



January 18, 2024

KP Kauffman Co. Inc.

John Peterson

1700 Lincoln St #4550

Denver

CO 80203

Project Name - HSR Lost Creek1-32

Project Number - [none]

Attached are your analytical results for HSR Lost Creek1-32 received by Origins Laboratory, Inc. December 18, 2023. This project is associated with Origins project number Y312540-01.

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

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SW1@5'	Y312540-01	Soil	December 18, 2023 10:10	12/18/2023 13:40
SW1@15'	Y312540-02	Soil	December 18, 2023 10:20	12/18/2023 13:40
SW2@5'	Y312540-03	Soil	December 18, 2023 10:30	12/18/2023 13:40
SW2@15'	Y312540-04	Soil	December 18, 2023 10:40	12/18/2023 13:40
SW3@5'	Y312540-05	Soil	December 18, 2023 11:50	12/18/2023 13:40
SW3@15'	Y312540-06	Soil	December 18, 2023 11:05	12/18/2023 13:40
SW4@5'	Y312540-07	Soil	December 18, 2023 11:15	12/18/2023 13:40
SW4@15'	Y312540-08	Soil	December 18, 2023 11:25	12/18/2023 13:40
BH1@20'	Y312540-09	Soil	December 18, 2023 11:35	12/18/2023 13:40

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

ORIGINS
LABORATORY, INC

www.originslaboratory.com

432540

page 1 of 1

Client: KP Kauffman
Address: 1700 Lincoln St Suite 4550
Denver Co. 80202
Telephone Number: (720) 868 9848
Email Address: JPeterson@kpkk.com

Project Manager: John Peterson
Project Name: HSR Lost Creek 1-32
Project Number:
Samples Collected By: Juan Reyes

1725 Elk Place | 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/DC	Groundwater	Soil	Air Summa Canister #			Other
SW 1 @ 5'	12-18-23	1010	3						X				1
SW 1 @ 15'		1020											2
SW 2 @ 5'		1030											3
SW 2 @ 15'		1040											4
SW 3 @ 5'		1050											5
SW 3 @ 15'		1105											6
SW 4 @ 5'		1115											7
SW 4 @ 15'		1125											8
BH 1 @ 20'		1135											9
													10

Relinquished By: Juan Reyes
Relinquished By:

Date: 12-18-23
Date:

Time: 1240
Time:

Received By: [Signature]
Received By:

Date: 12/18/23
Date:

Time: 1240
Time:

Turnaround Time: Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☒ Standard

Temp Received: 12 Date Results Needed

Origins Laboratory, Inc.

Jen Pellegrini

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1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

Origins Laboratory

Sample Receipt Checklist

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

Origins Work Order: 4312540

Client: KPC

Client Project ID: Lost Creek 1-32

Checklist Completed by: EHS

Shipped Via: HD

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

Date/time completed: 12/18/23

Airbill #: N/A

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

☐ Water

☐ Other:

(Describe)

Cooler Number/Temperature: 1/12 °C 1 °C 1 °C 1 °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"/>	<input checked="" type="checkbox"/>		<u>SD</u>
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)

Date/Time Reviewed 12/18/23

Origins Laboratory, Inc.

Jen Pellegrini

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

SW1@5'

12/18/2023 10:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-01 (Soil) Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.0983	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	685	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023
Residual Range Organics (C28-C40)	761	100	"	"	"	ZZZ	"	"

Surrogate: o-Terphenyl	101 %	50-150	"	"	"
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	1.14	0.200	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4	114 %	70-130	"	"	"
Surrogate: Toluene-d8	105 %	70-130	"	"	"
Surrogate: 4-Bromofluorobenzene	124 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW1@5'

12/18/2023 10:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-01 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	3.57	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023
Magnesium	1.01	0.823	"	"	"	DT	"	"
Sodium	2.46	0.435	"	"	"	DT	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	N/A	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	N/A	"	"	U
Acenaphthene	ND	0.020	"	"	"	N/A	"	"	U
Anthracene	ND	0.020	"	"	"	N/A	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	N/A	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	N/A	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	N/A	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	N/A	"	"	U
Chrysene	ND	0.020	"	"	"	N/A	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	N/A	"	"	U
Fluoranthene	ND	0.020	"	"	"	N/A	"	"	U
Fluorene	ND	0.020	"	"	"	N/A	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	N/A	"	"	U
Naphthalene	ND	0.002	"	"	"	N/A	"	"	U
Pyrene	ND	0.020	"	"	"	N/A	"	"	U

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John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW1@5'

12/18/2023 10:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-01 (Soil)

Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	109 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	106 %	60-130			"		"	"	
Surrogate: Pyrene-d10	86.4 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	104 %	60-130			"		"	"	

pH in Soil by 9045D

pH	7.39		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	1.62	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.554	0.00500	mmhos/cm	1	B3L1914	EAL	12/19/2023	12/20/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020B

Arsenic	0.789	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Barium	31.3	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	2.72	0.25	"	"	"		"	"	

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Denver CO 80203

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

SW1@5'

12/18/2023 10:10:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-01 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020B

Lead	3.7	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Nickel	3.24	0.25	"	"	"		"	"	
Selenium	0.397	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	14.9	2.5	"	"	"		"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724747		12/18/2023	12/28/2023	
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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW1@15'

12/18/2023 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-02 (Soil)

Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.0992	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	U
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Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U
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Surrogate: o-Terphenyl	93.6 %	50-150			"	"	"		
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
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1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
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Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U
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Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	"		
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Surrogate: Toluene-d8	106 %	70-130			"	"	"		
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Surrogate: 4-Bromofluorobenzene	116 %	70-130			"	"	"		
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Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW1@15'

