

REMEDIAL EXCAVATION REPORT

FIVE RIVERS K09-21D

ECMC SPILL TRACKING #'s 486825, 486717,
486718, & 486719
ECMC REMEDIATION # 29932

Prepared for:



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Prepared by:



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TABLE

**TABLE 1
SOIL SAMPLE LOCATIONS
NOBLE ENERGY, INC. (100322) - FIVE RIVERS K09-21D**

Soil Sample ID	Date	PID (ppm)	Visual	Olfactory	Sample Type (Grab/Lab)	Latitude ¹	Longitude	PDOP
FL01-A@3'	03/21/24	0.6	No Staining	No Odor	Lab	40.32919279	-104.7877563	NC
FL01-D@2'	03/21/24	0.0	No Staining	No Odor	Lab	40.32594676	-104.7903520	NC
FL01-E@2'	03/21/24	0.0	No Staining	No Odor	Grab	40.32650980	-104.7898628	NC
FL01-H@3'	03/21/24	0.4	No Staining	No Odor	Lab	40.32849651	-104.7879850	1.0
FL01-I@3'	03/21/24	0.6	No Staining	No Odor	Lab	40.32862875	-104.7880137	NC
FL01-J@3'	03/21/24	0.4	No Staining	No Odor	Lab	40.32909435	-104.7879627	0.9
FL01-F@2'	03/22/24	0.0	No Staining	No Odor	Grab	40.32774763	-104.7888952	NC
FL01-G@2'	03/22/24	0.0	No Staining	No Odor	Lab	40.32827971	-104.7884496	NC
FL01-K@3'	03/22/24	0.4	No Staining	No Odor	Grab	40.32560521	-104.7905516	NC
FL01-L@3'	03/22/24	0.5	No Staining	No Odor	Lab	40.32521171	-104.7909125	NC
FL01-M@3'	03/22/24	2.9	Organic Content	No Odor	Lab	40.32503657	-104.7910973	1.0
FL01-N@3'	03/22/24	0.5	No Staining	No Odor	Lab	40.32492129	-104.7914184	NC

Notes:

PID = Photoionization detector

ppm = parts per million

PDOP = Position dilution of precision

NC = Data Not Collected

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. (100322) - FIVE RIVERS K09-21D

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 ^{1,2}		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 ^{1,2,3}		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'	03/21/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	<0.00500	0.0111	0.00658	0.0108	<0.00500	0.0113	<0.00500	0.0202	<0.00500	<0.00500	0.0221	<0.00500	<0.00500
FS01-FL01-A@4'	07/18/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<0.00500	<0.00500	0.0139	0.013	0.0193	0.00667	0.0149	<0.00500	0.0204	<0.00500	0.0087	0.0227	<0.00500	<0.00500
SS01-FL01-A@3'	07/18/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS02-FL01-A@3'	07/18/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS03-FL01-A@3'	07/18/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS04-FL01-A@3'	07/18/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS02-FL01-A@5'	07/24/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<0.00500	<0.00500	0.0128	0.00858	0.0134	<0.00500	0.0113	<0.00500	0.0239	<0.00500	0.00721	0.0194	<0.00500	<0.00500
FL01-B@2'	03/21/24	<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-C@2'	03/21/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	0.0421	0.0652	0.0811	0.0478	0.0682	0.0293	0.0831	<0.00500	0.194	0.0402	0.0253	0.171	0.00617	0.00765
FL01-D@2'	03/21/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.0500	<0.50	<50	<50	0.519	0.685	1.05	0.850	1.13	0.476	1.08	0.122	1.17	0.740	0.637	1.28	0.115	0.125
FL01-H@3'	03/21/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	<0.00500	0.0121	0.0139	0.00685	0.0115	<0.00500	0.0141	<0.00500	0.0374	<0.00500	<0.00500	0.0319	<0.00500	<0.00500
FL01-I@3'	03/21/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.00760	<0.50	<50	<50	0.186	0.517	0.517	0.312	0.423	0.164	0.513	0.0366	0.989	0.261	0.172	0.930	0.0196	0.0323
FL01-J@3'	03/21/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	0.0120	<0.50	<50	<50	0.0960	0.347	0.571	0.349	0.510	0.197	0.584	0.0412	0.932	0.111	0.197	0.945	0.00804	0.0100
FL01-G@2'	03/22/24	<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-L@3'	03/22/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	0.0170	0.0811	0.0311	0.0164	0.0204	0.00817	0.0352	<0.00500	0.0640	0.0239	0.0237	0.0826	<0.00500	<0.00500
FS01-FL01-L@4'	07/22/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS01-FL01-L@3'	07/22/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS02-FL01-L@3'	07/22/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS03-FL01-L@3'	07/22/24	<0.0020	<0.0050	<0.0050	0.038	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS04-FL01-L@3'	07/22/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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-M@3'	03/22/24	<0.0020	<0.0050	<0.0050	0.022	<0.0050	0.00900	<0.0038	<0.50	<50	<50	0.0203	0.0295	0.0358	0.0203	0.0276	0.0103	0.0320	<0.00500	0.0791	0.0199	0.0346	0.108	<0.00500	0.00535
SS02-FL01-M@3'	07/23/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS04-FL01-M@3'	07/23/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
FS01-FL01-M@9'	08/19/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
FS02-FL01-M@9'	08/22/24	<0.0020	<0.0050	<0.0050	0.018	0.0092	0.00950	<0.0038	<50	<0.50	<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
SS03-FL01-M@8'	08/22/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS05-FL01-M@3'	08/23/24	<0.0020	<0.0050	0.0100	0.130	0.0700	0.0550	<0.0038	<50	1.30	<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
SS06-FL01-M@3'	08/23/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS07-FL01-M@3'	08/23/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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-N@3'	03/22/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50	0.0829	0.116	0.135	0.0727	0.101	0.0365	0.110	<0.00500	0.281	0.0799	0.109	0.344	0.0150	0.0276
FS01-FL01-N@4'	07/19/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<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
SS01-FL01-N@3'	07/19/24	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<50	<0.50	<50	<0.00500	0.00501	0.0153	0.011	0.02	0.00835	0.0134	<0.00500						

TABLE 2
SOIL ANALYTICAL DATA
NOBLE ENERGY, INC. (100322) - FIVE RIVERS K09-21D

Soil Sample ID	Date	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
SSR ^{1,2}		6 - 8.3	<6	<4mmhos/cm	2
FL01-A@3'	03/21/24	8.62	0.0268	0.206	<2.00
FS01-FL01-A@4'	07/18/24	8.91	NA	NA	NA
SS01-FL01-A@3'	07/18/24	7.80	NA	NA	NA
SS02-FL01-A@3'	07/18/24	8.45	NA	NA	NA
SS03-FL01-A@3'	07/18/24	7.61	NA	NA	NA
SS04-FL01-A@3'	07/18/24	8.77	NA	NA	NA
FS02-FL01-A@5'	07/24/24	8.93	NA	NA	NA
FL01-B@2'	03/21/24	8.65	0.151	0.260	<2.00
FL01-C@2'	03/21/24	8.21	0.431	0.393	<2.00
FL01-D@2'	03/21/24	6.95	0.612	1.31	<2.00
FL01-H@3'	03/21/24	7.74	0.157	0.385	<2.00
FL01-I@3'	03/21/24	7.46	0.0213	0.0963	<2.00
FL01-J@3'	03/21/24	8.30	0.874	0.552	<2.00
FL01-G@2'	03/22/24	7.72	1.76	2.07	<2.00
FL01-L@3'	03/22/24	9.01	1.31	0.675	<2.00
FS01-FL01-L@4'	07/22/24	8.70	NA	NA	NA
SS01-FL01-L@3'	07/22/24	8.83	NA	NA	NA
SS02-FL01-L@3'	07/22/24	8.35	NA	NA	NA
SS03-FL01-L@3'	07/22/24	8.81	NA	NA	NA
SS04-FL01-L@3'	07/22/24	9.02	NA	NA	NA
FL01-M@3'	03/22/24	8.42	2.02	0.636	<2.00
SS02-FL01-M@3'	07/23/24	8.73	NA	NA	NA
SS04-FL01-M@3'	07/23/24	8.73	NA	NA	NA
FS01-FL01-M@9'	08/19/24	8.00	0.348	2.37	<2.00
FS02-FL01-M@9'	08/22/24	7.65	0.597	1.11	<2.00
SS03-FL01-M@8'	08/22/24	8.38	0.493	2.06	<2.00
SS05-FL01-M@3'	08/23/24	8.97	0.102	0.620	<2.00
SS06-FL01-M@3'	08/23/24	9.10	0.348	1.72	<2.00
SS07-FL01-M@3'	08/23/24	8.39	0.412	1.09	<2.00
FL01-N@3'	03/22/24	6.95	0.114	0.0859	<2.00
FS01-FL01-N@4'	07/19/24	7.97	NA	NA	NA
SS01-FL01-N@3'	07/19/24	8.02	NA	NA	NA
SS02-FL01-N@3'	07/19/24	7.76	NA	NA	NA
SS03-FL01-N@3'	07/19/24	7.91	NA	NA	NA
SS04-FL01-N@3'	07/19/24	7.94	NA	NA	NA
SS05-FL01-N@3'	07/26/24	8.21	NA	NA	NA
BG09@2-3'	07/26/24	8.74	NA	NA	NA
BG09@5-6'	07/26/24	8.18	NA	NA	NA
BG10@2-3'	07/26/24	8.79	NA	NA	NA
BG10@5-6'	07/26/24	8.59	NA	NA	NA
BG11@2-3'	07/26/24	8.34	NA	NA	NA
BG11@5-6'	07/26/24	9.18	NA	NA	NA
BG12@2-3'	07/26/24	8.37	NA	NA	NA
BG12@5-6'	07/26/24	7.87	NA	NA	NA
Highest Background		9.18	-	-	-

Notes:
1. Compounds referenced from 2 CCR 404-1, Table 915-1, effective January 15, 2021.
2. Soil Screening Levels (SSL) and Soil Suitability for Reclamation (SSR) standards referenced from
3. SSLs are applicable if a pathway for communication with groundwater is present.

Definitions:
ECMC = Energy and Carbon Management 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 = Millimhos per centimeter
mg/L = Milligrams per liter
< = Analytical result is less than the indicated laboratory reporting limit
NA = Not Analyzed

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

1,2,4 - TMB = 1,2,4 Trimethylbenzene
1,3,5 - TMB = 1,3,5 Trimethylbenzene
Benz(a) = Benzo(a)anthracene
Benzo(b) = Benzo(b)fluoranthene
Benzo(k) = Benzo(k)fluoranthene
Benzo(a) = Benzo(a)pyrene
A,H = Dibenzo(a,h)anthracene
1,2,3-CD = Indeno(1,2,3-cd)pyrene
1-M = 1-methylnaphthalene
2-M = 2-methylnaphthalene

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 ^{1,2}		0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
Protection of Groundwater SSL ^{1,2,3}		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
FL01-A@3'	03/21/24	1.68	262	<0.200	<0.30	4.88	176	3.65	<0.260	0.0350	26.4
FS01-FL01-A@4'	07/18/24	0.709	33.7	NA	NA	NA	10.3	NA	NA	NA	NA
SS01-FL01-A@3'	07/18/24	0.884	24.9	NA	NA	NA	2.41	NA	NA	NA	NA
SS02-FL01-A@3'	07/18/24	0.939	65.2	NA	NA	NA	11.5	NA	NA	NA	NA
SS03-FL01-A@3'	07/18/24	0.732	9.91	NA	NA	NA	1.57	NA	NA	NA	NA
SS04-FL01-A@3'	07/18/24	0.692	23.2	NA	NA	NA	3.92	NA	NA	NA	NA
FS02-FL01-A@5'	07/24/24	0.570	17.9	NA	NA	NA	2.77	NA	NA	NA	NA
FL01-B@2'	03/21/24	2.31	51.5	0.236	<0.30	5.84	9.07	<0.400	<0.260	0.029	25.7
FL01-C@2'	03/21/24	1.71	45.4	<0.200	<0.30	4.54	5.94	<0.400	<0.260	0.0283	22.7
FL01-D@2'	03/21/24	1.38	56.2	0.213	<0.30	5.29	7.20	<0.400	<0.260	0.0472	26.4
FL01-H@3'	03/21/24	1.28	55.7	<0.200	<0.30	3.43	5.48	<0.400	<0.260	0.0248	18.3
FL01-I@3'	03/21/24	0.943	40.5	<0.200	<0.30	1.80	3.29	<0.400	<0.260	<0.0200	9.36
FL01-J@3'	03/21/24	1.49	90.3	<0.200	<0.30	2.61	17.1	<0.400	<0.260	0.0212	12.2
FL01-G@2'	03/22/24	1.48	109	0.257	<0.30	5.29	9.46	4.65	<0.260	0.0523	24.2
FL01-L@3'	03/22/24	1.14	38.0	<0.200	<0.30	4.41	6.74	2.40	<0.260	0.0526	19.0
FS01-FL01-L@4'	07/22/24	0.486	4.73	<0.200	NA	1.46	1.89	0.886	<0.260	<0.0200	5.69
SS01-FL01-L@3'	07/22/24	0.948	16.6	<0.200	NA	2.86	3.89	1.37	<0.260	0.0452	10.3
SS02-FL01-L@3'	07/22/24	0.458	13.0	<0.200	NA	1.94	2.55	0.867	<0.260	0.0203	7.53
SS03-FL01-L@3'	07/22/24	0.417	6.37	<0.200	NA	1.15	1.99	0.723	<0.260	<0.0200	5.39
SS04-FL01-L@3'	07/22/24	1.07	30.2	<0.200	NA	3.9	6.01	1.46	<0.260	0.0532	14.1
FL01-M@3'	03/22/24	0.815	45.6	<0.200	<0.30	4.61	6.55	2.33	0.449	0.0492	18.9
SS02-FL01-M@3'	07/23/24	4.19	172	NA	NA	NA	45.2	NA	NA	NA	NA
SS04-FL01-M@3'	07/23/24	2.04	72.2	NA	NA	NA	11.8	NA	NA	NA	NA
FS01-FL01-M@9'	08/19/24	0.609	40.4	<0.200	<0.30	1.75	3.77	2.53	<0.260	<0.0200	13.6
FS02-FL01-M@9'	08/22/24	0.933	33.7	<0.200	<0.30	3.95	4.23	3.33	<0.260	0.0396	20.0
SS03-FL01-M@8'	08/22/24	0.299	7.02	<0.200	<0.30	1.28	1.42	0.948	<0.260	<0.0200	5.47
SS05-FL01-M@3'	08/23/24	1.84	75.0	0.392	<0.30	10.6	15.8	5.01	0.433	0.0860	55.3
SS06-FL01-M@3'	08/23/24	0.880	31.5	<0.200	<0.30	5.25	5.44	2.48	<0.260	0.0323	20.0
SS07-FL01-M@3'	08/23/24	2.22	53.1	<0.200	<0.30	4.84	5.06	5.20	<0.260	0.0219	18.8
FL01-N@3'	03/22/24	0.449	21.4	<0.200	<0.30	2.07	2.27	1.24	<0.260	<0.0200	12.8
FS01-FL01-N@4'	07/19/24	0.247	7.27	<0.200	NA	0.561	0.737	<0.400	<0.260	<0.0200	3.07
SS01-FL01-N@3'	07/19/24	0.595	14.0	<0.200	NA	1.48	2.20	1.19	<0.260	<0.0200	8.86
SS02-FL01-N@3'	07/19/24	0.517	11.1	<0.200	NA	1.08	1.53	0.846	<0.260	<0.0200	5.42
SS03-FL01-N@3'	07/19/24	0.336	4.49	<0.200	NA	0.488	0.998	<0.400	<0.260	<0.0200	3.48
SS04-FL01-N@3'	07/19/24	0.742	10.5	<0.200	NA	1.37	1.44	1.02	<0.260	<0.0200	5.37
SS05-FL01-N@3'	07/26/24	0.425	8.46	NA	NA	NA	1.57	NA	NA	NA	NA
BG09@2-3'	07/26/24	0.299	10.9	NA	NA	NA	1.06	NA	NA	NA	NA
BG09@5-6'	07/26/24	0.699	19.1	NA	NA	NA	2.68	NA	NA	NA	NA
BG10@2-3'	07/26/24	0.378	9.43	NA	NA	NA	1.08	NA	NA	NA	NA
BG10@5-6'	07/26/24	0.831	12.9	NA	NA	NA	1.82	NA	NA	NA	NA
BG11@2-3'	07/26/24	1.47	14.6	NA	NA	NA	1.27	NA	NA	NA	NA
BG11@5-6'	07/26/24	0.337	7.00	NA	NA	NA	1.10	NA	NA	NA	NA
BG12@2-3'	07/26/24	2.18	136	NA	NA	NA	11.9	NA	NA	NA	NA
BG12@5-6'	07/26/24	1.75	87.5	NA	NA	NA	11.6	NA	NA	NA	NA
Mean Background Concentration		0.993	37.2	-	-	-	4.06	-	-	-	-
Mean Background x1.25		1.24	46.5	-	-	-	5.08	-	-	-	-
Highest Background		2.18	136	-	-	-	11.9	-	-	-	-
Highest Background x1.25		2.73	170	-	-	-	14.9	-	-	-	-

**TABLE 3
GROUNDWATER ANALYTICAL DATA
NOBLE ENERGY, INC. - Five Rivers K09-21D**

Monitoring Well ID	Date	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	Naphthalene (µg/L)	1,2,4 - TMB (µg/L)	1,3,5 - TMB (µg/L)	Total Dissolved Solids	Chlorides (mg/L)	Sulfates (mg/L)
ECMC Standard		5	560	700	1,400	140	67	67	1.25 X Background	250	250
FL01-L@3'	07/22/24	<1.0	<1.0	<1.0	5.0	2.8	<1.0	<1.0	NA	NA	NA
FL01-N@4'	07/19/24	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	NA	NA	NA
FL01-M@3'	07/23/24	3.6	3	17	130	5.6	200	150	NA	NA	NA

Notes:

ECMC = Energy and Carbon Management Commission

µg/L = Micrograms per liter

mg/L = Milligrams per liter

1,2,4 - TMB = 1,2,4 - trimethylbenzene

1,3,5 - TMB = 1,3,5 - trimethylbenzene

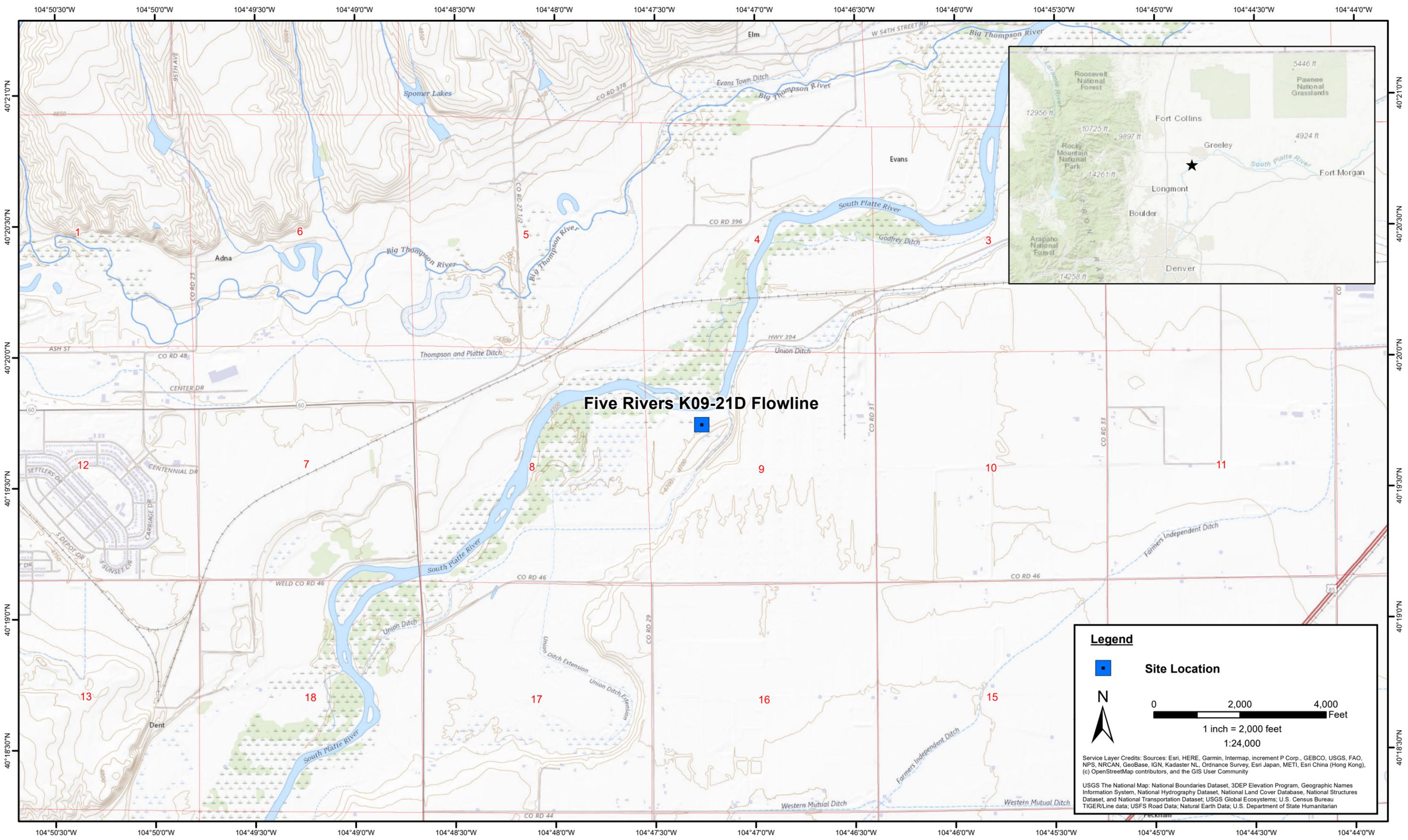
< = Analytical result is less than the indicated laboratory reporting limit

