

Flowline Closure Checklist

COGCC Rule 911.a.(4) Environmental Site Closure Assessment Field Form

Additional Attachments:		Tank Battery Closure		Wellhead Closure		Pit Closure		Partially Buried Vault Closure
Site Name & COGCC Facility Number: Cody White D3-2 FL		Date: 8/2/2022						Remediation Project #: 22156
Associated Wells:		Age of Site:						Number of Photos Attached: 11
Starting point: (GPS coordinates and descriptions) 40.259977 -104.534767								
End point: (GPS coordinates and descriptions) 40.255847 -104.53009								
USCS Soil Type: Well Graded Sand - SW					Estimated Depth to Groundwater: >3'			
Hydrocarbon Impacted Soils / Spills: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None observed								
Salt Crusted Soils or Impacted Vegetation: (Note estimated size and if impact appears to be surficial or extends to an unknown depth) None observed								
Flowlines								
Flowline type	Oil/Water/Gas							
Depth	3'							
Age								
Length	2,690'							
Construction Material	Steel							
Were flowlines pulled?	Yes							
Visual Integrity of lines	Good							
Visual impacts if trenched	NA							
PID Readings if trenched	NA							
Sample taken? Location/Sample ID#	Yes, see below							
Photo Number(s)	1 - 11							
Other observations regarding on location flowlines: Samples taken along flowline path (FL01-C@2.5' through FL01-K@2.5') starting a well head (FL01-A@3') ending at separator (FL01-B@3')								
Summary								
Was impacted soil identified? No Yes - less than 10 cubic yards Yes - more than 10 cubic yards								
Total number of samples field screened: 11					Total number of samples collected: 11			
Highest PID Reading: 7.8					Total number of samples submitted to lab for analysis: 4			
If more than 10 cubic yards of impacted soil were observed:								
Vertical extent:					Estimated spill volume:			
Lateral extent:					Volume of soil removed:			
Is additional investigation required?								
Was groundwater encountered during the investigation? No Yes - not impacted or in contact with impacted soils Yes - groundwater impacted and/or in contact with impacted soils								
Measured depth to groundwater:					Was remedial groundwater removal conducted? Yes No			
Date Groundwater was encountered:					Commencement date of removal:			
Sheen on groundwater? Yes No					Volume of groundwater removed prior to sampling:			
Free product observed? Yes No					Volume of groundwater removed post sampling:			
Total number of samples collected:					Total Volume of groundwater removed:			
Total number of samples submitted to lab for analysis:								

Photographic Log



Equipment ID: FL01-A@3'

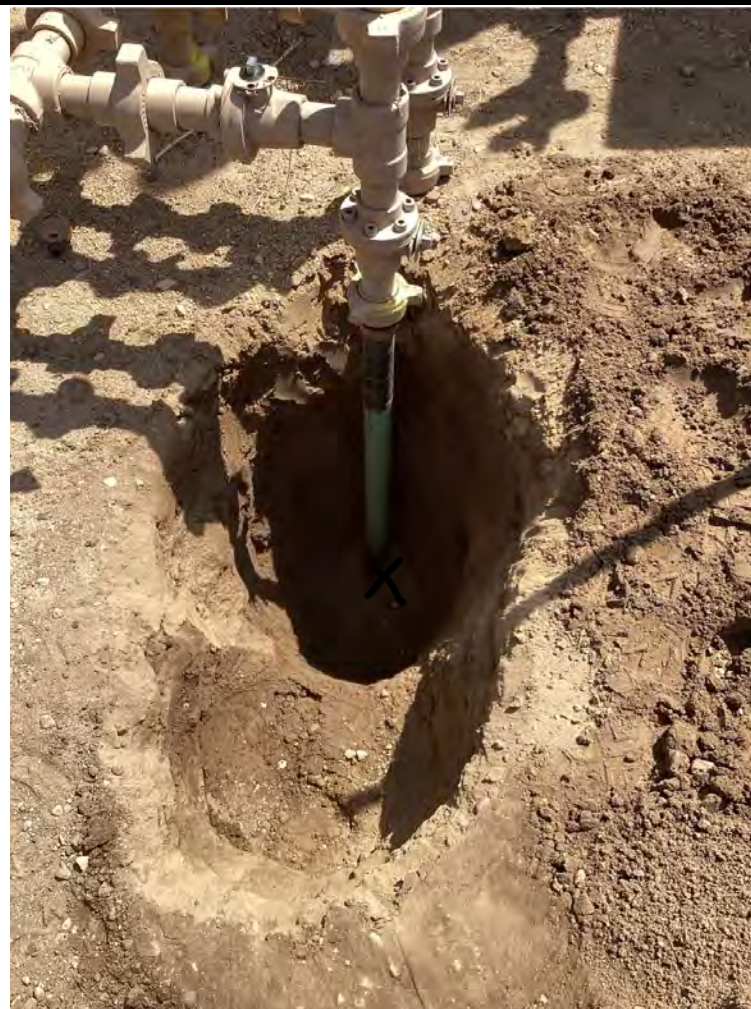
Equipment Type: Flowline

Material: Steel

Volume:

Contents: Oil/Gas/Water

Notes/Conditions: Well head



Equipment ID: FL01-B@

Equipment Type: Flowline

Material: Steel

Volume:

Contents: Oil/Gas/Water

Notes/Conditions: Separator

Photographic Log



Equipment ID: FL01-C@2.5'

Equipment Type: Flowline

Material: Steel

Volume:

Contents: Oil/Gas/Water

Notes/Conditions:



Equipment ID: FL01-D@2.5'

Equipment Type: Flowline

Material: Steel

Volume:

Contents: Oil/Gas/Water

Notes/Conditions:

Photographic Log



Equipment ID: FL01-E@2.5'

Equipment Type: Flowline

Material: Steel

Volume:

Contents: Oil/Gas/Water

Notes/Conditions:



Equipment ID: FL01-F@2.5'

Equipment Type: Flowline

Material: Steel

Volume:

Contents: Oil/Gas/Water

Notes/Conditions:

Photographic Log



Equipment ID: FL01-G@2.5'

Equipment Type: Flowline

Material: Steel

Volume:

Contents: Oil/Gas/Water

Notes/Conditions:



Equipment ID: FL01-H@2.5'

Equipment Type: Flowline

Material: Steel

Volume:


Contents: Oil/Gas/Water

Notes/Conditions:

Photographic Log

					
Equipment ID: FL01-I@2.5'		Equipment Type: Flowline			
Material: Steel	Volume:	Contents: Oil/Gas/Water		Material: Steel	Volume:
Notes/Conditions:			Notes/Conditions:		

Photographic Log

											
						Equipment ID: FL01-K@3'		Equipment Type: Flowline			
						Material: Steel		Volume:		Contents:	
						Notes/Conditions:					
			Equipment ID:		Equipment Type:						
			Material:		Volume:		Contents:				
			Notes/Conditions:								

Photographic Log


Equipment ID: FL01-L@2.5'

Equipment Type: Flowline

Material: Steel

Volume:
Contents: Oil/Gas/Water

Notes/Conditions: Photo represents flowline D3-1 and D3-2

Equipment ID: FL01-M@2.5'

Equipment Type: Flowline

Material: Steel



Volume:
Contents: Oil/Gas/Water

Notes/Conditions: Photo represents flowline D3-1 and D3-2


Photographic Log

													
Equipment ID: FL01-N@2.5'			Equipment Type:			Equipment ID: FL01-O@2.5'			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:							



Photographic Log

													
Equipment ID: FL01-P@2.5'			Equipment Type:			Equipment ID: FL01-Q@2.5'			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions:							

Photographic Log

													
Equipment ID: FL01-R@2.5'			Equipment Type:			Equipment ID: FL01-S@2.5'			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions:						Notes/Conditions: Flowline abandonment occurred here due to service road							

Photographic Log

													
Equipment ID: FL01-T@2.5'			Equipment Type:			Equipment ID: FL01-U@2.5'			Equipment Type:				
Material:			Volume:		Contents:		Material:			Volume:		Contents:	
Notes/Conditions: Lines abandoned between FL01-S@2.5' and FL01-T@2.5'						Notes/Conditions:							

Photographic Log



Equipment ID: FL01-V@2.5'

Equipment Type:

Material:

Volume:

Contents:

Notes/Conditions:



Equipment ID: FL01-W@2.5'

Equipment Type:

Material:

Volume:

Contents:

Notes/Conditions:

TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. - CODY WHITE D03-02

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude ¹	Longitude	PDOP
FL01-A@3'	08/02/22	7.8	No Staining	No Odor	Lab	40.259946	-104.534766	0.9
FL01-B@3'	08/02/22	0.5	No Staining	No Odor	Lab	40.255821	-104.530074	0.9
FL01-C@2.5'	08/02/22	1.3	No Staining	No Odor	Grab	40.259943	-104.534499	0.9
FL01-D@2.5'	08/02/22	0.2	No Staining	No Odor	Grab	40.259896	-104.533800	0.9
FL01-E@2.5'	08/02/22	0.0	No Staining	No Odor	Grab	40.259874	-104.533247	1.0
FL01-F@2.5'	08/02/22	0.0	No Staining	No Odor	Grab	40.259848	-104.532787	1.0
FL01-G@2.5'	08/02/22	2.3	No Staining	No Odor	Grab	40.259818	-104.532241	0.9
FL01-H@2.5'	08/02/22	0.0	No Staining	No Odor	Grab	40.259786	-104.531619	1.1
FL01-I@2.5'	08/02/22	1.4	No Staining	No Odor	Grab	40.259754	-104.531007	0.9
FL01-J@2.5'	08/02/22	0.4	No Staining	No Odor	Lab	40.259734	-104.530520	0.9
FL01-K@3	08/02/22	0.0	No Staining	No Odor	Lab	40.259572	-104.530200	0.9
FL01-L@2.5'	09/01/22	0.0	No Staining	No Odor	Grab	40.259373	-104.530144	0.9
FL01-M@2.5'	09/01/22	0.0	No Staining	No Odor	Grab	40.259022	-104.530194	0.9
FL01-N@2.5'	09/02/22	2.6	No Staining	No Odor	Grab	40.258713	-104.530244	0.8
FL01-O@2.5'	09/02/22	0.6	No Staining	No Odor	Grab	40.258390	-104.530303	0.8
FL01-P@2.5'	09/02/22	0.2	No Staining	No Odor	Lab	40.258073	-104.530343	0.7
FL01-Q@2.5'	09/02/22	22.5	No Staining	No Odor	Grab	40.257744	-104.530388	0.7
FL01-R@2.5'	09/02/22	1.9	No Staining	No Odor	Grab	40.257389	-104.530438	0.8
FL01-S@2.5'	09/02/22	0.9	No Staining	No Odor	Lab	40.257082	-104.530477	0.8
FL01-T@2.5'	09/06/22	0.3	No Staining	No Odor	Grab	40.256934	-104.530496	0.9
FL01-U@2.5'	09/06/22	1.2	No Staining	No Odor	Grab	40.256611	-104.530432	0.9
FL01-V@2.5'	09/06/22	4.0	No Staining	No Odor	Grab	40.256278	-104.530292	0.9
FL01-W@2.5'	09/06/22	0.5	No Staining	No Odor	Grab	40.255976	-104.530136	0.8
BH01@4'	11/08/22	0.0	No Staining	No Odor	Lab	40.25693401	-104.5304959	0.9
BH01@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25693401	-104.5304959	0.9
BH02@4'	11/08/22	0.0	No Staining	No Odor	Lab	40.25597635	-104.5301360	0.8
BH02@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25597635	-104.5301360	0.8
BG01@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.26003540	-104.5350881	1.1
BG01@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.26003540	-104.5350881	1.1
BG02@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25998197	-104.5351299	1.1
BG02@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25998197	-104.5351299	1.1
BG03@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25994612	-104.5350174	0.9
BG03@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25994612	-104.5350174	0.9
BG04@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25991468	-104.5304014	1.1
BG04@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25991468	-104.5304014	1.1
BG05@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25988024	-104.5304356	1.1
BG05@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25988024	-104.5304356	1.1
BG06@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25987238	-104.5303657	1.3
BG06@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25987238	-104.5303657	1.3
BG07@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25793803	-104.5302126	1.1
BG07@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25793803	-104.5302126	1.1
BG08@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25790441	-104.5302652	1.1
BG08@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25790441	-104.5302652	1.1
BG09@3'	11/07/22	0.0	No Staining	No Odor	Lab	40.25790420	-104.5301761	1.1
BG09@6'	11/07/22	0.0	No Staining	No Odor	Lab	40.25790420	-104.5301761	1.1
BG10@3'	11/08/22	0.0	No Staining	No Odor	Lab	40.25750613	-104.5308084	1.0
BG10@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25750613	-104.5308084	1.0
BG11@3'	11/08/22	0.0	No Staining	No Odor	Lab	40.25729953	-104.5308448	1.0
BG11@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25729953	-104.5308448	1.0
BG12@3'	11/08/22	0.0	No Staining	No Odor	Lab	40.25732344	-104.5306431	1.0
BG12@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25732344	-104.5306431	1.0
BG13@3'	11/08/22	0.0	No Staining	No Odor	Lab	40.25630386	-104.5295236	0.8
BG13@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25630386	-104.5295236	0.8
BG14@3'	11/08/22	0.0	No Staining	No Odor	Lab	40.25630091	-104.5292656	0.8
BG14@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25630091	-104.5292656	0.8
BG15@3'	11/08/22	0.0	No Staining	No Odor	Lab	40.25613166	-104.5293987	0.8
BG15@6'	11/08/22	0.0	No Staining	No Odor	Lab	40.25613166	-104.5293987	0.8

Notes:

PID = Photo-ionization detector

ppm = parts per million

PDOP = Position dilution of precision

HC = Hydrocarbon

1.) Latitude and longitude coordinates will be provided in decimal degrees with an accuracy and precision of 5 decimals of a degree using the North American Datum ("NAD") of 1983

TABLE 2
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. - CODY WHITE D3-2

Soil Sample ID	Date	¹ Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	1,2,4 - TMB (mg/kg)	1,3,5 - TMB (mg/kg)	Naphthalene (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benz(a) (mg/kg)	Benzo(a) (mg/kg)	Benzo(b) (mg/kg)	Benzo(k) (mg/kg)	Chrysene (mg/kg)	A,H (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	1,2,3-CD (mg/kg)	Pyrene (mg/kg)	1-M (mg/kg)	2-M (mg/kg)
Residential SSL ²		1.2	490	5.8	58	30	27	2		500		360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
Protection of Groundwater SSL ^{2,3}		0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038		500		0.55	6	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
FL01-A@3'	08/02/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-B@3'	08/02/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-J@2.5'	08/02/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-K@3'	08/02/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
FL01-P@2.5'	09/02/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	0.0312	0.0877	0.161	0.129	0.183	0.0854	0.161	<0.00500	0.619	0.0502	0.0433	0.313	<0.00500	<0.00500
FL01-S@2.5'	09/02/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	0.0102	0.0290	0.0235	0.0444	0.0148	0.0278	<0.00500	0.101	0.00578	0.00755	0.0742	<0.00500	<0.00500
BH01@4'	11/07/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH01@6'	11/07/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@4'	11/08/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500
BH02@6'	11/08/22	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
Residential SSL ²		6 - 8.3	<6	<4mmhos/cm	2
FL01-A@3'	08/02/22	8.03	17.3	7.88	1.71
FL01-B@3'	08/02/22	7.94	0.114	0.275	0.125
FL01-J@2.5'	08/02/22	8.12	16.7	6.72	1.54
FL01-K@3'	08/02/22	8.15	8.50	3.55	1.81
FL01-P@2.5'	09/02/22	7.96	23.5	7.52	1.99
FL01-S@2.5'	09/02/22	7.97	9.84	6.46	1.79
BH01@4'	11/07/22	8.11	10.7	3.91	0.311
BH01@6'	11/07/22	8.21	17.2	6.39	0.339
BH02@4'	11/08/22	8.17	18.3	9.49	0.653
BH02@6'	11/08/22	8.14	7.13	3.96	0.333
BG01@3'	11/07/22	NA	5.40	3.31	NA
BG01@6'	11/07/22	NA	4.80	3.57	NA
BG02@3'	11/07/22	NA	12.5	5.52	NA
BG02@6'	11/07/22	NA	11.9	5.99	NA
BG03@3'	11/07/22	NA	17.3	6.28	NA
BG03@6'	11/07/22	NA	17.9	7.40	NA
BG04@3'	11/07/22	NA	20.8	2.81	NA
BG04@6'	11/07/22	NA	14.7	1.05	NA
BG05@3'	11/07/22	NA	15.6	4.72	NA
BG05@6'	11/07/22	NA	10.0	0.851	NA
BG06@3'	11/07/22	NA	20.3	2.45	NA
BG06@6'	11/07/22	NA	10.5	0.725	NA
BG07@3'	11/07/22	NA	30.5	0.116	NA
BG07@6'	11/07/22	NA	20.5	4.88	NA
BG08@3'	11/07/22	NA	27.6	0.321	NA
BG08@6'	11/07/22	NA	21.0	4.60	NA
BG09@3'	11/07/22	NA	29.4	4.28	NA
BG09@6'	11/07/22	NA	21.4	5.45	NA
BG10@3'	11/08/22	NA	27.9	2.56	NA
BG10@6'	11/08/22	NA	10.2	2.07	NA
BG11@3'	11/08/22	NA	20.6	9.01	NA
BG11@6'	11/08/22	NA	9.43	1.24	NA
BG12@3'	11/08/22	NA	17.1	9.11	NA
BG12@6'	11/08/22	NA	7.68	4.63	NA
BG13@3'	11/08/22	NA	27.1	10.4	NA
BG13@6'	11/08/22	NA	20.5	3.86	NA
BG14@3'	11/08/22	NA	38.8	10.4	NA
BG14@6'	11/08/22	NA	29.9	9.79	NA
BG15@3'	11/08/22	NA	33.5	18.9	NA
BG15@6'	11/08/22	NA	34.6	14.3	NA