12/18/2023 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-02 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	2.82	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023	
Magnesium	ND	0.823	"	"	"	DT	"	"	
Sodium	1.76	0.435	"	"	"	DT	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	Nindows	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Acenaphthene	ND	0.020	"	"	"	Nindows	"	"	U
Anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Nindows	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Chrysene	ND	0.020	"	"	"	Nindows	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Fluorene	ND	0.020	"	"	"	Nindows	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Naphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Pyrene	ND	0.020	"	"	"	Nindows	"	"	U

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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW1@15'

12/18/2023 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-02 (Soil)

Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	108 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	100 %	60-130			"		"	"	
Surrogate: Pyrene-d10	97.1 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	102 %	60-130			"		"	"	

pH in Soil by 9045D

pH	8.04		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	1.32	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.493	0.00500	mmhos/cm	1	B3L1914	EAL	12/19/2023	12/20/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020B

Arsenic	ND	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Barium	31.1	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	2.27	0.25	"	"	"		"	"	

Origins Laboratory, Inc.



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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

SW1@15'

12/18/2023 10:20:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-02 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020B

Lead	2.45	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Nickel	2.09	0.25	"	"	"		"	"	
Selenium	ND	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	9.38	2.5	"	"	"		"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724747		12/18/2023	12/28/2023	
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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW2@5'

12/18/2023 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-03 (Soil)

Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.102	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	U
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Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U
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Surrogate: o-Terphenyl	91.9 %	50-150			"	"	"		
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
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1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
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Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U
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Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	"		
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Surrogate: Toluene-d8	103 %	70-130			"	"	"		
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Surrogate: 4-Bromofluorobenzene	118 %	70-130			"	"	"		
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Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW2@5'

12/18/2023 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-03 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	1.72	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023	
Magnesium	ND	0.823	"	"	"	DT	"	"	
Sodium	1.47	0.435	"	"	"	DT	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	Nindows	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Acenaphthene	ND	0.020	"	"	"	Nindows	"	"	U
Anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Nindows	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Chrysene	ND	0.020	"	"	"	Nindows	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Fluorene	ND	0.020	"	"	"	Nindows	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Naphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Pyrene	ND	0.020	"	"	"	Nindows	"	"	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: HSR Lost Creek1-32

SW2@5'

12/18/2023 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-03 (Soil)

Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	109 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	97.7 %	60-130			"	"	"	"	"
Surrogate: Pyrene-d10	98.0 %	60-130			"	"	"	"	"
Surrogate: Benzo (a) pyrene-d12	105 %	60-130			"	"	"	"	"

pH in Soil by 9045D

pH	7.70		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	1.41	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.427	0.00500	mmhos/cm	1	B3L1914	EAL	12/19/2023	12/20/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020B

Arsenic	0.931	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Barium	40.3	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	3.04	0.25	"	"	"		"	"	

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW2@5'

12/18/2023 10:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-03 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020B

Lead	3.75	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Nickel	3.37	0.25	"	"	"		"	"	
Selenium	0.431	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	15.9	2.5	"	"	"		"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724747		12/18/2023	12/28/2023	
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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.

Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

SW2@15'

12/18/2023 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-04 (Soil)
Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.102	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	88.9 %	50-150			"	"	"		
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	114 %	70-130			"	"	"		
Surrogate: Toluene-d8	104 %	70-130			"	"	"		
Surrogate: 4-Bromofluorobenzene	119 %	70-130			"	"	"		

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW2@15'

12/18/2023 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-04 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	2.79	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023
Magnesium	ND	0.823	"	"	"	DT	"	"
Sodium	1.28	0.435	"	"	"	DT	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	Nindows	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Acenaphthene	ND	0.020	"	"	"	Nindows	"	"	U
Anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Nindows	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Chrysene	ND	0.020	"	"	"	Nindows	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Fluorene	ND	0.020	"	"	"	Nindows	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Naphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Pyrene	ND	0.020	"	"	"	Nindows	"	"	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: HSR Lost Creek1-32

SW2@15'

12/18/2023 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-04 (Soil) Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	109 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	98.6 %	60-130			"		"	"	
Surrogate: Pyrene-d10	100 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	105 %	60-130			"		"	"	

pH in Soil by 9045D

pH	8.00		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	0.971	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.726	0.00500	mmhos/cm	1	B3L2816	EAL	12/28/2023	12/28/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020B

Arsenic	1.19	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Barium	55.4	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	2.84	0.25	"	"	"		"	"	

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW2@15'

12/18/2023 10:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-04 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020B

Lead	2.84	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Nickel	2.28	0.25	"	"	"		"	"	
Selenium	0.272	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	9.09	2.5	"	"	"		"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724747		12/18/2023	12/28/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW3@5'

12/18/2023 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-05 (Soil)

Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.0995	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	U
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Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U
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Surrogate: o-Terphenyl	94.3 %	50-150			"	"	"		
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
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1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
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Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U
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Surrogate: 1,2-Dichloroethane-d4	113 %	70-130			"	"	"		
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Surrogate: Toluene-d8	105 %	70-130			"	"	"		
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Surrogate: 4-Bromofluorobenzene	117 %	70-130			"	"	"		
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Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW3@5'

12/18/2023 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-05 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	2.34	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023	
Magnesium	ND	0.823	"	"	"	DT	"	"	
Sodium	1.26	0.435	"	"	"	DT	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	Nindows	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Acenaphthene	ND	0.020	"	"	"	Nindows	"	"	U
Anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Nindows	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Chrysene	ND	0.020	"	"	"	Nindows	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Fluorene	ND	0.020	"	"	"	Nindows	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Naphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Pyrene	ND	0.020	"	"	"	Nindows	"	"	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: HSR Lost Creek1-32