NA = Not Analyzed

Groundwater standards referenced from ECMC Table 915-1

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

FIGURES



DATE: April 2024
 DESIGNED BY: J. Whritenour
 DRAWN BY: L. Reed

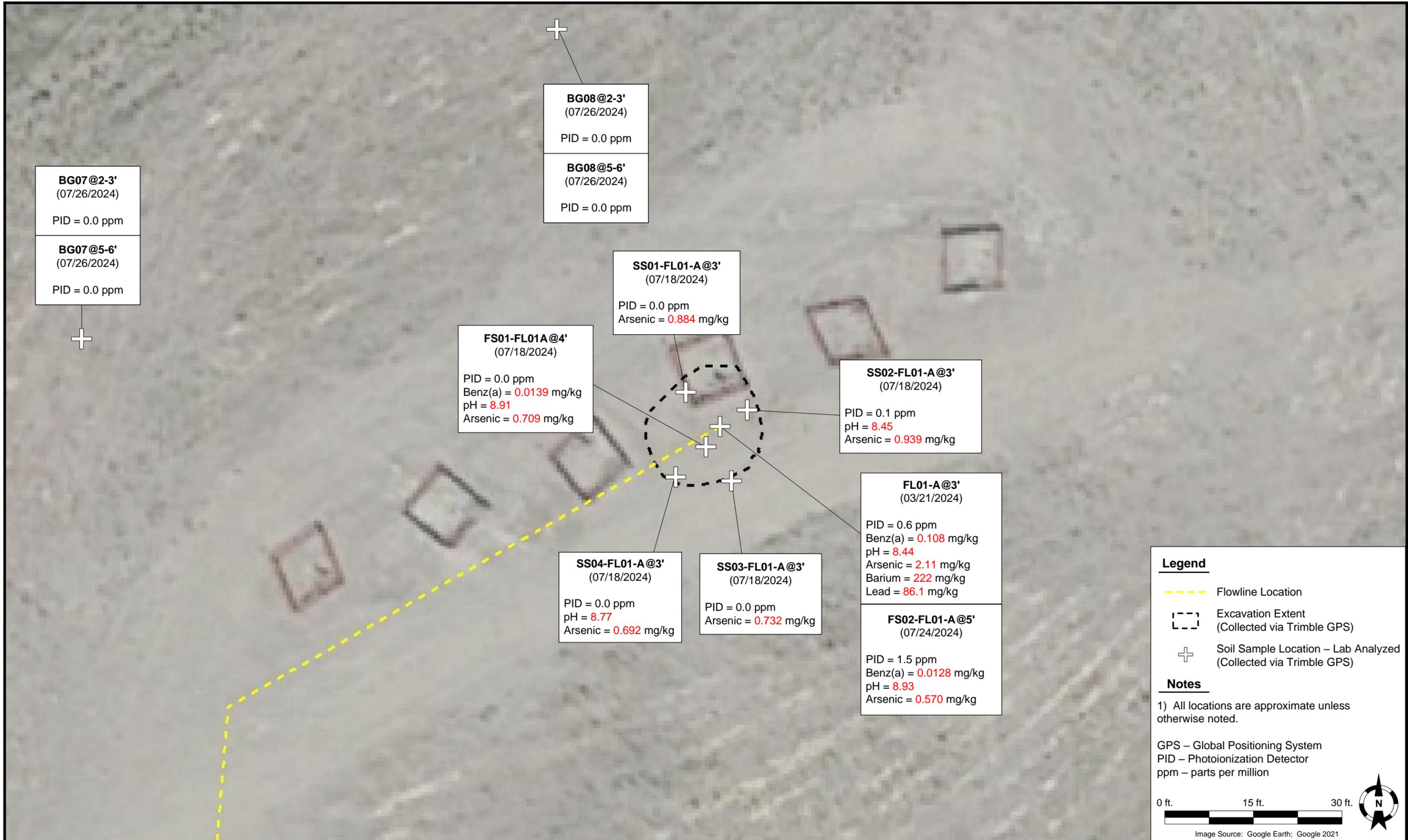


Tasman, Inc.
 6855 W. 119th Ave
 Broomfield, CO 80020

Noble Energy, Inc - DJ Basin
Five Rivers K09-21D Flowline
 SWNW, Section 9, Township 4 North, Range 66 West
 Weld County, Colorado

Site Location Map

Figure
1



Legend

- Flowline Location
- - - Excavation Extent (Collected via Trimble GPS)
- ⊕ Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)

Notes

1) All locations are approximate unless otherwise noted.

GPS – Global Positioning System
 PID – Photoionization Detector
 ppm – parts per million

0 ft. 15 ft. 30 ft.

Image Source: Google Earth; Google 2021

DATE: 09/30/2024

DESIGNED BY: JW

DRAWN BY: MW

Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. (100322) – DJ Basin
Five Rivers K09-21D Flowline
 SWNW, Section 9, Township 4 North, Range 66 West
 Weld County, Colorado

FL01-A Remedial Excavation
 Soil Analytical Results Map
 (03/21/2024, 07/18/2024,
 07/26/2024)

FIGURE
 2



Legend

- Excavation Extent (Collected via Trimble GPS)
- Flowline Location
- Soil Sample Location – Lab Analyzed (Collected via Trimble GPS)

Notes

1) All locations are approximate unless otherwise noted.

GPS – Global Positioning System
 PID – Photoionization Detector
 ppm – parts per million

0 ft. 10 ft. 20 ft.

Image Source: Google Earth; Google 2021

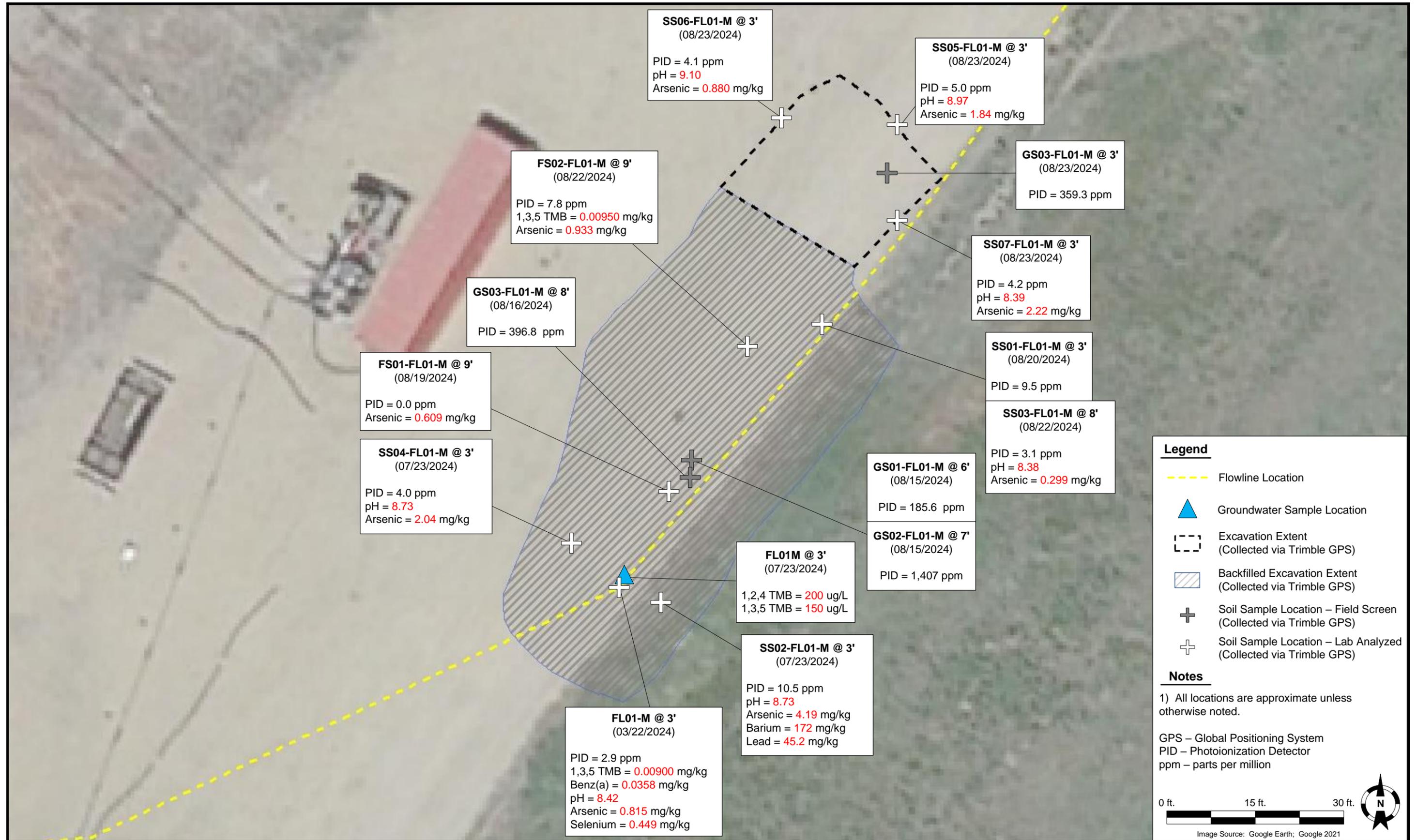
DATE:	09/30/2024
DESIGNED BY:	JW
DRAWN BY:	MW

Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. (100322) – DJ Basin
Five Rivers K09-21D Flowline
 SWNW, Section 9, Township 4 North, Range 66 West
 Weld County, Colorado

FL01-L Remedial Excavation
 Soil Analytical Results Map
 (03/22/2024, 07/22/2024,
 & 07/26/2024)

FIGURE
 3



DATE: 09/30/2024

DESIGNED BY: J. Whritenour

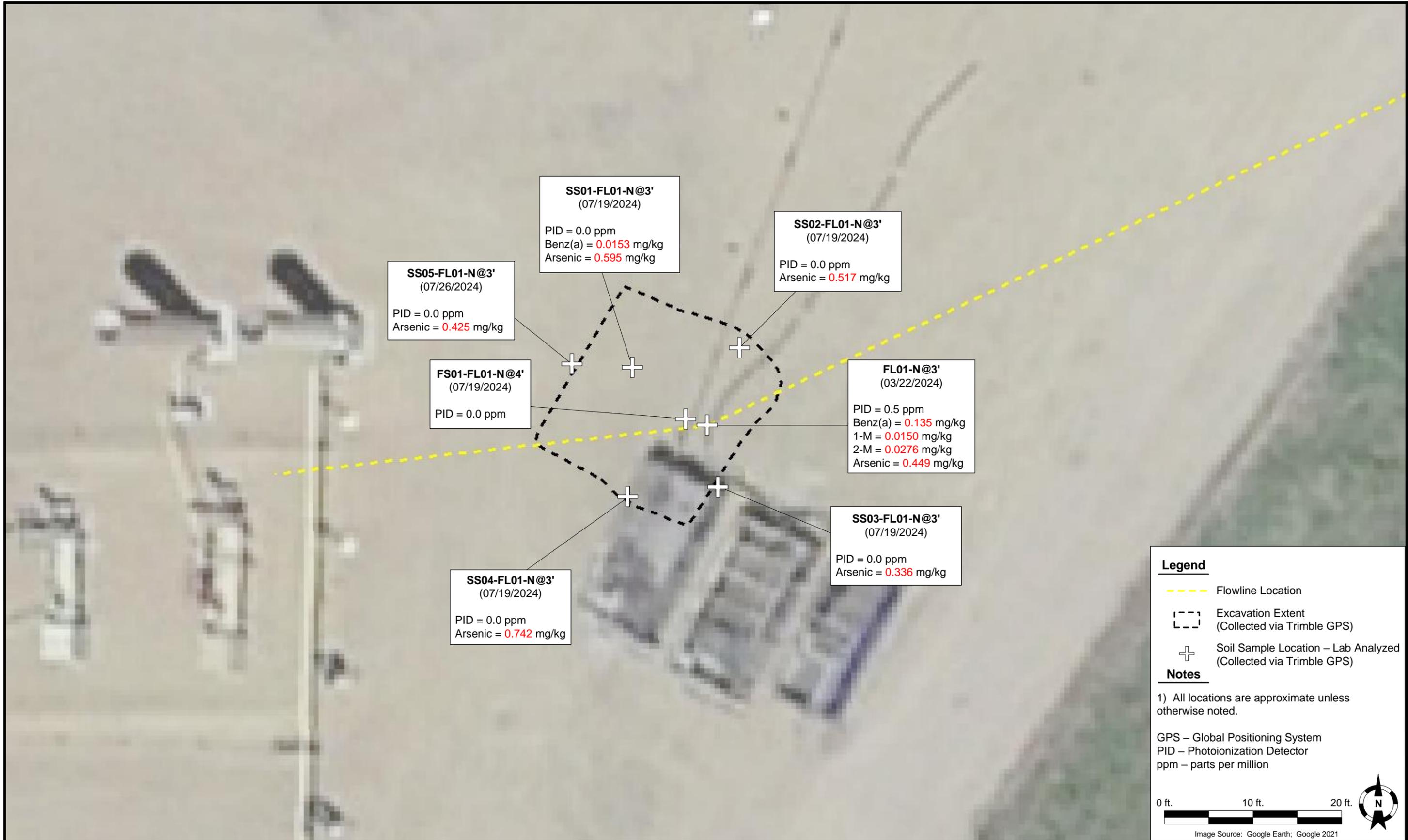
DRAWN BY: MW



Noble Energy, Inc. (100322) – DJ Basin
Five Rivers K09-21D Flowline
 SWNW, Section 9, Township 4 North, Range 66 West
 Weld County, Colorado

FL01-M Remedial Excavation
 Soil Analytical Results Map

FIGURE
 4



Legend

- Flowline Location
- - - Excavation Extent (Collected via Trimble GPS)
- +

Notes

1) All locations are approximate unless otherwise noted.

GPS – Global Positioning System
 PID – Photoionization Detector
 ppm – parts per million

0 ft. 10 ft. 20 ft.

Image Source: Google Earth; Google 2021

DATE: 09/30/2024

DESIGNED BY: JW

DRAWN BY: MW

Tasman, Inc.
 6855 W 119th Avenue
 Broomfield, CO 80020

Noble Energy, Inc. (100322) – DJ Basin
Five Rivers K09-21D Flowline
 SWNW, Section 9, Township 4 North, Range 66 West
 Weld County, Colorado

FL01-N Remedial Excavation
 Soil Analytical Results Map
 (03/22/2024, 07/01/2024,
 & 07/26/2024)

FIGURE
5

ATTACHMENT A

LABORATORY ANALYTICAL DATA REPORT

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 23, 2024

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Five Rivers K09-21D
Work Order #2407226

Enclosed are the results of analyses for samples received by Summit Scientific on 07/18/24 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Natalie Tessier For Paul Shrewsbury
President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

ANALYTICAL REPORT FOR SAMPLES

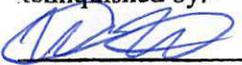
Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01-FL01-A@3'	2407226-01	Soil	07/18/24 11:10	07/18/24 17:45
SS02-FL01-A@3'	2407226-02	Soil	07/18/24 11:12	07/18/24 17:45
SS03-FL01-A@3'	2407226-03	Soil	07/18/24 11:14	07/18/24 17:45
SS04-FL01-A@3'	2407226-04	Soil	07/18/24 11:16	07/18/24 17:45
FS01-FL01-A@4'	2407226-05	Soil	07/18/24 11:09	07/18/24 17:45

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.

Client: Noble / Tasman		Project Manager: Jake Whritenour		Company: Chevron	
Address: 6855 W. 119th Ave		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: <u>Five Rivers K09-210</u>	
City/State/Zip: Broomfield, CO 80020		Project Name: <u>Five Rivers K09-210</u>		AFE#:	
Phone: <u>978-857-4408</u>		Project Number:		PO/Billing Codes:	
Sampler Name: <u>Matthew Wentz</u>		Project Number:		Contact: <u>Dan Peterson</u>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	VOC - 915	TPH - 915	PAH - 915	pH, EC, SAR	Boron - HWS		Metals - 915
1	SS01-FLO1-A@3'	7-18-24	1110	2			X			X			X	X	X	X	X		Metals: - Arsenic - Barium - Lead pH, EC, SAR by saturated paste
2	SS02-FLO1-A@3'		1112	1									X	X	X	X	X		
3	SS03-FLO1-A@3'		1114	1									X	X	X	X	X		
4	SS04-FLO1-A@3'		1116	1									X	X	X	X	X		
5	SS01-FLO1-A@4'		1109	1									X	X	X	X	X		
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: 	Date/Time: 7-18-24	Received by: Tasman Lock Box	Date/Time: 7-18-24	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Lock Box	Date/Time: 7-18-24 1745	Received by: 	Date/Time: 7-18-24 1745	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day <input type="checkbox"/>	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days <input type="checkbox"/>	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days <input type="checkbox"/>	Field Temp.	
temperature Upon Receipt: <u>8.9</u>	Corrected Temperature: <u>8</u>	IR gun #:	HNO3 lot #:	Standard <input type="checkbox"/>	Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2407226

Client: Noble Tasman Client Project ID: Five Rivers K09-21D

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

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"/>	<u>WDEF</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
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 checked="" type="checkbox"/>	<input 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.

