



February 06, 2023

KP Kauffman Co. Inc.

Levi Kirk

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. January 27, 2023. This project is associated with Origins project number Y301477-01.

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

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

Levi Kirk

Project Number: [none]

Project: Koch Tank Battery

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-1@3'	Y301477-01	Soil	January 27, 2023 11:00	01/27/2023 13:20

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

Levi Kirk

Project Number: [none]

Project: Koch Tank Battery

www.originslaboratory.com

page 1 of 1

4301477

ORIGINS
LABORATORY, INC

Client: K.P. Kauffman
Address: 1675 Broadway Denver, CO 80202
Telephone Number: 3038254822
Email Address: PrimaryContractor@marcomllc.net

Project Manager: Levi Kirk
Project Name: Koch Tank Battery
Project Number:
Samples Collected By: HC & ES

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

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative				Matrix			Analysis	Sample Instructions	
				Unpreserved	HCl	HNO ₃	Other	Groundwater	Soil	Air Sample			Other
SS-1@3'	1/18/23	11:00	2	X					X				
Relinquished By: [Signature]	Date: 1/17/23	Time: 1620										Turnaround Time: Same Day <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 72 Hr <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	
Relinquished By: [Signature]	Date: 1/17/23	Time: 1320											

8.0

Date Results Needed

Origins Laboratory, Inc.

Jefe Pellegrini

Jen Pellegrini, Project Manager

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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

Levi Kirk

Project Number: [none]

Project: Koch Tank Battery

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4301477

Client: KP Kauffman

Client Project ID: Koch TB

Checklist Completed by: CHS

Shipped Via: HD
(UPS, FedEx, Hand Delivered, Pick-up, etc.)

Date/time completed: 1/27/23

Airbill #: NA

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

Cooler Number/Temperature: 1 18.0 °C 1 °C 1 °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⁾ ?		<input checked="" type="checkbox"/>		SD
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) [Signature]

1/30/23
Date/Time Reviewed

Origins Laboratory, Inc.

Jefe Pellegrini

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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

Levi Kirk

Project Number: [none]

Project: Koch Tank Battery

SS-1@3'

1/27/2023 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y301477-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.0997	mg/L	1	B3A3008	KAP	01/30/2023	01/31/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	31.3	25.0	mg/kg	1	B3A3001	B	01/30/2023	01/30/2023	
Residual Range Organics (C28-C40)	152	100	"	"	"	B	"	"	

Surrogate: o-Terphenyl	86.3 %	50-150			"	"	"		
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3A3020	JSM	01/30/2023	01/31/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Benzene	ND	0.00200	"	"	"	JSM	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	JSM	"	"	U
Toluene	ND	0.00200	"	"	"	JSM	"	"	U
Xylenes, total	ND	0.00200	"	"	"	JSM	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	JSM	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"		
Surrogate: Toluene-d8	102 %	70-130			"	"	"		
Surrogate: 4-Bromofluorobenzene	98.5 %	70-130			"	"	"		

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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1700 Lincoln St #4550

Denver CO 80203

Levi Kirk

Project Number: [none]

Project: Koch Tank Battery

SS-1@3'

1/27/2023 11:00:00AM

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

Y301477-01 (Soil)

Metals by Saturated Paste by EPA 6010

Calcium	2.38	0.499	meq/L	10	[CALC]	KAP	01/30/2023	01/31/2023
Magnesium	0.914	0.823	"	"	"	KAP	"	"
Sodium	0.447	0.435	"	"	"	KAP	"	"

PAH by 8270D SIM

1-Methylnaphthalene	0.00273	0.00201	mg/Kg	1	L661413		01/31/2023	02/02/2023
2-Methylnaphthalene	0.00302	0.00201	"	"	"		"	"
Acenaphthene	0.0125	0.00067	"	"	"		"	"
Anthracene	0.0478	0.00067	"	"	"		"	"
Benzo(a)anthracene	0.091	0.00067	"	"	"		"	"
Benzo(a)pyrene	0.101	0.00067	"	"	"		"	"
Benzo(b)fluoranthene	0.079	0.00067	"	"	"		"	"
Benzo(k)fluoranthene	0.0313	0.00067	"	"	"		"	"
Chrysene	0.0999	0.00067	"	"	"		"	"
Dibenz(a,h)anthracene	0.0225	0.00067	"	"	"		"	"
Fluoranthene	0.159	0.00067	"	"	"		"	"
Fluorene	0.0144	0.00067	"	"	"		"	"
Indeno(1,2,3-cd)pyrene	0.1	0.00067	"	"	"		"	"
Naphthalene	ND	0.00201	"	"	"		"	"
Pyrene	0.131	0.00067	"	"	"		"	"

