



June 19, 2024

Red Hawk Petroleum

Charles Hinjosa

575 S. Dairy Ashford Rd. Suite 20

Houston TX 77079

Project Name - Planck 1-13H Treater

Project Number - 403696938

Attached are your analytical results for Planck 1-13H Treater received by Origins Laboratory, Inc. June 05, 2024. This project is associated with Origins project number Y406147-01.

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

Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
P1T	Y406147-01	Soil	June 5, 2024 7:00	06/05/2024 15:30
P2T	Y406147-02	Soil	June 5, 2024 7:00	06/05/2024 15:30
P3T	Y406147-03	Soil	June 5, 2024 7:00	06/05/2024 15:30
P4T	Y406147-04	Soil	June 5, 2024 7:00	06/05/2024 15:30

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

ORIGINS LABORATORY LLC
Client: Red Hawk Petroleum
Address: 575 S. Dairy Ashford Rd. Suite 20
Houston, TX 77079
Telephone Number: 713-574-7913
Email Address: Chingisa@redhawk.com

ORIGINS WORK ORDER # 4400147
Project Manager: Charles Hinjosa
Project Name: Planck 1-13H Treater
Project Number: 403696938
Collected By: Luke Crowley
Invoice/Billing Info: _____

Key:
W= Water
GW=Groundwater
SW=Surface Water
WW=Waste Water
L=Liquid
S=Soil | SO=Solid | O=Oil | A=Air | G=Gas | UNP=Unpres | HCL= Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis	Comments
1	P1T	6-5-24	7:00 AM	3			SIB	
2	P2T			3			V	
3	P3T			3				
4	P4T			3				
5								
6								
7								
8								
9								
10								

Relinquished By: [Signature] Date: 6-5-24 Time: 3:30
Relinquished By: [Signature] Date: 6-5-24 Time: 1530

Turnaround Time: ☐ SAME DAY ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr

Received On Ice? ☒ Yes ☐ No

Temp Received: ☒ Standard

For Lab Sample Receiving Only:
1725 Elk Place Denver, Co. 80211 | # 303.433.1322 | originslab.com

Origins Laboratory, Inc.

J. Bynon

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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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

Sample Receipt Checklist

Origins Work Order: 4406147 Client: Red Hawk
Client Project ID: Planck 13H

Checklist Completed by: EAD Shipped Via: HO
(UPS, FedEx, Hand Delivered, Pick-up, etc.)
Date/time completed: 6/5/12 Airbill #: N/A

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

Cooler Number/Temperature: 112 °C 1 °C 1 °C
Thermometer ID: 1005

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"/>			
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"/>		no matrix
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"/>		<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): <u>NO project on samples</u>				

⁽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): EAD Date/Time Reviewed: 6/5/12

Origins Laboratory, Inc.

J. Bynon

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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P1T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-01 (Soil)

Boron (DTPA Sorbitol)

Boron	0.222	0.0993	mg/L	1	B4F0708	06/07/2024	06/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0634	06/06/2024	06/12/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	68.2 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0734	06/07/2024	06/07/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P1T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-01 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.5 %	70-130	B4F07 34	06/07/2024	06/07/2024
Surrogate: 4-Bromofluorobenzene	107 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	2.13	0.499	meq/L	10	[CALC]	06/10/2024	06/11/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P1T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-01 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	106 %	60-130	"	"	"
Surrogate: Anthracene-d10	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	99.8 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"

pH in Soil by 9045D

pH	8.60	pH Units	1	B4F1018	06/10/2024	06/11/2024
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SAR by 20B Saturated Paste

SAR	0.142	0.0100	SAR	1	B4F1016	06/10/2024	06/11/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.364	0.00500	mmhos/cm	1	B4F1018	06/10/2024	06/11/2024
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Table 915 metals by EPA 6020B

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Project: Planck 1-13H Treater

P1T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-01 (Soil)

Table 915 metals by EPA 6020B

Arsenic	3.23	0.277	mg/kg	10	B4F0627	06/06/2024	06/07/2024
Barium	180	9.53	"	"	"	"	"
Cadmium	0.101	0.0953	"	"	"	"	"
Copper	ND	9.53	"	"	"	"	"
Lead	7.65	0.953	"	"	"	"	"
Nickel	5.85	0.953	"	"	"	"	"
Selenium	ND	0.248	"	"	"	"	"
Silver	ND	0.0953	"	"	"	"	"
Zinc	ND	35.3	"	"	"	"	"

