



June 10, 2020

Olsson Associates

Trent Watne

1525 Raleigh St, Suite 400

Denver

CO 80204

Project Name - Brant Pad Spill

Project Number - [none]

Attached are your analytical results for Brant Pad Spill received by Origins Laboratory, Inc. June 03, 2020. This project is associated with Origins project number Y006069-01.

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

Trent Watne
Project Number: [none]
Project: Brant Pad Spill

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BaseE-3	Y006069-01	Soil	June 3, 2020 10:55	06/03/2020 12:00
BaseW-3	Y006069-02	Soil	June 3, 2020 11:00	06/03/2020 12:00

Origins Laboratory, Inc.



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Olsson Associates
 1525 Raleigh St, Suite 400
 Denver CO 80204

Trent Watne
 Project Number: [none]
 Project: Brant Pad Spill

Chain of Custody



PROJECT NAME: Brant Pad Spill		PROJECT NUMBER: 303-237-2072	DISPOSAL: By Lab	PAGE: 1 of 1
COMPANY NAME: Olsson Associates	PHONE NUMBER: 303-237-2072	CITY/STATE/ZIP: Denver, CO 80204	LAB USE ONLY: <u>22.9</u> Temperature upon receipt: Yes No N/A Custody seals in tact: Yes No N/A	
ADDRESS: 1525 Raleigh St, Suite 400	PROJECT MANAGER: Trent Watne	PIV EMAIL: twatne@olsson.com	Turn Around Time (check) <input checked="" type="checkbox"/> Standard <input type="checkbox"/> 72hr <input type="checkbox"/> 48hr <input type="checkbox"/> 24hr <input type="checkbox"/> Same Day	
CLIENT COMPANY: GWOC	CLIENT NAME: Jason Davidson	CLIENT PROJECT #: _____	SAR, EC, pH	
SEND COPY OF ANALYTICAL TO CLIENT? YES: <input checked="" type="checkbox"/>	CLIENT EMAIL: j.davidson@gwp.com	Matrix	Naphthalene	
NO: <input type="checkbox"/>	CLIENT PROJECT #: _____	Field ID	BTEX / GRO / DRO	
NO: <input type="checkbox"/>	CLIENT PROJECT #: _____	Soil	Notes:	
NO: <input type="checkbox"/>	CLIENT PROJECT #: _____	BaseF-3		
NO: <input type="checkbox"/>	CLIENT PROJECT #: _____	Soil		
NO: <input type="checkbox"/>	CLIENT PROJECT #: _____	BaseW-3		

DC PACKAGE (check below)	
<input checked="" type="checkbox"/>	LEVEL II (Standard GC)
<input type="checkbox"/>	LEVEL III (Std GC + Ions)
<input type="checkbox"/>	LEVEL IV (Std GC + Ions + raw data)

RELINQUISHED BY: Kyle Peters	PRINTED NAME: Kyle Peters	SIGNATURE: <i>[Signature]</i>	DATE: 6/3/20	TIME: 12:00
RECEIVED BY: Jason Gillin	PRINTED NAME: Jason Gillin	SIGNATURE: <i>[Signature]</i>	DATE: 6/3/20	TIME: 12:00

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 Denver CO 80204

Trent Watne
 Project Number: [none]
 Project: Brant Pad Spill

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: Y006069

Client: Olsson

Client Project ID: Brant Pad Spill

Checklist Completed by: JG

Shipped Via: HD

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

Date/time completed: 6/3/2020

Airbill #: N/A

Matrix(es) Received: (Check all that apply): Soil/Solid

Water

Other:

Cooler Number/Temperature: 1 / 22.9 °C / °C / °C / °C (Describe)

Thermometer ID: T003

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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is there ice present (document if blue ice is used)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same Day</u>
Are custody seals present on cooler? (if so, document in comments if they are signed and dated, broken or intact)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾ ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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"/>	<input type="checkbox"/>	<input 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"/>	<input type="checkbox"/>	<input 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: JM (Project Manager)

6-4-20
 Date/Time Reviewed

Origins Laboratory, Inc.

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Olsson Associates
 1525 Raleigh St, Suite 400
 Denver CO 80204

Trent Watne
 Project Number: [none]
 Project: Brant Pad Spill

BaseE-3

6/3/2020 10:55:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006069-01 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.00200	mg/kg	1	B0F0401	KDK	06/04/2020	06/05/2020	U
Toluene	ND	0.00200	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.00200	"	"	"	KDK	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	KDK	"	"	U

Surrogate: 1,2-Dichloroethane-d4	104 %	70-130			"	"	"	"	
Surrogate: Toluene-d8	103 %	70-130			"	"	"	"	
Surrogate: 4-Bromofluorobenzene	102 %	70-130			"	"	"	"	

Diesel Range Organics (DRO/TEPH) by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0F0402	KDK	06/04/2020	06/05/2020	U
Surrogate: o-Terphenyl	66.5 %	50-150			"	"	"	"	