SW3@5'

12/18/2023 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-05 (Soil)

Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	108 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	97.0 %	60-130			"		"	"	
Surrogate: Pyrene-d10	98.9 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	106 %	60-130			"		"	"	

pH in Soil by 9045D

pH	7.97		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	1.05	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.655	0.00500	mmhos/cm	1	B3L2816	EAL	12/28/2023	12/28/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020B

Arsenic	0.65	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Barium	30.2	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	2.45	0.25	"	"	"		"	"	

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: HSR Lost Creek1-32

SW3@5'

12/18/2023 11:50:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-05 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020B

Lead	3.14	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Nickel	2.65	0.25	"	"	"		"	"	
Selenium	0.305	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	12	2.5	"	"	"		"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724747		12/18/2023	12/28/2023	
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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.

Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

SW3@15'

12/18/2023 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-06 (Soil)
Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.0996	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	99.4 %	50-150			"	"	"		
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	112 %	70-130			"	"	"		
Surrogate: Toluene-d8	104 %	70-130			"	"	"		
Surrogate: 4-Bromofluorobenzene	119 %	70-130			"	"	"		

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW3@15'

12/18/2023 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-06 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	3.15	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023	
Magnesium	ND	0.823	"	"	"	DT	"	"	
Sodium	2.25	0.435	"	"	"	DT	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	Nindows	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Acenaphthene	ND	0.020	"	"	"	Nindows	"	"	U
Anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Nindows	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Chrysene	ND	0.020	"	"	"	Nindows	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Fluorene	ND	0.020	"	"	"	Nindows	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Naphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Pyrene	ND	0.020	"	"	"	Nindows	"	"	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: HSR Lost Creek1-32

SW3@15'

12/18/2023 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-06 (Soil)
Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	108 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	97.7 %	60-130			"		"	"	
Surrogate: Pyrene-d10	99.8 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	103 %	60-130			"		"	"	

pH in Soil by 9045D

pH	8.11		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	1.60	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	1.01	0.00500	mmhos/cm	1	B3L2816	EAL	12/28/2023	12/28/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020B

Arsenic	0.782	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Barium	30	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	2.68	0.25	"	"	"		"	"	

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW3@15'

12/18/2023 11:05:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-06 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020B

Lead	3.07	0.25	mg/Kg	5	L724957		12/28/2023	01/16/2024	
Nickel	2.53	0.25	"	"	"		"	"	
Selenium	0.366	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	11	2.5	"	"	"		"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724747		12/18/2023	12/28/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW4@5'

12/18/2023 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-07 (Soil)

Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.0991	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	U
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Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U
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Surrogate: o-Terphenyl	95.5 %	50-150			"	"	"		
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
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1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
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Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
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Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U
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Surrogate: 1,2-Dichloroethane-d4	111 %	70-130			"	"	"		
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Surrogate: Toluene-d8	105 %	70-130			"	"	"		
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Surrogate: 4-Bromofluorobenzene	115 %	70-130			"	"	"		
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Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW4@5'

12/18/2023 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-07 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	2.01	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023	
Magnesium	ND	0.823	"	"	"	DT	"	"	
Sodium	1.38	0.435	"	"	"	DT	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	Nindows	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Acenaphthene	ND	0.020	"	"	"	Nindows	"	"	U
Anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Nindows	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Chrysene	ND	0.020	"	"	"	Nindows	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Fluorene	ND	0.020	"	"	"	Nindows	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Naphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Pyrene	ND	0.020	"	"	"	Nindows	"	"	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: HSR Lost Creek1-32

SW4@5'

12/18/2023 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-07 (Soil)

Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	107 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	96.8 %	60-130			"		"	"	
Surrogate: Pyrene-d10	101 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	105 %	60-130			"		"	"	

pH in Soil by 9045D

pH	7.68		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	1.21	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.754	0.00500	mmhos/cm	1	B3L2816	EAL	12/28/2023	12/28/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020 B

Arsenic	0.51	0.25	mg/Kg	5	L724958		12/28/2023	01/16/2024	
Barium	25.1	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	2.15	0.25	"	"	"		"	"	

Origins Laboratory, Inc.



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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

SW4@5'

12/18/2023 11:15:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-07 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020 B

Lead	2.46	0.25	mg/Kg	5	L724958		12/28/2023	01/16/2024	
Nickel	2.12	0.25	"	"	"		"	"	
Selenium	0.262	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	10	2.5	"	"	"		"	"	

Total Metals by 7196A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724747		12/18/2023	12/28/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW4@15'

12/18/2023 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-08 (Soil)

Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	0.264	0.0984	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	U
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	92.3 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	ZZZ	"	"	U

Surrogate: 1,2-Dichloroethane-d4	109 %	70-130			"	"	"	
Surrogate: Toluene-d8	102 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	120 %	70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

SW4@15'

12/18/2023 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-08 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	2.96	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023	
Magnesium	ND	0.823	"	"	"	DT	"	"	
Sodium	1.35	0.435	"	"	"	DT	"	"	

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B3L1905	Nindows	12/19/2023	12/22/2023	U
2-Methylnaphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Acenaphthene	ND	0.020	"	"	"	Nindows	"	"	U
Anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	Nindows	"	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Chrysene	ND	0.020	"	"	"	Nindows	"	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	Nindows	"	"	U
Fluoranthene	ND	0.020	"	"	"	Nindows	"	"	U
Fluorene	ND	0.020	"	"	"	Nindows	"	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	Nindows	"	"	U
Naphthalene	ND	0.002	"	"	"	Nindows	"	"	U
Pyrene	ND	0.020	"	"	"	Nindows	"	"	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: HSR Lost Creek1-32

