xylene	0.212	0.004	"	0.200		106	70-130			
o-Xylene	0.111	0.002	"	0.100		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		87.6	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.0	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.9	70-130			

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James Hix
Project Number: 019-1976
Project: BFARM

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1106 - EPA 5030 (soil)										
LCS (B9G1106-BS2)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	0.098	0.002	mg/kg	0.100		97.9	70-130			
Toluene	0.102	0.002	"	0.100		102	70-130			
Ethylbenzene	0.103	0.002	"	0.100		103	70-130			
m,p-Xylene	0.206	0.004	"	0.200		103	70-130			
o-Xylene	0.107	0.002	"	0.100		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.5	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		108	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		96.4	70-130			

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James Hix
Project Number: 019-1976
Project: BFARM

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1106 - EPA 5030 (soil)

Matrix Spike (B9G1106-MS1)		Source: Y907163-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	0.096	0.002	mg/kg	0.100	ND	95.7	70-130			
Toluene	0.091	0.002	"	0.100	ND	90.9	70-130			
Ethylbenzene	0.103	0.002	"	0.100	0.0008	102	70-130			
m,p-Xylene	0.202	0.004	"	0.200	0.003	99.5	70-130			
o-Xylene	0.106	0.002	"	0.100	0.001	105	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.4	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		113	70-130			

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Project Number: 019-1976
Project: BFARM

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1106 - EPA 5030 (soil)

Matrix Spike (B9G1106-MS2)		Source: Y907169-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	0.090	0.002	mg/kg	0.100	ND	90.3	70-130			
Toluene	0.087	0.002	"	0.100	ND	86.7	70-130			
Ethylbenzene	0.095	0.002	"	0.100	ND	95.1	70-130			
m,p-Xylene	0.188	0.004	"	0.200	ND	94.2	70-130			
o-Xylene	0.100	0.002	"	0.100	ND	100	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		95.4	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.5	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1106 - EPA 5030 (soil)

Matrix Spike Dup (B9G1106-MSD1)		Source: Y907163-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	0.098	0.002	mg/kg	0.100	ND	98.4	70-130	2.74	20	
Toluene	0.093	0.002	"	0.100	ND	93.5	70-130	2.75	20	
Ethylbenzene	0.086	0.002	"	0.100	0.0008	85.4	70-130	17.5	20	
m,p-Xylene	0.172	0.004	"	0.200	0.003	84.5	70-130	16.1	20	
o-Xylene	0.093	0.002	"	0.100	0.001	91.1	70-130	13.8	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		96.6	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.2	70-130			

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Jen Pellegrini, Project Manager

Olsson Associates
1525 Raleigh St, Suite 400
Denver CO 80204

James Hix
Project Number: 019-1976
Project: BFARM

Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1106 - EPA 5030 (soil)

Matrix Spike Dup (B9G1106-MSD2)		Source: Y907169-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Benzene	0.086	0.002	mg/kg	0.100	ND	85.9	70-130	5.02	20	
Toluene	0.082	0.002	"	0.100	ND	82.4	70-130	5.08	20	
Ethylbenzene	0.087	0.002	"	0.100	ND	87.4	70-130	8.46	20	
m,p-Xylene	0.172	0.004	"	0.200	ND	86.0	70-130	9.10	20	
o-Xylene	0.091	0.002	"	0.100	ND	91.2	70-130	9.31	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		93.8	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		99.4	70-130			

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James Hix
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1107 - EPA 3580										
Blank (B9G1107-BLK1)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Surrogate: o-Terphenyl	41		"	50.0		82.7	50-150			

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James Hix
Project Number: 019-1976
Project: BFARM

Extractable Petroleum Hydrocarbons by 8015D - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1107 - EPA 3580										
Blank (B9G1107-BLK2)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Surrogate: o-Terphenyl	38		"	50.0		76.6	50-150			

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James Hix
Project Number: 019-1976
Project: BFARM

Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1107 - EPA 3580										
LCS (B9G1107-BS1)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	925	50.0	mg/kg	1000		92.5	70-130			
Diesel (C10-C28)	945	50.0	"	1000		94.5	70-130			
Surrogate: o-Terphenyl	48		"	50.0		96.2	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B9G1107 - EPA 3580										
LCS (B9G1107-BS2)					Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	892	50.0	mg/kg	1000		89.2	70-130			
Diesel (C10-C28)	929	50.0	"	1000		92.9	70-130			
Surrogate: o-Terphenyl	46		"	50.0		91.7	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1107 - EPA 3580

Matrix Spike (B9G1107-MS1)		Source: Y907160-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	889	50.0	mg/kg	1000	21.8	86.7	70-130			
Diesel (C10-C28)	931	50.0	"	1000	ND	93.1	70-130			
Surrogate: o-Terphenyl	48		"	50.0		95.8	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1107 - EPA 3580

Matrix Spike (B9G1107-MS2)		Source: Y907169-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	994	50.0	mg/kg	1000	26.5	96.7	70-130			
Diesel (C10-C28)	976	50.0	"	1000	ND	97.6	70-130			
Surrogate: o-Terphenyl	49		"	50.0		97.5	50-150			

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Extractable Petroleum Hydrocarbons by 8015D - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1107 - EPA 3580

Matrix Spike Dup (B9G1107-MSD1)		Source: Y907160-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	977	50.0	mg/kg	1000	21.8	95.5	70-130	9.45	35	
Diesel (C10-C28)	1030	50.0	"	1000	ND	103	70-130	9.77	35	
Surrogate: o-Terphenyl	53		"	50.0		105	50-150			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B9G1107 - EPA 3580

Matrix Spike Dup (B9G1107-MSD2)		Source: Y907169-01			Prepared: 07/11/2019 Analyzed: 07/11/2019					
Gasoline (C6-C10)	864	50.0	mg/kg	1000	26.5	83.7	70-130	14.0	35	
Diesel (C10-C28)	840	50.0	"	1000	ND	84.0	70-130	15.0	35	
Surrogate: o-Terphenyl	43		"	50.0		85.4	50-150			

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James Hix

Project Number: 019-1976

Project: BFARM

Notes and Definitions

U Sample is Non-Detect.

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

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