AS
Custodian Printed Name

7/18/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS01-FL01-A@3'
2407226-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0517	07/18/24	07/18/24	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: **07/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0363	90.8 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0381	95.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0514	07/18/24	07/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/18/24 11:10**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.8	94.4 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS01-FL01-A@3'
2407226-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0519	07/19/24	07/19/24	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: **07/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0243	72.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0183	55.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.884	0.200	mg/kg dry	1	BHG0533	07/19/24	07/20/24	EPA 6020B	
Barium	24.9	0.400	"	"	"	"	"	"	
Lead	2.41	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS01-FL01-A@3'
2407226-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.8		%	1	BHG0541	07/19/24	07/19/24	Calculation	

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

Date Sampled: **07/18/24 11:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.80		pH Units	1	BHG0558	07/22/24	07/22/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS02-FL01-A@3'
2407226-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 11:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0517	07/18/24	07/18/24	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: **07/18/24 11:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0364	91.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.8 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 11:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0514	07/18/24	07/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/18/24 11:12**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.5	91.8 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS02-FL01-A@3'
2407226-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0519	07/19/24	07/19/24	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: **07/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0247	74.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	60.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.939	0.200	mg/kg dry	1	BHG0533	07/19/24	07/20/24	EPA 6020B	
Barium	65.2	0.400	"	"	"	"	"	"	
Lead	11.5	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS02-FL01-A@3'
2407226-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.2		%	1	BHG0541	07/19/24	07/19/24	Calculation	

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

Date Sampled: **07/18/24 11:12**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.45		pH Units	1	BHG0558	07/22/24	07/22/24	EPA 9045D	

Summit Scientific

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS03-FL01-A@3'
2407226-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHG0517	07/18/24	07/18/24	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: **07/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0368	92.1 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0372	93.0 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0514	07/18/24	07/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 11:14**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	13.0	104 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Tasman Geosciences
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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS03-FL01-A@3'
2407226-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0519	07/19/24	07/19/24	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: **07/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0141	42.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0177	53.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.732	0.200	mg/kg dry	1	BHG0533	07/19/24	07/20/24	EPA 6020B	
Barium	9.91	0.400	"	"	"	"	"	"	
Lead	1.57	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS03-FL01-A@3'
2407226-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.7		%	1	BHG0541	07/19/24	07/19/24	Calculation	

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

Date Sampled: **07/18/24 11:14**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.61		pH Units	1	BHG0558	07/22/24	07/22/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS04-FL01-A@3'
2407226-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHG0517	07/18/24	07/19/24	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: **07/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0358	89.6 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0386	96.5 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0514	07/18/24	07/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/18/24 11:16**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	12.7	102 %	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS04-FL01-A@3'
2407226-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0519	07/19/24	07/19/24	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: **07/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0149	44.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.692	0.200	mg/kg dry	1	BHG0533	07/19/24	07/20/24	EPA 6020B	
Barium	23.2	0.400	"	"	"	"	"	"	
Lead	3.92	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

SS04-FL01-A@3'
2407226-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	98.4		%	1	BHG0541	07/19/24	07/19/24	Calculation	

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

Date Sampled: **07/18/24 11:16**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.77		pH Units	1	BHG0558	07/22/24	07/22/24	EPA 9045D	

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

FS01-FL01-A@4'
2407226-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0517	07/18/24	07/19/24	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: **07/18/24 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0362	90.6 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.3 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0514	07/18/24	07/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	10.6	84.6 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

FS01-FL01-A@4'
2407226-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0519	07/19/24	07/19/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0139	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0130	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0193	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00667	0.00500	"	"	"	"	"	"	
Chrysene	0.0149	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0204	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00870	0.00500	"	"	"	"	"	"	
Pyrene	0.0227	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0178	53.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0148	44.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.709	0.200	mg/kg dry	1	BHG0533	07/19/24	07/20/24	EPA 6020B	
Barium	33.7	0.400	"	"	"	"	"	"	
Lead	10.3	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

FS01-FL01-A@4'
2407226-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.7		%	1	BHG0541	07/19/24	07/19/24	Calculation	

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

Date Sampled: **07/18/24 11:09**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.91		pH Units	1	BHG0558	07/22/24	07/22/24	EPA 9045D	

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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0517 - EPA 5030 Soil MS

Blank (BHG0517-BLK1)

Prepared: 07/18/24 Analyzed: 07/19/24

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	0.0376		"	0.0400		94.0	50-150			
Surrogate: Toluene-d8	0.0385		"	0.0400		96.2	50-150			
Surrogate: 4-Bromofluorobenzene	0.0376		"	0.0400		94.1	50-150			

LCS (BHG0517-BS1)

Prepared: 07/18/24 Analyzed: 07/19/24

Benzene	0.0934	0.0020	mg/kg	0.100		93.4	70-130			
Toluene	0.0937	0.0050	"	0.100		93.7	70-130			
Ethylbenzene	0.0902	0.0050	"	0.100		90.2	70-130			
m,p-Xylene	0.182	0.010	"	0.200		91.0	70-130			
o-Xylene	0.0928	0.0050	"	0.100		92.8	70-130			
1,2,4-Trimethylbenzene	0.0842	0.0050	"	0.100		84.2	70-130			
1,3,5-Trimethylbenzene	0.0847	0.0050	"	0.100		84.7	70-130			
Naphthalene	0.0885	0.0038	"	0.100		88.5	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0370		"	0.0400		92.4	50-150			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.4	50-150			

Matrix Spike (BHG0517-MS1)

Source: 2407226-01

Prepared: 07/18/24 Analyzed: 07/19/24

Benzene	0.0898	0.0020	mg/kg	0.100	ND	89.8	70-130			
Toluene	0.0915	0.0050	"	0.100	ND	91.5	70-130			
Ethylbenzene	0.0920	0.0050	"	0.100	ND	92.0	70-130			
m,p-Xylene	0.182	0.010	"	0.200	ND	91.2	70-130			
o-Xylene	0.0890	0.0050	"	0.100	ND	89.0	70-130			
1,2,4-Trimethylbenzene	0.0819	0.0050	"	0.100	ND	81.9	70-130			
1,3,5-Trimethylbenzene	0.0856	0.0050	"	0.100	ND	85.6	70-130			
Naphthalene	0.0846	0.0038	"	0.100	ND	84.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.5	50-150			
Surrogate: Toluene-d8	0.0391		"	0.0400		97.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0391		"	0.0400		97.8	50-150			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0517 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0517-MSD1)	Source: 2407226-01			Prepared: 07/18/24 Analyzed: 07/19/24						
Benzene	0.0884	0.0020	mg/kg	0.100	ND	88.4	70-130	1.55	30	
Toluene	0.0883	0.0050	"	0.100	ND	88.3	70-130	3.57	30	
Ethylbenzene	0.0884	0.0050	"	0.100	ND	88.4	70-130	3.99	30	
m,p-Xylene	0.177	0.010	"	0.200	ND	88.5	70-130	2.95	30	
o-Xylene	0.0890	0.0050	"	0.100	ND	89.0	70-130	0.0674	30	
1,2,4-Trimethylbenzene	0.0808	0.0050	"	0.100	ND	80.8	70-130	1.29	30	
1,3,5-Trimethylbenzene	0.0825	0.0050	"	0.100	ND	82.5	70-130	3.71	30	
Naphthalene	0.0845	0.0038	"	0.100	ND	84.5	70-130	0.106	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.2</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0390</i>		<i>"</i>	<i>0.0400</i>		<i>97.6</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>50-150</i>			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0514 - EPA 3550A

Blank (BHG0514-BLK1)

Prepared: 07/18/24 Analyzed: 07/19/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	14.3		"	12.5		114	30-150				

LCS (BHG0514-BS1)

Prepared: 07/18/24 Analyzed: 07/19/24

C10-C28 (DRO)	568	50	mg/kg	500		114	70-130				
Surrogate: <i>o</i> -Terphenyl	13.8		"	12.5		110	30-150				

Matrix Spike (BHG0514-MS1)

Source: 2407226-01

Prepared: 07/18/24 Analyzed: 07/19/24

C10-C28 (DRO)	560	50	mg/kg	500	ND	112	70-130				
Surrogate: <i>o</i> -Terphenyl	14.4		"	12.5		116	30-150				

Matrix Spike Dup (BHG0514-MSD1)

Source: 2407226-01

Prepared: 07/18/24 Analyzed: 07/19/24

C10-C28 (DRO)	499	50	mg/kg	500	ND	99.7	70-130	11.5	20		
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5		102	30-150				

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0519 - EPA 5030 Soil MS

Blank (BHG0519-BLK1)

Prepared & Analyzed: 07/19/24

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	0.0227		"	0.0333		68.0	40-150			
Surrogate: Fluoranthene-d10	0.0257		"	0.0333		77.2	40-150			

LCS (BHG0519-BS1)

Prepared & Analyzed: 07/19/24

Acenaphthene	0.0193	0.00500	mg/kg	0.0333		58.0	31-137			
Anthracene	0.0204	0.00500	"	0.0333		61.3	30-120			
Benzo (a) anthracene	0.0199	0.00500	"	0.0333		59.7	30-120			
Benzo (a) pyrene	0.0197	0.00500	"	0.0333		59.1	30-120			
Benzo (b) fluoranthene	0.0202	0.00500	"	0.0333		60.6	30-120			
Benzo (k) fluoranthene	0.0202	0.00500	"	0.0333		60.6	30-120			
Chrysene	0.0194	0.00500	"	0.0333		58.1	30-120			
Dibenz (a,h) anthracene	0.0184	0.00500	"	0.0333		55.1	30-120			
Fluoranthene	0.0221	0.00500	"	0.0333		66.3	30-120			
Fluorene	0.0194	0.00500	"	0.0333		58.3	30-120			
Indeno (1,2,3-cd) pyrene	0.0152	0.00500	"	0.0333		45.7	30-120			
Pyrene	0.0198	0.00500	"	0.0333		59.5	35-142			
1-Methylnaphthalene	0.0380	0.00500	"	0.0333		114	35-142			
2-Methylnaphthalene	0.0398	0.00500	"	0.0333		119	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0394		"	0.0333		118	40-150			
Surrogate: Fluoranthene-d10	0.0230		"	0.0333		69.1	40-150			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0519 - EPA 5030 Soil MS

Matrix Spike (BHG0519-MS1)	Source: 2407226-01			Prepared & Analyzed: 07/19/24							
Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.4	31-137				
Anthracene	0.0182	0.00500	"	0.0333	ND	54.4	30-120				
Benzo (a) anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120				
Benzo (a) pyrene	0.0184	0.00500	"	0.0333	ND	55.1	30-120				
Benzo (b) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.5	30-120				
Benzo (k) fluoranthene	0.0186	0.00500	"	0.0333	ND	55.9	30-120				
Chrysene	0.0182	0.00500	"	0.0333	ND	54.6	30-120				
Dibenz (a,h) anthracene	0.0178	0.00500	"	0.0333	ND	53.4	30-120				
Fluoranthene	0.0196	0.00500	"	0.0333	ND	58.8	30-120				
Fluorene	0.0180	0.00500	"	0.0333	ND	54.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0150	0.00500	"	0.0333	ND	45.1	30-120				
Pyrene	0.0177	0.00500	"	0.0333	ND	53.1	35-142				
1-Methylnaphthalene	0.0314	0.00500	"	0.0333	ND	94.3	15-130				
2-Methylnaphthalene	0.0427	0.00500	"	0.0333	ND	128	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0346</i>		<i>"</i>	<i>0.0333</i>		<i>104</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0203</i>		<i>"</i>	<i>0.0333</i>		<i>61.0</i>	<i>40-150</i>				

Matrix Spike Dup (BHG0519-MSD1)	Source: 2407226-01			Prepared & Analyzed: 07/19/24							
Acenaphthene	0.0166	0.00500	mg/kg	0.0333	ND	49.8	31-137	6.87	30		
Anthracene	0.0172	0.00500	"	0.0333	ND	51.6	30-120	5.46	30		
Benzo (a) anthracene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	6.13	30		
Benzo (a) pyrene	0.0173	0.00500	"	0.0333	ND	51.9	30-120	6.02	30		
Benzo (b) fluoranthene	0.0175	0.00500	"	0.0333	ND	52.4	30-120	5.71	30		
Benzo (k) fluoranthene	0.0177	0.00500	"	0.0333	ND	53.0	30-120	5.39	30		
Chrysene	0.0172	0.00500	"	0.0333	ND	51.5	30-120	5.89	30		
Dibenz (a,h) anthracene	0.0179	0.00500	"	0.0333	ND	53.8	30-120	0.806	30		
Fluoranthene	0.0199	0.00500	"	0.0333	ND	59.7	30-120	1.51	30		
Fluorene	0.0178	0.00500	"	0.0333	ND	53.3	30-120	1.41	30		
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	ND	43.6	30-120	3.43	30		
Pyrene	0.0159	0.00500	"	0.0333	ND	47.8	35-142	10.5	30		
1-Methylnaphthalene	0.0300	0.00500	"	0.0333	ND	90.1	15-130	4.53	50		
2-Methylnaphthalene	0.0424	0.00500	"	0.0333	ND	127	15-130	0.763	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0345</i>		<i>"</i>	<i>0.0333</i>		<i>103</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0210</i>		<i>"</i>	<i>0.0333</i>		<i>63.0</i>	<i>40-150</i>				

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0533 - EPA 3050B

Blank (BHG0533-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Lead	ND	0.200	"							

LCS (BHG0533-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	39.7	0.200	mg/kg wet	39.1		102	80-120			
Barium	47.3	0.400	"	39.1		121	80-120			QM-07
Lead	19.2	0.200	"	19.5		98.5	80-120			

Duplicate (BHG0533-DUP1)

Source: 2407206-01

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	4.51	0.200	mg/kg dry		4.03			11.4	20	
Barium	133	0.400	"		124			7.17	20	
Lead	13.5	0.200	"		12.1			10.7	20	

Matrix Spike (BHG0533-MS1)

Source: 2407206-01

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	39.4	0.179	mg/kg dry	37.7	4.03	93.8	75-125			
Barium	163	0.357	"	37.7	124	102	75-125			
Lead	30.0	0.179	"	18.8	12.1	95.1	75-125			

Matrix Spike Dup (BHG0533-MSD1)

Source: 2407206-01

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	40.9	0.200	mg/kg dry	39.6	4.03	93.1	75-125	3.95	25	
Barium	160	0.400	"	39.6	124	90.8	75-125	1.57	25	
Lead	30.8	0.200	"	19.8	12.1	94.3	75-125	2.60	25	

Post Spike (BHG0533-PS1)

Source: 2407206-01

Prepared: 07/19/24 Analyzed: 07/20/24

Arsenic	115		ug/l	100	9.55	105	75-125			
Barium	414		"	100	295	119	75-125			
Lead	80.0		"	50.0	28.8	102	75-125			

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

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

Summit Scientific

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

Batch BHG0541 - General Preparation

Duplicate (BHG0541-DUP1)

Source: 2407200-01

Prepared & Analyzed: 07/19/24

% Solids	91.8		%		90.1			1.92	20	
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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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

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

Summit Scientific

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

Batch BHG0558 - General Preparation

LCS (BHG0558-BS1)

Prepared & Analyzed: 07/22/24

pH 9.19 pH Units 9.18 100 95-105

Duplicate (BHG0558-DUP1)

Source: 2407226-01

Prepared & Analyzed: 07/22/24

pH 7.84 pH Units 7.80 0.512 20

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/23/24 10:50

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.
- 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

July 25, 2024

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Five Rivers K09-21D
Work Order #2407251

Enclosed are the results of analyses for samples received by Summit Scientific on 07/19/24 17:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Paul Shrewsbury
President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01-FL01-N@3'	2407251-01	Soil	07/19/24 14:30	07/19/24 17:44
SS02-FL01-N@3'	2407251-02	Soil	07/19/24 14:32	07/19/24 17:44
SS03-FL01-N@3'	2407251-03	Soil	07/19/24 14:34	07/19/24 17:44
SS04-FL01-N@3'	2407251-04	Soil	07/19/24 14:36	07/19/24 17:44
FS01-FL01-N@4'	2407251-05	Soil	07/19/24 14:38	07/19/24 17:44

Summit Scientific

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4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2407251	

Send Data To:		Send Invoice To:	
Client: Noble / Tasman, Inc.	Project Manager: Jake Whritenour	Company:	
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Five Rivers K09-210	
City/State/Zip: Broomfield / CO/ 80020		AFE#:	
Phone: 719-937-1898	Project Name: Five Rivers K09-210	PO/Billing Codes:	
Sampler Name: Josh Adams	Project Number: N/A	Contact: Dan Patterson	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH		Boron - HWS
1	SS01-FLOI-N @ 3'	7/19/24	1430	2								X	X	X	X	X			* Metals • Arsenic • Barium • Lead ⊕ pH only
2	SS02-FLOI-N @ 3'		1432									X	X	X	X	X			
3	SS03-FLOI-N @ 3'		1434									X	X	X	X	X			
4	SS04-FLOI-N @ 3'		1436									X	X	X	X	X			
5	FS01-FLOI-N @ 4'		1438									X	X	X	X	X			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: Josh Adams	Date/Time: 7/19/24	Received by:	Date/Time: 7/19/24	TAT Business Days	Field DO	Notes: Include Erica Crawford@chevron
Relinquished by: TasmanGeo.com	Date/Time: 7/19/24 1744	Received by:	Date/Time: 7/19/24 1744	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 7.7	Corrected Temperature	IR gun #:		Standard	Field Turb.	
				HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2407251Client: NOBEL TAPMAN Client Project ID: FIVE RIVERS K09-21DShipped 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 site
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Saturday
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 checked="" type="checkbox"/>	<input 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.AS

Custodian Printed Name

7/19/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS01-FL01-N@3'
2407251-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0553	07/19/24	07/20/24	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: **07/19/24 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0301	75.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	95.9 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0552	07/19/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	9.76	78.1 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS01-FL01-N@3'
2407251-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0564	07/22/24	07/24/24	EPA 8270D SIM	
Anthracene	0.00501	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0153	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.0110	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0200	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	0.00835	0.00500	"	"	"	"	"	"	
Chrysene	0.0134	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0281	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00740	0.00500	"	"	"	"	"	"	
Pyrene	0.0356	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0198	59.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0198	59.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.595	0.200	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B	
Barium	14.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.48	0.400	"	"	"	"	"	"	
Lead	2.20	0.200	"	"	"	"	"	"	
Nickel	1.19	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.86	0.400	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS01-FL01-N@3'
2407251-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Selenium	ND	0.260	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B
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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.0		%	1	BHG0562	07/22/24	07/23/24	Calculation	

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

Date Sampled: **07/19/24 14:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.02		pH Units	1	BHG0559	07/22/24	07/23/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS02-FL01-N@3'
2407251-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0553	07/19/24	07/20/24	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: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0362	90.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0394	98.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0552	07/19/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.69	69.5 %	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS02-FL01-N@3'
2407251-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0564	07/22/24	07/24/24	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: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0177	53.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0175	52.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.517	0.200	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B	
Barium	11.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.08	0.400	"	"	"	"	"	"	
Lead	1.53	0.200	"	"	"	"	"	"	
Nickel	0.846	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS02-FL01-N@3'
2407251-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	5.42	0.400	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.4		%	1	BHG0562	07/22/24	07/23/24	Calculation	

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

Date Sampled: **07/19/24 14:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.76		pH Units	1	BHG0559	07/22/24	07/23/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS03-FL01-N@3'
2407251-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/19/24 14:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0553	07/19/24	07/20/24	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: **07/19/24 14:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0423	106 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0397	99.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.8 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/19/24 14:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0552	07/19/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/19/24 14:34**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.2	89.4 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS03-FL01-N@3'
2407251-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/19/24 14:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BHG0564	07/22/24	07/24/24	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: **07/19/24 14:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0180	53.9 %	40-150	"	"	"	"	"	
Surrogate: Fluoranthene-d10	0.0186	55.9 %	40-150	"	"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/19/24 14:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.336	0.200	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B	
Barium	4.49	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.488	0.400	"	"	"	"	"	"	
Lead	0.998	0.200	"	"	"	"	"	"	
Nickel	ND	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS03-FL01-N@3'
2407251-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	3.48	0.400	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/19/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.0		%	1	BHG0562	07/22/24	07/23/24	Calculation	

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

Date Sampled: **07/19/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.91		pH Units	1	BHG0559	07/22/24	07/23/24	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS04-FL01-N@3'
2407251-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0553	07/19/24	07/20/24	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: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0434	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	98.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0552	07/19/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	13.3	107 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

SS04-FL01-N@3'
2407251-04 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0564	07/22/24	07/24/24	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: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0146	43.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0162	48.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.742	0.200	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B	
Barium	10.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.37	0.400	"	"	"	"	"	"	
Lead	1.44	0.200	"	"	"	"	"	"	
Nickel	1.02	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

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SS04-FL01-N@3'
2407251-04 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	5.37	0.400	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.9		%	1	BHG0562	07/22/24	07/23/24	Calculation	

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

Date Sampled: **07/19/24 14:36**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.94		pH Units	1	BHG0559	07/22/24	07/23/24	EPA 9045D	

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

FS01-FL01-N@4'
2407251-05 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/19/24 14:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHG0553	07/19/24	07/20/24	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: **07/19/24 14:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0407	102 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.6 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0380	94.9 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/19/24 14:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0552	07/19/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/19/24 14:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	12.9	103 %	30-150	"	"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
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FS01-FL01-N@4'
2407251-05 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **07/19/24 14:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BHG0564	07/22/24	07/24/24	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: **07/19/24 14:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0197	59.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/19/24 14:38**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.247	0.200	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B	
Barium	7.27	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.561	0.400	"	"	"	"	"	"	
Lead	0.737	0.200	"	"	"	"	"	"	
Nickel	ND	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

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FS01-FL01-N@4'
2407251-05 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	3.07	0.400	mg/kg dry	1	BHG0587	07/22/24	07/23/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/19/24 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.2		%	1	BHG0562	07/22/24	07/23/24	Calculation	

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

Date Sampled: **07/19/24 14:38**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.97		pH Units	1	BHG0559	07/22/24	07/23/24	EPA 9045D	

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
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Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHG0553 - EPA 5030 Soil MS

Blank (BHG0553-BLK1)

Prepared: 07/19/24 Analyzed: 07/20/24

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0424		"	0.0400		106	50-150			
<i>Surrogate: Toluene-d8</i>	0.0402		"	0.0400		100	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0388		"	0.0400		97.1	50-150			

LCS (BHG0553-BS1)

Prepared: 07/19/24 Analyzed: 07/20/24

Benzene	0.0799	0.0020	mg/kg	0.100		79.9	70-130			
Toluene	0.0927	0.0050	"	0.100		92.7	70-130			
Ethylbenzene	0.0897	0.0050	"	0.100		89.7	70-130			
m,p-Xylene	0.188	0.010	"	0.200		93.9	70-130			
o-Xylene	0.0945	0.0050	"	0.100		94.5	70-130			
1,2,4-Trimethylbenzene	0.0857	0.0050	"	0.100		85.7	70-130			
1,3,5-Trimethylbenzene	0.0865	0.0050	"	0.100		86.5	70-130			
Naphthalene	0.0778	0.0038	"	0.100		77.8	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0398		"	0.0400		99.5	50-150			
<i>Surrogate: Toluene-d8</i>	0.0407		"	0.0400		102	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0382		"	0.0400		95.4	50-150			

Matrix Spike (BHG0553-MS1)