SW4@15'

12/18/2023 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-08 (Soil)

Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	108 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	97.5 %	60-130			"		"	"	
Surrogate: Pyrene-d10	98.7 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	104 %	60-130			"		"	"	

pH in Soil by 9045D

pH	8.17		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	0.996	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.823	0.00500	mmhos/cm	1	B3L2816	EAL	12/28/2023	12/28/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020 B

Arsenic	0.506	0.25	mg/Kg	5	L724958		12/28/2023	01/16/2024	
Barium	24.2	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	1.9	0.25	"	"	"		"	"	

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: HSR Lost Creek1-32

SW4@15'

12/18/2023 11:25:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-08 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020 B

Lead	2.63	0.25	mg/Kg	5	L724958		12/28/2023	01/16/2024	
Nickel	2.06	0.25	"	"	"		"	"	
Selenium	ND	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	10.1	2.5	"	"	"		"	"	

Total Metals by 7196 A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724748		12/18/2023	12/28/2023	
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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.

Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

BH1@20'

12/18/2023 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-09 (Soil)

Origins Laboratory, Inc.

Boron (DTPA Sorbitol)

Boron	ND	0.101	mg/L	1	B3L1910	DT	12/19/2023	12/21/2023	U
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	78.8	25.0	mg/kg	1	B3L1921	ZZZ	12/19/2023	12/21/2023	
Residual Range Organics (C28-C40)	ND	100	"	"	"	ZZZ	"	"	U

Surrogate: o-Terphenyl	99.7 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B3L1824	ZZZ	12/18/2023	12/27/2023	U
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Benzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Ethylbenzene	ND	0.00200	"	"	"	ZZZ	"	"	U
Toluene	ND	0.00200	"	"	"	ZZZ	"	"	U
Xylenes, total	ND	0.00200	"	"	"	ZZZ	"	"	U
Gasoline Range Hydrocarbons	0.374	0.200	"	"	"	ZZZ	"	"	

Surrogate: 1,2-Dichloroethane-d4	108 %	70-130			"	"	"	
Surrogate: Toluene-d8	101 %	70-130			"	"	"	
Surrogate: 4-Bromofluorobenzene	117 %	70-130			"	"	"	

Metals by Saturated Paste by EPA 6010

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

BH1@20'

12/18/2023 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-09 (Soil)

Origins Laboratory, Inc.

Metals by Saturated Paste by EPA 6010

Calcium	3.17	0.499	meq/L	10	[CALC]	DT	12/19/2023	12/22/2023
Magnesium	0.855	0.823	"	"	"	DT	"	"
Sodium	1.50	0.435	"	"	"	DT	"	"

PAH by EPA 8270E

1-Methylnaphthalene	0.012	0.002	mg/kg	1	B3L1905	N/A	12/19/2023	12/22/2023
2-Methylnaphthalene	0.003	0.002	"	"	"	N/A	"	"
Acenaphthene	ND	0.020	"	"	"	N/A	"	U
Anthracene	ND	0.020	"	"	"	N/A	"	U
Benzo (a) anthracene	ND	0.005	"	"	"	N/A	"	U
Benzo (a) pyrene	ND	0.020	"	"	"	N/A	"	U
Benzo (b) fluoranthene	ND	0.020	"	"	"	N/A	"	U
Benzo (k) fluoranthene	ND	0.020	"	"	"	N/A	"	U
Chrysene	ND	0.020	"	"	"	N/A	"	U
Dibenz (a,h) anthracene	ND	0.020	"	"	"	N/A	"	U
Fluoranthene	ND	0.020	"	"	"	N/A	"	U
Fluorene	ND	0.020	"	"	"	N/A	"	U
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	N/A	"	U
Naphthalene	ND	0.002	"	"	"	N/A	"	U
Pyrene	ND	0.020	"	"	"	N/A	"	U

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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

BH1@20'

12/18/2023 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-09 (Soil)

Origins Laboratory, Inc.

PAH by EPA 8270E

Surrogate: Fluorene-d10	108 %	60-130			B3L1905		12/19/2023	12/22/2023	
Surrogate: Anthracene-d10	98.4 %	60-130			"		"	"	
Surrogate: Pyrene-d10	94.5 %	60-130			"		"	"	
Surrogate: Benzo (a) pyrene-d12	104 %	60-130			"		"	"	

pH in Soil by 9045D

pH	8.30		pH Units	1	B3L1914	EAL	12/19/2023	12/20/2023	
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SAR by 20B Saturated Paste

SAR	1.06	0.0100	SAR	1	B3L1912	DT	12/19/2023	12/22/2023	
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.747	0.00500	mmhos/cm	1	B3L2816	EAL	12/28/2023	12/28/2023	
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Waypoint Analytical, LLC.

Total Metals by 6020 B

Arsenic	0.862	0.25	mg/Kg	5	L724958		12/28/2023	01/16/2024	
Barium	36.1	0.25	"	"	"		"	"	
Cadmium	ND	0.25	"	"	"		"	"	
Copper	2.77	0.25	"	"	"		"	"	

Origins Laboratory, Inc.



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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

BH1@20'

12/18/2023 11:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Y312540-09 (Soil)

Waypoint Analytical, LLC.

