

March 08, 2024

KP Kauffman Co. Inc.

John Peterson

1700 Lincoln St #4550

Denver CO 80203

Project Name - Koch Tank Battery

Project Number - [none]

Attached are your analytical results for Koch Tank Battery received by Origins Laboratory, Inc. February 15, 2024. This project is associated with Origins project number Y402398-01.

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



KP Kauffman Co. Inc.
1700 Lincoln St #4550
Denver CO 80203

John Peterson
Project Number: [none]
Project: Koch Tank Battery

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW-17@4'	Y402398-01	Soil	February 15, 2024 12:50	02/15/2024 15:00
SW-18@4'	Y402398-02	Soil	February 15, 2024 13:25	02/15/2024 15:00
SW-19@4'	Y402398-03	Soil	February 15, 2024 13:00	02/15/2024 15:00
SS-1@3'	Y402398-04	Soil	February 15, 2024 0:00	02/15/2024 15:00

Chain of Custody Modification Request

On 2/20/2024, Cullen Chew from KPK contacted Jennifer Pellegrini via email regarding Y402398 requesting that Full 915 analysis be added to all samples.

Requested modifications to the chain of custody were made by Jennifer Pellegrini on 2/20/2024.

Chain of Custody Modification Request

On 2/27/2024, Cullen Chew from KPK contacted Jennifer Pellegrini via email regarding Y402398 requesting that sample ID BH-6@3' be changed to SS-1@3'..

Requested modifications to the chain of custody were made by Jennifer Pellegrini on 2/28/2024.

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 1410230R Client: KPK
 Checklist Completed by: TSM/EHS Client Project ID: Koch Tank Battery
 Date/time completed: 2/15/24 Shipped Via: TUD
 (UPS, FedEx, Hand Delivered, Pick-up, etc.)
 Airbill #: N/A
 Matrix(s) Received: (Check all that apply): Soil/Solid Water Other: _____
 Cooler Number/Temperature: 1, 10 °c / _____ °c / _____ °c (Describe) _____ °c
 Thermometer ID: 7004

Requirement Description	Yes	No	N/A	Comments (if any)
If samples require cooling, was the temperature between 0°C to < 6°C ⁽¹⁾² ?		<input checked="" type="checkbox"/>		SO
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⁾² ?	<input checked="" type="checkbox"/>			
Was adequate sample volume provided ⁽¹⁾² ?	<input checked="" type="checkbox"/>			
Are short holding time analytes or samples with HTs due within 48 hours present ⁽¹⁾² ?		<input checked="" type="checkbox"/>		
Is a chain-of-custody (COC) present and filled out completely ⁽¹⁾² ?	<input checked="" type="checkbox"/>			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾² ?	<input checked="" type="checkbox"/>			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾² ?	<input checked="" type="checkbox"/>			
Is the COC properly relinquished by the client with date and time recorded ⁽¹⁾² ?	<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⁾² ? (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 HNO3, HCL, H2SO4) / (pH >10 for samples preserved with NaAsO2+NaOH, ZnAc+NaOH)			<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾²If 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 in the case narrative.

Reviewed by (Project Manager) 

Date/Time Reviewed 2/19/24

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-17@4'

2/15/2024 12:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-01 (Soil)

Boron (DTPA Sorbitol)

Boron	0.123		0.0987	mg/L	1	B4B2113	02/21/2024	02/22/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4B2101	02/21/2024	02/26/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	85.3 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4B2126	02/21/2024	02/22/2024	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	97.1 %		70-130			"	"	"	
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 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-17@4'

2/15/2024 12:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	99.9 %		70-130			B4B21 26	02/21/2024	02/22/2024	
Surrogate: 4-Bromofluorobenzene	98.8 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	2.09	0.499	meq/L	10	[CALC]		02/21/2024	02/22/2024	
Magnesium	1.41	0.823	"	"	"	"	"	"	
Sodium	2.38	0.435	"	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4B2120		02/21/2024	02/22/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	"	U

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 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-17@4'

2/15/2024 12:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-01 (Soil)

PAH by EPA 8270E

Fluorene	ND		0.020	mg/kg	1	B4B2120	02/21/2024	02/22/2024	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Naphthalene	ND		0.002	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	100 %		60-130			"	"	"	
Surrogate: Anthracene-d10	94.3 %		60-130			"	"	"	
Surrogate: Pyrene-d10	95.4 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.28			pH Units	1	B4B2116	02/21/2024	02/22/2024	
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SAR by 20B Saturated Paste

SAR	1.80		0.0100	SAR	1	B4B2110	02/21/2024	02/22/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.654		0.00500	mmhos/cm	1	B4B2116	02/21/2024	02/22/2024	
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Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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John Peterson
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 Project: Koch Tank Battery

SW-17@4'

2/15/2024 12:50:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.95	0.254	mg/kg	10	B4B1549	02/16/2024	03/01/2024
Barium	112	8.77	"	"	"	"	"
Cadmium	0.239	0.0877	"	"	"	"	"
Copper	10.9	8.77	"	"	"	"	"
Lead	8.82	0.877	"	"	"	"	"
Nickel	11.8	0.877	"	"	"	"	"
Selenium	0.230	0.228	"	"	"	"	"
Silver	ND	0.0877	"	"	"	"	"
Zinc	43.9	32.4	"	"	"	"	"

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L735838	02/20/2024	03/01/2024
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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-18@4'