Surrogate: 2-Fluorobiphenyl

44 %

33-115

"

"

"

Surrogate: 4-Terphenyl-d14

40.1 %

33-122

"

"

"

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Project: Koch Tank Battery

SS-1@3'

1/27/2023 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Waypoint Analytical, LLC.
Y301477-01 (Soil)

PAH by 8270D SIM

Surrogate: Nitrobenzene-d5	44.6 %	29-110			L6614 13	01/31/2023	02/02/2023
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pH in Soil by 9045D

pH	8.12	pH Units	1	B3A3012	HJD	01/30/2023	01/31/2023
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SAR by 20B Saturated Paste

SAR	0.348	SAR	1	B3A3010	KAP	01/30/2023	01/31/2023
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.409	0.00500	mmhos/cm	1	B3A3012	HJD	01/30/2023	01/31/2023
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Table 915 metals by EPA 6020B

Arsenic	2.49	0.0963	mg/kg	10	B3A3002	CNG	01/30/2023	01/30/2023
Barium	72.6	9.63	"	"	"	CNG	"	"
Cadmium	0.175	0.0963	"	"	"	CNG	"	"
Copper	ND	9.63	"	"	"	CNG	"	" U
Lead	ND	9.63	"	"	"	CNG	"	" U
Nickel	ND	9.63	"	"	"	CNG	"	" U
Selenium	0.255	0.0963	"	"	"	CNG	"	"
Silver	ND	0.0963	"	"	"	CNG	"	" U

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Levi Kirk
Project Number: [none]
Project: Koch Tank Battery

SS-1@3'

1/27/2023 11:00:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y301477-01 (Soil)

Table 915 metals by EPA 6020B

Zinc	ND	96.3	mg/kg	10	B3A3002	CNG	01/30/2023	01/30/2023	U
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Total Metals by 7196A

Chromium, Hexavalent	ND	2.6	mg/Kg	5	L661613		01/27/2023	02/02/2023
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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 B3A3001 - EPA 3580										
Blank (B3A3001-BLK1)					Prepared: 01/30/2023 Analyzed: 01/30/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	23		"	24.9		92.1	50-150			

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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 B3A3001 - EPA 3580

LCS (B3A3001-BS1)

Prepared: 01/30/2023 Analyzed: 01/30/2023

Diesel (C10-C28)	939	50.0	mg/kg	1000		93.9	70-130			
Residual Range Organics (C28-C40)	898	200	"	1000		89.8	70-130			
Surrogate: o-Terphenyl	46		"	49.8		93.3	50-150			

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Jen Pellegrini, Project Manager

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

Levi Kirk
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 B3A3001 - EPA 3580

Matrix Spike (B3A3001-MS1)		Source: Y301432-01			Prepared: 01/30/2023 Analyzed: 01/30/2023					
Diesel (C10-C28)	911	50.0	mg/kg	1000	ND	91.1	70-130			
Residual Range Organics (C28-C40)	866	200	"	1000	ND	86.6	70-130			
Surrogate: o-Terphenyl	43		"	49.8		86.6	50-150			

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1700 Lincoln St #4550

Denver CO 80203

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Project Number: [none]

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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 B3A3001 - EPA 3580

Matrix Spike Dup (B3A3001-MSD1)		Source: Y301432-01			Prepared: 01/30/2023 Analyzed: 01/30/2023					
Diesel (C10-C28)	903	50.0	mg/kg	1000	ND	90.3	70-130	0.871	35	
Residual Range Organics (C28-C40)	864	200	"	1000	ND	86.4	70-130	0.289	35	
Surrogate: o-Terphenyl	43		"	49.8		86.4	50-150			