Source: 2407248-01

Prepared: 07/19/24 Analyzed: 07/20/24

Benzene	0.0533	0.0020	mg/kg	0.100	ND	53.3	70-130			QM-05
Toluene	0.0674	0.0050	"	0.100	ND	67.4	70-130			QM-05
Ethylbenzene	0.0754	0.0050	"	0.100	ND	75.4	70-130			
m,p-Xylene	0.135	0.010	"	0.200	ND	67.3	70-130			QM-05
o-Xylene	0.0792	0.0050	"	0.100	ND	79.2	70-130			
1,2,4-Trimethylbenzene	0.0519	0.0050	"	0.100	ND	51.9	70-130			QM-05
1,3,5-Trimethylbenzene	0.0724	0.0050	"	0.100	ND	72.4	70-130			
Naphthalene	0.0515	0.0038	"	0.100	ND	51.5	70-130			QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0450		"	0.0400		112	50-150			
<i>Surrogate: Toluene-d8</i>	0.0411		"	0.0400		103	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0391		"	0.0400		97.7	50-150			

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

Volatile Organic Compounds by EPA Method 8260B - Quality Control

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

Batch BHG0553 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0553-MSD1)	Source: 2407248-01			Prepared: 07/19/24 Analyzed: 07/20/24						
Benzene	0.0506	0.0020	mg/kg	0.100	ND	50.6	70-130	5.08	30	QM-05
Toluene	0.0663	0.0050	"	0.100	ND	66.3	70-130	1.53	30	QM-05
Ethylbenzene	0.0784	0.0050	"	0.100	ND	78.4	70-130	3.90	30	
m,p-Xylene	0.121	0.010	"	0.200	ND	60.4	70-130	10.7	30	QM-05
o-Xylene	0.0808	0.0050	"	0.100	ND	80.8	70-130	2.06	30	
1,2,4-Trimethylbenzene	0.0421	0.0050	"	0.100	ND	42.1	70-130	20.8	30	QM-05
1,3,5-Trimethylbenzene	0.0740	0.0050	"	0.100	ND	74.0	70-130	2.05	30	
Naphthalene	0.0456	0.0038	"	0.100	ND	45.6	70-130	12.2	30	QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0440</i>		<i>"</i>	<i>0.0400</i>		<i>110</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0417</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.1</i>	<i>50-150</i>			

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0552 - EPA 3550A

Blank (BHG0552-BLK1)

Prepared: 07/19/24 Analyzed: 07/22/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	15.9		"	12.5		127	30-150			

LCS (BHG0552-BS1)

Prepared: 07/19/24 Analyzed: 07/22/24

C10-C28 (DRO)	589	50	mg/kg	500		118	70-130			
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		88.3	30-150			

Matrix Spike (BHG0552-MS1)

Source: 2407248-01

Prepared: 07/19/24 Analyzed: 07/22/24

C10-C28 (DRO)	551	50	mg/kg	500	16.1	107	70-130			
Surrogate: <i>o</i> -Terphenyl	14.5		"	12.5		116	30-150			

Matrix Spike Dup (BHG0552-MSD1)

Source: 2407248-01

Prepared: 07/19/24 Analyzed: 07/22/24

C10-C28 (DRO)	504	50	mg/kg	500	16.1	97.6	70-130	8.85	20	
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5		102	30-150			

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0564 - EPA 5030 Soil MS

Blank (BHG0564-BLK1)

Prepared: 07/22/24 Analyzed: 07/23/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0261</i>		<i>"</i>	<i>0.0333</i>		<i>78.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0261</i>		<i>"</i>	<i>0.0333</i>		<i>78.3</i>	<i>40-150</i>			

LCS (BHG0564-BS1)

Prepared: 07/22/24 Analyzed: 07/23/24

Acenaphthene	0.0250	0.00500	mg/kg	0.0333		75.0	31-137			
Anthracene	0.0247	0.00500	"	0.0333		74.1	30-120			
Benzo (a) anthracene	0.0240	0.00500	"	0.0333		72.0	30-120			
Benzo (a) pyrene	0.0261	0.00500	"	0.0333		78.3	30-120			
Benzo (b) fluoranthene	0.0295	0.00500	"	0.0333		88.5	30-120			
Benzo (k) fluoranthene	0.0280	0.00500	"	0.0333		84.0	30-120			
Chrysene	0.0255	0.00500	"	0.0333		76.6	30-120			
Dibenz (a,h) anthracene	0.0222	0.00500	"	0.0333		66.7	30-120			
Fluoranthene	0.0230	0.00500	"	0.0333		69.1	30-120			
Fluorene	0.0245	0.00500	"	0.0333		73.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0187	0.00500	"	0.0333		56.1	30-120			
Pyrene	0.0301	0.00500	"	0.0333		90.4	35-142			
1-Methylnaphthalene	0.0222	0.00500	"	0.0333		66.7	35-142			
2-Methylnaphthalene	0.0221	0.00500	"	0.0333		66.3	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0209</i>		<i>"</i>	<i>0.0333</i>		<i>62.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0230</i>		<i>"</i>	<i>0.0333</i>		<i>69.1</i>	<i>40-150</i>			

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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0564 - EPA 5030 Soil MS

Matrix Spike (BHG0564-MS1)

Source: 2407248-01

Prepared: 07/22/24 Analyzed: 07/23/24

Acenaphthene	0.0175	0.00500	mg/kg	0.0333	ND	52.5	31-137			
Anthracene	0.0158	0.00500	"	0.0333	ND	47.5	30-120			
Benzo (a) anthracene	0.0165	0.00500	"	0.0333	ND	49.5	30-120			
Benzo (a) pyrene	0.0157	0.00500	"	0.0333	ND	47.1	30-120			
Benzo (b) fluoranthene	0.0162	0.00500	"	0.0333	ND	48.6	30-120			
Benzo (k) fluoranthene	0.0163	0.00500	"	0.0333	ND	49.0	30-120			
Chrysene	0.0150	0.00500	"	0.0333	ND	45.1	30-120			
Dibenz (a,h) anthracene	0.0137	0.00500	"	0.0333	ND	41.0	30-120			
Fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	30-120			
Fluorene	0.0173	0.00500	"	0.0333	ND	51.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0162	0.00500	"	0.0333	ND	48.5	30-120			
Pyrene	0.0136	0.00500	"	0.0333	ND	40.9	35-142			
1-Methylnaphthalene	0.0154	0.00500	"	0.0333	ND	46.1	15-130			
2-Methylnaphthalene	0.0153	0.00500	"	0.0333	ND	45.9	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0141		"	0.0333		42.3	40-150			
Surrogate: Fluoranthene-d10	0.0153		"	0.0333		45.9	40-150			

Matrix Spike Dup (BHG0564-MSD1)

Source: 2407248-01

Prepared: 07/22/24 Analyzed: 07/23/24

Acenaphthene	0.0183	0.00500	mg/kg	0.0333	ND	55.0	31-137	4.53	30	
Anthracene	0.0166	0.00500	"	0.0333	ND	49.8	30-120	4.67	30	
Benzo (a) anthracene	0.0175	0.00500	"	0.0333	ND	52.6	30-120	6.14	30	
Benzo (a) pyrene	0.0159	0.00500	"	0.0333	ND	47.7	30-120	1.40	30	
Benzo (b) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.4	30-120	0.526	30	
Benzo (k) fluoranthene	0.0167	0.00500	"	0.0333	ND	50.0	30-120	2.09	30	
Chrysene	0.0158	0.00500	"	0.0333	ND	47.3	30-120	4.78	30	
Dibenz (a,h) anthracene	0.0153	0.00500	"	0.0333	ND	45.9	30-120	11.1	30	
Fluoranthene	0.0163	0.00500	"	0.0333	ND	48.8	30-120	4.19	30	
Fluorene	0.0175	0.00500	"	0.0333	ND	52.6	30-120	1.43	30	
Indeno (1,2,3-cd) pyrene	0.0184	0.00500	"	0.0333	ND	55.3	30-120	13.2	30	
Pyrene	0.0158	0.00500	"	0.0333	ND	47.4	35-142	14.7	30	
1-Methylnaphthalene	0.0168	0.00500	"	0.0333	ND	50.3	15-130	8.66	50	
2-Methylnaphthalene	0.0166	0.00500	"	0.0333	ND	49.8	15-130	8.23	50	
Surrogate: 2-Methylnaphthalene-d10	0.0154		"	0.0333		46.3	40-150			
Surrogate: Fluoranthene-d10	0.0163		"	0.0333		49.0	40-150			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0587 - EPA 3050B

Blank (BHG0587-BLK1)

Prepared & Analyzed: 07/22/24

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

LCS (BHG0587-BS1)

Prepared & Analyzed: 07/22/24

Arsenic	38.0	0.200	mg/kg wet	38.8	98.0	80-120	
Barium	47.7	0.400	"	38.8	123	80-120	QM-07
Cadmium	1.92	0.200	"	1.94	98.8	80-120	
Copper	39.2	0.400	"	38.8	101	80-120	
Lead	19.1	0.200	"	19.4	98.5	80-120	
Nickel	39.5	0.400	"	38.8	102	80-120	
Silver	1.89	0.0200	"	1.94	97.8	80-120	
Zinc	39.1	0.400	"	38.8	101	80-120	
Selenium	3.53	0.260	"	3.88	91.0	80-120	

Duplicate (BHG0587-DUP1)

Source: 2406239-19

Prepared & Analyzed: 07/22/24

Arsenic	1.25	0.200	mg/kg dry	1.07	15.7	20	
Barium	31.5	0.400	"	35.0	10.5	20	
Cadmium	0.130	0.200	"	0.142	8.96	20	
Copper	2.49	0.400	"	2.52	1.11	20	
Lead	3.95	0.200	"	4.53	13.5	20	
Nickel	1.85	0.400	"	1.92	3.51	20	
Silver	0.0101	0.0200	"	0.0102	0.366	20	
Zinc	12.1	0.400	"	11.1	8.23	20	
Selenium	ND	0.260	"	ND		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0587 - EPA 3050B

Matrix Spike (BHG0587-MS1)	Source: 2406239-19			Prepared & Analyzed: 07/22/24								
Arsenic	40.9	0.200	mg/kg dry	42.1	1.07	94.6	75-125					
Barium	70.2	0.400	"	42.1	35.0	83.4	75-125					
Cadmium	2.13	0.200	"	2.10	0.142	94.6	75-125					
Copper	32.5	0.400	"	42.1	2.52	71.3	75-125					QM-07
Lead	23.6	0.200	"	21.0	4.53	90.5	75-125					
Nickel	32.5	0.400	"	42.1	1.92	72.8	75-125					QM-07
Silver	1.91	0.0200	"	2.10	0.0102	90.2	75-125					
Zinc	42.3	0.400	"	42.1	11.1	74.2	75-125					QM-07
Selenium	3.50	0.260	"	4.21	ND	83.1	75-125					

Matrix Spike Dup (BHG0587-MSD1)	Source: 2406239-19			Prepared & Analyzed: 07/22/24								
Arsenic	36.7	0.200	mg/kg dry	39.0	1.07	91.3	75-125	10.8	25			
Barium	65.7	0.400	"	39.0	35.0	78.6	75-125	6.56	25			
Cadmium	1.93	0.200	"	1.95	0.142	91.6	75-125	10.0	25			
Copper	31.0	0.400	"	39.0	2.52	72.9	75-125	4.90	25			QM-07
Lead	21.8	0.200	"	19.5	4.53	88.4	75-125	7.90	25			
Nickel	30.6	0.400	"	39.0	1.92	73.6	75-125	6.01	25			QM-07
Silver	1.76	0.0200	"	1.95	0.0102	89.8	75-125	8.02	25			
Zinc	40.6	0.400	"	39.0	11.1	75.5	75-125	4.25	25			
Selenium	3.15	0.260	"	3.90	ND	80.7	75-125	10.5	25			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 07/25/24 12:09

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

Summit Scientific

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

Batch BHG0562 - General Preparation

Duplicate (BHG0562-DUP1)

Source: 2407248-01

Prepared: 07/22/24 Analyzed: 07/23/24

% Solids	75.5		%		75.8			0.419	20	
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Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

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

Summit Scientific

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

Batch BHG0559 - General Preparation

LCS (BHG0559-BS1)

Prepared: 07/22/24 Analyzed: 07/23/24

pH	9.19		pH Units	9.18		100	95-105			
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Duplicate (BHG0559-DUP1)

Source: 2407236-01

Prepared: 07/22/24 Analyzed: 07/23/24

pH	7.28		pH Units	7.29			0.137	20		
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Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:09

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.
- 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

July 22, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Five Rivers K09-21D

Work Order #2407255

Enclosed are the results of analyses for samples received by Summit Scientific on 07/19/24 17:44. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/22/24 14:45

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-N@4'	2407255-01	Water	07/19/24 14:10	07/19/24 17:44

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.

	Send Data To:	Send Invoice To:
Client: / Tasman , Inc.	Project Manager: Jake Whritenour	Company:
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Five Rivers K09-210
City/State/Zip: Broomfield / CO/ 80020		AFE#:
Phone: 719-937-1898	Project Name: Five Rivers K09-210	PO/Billing Codes:
Sampler Name: Josh Adams	Project Number: N/A	Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride		Sulfate	PAH		
1	FLOW @ 4'	7/19/24	1410	3	X				X					X	X	X	X						
2																							
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							
13																							
14																							
15																							

Relinquished by: Josh Adams	Date/Time: 7/19/24 1729	Received by:	Date/Time:	TAT Business Days	Field DO	Notes: Include E:in.Crawford@
Relinquished by: TasmanGeo.com	Date/Time: 7/19/24 1744	Received by: [Signature]	Date/Time: 7/19/24 1744	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day <input type="checkbox"/>	Field ORP	
				2 Days <input type="checkbox"/>	Field pH	
				3 Days <input type="checkbox"/>	Field Temp.	
Temperature Upon Receipt: 7.7	Corrected Temperature: 0	IR gun #:		Standard <input type="checkbox"/>	Field Turb.	
						HNO3 lot #:

S₂

Sample Receipt Checklist

S2 Work Order# 2407255

Client: Tasman Client Project ID: Five Rivers K09-210

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

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"/>	<u>NOTE</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>HCl</u>
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.

AS
Custodian Printed Name

7/19/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/22/24 14:45

FL01-N@4'
2407255-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

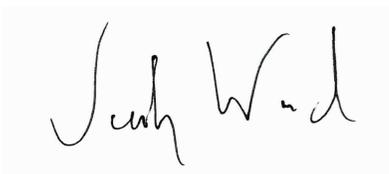
Date Sampled: **07/19/24 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	1.0	ug/l	1	BHG0555	07/19/24	07/20/24	EPA 8260B	
Toluene	ND	1.0	"	"	"	"	"	"	
Ethylbenzene	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	2.0	"	"	"	"	"	"	
Naphthalene	ND	1.0	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0	"	"	"	"	"	"	

Date Sampled: **07/19/24 14:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	12.6	94.8 %	23-173		"	"	"	"	
Surrogate: Toluene-d8	13.4	100 %	20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.1	98.2 %	21-167		"	"	"	"	

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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/22/24 14:45

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0555 - EPA 5030 Water MS

Blank (BHG0555-BLK1)

Prepared & Analyzed: 07/19/24

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
Naphthalene	ND	1.0	"								
1,2,4-Trimethylbenzene	ND	1.0	"								
1,3,5-Trimethylbenzene	ND	1.0	"								
<i>Surrogate: 1,2-Dichloroethane-d4</i>	21.0		"	13.3	158	23-173					
<i>Surrogate: Toluene-d8</i>	13.4		"	13.3	101	20-170					
<i>Surrogate: 4-Bromofluorobenzene</i>	13.7		"	13.3	103	21-167					

LCS (BHG0555-BS1)

Prepared & Analyzed: 07/19/24

Benzene	41.8	1.0	ug/l	33.3	125	51-132					
Toluene	41.5	1.0	"	33.3	124	51-138					
Ethylbenzene	41.1	1.0	"	33.3	123	58-146					
m,p-Xylene	83.2	2.0	"	66.7	125	57-144					
o-Xylene	40.2	1.0	"	33.3	121	53-146					
Naphthalene	35.0	1.0	"	33.3	105	70-130					
1,2,4-Trimethylbenzene	39.7	1.0	"	33.3	119	70-130					
1,3,5-Trimethylbenzene	40.1	1.0	"	33.3	120	70-130					
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.4		"	13.3	93.0	23-173					
<i>Surrogate: Toluene-d8</i>	13.1		"	13.3	98.2	20-170					
<i>Surrogate: 4-Bromofluorobenzene</i>	13.0		"	13.3	97.1	21-167					

LCS Dup (BHG0555-BS1)

Prepared & Analyzed: 07/19/24

Benzene	41.5	1.0	ug/l	33.3	124	51-132	0.697	20			
Toluene	41.2	1.0	"	33.3	124	51-138	0.750	20			
Ethylbenzene	41.5	1.0	"	33.3	124	58-146	0.847	20			
m,p-Xylene	84.1	2.0	"	66.7	126	57-144	1.05	20			
o-Xylene	41.2	1.0	"	33.3	124	53-146	2.50	20			
Naphthalene	35.3	1.0	"	33.3	106	70-130	0.910	20			
1,2,4-Trimethylbenzene	40.4	1.0	"	33.3	121	70-130	1.62	20			
1,3,5-Trimethylbenzene	40.8	1.0	"	33.3	122	70-130	1.71	20			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	12.3		"	13.3	92.2	23-173					
<i>Surrogate: Toluene-d8</i>	13.2		"	13.3	99.4	20-170					
<i>Surrogate: 4-Bromofluorobenzene</i>	13.1		"	13.3	98.6	21-167					

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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/22/24 14:45

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

July 29, 2024

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Five Rivers K09-21D
Work Order #2407274

Enclosed are the results of analyses for samples received by Summit Scientific on 07/22/24 17:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury
President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 08:21

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-L@3'	2407274-01	Water	07/22/24 15:50	07/22/24 17:38

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.

Client: / Tasman, Inc.		Send Data To:		Send Invoice To:	
Address: 6855 W. 119th Ave.		Project Manager: Jake Whritenour		Company:	
City/State/Zip: Broomfield / CO/ 80020		E-Mail: Jwhritenour@tasman-geo.com		Project Name/Location: <i>Five Rivers K09-210</i>	
Phone: 719-937-1898		Project Name: <i>Five Rivers K09-210</i>		AFE#:	
Sampler Name: Josh Adams		Project Number: N/A		PO/Billing Codes:	
				Contact: <i>Den Patterson</i>	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride		Sulfate	PAH
1	<i>FLO1-L @ 3'</i>	<i>7/22/24</i>	<i>1550</i>	<i>5</i>	<i>3</i>		<i>2</i>		<i>X</i>					<i>X</i>	<i>X</i>	<i>X</i>	<i>X</i>				<i>* Analyze for Benz(a)anthracene benzo(a)pyrene benzo(b)fluoranthene dibenzo(a,h)anthracene fluorene</i>
2														<i>X</i>	<i>X</i>						<i>1-methylnaphthalene</i>
3																					<i>2-methylnaphthalene</i>
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <i>Josh Adams</i>	Date/Time: <i>7/22/24</i>	Received by:	Date/Time: <i>7/22/24</i>	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <i>Tasman Geo</i>	Date/Time: <i>7/22/24 1738</i>	Received by: <i>[Signature]</i>	Date/Time: <i>7/22/24 1738</i>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: <i>17.6</i>	Corrected Temperature: <i>9</i>	IR gun #: <i>1</i>	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2407274

Client: Tisman Client Project ID: FIVE RIVERS KCP-21D

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

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"/>	OUTLINE
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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.