2/15/2024 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.321		0.0990	mg/L	1	B4B2113	02/21/2024	02/22/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4B2101	02/21/2024	02/26/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	80.0 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4B2126	02/21/2024	02/22/2024	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	106 %		70-130			"	"	"	
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 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-18@4'
2/15/2024 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.2 %		70-130			B4B21 26	02/21/2024	02/22/2024	
Surrogate: 4-Bromofluorobenzene	99.4 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	0.810	0.499	meq/L	10	[CALC]		02/19/2024	02/20/2024	
Magnesium	1.11	0.823	"	"	"	"	"	"	
Sodium	4.13	0.435	"	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4B2120		02/21/2024	02/22/2024	U
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	"	U
Acenaphthene	ND	0.020	"	"	"	"	"	"	U
Anthracene	ND	0.020	"	"	"	"	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	"	U
Chrysene	ND	0.020	"	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	"	U
Fluoranthene	ND	0.020	"	"	"	"	"	"	U

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 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-18@4'

2/15/2024 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-02 (Soil)

PAH by EPA 8270E

Fluorene	ND		0.020	mg/kg	1	B4B2120	02/21/2024	02/22/2024	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Naphthalene	ND		0.002	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	100 %		60-130			"	"	"	
Surrogate: Anthracene-d10	93.9 %		60-130			"	"	"	
Surrogate: Pyrene-d10	96.6 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	102 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.46			pH Units	1	B4B1912	02/19/2024	02/20/2024	
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SAR by 20B Saturated Paste

SAR	4.22		0.0100	SAR	1	B4B1904	02/19/2024	02/20/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.798		0.00500	mmhos/cm	1	B4B2216	02/22/2024	02/23/2024	
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Table 915 metals by EPA 6020B

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 1700 Lincoln St #4550
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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-18@4'

2/15/2024 1:25:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y402398-02 (Soil)

Table 915 metals by EPA 6020B

Arsenic	4.76	0.0906	0.0906	mg/kg	10	B4B2123	02/21/2024	02/22/2024	
Barium	79.5	9.06	9.06	"	"	"	"	"	
Cadmium	0.126	0.0906	0.0906	"	"	"	"	"	
Copper	9.79	9.06	9.06	"	"	"	"	"	
Lead	8.08	0.906	0.906	"	"	"	"	"	
Nickel	11.6	0.906	0.906	"	"	"	"	"	
Selenium	0.185	0.0906	0.0906	"	"	"	"	"	
Silver	ND	0.0906	0.0906	"	"	"	"	"	
Zinc	39.4	9.06	9.06	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L735838	02/20/2024	03/01/2024	
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 1700 Lincoln St #4550
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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-19@4'

2/15/2024 1:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.914		0.0995	mg/L	1	B4B2113	02/21/2024	02/22/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4B2101	02/21/2024	02/26/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	79.7 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4B2126	02/21/2024	02/22/2024	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	102 %		70-130			"	"	"	
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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-19@4'

2/15/2024 1:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.9 %		70-130			B4B21 26	02/21/2024	02/22/2024	
Surrogate: 4-Bromofluorobenzene	101 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	0.919		0.499	meq/L	10	[CALC]	02/19/2024	02/20/2024	
Magnesium	ND		0.823	"	"	"	"	"	
Sodium	3.14		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B4B2120	02/21/2024	02/22/2024	U
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	U
Acenaphthene	ND		0.020	"	"	"	"	"	U
Anthracene	ND		0.020	"	"	"	"	"	U
Benzo (a) anthracene	ND		0.005	"	"	"	"	"	U
Benzo (a) pyrene	ND		0.020	"	"	"	"	"	U
Benzo (b) fluoranthene	ND		0.020	"	"	"	"	"	U
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	U
Chrysene	ND		0.020	"	"	"	"	"	U
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	U
Fluoranthene	ND		0.020	"	"	"	"	"	U

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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-19@4'

2/15/2024 1:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-03 (Soil)

PAH by EPA 8270E

Fluorene	ND		0.020	mg/kg	1	B4B2120	02/21/2024	02/22/2024	U
Indeno (1,2,3-cd) pyrene	ND		0.020	"	"	"	"	"	U
Naphthalene	ND		0.002	"	"	"	"	"	U
Pyrene	ND		0.020	"	"	"	"	"	U

Surrogate: Fluorene-d10	101 %		60-130			"	"	"	
Surrogate: Anthracene-d10	94.3 %		60-130			"	"	"	
Surrogate: Pyrene-d10	95.0 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	103 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.25			pH Units	1	B4B1912	02/19/2024	02/20/2024	
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SAR by 20B Saturated Paste

SAR	3.43		0.0100	SAR	1	B4B1904	02/19/2024	02/20/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.579		0.00500	mmhos/cm	1	B4B2216	02/22/2024	02/23/2024	
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Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SW-19@4'

2/15/2024 1:00:00PM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-03 (Soil)

Table 915 metals by EPA 6020B

Arsenic	4.16	0.0923	0.0923	mg/kg	10	B4B2123	02/21/2024	02/22/2024	
Barium	83.4	9.23	9.23	"	"	"	"	"	
Cadmium	0.219	0.0923	0.0923	"	"	"	"	"	
Copper	10.2	9.23	9.23	"	"	"	"	"	
Lead	9.82	0.923	0.923	"	"	"	"	"	
Nickel	11.0	0.923	0.923	"	"	"	"	"	
Selenium	0.249	0.0923	0.0923	"	"	"	"	"	
Silver	ND	0.0923	0.0923	"	"	"	"	"	
Zinc	42.8	9.23	9.23	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L735838	02/20/2024	03/01/2024	
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Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SS-1@3'

2/15/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.165		0.0985	mg/L	1	B4B2113	02/21/2024	02/22/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND		25.0	mg/kg	1	B4B2101	02/21/2024	02/26/2024	U
Residual Range Organics (C28-C40)	ND		100	"	"	"	"	"	U