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Levi Kirk

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 B3A3020 - EPA 5030 (soil)										
Blank (B3A3020-BLK1)					Prepared: 01/30/2023 Analyzed: 01/31/2023					
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	0.13		"	0.125	106		70-130			
Surrogate: Toluene-d8	0.12		"	0.125	99.2		70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125	93.7		70-130			

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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

Levi Kirk

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 B3A3020 - EPA 5030 (soil)

LCS (B3A3020-BS1)

Prepared: 01/30/2023 Analyzed: 01/31/2023

1,2,4-Trimethylbenzene	0.105	0.00200	mg/kg	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.109	0.00200	"	0.100		109	70-130			
Benzene	0.0963	0.00200	"	0.100		96.3	70-130			
Ethylbenzene	0.112	0.00200	"	0.100		112	70-130			
Naphthalene	0.0965	0.00380	"	0.100		96.5	70-130			
Toluene	0.105	0.00200	"	0.100		105	70-130			
o-Xylene	0.109	0.00200	"	0.100		109	70-130			
m,p-Xylene	0.223	0.00400	"	0.200		111	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.3	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Project Number: [none]

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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 B3A3020 - EPA 5030 (soil)

Matrix Spike (B3A3020-MS1)		Source: Y301476-01			Prepared: 01/30/2023 Analyzed: 01/31/2023					
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.111	0.00200	"	0.100	ND	111	70-130			
Benzene	0.101	0.00200	"	0.100	ND	101	70-130			
Ethylbenzene	0.116	0.00200	"	0.100	ND	116	70-130			
Naphthalene	0.0956	0.00380	"	0.100	ND	95.6	70-130			
Toluene	0.108	0.00200	"	0.100	ND	108	70-130			
o-Xylene	0.113	0.00200	"	0.100	ND	113	70-130			
m,p-Xylene	0.231	0.00400	"	0.200	ND	116	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		104	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		101	70-130			

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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.
1700 Lincoln St #4550
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Levi Kirk
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
Batch B3A3020 - EPA 5030 (soil)										
Matrix Spike Dup (B3A3020-MSD1)		Source: Y301476-01			Prepared: 01/30/2023 Analyzed: 01/31/2023					
1,2,4-Trimethylbenzene	0.103	0.00200	mg/kg	0.100	ND	103	70-130	4.13	20	
1,3,5-Trimethylbenzene	0.106	0.00200	"	0.100	ND	106	70-130	4.76	20	
Benzene	0.101	0.00200	"	0.100	ND	101	70-130	0.415	20	
Ethylbenzene	0.112	0.00200	"	0.100	ND	112	70-130	3.28	20	
Naphthalene	0.0950	0.00380	"	0.100	ND	95.0	70-130	0.629	20	
Toluene	0.109	0.00200	"	0.100	ND	109	70-130	0.221	20	
o-Xylene	0.111	0.00200	"	0.100	ND	111	70-130	1.30	20	
m,p-Xylene	0.225	0.00400	"	0.200	ND	112	70-130	2.88	20	
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		103	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		106	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		102	70-130			

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Project Number: [none]

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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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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 B3A3002 - EPA 3050B

Blank (B3A3002-BLK1)

Prepared: 01/30/2023 Analyzed: 01/30/2023

Arsenic	ND	0.000100	mg/kg							U
Barium	ND	0.0100	"							U
Cadmium	ND	0.000100	"							U
Copper	ND	0.0100	"							U
Lead	ND	0.0100	"							U
Nickel	ND	0.0100	"							U
Selenium	ND	0.000100	"							U
Silver	ND	0.000100	"							U
Zinc	ND	0.100	"							U

LCS (B3A3002-BS1)

Prepared: 01/30/2023 Analyzed: 01/30/2023

Arsenic	0.0492	0.000100	mg/kg	0.0500		98.4	80-120
Barium	5.04	0.0100	"	5.00		101	80-120
Cadmium	0.0497	0.000100	"	0.0500		99.3	80-120
Copper	0.521	0.0100	"	0.500		104	80-120
Lead	0.0497	0.0100	"	0.0500		99.4	80-120
Nickel	0.0523	0.0100	"	0.0500		105	80-120
Selenium	0.0501	0.000100	"	0.0500		100	80-120
Silver	0.0537	0.000100	"	0.0500		107	80-120
Zinc	0.491	0.100	"	0.500		98.3	80-120

