

TABLE 1
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
PDC ENERGY, INC.
STUGART STATE 6-20, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-152

Sample ID	Sample Date	Depth (ft)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-Benzene (mg/kg)	Xylenes (mg/kg)	1,2,4-Trimethyl-Benzene (mg/kg)	1,3,5-Trimethyl-Benzene (mg/kg)	Naphthalene (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500**		
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500**		
SS-05 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SS-06 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SS-07 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SS-10 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SS-11 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	200	<50
SS-14 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	0.022	0.011	0.01	<0.50	130	<50
SS-30 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
SS-33 6.0"	06/01/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
E-01 2.0"	06/02/2023	0.2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	63	<50
N-01 2.0"	06/02/2023	0.2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	50	<50
S-01 2.0"	06/02/2023	0.2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50
W-01 2.0"	06/02/2023	0.2	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	65	<50
WCS 2.0"	06/02/2023	0.2	<0.0020	<0.0050	<0.0050	<0.010	0.031	0.017	0.0084	<0.50	140	<50
Composite 0.5ft	08/04/2023	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<0.50	<50	<50

Bold faced values exceed the ECMC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

* Indicates laboratory minimum detection limit in excess of SSL

** Summation of GRO+DRO+ORO must be less than 500 mg/kg

NA - Not analyzed

Green shaded samples indicate this area was subsequently removed via excavation

TABLE 2
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
PDC ENERGY, INC.
STUGART STATE 6-20, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-152

Sample ID	Sample Date	Depth (ft)	Acenaphthene (mg/kg)	Anthracene (mg/kg)	Benzo (a) Anthracene (mg/kg)	Benzo (a) Pyrene (mg/kg)	Benzo (b) Fluoranthene (mg/kg)	Benzo (k) Fluoranthene (mg/kg)	Chrysene (mg/kg)	Dibenzo (a,h) Anthracene (mg/kg)	Fluoranthene (mg/kg)	Fluorene (mg/kg)	Indeno (1,2,3-cd) Pyrene (mg/kg)	Pyrene (mg/kg)	1-Methyl - Naphthalene (mg/kg)	2-Methyl- Naphthalene (mg/kg)
COGCC Table 915-1 Limits (Residential SSL)			360	1800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3	0.006	0.019
SS-05 6.0"	06/01/2023	0.5	<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
SS-06 6.0"	06/01/2023	0.5	<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
SS-07 6.0"	06/01/2023	0.5	<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
SS-10 6.0"	06/01/2023	0.5	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0157	0.0295
SS-11 6.0"	06/01/2023	0.5	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.038	0.012	0.0106
SS-14 6.0"	06/01/2023	0.5	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0781	0.115
SS-30 6.0"	06/01/2023	0.5	<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
SS-33 6.0"	06/01/2023	0.5	<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
E-01 2.0"	06/02/2023	0.2	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0121	<0.00500	<0.00500	0.0281	0.0493
N-01 2.0"	06/02/2023	0.2	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00525	<0.00500	<0.00500	0.0243	0.0537
S-01 2.0"	06/02/2023	0.2	<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
W-01 2.0"	06/02/2023	0.2	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.00598	<0.00500	<0.00500	0.0198	0.0365
WCS 2.0"	06/02/2023	0.2	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	<0.00500	0.0417	0.0895
Composite 0.5ft	08/04/2023	0.5	<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

Bold faced values exceed the ECMC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

Green shaded samples indicate this area was subsequently removed via excavation

TABLE 3
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
PDC ENERGY, INC.
STUGART STATE 6-20, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-152

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
BKG-E 6.0"	06/01/2023	0.5	8.04	0.615	1.55	0.172
BKG-N 6.0"	06/01/2023	0.5	7.64	3.4	3.48	0.106
BKG-NW 6.0"	06/01/2023	0.5	7.48	2.51	1.54	0.1
BKG-SE 6.0"	06/01/2023	0.5	7.87	0.444	0.712	0.0741
BKG-SW 6.0"	06/01/2023	0.5	7.75	0.502	1.44	0.137
SS-05 6.0"	06/01/2023	0.5	7.7	1.27	0.758	0.0895
SS-06 6.0"	06/01/2023	0.5	7.73	1.51	0.534	0.0737
SS-07 6.0"	06/01/2023	0.5	6.12	2.12	0.544	0.065
SS-10 6.0"	06/01/2023	0.5	7.65	2.48	1.19	0.0813
SS-11 6.0"	06/01/2023	0.5	7.63	1.81	1.01	0.0754
SS-14 6.0"	06/01/2023	0.5	7.79	2.24	2.54	0.199
SS-30 6.0"	06/01/2023	0.5	8.43	0.343	0.479	0.546
SS-33 6.0"	06/01/2023	0.5	7.94	0.505	1.95	0.148
E-01 2.0"	06/02/2023	0.2	7.75	1.73	2.01	0.119
N-01 2.0"	06/02/2023	0.2	7.66	1.52	2.02	0.139
S-01 2.0"	06/02/2023	0.2	7.74	1.81	1.55	0.138
W-01 2.0"	06/02/2023	0.2	7.79	1.65	1.79	0.105
WCS 2.0"	06/02/2023	0.2	7.73	1.7	1.77	0.101

Sample ID	Sample Date	Depth (ft)	pH	EC (mmhos/cm)	SAR	Boron (mg/L)
COGCC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
Composite 0.5ft	08/04/2023	0.5	7.79	1.56	1.92	0.239

Bold faced values exceed the ECMC Table 915-1 concentrations

Yellow highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

NA - Not analyzed

Green shaded samples indicate this area was subsequently removed via excavation

TABLE 4
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
PDC ENERGY, INC.
STUGART STATE 6-20, WELD COUNTY, COLORADO
FREMONT PROJECT NO. C023-152