Surrogate: o-Terphenyl	78.4 %		50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND		0.00200	mg/kg	1	B4B2126	02/21/2024	02/22/2024	U
1,3,5-Trimethylbenzene	ND		0.00200	"	"	"	"	"	U
Benzene	ND		0.00200	"	"	"	"	"	U
Ethylbenzene	ND		0.00200	"	"	"	"	"	U
Toluene	ND		0.00200	"	"	"	"	"	U
Xylenes, total	ND		0.00200	"	"	"	"	"	U
Gasoline Range Hydrocarbons	ND		0.200	"	"	"	"	"	U

Surrogate: 1,2-Dichloroethane-d4	105 %		70-130			"	"	"	
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Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SS-1@3'

2/15/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	99.3 %		70-130			B4B21 26	02/21/2024	02/22/2024	
Surrogate: 4-Bromofluorobenzene	102 %		70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Calcium	1.90		0.499	meq/L	10	[CALC]	02/21/2024	02/22/2024	
Magnesium	0.851		0.823	"	"	"	"	"	
Sodium	ND		0.435	"	"	"	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND		0.002	mg/kg	1	B4B2006	02/20/2024	02/21/2024	U
2-Methylnaphthalene	ND		0.002	"	"	"	"	"	U
Acenaphthene	ND		0.020	"	"	"	"	"	U
Anthracene	0.020		0.020	"	"	"	"	"	
Benzo (a) anthracene	0.044		0.005	"	"	"	"	"	
Benzo (a) pyrene	0.032		0.020	"	"	"	"	"	
Benzo (b) fluoranthene	0.026		0.020	"	"	"	"	"	
Benzo (k) fluoranthene	ND		0.020	"	"	"	"	"	U
Chrysene	0.040		0.020	"	"	"	"	"	
Dibenz (a,h) anthracene	ND		0.020	"	"	"	"	"	U
Fluoranthene	0.100		0.020	"	"	"	"	"	
Fluorene	ND		0.020	"	"	"	"	"	U

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SS-1@3'

2/15/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y402398-04 (Soil)

PAH by EPA 8270E

Indeno (1,2,3-cd) pyrene	ND		0.020	mg/kg	1	B4B2006	02/20/2024	02/21/2024	U
Naphthalene	ND		0.002	"	"	"	"	"	U
Pyrene	0.081		0.020	"	"	"	"	"	

Surrogate: Fluorene-d10	101 %		60-130			"	"	"	
Surrogate: Anthracene-d10	96.0 %		60-130			"	"	"	
Surrogate: Pyrene-d10	87.9 %		60-130			"	"	"	
Surrogate: Benzo (a) pyrene-d12	100 %		60-130			"	"	"	

pH in Soil by 9045D

pH	8.32			pH Units	1	B4B2116	02/21/2024	02/22/2024	
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SAR by 20B Saturated Paste

SAR	0.191		0.0100	SAR	1	B4B2110	02/21/2024	02/22/2024	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.340		0.00500	mmhos/cm	1	B4B2116	02/21/2024	02/22/2024	
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Table 915 metals by EPA 6020B

Arsenic	4.00		0.0984	mg/kg	10	B4B2123	02/21/2024	02/22/2024	
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Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

SS-1@3'

2/15/2024 12:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
 Y402398-04 (Soil)

Table 915 metals by EPA 6020B

Barium	68.5		9.84	mg/kg	10	B4B2123	02/21/2024	02/22/2024	
Cadmium	0.122		0.0984	"	"	"	"	"	
Copper	ND		9.84	"	"	"	"	"	
Lead	8.64		0.984	"	"	"	"	"	
Nickel	9.35		0.984	"	"	"	"	"	
Selenium	0.216		0.0984	"	"	"	"	"	
Silver	ND		0.0984	"	"	"	"	"	
Zinc	37.6		9.84	"	"	"	"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.244	0.5	mg/Kg	1	L735838	02/20/2024	03/01/2024	
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Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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
Batch B4B2101 - EPA 3550B										
Blank (B4B2101-BLK1)										
					Prepared: 02/21/2024 Analyzed: 02/26/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	21		"	24.9		86.4	50-150			

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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 B4B2101 - EPA 3550B

LCS (B4B2101-BS1)

Prepared: 02/21/2024 Analyzed: 02/26/2024

Diesel (C10-C28)	915	50.0	mg/kg	1000		91.5	70-130			
Residual Range Organics (C28-C40)	892	200	"	1000		89.2	70-130			
Surrogate: o-Terphenyl	43		"	49.8		86.0	50-150			

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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 B4B2101 - EPA 3550B

Matrix Spike (B4B2101-MS1)	Source: Y402398-01			Prepared: 02/21/2024 Analyzed: 02/26/2024						
Diesel (C10-C28)	993	50.0	mg/kg	1000	ND	99.3	70-130			
Residual Range Organics (C28-C40)	993	200	"	1000	ND	99.3	70-130			
Surrogate: o-Terphenyl	52		"	49.8		104	50-150			

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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 B4B2101 - EPA 3550B

Matrix Spike Dup (B4B2101-MSD1)	Source: Y402398-01			Prepared: 02/21/2024 Analyzed: 02/26/2024						
Diesel (C10-C28)	987	50.0	mg/kg	1000	ND	98.7	70-130	0.608	35	
Residual Range Organics (C28-C40)	953	200	"	1000	ND	95.3	70-130	4.12	35	
Surrogate: o-Terphenyl	43		"	49.8		85.7	50-150			

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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 B4B2126 - EPA 5030 (soil)

Blank (B4B2126-BLK1)