Total Metals by 6020 B

Lead	3.07	0.25	mg/Kg	5	L724958		12/28/2023	01/16/2024	
Nickel	2.79	0.25	"	"	"		"	"	
Selenium	0.287	0.25	"	"	"		"	"	
Silver	ND	0.25	"	"	"		"	"	
Zinc	12.9	2.5	"	"	"		"	"	

Total Metals by 7196 A

Chromium, Hexavalent	ND	0.5	mg/Kg	1	L724748		12/18/2023	12/28/2023	
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Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 B3L1824 - EPA 5030 (soil)										
Blank (B3L1824-BLK1)					Prepared: 12/18/2023 Analyzed: 12/26/2023					
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	0.13		"	0.125	106		70-130			
Surrogate: 4-Bromofluorobenzene	0.15		"	0.125	118		70-130			

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

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 B3L1824 - EPA 5030 (soil)

LCS (B3L1824-BS1)

Prepared: 12/18/2023 Analyzed: 12/26/2023

1,2,4-Trimethylbenzene	0.102	0.00200	mg/kg	0.100		102	70-130			
1,3,5-Trimethylbenzene	0.0956	0.00200	"	0.100		95.6	70-130			
Benzene	0.0882	0.00200	"	0.100		88.2	70-130			
Ethylbenzene	0.108	0.00200	"	0.100		108	70-130			
Naphthalene	0.0957	0.00380	"	0.100		95.7	70-130			
Toluene	0.0894	0.00200	"	0.100		89.4	70-130			
o-Xylene	0.107	0.00200	"	0.100		107	70-130			
m,p-Xylene	0.219	0.00400	"	0.200		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		109	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		105	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		105	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 B3L1824 - EPA 5030 (soil)

Matrix Spike (B3L1824-MS1)		Source: Y312524-01			Prepared: 12/18/2023 Analyzed: 12/26/2023					
1,2,4-Trimethylbenzene	0.108	0.00200	mg/kg	0.100	ND	108	70-130			
1,3,5-Trimethylbenzene	0.0997	0.00200	"	0.100	ND	99.7	70-130			
Benzene	0.0912	0.00200	"	0.100	ND	91.2	70-130			
Ethylbenzene	0.117	0.00200	"	0.100	ND	117	70-130			
Naphthalene	0.0965	0.00380	"	0.100	ND	96.5	70-130			
Toluene	0.0903	0.00200	"	0.100	ND	90.3	70-130			
o-Xylene	0.116	0.00200	"	0.100	ND	116	70-130			
m,p-Xylene	0.236	0.00400	"	0.200	0.00102	117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		110	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		102	70-130			
Surrogate: 4-Bromofluorobenzene	0.14		"	0.125		113	70-130			

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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 B3L1824 - EPA 5030 (soil)										
Matrix Spike Dup (B3L1824-MSD1)		Source: Y312524-01			Prepared: 12/18/2023 Analyzed: 12/27/2023					
1,2,4-Trimethylbenzene	0.0972	0.00200	mg/kg	0.100	ND	97.2	70-130	10.5	20	
1,3,5-Trimethylbenzene	0.0897	0.00200	"	0.100	ND	89.7	70-130	10.6	20	
Benzene	0.0729	0.00200	"	0.100	ND	72.9	70-130	22.2	20	QR-02
Ethylbenzene	0.0990	0.00200	"	0.100	ND	99.0	70-130	16.3	20	
Naphthalene	0.106	0.00380	"	0.100	ND	106	70-130	9.83	20	
Toluene	0.0761	0.00200	"	0.100	ND	76.1	70-130	17.1	20	
o-Xylene	0.0985	0.00200	"	0.100	ND	98.5	70-130	16.1	20	
m,p-Xylene	0.199	0.00400	"	0.200	0.00102	99.0	70-130	16.8	20	
Surrogate: 1,2-Dichloroethane-d4	0.14		"	0.125		111	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		101	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		108	70-130			

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 B3L1921 - EPA 3550B										
Blank (B3L1921-BLK1)					Prepared: 12/19/2023 Analyzed: 12/21/2023					
Diesel (C10-C28)	ND	25.0	mg/kg							U
Residual Range Organics (C28-C40)	ND	100	"							U
Surrogate: o-Terphenyl	24		"	24.9		98.4	50-150			

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 B3L1921 - EPA 3550B

LCS (B3L1921-BS1)

Prepared: 12/19/2023 Analyzed: 12/21/2023

Diesel (C10-C28)	942	50.0	mg/kg	1000		94.2	70-130			
Residual Range Organics (C28-C40)	990	200	"	1000		99.0	70-130			
Surrogate: o-Terphenyl	48		"	49.8		96.4	50-150			

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

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 B3L1921 - EPA 3550B

Matrix Spike (B3L1921-MS1)		Source: Y312540-01			Prepared: 12/19/2023 Analyzed: 12/21/2023					
Diesel (C10-C28)	1580	50.0	mg/kg	1000	685	89.8	70-130			
Residual Range Organics (C28-C40)	1660	200	"	1000	761	90.3	70-130			
Surrogate: o-Terphenyl	65		"	49.8		130	50-150			

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

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 B3L1921 - EPA 3550B

Matrix Spike Dup (B3L1921-MSD1)		Source: Y312540-01			Prepared: 12/19/2023 Analyzed: 12/21/2023					
Diesel (C10-C28)	1540	50.0	mg/kg	1000	685	85.3	70-130	2.89	35	
Residual Range Organics (C28-C40)	1690	200	"	1000	761	93.1	70-130	1.68	35	
Surrogate: o-Terphenyl	65		"	49.8		131	50-150			

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

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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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 B3L1905 - EPA 3580

Blank (B3L1905-BLK1)

Prepared: 12/19/2023 Analyzed: 12/21/2023

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	210		ug/kg	200		107	60-130			
Surrogate: Anthracene-d10	200		"	200		98.2	60-130			
Surrogate: Pyrene-d10	200		"	200		99.1	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		105	60-130			

Origins Laboratory, Inc.