Sample ID	Sample Date	Depth (ft)	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)
COGCC Table 915-1 Limits (Residential SSL)			0.68	15000	71	0.3	3100	400	1500	390	390	23000
COGCC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
BKG-E 6.0"	06/01/2023	0.5	2.13	78.6	<0.222	<0.30	4.79	4.4	4.54	<0.289	<0.0222	16.2
BKG-N 6.0"	06/01/2023	0.5	2.60	84.4	<0.211	<0.30	5.5	5.12	4.52	<0.274	0.0224	17.8
BKG-NW 6.0"	06/01/2023	0.5	6.05	25.7	<0.228	<0.30	6.85	8.44	8.65	<0.297	0.0356	39.9
BKG-SE 6.0"	06/01/2023	0.5	2.53	104	<0.223	<0.30	5.63	4.91	3.99	<0.290	<0.0223	16.6
BKG-SW 6.0"	06/01/2023	0.5	2.35	78.9	<0.218	<0.30	4.09	5.26	5.38	<0.283	<0.0218	16.8
SS-05 6.0"	06/01/2023	0.5	1.92	50.2	<0.222	<0.30	5.01	4.91	3.2	<0.288	<0.0222	14.7
SS-06 6.0"	06/01/2023	0.5	1.89	40.1	<0.214	<0.30	5.14	5.85	3.36	<0.278	<0.0214	13.6
SS-07 6.0"	06/01/2023	0.5	2.00	44.7	<0.213	<0.30	5.22	4.09	3.38	<0.277	<0.0213	12.7
SS-10 6.0"	06/01/2023	0.5	3.80	72.2	<0.213	<0.30	6.99	8.31	4.78	<0.277	0.0247	20.2
SS-11 6.0"	06/01/2023	0.5	2.77	63.5	<0.212	<0.30	6.32	6.18	4.45	<0.276	0.0221	17.8
SS-14 6.0"	06/01/2023	0.5	3.60	60.1	<0.210	<0.30	5.95	9.14	4.32	0.215	0.0248	17.7
SS-30 6.0"	06/01/2023	0.5	2.13	192	<0.218	<0.30	5.76	4.74	3.68	<0.283	0.0231	17.2
SS-33 6.0"	06/01/2023	0.5	1.75	46	<0.216	<0.30	3.76	3.96	3.5	<0.281	<0.0216	14.1
E-01 2.0"	06/02/2023	0.2	1.01	96	<0.210	<0.30	2.55	7.43	1.79	0.212	0.0264	7.5
N-01 2.0"	06/02/2023	0.2	1.00	73.7	<0.210	<0.30	3.36	6.22	1.77	0.195	0.0332	7.16
S-01 2.0"	06/02/2023	0.2	0.95	108	<0.210	<0.30	3.64	8.78	1.94	0.183	0.0277	8.09
W-01 2.0"	06/02/2023	0.2	1.00	94.7	<0.210	<0.30	2.7	6.46	1.9	0.249	0.0298	7.61
WCS 2.0"	06/02/2023	0.2	1.14	86.9	<0.206	<0.30	3.12	5.97	1.87	0.189	0.0222	7.79
Composite 0.5ft	08/04/2023	0.5	1.00	117	<0.200	<0.30	1.39	5.91	1.74	<0.260	0.0241	7.69
Mean Background Concentration			3.132	74.32	NA	NA	NA	NA	NA	NA	NA	NA
125% Mean Background Concentration			3.915	92.9	NA	NA	NA	NA	NA	NA	NA	NA

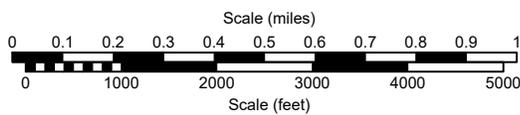
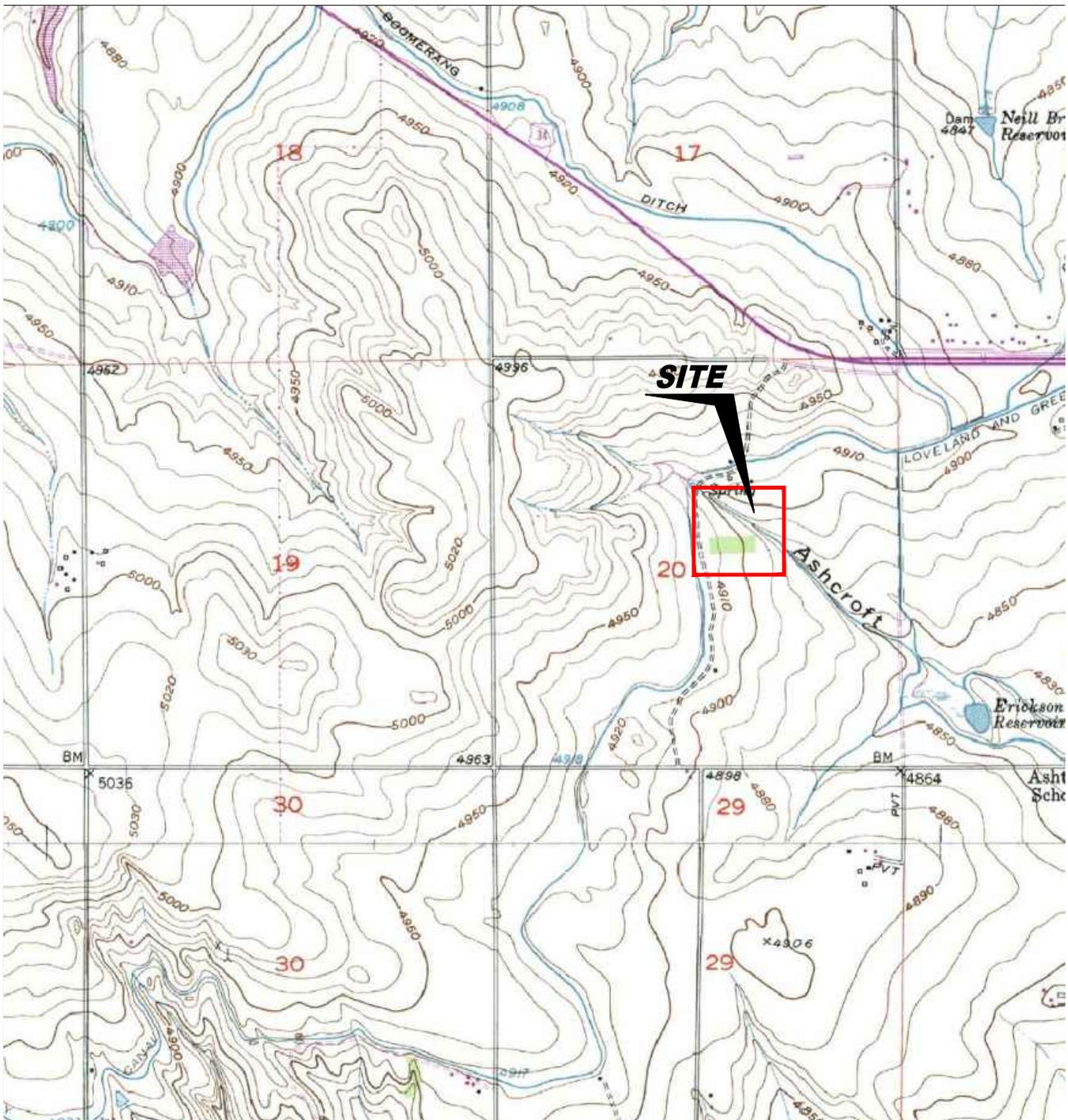
Bold faced values exceed the ECMC Table 915-1 concentrations