Soil Sample ID	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
Residential SSL ²		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^{2,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01-P@2.5'	09/02/22	7.92	198	0.432	<0.30	27.1	17.2	20.1	2.74	0.108	103
FL01-S@2.5'	09/02/22	2.36	76.0	<0.223	<0.30	7.49	6.15	7.30	0.975	0.0376	30.3
BH01@4'	11/07/22	2.10	121	0.262	<0.30	15.1	11.2	11.8	0.836	0.0603	48.6
BH01@6'	11/07/22	3.87	95.4	0.302	<0.30	21.1	13.4	17.9	0.995	0.0750	68.2
BH02@4'	11/08/22	3.06	78.6	<0.230	<0.30	3.86	4.90	5.05	<0.299	0.0294	17.4
BH02@6'	11/08/22	3.18	134	<0.235	<0.30	4.43	5.69	5.50	<0.305	0.031	20.2
BG01@3'	11/07/22	1.70	49.7	<0.200	NA	NA	4.08	NA	0.357	NA	NA
BG01@6'	11/07/22	4.28	73.5	0.284	NA	NA	13.6	NA	1.23	NA	NA
BG02@3'	11/07/22	1.53	45.6	<0.200	NA	NA	3.86	NA	0.406	NA	NA
BG02@6'	11/07/22	4.60	81.6	0.251	NA	NA	11.2	NA	1.01	NA	NA
BG03@3'	11/07/22	1.28	38.2	<0.200	NA	NA	3.17	NA	0.416	NA	NA
BG03@6'	11/07/22	3.35	53.0	0.207	NA	NA	10.0	NA	0.764	NA	NA
BG04@3'	11/07/22	2.08	52.7	<0.200	NA	NA	5.33	NA	0.707	NA	NA
BG04@6'	11/07/22	2.32	38.8	<0.200	NA	NA	4.41	NA	0.51	NA	NA
BG05@3'	11/07/22	3.50	80.0	<0.200	NA	NA	7.77	NA	0.977	NA	NA
BG05@6'	11/07/22	2.64	18.6	<0.200	NA	NA	3.98	NA	0.436	NA	NA
BG06@3'	11/07/22	2.12	63.9	<0.200	NA	NA	5.18	NA	0.645	NA	NA
BG06@6'	11/07/22	1.63	27.5	<0.200	NA	NA	4.68	NA	0.441	NA	NA
BG07@3'	11/07/22	5.48	92.6	0.318	NA	NA	12.1	NA	1.83	NA	NA
BG07@6'	11/07/22	3.34	75.5	0.396	NA	NA	13.4	NA	1.39	NA	NA
BG08@3'	11/07/22	4.38	134	0.326	NA	NA	13.7	NA	1.84	NA	NA
BG08@6'	11/07/22	9.05	208	0.447	NA	NA	14.9	NA	2.03	NA	NA
BG09@3'	11/07/22	5.51	149	0.470	NA	NA	12.8	NA	1.61	NA	NA
BG09@6'	11/07/22	4.03	114	0.365	NA	NA	13.0	NA	1.42	NA	NA
BG10@3'	11/08/22	2.50	84.3	<0.200	NA	NA	5.74	NA	0.549	NA	NA
BG10@6'	11/08/22	2.38	91.1	<0.200	NA	NA	4.13	NA	0.391	NA	NA
BG11@3'	11/08/22	4.36	142	<0.200	NA	NA	5.97	NA	0.589	NA	NA
BG11@6'	11/08/22	2.36	75.8	<0.200	NA	NA	4.93	NA	0.548	NA	NA
BG12@3'	11/08/22	4.10	171	<0.200	NA	NA	6.93	NA	0.736	NA	NA
BG12@6'	11/08/22	2.72	72.3	<0.200	NA	NA	4.98	NA	0.633	NA	NA
BG13@3'	11/08/22	1.66	35.3	<0.200	NA	NA	3.79	NA	0.552	NA	NA
BG13@6'	11/08/22	2.59	143	<0.200	NA	NA	5.38	NA	0.517	NA	NA
BG14@3'	11/08/22	1.70	79.6	<0.200	NA	NA	4.17	NA	0.421	NA	NA
BG14@6'	11/08/22	1.86	51.4	<0.200	NA	NA	4.19	NA	0.599	NA	NA
BG15@3'	11/08/22	2.19	42.8	<0.200	NA	NA	3.71	NA	0.500	NA	NA
BG15@6'	11/08/22	3.74	106	<0.200	NA	NA	5.57	NA	0.613	NA	NA

Notes:

1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) referenced from EPA Regional Screening Levels (EPA RSLs) for Chemical Contaminants at Superfund Sites, effective November 2020.
3. SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:

COGCC = Colorado Oil and Gas Conservation Commission
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
TPH-ORO = Total petroleum hydrocarbons - oil range organics
mg/kg = Milligrams per kilogram
SAR = Sodium Adsorption Ratio
EC = Electrical Conductivity
mmhos/cm = Millimos per centimeter
mg/L = Milligrams per liter
< = Analytical result is less than the indicated laboratory reporting limit

1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
Benz(a) = Benzanthracene
Benzo(b) = Benzo[fluoranthene
Benzo(k) = Benzo[fluoranthene
Benzo(a) = Benzopyrene
A,H = Dibenzoanthracene
1,2,3-CD = Indenopyrene
1-M = 1-methylnaphthalene
2-M = 2-methylnaphthalene

Highlighted results are equal to or exceed the COGCC Table 915-1 standard

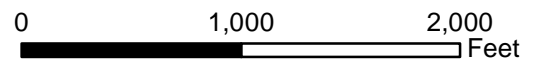
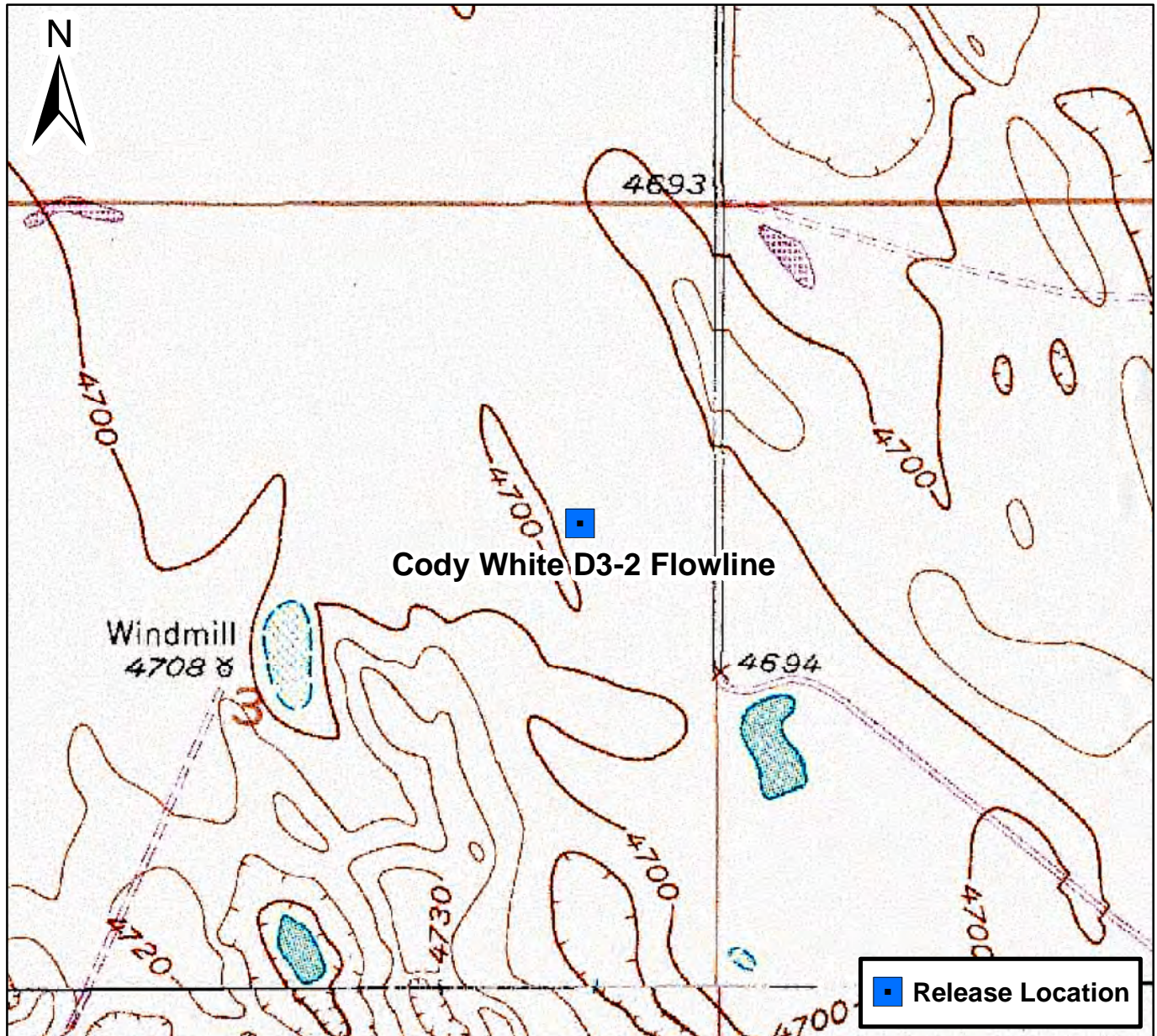
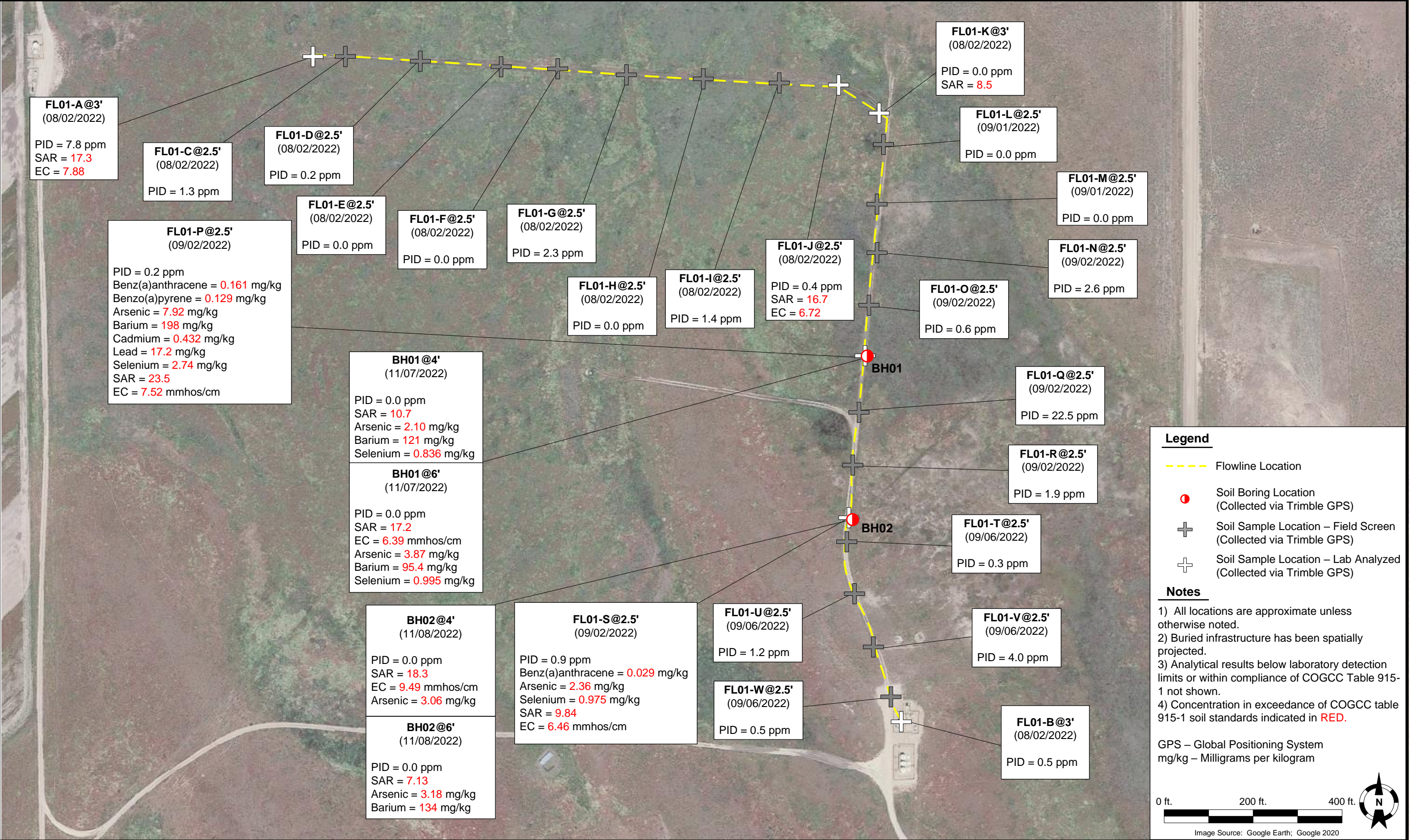
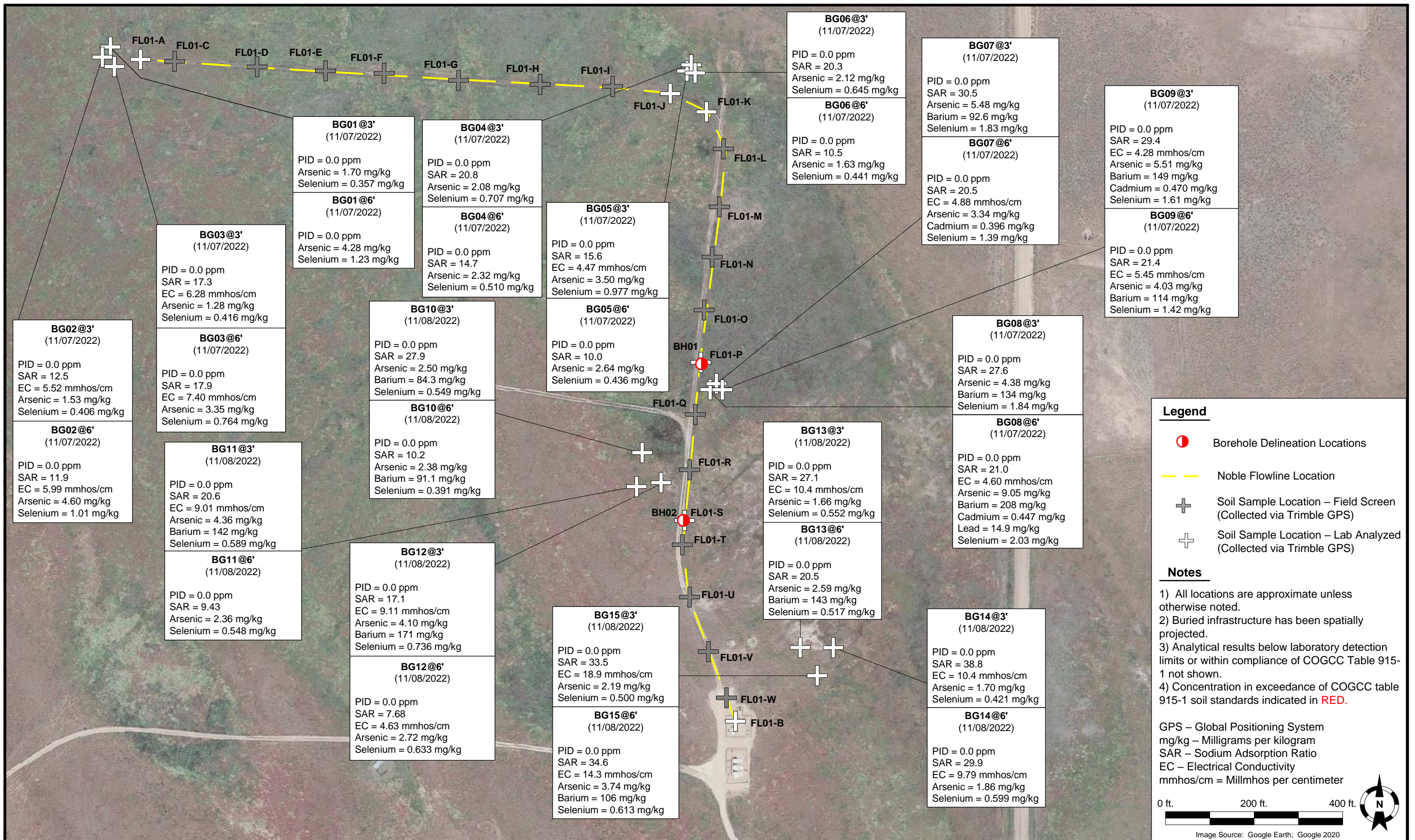



Figure 1

Site Location Map
Cody White D3-2 Flowline
SENE S3 T3N R64W
Weld County, Colorado







DATE:	12/31/22	 Tasman Geosciences, Inc. 6855 W 119 th Avenue Broomfield, CO 80020	Noble Energy, Inc. – DJ Basin Cody White D03-02 SENE, Section 3, Township 3 North, Range 64 West Weld County, Colorado	Background Soil Analytical Results Map (09/01/2022 - 11/08/2022)	FIGURE 3
DESIGNED BY:	JW				
DRAWN BY:	AE				

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

August 09, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Cody White D3-2 FL

Work Order #2208028

Enclosed are the results of analyses for samples received by Summit Scientific on 08/02/22 17:12. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mikayla Axtell". The signature is written in a cursive, flowing style.

Mikayla Axtell For Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-A@3'	2208028-01	Soil	08/02/22 11:49	08/02/22 17:12
FL01-B@3'	2208028-02	Soil	08/02/22 11:36	08/02/22 17:12
FL01-J@2.5'	2208028-03	Soil	08/02/22 12:30	08/02/22 17:12
FL01-K@3'	2208028-04	Soil	08/02/22 12:35	08/02/22 17:12

Summit Scientific

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S₂

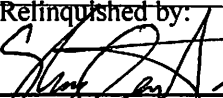
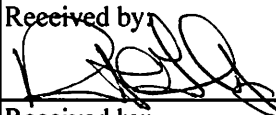
2208028

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Noble / Tasman Project Manager: Jake Whritenour Invoice: Cole Moore
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com
City/State/Zip: Broomfield, CO 80020
Phone: 303-261-6246 Project Name: Cody White D3-2 FL
Sampler Name: Stanley Gilbert Project Number: UWPRWE-A2165-ABN

					Preservative				Matrix				Analysis Requested								Special Instructions		
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD					pH, EC, SAR by saturated paste
1	FL01-A@3'	8/2/22	11:49	2			X			X			X	X	X	X	X						
2	FL01-B@3'		11:36	1			X						X	X	X	X	X						
3	FL01-J@2.5'		12:30	1			X						X	X	X	X	X						
4	FL01-K@3'		12:35	1			X						X	X	X	X	X						
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by: 	Date/Time: 8/2/22 15:15	Received by: Tasman's Lock Box	Date/Time: 8/2/22 15:15	Turn Around Time (Check) Same Day _____ 72 hours 24 hours _____ Standard <input checked="" type="checkbox"/> 48 hours _____	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 8/2/22 17:12	Received by: 	Date/Time: 8/2/22 17:12	Sample Integrity: Temperature Upon Receipt: <u>7.3</u>	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 2208028

Client: Noble/Tasman Client Project ID: Coaly white D3-2 FLShipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #:

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 7.3Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			✓	
Additional Comments (if any): 				
⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.				


