

TABLE 1
SOIL SAMPLE FIELD DATA SUMMARY TABLE
GNB W 31-3 WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Soil Sample Location	Date	Depth (ft. bgs)	PID Reading (ppm)	Visual Observation	Olfactory Observation	Latitude	Longitude	Submitted for Lab Analysis? (Y/N)
WELLHEAD EXCAVATION SAMPLES								
N Wall	2/22/2024	3	0.0	NS	NO	40.100187	-104.822868	N
E Wall	2/22/2024	3	0.0	NS	NO	40.100164	-104.822852	N
S Wall	2/22/2024	3	0.0	NS	NO	40.10015	-104.822882	N
W Wall	2/22/2024	3	0.0	NS	NO	40.100173	-104.822917	N
WH01-RISER @3'	2/22/2024	3	0.3	NS	NO	40.100161	-104.822884	Y
	3/18/2024		0.6	NS	NO	40.100161	-104.822884	Y
B01 @6'	2/22/2024	6	3.0	NS	NO	40.100171	-104.822891	Y
FS01	2/22/2024	0.5	0.0	NS	NO	40.100315	-104.822897	N
FS02	2/22/2024	0.5	0.0	NS	NO	40.10015	-104.822746	N
FS03	2/22/2024	0.5	0.0	NS	NO	40.100092	-104.822913	N
FS04	2/22/2024	0.5	0.0	NS	NO	40.100172	-104.822978	N
N01 @3'	4/15/2024	3	1.8	NS	NO	40.100192	-104.822884	Y
S01 @3'	4/15/2024	3	4.0	NS	NO	40.100151	-104.822883	Y
E01 @3'	4/15/2024	3	2.0	NS	NO	40.100178	-104.822857	Y
W01 @3'	4/15/2024	3	1.7	NS	NO	40.100169	-104.822921	Y
FLOWLINE POTHOLE SAMPLES								
FL01 @4'	2/27/2024	4	0.4	NS	NO	40.098463	-104.825896	Y
FL02 @4'	2/27/2024	4	0.5	NS	NO	40.098603	-104.825589	Y
PH03	2/27/2024	4	0.1	NS	NO	40.099491	-104.825238	N
PH04	2/27/2024	4	0.2	NS	NO	40.099811	-104.825209	N
PH05	2/27/2024	4	0.1	NS	NO	40.09998	-104.825027	N
PH06	2/27/2024	4	1.2	NS	NO	40.100013	-104.824105	N
PH07	2/27/2024	5	1.0	NS	NO	40.100022	-104.823404	N
SEPARATOR RISER SAMPLES								
SEP01-RISER @4'(31-3)	3/1/2024	4	2.0	NS	NO	40.09854100	-104.82606	Y
BACKGROUND SOIL SAMPLES								
NATIVE-BG01 @3'	2/22/2024	3	0.0	NS	NO	40.100212	-104.822625	Y
NATIVE-BG01 @6'	2/22/2024	6	0.0	NS	NO	40.100212	-104.822625	Y
NATIVE-BG02 @3'	2/22/2024	3	0.0	NS	NO	40.100169	-104.822785	Y
NATIVE-BG02 @6'	2/22/2024	6	0.0	NS	NO	40.100169	-104.822785	Y
NATIVE-BG03 @3'	2/22/2024	3	0.0	NS	NO	40.099941	-104.822818	Y
NATIVE-BG03 @6'	2/22/2024	6	0.0	NS	NO	40.099941	-104.822818	Y
NATIVE-BG04 @3'	2/22/2024	3	0.0	NS	NO	40.100047	-104.822838	Y
NATIVE-BG04 @6'	2/22/2024	6	0.0	NS	NO	40.100047	-104.822838	Y
NATIVE-BG05 @3'	2/22/2024	3	0.0	NS	NO	40.10008	-104.822984	Y

