



July 29, 2019

Eagle Environmental Consulting, Inc.

Dan Coloccia

8000 W 44th Ave

Wheat Ridge CO 80033

**Project Name - CPR - Mathews B Unit 1 Battery      Project Number - [none]**

Attached are your analytical results for CPR - Mathews B Unit 1 Battery received by Origins Laboratory, Inc. July 22, 2019. This project is associated with Origins project number Y907333-01.

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

Eagle Environmental Consulting, Inc.

8000 W 44th Ave

Wheat Ridge CO 80033

Dan Coloccia

Project Number: [none]

Project: CPR - Mathews B Unit 1 Battery

## CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01@7.5-10'	Y907333-01	Soil	July 19, 2019 9:30	07/22/2019 12:25

Origins Laboratory, Inc.



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8000 W 44th Ave  
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Dan Coloccia  
Project Number: [none]  
Project: CPR - Mathews B Unit 1 Battery

Origins Laboratory

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

## Sample Receipt Checklist

Origins Work Order: 907333

Client: Eagle

Client Project ID: Mathews B Unit 1

Checklist Completed by: JG

Shipped Via: HD

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

Date/time completed: 7/23/2019

Airbill #: N/A

Matrix(s) Received: (Check all that apply): X Soil/Solid          Water          Other:         

Cooler Number/Temperature: 1 / 0.7 °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 <sup>(1)</sup> ?	<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"/>	
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 checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are short holding time analytes or samples with HTs due within 48 hours present <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) present and filled out completely <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC <sup>(1)</sup> ?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client with date and time recorded <sup>(1)</sup> ?	<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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation and was it checked <sup>(1)</sup> ? (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 <sub>3</sub> , HCL, H <sub>2</sub> SO <sub>4</sub> ) / (pH >10 for samples preserved with NaAsO <sub>2</sub> +NaOH, ZnAc+NaOH)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

<sup>(1)</sup> 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) DP

Date/Time Reviewed 7/29/19

Origins Laboratory, Inc.

*Jefe Pellegrini*

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Dan Coloccia  
Project Number: [none]  
Project: CPR - Mathews B Unit 1 Battery

## SB01@7.5-10'

7/19/2019 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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## Origins Laboratory, Inc. Y907333-01 (Soil)

### BTEX by EPA 8260D

Benzene	0.453	0.050	mg/kg	25	B9G2303	KDK	07/23/2019	07/24/2019	
Toluene	ND	0.050	"	"	"	KDK	"	"	U
Ethylbenzene	8.92	0.050	"	"	"	KDK	"	"	
Xylenes, total	174	0.498	"	250	"	KDK	"	07/24/2019	

Surrogate: 1,2-Dichloroethane-d4	110 %	70-130			"	"		07/24/2019	
Surrogate: Toluene-d8	93.3 %	70-130			"	"		07/24/2019	
Surrogate: 4-Bromofluorobenzene	116 %	70-130			"	"		"	

### Metals (Saturated Paste Prep)

Calcium	0.05		me/L	1	[none]		07/25/2019	07/26/2019	
Magnesium	0.31		"	"	"		"	"	
Sodium	11.39		"	"	"		"	"	

### pH in Soil by EPA 9045D

pH	7.46		pH Units	1	B9G2308	OLAB	07/23/2019	07/23/2019	
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### SAR by 20B Saturated Paste

SAR	26.85			1	[none]		07/25/2019	07/26/2019	
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### Specific Conductance by Modified 9050A

Specific Conductance (EC)	0.0225	0.00500	mmhos/cm	1	B9G2309	OLAB	07/23/2019	07/23/2019	
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8000 W 44th Ave

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Dan Coloccia

Project Number: [none]

Project: CPR - Mathews B Unit 1 Battery

SB01@7.5-10'

7/19/2019 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.

Y907333-01 (Soil)

## TPH-Carbon Chain by EPA 8015D

Gasoline (C6-C10)	4320	50.0	mg/kg	1	B9G2304	KDK	07/23/2019	07/24/2019
Diesel (C10-C28)	1910	50.0	"	"	"	KDK	"	"
Residual Range Organics (C28-C40)	543	200	"	"	"	KDK	"	"

Surrogate: o-Terphenyl	114 %	50-150			"	"	07/23/2019
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Dan Coloccia

Project Number: [none]

Project: CPR - Mathews B Unit 1 Battery

**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 B9G2303 - EPA 5030 (soil)****Blank (B9G2303-BLK1)**

Prepared: 07/23/2019 Analyzed: 07/23/2019

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	0.14		"	0.125	115		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	97.1		70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125	100		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 B9G2303 - EPA 5030 (soil)