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Olsson Associates
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 Denver CO 80204

Trent Watne
 Project Number: [none]
 Project: Brant Pad Spill

BaseW-3
6/3/2020 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y006069-02 (Soil)

BTEX/TVPH by EPA 8260D

Benzene	ND	0.00200	mg/kg	1	B0F0401	KDK	06/04/2020	06/05/2020	U
Toluene	ND	0.00200	"	"	"	KDK	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	KDK	"	"	U
Xylenes, total	ND	0.00200	"	"	"	KDK	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	KDK	"	"	U

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

Diesel Range Organics (DRO/TEPH) by EPA 8015D

Diesel (C10-C28)	ND	50.0	mg/kg	1	B0F0402	KDK	06/04/2020	06/05/2020	U
Surrogate: o-Terphenyl	66.8 %	50-150			"	"	"	"	

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 Denver CO 80204

Trent Watne
 Project Number: [none]
 Project: Brant Pad Spill

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 B0F0401 - EPA 5030 (soil)

Blank (B0F0401-BLK1)

Prepared: 06/04/2020 Analyzed: 06/05/2020

Benzene	ND	0.00200	mg/kg							U
Toluene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.13		"	0.125		101	70-130			
<i>Surrogate: Toluene-d8</i>	0.13		"	0.125		104	70-130			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.13		"	0.125		103	70-130			

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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 B0F0401 - EPA 5030 (soil)

LCS (B0F0401-BS1)

Prepared: 06/04/2020 Analyzed: 06/05/2020

Benzene	0.0496	0.00200	mg/kg	0.0500		99.2	70-130			
Toluene	0.0501	0.00200	"	0.0500		100	70-130			
Ethylbenzene	0.0543	0.00200	"	0.0500		109	70-130			
m,p-Xylene	0.112	0.00400	"	0.100		112	70-130			
o-Xylene	0.0533	0.00200	"	0.0500		107	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		103	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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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 B0F0401 - EPA 5030 (soil)

Matrix Spike (B0F0401-MS1)	Source: Y006069-01			Prepared: 06/04/2020 Analyzed: 06/05/2020						
Benzene	0.0437	0.00200	mg/kg	0.0500	ND	87.4	70-130			
Toluene	0.0460	0.00200	"	0.0500	ND	92.1	70-130			
Ethylbenzene	0.0436	0.00200	"	0.0500	ND	87.2	70-130			
m,p-Xylene	0.0886	0.00400	"	0.100	ND	88.6	70-130			
o-Xylene	0.0434	0.00200	"	0.0500	ND	86.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		105	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		103	70-130			

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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 B0F0401 - EPA 5030 (soil)

Matrix Spike Dup (B0F0401-MSD1)	Source: Y006069-01			Prepared: 06/04/2020 Analyzed: 06/05/2020						
Benzene	0.0456	0.00200	mg/kg	0.0500	ND	91.3	70-130	4.34	20	
Toluene	0.0460	0.00200	"	0.0500	ND	92.0	70-130	0.130	20	
Ethylbenzene	0.0457	0.00200	"	0.0500	ND	91.5	70-130	4.74	20	
m,p-Xylene	0.0909	0.00400	"	0.100	ND	90.9	70-130	2.63	20	
o-Xylene	0.0452	0.00200	"	0.0500	ND	90.5	70-130	4.11	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		104	70-130			

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Volatile Organic Compounds by GC/MS SW846 8260D - Quality Control
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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B0F0402 - EPA 3550B										
Blank (B0F0402-BLK1)										
					Prepared: 06/04/2020 Analyzed: 06/05/2020					
Diesel (C10-C28)	ND	50.0	mg/kg							U
Surrogate: o-Terphenyl	34		"	50.0		68.0	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 B0F0402 - EPA 3550B

LCS (B0F0402-BS1)

Prepared: 06/04/2020 Analyzed: 06/05/2020

Diesel (C10-C28)	925	50.0	mg/kg	1000		92.5	70-130			
Surrogate: o-Terphenyl	40		"	50.0		80.1	50-150			

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Trent Watne
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 Project: Brant Pad Spill

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 B0F0402 - EPA 3550B

Matrix Spike (B0F0402-MS1)	Source: Y006069-01			Prepared: 06/04/2020 Analyzed: 06/05/2020						
Diesel (C10-C28)	839	50.0	mg/kg	1000	ND	83.9	70-130			
Surrogate: o-Terphenyl	37		"	50.0		75.0	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 B0F0402 - EPA 3550B

Matrix Spike Dup (B0F0402-MSD1)	Source: Y006069-01			Prepared: 06/04/2020 Analyzed: 06/05/2020						
Diesel (C10-C28)	838	50.0	mg/kg	1000	ND	83.8	70-130	0.0775	35	
Surrogate: o-Terphenyl	38		"	50.0		75.9	50-150			

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Trent Watne
Project Number: [none]
Project: Brant Pad Spill

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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