Prepared: 02/21/2024 Analyzed: 02/21/2024

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							U
1,3,5-Trimethylbenzene	ND	0.00200	"							U
Benzene	ND	0.00200	"							U
Ethylbenzene	ND	0.00200	"							U
Naphthalene	ND	0.00380	"							U
Toluene	ND	0.00200	"							U
Xylenes, total	ND	0.00200	"							U
Gasoline Range Hydrocarbons	ND	0.200	"							U
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	0.12		"	0.125	100		70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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 B4B2126 - EPA 5030 (soil)

LCS (B4B2126-BS1)

Prepared: 02/21/2024 Analyzed: 02/21/2024

1,2,4-Trimethylbenzene	0.109	0.00200	mg/kg	0.100		109	70-130			
1,3,5-Trimethylbenzene	0.114	0.00200	"	0.100		114	70-130			
Benzene	0.105	0.00200	"	0.100		105	70-130			
Ethylbenzene	0.110	0.00200	"	0.100		110	70-130			
Naphthalene	0.114	0.00380	"	0.100		114	70-130			
Toluene	0.112	0.00200	"	0.100		112	70-130			
o-Xylene	0.102	0.00200	"	0.100		102	70-130			
m,p-Xylene	0.221	0.00400	"	0.200		111	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	0.12		"	0.125		92.1	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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 B4B2126 - EPA 5030 (soil)

Matrix Spike (B4B2126-MS1)	Source: Y402503-01			Prepared: 02/21/2024 Analyzed: 02/21/2024						
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.115	0.00200	"	0.100	ND	115	70-130			
Benzene	0.104	0.00200	"	0.100	ND	104	70-130			
Ethylbenzene	0.110	0.00200	"	0.100	ND	110	70-130			
Naphthalene	0.113	0.00380	"	0.100	ND	113	70-130			
Toluene	0.108	0.00200	"	0.100	ND	108	70-130			
o-Xylene	0.102	0.00200	"	0.100	ND	102	70-130			
m,p-Xylene	0.221	0.00400	"	0.200	ND	110	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		90.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		93.6	70-130			

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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 B4B2126 - EPA 5030 (soil)

Matrix Spike Dup (B4B2126-MSD1)	Source: Y402503-01			Prepared: 02/21/2024 Analyzed: 02/21/2024						
1,2,4-Trimethylbenzene	0.109	0.00200	mg/kg	0.100	ND	109	70-130	0.480	20	
1,3,5-Trimethylbenzene	0.113	0.00200	"	0.100	ND	113	70-130	1.23	20	
Benzene	0.106	0.00200	"	0.100	ND	106	70-130	1.87	20	
Ethylbenzene	0.108	0.00200	"	0.100	ND	108	70-130	1.01	20	
Naphthalene	0.115	0.00380	"	0.100	ND	115	70-130	1.82	20	
Toluene	0.111	0.00200	"	0.100	ND	111	70-130	2.37	20	
o-Xylene	0.102	0.00200	"	0.100	ND	102	70-130	0.569	20	
m,p-Xylene	0.219	0.00400	"	0.200	ND	110	70-130	0.591	20	
Surrogate: 1,2-Dichloroethane-d4	0.11		"	0.125		91.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		92.9	70-130			

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank 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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Metals by EPA 6000/7000 Series Methods - 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 B4B1549 - EPA 3050B

Blank (B4B1549-BLK1)

Prepared: 02/16/2024 Analyzed: 03/01/2024

Arsenic	ND	0.290	mg/kg							
Barium	ND	10.0	"							
Cadmium	ND	0.100	"							
Copper	ND	10.0	"							
Lead	ND	1.00	"							
Nickel	ND	1.00	"							
Selenium	ND	0.260	"							
Silver	ND	0.100	"							
Zinc	ND	37.0	"							

LCS (B4B1549-BS1)

Prepared: 02/16/2024 Analyzed: 03/01/2024

Arsenic	5.36	0.290	mg/kg	5.00		107	80-120			
Barium	513	10.0	"	500		103	80-120			
Cadmium	5.40	0.100	"	5.00		108	80-120			
Copper	51.6	10.0	"	50.0		103	80-120			
Lead	5.00	1.00	"	5.00		100	80-120			
Nickel	5.06	1.00	"	5.00		101	80-120			
Selenium	5.91	0.260	"	5.00		118	80-120			
Silver	5.48	0.100	"	5.00		110	80-120			
Zinc	55.1	37.0	"	50.0		110	80-120			

Matrix Spike (B4B1549-MS1)

Source: Y402405-07

Prepared: 02/16/2024 Analyzed: 03/01/2024

Origins Laboratory, Inc.



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

Metals by EPA 6000/7000 Series Methods - 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 B4B1549 - EPA 3050B

Matrix Spike (B4B1549-MS1)		Source: Y402405-07			Prepared: 02/16/2024 Analyzed: 03/01/2024					
Arsenic	7.46	0.286	mg/kg	4.93	2.34	104	75-125			
Barium	582	9.85	"	493	59.1	106	75-125			
Cadmium	5.49	0.0985	"	4.93	0.0566	110	75-125			
Copper	53.9	9.85	"	49.3	4.19	101	75-125			
Lead	10.6	0.985	"	4.93	5.01	114	75-125			
Nickel	9.26	0.985	"	4.93	4.85	89.5	75-125			
Selenium	4.81	0.256	"	4.93	ND	97.6	75-125			
Silver	5.31	0.0985	"	4.93	0.0297	107	75-125			
Zinc	76.8	36.4	"	49.3	22.6	110	75-125			