Red & blue highlighted 915-1 Limits indicate the referenced soil screening level (SSL)

* Indicates laboratory minimum detection limit in excess of SSL

NA - Not analyzed

Green shaded samples indicate this area was subsequently removed via excavation



USGS 7.5 MINUTE SERIES (TOPOGRAPHIC)

Figure 1
SITE LOCATION MAP

PDC Energy, Inc. ~ Stugart State 6-20
 NENW Sec. 20, T5N, R66W, 6th PM
 Weld County, Colorado
 40.386393°, -104.8053976°

Project # C023-151	Spill/Release # 484756	Facility # 332647
Date 10/26/23	Reviewed By EB	Filename 23152T





LEGEND

- ★ SAND TRAP LOCATION
- EXTENT OF EXCAVATION
- CONTAINMENT WALL
- - - FENCE LINE
- ABOVEGROUND STORAGE TANK
- BUILDING

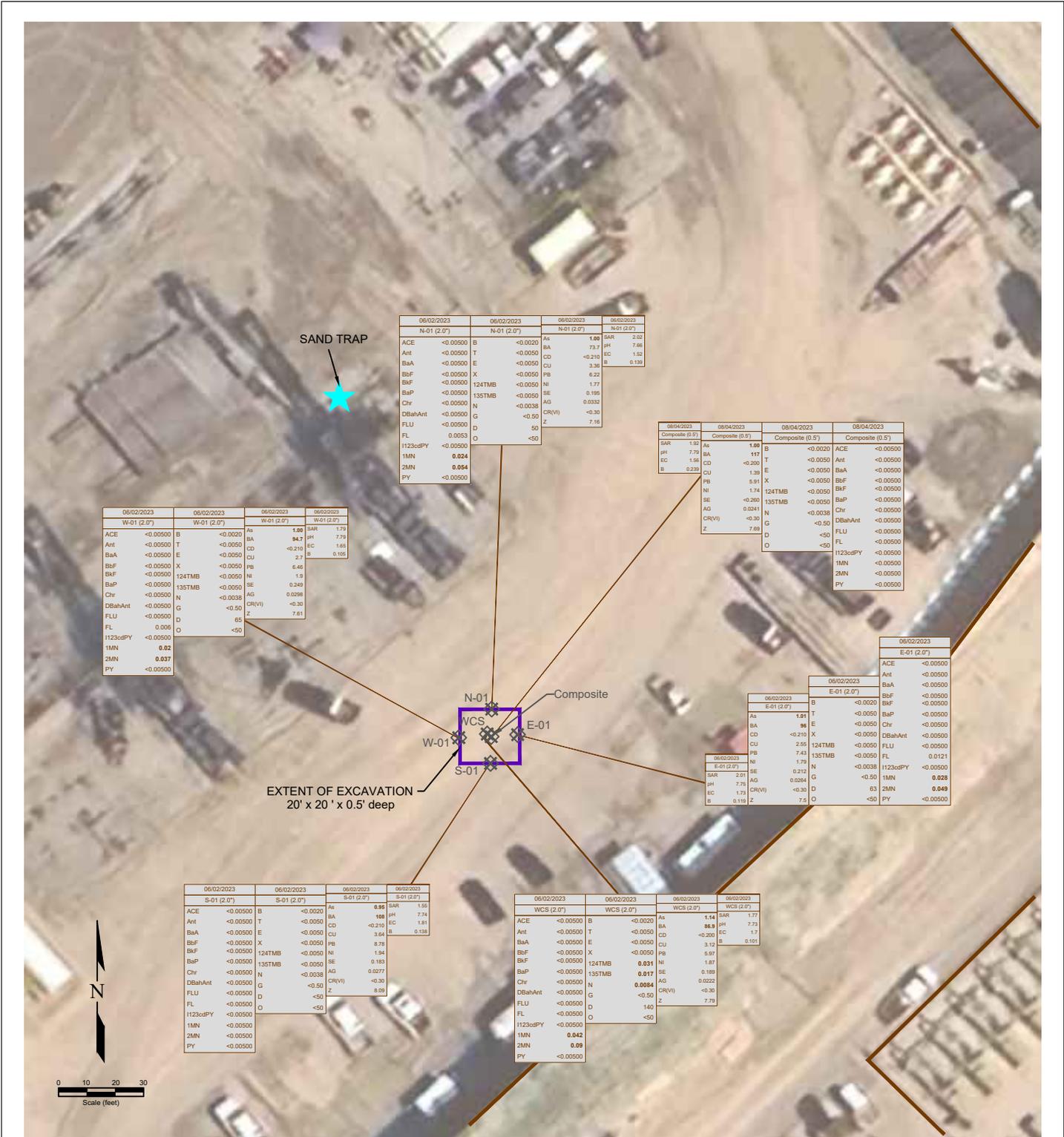
X Proposed excavation re-sampling locations

**Figure 2
SITE MAP**

PDC Energy, Inc. ~ Stugart State 6-20
 NENW Sec. 20, T5N, R66W, 6th PM
 Weld County, Colorado
 40.386393°, -104.8053976°

Project No. C023-151	Spill/Release # 484756	Facility # 332647
Date 10/27/23	Reviewed By EB	Filename 23152QA





LEGEND

★ SAND TRAP LOCATION
 --- EXTENT OF EXCAVATION
 --- CONTAINMENT WALL
 --- FENCE LINE
 ● SOIL SAMPLE LOCATION
 ○ ABOVEGROUND STORAGE TANK
 □ BUILDING