**LCS (B9G2303-BS1)**

Prepared: 07/23/2019 Analyzed: 07/23/2019

Benzene	0.089	0.002	mg/kg	0.100		89.4	70-130			
Toluene	0.087	0.002	"	0.100		87.4	70-130			
Ethylbenzene	0.091	0.002	"	0.100		91.4	70-130			
m,p-Xylene	0.199	0.004	"	0.200		99.6	70-130			
o-Xylene	0.091	0.002	"	0.100		90.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		112	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		97.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	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 B9G2303 - EPA 5030 (soil)**

Matrix Spike (B9G2303-MS1)		Source: Y907298-01			Prepared: 07/23/2019 Analyzed: 07/23/2019					
Benzene	0.069	0.002	mg/kg	0.100	ND	68.8	70-130			QM-07
Toluene	0.065	0.002	"	0.100	ND	64.9	70-130			QM-07
Ethylbenzene	0.066	0.002	"	0.100	ND	66.1	70-130			QM-07
m,p-Xylene	0.143	0.004	"	0.200	ND	71.7	70-130			
o-Xylene	0.069	0.002	"	0.100	ND	69.0	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		115	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		95.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.7	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 B9G2303 - EPA 5030 (soil)**

Matrix Spike Dup (B9G2303-MSD1)		Source: Y907298-01			Prepared: 07/23/2019 Analyzed: 07/23/2019					
Benzene	0.077	0.002	mg/kg	0.100	ND	77.0	70-130	11.2	20	
Toluene	0.074	0.002	"	0.100	ND	73.8	70-130	12.7	20	
Ethylbenzene	0.074	0.002	"	0.100	ND	74.5	70-130	11.9	20	
m,p-Xylene	0.160	0.004	"	0.200	ND	80.2	70-130	11.3	20	
o-Xylene	0.076	0.002	"	0.100	ND	75.6	70-130	9.24	20	
Surrogate: 1,2-Dichloroethane-d4	0.15		"	0.125		116	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		96.7	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		100	70-130			

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Jen Pellegrini For Noelle Doyle Mathis, President

Eagle Environmental Consulting, Inc.

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Dan Coloccia

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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
<b>Batch B9G2304 - EPA 3580</b>										
<b>Blank (B9G2304-BLK1)</b>					Prepared: 07/23/2019 Analyzed: 07/23/2019					
Gasoline (C6-C10)	ND	50.0	mg/kg							U
Diesel (C10-C28)	ND	50.0	"							U
Residual Range Organics (C28-C40)	ND	200	"							U
Surrogate: o-Terphenyl	41.3		"	50.0		82.6	50-150			

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Project: CPR - Mathews B Unit 1 Battery

## 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 B9G2304 - EPA 3580

### LCS (B9G2304-BS1)

Prepared: 07/23/2019 Analyzed: 07/23/2019

Gasoline (C6-C10)	932	50.0	mg/kg	1000		93.2	70-130			
Diesel (C10-C28)	1030	50.0	"	1000		103	70-130			
Residual Range Organics (C28-C40)	1140	200	"	1000		114	70-130			
Surrogate: o-Terphenyl	51.4		"	50.0		103	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 B9G2304 - EPA 3580

Matrix Spike (B9G2304-MS1)		Source: Y907298-01			Prepared: 07/23/2019 Analyzed: 07/23/2019					
Gasoline (C6-C10)	950	50.0	mg/kg	1000	25.8	92.4	70-130			
Diesel (C10-C28)	1120	50.0	"	1000	ND	112	70-130			
Residual Range Organics (C28-C40)	1220	200	"	1000	ND	122	70-130			
Surrogate: o-Terphenyl	50.9		"	50.0		102	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 B9G2304 - EPA 3580

Matrix Spike Dup (B9G2304-MSD1)		Source: Y907298-01			Prepared: 07/23/2019 Analyzed: 07/23/2019					
Gasoline (C6-C10)	850	50.0	mg/kg	1000	25.8	82.4	70-130	11.1	35	
Diesel (C10-C28)	980	50.0	"	1000	ND	98.0	70-130	13.1	35	
Residual Range Organics (C28-C40)	1050	200	"	1000	ND	105	70-130	15.3	35	
Surrogate: o-Terphenyl	39.7		"	50.0		79.4	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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## Classical Chemistry Parameters - 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 B9G2308 - NO PREP

<b>Duplicate (B9G2308-DUP1)</b>		<b>Source: Y907333-01</b>			Prepared: 07/23/2019 Analyzed: 07/23/2019					
pH	7.45		pH Units		7.46			0.134	25	

### Batch B9G2309 - NO PREP

<b>Blank (B9G2309-BLK1)</b>		Prepared: 07/23/2019 Analyzed: 07/23/2019								
Specific Conductance (EC)	0.00330	0.00500	mmhos/cm							
<b>Duplicate (B9G2309-DUP1)</b>		<b>Source: Y907333-01</b>			Prepared: 07/23/2019 Analyzed: 07/23/2019					
Specific Conductance (EC)	0.0246	0.00500	mmhos/cm		0.0225			8.92	25	

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### Notes and Definitions

U Sample is Non-Detect.

QM-07 The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

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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