Total Metals by 7196A

Hexavalent Chromium	ND	0.0845	0.211	mg/kg dry	1	2626861	06/14/2024	06/17/2024	U
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Red Hawk Petroleum
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Project Number: 403696938
Project: Planck 1-13H Treater

P2T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-02 (Soil)

Boron (DTPA Sorbitol)

Boron	0.210	0.0999	mg/L	1	B4F0708	06/07/2024	06/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0634	06/06/2024	06/12/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	77.0 %	50-150	"	"	"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0734	06/07/2024	06/07/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130	"	"	"	"	"	
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Project Number: 403696938
Project: Planck 1-13H Treater

P2T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-02 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.2 %	70-130	B4F07 34	06/07/2024	06/07/2024
Surrogate: 4-Bromofluorobenzene	106 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	2.18	0.499	meq/L	10	[CALC]	06/10/2024	06/11/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

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Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P2T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-02 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	103 %	60-130	"	"	"
Surrogate: Anthracene-d10	100 %	60-130	"	"	"
Surrogate: Pyrene-d10	102 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	104 %	60-130	"	"	"

pH in Soil by 9045D

pH	8.66	pH Units	1	B4F1018	06/10/2024	06/11/2024
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SAR by 20B Saturated Paste

SAR	0.135	0.0100	SAR	1	B4F1016	06/10/2024	06/11/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.362	0.00500	mmhos/cm	1	B4F1018	06/10/2024	06/11/2024
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Table 915 metals by EPA 6020B

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Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P2T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-02 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.86	0.246	mg/kg	10	B4F0627	06/06/2024	06/07/2024
Barium	96.2	8.47	"	"	"	"	"
Cadmium	ND	0.0847	"	"	"	"	"
Copper	ND	8.47	"	"	"	"	"
Lead	4.50	0.847	"	"	"	"	"
Nickel	4.28	0.847	"	"	"	"	"
Selenium	ND	0.220	"	"	"	"	"
Silver	ND	0.0847	"	"	"	"	"
Zinc	ND	31.3	"	"	"	"	"

Total Metals by 7196A

Hexavalent Chromium	ND	0.0992	0.248	mg/kg dry	1	2626861	06/14/2024	06/17/2024	U
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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P3T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-03 (Soil)

Boron (DTPA Sorbitol)

Boron	0.147	0.0992	mg/L	1	B4F0708	06/07/2024	06/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0634	06/06/2024	06/12/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	76.2 %	50-150	"	"	"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0734	06/07/2024	06/07/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	100 %	70-130	"	"	"	"	"	
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575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P3T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-03 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	98.5 %	70-130	B4F07 34	06/07/2024	06/07/2024
Surrogate: 4-Bromofluorobenzene	107 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.73	0.499	meq/L	10	[CALC]	06/10/2024	06/11/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P3T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-03 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	103 %	60-130	"	"	"
Surrogate: Anthracene-d10	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	104 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	103 %	60-130	"	"	"

pH in Soil by 9045D

pH	8.50	pH Units	1	B4F1018	06/10/2024	06/11/2024
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SAR by 20B Saturated Paste

SAR	0.116	0.0100	SAR	1	B4F1016	06/10/2024	06/11/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.302	0.00500	mmhos/cm	1	B4F1018	06/10/2024	06/11/2024
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Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P3T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-03 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.80	0.265	mg/kg	10	B4F0627	06/06/2024	06/07/2024
Barium	104	9.15	"	"	"	"	"
Cadmium	ND	0.0915	"	"	"	"	"
Copper	ND	9.15	"	"	"	"	"
Lead	4.24	0.915	"	"	"	"	"
Nickel	5.02	0.915	"	"	"	"	"
Selenium	ND	0.238	"	"	"	"	"
Silver	ND	0.0915	"	"	"	"	"
Zinc	ND	33.9	"	"	"	"	"