 Custodian Printed Name

8222
 Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-A@3'
2208028-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFH0064	08/03/22	08/04/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFH0065	08/03/22	08/03/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		81.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-A@3'
2208028-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFH0040	08/03/22	08/04/22	EPA 8270D 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: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		73.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		73.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.71	0.0100	mg/L	1	BFH0073	08/03/22	08/04/22	EPA 6020B	

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

Date Sampled: **08/02/22 11:49**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-A@3'
2208028-01 (Soil)

Summit Scientific

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

Calcium	390	0.0628	mg/L dry	1	BFH0102	08/04/22	08/06/22	EPA 6020B
Magnesium	127	0.0628	"	"	"	"	"	"
Sodium	1540	0.0628	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	17.3	0.00100	units	1	BFH0154	08/08/22	08/09/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.6		%	1	BFH0085	08/03/22	08/04/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	7.88	0.0100	mmhos/cm	1	BFH0131	08/05/22	08/05/22	EPA 120.1	

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

Date Sampled: **08/02/22 11:49**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.03		pH Units	1	BFH0130	08/05/22	08/05/22	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-B@3'
2208028-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFH0064	08/03/22	08/04/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFH0065	08/03/22	08/03/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		78.3 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-B@3'
2208028-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFH0040	08/03/22	08/04/22	EPA 8270D 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: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		79.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		74.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.125	0.0100	mg/L	1	BFH0073	08/03/22	08/04/22	EPA 6020B	

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

Date Sampled: **08/02/22 11:36**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-B@3'
2208028-02 (Soil)

Summit Scientific

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

Calcium	33.3	0.0546	mg/L dry	1	BFH0102	08/04/22	08/06/22	EPA 6020B
Magnesium	8.18	0.0546	"	"	"	"	"	"
Sodium	2.84	0.0546	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.114	0.00100	units	1	BFH0154	08/08/22	08/09/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.5		%	1	BFH0085	08/03/22	08/04/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.275	0.0100	mmhos/cm	1	BFH0131	08/05/22	08/05/22	EPA 120.1	

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

Date Sampled: **08/02/22 11:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BFH0130	08/05/22	08/05/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-J@2.5'
2208028-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFH0064	08/03/22	08/04/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		107 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		99.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFH0065	08/03/22	08/03/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		74.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-J@2.5'
2208028-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFH0040	08/03/22	08/04/22	EPA 8270D 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: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		79.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		70.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.54	0.0100	mg/L	1	BFH0073	08/03/22	08/04/22	EPA 6020B	

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

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-J@2.5'
2208028-03 (Soil)

Summit Scientific

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

Calcium	1230	0.0631	mg/L dry	1	BFH0102	08/04/22	08/08/22	EPA 6020B
Magnesium	3960	0.0631	"	"	"	"	"	"
Sodium	5330	0.0631	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	16.7	0.00100	units	1	BFH0154	08/08/22	08/09/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	79.2		%	1	BFH0085	08/03/22	08/04/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	6.72	0.0100	mmhos/cm	1	BFH0131	08/05/22	08/05/22	EPA 120.1	

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

Date Sampled: **08/02/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.12		pH Units	1	BFH0130	08/05/22	08/05/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-K@3'
2208028-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BFH0064	08/03/22	08/04/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		99.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BFH0065	08/03/22	08/03/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		76.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-K@3'
2208028-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFH0040	08/03/22	08/04/22	EPA 8270D 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: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		71.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		50.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.81	0.0100	mg/L	1	BFH0073	08/03/22	08/04/22	EPA 6020B	

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

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

FL01-K@3'
2208028-04 (Soil)

Summit Scientific

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

Calcium	1570	0.0616	mg/L dry	1	BFH0102	08/04/22	08/08/22	EPA 6020B
Magnesium	4290	0.0616	"	"	"	"	"	"
Sodium	2870	0.0616	"	"	"	"	"	"

Calculated Analysis

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	8.50	0.00100	units	1	BFH0154	08/08/22	08/09/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.2		%	1	BFH0085	08/03/22	08/04/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.55	0.0100	mmhos/cm	1	BFH0131	08/05/22	08/05/22	EPA 120.1	

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

Date Sampled: **08/02/22 12:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.15		pH Units	1	BFH0130	08/05/22	08/05/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0064 - EPA 5030 Soil MS

Blank (BFH0064-BLK1)

Prepared & Analyzed: 08/03/22

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	0.0409		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		99.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

LCS (BFH0064-BS1)

Prepared & Analyzed: 08/03/22

Benzene	0.145	0.0020	mg/kg	0.150		96.7	70-130			
Toluene	0.141	0.0050	"	0.150		94.3	70-130			
Ethylbenzene	0.141	0.0050	"	0.150		93.7	70-130			
m,p-Xylene	0.281	0.010	"	0.300		93.7	70-130			
o-Xylene	0.142	0.0050	"	0.150		94.4	70-130			
1,2,4-Trimethylbenzene	0.143	0.0050	"	0.150		95.0	70-130			
1,3,5-Trimethylbenzene	0.142	0.0050	"	0.150		94.5	70-130			
Naphthalene	0.132	0.0038	"	0.150		88.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0418		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0405		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		100	50-150			

Matrix Spike (BFH0064-MS1)

Source: 2208001-05

Prepared & Analyzed: 08/03/22

Benzene	0.140	0.0020	mg/kg	0.150	ND	93.6	70-130			
Toluene	0.138	0.0050	"	0.150	ND	91.9	70-130			
Ethylbenzene	0.140	0.0050	"	0.150	ND	93.5	70-130			
m,p-Xylene	0.275	0.010	"	0.300	ND	91.7	70-130			
o-Xylene	0.136	0.0050	"	0.150	ND	90.8	70-130			
1,2,4-Trimethylbenzene	0.135	0.0050	"	0.150	ND	89.8	70-130			
1,3,5-Trimethylbenzene	0.135	0.0050	"	0.150	ND	90.3	70-130			
Naphthalene	0.124	0.0038	"	0.150	ND	82.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0402		"	0.0400		101	50-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0064 - EPA 5030 Soil MS

Matrix Spike Dup (BFH0064-MSD1)		Source: 2208001-05			Prepared & Analyzed: 08/03/22					
Benzene	0.138	0.0020	mg/kg	0.150	ND	92.3	70-130	1.48	30	
Toluene	0.134	0.0050	"	0.150	ND	89.2	70-130	2.96	30	
Ethylbenzene	0.133	0.0050	"	0.150	ND	88.4	70-130	5.59	30	
m,p-Xylene	0.261	0.010	"	0.300	ND	87.0	70-130	5.31	30	
o-Xylene	0.131	0.0050	"	0.150	ND	87.0	70-130	4.23	30	
1,2,4-Trimethylbenzene	0.131	0.0050	"	0.150	ND	87.1	70-130	2.96	30	
1,3,5-Trimethylbenzene	0.132	0.0050	"	0.150	ND	88.1	70-130	2.51	30	
Naphthalene	0.120	0.0038	"	0.150	ND	80.0	70-130	2.93	30	
Surrogate: 1,2-Dichloroethane-d4	0.0411		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0399		"	0.0400		99.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0065 - EPA 3550A

Blank (BFH0065-BLK1)

Prepared & Analyzed: 08/03/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFH0065-BS1)

Prepared & Analyzed: 08/03/22

C10-C28 (DRO)	461	50	mg/kg	500	92.1	70-130
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Matrix Spike (BFH0065-MS1)

Source: 2208019-02

Prepared & Analyzed: 08/03/22

C10-C28 (DRO)	457	50	mg/kg	500	29.7	85.4	70-130
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Matrix Spike Dup (BFH0065-MSD1)

Source: 2208019-02

Prepared & Analyzed: 08/03/22

C10-C28 (DRO)	442	50	mg/kg	500	29.7	82.4	70-130	3.31	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0040 - EPA 5030 Soil MS

Blank (BFH0040-BLK1)

Prepared & Analyzed: 08/03/22

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	0.0374		"	0.0333		112	40-150			
Surrogate: Fluoranthene-d10	0.0300		"	0.0333		89.9	40-150			

LCS (BFH0040-BS1)

Prepared & Analyzed: 08/03/22

Acenaphthene	0.0321	0.00500	mg/kg	0.0333	96.3	31-137
Anthracene	0.0339	0.00500	"	0.0333	102	30-120
Benzo (a) anthracene	0.0281	0.00500	"	0.0333	84.3	30-120
Benzo (a) pyrene	0.0311	0.00500	"	0.0333	93.2	30-120
Benzo (b) fluoranthene	0.0324	0.00500	"	0.0333	97.2	30-120
Benzo (k) fluoranthene	0.0375	0.00500	"	0.0333	112	30-120
Chrysene	0.0328	0.00500	"	0.0333	98.4	30-120
Dibenz (a,h) anthracene	0.0324	0.00500	"	0.0333	97.3	30-120
Fluoranthene	0.0372	0.00500	"	0.0333	112	30-120
Fluorene	0.0304	0.00500	"	0.0333	91.2	30-120
Indeno (1,2,3-cd) pyrene	0.0289	0.00500	"	0.0333	86.8	30-120
Pyrene	0.0320	0.00500	"	0.0333	96.1	35-142
1-Methylnaphthalene	0.0326	0.00500	"	0.0333	97.8	35-142
2-Methylnaphthalene	0.0304	0.00500	"	0.0333	91.2	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0332		"	0.0333	99.7	40-150
Surrogate: Fluoranthene-d10	0.0349		"	0.0333	105	40-150

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0040 - EPA 5030 Soil MS

Matrix Spike (BFH0040-MS1)

Source: 2207434-01

Prepared & Analyzed: 08/03/22

Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.2	31-137		
Anthracene	0.0241	0.00500	"	0.0333	ND	72.4	30-120		
Benzo (a) anthracene	0.0219	0.00500	"	0.0333	ND	65.7	30-120		
Benzo (a) pyrene	0.0232	0.00500	"	0.0333	ND	69.7	30-120		
Benzo (b) fluoranthene	0.0225	0.00500	"	0.0333	ND	67.6	30-120		
Benzo (k) fluoranthene	0.0252	0.00500	"	0.0333	ND	75.7	30-120		
Chrysene	0.0246	0.00500	"	0.0333	ND	73.8	30-120		
Dibenz (a,h) anthracene	0.0231	0.00500	"	0.0333	ND	69.2	30-120		
Fluoranthene	0.0272	0.00500	"	0.0333	ND	81.7	30-120		
Fluorene	0.0252	0.00500	"	0.0333	ND	75.7	30-120		
Indeno (1,2,3-cd) pyrene	0.0216	0.00500	"	0.0333	ND	64.8	30-120		
Pyrene	0.0266	0.00500	"	0.0333	ND	79.7	35-142		
1-Methylnaphthalene	0.0247	0.00500	"	0.0333	ND	74.1	15-130		
2-Methylnaphthalene	0.0227	0.00500	"	0.0333	ND	68.2	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0198		"	0.0333		59.5	40-150		
Surrogate: Fluoranthene-d10	0.0245		"	0.0333		73.4	40-150		

Matrix Spike Dup (BFH0040-MSD1)

Source: 2207434-01

Prepared & Analyzed: 08/03/22

Acenaphthene	0.0181	0.00500	mg/kg	0.0333	ND	54.3	31-137	8.74	30
Anthracene	0.0227	0.00500	"	0.0333	ND	68.2	30-120	6.02	30
Benzo (a) anthracene	0.0208	0.00500	"	0.0333	ND	62.4	30-120	5.13	30
Benzo (a) pyrene	0.0220	0.00500	"	0.0333	ND	65.9	30-120	5.66	30
Benzo (b) fluoranthene	0.0209	0.00500	"	0.0333	ND	62.6	30-120	7.63	30
Benzo (k) fluoranthene	0.0234	0.00500	"	0.0333	ND	70.1	30-120	7.76	30
Chrysene	0.0236	0.00500	"	0.0333	ND	70.9	30-120	4.04	30
Dibenz (a,h) anthracene	0.0218	0.00500	"	0.0333	ND	65.5	30-120	5.51	30
Fluoranthene	0.0265	0.00500	"	0.0333	ND	79.5	30-120	2.71	30
Fluorene	0.0254	0.00500	"	0.0333	ND	76.2	30-120	0.644	30
Indeno (1,2,3-cd) pyrene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	4.61	30
Pyrene	0.0266	0.00500	"	0.0333	ND	79.9	35-142	0.275	30
1-Methylnaphthalene	0.0214	0.00500	"	0.0333	ND	64.3	15-130	14.0	50
2-Methylnaphthalene	0.0200	0.00500	"	0.0333	ND	60.1	15-130	12.6	50
Surrogate: 2-Methylnaphthalene-d10	0.0179		"	0.0333		53.6	40-150		
Surrogate: Fluoranthene-d10	0.0228		"	0.0333		68.4	40-150		

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0073 - EPA 3050B

Blank (BFH0073-BLK1)

Prepared: 08/03/22 Analyzed: 08/04/22

Boron ND 0.0100 mg/L

LCS (BFH0073-BS1)

Prepared: 08/03/22 Analyzed: 08/04/22

Boron 5.11 0.0100 mg/L 5.00 102 80-120

Duplicate (BFH0073-DUP1)

Source: 2208010-01

Prepared: 08/03/22 Analyzed: 08/04/22

Boron 0.0783 0.0100 mg/L 0.0867 10.1 20

Matrix Spike (BFH0073-MS1)

Source: 2208010-01

Prepared: 08/03/22 Analyzed: 08/04/22

Boron 5.06 0.0100 mg/L 5.00 0.0867 99.5 75-125

Matrix Spike Dup (BFH0073-MSD1)

Source: 2208010-01

Prepared: 08/03/22 Analyzed: 08/04/22

Boron 5.17 0.0100 mg/L 5.00 0.0867 102 75-125 1.98 25

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

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

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0102 - General Preparation

Blank (BFH0102-BLK1)

Prepared: 08/04/22 Analyzed: 08/05/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFH0102-BS1)

Prepared: 08/04/22 Analyzed: 08/05/22

Calcium	5.36	0.0500	mg/L wet	5.00	107	70-130
Magnesium	4.98	0.0500	"	5.00	99.6	70-130
Sodium	4.79	0.0500	"	5.00	95.8	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL

Project Number: UWRWE-A2165-ABN

Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0085 - General Preparation

Duplicate (BFH0085-DUP1)		Source: 2207389-06		Prepared: 08/03/22 Analyzed: 08/04/22						
% Solids	91.8		%		91.6			0.135	20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0131 - General Preparation

Blank (BFH0131-BLK1)

Prepared & Analyzed: 08/05/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFH0131-BS1)

Prepared & Analyzed: 08/05/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BFH0131-DUP1)

Source: 2208028-01

Prepared & Analyzed: 08/05/22

Specific Conductance (EC) 7.84 0.0100 mmhos/cm 7.88 0.560 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL
Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFH0130 - General Preparation

LCS (BFH0130-BS1)

Prepared & Analyzed: 08/05/22

pH	9.02	pH Units	9.18	98.3	95-105
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Duplicate (BFH0130-DUP1)

Source: 2208028-01

Prepared & Analyzed: 08/05/22

pH	8.04	pH Units	8.03	0.124	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2 FL

Project Number: UWRWE-A2165-ABN
Project Manager: Jacob Whritenour

Reported:
08/09/22 13:13

Notes and Definitions

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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

October 28, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Cody White D3-2

Work Order #2209073

Enclosed are the results of analyses for samples received by Summit Scientific on 09/02/22 17:57. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-P@2.5'	2209073-01	Soil	09/02/22 08:55	09/02/22 17:57
FL01-S@2.5'	2209073-02	Soil	09/02/22 10:10	09/02/22 17:57

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂


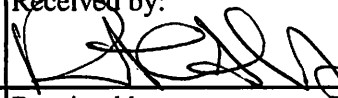
2209073

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Noble / Tasman Project Manager: Jacob Whritenour Invoice: Cole Moore
Address: 6855 W. 119th Ave E-Mail: JWhritenour@tasman-geo.com
City/State/Zip: Broomfield/ CO/ 80020
Phone: 503-915-3046 Project Name: Cody White D3-2
Sampler Name: Martin Medeiros Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions		
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	VOC-915	TPH-915	PAH-915	pH, EC, SAR	Boron-HWS				
1	FL01-P@2.5'	09/02/22	08:55	3			X			X				X	X	X	X	X			
2	FL01-S@2.5'	09/02/22	10:10	3			X			X				X	X	X	X	X			
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					

Relinquished by:  Martin Medeiros	Date/Time: 09/02/22 15:30	Received by: Tasman's Lock Box	Date/Time:	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/>	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 9/22/22 1757	Received by: 	Date/Time: 9/22/22 1757	Sample Integrity: Temperature Upon Receipt: 12.1	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="radio"/> Yes <input type="radio"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 2209073Client: Noble/HosmerClient Project ID: Cody white D3-2Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #: ☐

<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
--------------------------	-------------------------------------	--------------------------	--------------------------	--------------------------

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ice
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Were all samples received intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Was adequate sample volume provided? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Does the COC agree with the number and type of sample bottles received? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Do the sample IDs on the bottle labels match the COC? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Are samples preserved that require preservation (excluding cooling)? ⁽¹⁾ Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If samples are acid preserved for metals, is the pH ≤ 2? ⁽¹⁾ Record the pH in Comments.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
If dissolved metals are requested, were samples field filtered?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Additional Comments (if any):				

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

 Custodian Printed Name

9-2-22
 Date/Time

18:35



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-P@2.5'
2209073-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BF10138	09/07/22	09/08/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		128 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		96.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BF10141	09/07/22	09/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		58.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-P@2.5'
2209073-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	0.0312	0.00500	mg/kg	1	BF10163	09/08/22	09/10/22	EPA 8270D SIM	
Anthracene	0.0877	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.161	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.129	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.183	0.0500	"	10	"	"	09/12/22	"	
Benzo (k) fluoranthene	0.0854	0.00500	"	1	"	"	09/10/22	"	
Chrysene	0.161	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.619	0.0500	"	10	"	"	09/12/22	"	
Fluorene	0.0502	0.00500	"	1	"	"	09/10/22	"	
Indeno (1,2,3-cd) pyrene	0.0433	0.00500	"	"	"	"	"	"	
Pyrene	0.313	0.0500	"	10	"	"	09/12/22	"	
1-Methylnaphthalene	ND	0.00500	"	1	"	"	09/10/22	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		72.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		43.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.99	0.0100	mg/L	1	BF10208	09/09/22	09/10/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	7.92	0.272	mg/kg dry	1	BF10760	09/29/22	10/04/22	EPA 6020B	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-P@2.5'
2209073-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Barium	198	0.544	mg/kg dry	1	BF10760	09/29/22	10/04/22	EPA 6020B
Cadmium	0.432	0.272	"	"	"	"	"	"
Copper	27.1	0.544	"	"	"	"	"	"
Lead	17.2	0.272	"	"	"	"	"	"
Nickel	20.1	0.544	"	"	"	"	"	"
Selenium	2.74	0.354	"	"	"	"	"	"
Silver	0.108	0.0272	"	"	"	"	"	"
Zinc	103	0.544	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10741	09/28/22	10/28/22	EPA 7196A	I-04