08/04/2023	DATE SAMPLED	06/02/2023	DATE SAMPLED	08/02/2023	DATE SAMPLED
Composite (0.5')	SAMPLE ID and DEPTH (ft)	Composite (0.5')	SAMPLE ID and DEPTH (ft)	Composite (0.5')	SAMPLE ID & DEPTH (ft)
ACE	ACENAPHTHENE (mg/kg)	B	BENZENE (mg/kg)	As	ARSENIC (mg/kg)
Ant	ANTHRACENE (mg/kg)	T	TOLUENE (mg/kg)	BA	BARUM (mg/kg)
BaA	BENZO (A) ANTHRACENE (mg/kg)	E	ETHYLBENZENE (mg/kg)	PH	CADMIUM (mg/kg)
BbF	BENZO (B) FLUORANTHENE (mg/kg)	X	TOTAL XYLENES (mg/kg)	EC	COPPER (mg/kg)
BkF	BENZO (K) FLUORANTHENE (mg/kg)	124TMB	1,2,4-TRIMETHYLBENZENE (mg/kg)	EC	LEAD (mg/kg)
BaP	BENZO (A) PYRENE (mg/kg)	135TMB	1,3,5-TRIMETHYLBENZENE (mg/kg)	CR(VI)	NICKEL (mg/kg)
Chr	CHRYSENE (mg/kg)	N	NAPHTHALENE (mg/kg)	AG	SELENIUM (mg/kg)
DBahAnt	DIBENZO (A,H) ANTHRACENE (mg/kg)	G	TPH-GRO (mg/kg)	AD	SILVER (mg/kg)
FLU	FLUORANTHENE (mg/kg)	D	TPH-DRO (mg/kg)	Z	HEXAVALENT CHROMIUM (mg/kg)
1123cdPY	FLUORENE (mg/kg)	<50	TPH-O (mg/kg)	Z	ZINC (mg/kg)
1MN	INDENO (1,2,3-CD) PYRENE (mg/kg)	<50			
2MN	1-METHYLNAPHTHALENE (mg/kg)				
PY	2-METHYLNAPHTHALENE (mg/kg)				
	PYRENE (mg/kg)				

Figure 3
SOIL CHEMISTRY MAP

PDC Energy, Inc. ~ Stugart State 6-20
 NENW Sec. 20, T5N, R66W, 6th PM
 Weld County, Colorado
 40.386393°, -104.8053976°

Project No. C023-151	Spill/Release # 484756	Facility # 332647
Date 10/27/23	Reviewed By EB	Filename 23152QA