Total Metals by 7196A

Hexavalent Chromium	ND	0.107	0.269	mg/kg dry	1	2626861	06/14/2024	06/17/2024	U
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Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P4T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-04 (Soil)

Boron (DTPA Sorbitol)

Boron	0.174	0.0997	mg/L	1	B4F0708	06/07/2024	06/10/2024	
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DRO/ORO by EPA 8015D

Diesel (C10-C28)	ND	25.0	mg/kg	1	B4F0634	06/06/2024	06/12/2024	Ua
Residual Range Organics (C28-C40)	ND	100	"	"	"	"	"	Ua

Surrogate: o-Terphenyl	80.1 %	50-150			"	"	"	
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GBTEX+TMBs by 8260D

1,2,4-Trimethylbenzene	ND	0.00200	mg/kg	1	B4F0734	06/07/2024	06/07/2024	Ua
1,3,5-Trimethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Benzene	ND	0.00200	"	"	"	"	"	Ua
Ethylbenzene	ND	0.00200	"	"	"	"	"	Ua
Toluene	ND	0.00200	"	"	"	"	"	Ua
Xylenes, total	ND	0.00200	"	"	"	"	"	Ua
Gasoline Range Hydrocarbons	ND	0.200	"	"	"	"	"	Ua

Surrogate: 1,2-Dichloroethane-d4	103 %	70-130			"	"	"	
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Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P4T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-04 (Soil)

GBTEX+TMBs by 8260D

Surrogate: Toluene-d8	97.8 %	70-130	B4F07 34	06/07/2024	06/07/2024
Surrogate: 4-Bromofluorobenzene	108 %	70-130	"	"	"

Metals by Saturated Paste by EPA 6010

Calcium	1.74	0.499	meq/L	10	[CALC]	06/10/2024	06/11/2024
Magnesium	ND	0.823	"	"	"	"	"
Sodium	ND	0.435	"	"	"	"	"

PAH by EPA 8270E

1-Methylnaphthalene	ND	0.002	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
2-Methylnaphthalene	ND	0.002	"	"	"	"	"	Ua
Acenaphthene	ND	0.020	"	"	"	"	"	Ua
Anthracene	ND	0.020	"	"	"	"	"	Ua
Benzo (a) anthracene	ND	0.005	"	"	"	"	"	Ua
Benzo (a) pyrene	ND	0.020	"	"	"	"	"	Ua
Benzo (b) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Benzo (k) fluoranthene	ND	0.020	"	"	"	"	"	Ua
Chrysene	ND	0.020	"	"	"	"	"	Ua
Dibenz (a,h) anthracene	ND	0.020	"	"	"	"	"	Ua
Fluoranthene	ND	0.020	"	"	"	"	"	Ua

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P4T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-04 (Soil)

PAH by EPA 8270E

Fluorene	ND	0.020	mg/kg	1	B4F0724	06/07/2024	06/16/2024	Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"	"	"	"	"	Ua
Naphthalene	ND	0.002	"	"	"	"	"	Ua
Pyrene	ND	0.020	"	"	"	"	"	Ua

Surrogate: Fluorene-d10	105 %	60-130	"	"	"
Surrogate: Anthracene-d10	101 %	60-130	"	"	"
Surrogate: Pyrene-d10	101 %	60-130	"	"	"
Surrogate: Benzo (a) pyrene-d12	102 %	60-130	"	"	"

pH in Soil by 9045D

pH	8.57	pH Units	1	B4F1018	06/10/2024	06/11/2024
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SAR by 20B Saturated Paste

SAR	0.105	0.0100	SAR	1	B4F1016	06/10/2024	06/11/2024
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Specific Conductance Mod. 9050A

Specific Conductance (EC)	0.296	0.00500	mmhos/cm	1	B4F1018	06/10/2024	06/11/2024
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Table 915 metals by EPA 6020B

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

P4T

6/5/2024 7:00:00AM

Analyte	Result	Min Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y406147-04 (Soil)

Table 915 metals by EPA 6020B

Arsenic	2.59	0.246	mg/kg	10	B4F0627	06/06/2024	06/07/2024
Barium	121	8.49	"	"	"	"	"
Cadmium	ND	0.0849	"	"	"	"	"
Copper	ND	8.49	"	"	"	"	"
Lead	4.92	0.849	"	"	"	"	"
Nickel	5.02	0.849	"	"	"	"	"
Selenium	ND	0.221	"	"	"	"	"
Silver	ND	0.0849	"	"	"	"	"
Zinc	ND	31.4	"	"	"	"	"