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

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	455	0.0681	mg/L dry	1	BF10240	09/11/22	09/13/22	EPA 6020B	
Magnesium	569	0.0681	"	"	"	"	"	"	
Sodium	3180	0.0681	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	23.5	0.00100	units	1	BF10283	09/13/22	09/13/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	73.5		%	1	BF10181	09/08/22	09/09/22	Calculation	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-P@2.5'
2209073-01 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Specific Conductance (EC)	7.52	0.0100	mmhos/cm	1	BF10255	09/12/22	09/12/22	EPA 120.1	

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

Date Sampled: **09/02/22 08:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
pH	7.96		pH Units	1	BF10256	09/12/22	09/12/22	EPA 9045D	

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Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-S@2.5'
2209073-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BF10138	09/07/22	09/08/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		124 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		91.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BF10141	09/07/22	09/08/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		98.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
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Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-S@2.5'
2209073-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BF10163	09/08/22	09/10/22	EPA 8270D SIM	
Anthracene	0.0102	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0290	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0235	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0444	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.0148	0.00500	"	"	"	"	"	"	
Chrysene	0.0278	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.101	0.00500	"	"	"	"	"	"	
Fluorene	0.00578	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00755	0.00500	"	"	"	"	"	"	
Pyrene	0.0742	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		52.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		40.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	1.79	0.0100	mg/L	1	BF10208	09/09/22	09/10/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.36	0.223	mg/kg dry	1	BF10760	09/29/22	10/04/22	EPA 6020B	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-S@2.5'
2209073-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Barium	76.0	0.445	mg/kg dry	1	BF10760	09/29/22	10/04/22	EPA 6020B
Cadmium	ND	0.223	"	"	"	"	"	"
Copper	7.49	0.445	"	"	"	"	"	"
Lead	6.15	0.223	"	"	"	"	"	"
Nickel	7.30	0.445	"	"	"	"	"	"
Selenium	0.975	0.289	"	"	"	"	"	"
Silver	0.0376	0.0223	"	"	"	"	"	"
Zinc	30.3	0.445	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BF10741	09/28/22	10/28/22	EPA 7196A	I-04

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

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	337	0.0557	mg/L dry	1	BF10240	09/11/22	09/13/22	EPA 6020B	
Magnesium	271	0.0557	"	"	"	"	"	"	
Sodium	1000	0.0557	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.84	0.00100	units	1	BF10283	09/13/22	09/13/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.8		%	1	BF10181	09/08/22	09/09/22	Calculation	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

FL01-S@2.5'
2209073-02 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Specific Conductance (EC)	6.46	0.0100	mmhos/cm	1	BF10255	09/12/22	09/12/22	EPA 120.1	

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

Date Sampled: **09/02/22 10:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
pH	7.97		pH Units	1	BF10256	09/12/22	09/12/22	EPA 9045D	

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Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0138 - EPA 5030 Soil MS

Blank (BFI0138-BLK1)

Prepared & Analyzed: 09/07/22

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	0.0499		"	0.0400		125	50-150			
Surrogate: Toluene-d8	0.0397		"	0.0400		99.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0380		"	0.0400		95.1	50-150			

LCS (BFI0138-BS1)

Prepared & Analyzed: 09/07/22

Benzene	0.0552	0.0020	mg/kg	0.0750		73.6	70-130			
Toluene	0.0596	0.0050	"	0.0750		79.4	70-130			
Ethylbenzene	0.0581	0.0050	"	0.0750		77.5	70-130			
m,p-Xylene	0.112	0.010	"	0.150		74.6	70-130			
o-Xylene	0.0534	0.0050	"	0.0750		71.2	70-130			
1,2,4-Trimethylbenzene	0.0537	0.0050	"	0.0750		71.6	70-130			
1,3,5-Trimethylbenzene	0.0547	0.0050	"	0.0750		72.9	70-130			
Naphthalene	0.0539	0.0038	"	0.0750		71.9	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0406		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0386		"	0.0400		96.5	50-150			

Matrix Spike (BFI0138-MS1)

Source: 2209026-15

Prepared & Analyzed: 09/07/22

Benzene	0.0564	0.0020	mg/kg	0.0750	ND	75.2	70-130			
Toluene	0.0568	0.0050	"	0.0750	ND	75.7	70-130			
Ethylbenzene	0.0562	0.0050	"	0.0750	ND	74.9	70-130			
m,p-Xylene	0.109	0.010	"	0.150	ND	72.7	70-130			
o-Xylene	0.0538	0.0050	"	0.0750	ND	71.8	70-130			
1,2,4-Trimethylbenzene	0.0548	0.0050	"	0.0750	ND	73.1	70-130			
1,3,5-Trimethylbenzene	0.0534	0.0050	"	0.0750	ND	71.2	70-130			
Naphthalene	0.0635	0.0038	"	0.0750	ND	84.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0480		"	0.0400		120	50-150			
Surrogate: Toluene-d8	0.0406		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0138 - EPA 5030 Soil MS

Matrix Spike Dup (BFI0138-MSD1)

Source: 2209026-15

Prepared & Analyzed: 09/07/22

Benzene	0.0536	0.0020	mg/kg	0.0750	ND	71.5	70-130	5.02	30	
Toluene	0.0549	0.0050	"	0.0750	ND	73.2	70-130	3.28	30	
Ethylbenzene	0.0565	0.0050	"	0.0750	ND	75.3	70-130	0.533	30	
m,p-Xylene	0.114	0.010	"	0.150	ND	75.8	70-130	4.20	30	
o-Xylene	0.0545	0.0050	"	0.0750	ND	72.6	70-130	1.16	30	
1,2,4-Trimethylbenzene	0.0530	0.0050	"	0.0750	ND	70.6	70-130	3.45	30	
1,3,5-Trimethylbenzene	0.0542	0.0050	"	0.0750	ND	72.2	70-130	1.45	30	
Naphthalene	0.0627	0.0038	"	0.0750	ND	83.6	70-130	1.33	30	
Surrogate: 1,2-Dichloroethane-d4	0.0490		"	0.0400		123	50-150			
Surrogate: Toluene-d8	0.0409		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Result	Reporting			Spike	Source	%REC		RPD	
		Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0141 - EPA 3550A

Blank (BFI0141-BLK1)

Prepared: 09/07/22 Analyzed: 09/08/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

LCS (BFI0141-BS1)

Prepared: 09/07/22 Analyzed: 09/08/22

C10-C28 (DRO)	461	50	mg/kg	500	92.2	70-130
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Matrix Spike (BFI0141-MS1)

Source: 2209026-15

Prepared: 09/07/22 Analyzed: 09/08/22

C10-C28 (DRO)	432	50	mg/kg	500	ND	86.4	70-130
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Matrix Spike Dup (BFI0141-MSD1)

Source: 2209026-15

Prepared: 09/07/22 Analyzed: 09/08/22

C10-C28 (DRO)	523	50	mg/kg	500	ND	105	70-130	19.2	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0163 - EPA 5030 Soil MS

Blank (BFI0163-BLK1)

Prepared: 09/08/22 Analyzed: 09/10/22

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	0.0351		"	0.0333		105	40-150			
Surrogate: Fluoranthene-d10	0.0250		"	0.0333		75.1	40-150			

LCS (BFI0163-BS1)

Prepared: 09/08/22 Analyzed: 09/10/22

Acenaphthene	0.0343	0.00500	mg/kg	0.0333	103	31-137
Anthracene	0.0360	0.00500	"	0.0333	108	30-120
Benzo (a) anthracene	0.0277	0.00500	"	0.0333	83.1	30-120
Benzo (a) pyrene	0.0321	0.00500	"	0.0333	96.3	30-120
Benzo (b) fluoranthene	0.0395	0.00500	"	0.0333	118	30-120
Benzo (k) fluoranthene	0.0332	0.00500	"	0.0333	99.5	30-120
Chrysene	0.0341	0.00500	"	0.0333	102	30-120
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333	73.9	30-120
Fluoranthene	0.0364	0.00500	"	0.0333	109	30-120
Fluorene	0.0367	0.00500	"	0.0333	110	30-120
Indeno (1,2,3-cd) pyrene	0.0207	0.00500	"	0.0333	62.2	30-120
Pyrene	0.0383	0.00500	"	0.0333	115	35-142
1-Methylnaphthalene	0.0348	0.00500	"	0.0333	104	35-142
2-Methylnaphthalene	0.0333	0.00500	"	0.0333	100	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0353		"	0.0333	106	40-150
Surrogate: Fluoranthene-d10	0.0328		"	0.0333	98.5	40-150

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0163 - EPA 5030 Soil MS

Matrix Spike (BFI0163-MS1)

Source: 2209052-01

Prepared: 09/08/22 Analyzed: 09/10/22

Acenaphthene	0.0179	0.00500	mg/kg	0.0333	ND	53.6	31-137				
Anthracene	0.0198	0.00500	"	0.0333	ND	59.4	30-120				
Benzo (a) anthracene	0.0179	0.00500	"	0.0333	ND	53.8	30-120				
Benzo (a) pyrene	0.0212	0.00500	"	0.0333	ND	63.6	30-120				
Benzo (b) fluoranthene	0.0261	0.00500	"	0.0333	ND	78.4	30-120				
Benzo (k) fluoranthene	0.0339	0.00500	"	0.0333	ND	102	30-120				
Chrysene	0.0197	0.00500	"	0.0333	ND	59.2	30-120				
Dibenz (a,h) anthracene	0.0148	0.00500	"	0.0333	ND	44.5	30-120				
Fluoranthene	0.0201	0.00500	"	0.0333	ND	60.4	30-120				
Fluorene	0.0193	0.00500	"	0.0333	ND	58.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0139	0.00500	"	0.0333	ND	41.8	30-120				
Pyrene	0.0238	0.00500	"	0.0333	ND	71.5	35-142				
1-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	62.9	15-130				
2-Methylnaphthalene	0.0184	0.00500	"	0.0333	ND	55.2	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0208		"	0.0333		62.5	40-150				
Surrogate: Fluoranthene-d10	0.0182		"	0.0333		54.7	40-150				

Matrix Spike Dup (BFI0163-MSD1)

Source: 2209052-01

Prepared: 09/08/22 Analyzed: 09/10/22

Acenaphthene	0.0194	0.00500	mg/kg	0.0333	ND	58.3	31-137	8.43	30		
Anthracene	0.0235	0.00500	"	0.0333	ND	70.4	30-120	16.9	30		
Benzo (a) anthracene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	13.1	30		
Benzo (a) pyrene	0.0241	0.00500	"	0.0333	ND	72.3	30-120	12.8	30		
Benzo (b) fluoranthene	0.0304	0.00500	"	0.0333	ND	91.1	30-120	15.0	30		
Benzo (k) fluoranthene	0.0399	0.00500	"	0.0333	ND	120	30-120	16.2	30		
Chrysene	0.0230	0.00500	"	0.0333	ND	68.9	30-120	15.1	30		
Dibenz (a,h) anthracene	0.0181	0.00500	"	0.0333	ND	54.2	30-120	19.7	30		
Fluoranthene	0.0254	0.00500	"	0.0333	ND	76.2	30-120	23.3	30		
Fluorene	0.0204	0.00500	"	0.0333	ND	61.1	30-120	5.26	30		
Indeno (1,2,3-cd) pyrene	0.0152	0.00500	"	0.0333	ND	45.7	30-120	8.83	30		
Pyrene	0.0289	0.00500	"	0.0333	ND	86.6	35-142	19.2	30		
1-Methylnaphthalene	0.0230	0.00500	"	0.0333	ND	68.9	15-130	9.06	50		
2-Methylnaphthalene	0.0214	0.00500	"	0.0333	ND	64.1	15-130	15.0	50		
Surrogate: 2-Methylnaphthalene-d10	0.0229		"	0.0333		68.8	40-150				
Surrogate: Fluoranthene-d10	0.0223		"	0.0333		66.8	40-150				

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0208 - EPA 3050B

Blank (BFI0208-BLK1)

Prepared: 09/09/22 Analyzed: 09/10/22

Boron ND 0.0100 mg/L

LCS (BFI0208-BS1)

Prepared: 09/09/22 Analyzed: 09/10/22

Boron 5.03 0.0100 mg/L 5.00 101 80-120

Duplicate (BFI0208-DUP1)

Source: 2209047-03

Prepared: 09/09/22 Analyzed: 09/10/22

Boron 0.106 0.0100 mg/L 0.111 4.50 20

Matrix Spike (BFI0208-MS1)

Source: 2209047-03

Prepared: 09/09/22 Analyzed: 09/10/22

Boron 5.09 0.0100 mg/L 5.00 0.111 99.6 75-125

Matrix Spike Dup (BFI0208-MSD1)

Source: 2209047-03

Prepared: 09/09/22 Analyzed: 09/10/22

Boron 5.14 0.0100 mg/L 5.00 0.111 101 75-125 0.995 25

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0760 - EPA 3050B

Blank (BFI0760-BLK1)

Prepared: 09/29/22 Analyzed: 10/04/22

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	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BFI0760-BS1)

Prepared: 09/29/22 Analyzed: 10/04/22

Arsenic	45.1	0.200	mg/kg wet	40.0	113	80-120
Barium	47.3	0.400	"	40.0	118	80-120
Cadmium	2.33	0.200	"	2.00	117	80-120
Copper	46.1	0.400	"	40.0	115	80-120
Lead	23.1	0.200	"	20.0	115	80-120
Nickel	45.1	0.400	"	40.0	113	80-120
Selenium	4.48	0.260	"	4.00	112	80-120
Silver	2.27	0.0200	"	2.00	113	80-120
Zinc	45.2	0.400	"	40.0	113	80-120

Duplicate (BFI0760-DUP1)

Source: 2209073-01

Prepared: 09/29/22 Analyzed: 10/04/22

Arsenic	8.15	0.272	mg/kg dry	7.92	2.86	20
Barium	205	0.544	"	198	3.20	20
Cadmium	0.441	0.272	"	0.432	2.05	20
Copper	27.7	0.544	"	27.1	2.15	20
Lead	17.3	0.272	"	17.2	0.349	20
Nickel	20.7	0.544	"	20.1	2.89	20
Selenium	2.84	0.354	"	2.74	3.73	20
Silver	0.110	0.0272	"	0.108	1.07	20
Zinc	106	0.544	"	103	2.68	20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0760 - EPA 3050B

Matrix Spike (BFI0760-MS1)		Source: 2209073-01			Prepared: 09/29/22 Analyzed: 10/04/22					
Arsenic	69.0	0.272	mg/kg dry	54.4	7.92	112	75-125			
Barium	266	0.544	"	54.4	198	125	75-125			
Cadmium	3.51	0.272	"	2.72	0.432	113	75-125			
Copper	86.1	0.544	"	54.4	27.1	108	75-125			
Lead	44.0	0.272	"	27.2	17.2	98.3	75-125			
Nickel	78.9	0.544	"	54.4	20.1	108	75-125			
Selenium	7.78	0.354	"	5.44	2.74	92.7	75-125			
Silver	3.08	0.0272	"	2.72	0.108	109	75-125			
Zinc	166	0.544	"	54.4	103	115	75-125			

Matrix Spike Dup (BFI0760-MSD1)		Source: 2209073-01			Prepared: 09/29/22 Analyzed: 10/04/22					
Arsenic	68.8	0.272	mg/kg dry	54.4	7.92	112	75-125	0.240	25	QM-05
Barium	269	0.544	"	54.4	198	130	75-125	1.16	25	
Cadmium	3.53	0.272	"	2.72	0.432	114	75-125	0.488	25	
Copper	87.6	0.544	"	54.4	27.1	111	75-125	1.73	25	
Lead	44.4	0.272	"	27.2	17.2	99.8	75-125	0.922	25	
Nickel	78.5	0.544	"	54.4	20.1	107	75-125	0.626	25	
Selenium	8.48	0.354	"	5.44	2.74	105	75-125	8.57	25	
Silver	3.10	0.0272	"	2.72	0.108	110	75-125	0.875	25	
Zinc	164	0.544	"	54.4	103	112	75-125	1.02	25	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0741 - 3060A Mod

Blank (BFI0741-BLK1)

Prepared & Analyzed: 09/28/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFI0741-BS1)

Prepared & Analyzed: 09/28/22

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.2 80-120

Duplicate (BFI0741-DUP1)

Source: 2209333-21

Prepared & Analyzed: 09/28/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFI0741-MS1)

Source: 2209333-21

Prepared & Analyzed: 09/28/22

Chromium, Hexavalent 24.9 0.30 mg/kg dry 25.7 ND 97.0 75-125

Matrix Spike Dup (BFI0741-MSD1)

Source: 2209333-21

Prepared & Analyzed: 09/28/22

Chromium, Hexavalent 26.8 0.30 mg/kg dry 25.7 ND 104 75-125 7.35 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

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

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0240 - General Preparation

Blank (BFI0240-BLK1)

Prepared: 09/11/22 Analyzed: 09/13/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFI0240-BS1)

Prepared: 09/11/22 Analyzed: 09/13/22

Calcium	6.16	0.0500	mg/L wet	5.00	123	70-130
Magnesium	6.11	0.0500	"	5.00	122	70-130
Sodium	6.13	0.0500	"	5.00	123	70-130

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BFI0181 - General Preparation

Duplicate (BFI0181-DUP1)		Source: 2209072-03		Prepared: 09/08/22 Analyzed: 09/09/22	
% Solids	94.3		%	94.7	0.343 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0255 - General Preparation

Blank (BFI0255-BLK1)

Prepared & Analyzed: 09/12/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFI0255-BS1)

Prepared & Analyzed: 09/12/22

Specific Conductance (EC) 0.146 0.0100 mmhos/cm 0.150 97.2 95-105

Duplicate (BFI0255-DUP1)

Source: 2208347-01

Prepared & Analyzed: 09/12/22

Specific Conductance (EC) 0.407 0.0100 mmhos/cm 0.410 0.832 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFI0256 - General Preparation

LCS (BFI0256-BS1)

Prepared & Analyzed: 09/12/22

pH	9.26	pH Units	9.18	101	95-105
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Duplicate (BFI0256-DUP1)

Source: 2208347-01

Prepared & Analyzed: 09/12/22

pH	6.23	pH Units	6.31	1.28	20
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
10/28/22 14:37

Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
I-04	Sample was analyzed out of recommended holding time per clients request.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

December 27, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Cody White D3-2

Work Order # 2211104

Enclosed are the results of analyses for samples received by Summit Scientific on 11/07/22 17:04. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH01@4'	2211104-01	Soil	11/07/22 14:00	11/07/22 17:04
BH01@6'	2211104-02	Soil	11/07/22 14:20	11/07/22 17:04

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific
S₂

2211104

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page \ of \

Client: Noble / Tasman Geosciences

Project Manager: Jake Whritenour, Invoice: Erica Zuniga

Address: 6855 W. 119th Ave.

E-Mail: jwhritenour@tasman-geo.com/ Noble Group

City/State/Zip: Broomfield / CO/ 80020



Phone: 303-827-1511

Project Name: Cody White D3-2

Sampler Name: Hunter Merlo

Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions		
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS					pH, EC, SAR by saturated paste
1	B-A01E4'	11/7/22	1400	2			X			X				X	X	X	X	X	X				
2	B-A01E6'	11/7/22	1420	2			X			X				X	X	X	X	X	X				
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes:
	11/7/22 1400	Tammie Coch Box	11/7/22 1400	<input type="checkbox"/> Same Day	<input type="checkbox"/> 72 hours	
				<input type="checkbox"/> 24 hours	<input checked="" type="checkbox"/> Standard	
Relinquished by:	Date/Time:	Received by:	Date/Time:	<input type="checkbox"/> 48 hours		
Tasmie Coch Box	11/7/22 1704		11/7/22 1704	Sample Integrity:		
Relinquished by:	Date/Time:	Received by:	Date/Time:	Temperature Upon Receipt:	9.4	
				Samples Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

S₂

Sample Receipt Checklist

S2 Work Order# 221104Client: Noble Tasmann Client Project ID: Cody White D3-2Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 94 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	—			an JOE
If custody seals are present, are they intact ⁽¹⁾ ?	—			
Are samples due within 48 hours present?		—		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			—	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	—			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	—			
Were all samples received intact ⁽¹⁾ ?	—			
Was adequate sample volume provided ⁽¹⁾ ?	—			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	—			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	—			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			—	—
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			—	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			—	
If dissolved metals are requested, were samples field filtered?			—	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

11-7-22



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@4'
2211104-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BFK0208	11/08/22	11/09/22	EPA 8260B	
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		"	"	"	"	"	"	

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		107 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		109 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		109 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BFK0209	11/08/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		104 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@4'
2211104-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BFK0259	11/10/22	11/11/22	EPA 8270D 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: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		74.2 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		56.0 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.311	0.0100		mg/L	1	BFK0236	11/09/22	11/09/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/07/22 14:00**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@4'
2211104-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.10	0.269	0.227	mg/kg dry	1	BFL0477	12/19/22	12/20/22	EPA 6020B
Barium	121	0.538	0.425	"	"	"	"	"	"
Cadmium	0.262	0.269	0.00969	"	"	"	"	"	"
Copper	15.1	0.538	0.0281	"	"	"	"	"	"
Lead	11.2	0.269	0.0740	"	"	"	"	"	"
Nickel	11.8	0.538	0.0821	"	"	"	"	"	"
Selenium	0.836	0.350	0.236	"	"	"	"	"	"
Silver	0.0603	0.0269	0.00359	"	"	"	"	"	"
Zinc	48.6	0.538	0.358	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFL0500	12/20/22	12/20/22	EPA 7196A	I-02

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

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	201	0.0673		mg/L dry	1	BFK0246	11/09/22	11/11/22	EPA 6020B	
Magnesium	152	0.0673		"	"	"	"	"	"	
Sodium	824	0.0673		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.7	0.00100		units	1	BFK0338	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@4'
2211104-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	74.3			%	1	BFK0283	11/10/22	11/11/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	3.91	0.0100		mmhos/cm	1	BFK0267	11/10/22	11/10/22	EPA 120.1	

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

Date Sampled: **11/07/22 14:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.11			pH Units	1	BFK0266	11/10/22	11/10/22	EPA 9045D	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@6'
2211104-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BFK0208	11/08/22	11/09/22	EPA 8260B	
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		"	"	"	"	"	"	

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		101 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		108 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		107 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BFK0209	11/08/22	11/09/22	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		106 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@6'
2211104-02 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BFK0259	11/10/22	11/11/22	EPA 8270D 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: **11/07/22 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		83.0 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		58.4 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.339	0.0100		mg/L	1	BFK0236	11/09/22	11/10/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@6'
2211104-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.87	0.281	0.237	mg/kg dry	1	BFL0477	12/19/22	12/20/22	EPA 6020B
Barium	95.4	0.562	0.444	"	"	"	"	"	"
Cadmium	0.302	0.281	0.0101	"	"	"	"	"	"
Copper	21.1	0.562	0.0294	"	"	"	"	"	"
Lead	13.4	0.281	0.0772	"	"	"	"	"	"
Nickel	17.9	0.562	0.0857	"	"	"	"	"	"
Selenium	0.995	0.365	0.246	"	"	"	"	"	"
Silver	0.0750	0.0281	0.00375	"	"	"	"	"	"
Zinc	68.2	0.562	0.374	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BFL0500	12/20/22	12/20/22	EPA 7196A	I-02

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

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	226	0.0702		mg/L dry	1	BFK0246	11/09/22	11/11/22	EPA 6020B	
Magnesium	279	0.0702		"	"	"	"	"	"	
Sodium	1640	0.0702		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	17.2	0.00100		units	1	BFK0338	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

BH01@6'
2211104-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	71.2			%	1	BFK0283	11/10/22	11/11/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	6.39	0.0100		mmhos/cm	1	BFK0267	11/10/22	11/10/22	EPA 120.1	

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

Date Sampled: **11/07/22 14:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.21			pH Units	1	BFK0266	11/10/22	11/10/22	EPA 9045D	

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0208 - EPA 5030 Soil MS

Blank (BFK0208-BLK1)

Prepared & Analyzed: 11/08/22

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	0.0372		"	0.0400		93.1	50-150			
Surrogate: Toluene-d8	0.0431		"	0.0400		108	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

LCS (BFK0208-BS1)

Prepared & Analyzed: 11/08/22

Benzene	0.0778	0.0020	mg/kg	0.0750		104	70-130			
Toluene	0.0707	0.0050	"	0.0750		94.3	70-130			
Ethylbenzene	0.0719	0.0050	"	0.0750		95.9	70-130			
m,p-Xylene	0.145	0.010	"	0.150		97.0	70-130			
o-Xylene	0.0755	0.0050	"	0.0750		101	70-130			
1,2,4-Trimethylbenzene	0.0828	0.0050	"	0.0750		110	70-130			
1,3,5-Trimethylbenzene	0.0800	0.0050	"	0.0750		107	70-130			
Naphthalene	0.0944	0.0038	"	0.0750		126	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0347		"	0.0400		86.8	50-150			
Surrogate: Toluene-d8	0.0425		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0411		"	0.0400		103	50-150			

Matrix Spike (BFK0208-MS1)

Source: 2211096-01

Prepared & Analyzed: 11/08/22

Benzene	0.0696	0.0020	mg/kg	0.0750	ND	92.8	70-130			
Toluene	0.0671	0.0050	"	0.0750	ND	89.4	70-130			
Ethylbenzene	0.0691	0.0050	"	0.0750	ND	92.2	70-130			
m,p-Xylene	0.141	0.010	"	0.150	ND	94.0	70-130			
o-Xylene	0.0741	0.0050	"	0.0750	ND	98.8	70-130			
1,2,4-Trimethylbenzene	0.0824	0.0050	"	0.0750	ND	110	70-130			
1,3,5-Trimethylbenzene	0.0783	0.0050	"	0.0750	ND	104	70-130			
Naphthalene	0.0933	0.0038	"	0.0750	ND	124	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0362		"	0.0400		90.5	50-150			
Surrogate: Toluene-d8	0.0437		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	50-150			

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

12/27/22 09:29

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0208 - EPA 5030 Soil MS

Matrix Spike Dup (BFK0208-MSD1)	Source: 2211096-01			Prepared & Analyzed: 11/08/22						
Benzene	0.0711	0.0020	mg/kg	0.0750	ND	94.8	70-130	2.09	30	
Toluene	0.0709	0.0050	"	0.0750	ND	94.5	70-130	5.48	30	
Ethylbenzene	0.0712	0.0050	"	0.0750	ND	95.0	70-130	3.03	30	
m,p-Xylene	0.146	0.010	"	0.150	ND	97.3	70-130	3.51	30	
o-Xylene	0.0763	0.0050	"	0.0750	ND	102	70-130	2.91	30	
1,2,4-Trimethylbenzene	0.0847	0.0050	"	0.0750	ND	113	70-130	2.69	30	
1,3,5-Trimethylbenzene	0.0819	0.0050	"	0.0750	ND	109	70-130	4.53	30	
Naphthalene	0.0915	0.0038	"	0.0750	ND	122	70-130	1.98	30	
Surrogate: 1,2-Dichloroethane-d4	0.0345		"	0.0400		86.3	50-150			
Surrogate: Toluene-d8	0.0434		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0209 - EPA 3550A

Blank (BFK0209-BLK1)

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.6		"	12.5		101	30-150			

LCS (BFK0209-BS1)

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	469	50	mg/kg	500		93.8	70-130			
Surrogate: o-Terphenyl	12.1		"	12.5		96.9	30-150			

Matrix Spike (BFK0209-MS1)

Source: 2211096-01

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	457	50	mg/kg	500	10.7	89.2	70-130			
Surrogate: o-Terphenyl	11.7		"	12.5		93.3	30-150			

Matrix Spike Dup (BFK0209-MSD1)

Source: 2211096-01

Prepared & Analyzed: 11/08/22

C10-C28 (DRO)	455	50	mg/kg	500	10.7	88.9	70-130	0.372	20	
Surrogate: o-Terphenyl	10.9		"	12.5		87.1	30-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0259 - EPA 5030 Soil MS

Blank (BFK0259-BLK1)

Prepared & Analyzed: 11/10/22

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	0.0404		"	0.0333		121	40-150			
Surrogate: Fluoranthene-d10	0.0302		"	0.0333		90.5	40-150			

LCS (BFK0259-BS1)

Prepared & Analyzed: 11/10/22

Acenaphthene	0.0418	0.00500	mg/kg	0.0333		125	31-137			
Anthracene	0.0377	0.00500	"	0.0333		113	30-120			
Benzo (a) anthracene	0.0336	0.00500	"	0.0333		101	30-120			
Benzo (a) pyrene	0.0400	0.00500	"	0.0333		120	30-120			
Benzo (b) fluoranthene	0.0398	0.00500	"	0.0333		119	30-120			
Benzo (k) fluoranthene	0.0398	0.00500	"	0.0333		119	30-120			
Chrysene	0.0329	0.00500	"	0.0333		98.8	30-120			
Dibenz (a,h) anthracene	0.0399	0.00500	"	0.0333		120	30-120			
Fluoranthene	0.0381	0.00500	"	0.0333		114	30-120			
Fluorene	0.0392	0.00500	"	0.0333		118	30-120			
Indeno (1,2,3-cd) pyrene	0.0380	0.00500	"	0.0333		114	30-120			
Pyrene	0.0354	0.00500	"	0.0333		106	35-142			
1-Methylnaphthalene	0.0348	0.00500	"	0.0333		104	35-142			
2-Methylnaphthalene	0.0340	0.00500	"	0.0333		102	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0348		"	0.0333		104	40-150			
Surrogate: Fluoranthene-d10	0.0397		"	0.0333		119	40-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Reporting				Spike	Source	%REC			RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0259 - EPA 5030 Soil MS

Matrix Spike (BFK0259-MS1)			Source: 2211017-01			Prepared & Analyzed: 11/10/22				
Acenaphthene	0.0299	0.00500	mg/kg	0.0333	ND	89.6	31-137			
Anthracene	0.0298	0.00500	"	0.0333	ND	89.3	30-120			
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.3	30-120			
Benzo (a) pyrene	0.0267	0.00500	"	0.0333	0.00128	76.3	30-120			
Benzo (b) fluoranthene	0.0235	0.00500	"	0.0333	ND	70.6	30-120			
Benzo (k) fluoranthene	0.0255	0.00500	"	0.0333	ND	76.6	30-120			
Chrysene	0.0286	0.00500	"	0.0333	0.00307	76.6	30-120			
Dibenz (a,h) anthracene	0.0284	0.00500	"	0.0333	ND	85.3	30-120			
Fluoranthene	0.0393	0.00500	"	0.0333	ND	118	30-120			
Fluorene	0.0330	0.00500	"	0.0333	ND	99.0	30-120			
Indeno (1,2,3-cd) pyrene	0.0270	0.00500	"	0.0333	ND	80.9	30-120			
Pyrene	0.0329	0.00500	"	0.0333	0.00506	83.4	35-142			
1-Methylnaphthalene	0.428	0.00500	"	0.0333	0.163	795	15-130			QM-07
2-Methylnaphthalene	0.127	0.00500	"	0.0333	0.0269	300	15-130			QM-07
Surrogate: 2-Methylnaphthalene-d10	0.0381		"	0.0333		114	40-150			
Surrogate: Fluoranthene-d10	0.0282		"	0.0333		84.7	40-150			

Matrix Spike Dup (BFK0259-MSD1)			Source: 2211017-01			Prepared & Analyzed: 11/10/22				
Acenaphthene	0.0373	0.00500	mg/kg	0.0333	ND	112	31-137	22.1	30	
Anthracene	0.0324	0.00500	"	0.0333	ND	97.1	30-120	8.42	30	
Benzo (a) anthracene	0.0238	0.00500	"	0.0333	ND	71.4	30-120	0.164	30	
Benzo (a) pyrene	0.0286	0.00500	"	0.0333	0.00128	82.1	30-120	7.03	30	
Benzo (b) fluoranthene	0.0257	0.00500	"	0.0333	ND	77.0	30-120	8.75	30	
Benzo (k) fluoranthene	0.0278	0.00500	"	0.0333	ND	83.4	30-120	8.44	30	
Chrysene	0.0285	0.00500	"	0.0333	0.00307	76.2	30-120	0.516	30	
Dibenz (a,h) anthracene	0.0283	0.00500	"	0.0333	ND	84.8	30-120	0.590	30	
Fluoranthene	0.0387	0.00500	"	0.0333	ND	116	30-120	1.57	30	
Fluorene	0.0237	0.00500	"	0.0333	ND	71.1	30-120	32.8	30	QR-02
Indeno (1,2,3-cd) pyrene	0.0277	0.00500	"	0.0333	ND	83.2	30-120	2.83	30	
Pyrene	0.0304	0.00500	"	0.0333	0.00506	76.1	35-142	7.70	30	
1-Methylnaphthalene	0.339	0.00500	"	0.0333	0.163	528	15-130	23.2	50	QM-07
2-Methylnaphthalene	0.120	0.00500	"	0.0333	0.0269	281	15-130	5.33	50	QM-07
Surrogate: 2-Methylnaphthalene-d10	0.0315		"	0.0333		94.4	40-150			
Surrogate: Fluoranthene-d10	0.0288		"	0.0333		86.3	40-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0236 - EPA 3050B

Blank (BFK0236-BLK1)

Prepared & Analyzed: 11/09/22

Boron ND 0.0100 mg/L

LCS (BFK0236-BS1)

Prepared & Analyzed: 11/09/22

Boron 5.85 0.0100 mg/L 5.00 117 80-120

Matrix Spike (BFK0236-MS1)

Source: 2211104-01

Prepared & Analyzed: 11/09/22

Boron 5.97 0.0100 mg/L 5.00 0.311 113 75-125

Matrix Spike Dup (BFK0236-MSD1)

Source: 2211104-01

Prepared & Analyzed: 11/09/22

Boron 5.93 0.0100 mg/L 5.00 0.311 112 75-125 0.545 25

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFL0477 - EPA 3050B

Blank (BFL0477-BLK1)

Prepared: 12/19/22 Analyzed: 12/20/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Copper	0.356	0.400	"
Lead	ND	0.200	"
Nickel	ND	0.400	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BFL0477-BS1)

Prepared: 12/19/22 Analyzed: 12/20/22

Arsenic	34.8	0.200	mg/kg wet	40.0	86.9	80-120
Barium	32.6	0.400	"	40.0	81.6	80-120
Cadmium	1.66	0.200	"	2.00	82.8	80-120
Copper	33.1	0.400	"	40.0	82.8	80-120
Lead	19.8	0.200	"	20.0	99.2	80-120
Nickel	33.1	0.400	"	40.0	82.8	80-120
Selenium	3.23	0.260	"	4.00	80.8	80-120
Silver	1.62	0.0200	"	2.00	81.1	80-120
Zinc	35.4	0.400	"	40.0	88.5	80-120

Duplicate (BFL0477-DUP1)

Source: 2212154-02

Prepared: 12/19/22 Analyzed: 12/20/22

Arsenic	3.65	0.235	mg/kg dry	3.69	1.10	20
Barium	85.1	0.471	"	83.1	2.37	20
Cadmium	0.167	0.235	"	0.154	8.37	20
Copper	7.14	0.471	"	7.09	0.768	20
Lead	6.31	0.235	"	6.18	2.03	20
Nickel	8.21	0.471	"	8.03	2.17	20
Selenium	0.396	0.306	"	0.389	1.57	20
Silver	0.0347	0.0235	"	0.0310	11.2	20
Zinc	30.7	0.471	"	30.2	1.72	20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFL0477 - EPA 3050B

Matrix Spike (BFL0477-MS1)

Source: 2212154-02

Prepared: 12/19/22 Analyzed: 12/20/22

Arsenic	41.1	0.235	mg/kg dry	47.1	3.69	79.6	75-125
Barium	134	0.471	"	47.1	83.1	108	75-125
Cadmium	2.03	0.235	"	2.35	0.154	79.7	75-125
Copper	43.0	0.471	"	47.1	7.09	76.4	75-125
Lead	27.3	0.235	"	23.5	6.18	89.8	75-125
Nickel	45.2	0.471	"	47.1	8.03	79.1	75-125
Selenium	4.30	0.306	"	4.71	0.389	83.2	75-125
Silver	1.82	0.0235	"	2.35	0.0310	76.0	75-125
Zinc	68.2	0.471	"	47.1	30.2	80.9	75-125

Matrix Spike Dup (BFL0477-MSD1)

Source: 2212154-02

Prepared: 12/19/22 Analyzed: 12/20/22

Arsenic	41.9	0.235	mg/kg dry	47.1	3.69	81.2	75-125	1.86	25
Barium	136	0.471	"	47.1	83.1	112	75-125	1.44	25
Cadmium	2.13	0.235	"	2.35	0.154	83.9	75-125	4.84	25
Copper	43.7	0.471	"	47.1	7.09	77.8	75-125	1.54	25
Lead	24.2	0.235	"	23.5	6.18	76.4	75-125	12.2	25
Nickel	45.8	0.471	"	47.1	8.03	80.3	75-125	1.30	25
Selenium	4.30	0.306	"	4.71	0.389	83.2	75-125	0.0305	25
Silver	1.94	0.0235	"	2.35	0.0310	81.2	75-125	6.51	25
Zinc	69.1	0.471	"	47.1	30.2	82.8	75-125	1.29	25

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFL0500 - 3060A Mod

Blank (BFL0500-BLK1)

Prepared & Analyzed: 12/20/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFL0500-BS1)

Prepared & Analyzed: 12/20/22

Chromium, Hexavalent 21.8 0.30 mg/kg wet 25.0 87.0 80-120

Duplicate (BFL0500-DUP1)

Source: 2211104-01

Prepared & Analyzed: 12/20/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFL0500-MS1)

Source: 2211104-01

Prepared & Analyzed: 12/20/22

Chromium, Hexavalent 28.2 0.30 mg/kg dry 33.7 ND 83.8 75-125

Matrix Spike Dup (BFL0500-MSD1)

Source: 2211104-01

Prepared & Analyzed: 12/20/22

Chromium, Hexavalent 26.5 0.30 mg/kg dry 33.7 ND 78.8 75-125 6.15 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

12/27/22 09:29

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

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0246 - General Preparation

Blank (BFK0246-BLK1)

Prepared: 11/09/22 Analyzed: 11/11/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFK0246-BS1)

Prepared: 11/09/22 Analyzed: 11/11/22

Calcium	5.15	0.0500	mg/L wet	5.00	103	70-130
Magnesium	5.08	0.0500	"	5.00	102	70-130
Sodium	5.00	0.0500	"	5.00	100	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0283 - General Preparation

Duplicate (BFK0283-DUP1)		Source: 2211104-01		Prepared: 11/10/22 Analyzed: 11/11/22	
% Solids	73.8		%	74.3	0.623 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0267 - General Preparation

Blank (BFK0267-BLK1)

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFK0267-BS1)

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) 0.143 0.0100 mmhos/cm 0.150 95.5 95-105

Duplicate (BFK0267-DUP1)

Source: 2211084-01

Prepared & Analyzed: 11/10/22

Specific Conductance (EC) 1.09 0.0100 mmhos/cm 1.11 2.18 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0266 - General Preparation

LCS (BFK0266-BS1)

Prepared & Analyzed: 11/10/22

pH	9.00	pH Units	9.18	98.0	95-105
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Duplicate (BFK0266-DUP1)

Source: 2211084-01

Prepared & Analyzed: 11/10/22

pH	8.04	pH Units	8.02	0.249	20
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/27/22 09:29

Notes and Definitions

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-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
I-02	This sample was analyzed outside of the recommended 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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 15, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Cody White D3-2

Work Order #2211146

Enclosed are the results of analyses for samples received by Summit Scientific on 11/08/22 17:16. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury
President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BH02@4'	2211146-01	Soil	11/08/22 12:30	11/08/22 17:16
BH02@6'	2211146-02	Soil	11/08/22 12:40	11/08/22 17:16

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

S₂

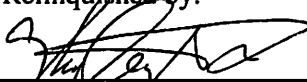

2211146

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 1 of 1

Client: Noble / Tasman Project Manager: Jake Whritenour Invoice:
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com
City/State/Zip: Broomfield, CO 80020
Phone: 303-261-6246 Project Name: Cody White D3-2
Sampler Name: Stanley Gilbert Project Number:

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested								Special Instructions	
					HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	HOLD	915 - Metals			
1	BH0204'	11/8/22	12:36	3			X			X				X	X	X	X	X		X		pH, EC, SAR by saturated paste
2	BH0206'	11/8/22	12:40	3			X			X				X	X	X	X	X		X		
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Relinquished by: 	Date/Time: 11/8/22 16:18	Received by: Tasman's Lock Box	Date/Time: 11/8/22 16:18	Turn Around Time (Check) Same Day <input type="checkbox"/> 72 hours 24 hours <input type="checkbox"/> Standard <input checked="" type="checkbox"/> 48 hours <input type="checkbox"/> Sample Integrity: Temperature Upon Receipt: <u>9.4</u> Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Notes:
Relinquished by: Tasman's Lock Box	Date/Time: 11/8/22 17:16	Received by: 	Date/Time: 11/8/22 17:16		
Relinquished by:	Date/Time:	Received by:	Date/Time:		

S₂

Sample Receipt Checklist

S2 Work Order# 2211146Client: Noble Hasman Client Project ID: Cody White D3-2Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other Airbill #: _____

	-			
--	---	--	--	--

Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 9.4 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	-
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name

Date/Time

11-8-22



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@4'
2211146-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0244	11/09/22	11/11/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		108 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		110 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0242	11/09/22	11/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		84.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@4'
2211146-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0292	11/11/22	11/11/22	EPA 8270D 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: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		104 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		76.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.653	0.0100	mg/L	1	BFK0311	11/11/22	11/13/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@4'
2211146-01 (Soil)

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Total Metals by EPA 6020B

Arsenic	3.06	0.230	mg/kg dry	1	BFK0276	11/10/22	11/10/22	EPA 6020B
Barium	78.6	0.460	"	"	"	"	"	"
Cadmium	ND	0.230	"	"	"	"	"	"
Copper	3.86	0.460	"	"	"	"	"	"
Lead	4.90	0.230	"	"	"	"	"	"
Nickel	5.05	0.460	"	"	"	"	"	"
Selenium	ND	0.299	"	"	"	"	"	"
Silver	0.0294	0.0230	"	"	"	"	"	"
Zinc	17.4	0.460	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0374	11/14/22	11/14/22	EPA 7196A	

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

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	348	0.0575	mg/L dry	1	BFK0265	11/10/22	11/12/22	EPA 6020B	
Magnesium	335	0.0575	"	"	"	"	"	"	
Sodium	1990	0.0575	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	18.3	0.00100	units	1	BFK0361	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@4'
2211146-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.9		%	1	BFK0325	11/12/22	11/12/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	9.49	0.0100	mmhos/cm	1	BFK0308	11/11/22	11/11/22	EPA 120.1	

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

Date Sampled: **11/08/22 12:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.17		pH Units	1	BFK0307	11/11/22	11/11/22	EPA 9045D	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@6'
2211146-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BFK0244	11/09/22	11/11/22	EPA 8260B	
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	"	"	"	"	"	"	

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4		82.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8		107 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		103 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BFK0242	11/09/22	11/10/22	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl		100 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@6'
2211146-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BFK0292	11/11/22	11/11/22	EPA 8270D 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: **11/08/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		98.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		79.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.333	0.0100	mg/L	1	BFK0311	11/11/22	11/13/22	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@6'
2211146-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.18	0.235	mg/kg dry	1	BFK0276	11/10/22	11/10/22	EPA 6020B
Barium	134	0.470	"	"	"	"	"	"
Cadmium	ND	0.235	"	"	"	"	"	"
Copper	4.43	0.470	"	"	"	"	"	"
Lead	5.69	0.235	"	"	"	"	"	"
Nickel	5.50	0.470	"	"	"	"	"	"
Selenium	ND	0.305	"	"	"	"	"	"
Silver	0.0310	0.0235	"	"	"	"	"	"
Zinc	20.2	0.470	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BFK0374	11/14/22	11/14/22	EPA 7196A	

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

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	328	0.0587	mg/L dry	1	BFK0265	11/10/22	11/12/22	EPA 6020B	
Magnesium	134	0.0587	"	"	"	"	"	"	
Sodium	607	0.0587	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	7.13	0.00100	units	1	BFK0361	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

BH02@6'
2211146-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	85.1			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	3.96	0.0100		mmhos/cm	1	BFK0308	11/11/22	11/11/22	EPA 120.1	

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

Date Sampled: **11/08/22 12:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.14			pH Units	1	BFK0307	11/11/22	11/11/22	EPA 9045D	

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Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0244 - EPA 5030 Soil MS

Blank (BFK0244-BLK1)

Prepared: 11/09/22 Analyzed: 11/10/22

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	0.0341		"	0.0400		85.4	50-150			
Surrogate: Toluene-d8	0.0438		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0415		"	0.0400		104	50-150			

LCS (BFK0244-BS1)

Prepared: 11/09/22 Analyzed: 11/10/22

Benzene	0.0747	0.0020	mg/kg	0.0750		99.6	70-130			
Toluene	0.0716	0.0050	"	0.0750		95.5	70-130			
Ethylbenzene	0.0747	0.0050	"	0.0750		99.6	70-130			
m,p-Xylene	0.148	0.010	"	0.150		98.3	70-130			
o-Xylene	0.0769	0.0050	"	0.0750		103	70-130			
1,2,4-Trimethylbenzene	0.0838	0.0050	"	0.0750		112	70-130			
1,3,5-Trimethylbenzene	0.0823	0.0050	"	0.0750		110	70-130			
Naphthalene	0.119	0.0038	"	0.0750		159	70-130			QLCS-01
Surrogate: 1,2-Dichloroethane-d4	0.0340		"	0.0400		85.1	50-150			
Surrogate: Toluene-d8	0.0435		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0408		"	0.0400		102	50-150			

Matrix Spike (BFK0244-MS1)

Source: 2211138-01

Prepared: 11/09/22 Analyzed: 11/10/22

Benzene	0.0706	0.0020	mg/kg	0.0750	ND	94.1	70-130			
Toluene	0.0663	0.0050	"	0.0750	ND	88.4	70-130			
Ethylbenzene	0.0685	0.0050	"	0.0750	ND	91.3	70-130			
m,p-Xylene	0.137	0.010	"	0.150	ND	91.3	70-130			
o-Xylene	0.0723	0.0050	"	0.0750	ND	96.4	70-130			
1,2,4-Trimethylbenzene	0.0801	0.0050	"	0.0750	ND	107	70-130			
1,3,5-Trimethylbenzene	0.0774	0.0050	"	0.0750	ND	103	70-130			
Naphthalene	0.147	0.0038	"	0.0750	ND	196	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0361		"	0.0400		90.3	50-150			
Surrogate: Toluene-d8	0.0441		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0418		"	0.0400		105	50-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0244 - EPA 5030 Soil MS

Matrix Spike Dup (BFK0244-MSD1)	Source: 2211138-01			Prepared: 11/09/22 Analyzed: 11/10/22						
Benzene	0.0791	0.0020	mg/kg	0.0750	ND	106	70-130	11.4	30	
Toluene	0.0742	0.0050	"	0.0750	ND	99.0	70-130	11.3	30	
Ethylbenzene	0.0700	0.0050	"	0.0750	ND	93.3	70-130	2.17	30	
m,p-Xylene	0.142	0.010	"	0.150	ND	94.6	70-130	3.55	30	
o-Xylene	0.0740	0.0050	"	0.0750	ND	98.7	70-130	2.42	30	
1,2,4-Trimethylbenzene	0.0830	0.0050	"	0.0750	ND	111	70-130	3.64	30	
1,3,5-Trimethylbenzene	0.0784	0.0050	"	0.0750	ND	105	70-130	1.27	30	
Naphthalene	0.157	0.0038	"	0.0750	ND	209	70-130	6.81	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0412		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0449		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0426		"	0.0400		106	50-150			

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0242 - EPA 3550A

Blank (BFK0242-BLK1)

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	ND	50	mg/kg
C28-C36 (ORO)	ND	50	"

Surrogate: o-Terphenyl	11.1	"	12.5	88.7	30-150
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LCS (BFK0242-BS1)

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	462	50	mg/kg	500	92.3	70-130
Surrogate: o-Terphenyl	11.6	"	12.5	92.6	30-150	

Matrix Spike (BFK0242-MS1)

Source: 2211138-01

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	431	50	mg/kg	500	15.9	83.0	70-130
Surrogate: o-Terphenyl	10.9	"	12.5	87.2	30-150		

Matrix Spike Dup (BFK0242-MSD1)

Source: 2211138-01

Prepared & Analyzed: 11/09/22

C10-C28 (DRO)	413	50	mg/kg	500	15.9	79.4	70-130	4.28	20
Surrogate: o-Terphenyl	10.1	"	12.5	80.5	30-150				

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike		Source		%REC		RPD	
	Result	Limit	Units	Level		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0292 - EPA 5030 Soil MS

Blank (BFK0292-BLK1)

Prepared & Analyzed: 11/11/22

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	0.0260		"	0.0333		78.1		40-150			
Surrogate: Fluoranthene-d10	0.0370		"	0.0333		111		40-150			

LCS (BFK0292-BS1)

Prepared & Analyzed: 11/11/22

Acenaphthene	0.0326	0.00500	mg/kg	0.0333		97.8		31-137			
Anthracene	0.0338	0.00500	"	0.0333		102		30-120			
Benzo (a) anthracene	0.0296	0.00500	"	0.0333		88.8		30-120			
Benzo (a) pyrene	0.0307	0.00500	"	0.0333		92.2		30-120			
Benzo (b) fluoranthene	0.0333	0.00500	"	0.0333		99.9		30-120			
Benzo (k) fluoranthene	0.0363	0.00500	"	0.0333		109		30-120			
Chrysene	0.0353	0.00500	"	0.0333		106		30-120			
Dibenz (a,h) anthracene	0.0334	0.00500	"	0.0333		100		30-120			
Fluoranthene	0.0338	0.00500	"	0.0333		101		30-120			
Fluorene	0.0330	0.00500	"	0.0333		99.0		30-120			
Indeno (1,2,3-cd) pyrene	0.0300	0.00500	"	0.0333		90.1		30-120			
Pyrene	0.0347	0.00500	"	0.0333		104		35-142			
1-Methylnaphthalene	0.0355	0.00500	"	0.0333		107		35-142			
2-Methylnaphthalene	0.0376	0.00500	"	0.0333		113		35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0338		"	0.0333		102		40-150			
Surrogate: Fluoranthene-d10	0.0323		"	0.0333		97.0		40-150			

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

Analyte	Reporting			Spike Level	Source		%REC		RPD	
	Result	Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0292 - EPA 5030 Soil MS

Matrix Spike (BFK0292-MS1)

Source: 2211146-01

Prepared & Analyzed: 11/11/22

Acenaphthene	0.0202	0.00500	mg/kg	0.0333	ND	60.6	31-137		
Anthracene	0.0189	0.00500	"	0.0333	ND	56.6	30-120		
Benzo (a) anthracene	0.0212	0.00500	"	0.0333	ND	63.5	30-120		
Benzo (a) pyrene	0.0184	0.00500	"	0.0333	ND	55.1	30-120		
Benzo (b) fluoranthene	0.0183	0.00500	"	0.0333	ND	54.9	30-120		
Benzo (k) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.6	30-120		
Chrysene	0.0192	0.00500	"	0.0333	ND	57.7	30-120		
Dibenz (a,h) anthracene	0.0175	0.00500	"	0.0333	ND	52.6	30-120		
Fluoranthene	0.0209	0.00500	"	0.0333	ND	62.7	30-120		
Fluorene	0.0195	0.00500	"	0.0333	ND	58.6	30-120		
Indeno (1,2,3-cd) pyrene	0.0165	0.00500	"	0.0333	ND	49.5	30-120		
Pyrene	0.0196	0.00500	"	0.0333	ND	58.8	35-142		
1-Methylnaphthalene	0.0248	0.00500	"	0.0333	ND	74.4	15-130		
2-Methylnaphthalene	0.0221	0.00500	"	0.0333	ND	66.2	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0229		"	0.0333		68.6	40-150		
Surrogate: Fluoranthene-d10	0.0223		"	0.0333		66.8	40-150		

Matrix Spike Dup (BFK0292-MSD1)

Source: 2211146-01

Prepared & Analyzed: 11/11/22

Acenaphthene	0.0190	0.00500	mg/kg	0.0333	ND	57.0	31-137	6.08	30
Anthracene	0.0194	0.00500	"	0.0333	ND	58.3	30-120	2.93	30
Benzo (a) anthracene	0.0211	0.00500	"	0.0333	ND	63.4	30-120	0.0662	30
Benzo (a) pyrene	0.0186	0.00500	"	0.0333	ND	55.9	30-120	1.53	30
Benzo (b) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.8	30-120	1.72	30
Benzo (k) fluoranthene	0.0184	0.00500	"	0.0333	ND	55.3	30-120	0.584	30
Chrysene	0.0196	0.00500	"	0.0333	ND	58.7	30-120	1.81	30
Dibenz (a,h) anthracene	0.0175	0.00500	"	0.0333	ND	52.6	30-120	0.105	30
Fluoranthene	0.0202	0.00500	"	0.0333	ND	60.6	30-120	3.48	30
Fluorene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	4.19	30
Indeno (1,2,3-cd) pyrene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	2.87	30
Pyrene	0.0196	0.00500	"	0.0333	ND	58.7	35-142	0.254	30
1-Methylnaphthalene	0.0250	0.00500	"	0.0333	ND	74.9	15-130	0.683	50
2-Methylnaphthalene	0.0210	0.00500	"	0.0333	ND	63.1	15-130	4.84	50
Surrogate: 2-Methylnaphthalene-d10	0.0225		"	0.0333		67.4	40-150		
Surrogate: Fluoranthene-d10	0.0218		"	0.0333		65.4	40-150		

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0311 - EPA 3050B

Blank (BFK0311-BLK1)

Prepared: 11/11/22 Analyzed: 11/13/22

Boron ND 0.0100 mg/L

LCS (BFK0311-BS1)

Prepared: 11/11/22 Analyzed: 11/13/22

Boron 5.04 0.0100 mg/L 5.00 101 80-120

Duplicate (BFK0311-DUP1)

Source: 2211146-01

Prepared: 11/11/22 Analyzed: 11/13/22

Boron 0.668 0.0100 mg/L 0.653 2.19 20

Matrix Spike (BFK0311-MS1)

Source: 2211146-01

Prepared: 11/11/22 Analyzed: 11/13/22

Boron 4.96 0.0100 mg/L 5.00 0.653 86.1 75-125

Matrix Spike Dup (BFK0311-MSD1)

Source: 2211146-01

Prepared: 11/11/22 Analyzed: 11/13/22

Boron 5.89 0.0100 mg/L 5.00 0.653 105 75-125 17.2 25

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Total Metals by EPA 6020B - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0276 - EPA 3050B

Blank (BFK0276-BLK1)

Prepared & Analyzed: 11/10/22

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	"
Selenium	ND	0.260	"
Silver	ND	0.0200	"
Zinc	ND	0.400	"

LCS (BFK0276-BS1)

Prepared & Analyzed: 11/10/22

Arsenic	38.5	0.200	mg/kg wet	40.0	96.3	80-120
Barium	38.3	0.400	"	40.0	95.7	80-120
Cadmium	1.90	0.200	"	2.00	94.8	80-120
Copper	46.1	0.400	"	40.0	115	80-120
Lead	19.7	0.200	"	20.0	98.6	80-120
Nickel	44.2	0.400	"	40.0	111	80-120
Selenium	4.51	0.260	"	4.00	113	80-120
Silver	1.93	0.0200	"	2.00	96.3	80-120
Zinc	44.2	0.400	"	40.0	110	80-120

Duplicate (BFK0276-DUP1)

Source: 2211138-01

Prepared & Analyzed: 11/10/22

Arsenic	1.93	0.203	mg/kg dry	1.96	1.54	20
Barium	70.5	0.406	"	81.6	14.6	20
Cadmium	0.145	0.203	"	0.137	5.48	20
Copper	4.13	0.406	"	4.21	1.94	20
Lead	4.82	0.203	"	5.61	15.1	20
Nickel	4.25	0.406	"	4.21	0.806	20
Selenium	ND	0.264	"	ND		20
Silver	0.0187	0.0203	"	0.0223	17.8	20
Zinc	16.6	0.406	"	17.0	2.41	20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0276 - EPA 3050B

Matrix Spike (BFK0276-MS1)			Source: 2211138-01		Prepared & Analyzed: 11/10/22					
Arsenic	37.5	0.203	mg/kg dry	40.6	1.96	87.5	75-125			
Barium	127	0.406	"	40.6	81.6	112	75-125			
Cadmium	2.22	0.203	"	2.03	0.137	103	75-125			
Copper	34.6	0.406	"	40.6	4.21	74.8	75-125			QM-05
Lead	25.4	0.203	"	20.3	5.61	97.3	75-125			
Nickel	33.4	0.406	"	40.6	4.21	71.9	75-125			QM-05
Selenium	4.51	0.264	"	4.06	ND	111	75-125			
Silver	2.06	0.0203	"	2.03	0.0223	101	75-125			
Zinc	47.5	0.406	"	40.6	17.0	75.2	75-125			

Matrix Spike Dup (BFK0276-MSD1)			Source: 2211138-01		Prepared & Analyzed: 11/10/22					
Arsenic	37.8	0.203	mg/kg dry	40.6	1.96	88.3	75-125	0.845	25	
Barium	111	0.406	"	40.6	81.6	72.0	75-125	13.7	25	QM-05
Cadmium	1.93	0.203	"	2.03	0.137	88.4	75-125	13.9	25	
Copper	34.3	0.406	"	40.6	4.21	74.0	75-125	0.929	25	QM-05
Lead	22.0	0.203	"	20.3	5.61	80.7	75-125	14.3	25	
Nickel	32.7	0.406	"	40.6	4.21	70.1	75-125	2.22	25	QM-05
Selenium	4.72	0.264	"	4.06	ND	116	75-125	4.51	25	
Silver	1.79	0.0203	"	2.03	0.0223	86.9	75-125	14.4	25	
Zinc	47.0	0.406	"	40.6	17.0	73.9	75-125	1.15	25	QM-05

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0374 - 3060A Mod

Blank (BFK0374-BLK1)

Prepared & Analyzed: 11/14/22

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BFK0374-BS1)

Prepared & Analyzed: 11/14/22

Chromium, Hexavalent 24.5 0.30 mg/kg wet 25.0 98.0 80-120

Duplicate (BFK0374-DUP1)

Source: 2211145-01

Prepared & Analyzed: 11/14/22

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BFK0374-MS1)

Source: 2211145-01

Prepared & Analyzed: 11/14/22

Chromium, Hexavalent 29.1 0.30 mg/kg dry 26.9 ND 108 75-125

Matrix Spike Dup (BFK0374-MSD1)

Source: 2211145-01

Prepared & Analyzed: 11/14/22

Chromium, Hexavalent 29.3 0.30 mg/kg dry 26.9 ND 109 75-125 0.735 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

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

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0265 - General Preparation

Blank (BFK0265-BLK1)

Prepared: 11/10/22 Analyzed: 11/12/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFK0265-BS1)

Prepared: 11/10/22 Analyzed: 11/12/22

Calcium	5.29	0.0500	mg/L wet	5.00	106	70-130
Magnesium	5.25	0.0500	"	5.00	105	70-130
Sodium	5.06	0.0500	"	5.00	101	70-130

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0325 - General Preparation

Duplicate (BFK0325-DUP1)

Source: 2210524-02

Prepared & Analyzed: 11/12/22

% Solids	82.4	%		81.9		0.595	20
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0308 - General Preparation

Blank (BFK0308-BLK1)

Prepared & Analyzed: 11/11/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFK0308-BS1)

Prepared & Analyzed: 11/11/22

Specific Conductance (EC) 0.152 0.0100 mmhos/cm 0.150 101 95-105

Duplicate (BFK0308-DUP1)

Source: 2211132-01

Prepared & Analyzed: 11/11/22

Specific Conductance (EC) 0.391 0.0100 mmhos/cm 0.413 5.49 20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Physical Parameters by APHA/ASTM/EPA Methods, Saturated Paste Extraction - Quality Control

Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0307 - General Preparation

LCS (BFK0307-BS1)

Prepared & Analyzed: 11/11/22

pH	8.99	pH Units	9.18	97.9	95-105
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Duplicate (BFK0307-DUP1)

Source: 2211132-01

Prepared & Analyzed: 11/11/22

pH	8.30	pH Units	8.31	0.120	20
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
11/15/22 15:49

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
QLCS-01	The spike recovery was outside acceptance limits for this analyte indicating a potential high bias. The corresponding samples did not exhibit concentrations above reporting level for this analyte. Data quality is not affected.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

December 15, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Work Order # 2211105

Enclosed are the results of analyses for samples received by Summit Scientific on 11/07/22 17:04. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG01@3'	2211105-01	Soil	11/07/22 11:20	11/07/22 17:04
BG01@6'	2211105-02	Soil	11/07/22 11:25	11/07/22 17:04
BG02@3'	2211105-03	Soil	11/07/22 11:30	11/07/22 17:04
BG02@6'	2211105-04	Soil	11/07/22 11:35	11/07/22 17:04
BG03@3'	2211105-05	Soil	11/07/22 11:40	11/07/22 17:04
BG03@6'	2211105-06	Soil	11/07/22 11:45	11/07/22 17:04
BG04@3'	2211105-07	Soil	11/07/22 11:55	11/07/22 17:04
BG04@6'	2211105-08	Soil	11/07/22 12:00	11/07/22 17:04
BG05@3'	2211105-09	Soil	11/07/22 12:05	11/07/22 17:04
BG05@6'	2211105-10	Soil	11/07/22 12:10	11/07/22 17:04
BG06@3'	2211105-11	Soil	11/07/22 12:15	11/07/22 17:04
BG06@6'	2211105-12	Soil	11/07/22 12:20	11/07/22 17:04
BG07@3'	2211105-13	Soil	11/07/22 13:00	11/07/22 17:04
BG07@6'	2211105-14	Soil	11/07/22 13:05	11/07/22 17:04
BG08@3'	2211105-15	Soil	11/07/22 13:10	11/07/22 17:04
BG08@6'	2211105-16	Soil	11/07/22 13:15	11/07/22 17:04
BG09@3'	2211105-17	Soil	11/07/22 13:20	11/07/22 17:04
BG09@6'	2211105-18	Soil	11/07/22 13:25	11/07/22 17:04

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Summit Scientific

 S_2

2211105.1

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 1 of 2

Client: Noble / Tasman Geosciences

Project Manager: Jake Whritenour, Invoice: Erica Zuniga

Address: 6855 W. 119th Ave.

E-Mail: jwhritenour@tasman-geo.com/ Noble Group

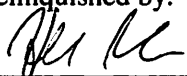
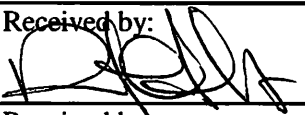
City/State/Zip: Broomfield / CO/ 80020

Phone: 303-827-1511

Project Name: Cody White D3-2, Cody White D3-1, Gutterson D3-17 FL

Sampler Name: Hunter Merlo

Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	EC, SAR		pH, EC, SAR by saturated paste	
1	B601 @ 3'	11/7/22	1120	1			X			X										X		
2	B601 @ 6'		1125	1																		
3	B602 @ 3'		1130	1																		
4	B602 @ 6'		1135	1																		
5	B603 @ 3'		1140	1																		
6	B603 @ 6'		1145	1																		
7	B604 @ 3'		1155	1																		
8	B604 @ 6'		1200	1																		
9	B605 @ 3'		1205	1																		
10	B605 @ 6'	✓	1210	✓			✓			✓										✓		
Relinquished by: 		Date/Time: 11/7/22 1600		Received by: Tasman Lock Box		Date/Time: 11/7/22 1600		Turn Around Time		(Check)		Notes:										
								Same Day		72 hours												
								24 hours		X Standard												
								48 hours														
Relinquished by: Tasman Lock Box		Date/Time: 11/7/22 1704		Received by: 		Date/Time: 11/7/22 1704		Sample Integrity:														
Relinquished by:		Date/Time:		Received by:		Date/Time:		Temperature Upon Receipt: 94														
								Samples Intact: Yes		No												

Summit Scientific

 S_2

2211105.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403

303-277-9310

Page 2 of 2

Client: Noble / Tasman Geosciences

Project Manager: Jake Whritenour, Invoice: Erica Zuniga

Address: 6855 W. 119th Ave.

E-Mail: jwhritenour@tasman-geo.com/ Noble Group

City/State/Zip: Broomfield / CO/ 80020

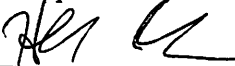
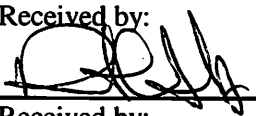
Phone: 303-827-1511

Project Name: Cody White D3-2, Cody White D3-1, Gutterson D3-17

Sampler Name: Hunter Merlo

Project Number:

					Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	8260 BTEX	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS	EC, SAR		pH, EC, SAR by saturated paste	
1	B606P3'	11/7/22	1215	1			X			X										X		
2	B606P6'		1220	1																		
3	B607P3'		1300	1																		
4	B607P6'		1305	1																		
5	B608P3'		1310	1																		
6	B608P6'		1315	1																		
7	B609P3'		1320	1																		
8	B609P6'	✓	1325	✓			✓			✓										✓		
9																						
10																						

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time (Check)	Notes:
	11/7/22 1600	Tasman Lock Box	11/7/22 1600	<input type="checkbox"/> Same Day 72 hours <input checked="" type="checkbox"/> 24 hours Standard <input type="checkbox"/> 48 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:	
Tasman Lockbox	11/7/22 1704		11/7/22 1704	Temperature Upon Receipt: 9.4	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Samples Intact: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

S₂

2/2

Sample Receipt Checklist

S2 Work Order# 2211105

Client: Nobel/Tasman Client Project ID: Cody White D3-2, Cody White D3-1, Gutteresen D3-17

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐

Temp (°C) 9.4 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ICE
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
Were all samples received intact ⁽¹⁾ ?	-			
Was adequate sample volume provided ⁽¹⁾ ?	-			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?	-			
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	-			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			-	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			-	
If dissolved metals are requested, were samples field filtered?			-	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.


Custodian Printed Name

11.7.22
Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG01@3'
2211105-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	1.70	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	49.7	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.08	0.200		"	"	"	"	"	"	
Selenium	0.357	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	345	0.0540		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	243	0.0540		"	"	"	"	"	"	
Sodium	535	0.0540		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	5.40	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	92.5			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

12/15/22 10:58

BG01@3'
2211105-01 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	3.31	0.0100		mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG01@6'
2211105-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	4.28	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	73.5	0.400		"	"	"	"	"	"	
Cadmium	0.284	0.200		"	"	"	"	"	"	
Lead	13.6	0.200		"	"	"	"	"	"	
Selenium	1.23	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	543	0.0721		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	231	0.0721		"	"	"	"	"	"	
Sodium	530	0.0721		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	4.80	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	69.4			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG01@6'
2211105-02 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	3.57	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG02@3'
2211105-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.53	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	45.6	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	3.86	0.200		"	"	"	"	"	"	
Selenium	0.406	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	467	0.0562		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	389	0.0562		"	"	"	"	"	"	
Sodium	1510	0.0562		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	12.5	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 11:30**

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

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG02@3'
2211105-03 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	5.52	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG02@6'
2211105-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	4.60	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	81.6	0.400		"	"	"	"	"	"	
Cadmium	0.251	0.200		"	"	"	"	"	"	
Lead	11.2	0.200		"	"	"	"	"	"	
Selenium	1.01	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	583	0.0732		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	352	0.0732		"	"	"	"	"	"	
Sodium	1470	0.0732		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	11.9	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	68.3			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG02@6'
2211105-04 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	5.99	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG03@3'
2211105-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 11:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.28	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	38.2	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	3.17	0.200		"	"	"	"	"	"	
Selenium	0.416	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 11:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	419	0.0541		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	413	0.0541		"	"	"	"	"	"	
Sodium	2080	0.0541		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 11:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	17.3	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 11:40**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.3			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 11:40**

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

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG03@3'
2211105-05 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	6.28	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG03@6'
2211105-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	3.35	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	53.0	0.400		"	"	"	"	"	"	
Cadmium	0.207	0.200		"	"	"	"	"	"	
Lead	10.0	0.200		"	"	"	"	"	"	
Selenium	0.764	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	483	0.0698		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	398	0.0698		"	"	"	"	"	"	
Sodium	2190	0.0698		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	17.9	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	71.6			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 11:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG03@6'
2211105-06 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	7.40	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG04@3'
2211105-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.08	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	52.7	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	5.33	0.200		"	"	"	"	"	"	
Selenium	0.707	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	25.7	0.0572		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	63.1	0.0572		"	"	"	"	"	"	
Sodium	859	0.0572		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	20.8	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.5			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 11:55**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG04@3'
2211105-07 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	2.81	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG04@6'
2211105-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 12:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.32	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	38.8	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.41	0.200		"	"	"	"	"	"	
Selenium	0.510	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 12:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	6.95	0.0595		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	8.93	0.0595		"	"	"	"	"	"	
Sodium	249	0.0595		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 12:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	14.7	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 12:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 12:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG04@6'
2211105-08 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	1.05	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG05@3'
2211105-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.50	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	80.0	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	7.77	0.200		"	"	"	"	"	"	
Selenium	0.977	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	133	0.0611		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	173	0.0611		"	"	"	"	"	"	
Sodium	1160	0.0611		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	15.6	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	81.9			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 12:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG05@3'
2211105-09 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	4.72	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG05@6'
2211105-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.64	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	18.6	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	3.98	0.200		"	"	"	"	"	"	
Selenium	0.436	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	16.7	0.0562		mg/L dry	1	BFK0225	11/09/22	11/10/22	EPA 6020B	
Magnesium	20.9	0.0562		"	"	"	"	"	"	
Sodium	260	0.0562		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.0	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.9			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 12:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG05@6'
2211105-10 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	0.851	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG06@3'
2211105-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.12	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	63.9	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	5.18	0.200		"	"	"	"	"	"	
Selenium	0.645	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.2	0.0574		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	73.3	0.0574		"	"	"	"	"	"	
Sodium	920	0.0574		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	20.3	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.2			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 12:15**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG06@3'
2211105-11 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	2.45	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG06@6'
2211105-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	1.63	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	27.5	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.68	0.200		"	"	"	"	"	"	
Selenium	0.441	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	11.3	0.0579		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	14.1	0.0579		"	"	"	"	"	"	
Sodium	225	0.0579		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	10.5	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.4			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 12:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG06@6'
2211105-12 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	0.725	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG07@3'
2211105-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	5.48	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	92.6	0.400		"	"	"	"	"	"	
Cadmium	0.318	0.200		"	"	"	"	"	"	
Lead	12.1	0.200		"	"	"	"	"	"	
Selenium	1.83	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	532	0.0701		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	781	0.0701		"	"	"	"	"	"	
Sodium	4730	0.0701		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	30.5	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	71.3			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 13:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG07@3'
2211105-13 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	0.116	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG07@6'
2211105-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.34	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	75.5	0.400		"	"	"	"	"	"	
Cadmium	0.396	0.200		"	"	"	"	"	"	
Lead	13.4	0.200		"	"	"	"	"	"	
Selenium	1.39	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	190	0.0704		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	211	0.0704		"	"	"	"	"	"	
Sodium	1730	0.0704		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	20.5	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 13:05**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	71.0			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 13:05**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG07@6'
2211105-14 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	4.88	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG08@3'
2211105-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 13:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	4.38	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	134	0.400		"	"	"	"	"	"	
Cadmium	0.326	0.200		"	"	"	"	"	"	
Lead	13.7	0.200		"	"	"	"	"	"	
Selenium	1.84	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 13:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	515	0.0687		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	636	0.0687		"	"	"	"	"	"	
Sodium	3960	0.0687		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 13:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	27.6	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 13:10**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	72.8			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 13:10**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG08@3'
2211105-15 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	0.321	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG08@6'
2211105-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	9.05	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	208	0.400		"	"	"	"	"	"	
Cadmium	0.447	0.200		"	"	"	"	"	"	
Lead	14.9	0.200		"	"	"	"	"	"	
Selenium	2.03	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	98.2	0.0726		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	181	0.0726		"	"	"	"	"	"	
Sodium	1520	0.0726		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	21.0	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	68.9			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 13:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG08@6'
2211105-16 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	4.60	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG09@3'
2211105-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	5.51	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	149	0.400		"	"	"	"	"	"	
Cadmium	0.470	0.200		"	"	"	"	"	"	
Lead	12.8	0.200		"	"	"	"	"	"	
Selenium	1.61	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	317	0.0691		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	662	0.0691		"	"	"	"	"	"	
Sodium	4000	0.0691		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	29.4	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	72.3			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 13:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG09@3'
2211105-17 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	4.28	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG09@6'
2211105-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/07/22 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	4.03	0.200		mg/kg dry	1	BFL0362	12/14/22	12/14/22	EPA 6020B	
Barium	114	0.400		"	"	"	"	"	"	
Cadmium	0.365	0.200		"	"	"	"	"	"	
Lead	13.0	0.200		"	"	"	"	"	"	
Selenium	1.42	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/07/22 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	273	0.0714		mg/L dry	1	BFK0225	11/09/22	11/11/22	EPA 6020B	
Magnesium	293	0.0714		"	"	"	"	"	"	
Sodium	2140	0.0714		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/07/22 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	21.4	0.00100		units	1	BFK0339	11/12/22	11/12/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/07/22 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	70.0			%	1	BFK0279	11/10/22	11/11/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/07/22 13:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