SN
Custodian Printed Name

7/22/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 08:21

FL01-L@3'
2407274-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/22/24 15:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	1.0		ug/l	1	BHG0610	07/22/24	07/22/24	EPA 8260B	
Toluene	ND	1.0		"	"	"	"	"	"	
Ethylbenzene	ND	1.0		"	"	"	"	"	"	
Xylenes (total)	5.0	2.0		"	"	"	"	"	"	
Naphthalene	2.8	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	1.0		"	"	"	"	"	"	

Date Sampled: **07/22/24 15:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	13.5	101 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.4	100 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	13.4	101 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **07/22/24 15:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzo (a) anthracene	ND	0.100		ug/l	1	BHG0721	07/25/24	07/25/24	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	0.200		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.200		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.200		"	"	"	"	"	"	
Fluorene	0.372	0.200		"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.500		"	"	"	"	"	"	

Date Sampled: **07/22/24 15:50**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.23	61.4 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 08:21

FL01-L@3'
2407274-01 (Water)

Summit Scientific

PAH by EPA Method 8270D SIM

Surrogate: Fluoranthene-d10	1.38	68.9 %	40-150	BHG0721	07/25/24	07/25/24	EPA 8270D SIM
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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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 08:21

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0610 - EPA 5030 Water MS

Blank (BHG0610-BLK1)

Prepared & Analyzed: 07/22/24

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
Naphthalene	ND	1.0	"								
1,2,4-Trimethylbenzene	ND	1.0	"								
1,3,5-Trimethylbenzene	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	14.3		"	13.3		107		23-173			
Surrogate: Toluene-d8	13.3		"	13.3		100		20-170			
Surrogate: 4-Bromofluorobenzene	13.5		"	13.3		101		21-167			

LCS (BHG0610-BS1)

Prepared & Analyzed: 07/22/24

Benzene	35.2	1.0	ug/l	33.3		106		51-132			
Toluene	35.1	1.0	"	33.3		105		51-138			
Ethylbenzene	34.5	1.0	"	33.3		104		58-146			
m,p-Xylene	69.2	2.0	"	66.7		104		57-144			
o-Xylene	35.3	1.0	"	33.3		106		53-146			
Naphthalene	29.6	1.0	"	33.3		88.7		70-130			
1,2,4-Trimethylbenzene	33.4	1.0	"	33.3		100		70-130			
1,3,5-Trimethylbenzene	34.1	1.0	"	33.3		102		70-130			
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.3		106		23-173			
Surrogate: Toluene-d8	13.3		"	13.3		99.9		20-170			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103		21-167			

LCS Dup (BHG0610-BSD1)

Prepared & Analyzed: 07/22/24

Benzene	33.7	1.0	ug/l	33.3		101		51-132	4.27	20	
Toluene	33.9	1.0	"	33.3		102		51-138	3.30	20	
Ethylbenzene	33.8	1.0	"	33.3		101		58-146	2.23	20	
m,p-Xylene	67.5	2.0	"	66.7		101		57-144	2.52	20	
o-Xylene	34.3	1.0	"	33.3		103		53-146	2.82	20	
Naphthalene	29.1	1.0	"	33.3		87.3		70-130	1.64	20	
1,2,4-Trimethylbenzene	33.1	1.0	"	33.3		99.3		70-130	0.872	20	
1,3,5-Trimethylbenzene	33.7	1.0	"	33.3		101		70-130	1.15	20	
Surrogate: 1,2-Dichloroethane-d4	14.0		"	13.3		105		23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.6		20-170			
Surrogate: 4-Bromofluorobenzene	13.7		"	13.3		103		21-167			

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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 08:21

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0721 - EPA 5030 Water MS

Blank (BHG0721-BLK1)

Prepared & Analyzed: 07/25/24

Benzo (a) anthracene	ND	0.100	ug/l							
Benzo (b) fluoranthene	ND	0.200	"							
Benzo (a) pyrene	ND	0.200	"							
Dibenz (a,h) anthracene	ND	0.200	"							
Fluorene	ND	0.200	"							
1-Methylnaphthalene	ND	0.500	"							
2-Methylnaphthalene	ND	0.500	"							
Surrogate: 2-Methylnaphthalene-d10	2.08		"	2.00		104	40-150			
Surrogate: Fluoranthene-d10	2.00		"	2.00		100	40-150			

LCS (BHG0721-BS1)

Prepared & Analyzed: 07/25/24

Benzo (a) anthracene	1.68	0.100	ug/l	2.00		83.9	30-120			
Benzo (b) fluoranthene	1.77	0.200	"	2.00		88.6	30-120			
Benzo (a) pyrene	1.65	0.200	"	2.00		82.3	30-120			
Dibenz (a,h) anthracene	1.51	0.200	"	2.00		75.4	30-120			
Fluorene	1.82	0.200	"	2.00		90.9	30-120			
1-Methylnaphthalene	1.70	0.500	"	2.00		85.1	30-120			
2-Methylnaphthalene	1.82	0.500	"	2.00		91.0	0-200			
Surrogate: 2-Methylnaphthalene-d10	1.70		"	2.00		84.9	40-150			
Surrogate: Fluoranthene-d10	1.75		"	2.00		87.5	40-150			

LCS Dup (BHG0721-BSD1)

Prepared & Analyzed: 07/25/24

Benzo (a) anthracene	1.71	0.100	ug/l	2.00		85.6	30-120	1.96	30	
Benzo (b) fluoranthene	1.76	0.200	"	2.00		87.9	30-120	0.859	30	
Benzo (a) pyrene	1.61	0.200	"	2.00		80.3	30-120	2.40	30	
Dibenz (a,h) anthracene	1.34	0.200	"	2.00		66.8	30-120	12.1	30	
Fluorene	1.76	0.200	"	2.00		88.0	30-120	3.25	30	
1-Methylnaphthalene	1.80	0.500	"	2.00		90.2	30-120	5.74	30	
2-Methylnaphthalene	1.84	0.500	"	2.00		92.2	0-200	1.31	200	
Surrogate: 2-Methylnaphthalene-d10	1.73		"	2.00		86.3	40-150			
Surrogate: Fluoranthene-d10	1.73		"	2.00		86.5	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 08:21

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

July 25, 2024

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Five Rivers K09-21D
Work Order #2407276

Enclosed are the results of analyses for samples received by Summit Scientific on 07/22/24 17:38. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Shrewsbury', written in a cursive style.

Paul Shrewsbury
President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS01-FL01-L@3'	2407276-01	Soil	07/22/24 00:00	07/22/24 17:38
SS02-FL01-L@3'	2407276-02	Soil	07/22/24 00:00	07/22/24 17:38
SS03-FL01-L@3'	2407276-03	Soil	07/22/24 00:00	07/22/24 17:38
SS04-FL01-L@3'	2407276-04	Soil	07/22/24 00:00	07/22/24 17:38
FS01-FL01-L@4'	2407276-05	Soil	07/22/24 00:00	07/22/24 17:38

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.

Client: Noble / Tasman, Inc.		Project Manager: Jake Whritenour		Send Invoice To:	
Address: 6855 W. 119th Ave.		E-Mail: Jwhritenour@tasman-geo.com		Company:	
City/State/Zip: Broomfield / CO/ 80020		Project Name: Five Rivers K09-210		Project Name/Location: Five Rivers K09-210	
Phone: 719-937-1898		Project Number: N/A		AFE#:	
Sampler Name: Josh Adams		Project Name: Five Rivers K09-210		PO/Billing Codes:	
		Project Number: N/A		Contact: Don Patterson	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested							Special Instructions	
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH		Boron - HWS
1	SS01 - FLO1 - L @ 3'	7/22/24		2															*Metals: Arsenic Barium Lead ⊕ pH only
2	SS02 - FLO1 - L @ 3'																		
3	SS03 - FLO1 - L @ 3'																		
4	SS04 - FLO1 - L @ 3'																		
5	F001 - FLO1 - L @ 4'																		
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: Josh Adams	Date/Time: 7/22/24	Received by:	Date/Time: 7/22/24	TAT Business Days	Field DO	Notes: Include Erin.Crawford@chevron
Relinquished by: Tasman (Worx)	Date/Time: 7/22/24 1738	Received by:	Date/Time: 7/22/24 1738	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 17.4	Corrected Temperature: 0	IR gun #: 1	HNO3 lot #:	Standard	Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2407276

Client: Wolfebusman Client Project ID: FY2025 K09-210

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

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"/>	OK
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Same day
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 checked="" type="checkbox"/>	<input type="checkbox"/>	
Is a chain-of-custody (COC) form present and filled out Completely? ⁽¹⁾	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Is the COC properly relinquished by the client w/ date and time recorded? ⁽¹⁾	<input type="checkbox"/>	<input checked="" 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.

SN
Custodian Printed Name

7/22/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS01-FL01-L@3'
2407276-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

PRELM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0608	07/22/24	07/23/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0434	108 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0437	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0611	07/22/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.11	56.9 %	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS01-FL01-L@3'
2407276-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0619	07/23/24	07/23/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0189	56.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.948	0.200	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B	
Barium	16.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.86	0.400	"	"	"	"	"	"	
Lead	3.89	0.200	"	"	"	"	"	"	
Nickel	1.37	0.400	"	"	"	"	"	"	
Silver	0.0452	0.0200	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS01-FL01-L@3'
2407276-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	10.3	0.400	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	1	BHG0618	07/23/24	07/23/24	Calculation	

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

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.83		pH Units	1	BHG0614	07/23/24	07/24/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS02-FL01-L@3'
2407276-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

PRELM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0608	07/22/24	07/23/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0403	101 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0412	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0611	07/22/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.51	52.1 %	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS02-FL01-L@3'
2407276-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0619	07/23/24	07/23/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0231	69.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0200	60.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.458	0.200	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B	
Barium	13.0	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.94	0.400	"	"	"	"	"	"	
Lead	2.55	0.200	"	"	"	"	"	"	
Nickel	0.867	0.400	"	"	"	"	"	"	
Silver	0.0203	0.0200	"	"	"	"	"	"	

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS02-FL01-L@3'
2407276-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	7.53	0.400	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.0		%	1	BHG0618	07/23/24	07/23/24	Calculation	

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

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.35		pH Units	1	BHG0614	07/23/24	07/24/24	EPA 9045D	

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS03-FL01-L@3'
2407276-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

PRELM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0608	07/22/24	07/23/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	0.038	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0399	99.8 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0387	96.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0611	07/22/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	8.17	65.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS03-FL01-L@3'
2407276-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0619	07/23/24	07/23/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0225	67.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0207	62.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.417	0.200	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B	
Barium	6.37	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.15	0.400	"	"	"	"	"	"	
Lead	1.99	0.200	"	"	"	"	"	"	
Nickel	0.723	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS03-FL01-L@3'
2407276-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	5.39	0.400	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.9		%	1	BHG0618	07/23/24	07/23/24	Calculation	

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

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.81		pH Units	1	BHG0614	07/23/24	07/24/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS04-FL01-L@3'
2407276-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

PRELM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0608	07/22/24	07/23/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0363	90.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0395	98.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0611	07/22/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	7.16	57.3 %	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS04-FL01-L@3'
2407276-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0619	07/23/24	07/24/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0172	51.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0148	44.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.07	0.200	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B	
Barium	30.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.90	0.400	"	"	"	"	"	"	
Lead	6.01	0.200	"	"	"	"	"	"	
Nickel	1.46	0.400	"	"	"	"	"	"	
Silver	0.0532	0.0200	"	"	"	"	"	"	

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Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

SS04-FL01-L@3'
2407276-04 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	14.1	0.400	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.3		%	1	BHG0618	07/23/24	07/23/24	Calculation	

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

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	9.02		pH Units	1	BHG0614	07/23/24	07/24/24	EPA 9045D	

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

FS01-FL01-L@4'
2407276-05 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

PRELM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0608	07/22/24	07/23/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0344	86.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0390	97.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0397	99.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0611	07/22/24	07/22/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	6.31	50.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

FS01-FL01-L@4'
2407276-05 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0619	07/23/24	07/24/24	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: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0176	52.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0146	43.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.486	0.200	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B	
Barium	4.73	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.46	0.400	"	"	"	"	"	"	
Lead	1.89	0.200	"	"	"	"	"	"	
Nickel	0.886	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

FS01-FL01-L@4'
2407276-05 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method
Zinc	5.69	0.400	mg/kg dry	1	BHG0640	07/23/24	07/24/24	EPA 6020B
Selenium	ND	0.260	"	"	"	"	"	"

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.8		%	1	BHG0618	07/23/24	07/23/24	Calculation	

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

Date Sampled: **07/22/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.70		pH Units	1	BHG0614	07/23/24	07/24/24	EPA 9045D	

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0608 - EPA 5030 Soil MS

Blank (BHG0608-BLK1)

Prepared: 07/22/24 Analyzed: 07/23/24

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0400		"	0.0400		100	50-150			
<i>Surrogate: Toluene-d8</i>	0.0392		"	0.0400		97.9	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0399		"	0.0400		99.8	50-150			

LCS (BHG0608-BS1)

Prepared: 07/22/24 Analyzed: 07/23/24

Benzene	0.0820	0.0020	mg/kg	0.100		82.0	70-130			
Toluene	0.0973	0.0050	"	0.100		97.3	70-130			
Ethylbenzene	0.0886	0.0050	"	0.100		88.6	70-130			
m,p-Xylene	0.178	0.010	"	0.200		89.2	70-130			
o-Xylene	0.0888	0.0050	"	0.100		88.8	70-130			
1,2,4-Trimethylbenzene	0.0823	0.0050	"	0.100		82.3	70-130			
1,3,5-Trimethylbenzene	0.0818	0.0050	"	0.100		81.8	70-130			
Naphthalene	0.0745	0.0038	"	0.100		74.5	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0471		"	0.0400		118	50-150			
<i>Surrogate: Toluene-d8</i>	0.0428		"	0.0400		107	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0417		"	0.0400		104	50-150			

Matrix Spike (BHG0608-MS1)

Source: 2407276-01

Prepared: 07/22/24 Analyzed: 07/23/24

Benzene	0.0561	0.0020	mg/kg	0.100	ND	56.1	70-130			QM-07
Toluene	0.0679	0.0050	"	0.100	ND	67.9	70-130			QM-07
Ethylbenzene	0.0701	0.0050	"	0.100	ND	70.1	70-130			
m,p-Xylene	0.123	0.010	"	0.200	ND	61.7	70-130			QM-07
o-Xylene	0.0685	0.0050	"	0.100	ND	68.5	70-130			QM-07
1,2,4-Trimethylbenzene	0.0474	0.0050	"	0.100	ND	47.4	70-130			QM-07
1,3,5-Trimethylbenzene	0.0708	0.0050	"	0.100	ND	70.8	70-130			
Naphthalene	0.00915	0.0038	"	0.100	ND	9.15	70-130			QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0410		"	0.0400		102	50-150			
<i>Surrogate: Toluene-d8</i>	0.0413		"	0.0400		103	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0382		"	0.0400		95.6	50-150			

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0608 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0608-MSD1)	Source: 2407276-01			Prepared: 07/22/24 Analyzed: 07/23/24						
Benzene	0.0503	0.0020	mg/kg	0.100	ND	50.3	70-130	10.9	30	QM-07
Toluene	0.0602	0.0050	"	0.100	ND	60.2	70-130	12.0	30	QM-07
Ethylbenzene	0.0651	0.0050	"	0.100	ND	65.1	70-130	7.37	30	QM-07
m,p-Xylene	0.119	0.010	"	0.200	ND	59.7	70-130	3.39	30	QM-07
o-Xylene	0.0674	0.0050	"	0.100	ND	67.4	70-130	1.55	30	QM-07
1,2,4-Trimethylbenzene	0.0485	0.0050	"	0.100	ND	48.5	70-130	2.19	30	QM-07
1,3,5-Trimethylbenzene	0.0673	0.0050	"	0.100	ND	67.3	70-130	5.08	30	QM-07
Naphthalene	0.00600	0.0038	"	0.100	ND	6.00	70-130	41.6	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0389</i>		<i>"</i>	<i>0.0400</i>		<i>97.4</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.2</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.2</i>	<i>50-150</i>			

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0611 - EPA 3550A

Blank (BHG0611-BLK1)

Prepared: 07/22/24 Analyzed: 07/23/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.1		"	12.5		96.6	30-150				

LCS (BHG0611-BS1)

Prepared: 07/22/24 Analyzed: 07/23/24

C10-C28 (DRO)	453	50	mg/kg	500		90.5	70-130				
Surrogate: <i>o</i> -Terphenyl	11.9		"	12.5		95.0	30-150				

Matrix Spike (BHG0611-MS1)

Source: 2407276-01

Prepared: 07/22/24 Analyzed: 07/23/24

C10-C28 (DRO)	431	50	mg/kg	500	ND	86.2	70-130				
Surrogate: <i>o</i> -Terphenyl	8.75		"	12.5		70.0	30-150				

Matrix Spike Dup (BHG0611-MSD1)

Source: 2407276-01

Prepared: 07/22/24 Analyzed: 07/23/24

C10-C28 (DRO)	418	50	mg/kg	500	ND	83.5	70-130	3.14	20		
Surrogate: <i>o</i> -Terphenyl	7.84		"	12.5		62.7	30-150				

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0619 - EPA 5030 Soil MS

Blank (BHG0619-BLK1)

Prepared & Analyzed: 07/23/24

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	0.0226		"	0.0333		67.7	40-150			
Surrogate: Fluoranthene-d10	0.0221		"	0.0333		66.2	40-150			

LCS (BHG0619-BS1)

Prepared & Analyzed: 07/23/24

Acenaphthene	0.0191	0.00500	mg/kg	0.0333		57.2	31-137			
Anthracene	0.0182	0.00500	"	0.0333		54.6	30-120			
Benzo (a) anthracene	0.0204	0.00500	"	0.0333		61.1	30-120			
Benzo (a) pyrene	0.0188	0.00500	"	0.0333		56.4	30-120			
Benzo (b) fluoranthene	0.0241	0.00500	"	0.0333		72.2	30-120			
Benzo (k) fluoranthene	0.0217	0.00500	"	0.0333		65.1	30-120			
Chrysene	0.0191	0.00500	"	0.0333		57.4	30-120			
Dibenz (a,h) anthracene	0.0174	0.00500	"	0.0333		52.3	30-120			
Fluoranthene	0.0178	0.00500	"	0.0333		53.4	30-120			
Fluorene	0.0194	0.00500	"	0.0333		58.1	30-120			
Indeno (1,2,3-cd) pyrene	0.0158	0.00500	"	0.0333		47.4	30-120			
Pyrene	0.0237	0.00500	"	0.0333		71.1	35-142			
1-Methylnaphthalene	0.0176	0.00500	"	0.0333		52.7	35-142			
2-Methylnaphthalene	0.0187	0.00500	"	0.0333		56.1	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0183		"	0.0333		54.9	40-150			
Surrogate: Fluoranthene-d10	0.0186		"	0.0333		55.9	40-150			

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6855 W. 119th Ave.
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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0619 - EPA 5030 Soil MS

Matrix Spike (BHG0619-MS1)	Source: 2407276-01			Prepared & Analyzed: 07/23/24						
Acenaphthene	0.0201	0.00500	mg/kg	0.0333	ND	60.3	31-137			
Anthracene	0.0197	0.00500	"	0.0333	ND	59.1	30-120			
Benzo (a) anthracene	0.0220	0.00500	"	0.0333	ND	65.9	30-120			
Benzo (a) pyrene	0.0202	0.00500	"	0.0333	ND	60.6	30-120			
Benzo (b) fluoranthene	0.0261	0.00500	"	0.0333	ND	78.4	30-120			
Benzo (k) fluoranthene	0.0235	0.00500	"	0.0333	ND	70.4	30-120			
Chrysene	0.0205	0.00500	"	0.0333	ND	61.4	30-120			
Dibenz (a,h) anthracene	0.0230	0.00500	"	0.0333	ND	69.0	30-120			
Fluoranthene	0.0206	0.00500	"	0.0333	ND	61.9	30-120			
Fluorene	0.0206	0.00500	"	0.0333	ND	61.7	30-120			
Indeno (1,2,3-cd) pyrene	0.0196	0.00500	"	0.0333	ND	58.8	30-120			
Pyrene	0.0275	0.00500	"	0.0333	ND	82.4	35-142			
1-Methylnaphthalene	0.0181	0.00500	"	0.0333	ND	54.2	15-130			
2-Methylnaphthalene	0.0194	0.00500	"	0.0333	ND	58.3	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0179</i>		<i>"</i>	<i>0.0333</i>		<i>53.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0203</i>		<i>"</i>	<i>0.0333</i>		<i>60.8</i>	<i>40-150</i>			

Matrix Spike Dup (BHG0619-MSD1)	Source: 2407276-01			Prepared & Analyzed: 07/23/24						
Acenaphthene	0.0136	0.00500	mg/kg	0.0333	ND	40.7	31-137	39.0	30	QR-02
Anthracene	0.0143	0.00500	"	0.0333	ND	43.0	30-120	31.5	30	QR-02
Benzo (a) anthracene	0.0152	0.00500	"	0.0333	ND	45.6	30-120	36.4	30	QR-02
Benzo (a) pyrene	0.0140	0.00500	"	0.0333	ND	42.1	30-120	36.0	30	QR-02
Benzo (b) fluoranthene	0.0179	0.00500	"	0.0333	ND	53.8	30-120	37.3	30	QR-02
Benzo (k) fluoranthene	0.0159	0.00500	"	0.0333	ND	47.8	30-120	38.2	30	QR-02
Chrysene	0.0141	0.00500	"	0.0333	ND	42.2	30-120	37.0	30	QR-02
Dibenz (a,h) anthracene	0.0184	0.00500	"	0.0333	ND	55.3	30-120	22.1	30	
Fluoranthene	0.0140	0.00500	"	0.0333	ND	42.0	30-120	38.3	30	QR-02
Fluorene	0.0139	0.00500	"	0.0333	ND	41.6	30-120	38.9	30	QR-02
Indeno (1,2,3-cd) pyrene	0.0167	0.00500	"	0.0333	ND	50.0	30-120	16.1	30	
Pyrene	0.0182	0.00500	"	0.0333	ND	54.5	35-142	40.8	30	QR-02
1-Methylnaphthalene	0.0135	0.00500	"	0.0333	ND	40.6	15-130	28.8	50	
2-Methylnaphthalene	0.0133	0.00500	"	0.0333	ND	40.0	15-130	37.2	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0170</i>		<i>"</i>	<i>0.0333</i>		<i>51.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0136</i>		<i>"</i>	<i>0.0333</i>		<i>40.7</i>	<i>40-150</i>			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0640 - EPA 3050B