Total Metals by 7196A

Hexavalent Chromium	ND	0.108	0.271	mg/kg dry	1	2626861	06/14/2024	06/17/2024	U
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Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0634 - EPA 3550B										
Blank (B4F0634-BLK1)					Prepared: 06/06/2024 Analyzed: 06/12/2024					
Diesel (C10-C28)	ND	25.0	mg/kg							Ua
Residual Range Organics (C28-C40)	ND	100	"							Ua
Surrogate: o-Terphenyl	22		"	24.9		86.8	50-150			

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0634 - EPA 3550B										
LCS (B4F0634-BS1)					Prepared: 06/06/2024 Analyzed: 06/12/2024					
Diesel (C10-C28)	775	50.0	mg/kg	1000		77.5	70-130			
Residual Range Organics (C28-C40)	864	200	"	1000		86.4	70-130			
Surrogate: o-Terphenyl	52		"	49.8		104	50-150			

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0634 - EPA 3550B

Matrix Spike (B4F0634-MS1)		Source: Y406124-01			Prepared: 06/06/2024 Analyzed: 06/12/2024					
Diesel (C10-C28)	6440	50.0	mg/kg	1000	4400	205	70-130			QM-07
Residual Range Organics (C28-C40)	1460	200	"	1000	613	85.2	70-130			
Surrogate: o-Terphenyl	170		"	49.8		344	50-150			S-04

Origins Laboratory, Inc.



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Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0634 - EPA 3550B										
Matrix Spike Dup (B4F0634-MSD1)			Source: Y406124-01		Prepared: 06/06/2024 Analyzed: 06/12/2024					
Diesel (C10-C28)	4940	50.0	mg/kg	1000	4400	54.2	70-130	26.4	35	QM-07
Residual Range Organics (C28-C40)	1200	200	"	1000	613	58.7	70-130	19.9	35	QM-07
Surrogate: o-Terphenyl	130		"	49.8		262	50-150			S-04

Origins Laboratory, Inc.



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Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0734 - EPA 5030 (soil)										
Blank (B4F0734-BLK1)					Prepared: 06/07/2024 Analyzed: 06/07/2024					
1,2,4-Trimethylbenzene	ND	0.00200	mg/kg							Ua
1,3,5-Trimethylbenzene	ND	0.00200	"							Ua
Benzene	ND	0.00200	"							Ua
Ethylbenzene	ND	0.00200	"							Ua
Naphthalene	ND	0.00380	"							Ua
Toluene	ND	0.00200	"							Ua
Xylenes, total	ND	0.00200	"							Ua
Gasoline Range Hydrocarbons	ND	0.200	"							Ua
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		97.5	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		99.3	70-130			
Surrogate: 4-Bromofluorobenzene	0.13		"	0.125		108	70-130			

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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0734 - EPA 5030 (soil)										
LCS (B4F0734-BS1)					Prepared: 06/07/2024 Analyzed: 06/07/2024					
1,2,4-Trimethylbenzene	0.115	0.00200	mg/kg	0.100		115	70-130			
1,3,5-Trimethylbenzene	0.116	0.00200	"	0.100		116	70-130			
Benzene	0.108	0.00200	"	0.100		108	70-130			
Ethylbenzene	0.106	0.00200	"	0.100		106	70-130			
Naphthalene	0.124	0.00380	"	0.100		124	70-130			
Toluene	0.107	0.00200	"	0.100		107	70-130			
o-Xylene	0.111	0.00200	"	0.100		111	70-130			
m,p-Xylene	0.219	0.00400	"	0.200		109	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.13		"	0.125		101	70-130			
Surrogate: Toluene-d8	0.13		"	0.125		100	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.7	70-130			

Origins Laboratory, Inc.