Matrix Spike (B3A3002-MS1)

Source: Y301477-01

Prepared: 01/30/2023 Analyzed: 01/30/2023

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

Levi Kirk

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 B3A3002 - EPA 3050B

Matrix Spike (B3A3002-MS1)		Source: Y301477-01			Prepared: 01/30/2023 Analyzed: 01/30/2023					
Arsenic	7.34	0.0973	mg/kg	4.87	2.49	99.7	75-125			
Barium	567	9.73	"	487	72.6	102	75-125			
Cadmium	4.95	0.0973	"	4.87	0.175	98.1	75-125			
Copper	56.7	9.73	"	48.7	8.46	99.1	75-125			
Lead	12.5	9.73	"	4.87	7.79	95.8	75-125			
Nickel	13.9	9.73	"	4.87	9.03	99.5	75-125			
Selenium	4.65	0.0973	"	4.87	0.255	90.4	75-125			
Silver	5.25	0.0973	"	4.87	0.0635	107	75-125			
Zinc	75.8	97.3	"	48.7	31.3	91.5	75-125			U
Matrix Spike Dup (B3A3002-MSD1)		Source: Y301477-01			Prepared: 01/30/2023 Analyzed: 01/30/2023					
Arsenic	7.25	0.0963	mg/kg	4.81	2.49	98.8	75-125	1.26	20	
Barium	560	9.63	"	481	72.6	101	75-125	1.29	20	
Cadmium	5.01	0.0963	"	4.81	0.175	101	75-125	1.29	20	
Copper	56.8	9.63	"	48.1	8.46	100	75-125	0.177	20	
Lead	12.4	9.63	"	4.81	7.79	96.4	75-125	0.193	20	
Nickel	13.8	9.63	"	4.81	9.03	98.1	75-125	0.840	20	
Selenium	4.67	0.0963	"	4.81	0.255	91.7	75-125	0.327	20	
Silver	5.33	0.0963	"	4.81	0.0635	109	75-125	1.41	20	
Zinc	77.9	96.3	"	48.1	31.3	96.8	75-125	2.72	20	U

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

Levi Kirk
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 B3A3008 - DTPA Sorbitol Preparation										
Blank (B3A3008-BLK1)					Prepared: 01/30/2023 Analyzed: 01/31/2023					
Boron	ND	0.100	mg/L							U
Duplicate (B3A3008-DUP1)					Source: Y301475-02 Prepared: 01/30/2023 Analyzed: 01/31/2023					
Boron	0.309	0.100	mg/L		0.324			4.86	50	
Batch B3A3010 - Saturated Paste Metals										
Blank (B3A3010-BLK1)					Prepared: 01/30/2023 Analyzed: 01/31/2023					
SAR	0.00		SAR							U
Calcium PPM	ND	10.0	mg/L							U
Magnesium PPM	ND	10.0	"							U
Sodium PPM	ND	10.0	"							U
Duplicate (B3A3010-DUP1)					Source: Y301463-01 Prepared: 01/30/2023 Analyzed: 01/31/2023					
SAR	0.00		SAR		0.375			200	200	U
Calcium PPM	65.4	10.0	mg/L		61.3			6.40	50	
Magnesium PPM	17.2	10.0	"		14.8			15.1	50	
Sodium PPM	12.2	10.0	"		12.6			3.09	50	

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

Levi Kirk
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 B3A3012 - Saturated Paste pH/EC										
Blank (B3A3012-BLK1)					Prepared: 01/30/2023 Analyzed: 01/31/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B3A3012-DUP1)					Source: Y301463-01 Prepared: 01/30/2023 Analyzed: 01/31/2023					
Specific Conductance (EC)	0.648	0.00500	mmhos/cm		0.607			6.50	25	
pH	8.12		pH Units		8.16			0.491	25	