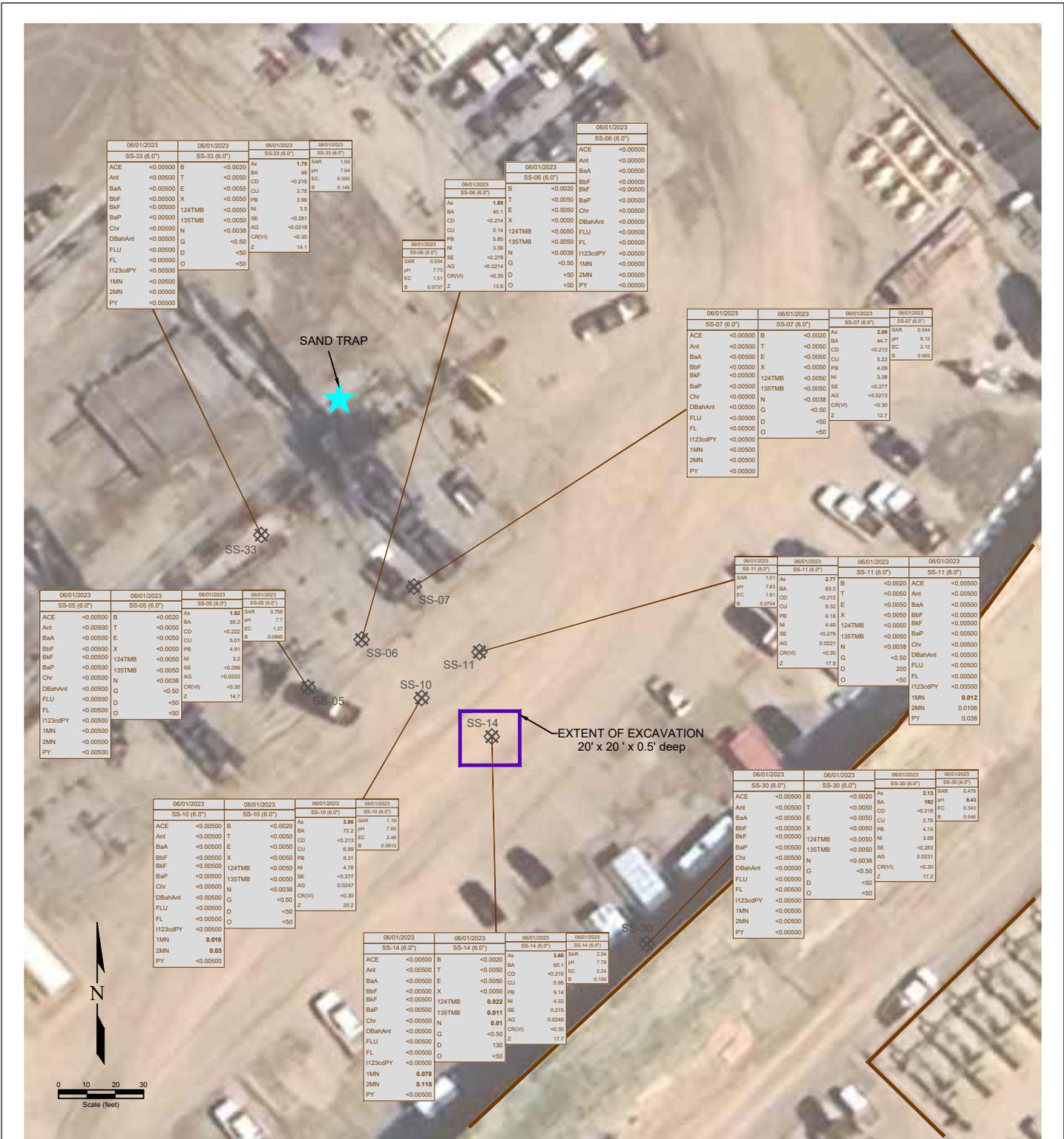


Figure 4
SOIL CHEMISTRY MAP

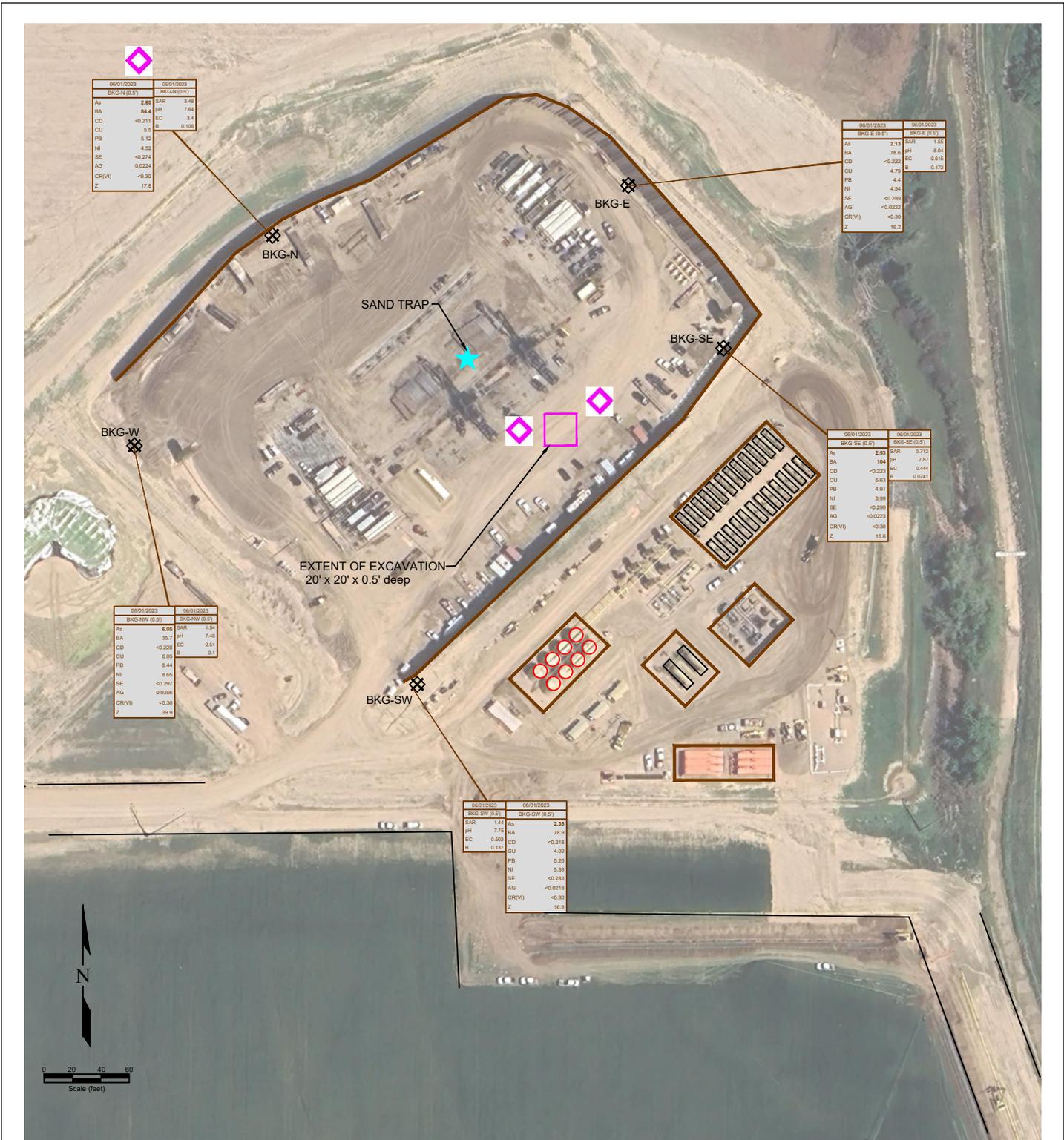
PDC Energy, Inc. ~ Stugart State 6-20
NENW Sec. 20, T5N, R66W, 6th PM
Weld County, Colorado
40.386393°, -104.8053976°

Project No. C023-151	Spill/Release # 484756	Facility # 332647	
Date 10/27/23	Reviewed By EB	Filename 23152QA	

LEGEND

- SAND TRAP LOCATION
- EXTENT OF EXCAVATION
- SOIL SAMPLE LOCATION
- ABOVEGROUND STORAGE TANK
- CONTAINMENT WALL
- FENCE LINE
- BUILDING

06/01/2023	06/01/2023	06/01/2023	06/01/2023	06/01/2023	06/01/2023	06/01/2023	06/01/2023
SS-33 (6.0')							
ACE	<0.0050	B	<0.0020	As	1.75	SAR	1.95
Ant	<0.0050	T	<0.0050	BA	46	pH	7.94
BaA	<0.0050	E	<0.0050	CD	<0.216	EC	0.565
BaF	<0.0050	X	<0.0050	CU	3.76	B	0.145
BaP	<0.0050	124TMB	<0.0050	NI	3.95		
Chr	<0.0050	135TMB	<0.0050	SE	<0.281		
DBahAnt	<0.0050	N	<0.0038	AG	<0.0218		
FLU	<0.0050	G	<0.50	CR(VI)	<0.30		
FL	<0.0050	D	<50	Z	14.1		
1123cdPY	<0.0050	O	<50				
1MN	<0.0050						
2MN	<0.0050						
PY	<0.0050						



06/01/2023		06/01/2023	
BKG-N (0.5')		BKG-N (0.5')	
As	2.69	SAR	3.49
BA	84.4	pH	7.44
CD	<0.211	EC	3.4
CU	5.5	B	0.104
PB	5.12		
NI	4.52		
SE	<0.274		
AG	0.0224		
CR(VI)	<0.30		
Z	17.8		

06/01/2023		06/01/2023	
BKG-E (0.5')		BKG-E (0.5')	
As	2.15	SAR	1.95
BA	78.8	pH	8.04
CD	<0.222	EC	0.619
CU	4.79	B	0.172
PB	4.4		
NI	4.54		
SE	<0.289		
AG	<0.0222		
CR(VI)	<0.30		
Z	16.2		