Matrix Spike Dup (B4B1549-MSD1)		Source: Y402405-07			Prepared: 02/16/2024 Analyzed: 03/01/2024					
Arsenic	7.25	0.266	mg/kg	4.59	2.34	107	75-125	2.74	20	
Barium	533	9.18	"	459	59.1	103	75-125	8.62	20	
Cadmium	5.01	0.0918	"	4.59	0.0566	108	75-125	9.28	20	
Copper	52.9	9.18	"	45.9	4.19	106	75-125	1.83	20	
Lead	9.73	0.918	"	4.59	5.01	103	75-125	8.58	20	
Nickel	9.61	0.918	"	4.59	4.85	104	75-125	3.64	20	
Selenium	5.13	0.239	"	4.59	ND	112	75-125	6.47	20	
Silver	5.07	0.0918	"	4.59	0.0297	110	75-125	4.56	20	
Zinc	72.3	34.0	"	45.9	22.6	108	75-125	6.00	20	

Batch B4B2123 - EPA 3050B

Blank (B4B2123-BLK1)		Prepared: 02/21/2024 Analyzed: 02/22/2024								
Arsenic	ND	0.0100	mg/kg							
Barium	ND	1.00	"							
Cadmium	ND	0.0100	"							

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 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

Metals by EPA 6000/7000 Series Methods - 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 B4B2123 - EPA 3050B

Blank (B4B2123-BLK1)

Prepared: 02/21/2024 Analyzed: 02/22/2024

Copper	ND	1.00	mg/kg						
Lead	ND	0.100	"						
Nickel	ND	0.100	"						
Selenium	ND	0.0100	"						
Silver	ND	0.0100	"						
Zinc	ND	1.00	"						

LCS (B4B2123-BS1)

Prepared: 02/21/2024 Analyzed: 02/22/2024

Arsenic	4.99	0.0100	mg/kg	5.00		99.9	80-120
Barium	531	1.00	"	500		106	80-120
Cadmium	5.13	0.0100	"	5.00		103	80-120
Copper	57.1	1.00	"	50.0		114	80-120
Lead	4.91	0.100	"	5.00		98.2	80-120
Nickel	5.09	0.100	"	5.00		102	80-120
Selenium	4.74	0.0100	"	5.00		94.8	80-120
Silver	4.96	0.0100	"	5.00		99.1	80-120
Zinc	50.5	1.00	"	50.0		101	80-120

Matrix Spike (B4B2123-MS1)

Source: Y402260-01

Prepared: 02/21/2024 Analyzed: 02/22/2024

Arsenic	8.18	0.0940	mg/kg	4.70	2.67	117	75-125
Barium	616	9.40	"	470	64.2	117	75-125
Cadmium	5.28	0.0940	"	4.70	0.0773	111	75-125
Copper	55.5	9.40	"	47.0	5.99	105	75-125
Lead	9.85	0.940	"	4.70	4.94	105	75-125
Nickel	12.3	0.940	"	4.70	7.02	113	75-125
Selenium	4.79	0.0940	"	4.70	0.0887	100	75-125
Silver	4.93	0.0940	"	4.70	0.0134	105	75-125

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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

Metals by EPA 6000/7000 Series Methods - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4B2123 - EPA 3050B										
Matrix Spike (B4B2123-MS1)			Source: Y402260-01		Prepared: 02/21/2024 Analyzed: 02/22/2024					
Zinc	79.4	9.40	mg/kg	47.0	27.8	110	75-125			
Matrix Spike Dup (B4B2123-MSD1)			Source: Y402260-01		Prepared: 02/21/2024 Analyzed: 02/22/2024					
Arsenic	8.49	0.0913	mg/kg	4.56	2.67	128	75-125	3.72	20	QM-07
Barium	653	9.13	"	456	64.2	129	75-125	5.80	20	QM-07
Cadmium	5.52	0.0913	"	4.56	0.0773	119	75-125	4.37	20	
Copper	58.1	9.13	"	45.6	5.99	114	75-125	4.64	20	
Lead	10.5	0.913	"	4.56	4.94	123	75-125	6.62	20	
Nickel	13.0	0.913	"	4.56	7.02	131	75-125	5.28	20	QM-07
Selenium	5.11	0.0913	"	4.56	0.0887	110	75-125	6.58	20	
Silver	5.09	0.0913	"	4.56	0.0134	111	75-125	3.25	20	
Zinc	86.0	9.13	"	45.6	27.8	128	75-125	7.99	20	QM-07

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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4B2006 - EPA 3580

Blank (B4B2006-BLK1)

Prepared: 02/20/2024 Analyzed: 02/21/2024

1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U
Naphthalene	ND	0.002	"							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		99.5	60-130			
Surrogate: Anthracene-d10	190		"	200		93.0	60-130			
Surrogate: Pyrene-d10	190		"	200		94.5	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

LCS (B4B2006-BS1)

Prepared: 02/20/2024 Analyzed: 02/21/2024

1-Methylnaphthalene	0.191	0.002	mg/kg	0.200		95.6	70-130			
2-Methylnaphthalene	0.188	0.002	"	0.200		94.1	70-130			
Acenaphthene	0.193	0.020	"	0.200		96.3	70-130			
Anthracene	0.193	0.020	"	0.200		96.7	70-130			

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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4B2006 - EPA 3580

LCS (B4B2006-BS1)