Blank (BHG0640-BLK1)

Prepared: 07/23/24 Analyzed: 07/24/24

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

LCS (BHG0640-BS1)

Prepared: 07/23/24 Analyzed: 07/24/24

Arsenic	40.4	0.200	mg/kg wet	38.8	104	80-120				
Barium	48.7	0.400	"	38.8	126	80-120				QM-07
Cadmium	1.90	0.200	"	1.94	98.0	80-120				
Copper	38.4	0.400	"	38.8	99.0	80-120				
Lead	19.1	0.200	"	19.4	98.7	80-120				
Nickel	38.8	0.400	"	38.8	100	80-120				
Silver	1.88	0.0200	"	1.94	97.0	80-120				
Zinc	37.7	0.400	"	38.8	97.2	80-120				
Selenium	3.77	0.260	"	3.88	97.4	80-120				

Duplicate (BHG0640-DUP1)

Source: 2407273-01

Prepared: 07/23/24 Analyzed: 07/24/24

Arsenic	3.36	0.200	mg/kg dry	3.43	1.93	20				
Barium	143	0.400	"	137	3.95	20				
Cadmium	0.386	0.200	"	0.392	1.55	20				
Copper	5.10	0.400	"	5.25	2.91	20				
Lead	12.8	0.200	"	20.9	47.9	20				QR-02
Nickel	4.55	0.400	"	4.67	2.73	20				
Silver	0.0437	0.0200	"	0.0430	1.64	20				
Zinc	21.7	0.400	"	24.4	11.7	20				
Selenium	ND	0.260	"	ND		20				

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0640 - EPA 3050B

Matrix Spike (BHG0640-MS1)

Source: 2407273-01

Prepared: 07/23/24 Analyzed: 07/24/24

Arsenic	45.8	0.200	mg/kg dry	44.0	3.43	96.4	75-125			
Barium	187	0.400	"	44.0	137	114	75-125			
Cadmium	2.50	0.200	"	2.20	0.392	95.8	75-125			
Copper	28.5	0.400	"	44.0	5.25	52.9	75-125			QM-05
Lead	32.6	0.200	"	22.0	20.9	53.0	75-125			QM-07
Nickel	28.8	0.400	"	44.0	4.67	54.9	75-125			QM-05
Silver	2.06	0.0200	"	2.20	0.0430	91.7	75-125			
Zinc	52.4	0.400	"	44.0	24.4	63.7	75-125			QM-05
Selenium	3.37	0.260	"	4.40	ND	76.6	75-125			

Matrix Spike Dup (BHG0640-MSD1)

Source: 2407273-01

Prepared: 07/23/24 Analyzed: 07/24/24

Arsenic	45.3	0.200	mg/kg dry	43.3	3.43	96.6	75-125	1.22	25	
Barium	181	0.400	"	43.3	137	102	75-125	3.06	25	
Cadmium	2.48	0.200	"	2.17	0.392	96.5	75-125	0.645	25	
Copper	28.4	0.400	"	43.3	5.25	53.5	75-125	0.242	25	QM-05
Lead	32.8	0.200	"	21.7	20.9	54.7	75-125	0.574	25	QM-07
Nickel	28.6	0.400	"	43.3	4.67	55.2	75-125	0.856	25	QM-05
Silver	2.08	0.0200	"	2.17	0.0430	94.3	75-125	1.18	25	
Zinc	45.2	0.400	"	43.3	24.4	48.1	75-125	14.7	25	QM-05
Selenium	3.30	0.260	"	4.33	ND	76.2	75-125	2.04	25	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

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 BHG0618 - General Preparation

Duplicate (BHG0618-DUP1)

Source: 2407276-01

Prepared & Analyzed: 07/23/24

% Solids	94.0		%		94.1			0.132	20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

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

Summit Scientific

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

Batch BHG0614 - General Preparation

LCS (BHG0614-BS1)

Prepared: 07/23/24 Analyzed: 07/24/24

pH	9.12	pH Units	9.18	99.3	95-105
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Duplicate (BHG0614-DUP1)

Source: 2407276-01

Prepared: 07/23/24 Analyzed: 07/24/24

pH	8.83	pH Units	8.83	0.00	20
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Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/25/24 12:29

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.
- 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.
- PRELM Preliminary result. Revised report to follow.
- 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

July 29, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Five Rivers K09-21D

Work Order #2407294

Enclosed are the results of analyses for samples received by Summit Scientific on 07/23/24 17:47. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS04-FL01-M@3'	2407294-01	Soil	07/23/24 09:15	07/23/24 17:47
SS02-FL01-M@3'	2407294-02	Soil	07/23/24 09:20	07/23/24 17:47

Case Narrative

Reported Metals analytes have been corrected to match COC on 7/29/2024.

This is a revision of the report originally sent on 7/29/2024 at 13:22 MT.

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.



4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2407294	

Send Data To:		Send Invoice To:
Client: Noble / Tasman, Inc.	Project Manager: Jake Whritenour	Company:
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Five Rivers K09-210
City/State/Zip: Broomfield / CO/ 80020		AFE#:
Phone: 719-937-1898	Project Name: Five Rivers K09-210	PO/Billing Codes:
Sampler Name: Josh Adams	Project Number: N/A	Contact: Dan Patterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested						Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SATURATED, pH	Boron - HWS		HOLD	
1	SS01-Flow-M @ 3'	7/23/24	0915	2			X			X				X	X	X	X	X			* Metals • Arsenic • Barium • Lead ⊕ pH only SATURATED, pH by saturated paste
2	SS02-Flow-M @ 3'	7/23/24	0920	1			X			X				X	X	X	X	X			
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: Josh Adams	Date/Time: 7/23/24 1548	Received by: [Signature]	Date/Time: 7/23/24 -	TAT Business Days	Field DO	Notes: Include Erin.Crawford@chevron
Relinquished by: Tasman Whritenour	Date/Time: 7/23/24 1747	Received by: [Signature]	Date/Time: 7/23/24 1747	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day <input type="checkbox"/>	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days <input type="checkbox"/>	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days <input type="checkbox"/>	Field Temp.	
Temperature Upon Receipt: 14.9	Corrected Temperature: 0	IR gun #:	HNO3 lot #:	Standard <input type="checkbox"/>	Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2407294

Client: Noble Farmman Client Project ID: Five Rivers K09-21D

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

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"/>	<u>on site</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
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 checked="" type="checkbox"/>	<input 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.

AS
Custodian Printed Name

7/23/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

SS04-FL01-M@3'
2407294-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/23/24 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0663	07/23/24	07/24/24	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: **07/23/24 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0364	91.0 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0385	96.2 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0392	98.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/23/24 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0662	07/23/24	07/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/23/24 09:15**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	6.65	53.2 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

SS04-FL01-M@3'
2407294-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/23/24 09:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BHG0668	07/24/24	07/25/24	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: **07/23/24 09:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0192	57.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0154	46.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/23/24 09:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.04	0.200	mg/kg dry	1	BHG0680	07/24/24	07/24/24	EPA 6020B	
Barium	72.2	0.400	"	"	"	"	"	"	
Lead	11.8	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

SS04-FL01-M@3'
2407294-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/23/24 09:15**

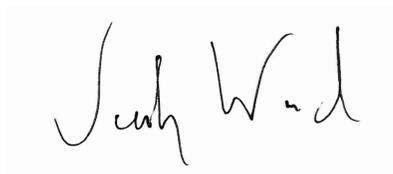
Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	86.8		%	1	BHG0666	07/24/24	07/24/24	Calculation	

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

Date Sampled: **07/23/24 09:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.73		pH Units	1	BHG0665	07/24/24	07/24/24	EPA 9045D	

Summit Scientific



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

SS02-FL01-M@3'
2407294-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/23/24 09:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHG0663	07/23/24	07/24/24	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: **07/23/24 09:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0465	116 %	50-150	"	"	"	"	"	
Surrogate: Toluene-d8	0.0382	95.5 %	50-150	"	"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0419	105 %	50-150	"	"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/23/24 09:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0662	07/23/24	07/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/23/24 09:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	6.72	53.8 %	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

SS02-FL01-M@3'
2407294-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/23/24 09:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Acenaphthene	ND	0.00500	mg/kg	1	BHG0668	07/24/24	07/26/24	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: **07/23/24 09:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 2-Methylnaphthalene-d10	0.0211	63.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0144	43.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/23/24 09:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	4.19	0.200	mg/kg dry	1	BHG0680	07/24/24	07/25/24	EPA 6020B	
Barium	172	0.400	"	"	"	"	"	"	
Lead	45.2	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

SS02-FL01-M@3'
2407294-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/23/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	70.4		%	1	BHG0666	07/24/24	07/24/24	Calculation	

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

Date Sampled: **07/23/24 09:20**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.73		pH Units	1	BHG0665	07/24/24	07/24/24	EPA 9045D	

Summit Scientific



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

Extractable Petroleum Hydrocarbons by 8015 - Quality Control

Summit Scientific

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

Batch BHG0662 - EPA 3550A

Blank (BHG0662-BLK1)										
										Prepared: 07/23/24 Analyzed: 07/24/24
C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
<i>Surrogate: o-Terphenyl</i>	10.3		"	12.5		82.7	30-150			
LCS (BHG0662-BS1)										
										Prepared: 07/23/24 Analyzed: 07/24/24
C10-C28 (DRO)	502	50	mg/kg	500		100	70-130			
<i>Surrogate: o-Terphenyl</i>	10.6		"	12.5		84.8	30-150			
Matrix Spike (BHG0662-MS1)										
										Source: 2407287-01 Prepared: 07/23/24 Analyzed: 07/24/24
C10-C28 (DRO)	396	50	mg/kg	500	4.56	78.3	70-130			
<i>Surrogate: o-Terphenyl</i>	11.6		"	12.5		93.2	30-150			
Matrix Spike Dup (BHG0662-MSD1)										
										Source: 2407287-01 Prepared: 07/23/24 Analyzed: 07/24/24
C10-C28 (DRO)	403	50	mg/kg	500	4.56	79.8	70-130	1.77	20	
<i>Surrogate: o-Terphenyl</i>	9.61		"	12.5		76.9	30-150			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0668 - EPA 5030 Soil MS

Blank (BHG0668-BLK1)

Prepared & Analyzed: 07/24/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0214</i>		"	<i>0.0333</i>		<i>64.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0222</i>		"	<i>0.0333</i>		<i>66.5</i>	<i>40-150</i>			

LCS (BHG0668-BS1)

Prepared & Analyzed: 07/24/24

Acenaphthene	0.0237	0.00500	mg/kg	0.0333		71.2	31-137			
Anthracene	0.0243	0.00500	"	0.0333		72.9	30-120			
Benzo (a) anthracene	0.0254	0.00500	"	0.0333		76.2	30-120			
Benzo (a) pyrene	0.0226	0.00500	"	0.0333		67.7	30-120			
Benzo (b) fluoranthene	0.0236	0.00500	"	0.0333		70.9	30-120			
Benzo (k) fluoranthene	0.0242	0.00500	"	0.0333		72.5	30-120			
Chrysene	0.0251	0.00500	"	0.0333		75.3	30-120			
Dibenz (a,h) anthracene	0.0190	0.00500	"	0.0333		57.0	30-120			
Fluoranthene	0.0238	0.00500	"	0.0333		71.4	30-120			
Fluorene	0.0223	0.00500	"	0.0333		66.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0261	0.00500	"	0.0333		78.4	30-120			
Pyrene	0.0308	0.00500	"	0.0333		92.4	35-142			
1-Methylnaphthalene	0.0265	0.00500	"	0.0333		79.4	35-142			
2-Methylnaphthalene	0.0213	0.00500	"	0.0333		64.0	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0237</i>		"	<i>0.0333</i>		<i>71.0</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0230</i>		"	<i>0.0333</i>		<i>69.1</i>	<i>40-150</i>			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0668 - EPA 5030 Soil MS

Matrix Spike (BHG0668-MS1)

Source: 2407267-01

Prepared & Analyzed: 07/24/24

Acenaphthene	0.0260	0.00500	mg/kg	0.0333	ND	78.0	31-137			
Anthracene	0.0247	0.00500	"	0.0333	ND	74.0	30-120			
Benzo (a) anthracene	0.0242	0.00500	"	0.0333	ND	72.5	30-120			
Benzo (a) pyrene	0.0210	0.00500	"	0.0333	ND	63.1	30-120			
Benzo (b) fluoranthene	0.0215	0.00500	"	0.0333	ND	64.5	30-120			
Benzo (k) fluoranthene	0.0213	0.00500	"	0.0333	ND	63.9	30-120			
Chrysene	0.0241	0.00500	"	0.0333	ND	72.4	30-120			
Dibenz (a,h) anthracene	0.0185	0.00500	"	0.0333	ND	55.6	30-120			
Fluoranthene	0.0218	0.00500	"	0.0333	ND	65.4	30-120			
Fluorene	0.0183	0.00500	"	0.0333	ND	54.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0259	0.00500	"	0.0333	ND	77.7	30-120			
Pyrene	0.0308	0.00500	"	0.0333	ND	92.5	35-142			
1-Methylnaphthalene	0.0353	0.00500	"	0.0333	ND	106	15-130			
2-Methylnaphthalene	0.0257	0.00500	"	0.0333	ND	77.1	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0284		"	0.0333		85.2	40-150			
Surrogate: Fluoranthene-d10	0.0220		"	0.0333		66.0	40-150			

Matrix Spike Dup (BHG0668-MSD1)

Source: 2407267-01

Prepared & Analyzed: 07/24/24

Acenaphthene	0.0232	0.00500	mg/kg	0.0333	ND	69.5	31-137	11.5	30	
Anthracene	0.0225	0.00500	"	0.0333	ND	67.4	30-120	9.35	30	
Benzo (a) anthracene	0.0235	0.00500	"	0.0333	ND	70.5	30-120	2.79	30	
Benzo (a) pyrene	0.0203	0.00500	"	0.0333	ND	60.8	30-120	3.71	30	
Benzo (b) fluoranthene	0.0211	0.00500	"	0.0333	ND	63.2	30-120	2.01	30	
Benzo (k) fluoranthene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	4.09	30	
Chrysene	0.0228	0.00500	"	0.0333	ND	68.3	30-120	5.82	30	
Dibenz (a,h) anthracene	0.0177	0.00500	"	0.0333	ND	53.1	30-120	4.51	30	
Fluoranthene	0.0210	0.00500	"	0.0333	ND	63.0	30-120	3.84	30	
Fluorene	0.0152	0.00500	"	0.0333	ND	45.5	30-120	18.8	30	
Indeno (1,2,3-cd) pyrene	0.0240	0.00500	"	0.0333	ND	72.0	30-120	7.67	30	
Pyrene	0.0290	0.00500	"	0.0333	ND	87.0	35-142	6.04	30	
1-Methylnaphthalene	0.0388	0.00500	"	0.0333	ND	116	15-130	9.42	50	
2-Methylnaphthalene	0.0290	0.00500	"	0.0333	ND	87.1	15-130	12.1	50	
Surrogate: 2-Methylnaphthalene-d10	0.0290		"	0.0333		87.0	40-150			
Surrogate: Fluoranthene-d10	0.0200		"	0.0333		60.0	40-150			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0680 - EPA 3050B

Blank (BHG0680-BLK1)

Prepared & Analyzed: 07/24/24

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Lead	ND	0.200	"							

LCS (BHG0680-BS1)

Prepared & Analyzed: 07/24/24

Arsenic	40.9	0.200	mg/kg wet	38.8		105	80-120			
Barium	48.1	0.400	"	38.8		124	80-120			QM-07
Lead	19.4	0.200	"	19.4		100	80-120			

Duplicate (BHG0680-DUP1)

Source: 2407272-01

Prepared & Analyzed: 07/24/24

Arsenic	3.02	0.181	mg/kg dry		3.08			1.92	20	
Barium	149	0.362	"		147			0.755	20	
Lead	10.1	0.181	"		10.1			0.129	20	

Matrix Spike (BHG0680-MS1)

Source: 2407272-01

Prepared & Analyzed: 07/24/24

Arsenic	47.8	0.200	mg/kg dry	46.0	3.08	97.2	75-125			
Barium	188	0.400	"	46.0	147	88.2	75-125			
Lead	31.7	0.200	"	23.0	10.1	94.0	75-125			

Matrix Spike Dup (BHG0680-MSD1)

Source: 2407272-01

Prepared & Analyzed: 07/24/24

Arsenic	48.2	0.200	mg/kg dry	46.4	3.08	97.3	75-125	0.824	25	
Barium	186	0.400	"	46.4	147	83.0	75-125	1.13	25	
Lead	31.4	0.200	"	23.2	10.1	91.7	75-125	1.14	25	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
 Project Manager: Jacob Whritenour

Reported:
 07/29/24 15:47

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 BHG0666 - General Preparation

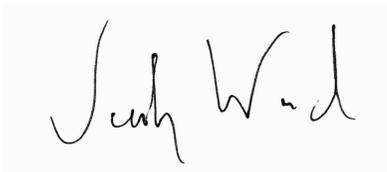
Duplicate (BHG0666-DUP1)

Source: 2407289-01

Prepared & Analyzed: 07/24/24

% Solids	91.0		%		90.7			0.334	20	
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Summit Scientific



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

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

Summit Scientific

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

Batch BHG0665 - General Preparation

LCS (BHG0665-BS1)

Prepared & Analyzed: 07/24/24

pH 9.11 pH Units 9.18 99.2 95-105

Duplicate (BHG0665-DUP1)

Source: 2407205-02RE1

Prepared & Analyzed: 07/24/24

pH 8.54 pH Units 8.48 0.705 20

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 15:47

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.
- 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

July 29, 2024

Jacob Whritenour
Tasman Geosciences
6855 W. 119th Ave.
Broomfield, CO 80020
RE: Noble - Five Rivers K09-21D
Work Order #2407295

Enclosed are the results of analyses for samples received by Summit Scientific on 07/23/24 17:47. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Natalie Tessier For Paul Shrewsbury
President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 09:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FL01-M@3'	2407295-01	Water	07/23/24 09:30	07/23/24 17:47



4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2407295	

	Send Data To:	Send Invoice To:
Client: / Tasman, Inc.	Project Manager: Jake Whritenour	Company:
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Five Rivers K09-210
City/State/Zip: Broomfield / CO/ 80020		AFE#:
Phone: 719-937-1898	Project Name: Five Rivers K09-210	PO/Billing Codes:
Sampler Name: Josh Adams	Project Number: N/A	Contact: Dep Patterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix				Analysis Requested							Special Instructions		
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEX	Naphthalene	1,2,4-TMB	1,3,5-TMB	TDS	Chloride	Sulfate		PAH	
1	FL01-M @ 3'	7/23/24	0930	5	3		2		X					X	X	X	X					* Analyze for Benz (a) anthracene benzo (a) pyrene benzo (b) fluoranthene e: benzo (a, h) anthracene Fluorene
2																						1-methylnaphthalene
3																						2-methylnaphthalene
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: Josh Adams	Date/Time: 7/22/24	Received by: [Signature]	Date/Time: 7/22/24	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Geo	Date/Time: 7/23/24	Received by: [Signature]	Date/Time: 7/23/24	Same Day <input checked="" type="checkbox"/>	Field EC	
	Date/Time: 1747		Date/Time: 1747	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 14.9	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2407295

Client: Tasman

Client Project ID: Five Rivers 109-21D

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

Airbill #: _____

Matrix (Check all that apply)

Air

Soil/Solid

Water

Other

Temp (°C)

14.9

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.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>an 20E</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Sameday</u>
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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>HCl</u>
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.