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Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0734 - EPA 5030 (soil)										
Matrix Spike (B4F0734-MS1)		Source: Y406145-01			Prepared: 06/07/2024 Analyzed: 06/10/2024					
1,2,4-Trimethylbenzene	0.103	0.00200	mg/kg	0.100	ND	103	70-130			
1,3,5-Trimethylbenzene	0.102	0.00200	"	0.100	ND	102	70-130			
Benzene	0.100	0.00200	"	0.100	ND	100	70-130			
Ethylbenzene	0.0934	0.00200	"	0.100	0.000600	92.8	70-130			
Naphthalene	0.100	0.00380	"	0.100	ND	100	70-130			
Toluene	0.0976	0.00200	"	0.100	ND	97.6	70-130			
o-Xylene	0.0998	0.00200	"	0.100	ND	99.8	70-130			
m,p-Xylene	0.196	0.00400	"	0.200	ND	98.2	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.8	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.5	70-130			

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Red Hawk Petroleum
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Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0734 - EPA 5030 (soil)										
Matrix Spike Dup (B4F0734-MSD1)		Source: Y406145-01			Prepared: 06/07/2024 Analyzed: 06/10/2024					
1,2,4-Trimethylbenzene	0.102	0.00200	mg/kg	0.100	ND	102	70-130	0.999	20	
1,3,5-Trimethylbenzene	0.101	0.00200	"	0.100	ND	101	70-130	0.691	20	
Benzene	0.0998	0.00200	"	0.100	ND	99.8	70-130	0.699	20	
Ethylbenzene	0.0919	0.00200	"	0.100	0.000600	91.3	70-130	1.58	20	
Naphthalene	0.0996	0.00380	"	0.100	ND	99.6	70-130	0.481	20	
Toluene	0.0966	0.00200	"	0.100	ND	96.6	70-130	1.09	20	
o-Xylene	0.0990	0.00200	"	0.100	ND	99.0	70-130	0.724	20	
m,p-Xylene	0.194	0.00400	"	0.200	ND	97.1	70-130	1.18	20	
Surrogate: 1,2-Dichloroethane-d4	0.12		"	0.125		98.7	70-130			
Surrogate: Toluene-d8	0.12		"	0.125		98.2	70-130			
Surrogate: 4-Bromofluorobenzene	0.12		"	0.125		97.6	70-130			

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0627 - EPA 3050B

Blank (B4F0627-BLK1)

Prepared: 06/06/2024 Analyzed: 06/07/2024

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

LCS (B4F0627-BS1)

Prepared: 06/06/2024 Analyzed: 06/07/2024

Arsenic	5.88	0.290	mg/kg	5.00	118	80-120
Barium	577	10.0	"	500	115	80-120
Cadmium	5.91	0.100	"	5.00	118	80-120
Copper	59.6	10.0	"	50.0	119	80-120
Lead	5.78	1.00	"	5.00	116	80-120
Nickel	5.92	1.00	"	5.00	118	80-120
Selenium	11.0	0.260	"	9.50	116	80-120
Silver	5.89	0.100	"	5.00	118	80-120
Zinc	57.0	37.0	"	50.0	114	80-120

Matrix Spike (B4F0627-MS1)

Source: Y406143-01

Prepared: 06/06/2024 Analyzed: 06/07/2024

Origins Laboratory, Inc.



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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4F0627 - EPA 3050B										
Matrix Spike (B4F0627-MS1)			Source: Y406143-01		Prepared: 06/06/2024 Analyzed: 06/07/2024					
Arsenic	10.1	0.268	mg/kg	4.62	3.02	154	75-125			QM-07
Barium	612	9.23	"	462	73.7	117	75-125			
Cadmium	5.41	0.0923	"	4.62	0.0920	115	75-125			
Copper	60.8	9.23	"	46.2	5.84	119	75-125			
Lead	11.8	0.923	"	4.62	4.99	148	75-125			QM-07
Nickel	12.2	0.923	"	4.62	5.94	135	75-125			QM-07
Selenium	9.98	0.240	"	8.77	0.0785	113	75-125			
Silver	5.28	0.0923	"	4.62	ND	114	75-125			
Zinc	74.7	34.2	"	46.2	21.7	115	75-125			
Matrix Spike Dup (B4F0627-MSD1)			Source: Y406143-01		Prepared: 06/06/2024 Analyzed: 06/07/2024					
Arsenic	9.49	0.255	mg/kg	4.39	3.02	147	75-125	6.46	20	QM-07
Barium	617	8.78	"	439	73.7	124	75-125	0.731	20	
Cadmium	5.51	0.0878	"	4.39	0.0920	123	75-125	1.85	20	
Copper	61.1	8.78	"	43.9	5.84	126	75-125	0.548	20	QM-07
Lead	11.4	0.878	"	4.39	4.99	145	75-125	3.83	20	QM-07
Nickel	12.2	0.878	"	4.39	5.94	142	75-125	0.0500	20	QM-07
Selenium	10.3	0.228	"	8.34	0.0785	122	75-125	2.75	20	
Silver	5.41	0.0878	"	4.39	ND	123	75-125	2.42	20	
Zinc	76.4	32.5	"	43.9	21.7	124	75-125	2.13	20	

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Red Hawk Petroleum
575 S. Dairy Ashford Rd. Suite 20
Houston TX 77079

Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

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 B4F0724 - EPA 3580

Blank (B4F0724-BLK1)

Prepared: 06/07/2024 Analyzed: 06/16/2024

1-Methylnaphthalene	ND	0.002	mg/kg							Ua
2-Methylnaphthalene	ND	0.002	"							Ua
Acenaphthene	ND	0.020	"							Ua
Anthracene	ND	0.020	"							Ua
Benzo (a) anthracene	ND	0.005	"							Ua
Benzo (a) pyrene	ND	0.020	"							Ua
Benzo (b) fluoranthene	ND	0.020	"							Ua
Benzo (g,h,i) perylene	ND	0.020	"							Ua
Benzo (k) fluoranthene	ND	0.020	"							Ua
Chrysene	ND	0.020	"							Ua
Dibenz (a,h) anthracene	ND	0.020	"							Ua
Fluoranthene	ND	0.020	"							Ua
Fluorene	ND	0.020	"							Ua
Indeno (1,2,3-cd) pyrene	ND	0.020	"							Ua
Naphthalene	ND	0.002	"							Ua
Phenanthrene	ND	0.020	"							Ua
Pyrene	ND	0.020	"							Ua
Surrogate: Fluorene-d10	200		ug/kg	200		102	60-130			
Surrogate: Anthracene-d10	200		"	200		100	60-130			
Surrogate: Pyrene-d10	210		"	200		106	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			

LCS (B4F0724-BS1)

Prepared: 06/07/2024 Analyzed: 06/16/2024

1-Methylnaphthalene	0.197	0.002	mg/kg	0.200		98.3	70-130
2-Methylnaphthalene	0.196	0.002	"	0.200		97.8	70-130
Acenaphthene	0.199	0.020	"	0.200		99.3	70-130
Anthracene	0.208	0.020	"	0.200		104	70-130

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4F0724 - EPA 3580

LCS (B4F0724-BS1)

Prepared: 06/07/2024 Analyzed: 06/16/2024

Benzo (a) anthracene	0.230	0.005	mg/kg	0.200		115	70-130
Benzo (a) pyrene	0.226	0.020	"	0.200		113	70-130
Benzo (b) fluoranthene	0.194	0.020	"	0.200		96.9	70-130
Benzo (g,h,i) perylene	0.191	0.020	"	0.200		95.7	70-130
Benzo (k) fluoranthene	0.206	0.020	"	0.200		103	70-130
Chrysene	0.212	0.020	"	0.200		106	70-130
Dibenz (a,h) anthracene	0.209	0.020	"	0.200		105	70-130
Fluoranthene	0.214	0.020	"	0.200		107	70-130
Fluorene	0.207	0.020	"	0.200		103	70-130
Indeno (1,2,3-cd) pyrene	0.199	0.020	"	0.200		99.6	70-130
Naphthalene	0.199	0.002	"	0.200		99.4	70-130
Phenanthrene	0.193	0.020	"	0.200		96.7	70-130
Pyrene	0.199	0.020	"	0.200		99.7	70-130
Surrogate: Fluorene-d10	210		ug/kg	200		106	60-130
Surrogate: Anthracene-d10	200		"	200		101	60-130
Surrogate: Pyrene-d10	200		"	200		101	60-130
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130