Prepared: 02/20/2024 Analyzed: 02/21/2024

Benzo (a) anthracene	0.212	0.005	mg/kg	0.200		106	70-130			
Benzo (a) pyrene	0.200	0.020	"	0.200		100	70-130			
Benzo (b) fluoranthene	0.196	0.020	"	0.200		97.8	70-130			
Benzo (g,h,i) perylene	0.202	0.020	"	0.200		101	70-130			
Benzo (k) fluoranthene	0.189	0.020	"	0.200		94.6	70-130			
Chrysene	0.200	0.020	"	0.200		100	70-130			
Dibenz (a,h) anthracene	0.203	0.020	"	0.200		102	70-130			
Fluoranthene	0.191	0.020	"	0.200		95.5	70-130			
Fluorene	0.197	0.020	"	0.200		98.5	70-130			
Indeno (1,2,3-cd) pyrene	0.203	0.020	"	0.200		101	70-130			
Naphthalene	0.197	0.002	"	0.200		98.4	70-130			
Phenanthrene	0.187	0.020	"	0.200		93.6	70-130			
Pyrene	0.181	0.020	"	0.200		90.6	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		99.9	60-130			
Surrogate: Anthracene-d10	190		"	200		95.0	60-130			
Surrogate: Pyrene-d10	190		"	200		92.9	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			

Matrix Spike (B4B2006-MS1)

Source: Y402326-01

Prepared: 02/20/2024 Analyzed: 02/21/2024

1-Methylnaphthalene	0.182	0.002	mg/kg	0.200	ND	90.9	70-130			
2-Methylnaphthalene	0.180	0.002	"	0.200	ND	90.2	70-130			
Acenaphthene	0.186	0.020	"	0.200	ND	92.8	70-130			
Anthracene	0.185	0.020	"	0.200	ND	92.5	70-130			
Benzo (a) anthracene	0.203	0.005	"	0.200	ND	101	70-130			
Benzo (a) pyrene	0.197	0.020	"	0.200	ND	98.5	70-130			
Benzo (b) fluoranthene	0.189	0.020	"	0.200	0.0004	94.5	70-130			
Benzo (g,h,i) perylene	0.195	0.020	"	0.200	0.0006	97.4	70-130			

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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4B2006 - EPA 3580

Matrix Spike (B4B2006-MS1)		Source: Y402326-01			Prepared: 02/20/2024 Analyzed: 02/21/2024					
Benzo (k) fluoranthene	0.187	0.020	mg/kg	0.200	ND	93.6	70-130			
Chrysene	0.194	0.020	"	0.200	ND	96.9	70-130			
Dibenz (a,h) anthracene	0.200	0.020	"	0.200	ND	99.9	70-130			
Fluoranthene	0.186	0.020	"	0.200	ND	93.2	70-130			
Fluorene	0.190	0.020	"	0.200	ND	95.0	70-130			
Indeno (1,2,3-cd) pyrene	0.203	0.020	"	0.200	ND	101	70-130			
Naphthalene	0.187	0.002	"	0.200	ND	93.5	70-130			
Phenanthrene	0.178	0.020	"	0.200	ND	89.1	70-130			
Pyrene	0.174	0.020	"	0.200	ND	86.8	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		95.0	60-130			
Surrogate: Pyrene-d10	190		"	200		93.3	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

Matrix Spike Dup (B4B2006-MSD1)		Source: Y402326-01			Prepared: 02/20/2024 Analyzed: 02/21/2024					
1-Methylnaphthalene	0.171	0.002	mg/kg	0.200	ND	85.3	70-130	6.37	20	
2-Methylnaphthalene	0.169	0.002	"	0.200	ND	84.4	70-130	6.58	20	
Acenaphthene	0.173	0.020	"	0.200	ND	86.4	70-130	7.17	20	
Anthracene	0.167	0.020	"	0.200	ND	83.5	70-130	10.2	20	
Benzo (a) anthracene	0.182	0.005	"	0.200	ND	91.0	70-130	10.8	20	
Benzo (a) pyrene	0.178	0.020	"	0.200	ND	88.8	70-130	10.3	20	
Benzo (b) fluoranthene	0.174	0.020	"	0.200	0.0004	87.0	70-130	8.24	20	
Benzo (g,h,i) perylene	0.177	0.020	"	0.200	0.0006	88.3	70-130	9.81	20	
Benzo (k) fluoranthene	0.161	0.020	"	0.200	ND	80.6	70-130	14.9	20	
Chrysene	0.180	0.020	"	0.200	ND	90.0	70-130	7.32	20	
Dibenz (a,h) anthracene	0.179	0.020	"	0.200	ND	89.6	70-130	10.9	20	
Fluoranthene	0.170	0.020	"	0.200	ND	85.0	70-130	9.21	20	

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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4B2006 - EPA 3580

Matrix Spike Dup (B4B2006-MSD1)		Source: Y402326-01			Prepared: 02/20/2024 Analyzed: 02/21/2024					
Fluorene	0.175	0.020	mg/kg	0.200	ND	87.5	70-130	8.22	20	
Indeno (1,2,3-cd) pyrene	0.183	0.020	"	0.200	ND	91.3	70-130	10.4	20	
Naphthalene	0.176	0.002	"	0.200	ND	88.2	70-130	5.84	20	
Phenanthrene	0.165	0.020	"	0.200	ND	82.5	70-130	7.67	20	
Pyrene	0.161	0.020	"	0.200	ND	80.4	70-130	7.71	20	
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		94.9	60-130			
Surrogate: Pyrene-d10	190		"	200		93.4	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

Batch B4B2120 - EPA 3580

Blank (B4B2120-BLK1)		Prepared: 02/21/2024 Analyzed: 02/22/2024								
1-Methylnaphthalene	ND	0.002	mg/kg							U
2-Methylnaphthalene	ND	0.002	"							U
Acenaphthene	ND	0.020	"							U
Anthracene	ND	0.020	"							U
Benzo (a) anthracene	ND	0.005	"							U
Benzo (a) pyrene	ND	0.020	"							U
Benzo (b) fluoranthene	ND	0.020	"							U
Benzo (g,h,i) perylene	ND	0.020	"							U
Benzo (k) fluoranthene	ND	0.020	"							U
Chrysene	ND	0.020	"							U
Dibenz (a,h) anthracene	ND	0.020	"							U
Fluoranthene	ND	0.020	"							U
Fluorene	ND	0.020	"							U
Indeno (1,2,3-cd) pyrene	ND	0.020	"							U