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WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Soil Sample Location	Date	Depth (ft. bgs)	PID Reading (ppm)	Visual Observation	Olfactory Observation	Latitude	Longitude	Submitted for Lab Analysis? (Y/N)
BACKGROUND SOIL SAMPLES								
NATIVE-BG05@6'	2/22/2024	6	0.0	NS	NO	40.10008	-104.822984	Y
NATIVE-BG06@3'	2/22/2024	3	0.0	NS	NO	40.099999	-104.823153	Y
NATIVE-BG06@6'	2/22/2024	6	0.0	NS	NO	40.099999	-104.823153	Y

Notes:

ft. - feet

bgs - below ground surface

PID - Photoionization detector

ppm - parts per million

NS - No Staining

NO - No Odor

NA - Not Analyzed/Not Applicable

TABLE 2-1
SOIL SAMPLE ANALYTICAL RESULTS
VOLATILE ORGANIC COMPOUNDS AND TOTAL PETROLEUM HYDROCARBONS
GNB W 31-3 WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Soil Sample ID	Date	Depth (ft. bgs)	TPH-GRO ⁺ (mg/kg)	TPH-DRO ⁺ (mg/kg)	TPH-RRO ⁺ (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4- Trimethyl benzene (mg/kg)	1,3,5- Trimethyl benzene (mg/kg)	Naphthalene (mg/kg)
ECMC Table 915-1 Cleanup Concentrations (PGSSL)			500			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038
WELLHEAD EXCAVATION SAMPLES												
WH01-RISER@3'	2/22/2024	3	<0.200	<25.0	<100	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002
	3/18/2024		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B01@6'	2/22/2024	6	<0.200	<25.0	<100	<0.00200	<0.00200	<0.00200	<0.00200	0.00364	<0.00200	<0.002
N01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FLOWLINE POTHOLE SAMPLES												
FL01@4'	2/27/2024	4	<0.200	<25.0	<100	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002
FL02@4'	2/27/2024	4	<0.200	<25.0	<100	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002
SEPARATOR RISER SAMPLES												
SEP01-RISER@4'(31-3)	3/1/2024	4	<0.200	<25.0	<100	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.00200	<0.002

Notes:

ECMC - Energy and Carbon Management Commission
PGSSL - Protection of Groundwater Soil Screening Level Concentrations
TPH - total petroleum hydrocarbons
GRO - gasoline range organics
DRO - diesel range organics
RRO - residual range organics
⁺Allowable level for TPH is 500 mg/kg for combined GRO, DRO, ORO

ft - feet
bgs - below ground surface
mg/kg - milligrams per kilogram
< - less than laboratory reporting limit
NA - Not Analyzed/Not Applicable
Bold - exceeds ECMC Table 915-1 allowable level and background

TABLE 2-2
SOIL SAMPLE ANALYTICAL RESULTS
POLYCYCLIC AROMATIC HYDROCARBONS
GNB W 31-3 WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Soil Sample ID	Date	Depth (ft. bgs)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) anthracene (mg/kg)	Benzo (b) fluoranthene (mg/kg)	Benzo (k) fluoranthene (mg/kg)	Benzo (a) pyrene (mg/kg)	Chrysene (mg/kg)	Dibenz (a,h) anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)	1-Methyl naphthalene (mg/kg)	2-Methyl naphthalene (mg/kg)	Pyrene (mg/kg)
ECMC Table 915-1 Cleanup Concentrations (PGSSL)			0.55	5.8	0.011	0.3	2.9	0.24	9	0.096	8.9	0.54	0.98	0.006	0.019	1.3
WELLHEAD EXCAVATION SAMPLES																
WH01-RISER@3'	2/22/2024	3	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002	<0.020
	3/18/2024		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
B01@6'	2/22/2024	6	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002	<0.020
N01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
E01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
W01@3'	4/15/2024	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
FLOWLINE POTHOLE SAMPLES																
FL01@4'	2/27/2024	4	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002	<0.020
FL02@4'	2/27/2024	4	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002	<0.020
SEPARATOR RISER SAMPLES																
SEP01-RISER@4'(31-3)	3/1/2024	4	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.002	<0.002	<0.020