06/01/2023		06/01/2023	
BKG-SE (0.5')		BKG-SE (0.5')	
As	2.63	SAR	0.762
BA	104	pH	7.87
CD	<0.223	EC	0.444
CU	5.63	B	0.0741
PB	4.91		
NI	3.99		
SE	<0.290		
AG	<0.0223		
CR(VI)	<0.30		
Z	16.6		

06/01/2023		06/01/2023	
BKG-NW (0.5')		BKG-NW (0.5')	
As	6.89	SAR	1.58
BA	35.7	pH	7.48
CD	<0.228	EC	2.51
CU	6.85	B	0.1
PB	8.44		
NI	8.65		
SE	<0.297		
AG	0.0356		
CR(VI)	<0.30		
Z	39.9		

06/01/2023		06/01/2023	
BKG-SW (0.5')		BKG-SW (0.5')	
SAR	1.44	As	2.35
pH	7.75	BA	78.9
EC	0.802	CD	<0.218
B	0.137	CU	4.09
		PB	5.05
		NI	5.38
		SE	<0.283
		AG	<0.0216
		CR(VI)	<0.30
		Z	16.6

LEGEND

- ★ SAND TRAP LOCATION
- EXTENT OF EXCAVATION
- CONTAINMENT WALL
- FENCE LINE
- SOIL SAMPLE LOCATION
- ABOVE GROUND STORAGE TANK
- PROPOSED SOIL SAMPLE LOCATION

06/01/2023	DATE SAMPLED	06/01/2023	DATE SAMPLED
E-01 (2.0')	SAMPLE ID and DEPTH (ft)	E-01 (2.0')	SAMPLE ID and DEPTH (ft)
ACE	<0.0050	B	<0.0050
ACN	<0.0050	T	<0.0050
ANR	<0.0050	E	<0.0050
BaA	<0.0050	X	<0.010
BaP	<0.0050	1,2,4-TRIMETHYLBENZENE (mg/kg)	[N/A]
BaF	<0.0050	1,3,5-TRIMETHYLBENZENE (mg/kg)	[N/A]
BaP	<0.0050	NAPHTHALENE (mg/kg)	[N/A]
Chv	<0.0050	TPH-GRO (mg/kg)	[N/A]
DBA/AA	<0.0050	D	<0.99
FLU	<0.0050	O	63
FL	0.0121	D	<0.99
1123uPY	<0.0050		
IND	0.6681	DATE SAMPLED	06/01/2023
1MN	0.8489	DATE SAMPLED	06/01/2023
2MN	0.8489	DATE SAMPLED	06/01/2023
PY	<0.0050	DATE SAMPLED	06/01/2023

**Figure 5
SOIL CHEMISTRY MAP**

PDC Energy, Inc. ~ Stugart State 6-20
 NENW Sec. 20, T5N, R66W, 6th PM
 Weld County, Colorado
 40.386393°, -104.805397°

Project No. C023-152	Spill/Release # 484756	Facility # 332647
Date 10/26/23	Reviewed By EB	Filename 23152Q2_ST





DISTANCE BETWEEN
MONITORING WELLS: 3,538 ft
WELL PERMIT NUMBER: 059215

LEGEND

- WELL HEAD LOCATION
- MONITORING WELL LOCATION



**Figure 6
SITE MAP**

PDC Energy, Inc. ~ Stugart State 6-20
NENW Sec. 20, T5N, R66W, 6th PM
Weld County, Colorado
40.386393°, -104.8053976°

Project No. C023-151	Spill/Release # 484756	Facility # 332647
Date 10/26/23	Reviewed By EB	Filename 23152Q2



Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80401

303.277.9310

June 07, 2023

Paul Henehan
Fremont Environmental
PO Box 1289
Wellington, CO 80549
RE: PDC - Stuttgart
Work Order # 2306020

Enclosed are the results of analyses for samples received by Summit Scientific on 06/01/23 15:20. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Jacob Wood For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SS-05 6.0"	2306020-01	Soil	06/01/23 00:00	06/01/23 15:20
SS-06 6.0"	2306020-02	Soil	06/01/23 00:00	06/01/23 15:20
SS-07 6.0"	2306020-03	Soil	06/01/23 00:00	06/01/23 15:20
SS-10 6.0"	2306020-04	Soil	06/01/23 00:00	06/01/23 15:20
SS-11 6.0"	2306020-05	Soil	06/01/23 00:00	06/01/23 15:20
SS-14 6.0"	2306020-06	Soil	06/01/23 00:00	06/01/23 15:20
SS-30 6.0"	2306020-07	Soil	06/01/23 00:00	06/01/23 15:20
SS-33 6.0"	2306020-09	Soil	06/01/23 00:00	06/01/23 15:20
BKG-SW 6.0"	2306020-10	Soil	06/01/23 00:00	06/01/23 15:20
BKG-NW 6.0"	2306020-11	Soil	06/01/23 00:00	06/01/23 15:20
BKG-N 6.0"	2306020-12	Soil	06/01/23 00:00	06/01/23 15:20
BKG-E 6.0"	2306020-13	Soil	06/01/23 00:00	06/01/23 15:20
BKG-SE 6.0"	2306020-14	Soil	06/01/23 00:00	06/01/23 15:20

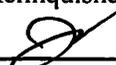
SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 1
2306020	

Send Data To:		Send Invoice To:	
Client: Fremont Env	Project Manager: Paul Henehan	Company: PDC	
Address:	E-Mail: Paulh@fremontenv.com	Project Name/Location:	
City/State/Zip:	jeffg@fremontenv.com Ethamb@fremontenv.com	AFE#:	
Phone:	Project Name: Stuttgart	PO/Billing Codes:	
Sampler Name: J6	Project Number:	Contact:	

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+N	TMBs (915)	DRO,ORO,6RO	PAHs (915)		EC,PH,SAR,Baron	Metals (915)
1	SS-05 6.0"	06/01/23		2			X			X			X	X	X	X	X		
2	SS-06 6.0"																		
3	SS-07 6.0"																		
4	SS-10 6.0"																		
5	SS-11 6.0"																		
6	SS-14 6.0"																		
7	SS-30 6.0"																		
8	SS-31 6.0"																		
9	SS-33 6.0"												X	X	X	X			
10	BKG-SW 6.0"																		
11	BKG-NW 6.0"																		
12	BKG-N 6.0"																		
13	BKG-E 6.0"																		
14	BKG-SE 6.0"																X	X	
15																			

Relinquished by: 	Date/Time: 06/01/23	Received by: 	Date/Time: 6/23/2023	TAT Business Days	Field DO	Notes: Bill to PDC
Relinquished by:	Date/Time:	Received by:	Date/Time:	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: 14.0	Corrected Temperature: 	IR gun #:	HNO3 lot #:	Standard <input type="checkbox"/>	Field Turb.	