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John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4B2120 - EPA 3580

Blank (B4B2120-BLK1)

Prepared: 02/21/2024 Analyzed: 02/22/2024

Naphthalene	ND	0.002	mg/kg							U
Phenanthrene	ND	0.020	"							U
Pyrene	ND	0.020	"							U
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		93.7	60-130			
Surrogate: Pyrene-d10	190		"	200		95.2	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130			

LCS (B4B2120-BS1)

Prepared: 02/21/2024 Analyzed: 02/22/2024

1-Methylnaphthalene	0.167	0.002	mg/kg	0.200		83.3	70-130			
2-Methylnaphthalene	0.165	0.002	"	0.200		82.6	70-130			
Acenaphthene	0.167	0.020	"	0.200		83.7	70-130			
Anthracene	0.162	0.020	"	0.200		81.0	70-130			
Benzo (a) anthracene	0.164	0.005	"	0.200		82.0	70-130			
Benzo (a) pyrene	0.172	0.020	"	0.200		85.8	70-130			
Benzo (b) fluoranthene	0.175	0.020	"	0.200		87.5	70-130			
Benzo (g,h,i) perylene	0.173	0.020	"	0.200		86.3	70-130			
Benzo (k) fluoranthene	0.170	0.020	"	0.200		84.8	70-130			
Chrysene	0.172	0.020	"	0.200		86.0	70-130			
Dibenz (a,h) anthracene	0.173	0.020	"	0.200		86.5	70-130			
Fluoranthene	0.162	0.020	"	0.200		81.1	70-130			
Fluorene	0.171	0.020	"	0.200		85.3	70-130			
Indeno (1,2,3-cd) pyrene	0.180	0.020	"	0.200		90.2	70-130			
Naphthalene	0.173	0.002	"	0.200		86.3	70-130			
Phenanthrene	0.158	0.020	"	0.200		78.8	70-130			
Pyrene	0.156	0.020	"	0.200		78.1	70-130			
Surrogate: Fluorene-d10	200		ug/kg	200		102	60-130			

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 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

EPA 8270E (SW846) - Semivolatile Organic Compounds - 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 B4B2120 - EPA 3580

LCS (B4B2120-BS1)

Prepared: 02/21/2024 Analyzed: 02/22/2024

Surrogate: Anthracene-d10	190		ug/kg	200		95.2	60-130
Surrogate: Pyrene-d10	190		"	200		95.5	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

Matrix Spike (B4B2120-MS1)

Source: Y402398-01

Prepared: 02/21/2024 Analyzed: 02/22/2024

1-Methylnaphthalene	0.179	0.002	mg/kg	0.200	ND	89.6	70-130
2-Methylnaphthalene	0.177	0.002	"	0.200	ND	88.4	70-130
Acenaphthene	0.179	0.020	"	0.200	ND	89.6	70-130
Anthracene	0.171	0.020	"	0.200	ND	85.7	70-130
Benzo (a) anthracene	0.185	0.005	"	0.200	ND	92.3	70-130
Benzo (a) pyrene	0.192	0.020	"	0.200	ND	95.9	70-130
Benzo (b) fluoranthene	0.181	0.020	"	0.200	ND	90.3	70-130
Benzo (g,h,i) perylene	0.182	0.020	"	0.200	ND	90.9	70-130
Benzo (k) fluoranthene	0.167	0.020	"	0.200	ND	83.7	70-130
Chrysene	0.184	0.020	"	0.200	ND	92.0	70-130
Dibenz (a,h) anthracene	0.184	0.020	"	0.200	ND	91.8	70-130
Fluoranthene	0.174	0.020	"	0.200	ND	87.2	70-130
Fluorene	0.181	0.020	"	0.200	ND	90.6	70-130
Indeno (1,2,3-cd) pyrene	0.187	0.020	"	0.200	ND	93.5	70-130
Naphthalene	0.184	0.002	"	0.200	ND	92.1	70-130
Phenanthrene	0.166	0.020	"	0.200	ND	83.0	70-130
Pyrene	0.167	0.020	"	0.200	ND	83.3	70-130

Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130
Surrogate: Anthracene-d10	190		"	200		94.3	60-130
Surrogate: Pyrene-d10	190		"	200		94.7	60-130
Surrogate: Benzo (a) pyrene-d12	200		"	200		102	60-130

Matrix Spike Dup (B4B2120-MSD1)