Notes:
ECMC - Energy and Carbon Management Commission
PGSSL - Protection of Groundwater Soil Screening Level Concentrations
ft - feet
bgs - below ground surface
mg/kg - milligrams per kilogram
< - less than laboratory reporting limit
NA - Not Analyzed/Not Applicable
Bold - exceeds ECMC Table 915-1 allowable level and background

TABLE 2-3
SOIL SAMPLE ANALYTICAL RESULTS
SOIL SUITABILITY FOR RECLAMATION
GNB W 31-3 WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Soil Sample ID	Date	Depth (ft. bgs)	EC (mmhos/cm)	SAR	pH	Boron (mg/L)
ECMC Table 915-1 Cleanup Concentrations			4	6	6-8.3	2
Site-Specific Background Limits			1.54	4.06	8.39	0.51
WELLHEAD EXCAVATION SAMPLES						
WH01-RISER@3'	2/22/2024	3	0.636	2.88	8.37*	0.527
	3/18/2024		NA	NA	NA	NA
B01@6'	2/22/2024	6	0.449	2.37	8.29	0.155
N01@3'	4/15/2024	3	NA	NA	7.86	<0.990
S01@3'	4/15/2024	3	NA	NA	7.91	<0.999
E01@3'	4/15/2024	3	NA	NA	8.43	<0.998
W01@3'	4/15/2024	3	NA	NA	8.21	<0.982
FLOWLINE POTHOLE SAMPLES						
FL01@4'	2/27/2024	4	0.345	3.21	8.09	0.136
FL02@4'	2/27/2024	4	0.335	2.17	7.99	<0.0997
SEPARATOR RISER SAMPLES						
SEP01-RISER@4'(31-3)	3/1/2024	4	0.407	0.796	8.30	0.534
BACKGROUND SAMPLES						
Native-BG01@3'	2/22/2024	3	0.349	3.82	7.89	0.183
Native-BG01@6'	2/22/2024	6	0.429	3.88	7.98	0.201
Native-BG02@3'	2/22/2024	3	0.473	3.40	7.82	0.467
Native-BG02@6'	2/22/2024	6	0.166	2.58	7.80	<0.101
Native-BG03@3'	2/22/2024	3	1.54	3.40	8.00	<0.0998
Native-BG03@6'	2/22/2024	6	0.452	3.16	7.94	0.156
Native-BG04@3'	2/22/2024	3	<0.00500	3.74	7.67	0.510
Native-BG04@6'	2/22/2024	6	1.12	4.06	8.39	<1.01
Native-BG05@3'	2/22/2024	3	0.355	2.98	8.30	0.459
Native-BG05@6'	2/22/2024	6	0.311	2.72	7.85	<0.0993
Native-BG06@3'	2/22/2024	3	0.972	3.07	7.90	<0.994
Native-BG06@6'	2/22/2024	6	0.513	2.94	7.94	<0.101

Notes:

ECMC - Energy and Carbon Management Commission

EC - electrical conductivity

SAR - sodium adsorption ratio

< - less than laboratory reporting limit

NA - Not Analyzed/Not Applicable

Bold - exceeds ECMC Table 915-1 allowable level and background

*Exceeds Table 915-1 allowable level but within background

If site-specific backgrounds are less than cleanup concentrations, then cleanup concentration values will be applied.