S₂

Sample Receipt Checklist

S2 Work Order# 2306020

Client: Fremont Client Project ID: Strutgart

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

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

Temp (°C) 14.6 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"/>	on ICE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input 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 type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Missing sample #8
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

6/1/23
Date/Time

23



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-05 6.0''
2306020-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	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: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		109 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		108 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0052	06/01/23	06/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		91.2 %		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.



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-05 6.0"
2306020-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		58.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		79.0 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0895	0.0100		mg/L	1	BGF0057	06/02/23	06/02/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

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

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-05 6.0"
2306020-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.92	0.222		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	50.2	0.444		"	"	"	"	"	"	
Cadmium	ND	0.222		"	"	"	"	"	"	
Copper	5.01	0.444		"	"	"	"	"	"	
Lead	4.91	0.222		"	"	"	"	"	"	
Nickel	3.20	0.444		"	"	"	"	"	"	
Selenium	ND	0.288	0.194	"	"	"	"	"	"	
Silver	ND	0.0222		"	"	"	"	"	"	
Zinc	14.7	0.444		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	159	0.0555		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	37.6	0.0555		"	"	"	"	"	"	
Sodium	40.9	0.0555		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.758	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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.



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

**SS-05 6.0''
 2306020-01 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	90.1			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.27	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.70			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-06 6.0''
2306020-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	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: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		103 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.9 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0052	06/01/23	06/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		89.3 %		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.



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-06 6.0"
2306020-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		64.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		91.4 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0737	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-06 6.0"
2306020-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method
Arsenic	1.89	0.214	mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B
Barium	40.1	0.428	"	"	"	"	"	"
Cadmium	ND	0.214	"	"	"	"	"	"
Copper	5.14	0.428	"	"	"	"	"	"
Lead	5.85	0.214	"	"	"	"	"	"
Nickel	3.36	0.428	"	"	"	"	"	"
Selenium	ND	0.278	0.187	"	"	"	"	"
Silver	ND	0.0214	"	"	"	"	"	"
Zinc	13.6	0.428	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	189	0.0535		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	41.6	0.0535		"	"	"	"	"	"	
Sodium	31.1	0.0535		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.534	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

**SS-06 6.0''
 2306020-02 (Soil)**

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	93.5			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.51	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.73			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project Number: [none]
Project Manager: Paul Henehan

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SS-07 6.0''
2306020-03 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	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: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		108 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		114 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.6 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0052	06/01/23	06/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		88.8 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

SS-07 6.0"
2306020-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		70.8 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		82.7 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0650	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-07 6.0"
2306020-03 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.00	0.213		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	44.7	0.426		"	"	"	"	"	"	
Cadmium	ND	0.213		"	"	"	"	"	"	
Copper	5.22	0.426		"	"	"	"	"	"	
Lead	4.09	0.213		"	"	"	"	"	"	
Nickel	3.38	0.426		"	"	"	"	"	"	
Selenium	ND	0.277	0.186	"	"	"	"	"	"	
Silver	ND	0.0213		"	"	"	"	"	"	
Zinc	12.7	0.426		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	274	0.0532		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	73.6	0.0532		"	"	"	"	"	"	
Sodium	39.3	0.0532		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.544	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
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**SS-07 6.0''
 2306020-03 (Soil)**

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	93.9			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.12	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	6.12			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-10 6.0"
2306020-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	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: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		110 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		97.3 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0052	06/01/23	06/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		94.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

SS-10 6.0"
2306020-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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	0.0157	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	0.0295	0.00500		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		78.7 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		78.1 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0813	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-10 6.0"
2306020-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.80	0.213		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	72.2	0.426		"	"	"	"	"	"	
Cadmium	ND	0.213		"	"	"	"	"	"	
Copper	6.99	0.426		"	"	"	"	"	"	
Lead	8.31	0.213		"	"	"	"	"	"	
Nickel	4.78	0.426		"	"	"	"	"	"	
Selenium	ND	0.277	0.186	"	"	"	"	"	"	
Silver	0.0247	0.0213		"	"	"	"	"	"	
Zinc	20.2	0.426		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	316	0.0532		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	73.9	0.0532		"	"	"	"	"	"	
Sodium	90.3	0.0532		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.19	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: [none]
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SS-10 6.0"
2306020-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	94.0			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.48	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.65			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
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SS-11 6.0"
2306020-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	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: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	200	50		mg/kg	1	BGF0052	06/01/23	06/01/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		89.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

SS-11 6.0"
2306020-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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	0.0380	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	0.0120	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	0.0106	0.00500		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		116 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		85.8 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.0754	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

SS-11 6.0"
2306020-05 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.77	0.212		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	63.5	0.425		"	"	"	"	"	"	
Cadmium	ND	0.212		"	"	"	"	"	"	
Copper	6.32	0.425		"	"	"	"	"	"	
Lead	6.18	0.212		"	"	"	"	"	"	
Nickel	4.45	0.425		"	"	"	"	"	"	
Selenium	ND	0.276	0.186	"	"	"	"	"	"	
Silver	0.0221	0.0212		"	"	"	"	"	"	
Zinc	17.8	0.425		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	226	0.0531		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	50.4	0.0531		"	"	"	"	"	"	
Sodium	64.6	0.0531		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.01	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

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SS-11 6.0"
2306020-05 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	94.2			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.81	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.63			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