Source: Y402398-01

Prepared: 02/21/2024 Analyzed: 02/22/2024

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

EPA 8270E (SW846) - Semivolatile Organic Compounds - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4B2120 - EPA 3580										
1-Methylnaphthalene	0.183	0.002	mg/kg	0.200	ND	91.6	70-130	2.21	20	
2-Methylnaphthalene	0.181	0.002	"	0.200	ND	90.5	70-130	2.38	20	
Acenaphthene	0.184	0.020	"	0.200	ND	91.8	70-130	2.45	20	
Anthracene	0.169	0.020	"	0.200	ND	84.6	70-130	1.32	20	
Benzo (a) anthracene	0.198	0.005	"	0.200	ND	98.9	70-130	6.92	20	
Benzo (a) pyrene	0.194	0.020	"	0.200	ND	96.9	70-130	1.07	20	
Benzo (b) fluoranthene	0.184	0.020	"	0.200	ND	92.0	70-130	1.87	20	
Benzo (g,h,i) perylene	0.190	0.020	"	0.200	ND	95.0	70-130	4.44	20	
Benzo (k) fluoranthene	0.191	0.020	"	0.200	ND	95.6	70-130	13.2	20	
Chrysene	0.188	0.020	"	0.200	ND	94.2	70-130	2.32	20	
Dibenz (a,h) anthracene	0.192	0.020	"	0.200	ND	96.1	70-130	4.60	20	
Fluoranthene	0.177	0.020	"	0.200	ND	88.4	70-130	1.28	20	
Fluorene	0.186	0.020	"	0.200	ND	92.8	70-130	2.40	20	
Indeno (1,2,3-cd) pyrene	0.193	0.020	"	0.200	ND	96.4	70-130	3.04	20	
Naphthalene	0.189	0.002	"	0.200	ND	94.6	70-130	2.71	20	
Phenanthrene	0.170	0.020	"	0.200	ND	85.1	70-130	2.45	20	
Pyrene	0.171	0.020	"	0.200	ND	85.6	70-130	2.83	20	
Surrogate: Fluorene-d10	200		ug/kg	200		100	60-130			
Surrogate: Anthracene-d10	190		"	200		94.7	60-130			
Surrogate: Pyrene-d10	190		"	200		95.2	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		104	60-130			

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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

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 B4B1904 - Saturated Paste Metals

Blank (B4B1904-BLK1)

Prepared: 02/19/2024 Analyzed: 02/20/2024

SAR	ND	0.0100	SAR							
Calcium PPM	ND	10.0	mg/L							
Magnesium PPM	ND	10.0	"							
Sodium PPM	ND	10.0	"							

Duplicate (B4B1904-DUP1)

Source: Y402373-01

Prepared: 02/19/2024 Analyzed: 02/20/2024

SAR	ND	0.0100	SAR	3.37					200	
Calcium PPM	335	10.0	mg/L	371				10.1	50	
Magnesium PPM	96.0	10.0	"	104				8.47	50	
Sodium PPM	250	10.0	"	285				13.1	50	

Batch B4B2110 - Saturated Paste Metals

Blank (B4B2110-BLK1)

Prepared: 02/21/2024 Analyzed: 02/22/2024

Calcium PPM	ND	10.0	mg/L							
SAR	ND	0.0100	SAR							
Magnesium PPM	ND	10.0	mg/L							
Sodium PPM	ND	10.0	"							

Duplicate (B4B2110-DUP1)

Source: Y402398-01

Prepared: 02/21/2024 Analyzed: 02/22/2024

SAR	ND	0.0100	SAR	1.80					200	
Calcium PPM	40.6	10.0	mg/L	41.8				2.89	50	
Magnesium PPM	16.6	10.0	"	17.2				3.44	50	
Sodium PPM	52.7	10.0	"	54.7				3.73	50	

Batch B4B2113 - DTPA Sorbitol Preparation

Blank (B4B2113-BLK1)

Prepared: 02/21/2024 Analyzed: 02/22/2024

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

Classical Chemistry Parameters - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4B2113 - DTPA Sorbitol Preparation										
Blank (B4B2113-BLK1)					Prepared: 02/21/2024 Analyzed: 02/22/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4B2113-DUP1)					Source: Y402398-01 Prepared: 02/21/2024 Analyzed: 02/22/2024					
Boron	0.130	0.0997	mg/L		0.123			6.01	50	

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
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 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

Saturated Paste - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4B1912 - Saturated Paste pH/EC										
Duplicate (B4B1912-DUP1)		Source: Y402373-01			Prepared: 02/19/2024 Analyzed: 02/20/2024					
pH	7.68		pH Units		7.82			1.81	25	
Batch B4B2116 - Saturated Paste pH/EC										
Blank (B4B2116-BLK1)		Prepared: 02/21/2024 Analyzed: 02/22/2024								
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4B2116-DUP1)		Source: Y402398-01			Prepared: 02/21/2024 Analyzed: 02/22/2024					
Specific Conductance (EC)	0.556	0.00500	mmhos/cm		0.654			16.2	25	
pH	8.28		pH Units		8.28			0.00	25	
Batch B4B2216 - Saturated Paste pH/EC										
Blank (B4B2216-BLK1)		Prepared: 02/22/2024 Analyzed: 02/23/2024								
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4B2216-DUP1)		Source: Y402511-01			Prepared: 02/22/2024 Analyzed: 02/23/2024					
Specific Conductance (EC)	0.311	0.00500	mmhos/cm		0.318			2.23	25	

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KP Kauffman Co. Inc.
 1700 Lincoln St #4550
 Denver CO 80203

John Peterson
 Project Number: [none]
 Project: Koch Tank Battery

Total Metals by 7196A - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L735838 -										
DUP (L 97803-DUP)		Source: 97803			Prepared: Analyzed: 03/01/2024					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 97803-MS)		Source: 97803			Prepared: Analyzed: 03/01/2024					
Chromium, Hexavalent	34.8	2.5	mg/Kg	39.9	< 0.244	87	75-125			
LCS (LCS)		Prepared: Analyzed: 03/01/2024								
Chromium, Hexavalent	6.55	0.5	mg/Kg	8		82	75-125			
LRB (LRB)		Prepared: Analyzed: 03/01/2024								
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.
1700 Lincoln St #4550
Denver CO 80203

John Peterson
Project Number: [none]
Project: Koch Tank Battery

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 on a wet weight basis.

Calculated results may use J-flag data (instead of reported "ND") as part of calculation to provide a more accurate result.

Origins Laboratory, Inc.



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