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KP Kauffman Co. Inc.

1700 Lincoln St #4550

Denver CO 80203

John Peterson

Project Number: [none]

Project: HSR Lost Creek1-32

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 B3L1905 - EPA 3580

LCS (B3L1905-BS1)

Prepared: 12/19/2023 Analyzed: 12/21/2023

1-Methylnaphthalene	0.191	0.002	mg/kg	0.200		95.6	70-130
2-Methylnaphthalene	0.191	0.002	"	0.200		95.4	70-130
Acenaphthene	0.176	0.020	"	0.200		88.2	70-130
Anthracene	0.191	0.020	"	0.200		95.4	70-130
Benzo (a) anthracene	0.198	0.005	"	0.200		99.2	70-130
Benzo (a) pyrene	0.182	0.020	"	0.200		90.8	70-130
Benzo (b) fluoranthene	0.171	0.020	"	0.200		85.6	70-130
Benzo (g,h,i) perylene	0.179	0.020	"	0.200		89.5	70-130
Benzo (k) fluoranthene	0.166	0.020	"	0.200		83.0	70-130
Chrysene	0.183	0.020	"	0.200		91.4	70-130
Dibenz (a,h) anthracene	0.180	0.020	"	0.200		90.0	70-130
Fluoranthene	0.180	0.020	"	0.200		89.8	70-130
Fluorene	0.187	0.020	"	0.200		93.4	70-130
Indeno (1,2,3-cd) pyrene	0.206	0.020	"	0.200		103	70-130
Naphthalene	0.180	0.002	"	0.200		89.8	70-130
Phenanthrene	0.163	0.020	"	0.200		81.5	70-130
Pyrene	0.178	0.020	"	0.200		88.9	70-130

Surrogate: Fluorene-d10	210		ug/kg	200		106	60-130
Surrogate: Anthracene-d10	200		"	200		99.4	60-130
Surrogate: Pyrene-d10	200		"	200		99.9	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130

Matrix Spike (B3L1905-MS1)

Source: Y312524-01

Prepared: 12/19/2023 Analyzed: 12/21/2023

1-Methylnaphthalene	0.191	0.002	mg/kg	0.200	0.0008	95.0	70-130
2-Methylnaphthalene	0.188	0.002	"	0.200	0.0008	93.6	70-130
Acenaphthene	0.180	0.020	"	0.200	ND	90.2	70-130
Anthracene	0.189	0.020	"	0.200	ND	94.4	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: HSR Lost Creek1-32

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 B3L1905 - EPA 3580

Matrix Spike (B3L1905-MS1)		Source: Y312524-01			Prepared: 12/19/2023 Analyzed: 12/21/2023					
Benzo (a) anthracene	0.206	0.005	mg/kg	0.200	ND	103	70-130			
Benzo (a) pyrene	0.197	0.020	"	0.200	ND	98.3	70-130			
Benzo (b) fluoranthene	0.171	0.020	"	0.200	ND	85.4	70-130			
Benzo (g,h,i) perylene	0.180	0.020	"	0.200	ND	89.9	70-130			
Benzo (k) fluoranthene	0.168	0.020	"	0.200	ND	83.8	70-130			
Chrysene	0.174	0.020	"	0.200	ND	87.0	70-130			
Dibenz (a,h) anthracene	0.176	0.020	"	0.200	ND	87.9	70-130			
Fluoranthene	0.186	0.020	"	0.200	0.002	92.3	70-130			
Fluorene	0.188	0.020	"	0.200	ND	94.1	70-130			
Indeno (1,2,3-cd) pyrene	0.246	0.020	"	0.200	ND	123	70-130			
Naphthalene	0.181	0.002	"	0.200	ND	90.6	70-130			
Phenanthrene	0.167	0.020	"	0.200	ND	83.4	70-130			
Pyrene	0.177	0.020	"	0.200	0.003	87.0	70-130			
Surrogate: Fluorene-d10	220		ug/kg	200		108	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	190		"	200		96.9	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

Matrix Spike Dup (B3L1905-MSD1)		Source: Y312524-01			Prepared: 12/19/2023 Analyzed: 12/21/2023					
1-Methylnaphthalene	0.194	0.002	mg/kg	0.200	0.0008	96.7	70-130	1.79	20	
2-Methylnaphthalene	0.193	0.002	"	0.200	0.0008	96.0	70-130	2.46	20	
Acenaphthene	0.180	0.020	"	0.200	ND	89.9	70-130	0.241	20	
Anthracene	0.188	0.020	"	0.200	ND	94.2	70-130	0.161	20	
Benzo (a) anthracene	0.202	0.005	"	0.200	ND	101	70-130	1.50	20	
Benzo (a) pyrene	0.192	0.020	"	0.200	ND	96.2	70-130	2.13	20	
Benzo (b) fluoranthene	0.162	0.020	"	0.200	ND	81.0	70-130	5.23	20	
Benzo (g,h,i) perylene	0.185	0.020	"	0.200	ND	92.5	70-130	2.82	20	

Origins Laboratory, Inc.