ft - feet

bgs - below ground surface

mmhos/cm - millimhos per centimeter

mg/L - milligrams per liter

TABLE 2-4
SOIL SAMPLE ANALYTICAL RESULTS
METALS
GNB W 31-3 WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Soil Sample ID	Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Cleanup Concentrations (PGSSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
Site-Specific Background Limits			6.09	230	0.444	NA	24.4	30.3	16	0.453	0.318	104
WELLHEAD EXCAVATION SAMPLES												
WH01-RISER@3'	2/22/2024	3	2.66*	71.4	0.306	<2.51	20.0	45.1	5.55	<0.236	0.156	73.9
	3/18/2024		NA	NA	NA	NA	NA	45.4	NA	NA	NA	NA
B01@6'	2/22/2024	6	0.725*	23.3	<0.0986	<0.5	<9.86	8.20	1.71	<0.256	<0.0986	<36.5
N01@3'	4/15/2024	3	3.25*	249	0.135	NA	14.5	12.8	11.3	NA	<0.0981	80.6
S01@3'	4/15/2024	3	4.55*	98.9*	0.291	NA	27.7	61.8	6.71	NA	0.393	76.6
E01@3'	4/15/2024	3	2.81*	141*	0.144	NA	<9.50	14.0	7.38	NA	<0.0950	52.4
W01@3'	4/15/2024	3	2.33*	140*	0.119	NA	10.9	10.1	8.28	NA	<0.0874	55.7
FLOWLINE POTHOLE SAMPLES												
FL01@4'	2/27/2024	4	2.90*	3.1	0.152	<0.5	<8.49	7.76	3.65	<0.221	<0.0849	<31.4
FL02@4'	2/27/2024	4	1.22*	13.5	<0.0842	<0.5	<8.42	2.23	1.36	<0.219	<0.0842	<31.2
SEPARATOR RISER SAMPLES												
SEP01-RISER@4'(31-3)	3/1/2024	4	3.00*	126*	0.274	<2.5	10.1	10.1	7.01	0.343*	<0.0947	44.1
BACKGROUND SAMPLES												
Native-BG01@3'	2/22/2024	3	1.62	50.1	<0.0946	<0.5	<9.46	4.69	3.42	<0.246	<0.0946	<35.0
Native-BG01@6'	2/22/2024	6	2.48	67.7	0.135	<0.5	<9.26	9.10	5.56	<0.241	<0.0926	35.6
Native-BG02@3'	2/22/2024	3	3.75	143	0.117	<0.5	13.0	11.3	9.44	<0.235	<0.0905	60.9
Native-BG02@6'	2/22/2024	6	1.68	42.1	0.112	<0.5	<9.37	6.42	4.29	<0.244	<0.0937	<34.7
Native-BG03@3'	2/22/2024	3	5.40	225	0.216	<2.5	16.4	15.9	13.4	0.396	0.0931	104
Native-BG03@6'	2/22/2024	6	4.13	67.1	0.0920	<1	<9.11	7.13	5.33	0.142	<0.0911	44.3
Native-BG04@3'	2/22/2024	3	6.09	215	0.197	<2.53	14.5	14.9	12.6	0.319	<0.0966	87.9
Native-BG04@6'	2/22/2024	6	3.09	100	0.163	<0.5	<9.52	9.86	8.12	0.453	<0.0952	61.4
Native-BG05@3'	2/22/2024	3	5.36	111	0.444	<0.5	24.4	30.3	7.72	0.232	0.318	94.6
Native-BG05@6'	2/22/2024	6	1.10	35.4	<0.0914	<0.5	<9.14	3.53	2.14	<0.0914	<0.0914	34.6
Native-BG06@3'	2/22/2024	3	5.36	230	0.367	<1	12.5	12.5	16.0	0.237	<0.0921	96.0
Native-BG06@6'	2/22/2024	6	1.26	31.5	<0.0901	<0.5	<9.01	3.44	2.08	<0.0901	<0.0901	<33.3

Notes:

ECMC - Energy and Carbon Management Commission

PGSSL - Protection of Groundwater Soil Screening Level Concentrations

ft - feet

bgs - below ground surface

mg/kg - milligrams per kilogram

< - less than laboratory reporting limit

NA - Not Analyzed/Not Applicable

Bold - exceeds ECMC Table 915-1 allowable level and background

*Exceeds Table 915-1 allowable level but within background

If site-specific backgrounds are less than cleanup concentrations, then cleanup concentration values will be applied.

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
GNB W 31-3 WELLHEAD
WELD COUNTY, COLORADO
KERR-MCGEE OIL AND GAS ONSHORE, LP

Well Name	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4- trimethylbenzene (µg/L)	1,3,5- trimethylbenzene (µg/L)	Total Dissolved Solids (ug/L)	Chloride Ion (ug/L)	Sulfate Ion (ug/L)	Depth to Water/ (Product Thickness) (ft bgs)
ECMC Allowable Levels		5	560	700	1400	140	67	67	NA	250,000	250,000	
GW01	2/22/2024	<1.00	8.95	2.26	19.8	<2.00	4.61	<2.00	NA	NA	NA	6.0

Notes: ECMC - Energy and Carbon Management Commission
 ft bgs - feet below ground surface
 NA - not analyzed/not available
BOLD = Analytical result is in exceedance of ECMC Table 915-1 groundwater standards.

µg/L - micrograms per liter
 < - less than laboratory reporting limit
 Excavation groundwater depth is approximate



April 23, 2024

Ensolum

Jeremy Espinoza

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Project Name - KMG - GNB W 31-3 WH

Project Number - 09A1417646

Attached are your analytical results for KMG - GNB W 31-3 WH received by Origins Laboratory, Inc. April 15, 2024. This project is associated with Origins project number Y404398-01.

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.
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Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: O9A1417646

Project: KMG - GNB W 31-3 WH

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
N01@3'	Y404398-01	Soil	April 15, 2024 9:30	04/15/2024 15:17
S01@3'	Y404398-02	Soil	April 15, 2024 9:35	04/15/2024 15:17
E01@3'	Y404398-03	Soil	April 15, 2024 9:40	04/15/2024 15:17
W01@3'	Y404398-04	Soil	April 15, 2024 9:45	04/15/2024 15:17

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.

Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: 09A1417646

Project: KMG - GNB W 31-3 WH

ORIGINS

LABORATORY LLC

Client:

Address:

Ensolum

Project Manager:

J. Espinoza

Project Name:

GNB 31-3 wellhead

Project Number:

09A1417646

Collected By:

HK

Invoice Billing Info:

HK

S=Soil | SO=Solid | O=Oil | A=Air | G=Gas || UNP=Unpres | HCL= Hydrochloric | HNO3=Nitric | H2SO4=Sulfuric | NaOH=Sodium Hydroxide

L=Liquid

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IMPACTED

Key:

W= Water

GW=Groundwater

SW=Surface Water

WW=Waste Water

#	Sample ID	Date Sampled	Time Sampled	# of Containers	Matrix	Preservative	Analysis										Comments
							C	B	H	A	S	P	N	Z	Ag	N	
1	NO1e3'	4/15/24	0930	3	Soil	unp	X	X	X	X	X	X	X	X	X	X	
2	SO1e3'		0935	3			X	X	X	X	X	X	X	X	X	X	
3	EO1e3'		0940	3			X	X	X	X	X	X	X	X	X	X	
4	WO1e3'		0945	3			X	X	X	X	X	X	X	X	X	X	
5																	
6																	
7																	
8																	
9																	
10																	

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
	4/15/24	1517		4/15/24	1517
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

1725 Elk Place Denver, Co. 80211 | # 303.433.1322 | originslab.com

For Lab Sample Receiving Only:

Temp Received-

Received On Ice?

Yes ☒ No ☐

Standard ☐

48 Hr ☐ 72 Hr ☐

SAME DAY ☒ 24 Hr ☐

Turnaround Time

Origins Laboratory, Inc.

J. Bynon

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Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: O9A1417646

Project: KMG - GNB W 31-3 WH

Origins Laboratory

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

Sample Receipt Checklist

Origins Work Order: 4404398

Client: Ensolum

Client Project ID: GNB 31-3 WH

Checklist Completed by: JEM

Shipped Via: TD

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

Date/time completed: 4/15/24

Airbill #: N/A

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

Cooler Number/Temperature: 118 °C 1 °C 1 °C (Describe) _____ °C

Thermometer ID: 7005

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"/>		<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) JEM

4/15/24
Date/Time Reviewed

Origins Laboratory, Inc.