AS

Custodian Printed Name

7/23/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 09:27

FL01-M@3'
2407295-01 (Water)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/23/24 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	3.6	1.0		ug/l	1	BHG0664	07/23/24	07/24/24	EPA 8260B	
Toluene	3.0	1.0		"	"	"	"	"	"	
Ethylbenzene	17	1.0		"	"	"	"	"	"	
Xylenes (total)	130	2.0		"	"	"	"	"	"	
Naphthalene	5.6	1.0		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	200	1.0		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	150	1.0		"	"	"	"	"	"	

Date Sampled: **07/23/24 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	14.4	108 %		23-173		"	"	"	"	
Surrogate: Toluene-d8	13.3	99.5 %		20-170		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	14.6	110 %		21-167		"	"	"	"	

PAH by EPA Method 8270D SIM

Date Sampled: **07/23/24 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzo (a) anthracene	ND	0.100		ug/l	1	BHG0721	07/25/24	07/25/24	EPA 8270D SIM	
Benzo (b) fluoranthene	ND	0.200		"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.200		"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.200		"	"	"	"	"	"	
Fluorene	0.930	0.200		"	"	"	"	"	"	
1-Methylnaphthalene	31.5	0.500		"	"	"	"	"	"	E
2-Methylnaphthalene	61.1	0.500		"	"	"	"	"	"	E

Date Sampled: **07/23/24 09:30**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 2-Methylnaphthalene-d10	1.40	70.1 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	1.45	72.6 %		40-150		"	"	"	"	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 09:27

FL01-M@3'
2407295-01 (Water)

Summit Scientific

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 09:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0664 - EPA 5030 Water MS

Blank (BHG0664-BLK1)

Prepared: 07/23/24 Analyzed: 07/24/24

Benzene	ND	1.0	ug/l								
Toluene	ND	1.0	"								
Ethylbenzene	ND	1.0	"								
Xylenes (total)	ND	2.0	"								
Naphthalene	ND	1.0	"								
1,2,4-Trimethylbenzene	ND	1.0	"								
1,3,5-Trimethylbenzene	ND	1.0	"								
Surrogate: 1,2-Dichloroethane-d4	13.0		"	13.3		97.9		23-173			
Surrogate: Toluene-d8	14.6		"	13.3		109		20-170			
Surrogate: 4-Bromofluorobenzene	12.9		"	13.3		96.8		21-167			

LCS (BHG0664-BS1)

Prepared & Analyzed: 07/23/24

Benzene	39.4	1.0	ug/l	33.3		118		51-132			
Toluene	39.7	1.0	"	33.3		119		51-138			
Ethylbenzene	38.1	1.0	"	33.3		114		58-146			
m,p-Xylene	78.5	2.0	"	66.7		118		57-144			
o-Xylene	40.4	1.0	"	33.3		121		53-146			
Naphthalene	36.5	1.0	"	33.3		109		70-130			
1,2,4-Trimethylbenzene	38.9	1.0	"	33.3		117		70-130			
1,3,5-Trimethylbenzene	39.1	1.0	"	33.3		117		70-130			
Surrogate: 1,2-Dichloroethane-d4	14.1		"	13.3		106		23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.4		20-170			
Surrogate: 4-Bromofluorobenzene	14.0		"	13.3		105		21-167			

LCS Dup (BHG0664-BSD1)

Prepared & Analyzed: 07/23/24

Benzene	40.9	1.0	ug/l	33.3		123		51-132	3.71	20	
Toluene	40.9	1.0	"	33.3		123		51-138	2.93	20	
Ethylbenzene	39.1	1.0	"	33.3		117		58-146	2.54	20	
m,p-Xylene	81.0	2.0	"	66.7		122		57-144	3.21	20	
o-Xylene	41.6	1.0	"	33.3		125		53-146	3.12	20	
Naphthalene	37.7	1.0	"	33.3		113		70-130	3.37	20	
1,2,4-Trimethylbenzene	40.1	1.0	"	33.3		120		70-130	3.14	20	
1,3,5-Trimethylbenzene	40.1	1.0	"	33.3		120		70-130	2.53	20	
Surrogate: 1,2-Dichloroethane-d4	14.5		"	13.3		109		23-173			
Surrogate: Toluene-d8	13.1		"	13.3		98.3		20-170			
Surrogate: 4-Bromofluorobenzene	13.6		"	13.3		102		21-167			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 09:27

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0721 - EPA 5030 Water MS

Blank (BHG0721-BLK1)

Prepared & Analyzed: 07/25/24

Benzo (a) anthracene	ND	0.100	ug/l							
Benzo (b) fluoranthene	ND	0.200	"							
Benzo (a) pyrene	ND	0.200	"							
Dibenz (a,h) anthracene	ND	0.200	"							
Fluorene	ND	0.200	"							
1-Methylnaphthalene	ND	0.500	"							
2-Methylnaphthalene	ND	0.500	"							
Surrogate: 2-Methylnaphthalene-d10	2.08		"	2.00		104	40-150			
Surrogate: Fluoranthene-d10	2.00		"	2.00		100	40-150			

LCS (BHG0721-BS1)

Prepared & Analyzed: 07/25/24

Benzo (a) anthracene	1.68	0.100	ug/l	2.00		83.9	30-120			
Benzo (b) fluoranthene	1.77	0.200	"	2.00		88.6	30-120			
Benzo (a) pyrene	1.65	0.200	"	2.00		82.3	30-120			
Dibenz (a,h) anthracene	1.51	0.200	"	2.00		75.4	30-120			
Fluorene	1.82	0.200	"	2.00		90.9	30-120			
1-Methylnaphthalene	1.70	0.500	"	2.00		85.1	30-120			
2-Methylnaphthalene	1.82	0.500	"	2.00		91.0	0-200			
Surrogate: 2-Methylnaphthalene-d10	1.70		"	2.00		84.9	40-150			
Surrogate: Fluoranthene-d10	1.75		"	2.00		87.5	40-150			

LCS Dup (BHG0721-BS1)

Prepared & Analyzed: 07/25/24

Benzo (a) anthracene	1.71	0.100	ug/l	2.00		85.6	30-120	1.96	30	
Benzo (b) fluoranthene	1.76	0.200	"	2.00		87.9	30-120	0.859	30	
Benzo (a) pyrene	1.61	0.200	"	2.00		80.3	30-120	2.40	30	
Dibenz (a,h) anthracene	1.34	0.200	"	2.00		66.8	30-120	12.1	30	
Fluorene	1.76	0.200	"	2.00		88.0	30-120	3.25	30	
1-Methylnaphthalene	1.80	0.500	"	2.00		90.2	30-120	5.74	30	
2-Methylnaphthalene	1.84	0.500	"	2.00		92.2	0-200	1.31	200	
Surrogate: 2-Methylnaphthalene-d10	1.73		"	2.00		86.3	40-150			
Surrogate: Fluoranthene-d10	1.73		"	2.00		86.5	40-150			

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 09:27

Notes and Definitions

- E The concentration indicated for this analyte is an estimated value above the calibration range of the instrument.
- 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

July 29, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

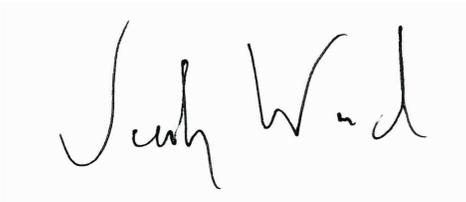
Broomfield, CO 80020

RE: Noble - Five Rivers K09-21D

Work Order #2407322

Enclosed are the results of analyses for samples received by Summit Scientific on 07/24/24 17:57. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
FS02-FL01-A@5'	2407322-01	Soil	07/24/24 12:45	07/24/24 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.



4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2407322	

Send Data To:		Send Invoice To:
Client: Noble / Tasman, Inc.	Project Manager: Jake Whritenour	Company:
Address: 6855 W. 119th Ave.	E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location: Five Rivers K09-210
City/State/Zip: Broomfield / CO/ 80020		AFE#:
Phone: 719-937-1898	Project Name: Five Rivers K09-210	PO/Billing Codes:
Sampler Name: Josh Adams	Project Number: N/A	Contact: Dan Pattison

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix			Analysis Requested						Special Instructions				
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	Metals - 915	VOC - 915	TPH - 915	PAH - 915	SAR, EC, pH		Boron - HWS	HOLD		
1	FS02-FL01-A @ 5'	7/24/24	1245	2			X			X				X	X	X	X	X			X Metals Arsenic Lead Barium ⊕ pH only SAR, EC, pH by saturated paste	
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: Josh Adams	Date/Time: 7/24/24 1552	Received by: [Signature]	Date/Time: 7/24/24	TAT Business Days	Field DO	Notes: Include erin.crawford@chevron
Relinquished by: TasmanGeo	Date/Time: 7/24/24 1757	Received by: [Signature]	Date/Time: 7/24/24 1757	Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 12.2	Corrected Temperature: 8	IR gun #:		Standard	Field Turb.	
				HNO3 lot #:		

S₂

Sample Receipt Checklist

S2 Work Order# 2407322

Client: Nadrasman Client Project ID: Five Rivers K09-21D

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

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"/>	<u>on 2 CE</u>
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>Same day</u>
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 checked="" type="checkbox"/>	<input 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.

AS

Custodian Printed Name

7/24/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

FS02-FL01-A@5'
2407322-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BHG0704	07/24/24	07/24/24	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: **07/24/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0415	104 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BHG0703	07/24/24	07/24/24	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.0	87.9 %		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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

FS02-FL01-A@5'
2407322-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0713	07/25/24	07/28/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	0.0128	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	0.00858	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	0.0134	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	0.0113	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	0.0239	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	0.00721	0.00500	"	"	"	"	"	"	
Pyrene	0.0194	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0162	48.7 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0232	69.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.570	0.200	mg/kg dry	1	BHG0726	07/25/24	07/26/24	EPA 6020B	
Barium	17.9	0.400	"	"	"	"	"	"	
Lead	2.77	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

FS02-FL01-A@5'
2407322-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.7		%	1	BHG0719	07/25/24	07/25/24	Calculation	

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

Date Sampled: **07/24/24 12:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.93		pH Units	1	BHG0712	07/25/24	07/25/24	EPA 9045D	

Summit Scientific



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0704 - EPA 5030 Soil MS

Blank (BHG0704-BLK1)

Prepared: 07/24/24 Analyzed: 07/25/24

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	0.0404		"	0.0400		101	50-150				
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150				
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150				

LCS (BHG0704-BS1)

Prepared: 07/24/24 Analyzed: 07/25/24

Benzene	0.0783	0.0020	mg/kg	0.100		78.3	70-130				
Toluene	0.0773	0.0050	"	0.100		77.3	70-130				
Ethylbenzene	0.0793	0.0050	"	0.100		79.3	70-130				
m,p-Xylene	0.158	0.010	"	0.200		79.0	70-130				
o-Xylene	0.0798	0.0050	"	0.100		79.8	70-130				
1,2,4-Trimethylbenzene	0.0761	0.0050	"	0.100		76.1	70-130				
1,3,5-Trimethylbenzene	0.0745	0.0050	"	0.100		74.5	70-130				
Naphthalene	0.0809	0.0038	"	0.100		80.9	70-130				
Surrogate: 1,2-Dichloroethane-d4	0.0383		"	0.0400		95.7	50-150				
Surrogate: Toluene-d8	0.0392		"	0.0400		97.9	50-150				
Surrogate: 4-Bromofluorobenzene	0.0397		"	0.0400		99.2	50-150				

Matrix Spike (BHG0704-MS1)

Source: 2407314-01

Prepared: 07/24/24 Analyzed: 07/25/24

Benzene	0.0726	0.0020	mg/kg	0.100	ND	72.6	70-130				
Toluene	0.0693	0.0050	"	0.100	ND	69.3	70-130				QM-05
Ethylbenzene	0.0686	0.0050	"	0.100	ND	68.6	70-130				QM-05
m,p-Xylene	0.137	0.010	"	0.200	ND	68.7	70-130				QM-05
o-Xylene	0.0707	0.0050	"	0.100	ND	70.7	70-130				
1,2,4-Trimethylbenzene	0.0637	0.0050	"	0.100	0.000570	63.1	70-130				QM-05
1,3,5-Trimethylbenzene	0.0630	0.0050	"	0.100	0.000450	62.6	70-130				QM-05
Naphthalene	0.0672	0.0038	"	0.100	0.00183	65.3	70-130				QM-05
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0400		108	50-150				
Surrogate: Toluene-d8	0.0410		"	0.0400		102	50-150				
Surrogate: 4-Bromofluorobenzene	0.0400		"	0.0400		100	50-150				

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0704 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0704-MSD1)	Source: 2407314-01			Prepared: 07/24/24 Analyzed: 07/25/24						
Benzene	0.0712	0.0020	mg/kg	0.100	ND	71.2	70-130	1.92	30	
Toluene	0.0687	0.0050	"	0.100	ND	68.7	70-130	0.826	30	QM-05
Ethylbenzene	0.0663	0.0050	"	0.100	ND	66.3	70-130	3.43	30	QM-05
m,p-Xylene	0.135	0.010	"	0.200	ND	67.4	70-130	1.94	30	QM-05
o-Xylene	0.0679	0.0050	"	0.100	ND	67.9	70-130	4.07	30	QM-05
1,2,4-Trimethylbenzene	0.0638	0.0050	"	0.100	0.000570	63.3	70-130	0.235	30	QM-05
1,3,5-Trimethylbenzene	0.0641	0.0050	"	0.100	0.000450	63.7	70-130	1.79	30	QM-05
Naphthalene	0.0559	0.0038	"	0.100	0.00183	54.0	70-130	18.4	30	QM-05
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0417</i>		<i>"</i>	<i>0.0400</i>		<i>104</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0397</i>		<i>"</i>	<i>0.0400</i>		<i>99.3</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0395</i>		<i>"</i>	<i>0.0400</i>		<i>98.8</i>	<i>50-150</i>			

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0703 - EPA 3550A

Blank (BHG0703-BLK1)

Prepared: 07/24/24 Analyzed: 07/25/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	13.6		"	12.5	109	30-150					

LCS (BHG0703-BS1)

Prepared: 07/24/24 Analyzed: 07/25/24

C10-C28 (DRO)	554	50	mg/kg	500	111	70-130					
Surrogate: <i>o</i> -Terphenyl	12.4		"	12.5	99.6	30-150					

Matrix Spike (BHG0703-MS1)

Source: 2407314-01

Prepared: 07/24/24 Analyzed: 07/25/24

C10-C28 (DRO)	329	50	mg/kg	500	37.4	58.3	70-130				QM-07
Surrogate: <i>o</i> -Terphenyl	7.92		"	12.5	63.3	30-150					

Matrix Spike Dup (BHG0703-MSD1)

Source: 2407314-01

Prepared: 07/24/24 Analyzed: 07/25/24

C10-C28 (DRO)	582	50	mg/kg	500	37.4	109	70-130	55.5	20		QR-04
Surrogate: <i>o</i> -Terphenyl	11.8		"	12.5	94.6	30-150					

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0713 - EPA 5030 Soil MS

Blank (BHG0713-BLK1)

Prepared & Analyzed: 07/25/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0169</i>		<i>"</i>	<i>0.0333</i>		<i>50.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0212</i>		<i>"</i>	<i>0.0333</i>		<i>63.5</i>	<i>40-150</i>			

LCS (BHG0713-BS1)

Prepared & Analyzed: 07/25/24

Acenaphthene	0.0198	0.00500	mg/kg	0.0333		59.4	31-137			
Anthracene	0.0194	0.00500	"	0.0333		58.2	30-120			
Benzo (a) anthracene	0.0205	0.00500	"	0.0333		61.6	30-120			
Benzo (a) pyrene	0.0179	0.00500	"	0.0333		53.6	30-120			
Benzo (b) fluoranthene	0.0174	0.00500	"	0.0333		52.1	30-120			
Benzo (k) fluoranthene	0.0182	0.00500	"	0.0333		54.6	30-120			
Chrysene	0.0201	0.00500	"	0.0333		60.3	30-120			
Dibenz (a,h) anthracene	0.0183	0.00500	"	0.0333		54.8	30-120			
Fluoranthene	0.0190	0.00500	"	0.0333		57.0	30-120			
Fluorene	0.0173	0.00500	"	0.0333		51.9	30-120			
Indeno (1,2,3-cd) pyrene	0.0265	0.00500	"	0.0333		79.4	30-120			
Pyrene	0.0228	0.00500	"	0.0333		68.5	35-142			
1-Methylnaphthalene	0.0195	0.00500	"	0.0333		58.6	35-142			
2-Methylnaphthalene	0.0138	0.00500	"	0.0333		41.3	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0204</i>		<i>"</i>	<i>0.0333</i>		<i>61.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0187</i>		<i>"</i>	<i>0.0333</i>		<i>56.2</i>	<i>40-150</i>			

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0713 - EPA 5030 Soil MS

Matrix Spike (BHG0713-MS1)	Source: 2407307-01			Prepared: 07/25/24 Analyzed: 07/26/24							
Acenaphthene	0.0200	0.00500	mg/kg	0.0333	ND	60.0	31-137				
Anthracene	0.0184	0.00500	"	0.0333	ND	55.2	30-120				
Benzo (a) anthracene	0.0203	0.00500	"	0.0333	ND	60.9	30-120				
Benzo (a) pyrene	0.0169	0.00500	"	0.0333	ND	50.6	30-120				
Benzo (b) fluoranthene	0.0183	0.00500	"	0.0333	ND	54.9	30-120				
Benzo (k) fluoranthene	0.0152	0.00500	"	0.0333	ND	45.5	30-120				
Chrysene	0.0242	0.00500	"	0.0333	ND	72.6	30-120				
Dibenz (a,h) anthracene	0.0143	0.00500	"	0.0333	ND	42.9	30-120				
Fluoranthene	0.0204	0.00500	"	0.0333	ND	61.3	30-120				
Fluorene	0.0205	0.00500	"	0.0333	0.0122	24.9	30-120				QM-01
Indeno (1,2,3-cd) pyrene	0.0221	0.00500	"	0.0333	ND	66.3	30-120				
Pyrene	0.0198	0.00500	"	0.0333	ND	59.4	35-142				
1-Methylnaphthalene	0.0490	0.00500	"	0.0333	0.0122	111	15-130				
2-Methylnaphthalene	0.0316	0.00500	"	0.0333	0.0137	53.9	15-130				
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0198</i>		"	<i>0.0333</i>		<i>59.3</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0174</i>		"	<i>0.0333</i>		<i>52.2</i>	<i>40-150</i>				

Matrix Spike Dup (BHG0713-MSD1)	Source: 2407307-01			Prepared: 07/25/24 Analyzed: 07/26/24							
Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.8	31-137	0.284	30		
Anthracene	0.0193	0.00500	"	0.0333	ND	57.9	30-120	4.82	30		
Benzo (a) anthracene	0.0219	0.00500	"	0.0333	ND	65.6	30-120	7.37	30		
Benzo (a) pyrene	0.0175	0.00500	"	0.0333	ND	52.6	30-120	3.79	30		
Benzo (b) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.6	30-120	1.14	30		
Benzo (k) fluoranthene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	0.756	30		
Chrysene	0.0238	0.00500	"	0.0333	ND	71.3	30-120	1.83	30		
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	49.0	30-120	13.2	30		
Fluoranthene	0.0202	0.00500	"	0.0333	ND	60.5	30-120	1.29	30		
Fluorene	0.0308	0.00500	"	0.0333	0.0122	56.0	30-120	40.4	30		QR-03
Indeno (1,2,3-cd) pyrene	0.0201	0.00500	"	0.0333	ND	60.4	30-120	9.35	30		
Pyrene	0.0209	0.00500	"	0.0333	ND	62.8	35-142	5.51	30		
1-Methylnaphthalene	0.0411	0.00500	"	0.0333	0.0122	86.8	15-130	17.6	50		
2-Methylnaphthalene	0.0470	0.00500	"	0.0333	0.0137	100	15-130	39.2	50		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0152</i>		"	<i>0.0333</i>		<i>45.5</i>	<i>40-150</i>				
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0178</i>		"	<i>0.0333</i>		<i>53.5</i>	<i>40-150</i>				

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0726 - EPA 3050B

Blank (BHG0726-BLK1)

Prepared & Analyzed: 07/25/24

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Lead	ND	0.200	"							

LCS (BHG0726-BS1)

Prepared & Analyzed: 07/25/24

Arsenic	39.2	0.200	mg/kg wet	38.2	103	80-120				
Barium	37.4	0.400	"	38.2	97.9	80-120				
Lead	18.2	0.200	"	19.1	95.2	80-120				

Duplicate (BHG0726-DUP1)

Source: 2407119-05

Prepared: 07/25/24 Analyzed: 07/26/24

Arsenic	2.86	0.180	mg/kg dry	2.61			9.14	20		
Barium	144	0.360	"	167			14.8	20		
Lead	6.18	0.180	"	6.19			0.246	20		

Matrix Spike (BHG0726-MS1)

Source: 2407119-05

Prepared: 07/25/24 Analyzed: 07/26/24

Arsenic	28.2	0.200	mg/kg dry	40.9	2.61	62.7	75-125			QM-05
Barium	197	0.400	"	40.9	167	72.6	75-125			QM-07
Lead	23.4	0.200	"	20.5	6.19	83.9	75-125			

Matrix Spike Dup (BHG0726-MSD1)

Source: 2407119-05

Prepared: 07/25/24 Analyzed: 07/26/24

Arsenic	27.8	0.200	mg/kg dry	42.5	2.61	59.2	75-125	1.60	25	QM-05
Barium	191	0.400	"	42.5	167	57.1	75-125	2.80	25	QM-07
Lead	23.9	0.200	"	21.3	6.19	83.5	75-125	2.48	25	

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

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

Summit Scientific

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

Batch BHG0719 - General Preparation

Duplicate (BHG0719-DUP1)

Source: 2407310-01

Prepared & Analyzed: 07/25/24

% Solids	95.7		%		96.1			0.374		20	
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

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

Summit Scientific

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

Batch BHG0712 - General Preparation

LCS (BHG0712-BS1)

Prepared & Analyzed: 07/25/24

pH 9.08 pH Units 9.18 98.9 95-105

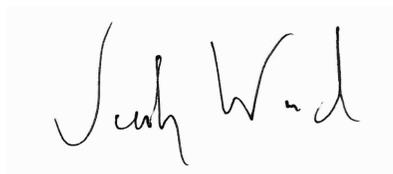
Duplicate (BHG0712-DUP1)

Source: 2407321-01

Prepared & Analyzed: 07/25/24

pH 8.44 pH Units 8.43 0.119 20

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/29/24 14:03

Notes and Definitions

- QR-04 The RPD value for the sample duplicate or MS/MSD was outside of QC acceptance. QC batch accepted based on LCS and/or LCSD recovery and/or RPD values.
- 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.
- 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.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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

July 31, 2024

Jacob Whritenour

Tasman Geosciences

6855 W. 119th Ave.

Broomfield, CO 80020

RE: Noble - Five Rivers K09-21D

Work Order #2407360

Enclosed are the results of analyses for samples received by Summit Scientific on 07/26/24 17:45. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Jacob Wood". The signature is written in a cursive style with a large initial "J" and a distinct "W".

Jacob Wood For Paul Shrewsbury

President



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BG09@2-3'	2407360-01	Soil	07/26/24 00:00	07/26/24 17:45
BG09@5-6'	2407360-02	Soil	07/26/24 00:00	07/26/24 17:45
BG10@2-3'	2407360-03	Soil	07/26/24 00:00	07/26/24 17:45
BG10@5-6'	2407360-04	Soil	07/26/24 00:00	07/26/24 17:45
BG11@2-3'	2407360-05	Soil	07/26/24 00:00	07/26/24 17:45
BG11@5-6'	2407360-06	Soil	07/26/24 00:00	07/26/24 17:45
BG12@2-3'	2407360-07	Soil	07/26/24 00:00	07/26/24 17:45
BG12@5-6'	2407360-08	Soil	07/26/24 00:00	07/26/24 17:45
SS05-FL01-N@3'	2407360-09	Soil	07/26/24 00:00	07/26/24 17:45

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4653 Table Mountain Drive
Golden, CO 80403
303-277-9310

Lab ID	Page 1 of 1
2407360	

Client: Noble	Noble / Tasman	Project Manager: Jake Whritenour	Company: Chevron
Address: 6855 W 119th Ave		E-Mail: Jwhritenour@tasman-geo.com	Project Name/Location:
City/State/Zip: Broomfield / CO / 80220			AFE#:
Phone:		Project Name: Five Rivers K09-21D	PO/Billing Codes:
Sampler Name: Jordan Hestmark		Project Number:	Contact: Dan Peterson

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Analysis Requested								Special Instructions			
					HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5 - TMB	Boron - HWS	pH, EC, SAR	PAHs - 915	Metals - 915	TDS, SO4, Cl	Hold	pH
1	B609 @ 2-3'	7/26/24		2			X			X											X	X
2	B609 @ 5-6'																					
3	B610 @ 2-3'																					
4	B610 @ 5-6'																					
5	B611 @ 2-3'																					
6	B611 @ 5-6'																					
7	B612 @ 2-3'																					
8	B612 @ 5-6'																					
9	SS05-FL01-N @ 3'			3								X	X	X			X					
10																						
11																						
12																						
13																						
14																						
15																						

Relinquished by: Jordan Hestmark	Date/Time: 7/26/24 1539	Received by: Tasman Lockbox	Date/Time: 7/26/24 1539	TAT Business Days	Field DO	Notes:	
				Same Day	X		Field EC
Relinquished by: Tasman Lockbox	Date/Time: 7/26/24 1745	Received by: [Signature]	Date/Time: 7/26/24 1745	1 Day			Field ORP
				2 Days			Field pH
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days			Field Temp.
				Standard		Field Turb.	
Temperature Upon Receipt: 7.6	Corrected Temperature: 0	IR gun #:		HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2407360

Client: Noble Tassman Client Project ID: Five Rivers K09-21D

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

-

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"/>	ans: CE
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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sameday
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 checked="" type="checkbox"/>	<input 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.

AS
Custodian Printed Name

7/20/24
Date/Time



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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG09@2-3'
2407360-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.299	0.200	mg/kg dry	1	BHG0834	07/29/24	07/30/24	EPA 6020B	
Barium	10.9	0.400	"	"	"	"	"	"	
Lead	1.06	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	95.7		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.74		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG09@5-6'
2407360-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting			Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units							
Arsenic	0.699	0.200	mg/kg dry	1	BHG0834	07/29/24	07/30/24	EPA 6020B		
Barium	19.1	0.400	"	"	"	"	"	"		
Lead	2.68	0.200	"	"	"	"	"	"		

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting			Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units							
% Solids	95.0		%	1	BHG0820	07/29/24	07/29/24	Calculation		

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting			Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units							
pH	8.18		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D		

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG10@2-3'
2407360-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.378	0.200	mg/kg dry	1	BHG0836	07/29/24	07/30/24	EPA 6020B	
Barium	9.43	0.400	"	"	"	"	"	"	
Lead	1.08	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	95.8		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.79		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG10@5-6'
2407360-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.831	0.200	mg/kg dry	1	BHG0836	07/29/24	07/30/24	EPA 6020B	
Barium	12.9	0.400	"	"	"	"	"	"	
Lead	1.82	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.7		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.59		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG11@2-3'
2407360-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.47	0.200	mg/kg dry	1	BHG0836	07/29/24	07/30/24	EPA 6020B	
Barium	14.6	0.400	"	"	"	"	"	"	
Lead	1.27	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	88.8		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.34		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG11@5-6'
2407360-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.337	0.200	mg/kg dry	1	BHG0836	07/29/24	07/30/24	EPA 6020B	
Barium	7.00	0.400	"	"	"	"	"	"	
Lead	1.10	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.5		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	9.18		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG12@2-3'
2407360-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	2.18	0.200	mg/kg dry	1	BHG0836	07/29/24	07/30/24	EPA 6020B	
Barium	136	0.400	"	"	"	"	"	"	
Lead	11.9	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	84.8		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.37		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

BG12@5-6'
2407360-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.75	0.200	mg/kg dry	1	BHG0836	07/29/24	07/30/24	EPA 6020B	
Barium	87.5	0.400	"	"	"	"	"	"	
Lead	11.6	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	79.5		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	7.87		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

SS05-FL01-N@3'
2407360-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020	mg/kg	1	BHG0794	07/26/24	07/26/24	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: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0421	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0396	98.9 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	98.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50	mg/kg	1	BHG0796	07/26/24	07/26/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl	10.5	84.2 %	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 - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

SS05-FL01-N@3'
2407360-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHG0821	07/29/24	07/30/24	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: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0156	46.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0208	62.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.425	0.200	mg/kg dry	1	BHG0836	07/29/24	07/30/24	EPA 6020B	
Barium	8.46	0.400	"	"	"	"	"	"	
Lead	1.57	0.200	"	"	"	"	"	"	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

SS05-FL01-N@3'
2407360-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.3		%	1	BHG0820	07/29/24	07/29/24	Calculation	

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

Date Sampled: **07/26/24 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.21		pH Units	1	BHG0817	07/29/24	07/29/24	EPA 9045D	

Summit Scientific

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0794 - EPA 5030 Soil MS

Blank (BHG0794-BLK1)

Prepared & Analyzed: 07/26/24

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	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0422		"	0.0400		105	50-150			
<i>Surrogate: Toluene-d8</i>	0.0408		"	0.0400		102	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0409		"	0.0400		102	50-150			

LCS (BHG0794-BS1)

Prepared & Analyzed: 07/26/24

Benzene	0.0880	0.0020	mg/kg	0.100		88.0	70-130			
Toluene	0.110	0.0050	"	0.100		110	70-130			
Ethylbenzene	0.0980	0.0050	"	0.100		98.0	70-130			
m,p-Xylene	0.198	0.010	"	0.200		98.8	70-130			
o-Xylene	0.0975	0.0050	"	0.100		97.5	70-130			
1,2,4-Trimethylbenzene	0.0898	0.0050	"	0.100		89.8	70-130			
1,3,5-Trimethylbenzene	0.0901	0.0050	"	0.100		90.1	70-130			
Naphthalene	0.0856	0.0038	"	0.100		85.6	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0470		"	0.0400		117	50-150			
<i>Surrogate: Toluene-d8</i>	0.0422		"	0.0400		105	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0392		"	0.0400		97.9	50-150			

Matrix Spike (BHG0794-MS1)

Source: 2407351-02

Prepared & Analyzed: 07/26/24

Benzene	0.0713	0.0020	mg/kg	0.100	ND	71.3	70-130			
Toluene	0.0873	0.0050	"	0.100	ND	87.3	70-130			
Ethylbenzene	0.0795	0.0050	"	0.100	ND	79.5	70-130			
m,p-Xylene	0.160	0.010	"	0.200	ND	79.9	70-130			
o-Xylene	0.0785	0.0050	"	0.100	ND	78.5	70-130			
1,2,4-Trimethylbenzene	0.0655	0.0050	"	0.100	ND	65.5	70-130			QM-07
1,3,5-Trimethylbenzene	0.0648	0.0050	"	0.100	ND	64.8	70-130			QM-07
Naphthalene	0.0591	0.0038	"	0.100	ND	59.1	70-130			QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0386		"	0.0400		96.5	50-150			
<i>Surrogate: Toluene-d8</i>	0.0424		"	0.0400		106	50-150			
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0385		"	0.0400		96.2	50-150			

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHG0794 - EPA 5030 Soil MS

Matrix Spike Dup (BHG0794-MSD1)	Source: 2407351-02			Prepared & Analyzed: 07/26/24						
Benzene	0.0768	0.0020	mg/kg	0.100	ND	76.8	70-130	7.42	30	
Toluene	0.0932	0.0050	"	0.100	ND	93.2	70-130	6.48	30	
Ethylbenzene	0.0771	0.0050	"	0.100	ND	77.1	70-130	3.03	30	
m,p-Xylene	0.154	0.010	"	0.200	ND	77.0	70-130	3.65	30	
o-Xylene	0.0766	0.0050	"	0.100	ND	76.6	70-130	2.44	30	
1,2,4-Trimethylbenzene	0.0600	0.0050	"	0.100	ND	60.0	70-130	8.75	30	QM-07
1,3,5-Trimethylbenzene	0.0603	0.0050	"	0.100	ND	60.3	70-130	7.19	30	QM-07
Naphthalene	0.0501	0.0038	"	0.100	ND	50.1	70-130	16.4	30	QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0469</i>		<i>"</i>	<i>0.0400</i>		<i>117</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0426</i>		<i>"</i>	<i>0.0400</i>		<i>107</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0385</i>		<i>"</i>	<i>0.0400</i>		<i>96.3</i>	<i>50-150</i>			

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHG0796 - EPA 3550A

Blank (BHG0796-BLK1)

Prepared & Analyzed: 07/26/24

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.7		"	12.5	102	30-150					

LCS (BHG0796-BS1)

Prepared & Analyzed: 07/26/24

C10-C28 (DRO)	581	50	mg/kg	500	116	70-130					
Surrogate: <i>o</i> -Terphenyl	12.6		"	12.5	101	30-150					

Matrix Spike (BHG0796-MS1)

Source: 2407351-02

Prepared & Analyzed: 07/26/24

C10-C28 (DRO)	198	50	mg/kg	500	23.0	35.0	70-130				QM-01, QM-03
Surrogate: <i>o</i> -Terphenyl	3.99		"	12.5	31.9	30-150					

Matrix Spike Dup (BHG0796-MSD1)

Source: 2407351-02

Prepared & Analyzed: 07/26/24

C10-C28 (DRO)	184	50	mg/kg	500	23.0	32.2	70-130	7.46	20		QM-01, QM-03
Surrogate: <i>o</i> -Terphenyl	3.91		"	12.5	31.3	30-150					

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Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0821 - EPA 5030 Soil MS

Blank (BHG0821-BLK1)

Prepared & Analyzed: 07/29/24

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	"							
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0173</i>		"	<i>0.0333</i>		<i>51.9</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0235</i>		"	<i>0.0333</i>		<i>70.6</i>	<i>40-150</i>			

LCS (BHG0821-BS1)

Prepared & Analyzed: 07/29/24

Acenaphthene	0.0219	0.00500	mg/kg	0.0333		65.7	31-137			
Anthracene	0.0216	0.00500	"	0.0333		64.7	30-120			
Benzo (a) anthracene	0.0223	0.00500	"	0.0333		66.8	30-120			
Benzo (a) pyrene	0.0211	0.00500	"	0.0333		63.4	30-120			
Benzo (b) fluoranthene	0.0229	0.00500	"	0.0333		68.8	30-120			
Benzo (k) fluoranthene	0.0224	0.00500	"	0.0333		67.1	30-120			
Chrysene	0.0224	0.00500	"	0.0333		67.3	30-120			
Dibenz (a,h) anthracene	0.0216	0.00500	"	0.0333		64.8	30-120			
Fluoranthene	0.0218	0.00500	"	0.0333		65.4	30-120			
Fluorene	0.0225	0.00500	"	0.0333		67.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0164	0.00500	"	0.0333		49.3	30-120			
Pyrene	0.0235	0.00500	"	0.0333		70.6	35-142			
1-Methylnaphthalene	0.0189	0.00500	"	0.0333		56.6	35-142			
2-Methylnaphthalene	0.0200	0.00500	"	0.0333		59.9	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0181</i>		"	<i>0.0333</i>		<i>54.4</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0225</i>		"	<i>0.0333</i>		<i>67.4</i>	<i>40-150</i>			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHG0821 - EPA 5030 Soil MS

Matrix Spike (BHG0821-MS1)	Source: 2407307-02			Prepared & Analyzed: 07/29/24						
Acenaphthene	0.0195	0.00500	mg/kg	0.0333	ND	58.6	31-137			
Anthracene	0.0200	0.00500	"	0.0333	ND	59.9	30-120			
Benzo (a) anthracene	0.0197	0.00500	"	0.0333	ND	59.2	30-120			
Benzo (a) pyrene	0.0183	0.00500	"	0.0333	ND	55.0	30-120			
Benzo (b) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.4	30-120			
Benzo (k) fluoranthene	0.0188	0.00500	"	0.0333	ND	56.3	30-120			
Chrysene	0.0200	0.00500	"	0.0333	ND	60.1	30-120			
Dibenz (a,h) anthracene	0.0180	0.00500	"	0.0333	ND	54.0	30-120			
Fluoranthene	0.0197	0.00500	"	0.0333	ND	59.1	30-120			
Fluorene	0.0213	0.00500	"	0.0333	ND	63.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0132	0.00500	"	0.0333	ND	39.7	30-120			
Pyrene	0.0205	0.00500	"	0.0333	ND	61.5	35-142			
1-Methylnaphthalene	0.0152	0.00500	"	0.0333	ND	45.5	15-130			
2-Methylnaphthalene	0.0160	0.00500	"	0.0333	ND	48.1	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0152</i>		<i>"</i>	<i>0.0333</i>		<i>45.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0203</i>		<i>"</i>	<i>0.0333</i>		<i>60.9</i>	<i>40-150</i>			

Matrix Spike Dup (BHG0821-MSD1)	Source: 2407307-02			Prepared & Analyzed: 07/29/24						
Acenaphthene	0.0197	0.00500	mg/kg	0.0333	ND	59.0	31-137	0.770	30	
Anthracene	0.0190	0.00500	"	0.0333	ND	57.1	30-120	4.75	30	
Benzo (a) anthracene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	0.0641	30	
Benzo (a) pyrene	0.0181	0.00500	"	0.0333	ND	54.3	30-120	1.35	30	
Benzo (b) fluoranthene	0.0189	0.00500	"	0.0333	ND	56.8	30-120	0.747	30	
Benzo (k) fluoranthene	0.0189	0.00500	"	0.0333	ND	56.8	30-120	0.903	30	
Chrysene	0.0198	0.00500	"	0.0333	ND	59.5	30-120	0.868	30	
Dibenz (a,h) anthracene	0.0184	0.00500	"	0.0333	ND	55.2	30-120	2.19	30	
Fluoranthene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	0.0626	30	
Fluorene	0.0211	0.00500	"	0.0333	ND	63.3	30-120	0.744	30	
Indeno (1,2,3-cd) pyrene	0.0136	0.00500	"	0.0333	ND	40.8	30-120	2.73	30	
Pyrene	0.0209	0.00500	"	0.0333	ND	62.6	35-142	1.75	30	
1-Methylnaphthalene	0.0156	0.00500	"	0.0333	ND	46.7	15-130	2.74	50	
2-Methylnaphthalene	0.0179	0.00500	"	0.0333	ND	53.6	15-130	10.9	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0159</i>		<i>"</i>	<i>0.0333</i>		<i>47.8</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0204</i>		<i>"</i>	<i>0.0333</i>		<i>61.1</i>	<i>40-150</i>			

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0834 - EPA 3050B

Blank (BHG0834-BLK1)

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Lead	ND	0.200	"							

LCS (BHG0834-BS1)

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	37.5	0.200	mg/kg wet	37.9		99.1	80-120			
Barium	37.2	0.400	"	37.9		98.3	80-120			
Lead	18.4	0.200	"	18.9		97.2	80-120			

Duplicate (BHG0834-DUP1)

Source: 2407359-01

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	0.417	0.200	mg/kg dry		0.428			2.63	20	
Barium	13.8	0.400	"		13.5			1.81	20	
Lead	2.56	0.200	"		1.55			49.3	20	QR-02

Matrix Spike (BHG0834-MS1)

Source: 2407359-01

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	37.4	0.181	mg/kg dry	37.6	0.428	98.4	75-125			
Barium	54.2	0.362	"	37.6	13.5	108	75-125			
Lead	20.1	0.181	"	18.8	1.55	98.5	75-125			

Matrix Spike Dup (BHG0834-MSD1)

Source: 2407359-01

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	39.7	0.200	mg/kg dry	39.9	0.428	98.5	75-125	5.98	25	
Barium	56.2	0.400	"	39.9	13.5	107	75-125	3.57	25	
Lead	21.0	0.200	"	19.9	1.55	97.7	75-125	4.70	25	

Batch BHG0836 - EPA 3050B

Blank (BHG0836-BLK1)

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	ND	0.200	mg/kg wet							
Barium	ND	0.400	"							
Lead	ND	0.200	"							

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHG0836 - EPA 3050B

LCS (BHG0836-BS1)

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	37.1	0.200	mg/kg wet	36.8		101	80-120			
Barium	37.2	0.400	"	36.8		101	80-120			
Lead	18.3	0.200	"	18.4		99.6	80-120			

Duplicate (BHG0836-DUP1)

Source: 2407307-02

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	4.79	0.200	mg/kg dry		4.62			3.48	20	
Barium	217	0.400	"		211			3.08	20	
Lead	9.35	0.200	"		9.14			2.37	20	

Matrix Spike (BHG0836-MS1)

Source: 2407307-02

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	49.0	0.200	mg/kg dry	43.8	4.62	101	75-125			
Barium	283	0.400	"	43.8	211	166	75-125			QM-05
Lead	30.3	0.200	"	21.9	9.14	96.5	75-125			

Matrix Spike Dup (BHG0836-MSD1)

Source: 2407307-02

Prepared: 07/29/24 Analyzed: 07/30/24

Arsenic	50.3	0.200	mg/kg dry	45.6	4.62	100	75-125	2.52	25	
Barium	289	0.400	"	45.6	211	172	75-125	1.96	25	QM-05
Lead	31.0	0.200	"	22.8	9.14	95.9	75-125	2.31	25	

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

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

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 BHG0820 - General Preparation

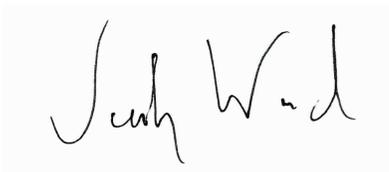
Duplicate (BHG0820-DUP1)

Source: 2407351-01

Prepared & Analyzed: 07/29/24

% Solids	97.4		%		96.5			0.868	20	
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6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

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

Summit Scientific

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

Batch BHG0817 - General Preparation

LCS (BHG0817-BS1)

Prepared & Analyzed: 07/29/24

pH	9.23	pH Units	9.18	101	95-105
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Duplicate (BHG0817-DUP1)

Source: 2407114-01RE1 Prepared & Analyzed: 07/29/24

pH	8.88	pH Units	8.78	1.13	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: Noble - Five Rivers K09-21D

Project Number: [none]
Project Manager: Jacob Whritenour

Reported:
07/31/24 13:53

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.
- 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.
- QM-03 Multiple analyses indicate the percent recovery exceeds the quality control acceptance criteria due to a matrix effect.
- QM-01 The spike recovery for this QC sample is outside of established control limits due to sample matrix interference.
- 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