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

Levi Kirk
Project Number: [none]
Project: Koch Tank Battery

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L661413 - 3550B

MSD (L 81071-MSD-L661413)		Source: 81071			Prepared: 01/31/2023 Analyzed: 02/02/2023					
Fluoranthene	0.103	0.00067	mg/Kg	0.162	<0.000394	63.5	30-130	2.9	30	
Fluorene	0.1	0.00067	"	0.162	<0.000286	61.7	30-130	4.9	30	
Indeno(1,2,3-cd)pyrene	0.127	0.00067	"	0.162	<0.000627	78.3	30-130	1.5	30	
Naphthalene	0.0861	0.00201	"	0.162	<0.00145	53.1	30-130	2.9	30	
Dibenz(a,h)anthracene	0.135	0.00067	"	0.162	<0.000614	83.3	30-130	6.8	30	
Pyrene	0.102	0.00067	"	0.162	<0.000643	62.9	30-130	3.8	30	
Benzo(a)anthracene	0.106	0.00067	"	0.162	<0.000493	65.4	30-130	6.8	30	
Chrysene	0.101	0.00067	"	0.162	<0.000624	62.3	30-130	6.6	30	
Benzo(k)fluoranthene	0.0672	0.00067	"	0.162	<0.000437	41.4	30-130	13.1	30	
Benzo(a)pyrene	0.11	0.00067	"	0.162	<0.000468	67.9	30-130	7.5	30	
Anthracene	0.101	0.00067	"	0.162	<0.000334	62.3	30-130	2.7	30	
Acenaphthene	0.0943	0.00067	"	0.162	<0.000304	58.2	30-130	1	30	
2-Methylnaphthalene	0.0912	0.00201	"	0.162	<0.00194	56.2	30-130	1.9	30	
1-Methylnaphthalene	0.0914	0.00201	"	0.162	<0.00109	56.4	30-130	0.6	30	
Benzo(b)fluoranthene	0.093	0.00067	"	0.162	<0.000585	57.4	30-130	12.9	30	
Surrogate: Nitrobenzene-d5	53.5		"	0.325	161	53.5	29-110			
Surrogate: 4-Terphenyl-d14	56		"	0.325	192	56	33-122			
Surrogate: 2-Fluorobiphenyl	49.5		"	0.325	158	49.5	33-115			

MS (L 81071-MS-L661413)		Source: 81071			Prepared: 01/31/2023 Analyzed: 02/02/2023					
Naphthalene	0.0836	0.00201	mg/Kg	0.166	<0.00145	50.3	30-130			
2-Methylnaphthalene	0.0894	0.00201	"	0.166	<0.00194	53.8	30-130			
Chrysene	0.0945	0.00067	"	0.166	<0.000624	56.9	30-130			
Benzo(k)fluoranthene	0.0589	0.00067	"	0.166	<0.000437	35.4	30-130			
Benzo(b)fluoranthene	0.0817	0.00067	"	0.166	<0.000585	49.2	30-130			
Benzo(a)pyrene	0.102	0.00067	"	0.166	<0.000468	61.4	30-130			
Benzo(a)anthracene	0.099	0.00067	"	0.166	<0.000493	59.6	30-130			

Origins Laboratory, Inc.



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

Levi Kirk
Project Number: [none]
Project: Koch Tank Battery

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch L661413 - 3550B

MS (L 81071-MS-L661413)		Source: 81071			Prepared: 01/31/2023 Analyzed: 02/02/2023					
Anthracene	0.0983	0.00067	mg/Kg	0.166	<0.000334	59.2	30-130			
Pyrene	0.0981	0.00067	"	0.166	<0.000643	59	30-130			
Dibenz(a,h)anthracene	0.126	0.00067	"	0.166	<0.000614	75.9	30-130			
1-Methylnaphthalene	0.0908	0.00201	"	0.166	<0.00109	54.6	30-130			
Fluoranthene	0.1	0.00067	"	0.166	<0.000394	60.2	30-130			
Fluorene	0.0952	0.00067	"	0.166	<0.000286	57.3	30-130			
Indeno(1,2,3-cd)pyrene	0.125	0.00067	"	0.166	<0.000627	75.3	30-130			
Acenaphthene	0.0933	0.00067	"	0.166	<0.000304	56.2	30-130			
Surrogate: 4-Terphenyl-d14	53.6		"	0.332	192	53.6	33-122			
Surrogate: 2-Fluorobiphenyl	47.8		"	0.332	158	47.8	33-115			
Surrogate: Nitrobenzene-d5	48.4		"	0.332	161	48.4	29-110			