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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 B3L1905 - EPA 3580

Matrix Spike Dup (B3L1905-MSD1)		Source: Y312524-01			Prepared: 12/19/2023 Analyzed: 12/21/2023					
Benzo (k) fluoranthene	0.171	0.020	mg/kg	0.200	ND	85.7	70-130	2.20	20	
Chrysene	0.187	0.020	"	0.200	ND	93.6	70-130	7.36	20	
Dibenz (a,h) anthracene	0.183	0.020	"	0.200	ND	91.5	70-130	3.93	20	
Fluoranthene	0.191	0.020	"	0.200	0.002	94.5	70-130	2.39	20	
Fluorene	0.188	0.020	"	0.200	ND	94.0	70-130	0.127	20	
Indeno (1,2,3-cd) pyrene	0.250	0.020	"	0.200	ND	125	70-130	1.29	20	
Naphthalene	0.185	0.002	"	0.200	ND	92.4	70-130	1.89	20	
Phenanthrene	0.165	0.020	"	0.200	ND	82.5	70-130	1.03	20	
Pyrene	0.178	0.020	"	0.200	0.003	87.5	70-130	0.619	20	
Surrogate: Fluorene-d10	220		ug/kg	200		108	60-130			
Surrogate: Anthracene-d10	200		"	200		97.9	60-130			
Surrogate: Pyrene-d10	190		"	200		97.1	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		106	60-130			

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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 B3L1910 - DTPA Sorbitol Preparation										
Blank (B3L1910-BLK1)					Prepared: 12/19/2023 Analyzed: 12/21/2023					
Boron	ND	0.100	mg/L							U
Duplicate (B3L1910-DUP1)					Source: Y312527-01 Prepared: 12/19/2023 Analyzed: 12/21/2023					
Boron	0.217	0.0999	mg/L		0.172			23.0	50	
Batch B3L1912 - Saturated Paste Metals										
Blank (B3L1912-BLK1)					Prepared: 12/19/2023 Analyzed: 12/22/2023					
SAR	ND	0.0100	SAR							U
Calcium PPM	ND	10.0	mg/L							U
Magnesium PPM	ND	10.0	"							U
Sodium PPM	ND	10.0	"							U
Duplicate (B3L1912-DUP1)					Source: Y312527-01 Prepared: 12/19/2023 Analyzed: 12/22/2023					
Calcium PPM	22.3	10.0	mg/L		25.6			13.7	50	
SAR	ND	0.0100	SAR		1.71				200	U
Magnesium PPM	7.73	10.0	mg/L		8.48			9.25	50	U
Sodium PPM	34.6	10.0	"		39.0			11.8	50	

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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B3L1914 - Saturated Paste pH/EC										
Blank (B3L1914-BLK1)					Prepared: 12/19/2023 Analyzed: 12/21/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B3L1914-DUP1)					Source: Y312527-01 Prepared: 12/19/2023 Analyzed: 12/20/2023					
Specific Conductance (EC)	0.346	0.00500	mmhos/cm		0.392			12.5	25	
pH	8.40		pH Units		8.51			1.30	25	
Batch B3L2816 - Saturated Paste pH/EC										
Blank (B3L2816-BLK1)					Prepared: 12/28/2023 Analyzed: 12/28/2023					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							U
Duplicate (B3L2816-DUP1)					Source: Y312524-04 Prepared: 12/28/2023 Analyzed: 12/28/2023					
Specific Conductance (EC)	1.33	0.00500	mmhos/cm		1.23			7.85	25	

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

Total Metals by 6020 B - 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 L724958 - 3050B

MSD (L 96462-MSD-L724958)			Source: 96462		Prepared: 12/28/2023 Analyzed: 01/17/2024					
Arsenic	3.4	0.25	mg/Kg	2.45	0.995	98	75-125	8.9	80	
Silver	0.479	0.25	"	0.49	0.0107	96	75-125	6.9	80	
Selenium	4.82	0.25	"	4.9	0.25	93	75-125	6.4	80	
Nickel	4.74	0.25	"	2.45	2.25	102	75-125	8.3	80	
Lead	5.93	0.25	"	2.45	3.67	92	75-125	7.5	80	
Copper	5.16	0.25	"	2.45	2.7	100	75-125	8.9	80	
Zinc	36.6	2.5	"	24.5	11.7	102	75-125	7.3	80	
Barium	34.9	0.25	"	4.9	29.2	116	75-125	0.5	80	
Cadmium	0.489	0.25	"	0.49	0.0322	93	75-125	9.1	80	
MS (L 96462-MS-L724958)			Source: 96462		Prepared: 12/28/2023 Analyzed: 01/17/2024					
Arsenic	3.11	0.25	mg/Kg	2.35	0.995	90	75-125			
Zinc	34	2.5	"	23.5	11.7	95	75-125			
Silver	0.447	0.25	"	0.47	0.0107	93	75-125			
Selenium	4.52	0.25	"	4.7	0.25	91	75-125			
Nickel	4.36	0.25	"	2.35	2.25	90	75-125			
Lead	5.5	0.25	"	2.35	3.67	78	75-125			
Copper	4.72	0.25	"	2.35	2.7	86	75-125			
Cadmium	0.446	0.25	"	0.47	0.0322	88	75-125			
Barium	35.1	0.25	"	4.7	29.2	125	75-125			
LCS (LCS-L724958)			Prepared: 12/28/2023 Analyzed: 01/16/2024							
Arsenic	2.36	0.25	mg/Kg	2.5		94	80-120			
Zinc	25	2.5	"	25		100	80-120			
Silver	0.485	0.25	"	0.5		97	80-120			
Selenium	4.69	0.25	"	5		94	80-120			
Nickel	2.58	0.25	"	2.5		103	80-120			

Origins Laboratory, Inc.



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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

Total Metals by 6020 B - 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 L724958 - 3050B

LCS (LCS-L724958)

Prepared: 12/28/2023 Analyzed: 01/16/2024

Copper	2.6	0.25	mg/Kg	2.5	104	80-120
Barium	4.97	0.25	"	5	99	80-120
Cadmium	0.469	0.25	"	0.5	94	80-120
Lead	2.42	0.25	"	2.5	97	80-120

LRB (LRB-L724958)

Prepared: 12/28/2023 Analyzed: 01/16/2024

Selenium	ND	0.25	mg/Kg	-
Arsenic	ND	0.25	"	-
Barium	ND	0.25	"	-
Cadmium	ND	0.25	"	-
Copper	ND	0.25	"	-
Zinc	ND	2.5	"	-
Silver	ND	0.25	"	-
Lead	ND	0.25	"	-
Nickel	ND	0.25	"	-

Origins Laboratory, Inc.



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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

Total Metals by 6020B - Quality Control Waypoint Analytical, LLC.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L724957 - 3050B										
MSD (L 96394-MSD-L724957)			Source: Y312540-06		Prepared: 12/28/2023 Analyzed: 01/16/2024					
Cadmium	0.505	0.25	mg/Kg	0.469	0.0412	99	75-125	12.1	80	
Silver	0.48	0.25	"	0.469	0.0158	99	75-125	14	80	
Lead	5.53	0.25	"	2.35	3.07	105	75-125	15.1	80	
Copper	5.24	0.25	"	2.35	2.68	109	75-125	8.3	80	
Zinc	36.1	2.5	"	23.5	11	107	75-125	11.7	80	
Arsenic	3.02	0.25	"	2.35	0.782	95	75-125	12.6	80	
Selenium	4.71	0.25	"	4.69	0.366	93	75-125	15.3	80	
Barium	37.8	0.25	"	4.69	30	166	75-125	13.5	80	*
Nickel	5.19	0.25	"	2.35	2.53	113	75-125	11.8	80	
MS (L 96394-MS-L724957)			Source: Y312540-06		Prepared: 12/28/2023 Analyzed: 01/16/2024					
Copper	4.82	0.25	mg/Kg	2.39	2.68	90	75-125			
Arsenic	2.66	0.25	"	2.39	0.782	79	75-125			
Cadmium	0.447	0.25	"	0.478	0.0412	85	75-125			
Silver	0.417	0.25	"	0.478	0.0158	84	75-125			
Lead	4.75	0.25	"	2.39	3.07	70	75-125			*
Nickel	4.61	0.25	"	2.39	2.53	87	75-125			
Selenium	4.04	0.25	"	4.78	0.366	77	75-125			
Zinc	32.1	2.5	"	23.9	11	88	75-125			
Barium	33	0.25	"	4.78	30	63	75-125			*
LCS (LCS-L724957)			Prepared: 12/28/2023 Analyzed: 01/16/2024							
Barium	4.98	0.25	mg/Kg	5		100	80-120			
Silver	0.48	0.25	"	0.5		96	80-120			
Selenium	4.52	0.25	"	5		90	80-120			
Nickel	2.38	0.25	"	2.5		95	80-120			
Lead	2.67	0.25	"	2.5		107	80-120			

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

Total Metals by 6020B - 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 L724957 - 3050B

LCS (LCS-L724957)

Prepared: 12/28/2023 Analyzed: 01/16/2024

Arsenic	2.41	0.25	mg/Kg	2.5		96	80-120			
Cadmium	0.498	0.25	"	0.5		100	80-120			
Copper	2.35	0.25	"	2.5		94	80-120			
Zinc	24.5	2.5	"	25		98	80-120			

LRB (LRB-L724957)

Prepared: 12/28/2023 Analyzed: 01/15/2024

Lead	ND	0.25	mg/Kg				-			
Zinc	ND	2.5	"				-			
Silver	ND	0.25	"				-			
Nickel	ND	0.25	"				-			
Copper	ND	0.25	"				-			
Cadmium	ND	0.25	"				-			
Barium	ND	0.25	"				-			
Arsenic	ND	0.25	"				-			
Selenium	ND	0.25	"				-			

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Jen Pellegrini, Project Manager

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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch L724748 -										
DUP (L 96396-DUP)		Source: Y312540-08			Prepared: Analyzed: 12/28/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 96396-MS)		Source: Y312540-08			Prepared: Analyzed: 12/28/2023					
Chromium, Hexavalent	34.2	2.5	mg/Kg	39.3	<1.22	87	75-125			
LCS (LCS)					Prepared: Analyzed: 12/28/2023					
Chromium, Hexavalent	6.73	0.5	mg/Kg	8		84	75-125			
LRB (LRB)					Prepared: Analyzed: 12/28/2023					
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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

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 L724747 -										
DUP (L 96390-DUP)		Source: Y312540-02			Prepared: Analyzed: 12/28/2023					
Chromium, Hexavalent	ND	0.5	mg/Kg		<0.500		-	0	20	
MS (L 96390-MS)		Source: Y312540-02			Prepared: Analyzed: 12/28/2023					
Chromium, Hexavalent	34.1	2.5	mg/Kg	39.2	<1.22	87	75-125			
LCS (LCS)					Prepared: Analyzed: 12/28/2023					
Chromium, Hexavalent	6.47	0.5	mg/Kg	8		81	75-125			
LRB (LRB)					Prepared: Analyzed: 12/28/2023					
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

John Peterson
Project Number: [none]
Project: HSR Lost Creek1-32

Notes and Definitions

U Sample is Non-Detect.

QR-02 The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.

* QC Failure

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