Matrix Spike (B4F0724-MS1)

Source: Y406147-01

Prepared: 06/07/2024 Analyzed: 06/16/2024

1-Methylnaphthalene	0.188	0.002	mg/kg	0.200	0.001	93.5	70-130
2-Methylnaphthalene	0.188	0.002	"	0.200	ND	93.9	70-130
Acenaphthene	0.192	0.020	"	0.200	ND	96.0	70-130
Anthracene	0.202	0.020	"	0.200	ND	101	70-130
Benzo (a) anthracene	0.220	0.005	"	0.200	0.002	109	70-130
Benzo (a) pyrene	0.222	0.020	"	0.200	0.001	110	70-130
Benzo (b) fluoranthene	0.187	0.020	"	0.200	0.003	92.0	70-130
Benzo (g,h,i) perylene	0.183	0.020	"	0.200	0.005	89.1	70-130

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Project: Planck 1-13H Treater

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 B4F0724 - EPA 3580

Matrix Spike (B4F0724-MS1)		Source: Y406147-01			Prepared: 06/07/2024 Analyzed: 06/16/2024					
Benzo (k) fluoranthene	0.212	0.020	mg/kg	0.200	0.0007	105	70-130			
Chrysene	0.199	0.020	"	0.200	0.006	97.0	70-130			
Dibenz (a,h) anthracene	0.200	0.020	"	0.200	ND	100	70-130			
Fluoranthene	0.214	0.020	"	0.200	0.007	104	70-130			
Fluorene	0.198	0.020	"	0.200	ND	99.2	70-130			
Indeno (1,2,3-cd) pyrene	0.187	0.020	"	0.200	0.002	92.2	70-130			
Naphthalene	0.192	0.002	"	0.200	ND	96.0	70-130			
Phenanthrene	0.188	0.020	"	0.200	0.002	93.0	70-130			
Pyrene	0.196	0.020	"	0.200	0.011	92.7	70-130			
Surrogate: Fluorene-d10	210		ug/kg	200		105	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	200		"	200		99.7	60-130			
Surrogate: Benzo (a) pyrene-d12	200		"	200		101	60-130			

Matrix Spike Dup (B4F0724-MSD1)		Source: Y406147-01			Prepared: 06/07/2024 Analyzed: 06/16/2024					
1-Methylnaphthalene	0.196	0.002	mg/kg	0.200	0.001	97.8	70-130	4.45	20	
2-Methylnaphthalene	0.196	0.002	"	0.200	ND	97.9	70-130	4.08	20	
Acenaphthene	0.197	0.020	"	0.200	ND	98.4	70-130	2.49	20	
Anthracene	0.201	0.020	"	0.200	ND	101	70-130	0.390	20	
Benzo (a) anthracene	0.218	0.005	"	0.200	0.002	108	70-130	0.864	20	
Benzo (a) pyrene	0.218	0.020	"	0.200	0.001	108	70-130	1.79	20	
Benzo (b) fluoranthene	0.192	0.020	"	0.200	0.003	95.0	70-130	3.08	20	
Benzo (g,h,i) perylene	0.194	0.020	"	0.200	0.005	94.5	70-130	5.75	20	
Benzo (k) fluoranthene	0.207	0.020	"	0.200	0.0007	103	70-130	2.21	20	
Chrysene	0.208	0.020	"	0.200	0.006	101	70-130	4.41	20	
Dibenz (a,h) anthracene	0.199	0.020	"	0.200	ND	99.3	70-130	0.985	20	
Fluoranthene	0.226	0.020	"	0.200	0.007	110	70-130	5.66	20	

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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 B4F0724 - EPA 3580

Matrix Spike Dup (B4F0724-MSD1)		Source: Y406147-01			Prepared: 06/07/2024 Analyzed: 06/16/2024					
Fluorene	0.204	0.020	mg/kg	0.200	ND	102	70-130	2.90	20	
Indeno (1,2,3-cd) pyrene	0.212	0.020	"	0.200	0.002	105	70-130	12.5	20	
Naphthalene	0.196	0.002	"	0.200	ND	98.1	70-130	2.19	20	
Phenanthrene	0.190	0.020	"	0.200	0.002	94.3	70-130	1.37	20	
Pyrene	0.207	0.020	"	0.200	0.011	98.0	70-130	5.26	20	
Surrogate: Fluorene-d10	210		ug/kg	200		107	60-130			
Surrogate: Anthracene-d10	200		"	200		101	60-130			
Surrogate: Pyrene-d10	200		"	200		99.0	60-130			
Surrogate: Benzo (a) pyrene-d12	210		"	200		103	60-130			

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Charles Hinjosa
Project Number: 403696938
Project: Planck 1-13H Treater

Classical Chemistry Parameters - Quality Control

Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch B4F0708 - DTPA Sorbitol Preparation

Blank (B4F0708-BLK1)

Prepared: 06/07/2024 Analyzed: 06/10/2024

Boron ND 0.100 mg/L

Duplicate (B4F0708-DUP1)

Source: Y406145-01

Prepared: 06/07/2024 Analyzed: 06/10/2024

Boron 0.412 0.100 mg/L 0.396 4.15 50

Batch B4F1016 - Saturated Paste Metals

Blank (B4F1016-BLK1)

Prepared: 06/10/2024 Analyzed: 06/11/2024

SAR ND 0.0100 SAR

Calcium PPM ND 10.0 mg/L

Magnesium PPM ND 10.0 "

Sodium PPM ND 10.0 "

Duplicate (B4F1016-DUP1)

Source: Y406145-01

Prepared: 06/10/2024 Analyzed: 06/11/2024

Calcium PPM 21.3 10.0 mg/L 19.3 9.91 50

SAR ND 0.0100 SAR 2.58 200

Magnesium PPM 4.39 10.0 mg/L 3.92 11.3 50

Sodium PPM 49.4 10.0 " 47.5 4.04 50

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Project: Planck 1-13H Treater

Saturated Paste - Quality Control Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B4F1018 - Saturated Paste pH/EC										
Blank (B4F1018-BLK1)					Prepared: 06/10/2024 Analyzed: 06/11/2024					
Specific Conductance (EC)	ND	0.00500	mmhos/cm							
Duplicate (B4F1018-DUP1)					Source: Y406145-01 Prepared: 06/10/2024 Analyzed: 06/11/2024					
pH	8.57		pH Units		8.59			0.233	25	
Specific Conductance (EC)	0.424	0.00500	mmhos/cm		0.397			6.75	25	

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Project: Planck 1-13H Treater

Total Metals by 7196A - Quality Control GEL Laboratories, LLC

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2626861 - SW846 3060A										
BLANK (1205762004-BLK)					Prepared: 06/14/2024 Analyzed: 06/17/2024					
Hexavalent Chromium	ND	0.228	mg/kg				-			U
LCS (1205762005-BKS)					Prepared: 06/14/2024 Analyzed: 06/17/2024					
Hexavalent Chromium	2.50	0.255	mg/kg	2.55		98.2	80-120			
DUP (1205762006 D)					Source: Y406147-01 Prepared: 06/14/2024 Analyzed: 06/17/2024					
Hexavalent Chromium	ND	0.211	mg/kg dry		<0.0846		0-50	N/A	50	U
MS (1205762007 S)					Source: Y406147-01 Prepared: 06/14/2024 Analyzed: 06/17/2024					
Hexavalent Chromium	1.38	0.212	mg/kg dry	2.12	<0.0846	62.8	75-125			
DUP (1205762008 D)					Source: 670686003 Prepared: 06/14/2024 Analyzed: 06/17/2024					
Hexavalent Chromium	ND	0.317	mg/kg dry		<0.127		0-50	N/A	50	U
MS (1205762009 S)					Source: 670686003 Prepared: 06/14/2024 Analyzed: 06/17/2024					
Hexavalent Chromium	2.00	0.317	mg/kg dry	3.17	<0.127	60.6	75-125			
ILCS (1205762010-ILCS)					Prepared: 06/14/2024 Analyzed: 06/17/2024					
Hexavalent Chromium	6.53	0.324	mg/kg	6.61		98.8	80-120			

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Notes and Definitions

Ua Sample is Non-Detect.

U Result not detected above the detection limit

S-04 The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported on a wet weight basis.

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

Origins Laboratory, Inc.



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