LCS (LCS-L661413)		Prepared: 01/31/2023 Analyzed: 02/02/2023								
Naphthalene	0.0905	0.00201	mg/Kg	0.167		54.1	30-130			
Chrysene	0.107	0.00067	"	0.167		64	30-130			
Pyrene	0.111	0.00067	"	0.167		66.4	30-130			
Acenaphthene	0.0978	0.00067	"	0.167		58.5	30-130			
Anthracene	0.106	0.00067	"	0.167		63.4	30-130			
Benzo(a)anthracene	0.112	0.00067	"	0.167		67	30-130			
Benzo(a)pyrene	0.12	0.00067	"	0.167		71.8	30-130			
Benzo(k)fluoranthene	0.0647	0.00067	"	0.167		38.7	30-130			
Dibenz(a,h)anthracene	0.13	0.00067	"	0.167		77.8	30-130			
Fluoranthene	0.111	0.00067	"	0.167		66.4	30-130			
Fluorene	0.104	0.00067	"	0.167		62.2	30-130			
Indeno(1,2,3-cd)pyrene	0.124	0.00067	"	0.167		74.2	30-130			
2-Methylnaphthalene	0.0943	0.00201	"	0.167		56.4	30-130			
1-Methylnaphthalene	0.0948	0.00201	"	0.167		56.7	30-130			

Origins Laboratory, Inc.



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

Levi Kirk
Project Number: [none]
Project: Koch Tank Battery

PAH by 8270D SIM - Quality Control
Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L661413 - 3550B										
LCS (LCS-L661413)					Prepared: 01/31/2023 Analyzed: 02/02/2023					
Benzo(b)fluoranthene	0.0939	0.00067	mg/Kg	0.167		56.2	30-130			
Surrogate: Nitrobenzene-d5	55.2		"	0.333		55.2	29-110			
Surrogate: 4-Terphenyl-d14	60		"	0.333		60	33-122			
Surrogate: 2-Fluorobiphenyl	51		"	0.333		51	33-115			
LRB (LRB-L661413)					Prepared: 01/31/2023 Analyzed: 02/02/2023					
Anthracene	ND	0.00067	mg/Kg				-			
Fluoranthene	ND	0.00067	"				-			
Naphthalene	ND	0.00201	"				-			
Pyrene	ND	0.00067	"				-			
Indeno(1,2,3-cd)pyrene	ND	0.00067	"				-			
Fluorene	ND	0.00067	"				-			
Dibenz(a,h)anthracene	ND	0.00067	"				-			
Chrysene	ND	0.00067	"				-			
Benzo(k)fluoranthene	ND	0.00067	"				-			
Benzo(b)fluoranthene	ND	0.00067	"				-			
Benzo(a)anthracene	ND	0.00067	"				-			
Acenaphthene	ND	0.00067	"				-			
1-Methylnaphthalene	ND	0.00201	"				-			
2-Methylnaphthalene	ND	0.00201	"				-			
Benzo(a)pyrene	ND	0.00067	"				-			
Surrogate: Nitrobenzene-d5	59.4		"	0.333		59.4	29-110			
Surrogate: 2-Fluorobiphenyl	57.6		"	0.333		57.6	33-115			
Surrogate: 4-Terphenyl-d14	70.2		"	0.333		70.2	33-122			

Origins Laboratory, Inc.



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

Levi Kirk
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 L661613 -										
DUP (L 81012-DUP)		Source: Y301477-01			Prepared: Analyzed: 02/02/2023					
Chromium, Hexavalent	ND	2.5	mg/Kg		<2.50		-	0	20	
MS (L 81012-MS)		Source: Y301477-01			Prepared: Analyzed: 02/02/2023					
Chromium, Hexavalent	33.3	2.5	mg/Kg	39.1	<1.22	85	75-125			
LCS (LCS)					Prepared: Analyzed: 02/02/2023					
Chromium, Hexavalent	6.55	0.5	mg/Kg	8		82	75-125			
LRB (LRB)					Prepared: Analyzed: 02/02/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg				-			

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Jen Pellegrini, Project Manager

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

Levi Kirk
Project Number: [none]
Project: Koch Tank Battery

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.

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager