

# Summit Scientific

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4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 16, 2025

Andy Sagen

Tasman Geosciences

4725 Independence St.

Wheat Ridge, CO 80033

RE: Noble - Thistle Down B31-20D Tank Battery

Work Order #2504165

Enclosed are the results of analyses for samples received by Summit Scientific on 04/08/25 18:08. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury

President

**Please Note - Out-of-Hold Results Included:**

The 8260B GBTEXN 915 analyses were analyzed outside of allotted holding times due to delays at Summit Scientific.



Tasman Geosciences  
 4725 Independence St.  
 Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
 Project Manager: Andy Sagen

**Reported:**  
 06/16/25 11:08

**ANALYTICAL REPORT FOR SAMPLES**

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV02-W@2.5'	2504165-02	Soil	04/08/25 12:55	04/08/25 18:08
PWV03-B@4'	2504165-03	Soil	04/08/25 13:00	04/08/25 18:08
PWV03-S@2.5'	2504165-06	Soil	04/08/25 13:11	04/08/25 18:08
PWV04-B@4'	2504165-08	Soil	04/08/25 13:16	04/08/25 18:08
PWV04-N@2.5'	2504165-09	Soil	04/08/25 13:19	04/08/25 18:08
PWV05-B@4'	2504165-13	Soil	04/08/25 13:26	04/08/25 18:08
AST01@0-6"	2504165-16	Soil	04/08/25 10:30	04/08/25 18:08
AST02@0-6"	2504165-17	Soil	04/08/25 10:32	04/08/25 18:08
AST03@0-6"	2504165-18	Soil	04/08/25 10:34	04/08/25 18:08
AST04@0-6"	2504165-19	Soil	04/08/25 10:36	04/08/25 18:08
AST05@0-6"	2504165-20	Soil	04/08/25 10:38	04/08/25 18:08
AST06@0-6"	2504165-21	Soil	04/08/25 10:40	04/08/25 18:08
PWV01-B@4'	2504165-22	Soil	04/08/25 12:39	04/08/25 18:08
PWV01-N@2.5'	2504165-23	Soil	04/08/25 12:44	04/08/25 18:08
PWV02-B@4'	2504165-27	Soil	04/08/25 12:46	04/08/25 18:08
PWV05-S@2.5'	2504165-30	Soil	04/08/25 13:30	04/08/25 18:08
PWV06-B@4'	2504165-31	Soil	04/08/25 13:32	04/08/25 18:08
PWV06-N@2.5'	2504165-32	Soil	04/08/25 13:36	04/08/25 18:08
PWV07-B@4'	2504165-34	Soil	04/08/25 13:35	04/08/25 18:08
PWV07-N@2.5'	2504165-35	Soil	04/08/25 13:42	04/08/25 18:08
AST07@0-6"	2504165-38	Soil	04/08/25 10:42	04/08/25 18:08

**Case Narrative**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

The 8260B GBTEXN 915 analyses were completed outside of allotted holding times due to delays at Summit Scientific.

		<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: Noble Energy Inc.		Project Manager: Andy Sagen	Company: Noble Energy Inc.
Address: 4725 Independence St.		E-Mail: Tas-chevron-1@tasman-geo.com	Project Name/Location: Thistle Down B 31-20D TB
City/State/Zip: Wheatridge/CO/ 80033		RBUEUF27@chevron.com	AFE#: UWRWE-AS050-AES
Phone: (972) 834 - 6036		Project Name: Thistle Down B 31-20D TB	PO/Billing Codes:
Sampler Name: Jess O'Neal		Project Number:	Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested							Special Instructions
					HCl	HNO3	None	Other	Water	Soil			Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS	HOLD	
1	PWV02-SE2.5'	4/8/25	1250	2			X			X		X	X	X	X	X	X	X		
2	PWV02-W@2.5'		1255																	
3	PWV03-B@4'		1300																	
4	PWV03-N@2.5'		1303																	
5	PWV03-E@2.5'		1307																X	
6	PWV03-SE2.5'		1311																X	
7	PWV03-W@2.5'		1313																X	
8	PWV04-B@4'		1316																	
9	PWV04-N@2.5'		1319																	
10	PWV04-E@2.5'		1321																X	
11	PWV04-SE2.5'		1323																X	
12	PWV04-W@2.5'		1325																X	
13	PWV05-B@4'		1326																	
14	PWV05-N@2.5'		1328																X	
15	PWV05-E@2.5'		1329																X	

Relinquished by: Jess O'Neal	Date/Time: 4/8/25 4:31pm	Received by: Tasman Lock Box	Date/Time: 4/8/25 9:31pm	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lock Box	Date/Time: 4/8/25 1808	Received by: [Signature]	Date/Time: 4/8/25 1808	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb. <input checked="" type="checkbox"/>	
Temperature Upon Receipt: 20	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:			

		<b>Send Data To:</b>	<b>Send Invoice To:</b>
Client: Noble Energy Inc.	Project Manager: Andy Sagen		Company: Noble Energy Inc.
Address: 4725 Independence St.	E-Mail: Tas-chevron-1@tasman-geo.com		Project Name/Location: Thistle Down B 31-20D TB
City/State/Zip: Wheatridge/CO/ 80033	RBUEUF27@chevron.com		AFE#: UWRWE-ASOSO-AES
Phone: (972) 834 - 6036	Project Name: Thistle Down B 31-20D TB		PO/Billing Codes:
Sampler Name: Jess O'Neal	Project Number:		Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH	Boron - HWS		HOLD	
1	AST01E0-6"	4/18/25	10:30	2			X			X			X	X	X	X	X	X		SAR, EC, pH by saturated paste	
2	AST02E0-6"		10:32																		
3	AST03E0-6"		10:34																		
4	AST04E0-6"		10:36																		
5	AST05E0-6"		10:38																		
6	AST06E0-6"		10:40																		
7	PWV01E50		123950																		
8	PWV01-B@4'		1239																		
9	PWV01-N@2.5'		1244																		
10	PWV01-E@2.5'		1243																		X
11	PWV01-S@2.5'		1242																		X
12	PWV01-W@2.5'		1240																		X
13	PWV02-B@4'		1246																		
14	PWV02-N@2.5'		1247																		X
15	PWV02-E@2.5'		1248																		X

Relinquished by: Jess O'Neal	Date/Time: 4/18/25 9:31pm	Received by: Tasman Lock Box	Date/Time: 4/18/25 4:31pm	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>Tasman Lock Box</i>	Date/Time: 4/25 1:55	Received by: <i>[Signature]</i>	Date/Time: 4/25 1:08	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 2.0	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:			







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Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV02-W@2.5'**  
**2504165-02 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0463	116 %	50-150		"	"	"	"	I-02
Surrogate: Toluene-d8	0.0394	98.5 %	50-150		"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150		"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/23/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.2	97.9 %	50-140		"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV02-W@2.5'**  
**2504165-02 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0823	04/15/25	05/17/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0160	48.0 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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4725 Independence St.  
Wheat Ridge CO, 80033

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Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV02-W@2.5'**  
**2504165-02 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.73	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B
Barium	52.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.15	0.400	"	"	"	"	"	"
Lead	4.69	0.200	"	"	"	"	"	"
Nickel	5.80	0.400	"	"	"	"	"	"
Silver	0.0229	0.0200	"	"	"	"	"	"
Zinc	23.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	321	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	9.60	0.0500	"	"	"	"	"	"	
Sodium	1.12	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0168	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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**Reported:**  
06/16/25 11:08

**PWV02-W@2.5'**  
**2504165-02 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>88.9</b>		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.125</b>	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.26</b>		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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**Reported:**  
06/16/25 11:08

**PWV03-B@4'**  
**2504165-03 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0475	119 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0393	98.2 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0406	102 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.26	74.1 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV03-B@4'**  
**2504165-03 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0823	04/15/25	05/17/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0132	39.5 %	40-140		"	"	"	"	S-09
Surrogate: Fluoranthene-d10	0.0138	41.5 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV03-B@4'**  
**2504165-03 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.78	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B
Barium	53.0	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.90	0.400	"	"	"	"	"	"
Lead	5.01	0.200	"	"	"	"	"	"
Nickel	5.69	0.400	"	"	"	"	"	"
Silver	0.0291	0.0200	"	"	"	"	"	"
Zinc	20.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	275	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	8.37	0.0500	"	"	"	"	"	"	
Sodium	3.27	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0530	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV03-B@4'**  
**2504165-03 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.9		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.164	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.34		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV03-S@2.5'**  
**2504165-06 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0460	115 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0392	98.1 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0399	99.8 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.88	63.0 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV03-S@2.5'**  
**2504165-06 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0823	04/15/25	05/17/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0121	36.2 %	40-140		"	"	"	"	S-09
Surrogate: Fluoranthene-d10	0.0131	39.2 %	40-140		"	"	"	"	S-09

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV03-S@2.5'**  
**2504165-06 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.45	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	56.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	7.27	0.400	"	"	"	"	"	"	
Lead	5.25	0.200	"	"	"	"	"	"	
Nickel	5.68	0.400	"	"	"	"	"	"	
Silver	0.0201	0.0200	"	"	"	"	"	"	
Zinc	20.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	280	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	10.5	0.0500	"	"	"	"	"	"	
Sodium	0.974	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0156	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV03-S@2.5'**  
**2504165-06 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.6		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0637	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.96		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-B@4'**  
**2504165-08 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0455	114 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0395	98.8 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0405	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.49	67.9 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-B@4'**  
**2504165-08 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0236	70.7 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0260	78.1 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-B@4'**  
**2504165-08 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.65	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	51.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	7.06	0.400	"	"	"	"	"	"	
Lead	5.84	0.200	"	"	"	"	"	"	
Nickel	5.53	0.400	"	"	"	"	"	"	
Silver	0.0222	0.0200	"	"	"	"	"	"	
Zinc	19.6	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	359	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	8.59	0.0500	"	"	"	"	"	"	
Sodium	0.930	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0133	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-B@4'**  
**2504165-08 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>90.3</b>		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.130</b>	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.52</b>		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-N@2.5'**  
**2504165-09 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0451	113 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0395	98.8 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.02	72.2 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-N@2.5'**  
**2504165-09 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0267	80.2 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0279	83.8 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-N@2.5'**  
**2504165-09 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.38	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	53.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.48	0.400	"	"	"	"	"	"	
Lead	5.07	0.200	"	"	"	"	"	"	
Nickel	5.19	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	19.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	310	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	8.13	0.0500	"	"	"	"	"	"	
Sodium	1.48	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0227	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV04-N@2.5'**  
**2504165-09 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0527	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:19**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.13		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-B@4'**  
**2504165-13 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0451	113 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.5	84.1 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-B@4'**  
**2504165-13 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0233	69.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0168	50.3 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-B@4'**  
**2504165-13 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.51	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	40.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.99	0.400	"	"	"	"	"	"	
Lead	3.42	0.200	"	"	"	"	"	"	
Nickel	4.10	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	13.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1210	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	8.38	0.0500	"	"	"	"	"	"	
Sodium	37.1	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.292	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-B@4'**  
**2504165-13 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	111		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.210	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.28		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST01@0-6"**  
**2504165-16 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0447	112 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0392	98.1 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0398	99.6 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.6	101 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST01@0-6"**  
**2504165-16 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0223	66.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0146	43.7 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST01@0-6"**  
**2504165-16 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.60	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	41.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	6.68	0.400	"	"	"	"	"	"	
Lead	4.52	0.200	"	"	"	"	"	"	
Nickel	4.43	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	19.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	742	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	247	0.0500	"	"	"	"	"	"	
Sodium	39.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.323	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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4725 Independence St.  
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Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST01@0-6"**  
**2504165-16 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.4		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	9.16	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.31		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST02@0-6"**  
**2504165-17 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0456	114 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0397	99.2 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.7	85.4 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST02@0-6"**  
**2504165-17 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0233	69.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0190	57.1 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST02@0-6"**  
**2504165-17 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.79	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	43.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	6.36	0.400	"	"	"	"	"	"	
Lead	3.59	0.200	"	"	"	"	"	"	
Nickel	4.45	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	15.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	894	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	318	0.0500	"	"	"	"	"	"	
Sodium	197	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.44	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Wheat Ridge CO, 80033

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Project Number: UWRWE-A5050-AES  
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**Reported:**  
06/16/25 11:08

**AST02@0-6"**  
**2504165-17 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.3		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	10.1	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.82		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST03@0-6"**  
**2504165-18 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0453	113 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0395	98.8 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0402	100 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.5	100 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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**Reported:**  
06/16/25 11:08

**AST03@0-6"**  
**2504165-18 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0198	59.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0160	48.0 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Wheat Ridge CO, 80033

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Project Number: UWRWE-A5050-AES  
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**Reported:**  
06/16/25 11:08

**AST03@0-6"**  
**2504165-18 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.23	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	27.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	7.09	0.400	"	"	"	"	"	"	
Lead	2.46	0.200	"	"	"	"	"	"	
Nickel	4.79	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	12.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	264	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	97.1	0.0500	"	"	"	"	"	"	
Sodium	73.5	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.983	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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**2504165-18 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	99.4		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	4.23	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.49		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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**Reported:**  
06/16/25 11:08

**AST04@0-6"**  
**2504165-19 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0443	111 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0395	98.7 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.3	90.5 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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**2504165-19 (Soil)**

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**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0250	75.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0308	92.5 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST04@0-6"**  
**2504165-19 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.27	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B
Barium	28.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.16	0.400	"	"	"	"	"	"
Lead	3.56	0.200	"	"	"	"	"	"
Nickel	3.51	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	16.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	495	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	155	0.0500	"	"	"	"	"	"	
Sodium	63.3	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.636	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST04@0-6"**  
**2504165-19 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.6		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.08	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	6.77		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST05@0-6"**  
**2504165-20 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0464	116 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0393	98.2 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0402	100 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.1	88.9 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST05@0-6"**  
**2504165-20 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0241	72.4 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0256	76.9 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST05@0-6"**  
**2504165-20 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.62	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	37.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.56	0.400	"	"	"	"	"	"	
Lead	3.40	0.200	"	"	"	"	"	"	
Nickel	4.01	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	15.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	512	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	192	0.0500	"	"	"	"	"	"	
Sodium	193	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.85	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST05@0-6"**  
**2504165-20 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.7		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.11	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.65		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST06@0-6"**  
**2504165-21 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0454	113 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0393	98.2 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	12.5	99.9 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST06@0-6"**  
**2504165-21 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00679</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0312	93.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0389	117 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST06@0-6"**  
**2504165-21 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.49	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	35.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.08	0.400	"	"	"	"	"	"	
Lead	2.73	0.200	"	"	"	"	"	"	
Nickel	3.66	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	14.4	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	409	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	11.4	0.0500	"	"	"	"	"	"	
Sodium	10.8	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.144	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST06@0-6"**  
**2504165-21 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.0		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.178	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.95		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-B@4'**  
**2504165-22 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0463	116 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0395	98.8 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.41	67.3 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-B@4'**  
**2504165-22 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0237	71.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0280	83.9 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-B@4'**  
**2504165-22 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.66	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	42.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	4.49	0.400	"	"	"	"	"	"	
Lead	3.37	0.200	"	"	"	"	"	"	
Nickel	4.61	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	15.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	2400	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	11.4	0.0500	"	"	"	"	"	"	
Sodium	5.28	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0296	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-B@4'**  
**2504165-22 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.0		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.126	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:39**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.12		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-N@2.5'**  
**2504165-23 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0445	111 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0398	99.5 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.4	90.8 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-N@2.5'**  
**2504165-23 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00588</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0273	82.0 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0316	94.7 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-N@2.5'**  
**2504165-23 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.95	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	51.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	6.06	0.400	"	"	"	"	"	"	
Lead	4.90	0.200	"	"	"	"	"	"	
Nickel	6.32	0.400	"	"	"	"	"	"	
Silver	0.0289	0.0200	"	"	"	"	"	"	
Zinc	19.9	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	721	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	7.93	0.0500	"	"	"	"	"	"	
Sodium	1.77	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0180	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV01-N@2.5'**  
**2504165-23 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.0		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.128	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:44**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.74		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV02-B@4'**  
**2504165-27 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0453	113 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.77	78.2 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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**Reported:**  
06/16/25 11:08

**PWV02-B@4'**  
**2504165-27 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00745</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0316	94.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0327	98.0 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV02-B@4'**  
**2504165-27 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.65	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B
Barium	50.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.52	0.400	"	"	"	"	"	"
Lead	4.72	0.200	"	"	"	"	"	"
Nickel	5.10	0.400	"	"	"	"	"	"
Silver	0.0209	0.0200	"	"	"	"	"	"
Zinc	19.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	264	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	9.26	0.0500	"	"	"	"	"	"	
Sodium	4.82	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0794	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV02-B@4'**  
**2504165-27 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>90.3</b>		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.129</b>	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 12:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.53</b>		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-S@2.5'**  
**2504165-30 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	05/09/25	"	I-02

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0440	110 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0395	98.8 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0399	99.7 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.13	65.1 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-S@2.5'**  
**2504165-30 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0239	71.8 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0255	76.6 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0575	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-S@2.5'**  
**2504165-30 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.40	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	36.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.93	0.400	"	"	"	"	"	"	
Lead	3.04	0.200	"	"	"	"	"	"	
Nickel	3.96	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	15.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	553	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	8.67	0.0500	"	"	"	"	"	"	
Sodium	0.990	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0114	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV05-S@2.5'**  
**2504165-30 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>90.8</b>		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.110</b>	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.67</b>		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV06-B@4'**  
**2504165-31 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0450	112 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0393	98.2 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0398	99.5 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.4	107 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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4725 Independence St.  
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Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV06-B@4'**  
**2504165-31 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0266	79.9 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0274	82.2 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0577	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV06-B@4'**  
**2504165-31 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.09	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	52.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.42	0.400	"	"	"	"	"	"	
Lead	4.39	0.200	"	"	"	"	"	"	
Nickel	5.68	0.400	"	"	"	"	"	"	
Silver	0.0252	0.0200	"	"	"	"	"	"	
Zinc	18.7	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1240	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	11.3	0.0500	"	"	"	"	"	"	
Sodium	44.4	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.345	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV06-B@4'**  
**2504165-31 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.7		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.217	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.99		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV06-N@2.5'**  
**2504165-32 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0446	112 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.89	63.1 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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**Reported:**  
06/16/25 11:08

**PWV06-N@2.5'**  
**2504165-32 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00614</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0238	71.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0231	69.2 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0577	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV06-N@2.5'**  
**2504165-32 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.78	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B	
Barium	56.8	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.90	0.400	"	"	"	"	"	"	
Lead	5.37	0.200	"	"	"	"	"	"	
Nickel	6.06	0.400	"	"	"	"	"	"	
Silver	0.0306	0.0200	"	"	"	"	"	"	
Zinc	23.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	580	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	9.52	0.0500	"	"	"	"	"	"	
Sodium	1.57	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0177	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV06-N@2.5'**  
**2504165-32 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.4		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.187	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.49		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-B@4'**  
**2504165-34 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0825	04/15/25	05/09/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0446	112 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0824	04/15/25	05/18/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.1	81.1 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-B@4'**  
**2504165-34 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00581</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0331	99.3 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0244	73.3 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0577	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-B@4'**  
**2504165-34 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	2.63	0.200	mg/kg dry	1	BID0560	04/10/25	05/24/25	EPA 6020B
Barium	77.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	7.38	0.400	"	"	"	"	"	"
Lead	6.67	0.200	"	"	"	"	"	"
Nickel	8.03	0.400	"	"	"	"	"	"
Silver	0.0445	0.0200	"	"	"	"	"	"
Zinc	24.0	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	1080	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	11.6	0.0500	"	"	"	"	"	"	
Sodium	106	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.880	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-B@4'**  
**2504165-34 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.2		%	1	BID0754	04/14/25	04/14/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.336	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.25		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-N@2.5'**  
**2504165-35 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0829	04/15/25	05/10/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0450	113 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0396	98.9 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0803	04/15/25	05/17/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	11.2	89.3 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-N@2.5'**  
**2504165-35 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00706</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0290	87.1 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0268	80.5 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0577	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-N@2.5'**  
**2504165-35 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.964	0.200	mg/kg dry	1	BID0562	04/10/25	05/23/25	EPA 6020B	
Barium	49.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.59	0.400	"	"	"	"	"	"	
Lead	4.62	0.200	"	"	"	"	"	"	
Nickel	2.40	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.1	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	469	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	7.61	0.0500	"	"	"	"	"	"	
Sodium	1.71	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0215	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PWV07-N@2.5'**  
**2504165-35 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	<b>90.0</b>		%	1	BID0755	04/14/25	04/15/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	<b>0.140</b>	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	<b>8.59</b>		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST07@0-6"**  
**2504165-38 (Soil)**

**Summit Scientific**

**Volatile Organic Compounds by EPA Method 8260B**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BID0829	04/15/25	05/10/25	EPA 8260B	I-02
Toluene	ND	0.0050	"	"	"	"	"	"	I-02
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Xylenes (total)	ND	0.010	"	"	"	"	"	"	I-02
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	I-02
Naphthalene	ND	0.0038	"	"	"	"	"	"	I-02
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	I-02

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0451	113 %	50-150	"	"	"	"	"	I-02
Surrogate: Toluene-d8	0.0394	98.6 %	50-150	"	"	"	"	"	I-02
Surrogate: 4-Bromofluorobenzene	0.0403	101 %	50-150	"	"	"	"	"	I-02

**Extractable Petroleum Hydrocarbons by 8015**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BID0803	04/15/25	05/16/25	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	9.34	74.8 %	50-140	"	"	"	"	"	

**PAH by EPA Method 8270E SIM**

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST07@0-6"**  
**2504165-38 (Soil)**

**Summit Scientific**

**PAH by EPA Method 8270E SIM**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BID0797	04/15/25	04/29/25	EPA 8270E SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
<b>2-Methylnaphthalene</b>	<b>0.00506</b>	0.00500	"	"	"	"	"	"	

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0252	75.5 %	40-140		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0346	104 %	40-140		"	"	"	"	

**Total Metals by EPA 6020B Hot Water Soluble Extraction**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L dry	1	BID0577	04/10/25	04/16/25	EPA 6020B	

**Total Metals by EPA 6020B**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

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Project Number: UWRWE-A5050-AES  
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**Reported:**  
06/16/25 11:08

**AST07@0-6"**  
**2504165-38 (Soil)**

**Summit Scientific**

**Total Metals by EPA 6020B**

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.690	0.200	mg/kg dry	1	BID0562	04/10/25	05/23/25	EPA 6020B	
Barium	28.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.43	0.400	"	"	"	"	"	"	
Lead	2.20	0.200	"	"	"	"	"	"	
Nickel	1.34	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.12	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

**Hexavalent Chromium by EPA Method 7196**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BID0766	04/14/25	04/15/25	EPA 7196A	

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	104	0.0500	mg/L dry	1	BID1540	04/29/25	05/16/25	EPA 6020B	
Magnesium	37.5	0.0500	"	"	"	"	"	"	
Sodium	7.19	0.0500	"	"	"	"	"	"	

**Calculated Analysis**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.154	0.00100	units	1	BIE0572	05/18/25	05/18/25	Calculation	

**Physical Parameters by APHA/ASTM/EPA Methods**

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Wheat Ridge CO, 80033

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Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**AST07@0-6"**  
**2504165-38 (Soil)**

**Summit Scientific**

**Physical Parameters by APHA/ASTM/EPA Methods**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.8		%	1	BID0755	04/14/25	04/15/25	Calculation	

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.08	0.0100	mmhos/cm	1	BID1541	04/29/25	05/01/25	EPA 120.1	

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction**

Date Sampled: **04/08/25 10:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.36		pH Units	1	BID1542	04/29/25	05/01/25	EPA 9045D	

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Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

### Volatile Organic Compounds by EPA Method 8260B - Quality Control

#### Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

#### Batch BID0825 - EPA 5030 Soil MS

##### Blank (BID0825-BLK1)

Prepared: 04/15/25 Analyzed: 05/08/25

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0436		"	0.0400		109	50-150			
Surrogate: Toluene-d8	0.0390		"	0.0400		97.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150			

##### LCS (BID0825-BS1)

Prepared: 04/15/25 Analyzed: 05/08/25

Benzene	0.0951	0.0020	mg/kg	0.100		95.1	70-130			
Toluene	0.0999	0.0050	"	0.100		99.9	70-130			
Ethylbenzene	0.0958	0.0050	"	0.100		95.8	70-130			
m,p-Xylene	0.195	0.010	"	0.200		97.4	70-130			
o-Xylene	0.0977	0.0050	"	0.100		97.7	70-130			
1,2,4-Trimethylbenzene	0.0992	0.0050	"	0.100		99.2	70-130			
1,3,5-Trimethylbenzene	0.0977	0.0050	"	0.100		97.7	70-130			
Naphthalene	0.0976	0.0038	"	0.100		97.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0427		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0395		"	0.0400		98.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	50-150			

##### Matrix Spike (BID0825-MS1)

Source: 2504161-01

Prepared: 04/15/25 Analyzed: 05/08/25

Benzene	0.0977	0.0020	mg/kg	0.100	ND	97.7	70-130			
Toluene	0.102	0.0050	"	0.100	ND	102	70-130			
Ethylbenzene	0.0974	0.0050	"	0.100	ND	97.4	70-130			
m,p-Xylene	0.198	0.010	"	0.200	ND	98.8	70-130			
o-Xylene	0.0991	0.0050	"	0.100	ND	99.1	70-130			
1,2,4-Trimethylbenzene	0.0988	0.0050	"	0.100	ND	98.8	70-130			
1,3,5-Trimethylbenzene	0.0972	0.0050	"	0.100	ND	97.2	70-130			
Naphthalene	0.0940	0.0038	"	0.100	ND	94.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0429		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.4	50-150			

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0825 - EPA 5030 Soil MS**

**Matrix Spike Dup (BID0825-MSD1)**

Source: 2504161-01

Prepared: 04/15/25 Analyzed: 05/09/25

Benzene	0.0738	0.0020	mg/kg	0.100	ND	73.8	70-130	27.9	30	
Toluene	0.0775	0.0050	"	0.100	ND	77.5	70-130	27.4	30	
Ethylbenzene	0.0766	0.0050	"	0.100	ND	76.6	70-130	23.9	30	
m,p-Xylene	0.156	0.010	"	0.200	ND	78.0	70-130	23.6	30	
o-Xylene	0.0815	0.0050	"	0.100	ND	81.5	70-130	19.4	30	
1,2,4-Trimethylbenzene	0.0745	0.0050	"	0.100	ND	74.5	70-130	28.0	30	
1,3,5-Trimethylbenzene	0.0758	0.0050	"	0.100	ND	75.8	70-130	24.8	30	
Naphthalene	0.0684	0.0038	"	0.100	ND	68.4	70-130	31.6	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.4	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	50-150			

**Batch BID0829 - EPA 5030 Soil MS**

**Blank (BID0829-BLK1)**

Prepared: 04/15/25 Analyzed: 05/10/25

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0502		"	0.0400		125	50-150			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150			

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Volatile Organic Compounds by EPA Method 8260B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0829 - EPA 5030 Soil MS**

**LCS (BID0829-BS1)**

Prepared: 04/15/25 Analyzed: 05/10/25

Benzene	0.114	0.0020	mg/kg	0.100		114	70-130			
Toluene	0.116	0.0050	"	0.100		116	70-130			
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130			
m,p-Xylene	0.223	0.010	"	0.200		112	70-130			
o-Xylene	0.114	0.0050	"	0.100		114	70-130			
1,2,4-Trimethylbenzene	0.116	0.0050	"	0.100		116	70-130			
1,3,5-Trimethylbenzene	0.114	0.0050	"	0.100		114	70-130			
Naphthalene	0.117	0.0038	"	0.100		117	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0507		"	0.0400		127	50-150			
Surrogate: Toluene-d8	0.0393		"	0.0400		98.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	50-150			

**Matrix Spike (BID0829-MS1)**

Source: 2504165-35

Prepared: 04/15/25 Analyzed: 05/10/25

Benzene	0.0829	0.0020	mg/kg	0.100	ND	82.9	70-130			
Toluene	0.0818	0.0050	"	0.100	ND	81.8	70-130			
Ethylbenzene	0.0832	0.0050	"	0.100	ND	83.2	70-130			
m,p-Xylene	0.104	0.010	"	0.200	ND	52.0	70-130			QM-05
o-Xylene	0.0901	0.0050	"	0.100	ND	90.1	70-130			
1,2,4-Trimethylbenzene	0.0560	0.0050	"	0.100	ND	56.0	70-130			QM-05
1,3,5-Trimethylbenzene	0.0591	0.0050	"	0.100	ND	59.1	70-130			QM-05
Naphthalene	0.0625	0.0038	"	0.100	ND	62.5	70-130			QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0440		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		98.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		99.9	50-150			

**Matrix Spike Dup (BID0829-MSD1)**

Source: 2504165-35

Prepared: 04/15/25 Analyzed: 05/10/25

Benzene	0.0744	0.0020	mg/kg	0.100	ND	74.4	70-130	10.8	30	
Toluene	0.0742	0.0050	"	0.100	ND	74.2	70-130	9.69	30	
Ethylbenzene	0.0793	0.0050	"	0.100	ND	79.3	70-130	4.80	30	
m,p-Xylene	0.0882	0.010	"	0.200	ND	44.1	70-130	16.4	30	QM-05
o-Xylene	0.0860	0.0050	"	0.100	ND	86.0	70-130	4.63	30	
1,2,4-Trimethylbenzene	0.0465	0.0050	"	0.100	ND	46.5	70-130	18.6	30	QM-05
1,3,5-Trimethylbenzene	0.0636	0.0050	"	0.100	ND	63.6	70-130	7.43	30	QM-05
Naphthalene	0.0561	0.0038	"	0.100	ND	56.1	70-130	10.9	30	QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0439		"	0.0400		110	50-150			
Surrogate: Toluene-d8	0.0394		"	0.0400		98.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150			

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Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0803 - EPA 3550A**

**Blank (BID0803-BLK1)**

Prepared: 04/15/25 Analyzed: 05/16/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	12.5		"	12.5		100	50-140			

**LCS (BID0803-BS1)**

Prepared: 04/15/25 Analyzed: 05/16/25

C10-C28 (DRO)	372	50	mg/kg	500		74.4	50-140			
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		87.6	50-140			

**Matrix Spike (BID0803-MS1)**

Source: 2504165-35

Prepared: 04/15/25 Analyzed: 05/16/25

C10-C28 (DRO)	440	50	mg/kg	500	43.5	79.3	50-140			
Surrogate: <i>o</i> -Terphenyl	11.2		"	12.5		89.8	50-140			

**Matrix Spike Dup (BID0803-MSD1)**

Source: 2504165-35

Prepared: 04/15/25 Analyzed: 05/16/25

C10-C28 (DRO)	351	50	mg/kg	500	43.5	61.4	50-140	22.7	20	QR-02
Surrogate: <i>o</i> -Terphenyl	9.23		"	12.5		73.8	50-140			

**Batch BID0824 - EPA 3550A**

**Blank (BID0824-BLK1)**

Prepared: 04/15/25 Analyzed: 05/18/25

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	13.1		"	12.5		105	50-140			

**LCS (BID0824-BS1)**

Prepared: 04/15/25 Analyzed: 05/18/25

C10-C28 (DRO)	504	50	mg/kg	500		101	50-140			
Surrogate: <i>o</i> -Terphenyl	13.4		"	12.5		108	50-140			

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Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Extractable Petroleum Hydrocarbons by 8015 - Quality Control**  
**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0824 - EPA 3550A**

<b>Matrix Spike (BID0824-MS1)</b>		<b>Source: 2504161-01</b>			Prepared: 04/15/25 Analyzed: 05/18/25	
C10-C28 (DRO)	463	50	mg/kg	500	ND	92.7 50-140
Surrogate: <i>o</i> -Terphenyl	13.4		"	12.5		107 50-140
<b>Matrix Spike Dup (BID0824-MSD1)</b>		<b>Source: 2504161-01</b>			Prepared: 04/15/25 Analyzed: 05/18/25	
C10-C28 (DRO)	423	50	mg/kg	500	ND	84.6 50-140 9.15 20
Surrogate: <i>o</i> -Terphenyl	13.5		"	12.5		108 50-140

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Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PAH by EPA Method 8270E SIM - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0797 - EPA 5030 Soil MS**

**Blank (BID0797-BLK1)**

Prepared: 04/15/25 Analyzed: 04/29/25

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0254		"	0.0333		76.2	40-140			
Surrogate: Fluoranthene-d10	0.0355		"	0.0333		106	40-140			

**LCS (BID0797-BS1)**

Prepared: 04/15/25 Analyzed: 04/29/25

Acenaphthene	0.0223	0.00500	mg/kg	0.0333		66.8	40-140			
Anthracene	0.0215	0.00500	"	0.0333		64.4	40-140			
Benzo (a) anthracene	0.0198	0.00500	"	0.0333		59.4	40-140			
Benzo (a) pyrene	0.0214	0.00500	"	0.0333		64.3	40-140			
Benzo (b) fluoranthene	0.0242	0.00500	"	0.0333		72.5	40-140			
Benzo (k) fluoranthene	0.0215	0.00500	"	0.0333		64.5	40-140			
Chrysene	0.0216	0.00500	"	0.0333		64.8	40-140			
Dibenz (a,h) anthracene	0.0263	0.00500	"	0.0333		78.9	40-140			
Fluoranthene	0.0182	0.00500	"	0.0333		54.5	40-140			
Fluorene	0.0327	0.00500	"	0.0333		98.0	40-140			
Indeno (1,2,3-cd) pyrene	0.0208	0.00500	"	0.0333		62.4	40-140			
Pyrene	0.0150	0.00500	"	0.0333		45.0	40-140			
1-Methylnaphthalene	0.0225	0.00500	"	0.0333		67.6	40-140			
2-Methylnaphthalene	0.0240	0.00500	"	0.0333		71.9	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0226		"	0.0333		67.9	40-140			
Surrogate: Fluoranthene-d10	0.0195		"	0.0333		58.5	40-140			

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PAH by EPA Method 8270E SIM - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0797 - EPA 5030 Soil MS**

**Matrix Spike (BID0797-MS1)**

Source: 2504165-08

Prepared: 04/15/25 Analyzed: 04/29/25

Acenaphthene	0.0242	0.00500	mg/kg	0.0333	ND	72.5	40-140			
Anthracene	0.0243	0.00500	"	0.0333	ND	72.9	40-140			
Benzo (a) anthracene	0.0237	0.00500	"	0.0333	ND	71.0	40-140			
Benzo (a) pyrene	0.0225	0.00500	"	0.0333	ND	67.5	40-140			
Benzo (b) fluoranthene	0.0272	0.00500	"	0.0333	ND	81.6	40-140			
Benzo (k) fluoranthene	0.0248	0.00500	"	0.0333	ND	74.4	40-140			
Chrysene	0.0233	0.00500	"	0.0333	ND	70.0	40-140			
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	48.8	40-140			
Fluoranthene	0.0256	0.00500	"	0.0333	ND	76.8	40-140			
Fluorene	0.0314	0.00500	"	0.0333	ND	94.1	40-140			
Indeno (1,2,3-cd) pyrene	0.0154	0.00500	"	0.0333	ND	46.3	40-140			
Pyrene	0.0239	0.00500	"	0.0333	ND	71.8	40-140			
1-Methylnaphthalene	0.0248	0.00500	"	0.0333	ND	74.3	40-140			
2-Methylnaphthalene	0.0275	0.00500	"	0.0333	ND	82.6	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0263		"	0.0333		78.8	40-140			
Surrogate: Fluoranthene-d10	0.0297		"	0.0333		89.1	40-140			

**Matrix Spike Dup (BID0797-MSD1)**

Source: 2504165-08

Prepared: 04/15/25 Analyzed: 04/29/25

Acenaphthene	0.0252	0.00500	mg/kg	0.0333	ND	75.5	40-140	4.03	30	
Anthracene	0.0247	0.00500	"	0.0333	ND	74.0	40-140	1.48	30	
Benzo (a) anthracene	0.0252	0.00500	"	0.0333	ND	75.5	40-140	6.23	30	
Benzo (a) pyrene	0.0241	0.00500	"	0.0333	ND	72.4	40-140	7.04	30	
Benzo (b) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.5	40-140	6.50	30	
Benzo (k) fluoranthene	0.0240	0.00500	"	0.0333	ND	71.9	40-140	3.43	30	
Chrysene	0.0243	0.00500	"	0.0333	ND	72.9	40-140	4.08	30	
Dibenz (a,h) anthracene	0.0205	0.00500	"	0.0333	ND	61.5	40-140	23.1	30	
Fluoranthene	0.0231	0.00500	"	0.0333	ND	69.3	40-140	10.3	30	
Fluorene	0.0276	0.00500	"	0.0333	ND	82.9	40-140	12.7	30	
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333	ND	49.1	40-140	6.03	30	
Pyrene	0.0169	0.00500	"	0.0333	ND	50.8	40-140	34.2	30	QR-02
1-Methylnaphthalene	0.0256	0.00500	"	0.0333	ND	76.8	40-140	3.32	30	
2-Methylnaphthalene	0.0284	0.00500	"	0.0333	ND	85.2	40-140	2.99	30	
Surrogate: 2-Methylnaphthalene-d10	0.0258		"	0.0333		77.5	40-140			
Surrogate: Fluoranthene-d10	0.0240		"	0.0333		72.0	40-140			

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PAH by EPA Method 8270E SIM - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0823 - EPA 5030 Soil MS**

**Blank (BID0823-BLK1)**

Prepared: 04/15/25 Analyzed: 05/16/25

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0292		"	0.0333		87.7	40-140			
Surrogate: Fluoranthene-d10	0.0304		"	0.0333		91.2	40-140			

**LCS (BID0823-BS1)**

Prepared: 04/15/25 Analyzed: 05/16/25

Acenaphthene	0.0211	0.00500	mg/kg	0.0333		63.3	40-140			
Anthracene	0.0212	0.00500	"	0.0333		63.7	40-140			
Benzo (a) anthracene	0.0231	0.00500	"	0.0333		69.3	40-140			
Benzo (a) pyrene	0.0223	0.00500	"	0.0333		66.8	40-140			
Benzo (b) fluoranthene	0.0218	0.00500	"	0.0333		65.3	40-140			
Benzo (k) fluoranthene	0.0209	0.00500	"	0.0333		62.7	40-140			
Chrysene	0.0210	0.00500	"	0.0333		62.9	40-140			
Dibenz (a,h) anthracene	0.0225	0.00500	"	0.0333		67.6	40-140			
Fluoranthene	0.0224	0.00500	"	0.0333		67.3	40-140			
Fluorene	0.0219	0.00500	"	0.0333		65.6	40-140			
Indeno (1,2,3-cd) pyrene	0.0173	0.00500	"	0.0333		52.0	40-140			
Pyrene	0.0213	0.00500	"	0.0333		64.0	40-140			
1-Methylnaphthalene	0.0231	0.00500	"	0.0333		69.4	40-140			
2-Methylnaphthalene	0.0255	0.00500	"	0.0333		76.4	40-140			
Surrogate: 2-Methylnaphthalene-d10	0.0240		"	0.0333		72.1	40-140			
Surrogate: Fluoranthene-d10	0.0254		"	0.0333		76.1	40-140			

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4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**PAH by EPA Method 8270E SIM - Quality Control**

**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0823 - EPA 5030 Soil MS**

<b>Matrix Spike (BID0823-MS1)</b>	<b>Source: 2504160-01</b>			Prepared: 04/15/25 Analyzed: 05/16/25						
Acenaphthene	0.0139	0.00500	mg/kg	0.0333	ND	41.6	40-140			
Anthracene	0.0134	0.00500	"	0.0333	ND	40.1	40-140			
Benzo (a) anthracene	0.0139	0.00500	"	0.0333	ND	41.8	40-140			
Benzo (a) pyrene	0.0123	0.00500	"	0.0333	ND	36.8	40-140			QM-05
Benzo (b) fluoranthene	0.0121	0.00500	"	0.0333	ND	36.4	40-140			QM-05
Benzo (k) fluoranthene	0.0119	0.00500	"	0.0333	ND	35.6	40-140			QM-05
Chrysene	0.0131	0.00500	"	0.0333	ND	39.2	40-140			QM-05
Dibenz (a,h) anthracene	0.0128	0.00500	"	0.0333	ND	38.3	40-140			QM-05
Fluoranthene	0.0131	0.00500	"	0.0333	ND	39.2	40-140			QM-05
Fluorene	0.0134	0.00500	"	0.0333	ND	40.1	40-140			
Indeno (1,2,3-cd) pyrene	0.00956	0.00500	"	0.0333	ND	28.7	40-140			QM-05
Pyrene	0.0133	0.00500	"	0.0333	ND	40.0	40-140			
1-Methylnaphthalene	0.0146	0.00500	"	0.0333	ND	43.8	40-140			
2-Methylnaphthalene	0.0161	0.00500	"	0.0333	ND	48.3	40-140			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0157</i>		<i>"</i>	<i>0.0333</i>		<i>47.2</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0153</i>		<i>"</i>	<i>0.0333</i>		<i>45.8</i>	<i>40-140</i>			

<b>Matrix Spike Dup (BID0823-MSD1)</b>	<b>Source: 2504160-01</b>			Prepared: 04/15/25 Analyzed: 05/17/25						
Acenaphthene	0.0220	0.00500	mg/kg	0.0333	ND	66.1	40-140	45.5	30	QR-03
Anthracene	0.0204	0.00500	"	0.0333	ND	61.3	40-140	41.8	30	QR-03
Benzo (a) anthracene	0.0211	0.00500	"	0.0333	ND	63.4	40-140	41.0	30	QR-03
Benzo (a) pyrene	0.0200	0.00500	"	0.0333	ND	60.1	40-140	48.1	30	QR-03
Benzo (b) fluoranthene	0.0191	0.00500	"	0.0333	ND	57.3	40-140	44.5	30	QR-03
Benzo (k) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.3	40-140	45.0	30	QR-03
Chrysene	0.0202	0.00500	"	0.0333	ND	60.5	40-140	42.8	30	QR-03
Dibenz (a,h) anthracene	0.0202	0.00500	"	0.0333	ND	60.7	40-140	45.2	30	QR-03
Fluoranthene	0.0217	0.00500	"	0.0333	ND	65.2	40-140	49.9	30	QR-03
Fluorene	0.0218	0.00500	"	0.0333	ND	65.4	40-140	48.0	30	QR-03
Indeno (1,2,3-cd) pyrene	0.0144	0.00500	"	0.0333	ND	43.3	40-140	40.6	30	QR-03
Pyrene	0.0200	0.00500	"	0.0333	ND	59.9	40-140	39.8	30	QR-03
1-Methylnaphthalene	0.0239	0.00500	"	0.0333	ND	71.6	40-140	48.3	30	QR-03
2-Methylnaphthalene	0.0266	0.00500	"	0.0333	ND	79.7	40-140	49.0	30	QR-03
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0248</i>		<i>"</i>	<i>0.0333</i>		<i>74.6</i>	<i>40-140</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0243</i>		<i>"</i>	<i>0.0333</i>		<i>73.0</i>	<i>40-140</i>			

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0575 - EPA 3050B**

<b>Blank (BID0575-BLK1)</b>										
Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	ND	2.00	mg/L wet							
<b>LCS (BID0575-BS1)</b>										
Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	4.99	2.00	mg/L wet	5.00		99.9	80-120			
<b>Duplicate (BID0575-DUP1)</b>										
Source: 2504164-12 Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	0.327	2.00	mg/L dry		0.341			4.21	20	
<b>Matrix Spike (BID0575-MS1)</b>										
Source: 2504164-12 Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	5.49	2.00	mg/L dry	5.65	0.341	91.2	75-125			
<b>Matrix Spike Dup (BID0575-MSD1)</b>										
Source: 2504164-12 Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	5.44	2.00	mg/L dry	5.65	0.341	90.3	75-125	0.955	25	

**Batch BID0577 - EPA 3050B**

<b>Blank (BID0577-BLK1)</b>										
Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	ND	2.00	mg/L wet							
<b>LCS (BID0577-BS1)</b>										
Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	4.98	2.00	mg/L wet	5.00		99.6	80-120			
<b>Duplicate (BID0577-DUP1)</b>										
Source: 2504165-31 Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	0.199	2.00	mg/L dry		0.218			9.05	20	
<b>Matrix Spike (BID0577-MS1)</b>										
Source: 2504165-31 Prepared: 04/10/25 Analyzed: 04/16/25										
Boron	4.68	2.00	mg/L dry	5.40	0.218	82.6	75-125			

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Tasman Geosciences  
 4725 Independence St.  
 Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
 Project Manager: Andy Sagen

**Reported:**  
 06/16/25 11:08

**Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0577 - EPA 3050B**

**Matrix Spike Dup (BID0577-MSD1)**

Source: 2504165-31

Prepared: 04/10/25 Analyzed: 04/16/25

Boron	5.26	2.00	mg/L dry	5.40	0.218	93.4	75-125	11.7	25	
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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC			RPD	Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD		

**Batch BID0560 - EPA 3050B**

**Blank (BID0560-BLK1)**

Prepared: 04/10/25 Analyzed: 05/24/25

Arsenic	ND	0.200	mg/kg wet						
Barium	ND	0.400	"						
Cadmium	ND	0.200	"						
Copper	ND	0.400	"						
Lead	ND	0.200	"						
Nickel	ND	0.400	"						
Silver	ND	0.0200	"						
Zinc	ND	0.400	"						
Selenium	ND	0.260	"						

**LCS (BID0560-BS1)**

Prepared: 04/10/25 Analyzed: 05/24/25

Arsenic	38.1	0.200	mg/kg wet	40.0	95.2	80-120
Barium	39.1	0.400	"	40.0	97.8	80-120
Cadmium	1.86	0.200	"	2.00	92.9	80-120
Copper	39.3	0.400	"	40.0	98.2	80-120
Lead	18.8	0.200	"	20.0	94.1	80-120
Nickel	38.8	0.400	"	40.0	96.9	80-120
Silver	1.87	0.0200	"	2.00	93.4	80-120
Zinc	38.3	0.400	"	40.0	95.8	80-120
Selenium	3.93	0.260	"	4.00	98.3	80-120

**Duplicate (BID0560-DUP1)**

Source: 2504165-02

Prepared: 04/10/25 Analyzed: 05/24/25

Arsenic	1.97	0.200	mg/kg dry	1.73	13.1	20
Barium	58.7	0.400	"	52.7	10.8	20
Cadmium	0.154	0.200	"	0.135	13.3	20
Copper	6.23	0.400	"	6.15	1.18	20
Lead	5.88	0.200	"	4.69	22.6	20
Nickel	6.21	0.400	"	5.80	6.92	20
Silver	0.0283	0.0200	"	0.0229	21.4	20
Zinc	22.2	0.400	"	23.9	7.66	20
Selenium	ND	0.260	"	ND		20

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Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BID0560 - EPA 3050B**

<b>Matrix Spike (BID0560-MS1)</b>		<b>Source: 2504165-02</b>			Prepared: 04/10/25		Analyzed: 05/24/25	
Arsenic	42.7	0.200	mg/kg dry	43.6	1.73	93.9	75-125	
Barium	103	0.400	"	43.6	52.7	115	75-125	
Cadmium	2.03	0.200	"	2.18	0.135	86.9	75-125	
Copper	47.2	0.400	"	43.6	6.15	94.3	75-125	
Lead	24.8	0.200	"	21.8	4.69	92.3	75-125	
Nickel	47.2	0.400	"	43.6	5.80	95.0	75-125	
Silver	1.86	0.0200	"	2.18	0.0229	84.4	75-125	
Zinc	54.6	0.400	"	43.6	23.9	70.5	75-125	QM-05
Selenium	3.88	0.260	"	4.36	ND	88.9	75-125	

<b>Matrix Spike Dup (BID0560-MSD1)</b>		<b>Source: 2504165-02</b>			Prepared: 04/10/25		Analyzed: 05/24/25	
Arsenic	44.3	0.200	mg/kg dry	45.3	1.73	94.0	75-125	3.88 25
Barium	107	0.400	"	45.3	52.7	119	75-125	3.65 25
Cadmium	2.26	0.200	"	2.27	0.135	93.6	75-125	10.7 25
Copper	49.7	0.400	"	45.3	6.15	96.0	75-125	5.03 25
Lead	26.5	0.200	"	22.7	4.69	96.2	75-125	6.58 25
Nickel	49.0	0.400	"	45.3	5.80	95.2	75-125	3.64 25
Silver	2.05	0.0200	"	2.27	0.0229	89.5	75-125	9.70 25
Zinc	57.8	0.400	"	45.3	23.9	74.7	75-125	5.62 25
Selenium	4.08	0.260	"	4.53	ND	90.0	75-125	5.16 25

**Batch BID0562 - EPA 3050B**

<b>Blank (BID0562-BLK1)</b>					Prepared: 04/10/25		Analyzed: 05/23/25	
Arsenic	ND	0.200	mg/kg wet					
Barium	ND	0.400	"					
Cadmium	ND	0.200	"					
Copper	ND	0.400	"					
Lead	ND	0.200	"					
Nickel	ND	0.400	"					
Silver	ND	0.0200	"					
Zinc	ND	0.400	"					
Selenium	ND	0.260	"					

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0562 - EPA 3050B**

**LCS (BID0562-BS1)**

Prepared: 04/10/25 Analyzed: 05/23/25

Arsenic	38.7	0.200	mg/kg wet	39.7		97.4	80-120			
Barium	43.2	0.400	"	39.7		109	80-120			
Cadmium	1.91	0.200	"	1.98		96.3	80-120			
Copper	41.6	0.400	"	39.7		105	80-120			
Lead	20.4	0.200	"	19.8		103	80-120			
Nickel	40.1	0.400	"	39.7		101	80-120			
Silver	1.89	0.0200	"	1.98		95.2	80-120			
Zinc	39.9	0.400	"	39.7		100	80-120			
Selenium	3.91	0.260	"	3.97		98.4	80-120			

**Duplicate (BID0562-DUP1)**

Source: 2504165-35

Prepared: 04/10/25 Analyzed: 05/23/25

Arsenic	0.710	0.200	mg/kg dry		0.964			30.4	20	QR-04
Barium	45.4	0.400	"		49.0			7.65	20	
Cadmium	0.0748	0.200	"		0.0805			7.30	20	
Copper	3.09	0.400	"		2.59			17.8	20	
Lead	4.62	0.200	"		4.62			0.0723	20	
Nickel	2.13	0.400	"		2.40			12.1	20	
Silver	0.0152	0.0200	"		0.0171			11.3	20	
Zinc	9.31	0.400	"		11.1			17.3	20	
Selenium	ND	0.260	"		ND				20	

**Matrix Spike (BID0562-MS1)**

Source: 2504165-35

Prepared: 04/10/25 Analyzed: 05/23/25

Arsenic	22.6	0.200	mg/kg dry	45.5	0.964	47.6	75-125			QM-05
Barium	105	0.400	"	45.5	49.0	123	75-125			
Cadmium	2.24	0.200	"	2.28	0.0805	94.7	75-125			
Copper	27.3	0.400	"	45.5	2.59	54.3	75-125			QM-05
Lead	27.9	0.200	"	22.8	4.62	102	75-125			
Nickel	25.4	0.400	"	45.5	2.40	50.4	75-125			QM-05
Silver	2.13	0.0200	"	2.28	0.0171	93.0	75-125			
Zinc	34.2	0.400	"	45.5	11.1	50.7	75-125			QM-05
Selenium	4.27	0.260	"	4.55	ND	93.8	75-125			

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Total Metals by EPA 6020B - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source		%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit		

**Batch BID0562 - EPA 3050B**

Matrix Spike Dup (BID0562-MSD1)	Source: 2504165-35			Prepared: 04/10/25 Analyzed: 05/23/25							
Arsenic	24.6	0.200	mg/kg dry	45.5	0.964	51.8	75-125	8.13	25	QM-05	
Barium	103	0.400	"	45.5	49.0	120	75-125	1.28	25		
Cadmium	2.28	0.200	"	2.28	0.0805	96.8	75-125	2.08	25		
Copper	28.8	0.400	"	45.5	2.59	57.5	75-125	5.23	25	QM-05	
Lead	27.9	0.200	"	22.8	4.62	102	75-125	0.209	25		
Nickel	27.1	0.400	"	45.5	2.40	54.3	75-125	6.71	25	QM-05	
Silver	2.18	0.0200	"	2.28	0.0171	94.9	75-125	2.07	25		
Zinc	36.0	0.400	"	45.5	11.1	54.7	75-125	5.15	25	QM-05	
Selenium	4.32	0.260	"	4.55	ND	94.9	75-125	1.12	25		

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Project: Noble - Thistle Down B31-20D Tank Battery  
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Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Hexavalent Chromium by EPA Method 7196 - Quality Control**  
**Summit Scientific**

Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0766 - 3060A Mod**

**Blank (BID0766-BLK1)**

Prepared: 04/14/25 Analyzed: 04/15/25

Chromium, Hexavalent ND 0.30 mg/kg wet

**LCS (BID0766-BS1)**

Prepared: 04/14/25 Analyzed: 04/15/25

Chromium, Hexavalent 25.8 0.30 mg/kg wet 26.3 98.0 80-120

**Duplicate (BID0766-DUP1)**

**Source: 2504165-02**

Prepared: 04/14/25 Analyzed: 04/15/25

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

**Matrix Spike (BID0766-MS1)**

**Source: 2504165-02**

Prepared: 04/14/25 Analyzed: 04/15/25

Chromium, Hexavalent 30.1 0.30 mg/kg dry 27.3 ND 110 75-125

**Matrix Spike Dup (BID0766-MSD1)**

**Source: 2504165-02**

Prepared: 04/14/25 Analyzed: 04/15/25

Chromium, Hexavalent 31.0 0.30 mg/kg dry 29.6 ND 105 75-125 3.06 20

Summit Scientific

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Tasman Geosciences  
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Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

**Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BID1540 - General Preparation**

**Blank (BID1540-BLK1)**

Prepared: 04/29/25 Analyzed: 05/16/25

Calcium	ND	0.0500	mg/L wet							
Magnesium	ND	0.0500	"							
Sodium	ND	0.0500	"							

**LCS (BID1540-BS1)**

Prepared: 04/29/25 Analyzed: 05/16/25

Calcium	5.30	0.0500	mg/L wet	5.00	106	70-130
Magnesium	5.28	0.0500	"	5.00	106	70-130
Sodium	5.50	0.0500	"	5.00	110	70-130

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Tasman Geosciences  
 4725 Independence St.  
 Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
 Project Number: UWRWE-A5050-AES  
 Project Manager: Andy Sagen

**Reported:**  
 06/16/25 11:08

**Physical Parameters by APHA/ASTM/EPA Methods - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC			RPD	Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID0754 - General Preparation**

Duplicate (BID0754-DUP1)	Source: 2504165-02			Prepared & Analyzed: 04/14/25							
% Solids	88.6		%		88.9				0.407	20	

**Batch BID0755 - General Preparation**

Duplicate (BID0755-DUP1)	Source: 2504165-35			Prepared: 04/14/25 Analyzed: 04/15/25							
% Solids	89.9		%		90.0				0.0809	20	

Summit Scientific

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 4725 Independence St.  
 Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery  
 Project Number: UWRWE-A5050-AES  
 Project Manager: Andy Sagen

**Reported:**  
 06/16/25 11:08

**Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

**Batch BID1541 - General Preparation**

**Blank (BID1541-BLK1)**

Prepared: 04/29/25 Analyzed: 05/01/25

Specific Conductance (EC) ND 0.0100 mmhos/cm

**LCS (BID1541-BS1)**

Prepared: 04/29/25 Analyzed: 05/01/25

Specific Conductance (EC) 0.149 0.0100 mmhos/cm 0.150 99.2 95-105

**Duplicate (BID1541-DUP1)**

Source: 2504162-01

Prepared: 04/29/25 Analyzed: 05/01/25

Specific Conductance (EC) 2.01 0.0100 mmhos/cm 2.06 2.80 20

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Tasman Geosciences  
 4725 Independence St.  
 Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
 Project Manager: Andy Sagen

**Reported:**  
 06/16/25 11:08

**Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control**

**Summit Scientific**

Analyte	Result	Reporting		Spike	Source	%REC		RPD		Notes
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

**Batch BID1542 - General Preparation**

**LCS (BID1542-BS1)**

Prepared: 04/29/25 Analyzed: 05/01/25

pH	9.22	pH Units	9.18	100	95-105
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**Duplicate (BID1542-DUP1)**

Source: 2504162-01

Prepared: 04/29/25 Analyzed: 05/01/25

pH	8.41	pH Units	8.36	0.596	20
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Summit Scientific

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Tasman Geosciences  
4725 Independence St.  
Wheat Ridge CO, 80033

Project: Noble - Thistle Down B31-20D Tank Battery

Project Number: UWRWE-A5050-AES  
Project Manager: Andy Sagen

**Reported:**  
06/16/25 11:08

### Notes and Definitions

- S-09 Surrogate recoveries for this sample are below established control limits. The sample matrix exhibits complex characteristics that can affect extraction efficiency, leading to reduced surrogate recoveries despite adherence to standard procedures.
- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values. Only applies to source/DUP and MS/MSD pairs.
- QR-03 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- 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.
- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. Sample results were accepted based on LCS and/or LCSD recoveries and/or RPD values.
- I-02 Sample was prepared and/or analyzed outside of holding time.
- DET Analyte DETECTED
- ND Analyte NOT DETECTED at or above the reporting limit
- NR Not Reported
- dry Sample results reported on a dry weight basis
- RPD Relative Percent Difference