J. Bynon

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Ensolum
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

N01@3'

4/15/2024 9:30:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y404398-01 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.990	mg/L	10	B4D1603	ACC	04/16/2024	04/17/2024
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pH in Soil by 9045D

pH	7.86		pH Units	1	B4D1609	EAL	04/16/2024	04/17/2024
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Table 915 metals by EPA 6020B

Arsenic	3.25	0.284	mg/kg	10	B4D1520	HJD	04/15/2024	04/16/2024
Barium	249	9.81	"	"	"	HJD	"	"
Cadmium	0.135	0.0981	"	"	"	HJD	"	"
Copper	14.5	9.81	"	"	"	HJD	"	"
Lead	12.8	0.981	"	"	"	HJD	"	"
Nickel	11.3	0.981	"	"	"	HJD	"	"
Silver	ND	0.0981	"	"	"	HJD	"	"
Zinc	80.6	36.3	"	"	"	HJD	"	"

Origins Laboratory, Inc.



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Ensolum
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

S01@3'

4/15/2024 9:35:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y404398-02 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.999	mg/L	10	B4D1603	ACC	04/16/2024	04/17/2024
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pH in Soil by 9045D

pH	7.91		pH Units	1	B4D1609	EAL	04/16/2024	04/17/2024
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Table 915 metals by EPA 6020B

Arsenic	4.55	0.278	mg/kg	10	B4D1520	HJD	04/15/2024	04/16/2024
Barium	98.9	9.58	"	"	"	HJD	"	"
Cadmium	0.291	0.0958	"	"	"	HJD	"	"
Copper	27.7	9.58	"	"	"	HJD	"	"
Lead	61.8	0.958	"	"	"	HJD	"	"
Nickel	6.71	0.958	"	"	"	HJD	"	"
Silver	0.393	0.0958	"	"	"	HJD	"	"
Zinc	76.6	35.4	"	"	"	HJD	"	"

Origins Laboratory, Inc.



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Ensolum
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

E01@3'

4/15/2024 9:40:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y404398-03 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.998	mg/L	10	B4D1603	ACC	04/16/2024	04/17/2024
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pH in Soil by 9045D

pH	8.43		pH Units	1	B4D1609	EAL	04/16/2024	04/17/2024
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Table 915 metals by EPA 6020B

Arsenic	2.81	0.276	mg/kg	10	B4D1520	HJD	04/15/2024	04/16/2024
Barium	141	9.50	"	"	"	HJD	"	"
Cadmium	0.144	0.0950	"	"	"	HJD	"	"
Copper	ND	9.50	"	"	"	HJD	"	"
Lead	14.0	0.950	"	"	"	HJD	"	"
Nickel	7.38	0.950	"	"	"	HJD	"	"
Silver	ND	0.0950	"	"	"	HJD	"	"
Zinc	52.4	35.2	"	"	"	HJD	"	"

Origins Laboratory, Inc.



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Ensolum
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

W01@3'

4/15/2024 9:45:00AM

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Analyst	Prepared	Analyzed	Notes
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Origins Laboratory, Inc.
Y404398-04 (Soil)

Boron (DTPA Sorbitol)

Boron	ND	0.982	mg/L	10	B4D1603	ACC	04/16/2024	04/17/2024
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pH in Soil by 9045D

pH	8.21		pH Units	1	B4D1609	EAL	04/16/2024	04/17/2024
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Table 915 metals by EPA 6020B

Arsenic	2.33	0.254	mg/kg	10	B4D1520	HJD	04/15/2024	04/16/2024
Barium	140	8.74	"	"	"	HJD	"	"
Cadmium	0.119	0.0874	"	"	"	HJD	"	"
Copper	10.9	8.74	"	"	"	HJD	"	"
Lead	10.1	0.874	"	"	"	HJD	"	"
Nickel	8.28	0.874	"	"	"	HJD	"	"
Silver	ND	0.0874	"	"	"	HJD	"	"
Zinc	55.7	32.3	"	"	"	HJD	"	"

Origins Laboratory, Inc.