BG09@6'
2211105-18 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	5.45	0.0100	mmhos/cm	1	BFK0202	11/08/22	11/08/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFL0362 - EPA 3050B

Blank (BFL0362-BLK1)

Prepared & Analyzed: 12/14/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Lead	ND	0.200	"
Selenium	ND	0.260	"

LCS (BFL0362-BS1)

Prepared & Analyzed: 12/14/22

Arsenic	39.7	0.200	mg/kg wet	40.0	99.2	80-120
Barium	33.0	0.400	"	40.0	82.4	80-120
Cadmium	1.77	0.200	"	2.00	88.7	80-120
Lead	16.7	0.200	"	20.0	83.3	80-120
Selenium	3.58	0.260	"	4.00	89.5	80-120

Duplicate (BFL0362-DUP1)

Source: 2211105-01

Prepared & Analyzed: 12/14/22

Arsenic	1.64	0.200	mg/kg dry	1.70	3.51	20	
Barium	30.9	0.400	"	49.7	46.6	20	QR-03
Cadmium	0.0713	0.200	"	0.0701	1.79	20	
Lead	2.89	0.200	"	4.08	34.1	20	QR-03
Selenium	0.294	0.260	"	0.357	19.4	20	

Matrix Spike (BFL0362-MS1)

Source: 2211105-01

Prepared & Analyzed: 12/14/22

Arsenic	43.9	0.200	mg/kg dry	43.2	1.70	97.5	75-125
Barium	83.4	0.400	"	43.2	49.7	77.9	75-125
Cadmium	2.03	0.200	"	2.16	0.0701	90.6	75-125
Lead	21.1	0.200	"	21.6	4.08	78.7	75-125
Selenium	4.61	0.260	"	4.32	0.357	98.4	75-125

Matrix Spike Dup (BFL0362-MSD1)

Source: 2211105-01

Prepared & Analyzed: 12/14/22

Arsenic	43.6	0.200	mg/kg dry	43.2	1.70	96.9	75-125	0.592	25
Barium	91.2	0.400	"	43.2	49.7	95.9	75-125	8.90	25
Cadmium	2.36	0.200	"	2.16	0.0701	106	75-125	15.3	25
Lead	25.0	0.200	"	21.6	4.08	96.6	75-125	16.7	25
Selenium	4.36	0.260	"	4.32	0.357	92.6	75-125	5.60	25

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0225 - General Preparation

Blank (BFK0225-BLK1)

Prepared: 11/09/22 Analyzed: 11/10/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFK0225-BS1)

Prepared: 11/09/22 Analyzed: 11/10/22

Calcium	5.02	0.0500	mg/L wet	5.00	100	70-130
Magnesium	5.02	0.0500	"	5.00	100	70-130
Sodium	4.79	0.0500	"	5.00	95.7	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0279 - General Preparation

Duplicate (BFK0279-DUP1)		Source: 2211105-01		Prepared: 11/10/22 Analyzed: 11/11/22	
% Solids	92.5		%	92.5	0.00806 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/15/22 10:58

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0202 - General Preparation

Blank (BFK0202-BLK1)

Prepared & Analyzed: 11/08/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFK0202-BS1)

Prepared & Analyzed: 11/08/22

Specific Conductance (EC) 0.150 0.0100 mmhos/cm 0.150 100 95-105

Duplicate (BFK0202-DUP1)

Source: 2211105-01

Prepared & Analyzed: 11/08/22

Specific Conductance (EC) 2.96 0.0100 mmhos/cm 3.31 11.0 20

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

12/15/22 10:58

Notes and Definitions

QR-03	The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance limits due to matrix interference. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
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

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

December 16, 2022

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Work Order # 2211147

Enclosed are the results of analyses for samples received by Summit Scientific on 11/08/22 17:16. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Mikayla Axtell For Paul Shrewsbury

President



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG10@3'	2211147-01	Soil	11/08/22 10:40	11/08/22 17:16
BG10@6'	2211147-02	Soil	11/08/22 10:45	11/08/22 17:16
BG11@3'	2211147-03	Soil	11/08/22 10:50	11/08/22 17:16
BG11@6'	2211147-04	Soil	11/08/22 10:55	11/08/22 17:16
BG12@3'	2211147-05	Soil	11/08/22 11:00	11/08/22 17:16
BG12@6'	2211147-06	Soil	11/08/22 11:05	11/08/22 17:16
BG13@3'	2211147-07	Soil	11/08/22 11:10	11/08/22 17:16
BG13@6'	2211147-08	Soil	11/08/22 11:15	11/08/22 17:16
BG14@3'	2211147-09	Soil	11/08/22 11:20	11/08/22 17:16
BG14@6'	2211147-10	Soil	11/08/22 11:25	11/08/22 17:16
BG15@3'	2211147-11	Soil	11/08/22 11:30	11/08/22 17:16
BG15@6'	2211147-12	Soil	11/08/22 11:35	11/08/22 17:16

Summit Scientific


The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.


2211147.1

Page 1 of 2

Project Number:

				Preservative				Matrix				Analysis Requested								Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other _____	Water	Soil	Air-Canister #	Other _____	VOC - 915	TPH - 915	PAH - 915	, EC, SAR	Boron - HWS	HOLD			pH, EC, SAR by saturated paste
1	B610G3'	11/8/22	10:40	3			X			X						X					
2	B610G6'		10:45				X			X						X					
3	B611G3'		10:50				X			X						X					
4	B611G6'		10:55				X			X						X					
5	B612G3'		11:00				X			X						X					
6	B612G6'		11:05				X			X						X					
7	B613G3'		11:10				X			X						X					
8	B613G6'		11:15				X			X						X					
9	B614G3'		11:20				X			X						X					
10	B614G6'		11:25				X			X						X					

Relinquished by:  **Date/Time:** 11/8/22 16:18
Tasman's Lock Box

Received by:  **Date/Time:** 11/8/22 17:10

Turn Around Time (Check)
 Same Day _____ 72 hours _____
 24 hours _____ Standard ☒
 48 hours _____

Sample Integrity:
 Temperature Upon Receipt: 9.4
 Samples Intact: Yes No

Notes:

Summit Scientific

S₂

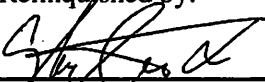
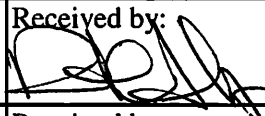
2211147.2

4653 Table Mountain Drive ♦ Golden, Colorado 80403
303-277-9310

Page 2 of 2

Client: Noble / Tasman Project Manager: Jake Whritenour Invoice:
Address: 6855 W. 119th Ave E-Mail: jwhritenour@tasman-geo.com
City/State/Zip: Broomfield, CO 80020
Phone: 303-261-6246 Project Name: Cody White D3-2, Cody White D03-1, & Guttergren D3-17
Sampler Name: Stanley Gilbert Project Number:

					Preservative				Matrix				Analysis Requested							Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO ₃	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	EC, SAR	Boron - HWS	HOLD		
1	B61509'	11/8/22	11:30	3			X			X							X			pH, EC, SAR by saturated paste
2	B61506'	1	11:35	3			X			X							X			
3																				
4																				
5																				
6																				
7																				
8																				
9																				
10																				

Relinquished by:	Date/Time:	Received by:	Date/Time:	Turn Around Time	(Check)	Notes:
	11/8/22 16:18	Tasman's Lock Box	11/8/22 16:18	Same Day	72 hours	
Relinquished by:	Date/Time:	Received by:	Date/Time:	24 hours	Standard	
Tasman's Lock Box	11/8/22 17:16		11/8/22 17:16	48 hours		
Relinquished by:	Date/Time:	Received by:	Date/Time:	Sample Integrity:		
				Temperature Upon Receipt: <u>9.4</u>		
				Samples Intact: <u>Yes</u> No		

S₂2/2
Sample Receipt Checklist

S2 Work Order# 2211197

Client: Nohel/asmear Client Project ID: Cody White D3-2 Cody White D03-1
Gutterhosen D3-17

Shipped Via: H.D./P.U./FedEx/UPS/USPS/Other _____ Airbill #: _____

	-			
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Matrix (Check all that apply) Air ☐ Soil/Solid ☒ Water ☐ Other ☐Temp (°C) 9.4 Thermometer # 1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6 °C ⁽¹⁾ ? NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	-			on ice
If custody seals are present, are they intact ⁽¹⁾ ?	-			
Are samples due within 48 hours present?		-		
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen			-	
Is a chain-of-custody (COC) form present and filled out completely ⁽¹⁾ ?	-			
Is the COC properly relinquished by the client w/ date and time recorded ⁽¹⁾ ?	-			
Were all samples received intact ⁽¹⁾ ?	✓			
Was adequate sample volume provided ⁽¹⁾ ?	✓			
Does the COC agree with the number and type of sample bottles received ⁽¹⁾ ?		✓		
Do the sample IDs on the bottle labels match the COC ⁽¹⁾ ?	✓			
For volatiles in water – is there headspace present? If yes, contact client and note in narrative.			✓	
Are samples preserved that require preservation (excluding cooling) ⁽¹⁾ ? Note the type of preservative in the comments column – HCl, H ₂ SO ₄ , NaOH, HNO ₃ , etc.			-	
If samples are acid preserved for metals, is the pH ≤ 2 ⁽¹⁾ ? Record the pH in Comments.			✓	
If dissolved metals are requested, were samples field filtered?			✓	

Additional Comments (if any):

⁽¹⁾ If NO, then contact the client before proceeding with analysis and note in case narrative.

Custodian Printed Name
11-8-22
Date/Time



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG10@3'
2211147-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.50	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	84.3	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	5.74	0.200		"	"	"	"	"	"	
Selenium	0.549	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	8.23	0.0575		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	16.0	0.0575		"	"	"	"	"	"	
Sodium	596	0.0575		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	27.9	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.0			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG10@3'
2211147-01 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 10:40**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.56	0.0100		mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG10@6'
2211147-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.38	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	91.1	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.13	0.200		"	"	"	"	"	"	
Selenium	0.391	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.6	0.0595		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	52.1	0.0595		"	"	"	"	"	"	
Sodium	407	0.0595		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	10.2	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 10:45**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.0			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 10:45**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG10@6'
2211147-02 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	2.07	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG11@3'
2211147-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	4.36	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	142	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	5.97	0.200		"	"	"	"	"	"	
Selenium	0.589	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	167	0.0580		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	320	0.0580		"	"	"	"	"	"	
Sodium	1970	0.0580		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	20.6	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.2			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 10:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG11@3'
2211147-03 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	9.01	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG11@6'
2211147-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 10:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.36	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	75.8	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.93	0.200		"	"	"	"	"	"	
Selenium	0.548	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 10:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	22.0	0.0573		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	16.9	0.0573		"	"	"	"	"	"	
Sodium	242	0.0573		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 10:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	9.43	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 10:55**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.2			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 10:55**

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

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG11@6'
2211147-04 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	1.24	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG12@3'
2211147-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	4.10	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	171	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	6.93	0.200		"	"	"	"	"	"	
Selenium	0.736	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	391	0.0587		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	306	0.0587		"	"	"	"	"	"	
Sodium	1860	0.0587		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	17.1	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	85.2			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG12@3'
2211147-05 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	9.11	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG12@6'
2211147-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.72	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	72.3	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.98	0.200		"	"	"	"	"	"	
Selenium	0.633	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	413	0.0600		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	125	0.0600		"	"	"	"	"	"	
Sodium	694	0.0600		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	7.68	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	83.4			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:05**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG12@6'
2211147-06 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	4.63	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG13@3'
2211147-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	1.66	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	35.3	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	3.79	0.200		"	"	"	"	"	"	
Selenium	0.552	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	147	0.0537		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	214	0.0537		"	"	"	"	"	"	
Sodium	2200	0.0537		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	27.1	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	93.1			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG13@3'
2211147-07 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	10.4	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG13@6'
2211147-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.59	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	143	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	5.38	0.200		"	"	"	"	"	"	
Selenium	0.517	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	56.3	0.0597		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	47.5	0.0597		"	"	"	"	"	"	
Sodium	865	0.0597		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	20.5	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	83.8			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG13@6'
2211147-08 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	3.86	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG14@3'
2211147-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	1.70	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	79.6	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.17	0.200		"	"	"	"	"	"	
Selenium	0.421	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	69.0	0.0557		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	169	0.0557		"	"	"	"	"	"	
Sodium	2630	0.0557		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	38.8	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	89.7			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:20**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG14@3'
2211147-09 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	10.4	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG14@6'
2211147-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	1.86	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	51.4	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	4.19	0.200		"	"	"	"	"	"	
Selenium	0.599	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	137	0.0573		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	192	0.0573		"	"	"	"	"	"	
Sodium	2310	0.0573		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	29.9	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	87.3			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG14@6'
2211147-10 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	9.79	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG15@3'
2211147-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.19	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	42.8	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	3.71	0.200		"	"	"	"	"	"	
Selenium	0.500	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	245	0.0546		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	708	0.0546		"	"	"	"	"	"	
Sodium	4570	0.0546		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	33.5	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.5			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:30**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG15@3'
2211147-11 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	18.9	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG15@6'
2211147-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **11/08/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	3.74	0.200		mg/kg dry	1	BFL0363	12/14/22	12/15/22	EPA 6020B	
Barium	106	0.400		"	"	"	"	"	"	
Cadmium	ND	0.200		"	"	"	"	"	"	
Lead	5.57	0.200		"	"	"	"	"	"	
Selenium	0.613	0.260	0.175	"	"	"	"	"	"	

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

Date Sampled: **11/08/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	150	0.0578		mg/L dry	1	BFK0310	11/11/22	11/13/22	EPA 6020B	
Magnesium	406	0.0578		"	"	"	"	"	"	
Sodium	3600	0.0578		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **11/08/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Sodium Adsorption Ratio	34.6	0.00100		units	1	BFK0360	11/14/22	11/14/22	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **11/08/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	86.5			%	1	BFK0325	11/12/22	11/12/22	Calculation	

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Date Sampled: **11/08/22 11:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

BG15@6'
2211147-12 (Soil)

Summit Scientific

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013

Specific Conductance (EC)	14.3	0.0100	mmhos/cm	1	BFK0335	11/12/22	11/12/22	EPA 120.1
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Summit Scientific



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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

Total Metals by EPA 6020B - Quality Control

Summit Scientific

Analyte	Reporting			Spike	Source		%REC		RPD	
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFL0363 - EPA 3050B

Blank (BFL0363-BLK1)

Prepared: 12/14/22 Analyzed: 12/15/22

Arsenic	ND	0.200	mg/kg wet
Barium	ND	0.400	"
Cadmium	ND	0.200	"
Lead	ND	0.200	"
Selenium	ND	0.260	"

LCS (BFL0363-BS1)

Prepared: 12/14/22 Analyzed: 12/15/22

Arsenic	40.0	0.200	mg/kg wet	40.0	100	80-120
Barium	43.9	0.400	"	40.0	110	80-120
Cadmium	2.33	0.200	"	2.00	117	80-120
Lead	21.8	0.200	"	20.0	109	80-120
Selenium	3.71	0.260	"	4.00	92.6	80-120

Duplicate (BFL0363-DUP1)

Source: 2211147-01

Prepared: 12/14/22 Analyzed: 12/15/22

Arsenic	2.59	0.200	mg/kg dry	2.50	3.77	20
Barium	85.9	0.400	"	84.3	1.92	20
Cadmium	0.162	0.200	"	0.176	8.22	20
Lead	5.27	0.200	"	5.74	8.51	20
Selenium	0.477	0.260	"	0.549	14.1	20

Matrix Spike (BFL0363-MS1)

Source: 2211147-01

Prepared: 12/14/22 Analyzed: 12/15/22

Arsenic	48.8	0.200	mg/kg dry	46.0	2.50	101	75-125	QM-02
Barium	184	0.400	"	46.0	84.3	218	75-125	
Cadmium	2.92	0.200	"	2.30	0.176	119	75-125	
Lead	30.0	0.200	"	23.0	5.74	106	75-125	
Selenium	4.08	0.260	"	4.60	0.549	76.8	75-125	

Matrix Spike Dup (BFL0363-MSD1)

Source: 2211147-01

Prepared: 12/14/22 Analyzed: 12/15/22

Arsenic	49.9	0.200	mg/kg dry	46.0	2.50	103	75-125	2.09	25	QM-02
Barium	147	0.400	"	46.0	84.3	137	75-125	22.3	25	
Cadmium	2.53	0.200	"	2.30	0.176	102	75-125	14.3	25	
Lead	26.3	0.200	"	23.0	5.74	89.3	75-125	13.3	25	
Selenium	4.76	0.260	"	4.60	0.549	91.6	75-125	15.4	25	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

Soluble Nutrients by EPA 6020/USDA60 6(2) - Saturated Paste Extraction - Quality Control
Summit Scientific

Analyte	Reporting			Spike	Source	%REC		RPD		
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0310 - General Preparation

Blank (BFK0310-BLK1)

Prepared: 11/11/22 Analyzed: 11/13/22

Calcium	ND	0.0500	mg/L wet
Magnesium	ND	0.0500	"
Sodium	ND	0.0500	"

LCS (BFK0310-BS1)

Prepared: 11/11/22 Analyzed: 11/13/22

Calcium	4.56	0.0500	mg/L wet	5.00	91.2	70-130
Magnesium	4.91	0.0500	"	5.00	98.2	70-130
Sodium	5.12	0.0500	"	5.00	102	70-130

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutttersen D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

Physical Parameters by APHA/ASTM/EPA Methods - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0325 - General Preparation

Duplicate (BFK0325-DUP1)		Source: 2210524-02		Prepared & Analyzed: 11/12/22						
% Solids	82.4		%		81.9			0.595	20	

Summit Scientific

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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Gutterson D3-17 FL

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
12/16/22 11:30

Saturation Paste by the Western Region Soil, Plant and Water Reference Methods 2013 - Quality Control
Summit Scientific

Analyte	Result	Reporting		Spike Level	Source		%REC		RPD	
		Limit	Units		Result	%REC	Limits	RPD	Limit	Notes

Batch BFK0335 - General Preparation

Blank (BFK0335-BLK1)

Prepared & Analyzed: 11/12/22

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BFK0335-BS1)

Prepared & Analyzed: 11/12/22

Specific Conductance (EC) 0.153 0.0100 mmhos/cm 0.150 102 95-105

Duplicate (BFK0335-DUP1)

Source: 2211147-01

Prepared & Analyzed: 11/12/22

Specific Conductance (EC) 2.52 0.0100 mmhos/cm 2.56 1.18 20

Summit Scientific

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.



Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Cody White D3-2, D3-1, Guttarsen D3-17 FL

Project Number: [none]

Project Manager: Jacob Whritenour

Reported:

12/16/22 11:30

Notes and Definitions

QM-02	The RPD and/or percent recovery for this QC sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.
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