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Ensolum
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

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 B4D1520 - EPA 3050B

Blank (B4D1520-BLK1)

Prepared: 04/15/2024 Analyzed: 04/16/2024

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	"
Silver	ND	0.100	"
Zinc	ND	37.0	"

LCS (B4D1520-BS1)

Prepared: 04/15/2024 Analyzed: 04/16/2024

Arsenic	5.32	0.290	mg/kg	5.00	106	80-120
Barium	536	10.0	"	500	107	80-120
Cadmium	5.25	0.100	"	5.00	105	80-120
Copper	55.3	10.0	"	50.0	111	80-120
Lead	5.33	1.00	"	5.00	107	80-120
Nickel	5.72	1.00	"	5.00	114	80-120
Silver	5.26	0.100	"	5.00	105	80-120
Zinc	54.0	37.0	"	50.0	108	80-120

Matrix Spike (B4D1520-MS1)

Source: Y404410-01

Prepared: 04/15/2024 Analyzed: 04/16/2024

Arsenic	6.02	0.243	mg/kg	4.19	2.03	95.4	75-125
Barium	482	8.37	"	419	45.6	104	75-125
Cadmium	4.46	0.0837	"	4.19	0.112	104	75-125
Copper	51.5	8.37	"	41.9	8.25	103	75-125
Lead	10.1	0.837	"	4.19	6.23	93.3	75-125
Nickel	10.5	0.837	"	4.19	8.04	58.8	75-125
Silver	4.37	0.0837	"	4.19	0.0740	103	75-125

QM-07

Origins Laboratory, Inc.



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Ensolum
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

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 B4D1520 - EPA 3050B										
Matrix Spike (B4D1520-MS1)		Source: Y404410-01			Prepared: 04/15/2024 Analyzed: 04/16/2024					
Zinc	67.4	31.0	mg/kg	41.9	27.5	95.3	75-125			
Matrix Spike Dup (B4D1520-MSD1)		Source: Y404410-01			Prepared: 04/15/2024 Analyzed: 04/16/2024					
Arsenic	7.16	0.269	mg/kg	4.64	2.03	111	75-125	17.3	20	
Barium	572	9.27	"	464	45.6	114	75-125	17.2	20	
Cadmium	5.35	0.0927	"	4.64	0.112	113	75-125	18.3	20	
Copper	61.1	9.27	"	46.4	8.25	114	75-125	17.0	20	
Lead	11.6	0.927	"	4.64	6.23	116	75-125	13.7	20	
Nickel	12.3	0.927	"	4.64	8.04	91.3	75-125	15.5	20	
Silver	5.28	0.0927	"	4.64	0.0740	112	75-125	18.7	20	
Zinc	80.6	34.3	"	46.4	27.5	115	75-125	17.8	20	

Origins Laboratory, Inc.



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Ensolum
11049 W 44th Avenue, Suite 103
Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

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 B4D1603 - DTPA Sorbitol Preparation										
Blank (B4D1603-BLK1)					Prepared: 04/16/2024 Analyzed: 04/17/2024					
Boron	ND	0.100	mg/L							
Duplicate (B4D1603-DUP1)					Source: Y404398-01 Prepared: 04/16/2024 Analyzed: 04/17/2024					
Boron	ND	0.989	mg/L		ND				50	

Origins Laboratory, Inc.



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Ensolum
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Wheat Ridge CO 80033

Jeremy Espinoza
Project Number: O9A1417646
Project: KMG - GNB W 31-3 WH

Saturated Paste - 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 B4D1609 - Saturated Paste pH/EC

Duplicate (B4D1609-DUP1)		Source: Y404398-01			Prepared: 04/16/2024 Analyzed: 04/17/2024					
pH	7.84		pH Units		7.86			0.255	25	

Origins Laboratory, Inc.



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Ensolum

11049 W 44th Avenue, Suite 103

Wheat Ridge CO 80033

Jeremy Espinoza

Project Number: O9A1417646

Project: KMG - GNB W 31-3 WH

Notes and Definitions

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

ND Analyte NOT DETECTED at or above the reporting limit

RPD Relative Percent Difference

All soil results are reported at a wet weight basis.

Origins Laboratory, Inc.



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