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SS-14 6.0"
2306020-06 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.022	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.011	0.0050		"	"	"	"	"	"	
Naphthalene	0.010	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<i>Surrogate: 1,2-Dichloroethane-d4</i>		108 %		50-150		"	"	"	"	
<i>Surrogate: Toluene-d8</i>		112 %		50-150		"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		96.1 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	130	50		mg/kg	1	BGF0052	06/01/23	06/02/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<i>Surrogate: o-Terphenyl</i>		92.2 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: PDC - Stuttgart

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SS-14 6.0"
2306020-06 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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	0.0781	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	0.115	0.00500		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		71.5 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		42.9 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.199	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

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SS-14 6.0"
2306020-06 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	3.60	0.210		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	60.1	0.420		"	"	"	"	"	"	
Cadmium	ND	0.210		"	"	"	"	"	"	
Copper	5.95	0.420		"	"	"	"	"	"	
Lead	9.14	0.210		"	"	"	"	"	"	
Nickel	4.32	0.420		"	"	"	"	"	"	
Selenium	0.215	0.273	0.184	"	"	"	"	"	"	
Silver	0.0248	0.0210		"	"	"	"	"	"	
Zinc	17.7	0.420		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	191	0.0525		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	47.2	0.0525		"	"	"	"	"	"	
Sodium	151	0.0525		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.54	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project Number: [none]
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 06/07/23 08:44

SS-14 6.0''
2306020-06 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	95.3			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	2.24	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.79			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

SS-30 6.0"
2306020-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	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: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		105 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		113 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0052	06/01/23	06/02/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		95.4 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-30 6.0"
2306020-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		66.5 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		81.1 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.546	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-30 6.0"
2306020-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	2.13	0.218		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	192	0.436		"	"	"	"	"	"	
Cadmium	ND	0.218		"	"	"	"	"	"	
Copper	5.76	0.436		"	"	"	"	"	"	
Lead	4.74	0.218		"	"	"	"	"	"	
Nickel	3.68	0.436		"	"	"	"	"	"	
Selenium	ND	0.283	0.191	"	"	"	"	"	"	
Silver	0.0231	0.0218		"	"	"	"	"	"	
Zinc	17.2	0.436		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	475	0.0545		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	65.6	0.0545		"	"	"	"	"	"	
Sodium	42.0	0.0545		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.479	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
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SS-30 6.0"
2306020-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	91.8			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.343	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	8.43			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

SS-33 6.0"
2306020-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0053	06/01/23	06/01/23	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: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		110 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		113 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.2 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0052	06/01/23	06/02/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		91.0 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

SS-33 6.0"
2306020-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Acenaphthene	ND	0.00500		mg/kg	1	BGF0091	06/02/23	06/03/23	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: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
<i>Surrogate: 2-Methylnaphthalene-d10</i>		85.6 %		40-150		"	"	"	"	"
<i>Surrogate: Fluoranthene-d10</i>		107 %		40-150		"	"	"	"	"

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.148	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

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

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PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

SS-33 6.0''
2306020-09 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.75	0.216		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	46.0	0.433		"	"	"	"	"	"	
Cadmium	ND	0.216		"	"	"	"	"	"	
Copper	3.76	0.433		"	"	"	"	"	"	
Lead	3.96	0.216		"	"	"	"	"	"	
Nickel	3.50	0.433		"	"	"	"	"	"	
Selenium	ND	0.281	0.189	"	"	"	"	"	"	
Silver	ND	0.0216		"	"	"	"	"	"	
Zinc	14.1	0.433		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.4	0.0541		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	7.65	0.0541		"	"	"	"	"	"	
Sodium	44.3	0.0541		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.95	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

**SS-33 6.0''
 2306020-09 (Soil)**

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	92.4			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	0.505	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.94			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
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BKG-SW 6.0"
2306020-10 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.137	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.35	0.218		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	78.9	0.436		"	"	"	"	"	"	
Cadmium	ND	0.218		"	"	"	"	"	"	
Copper	4.09	0.436		"	"	"	"	"	"	
Lead	5.26	0.218		"	"	"	"	"	"	
Nickel	5.38	0.436		"	"	"	"	"	"	
Selenium	ND	0.283	0.191	"	"	"	"	"	"	
Silver	ND	0.0218		"	"	"	"	"	"	
Zinc	16.8	0.436		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	57.5	0.0544		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	5.28	0.0544		"	"	"	"	"	"	
Sodium	42.6	0.0544		"	"	"	"	"	"	

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

BKG-SW 6.0"
2306020-10 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.44	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	91.8			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.502	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.75			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

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06/07/23 08:44

BKG-NW 6.0"
2306020-11 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.100	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	6.05	0.228		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	25.7	0.456		"	"	"	"	"	"	
Cadmium	ND	0.228		"	"	"	"	"	"	
Copper	6.85	0.456		"	"	"	"	"	"	
Lead	8.44	0.228		"	"	"	"	"	"	
Nickel	8.65	0.456		"	"	"	"	"	"	
Selenium	ND	0.297	0.200	"	"	"	"	"	"	
Silver	0.0356	0.0228		"	"	"	"	"	"	
Zinc	39.9	0.456		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	224	0.0571		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	70.2	0.0571		"	"	"	"	"	"	
Sodium	103	0.0571		"	"	"	"	"	"	

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

BKG-NW 6.0"
2306020-11 (Soil)

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Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.54	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	87.6			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	2.51	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.48			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

BKG-N 6.0"
2306020-12 (Soil)

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.106	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.60	0.211		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	84.4	0.422		"	"	"	"	"	"	
Cadmium	ND	0.211		"	"	"	"	"	"	
Copper	5.50	0.422		"	"	"	"	"	"	
Lead	5.12	0.211		"	"	"	"	"	"	
Nickel	4.52	0.422		"	"	"	"	"	"	
Selenium	ND	0.274	0.185	"	"	"	"	"	"	
Silver	0.0224	0.0211		"	"	"	"	"	"	
Zinc	17.8	0.422		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	228	0.0527		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	80.8	0.0527		"	"	"	"	"	"	
Sodium	240	0.0527		"	"	"	"	"	"	

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

BKG-N 6.0"
2306020-12 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	3.48	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.8			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	3.40	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.64			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

BKG-E 6.0"
2306020-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.172	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.13	0.222		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	78.6	0.444		"	"	"	"	"	"	
Cadmium	ND	0.222		"	"	"	"	"	"	
Copper	4.79	0.444		"	"	"	"	"	"	
Lead	4.40	0.222		"	"	"	"	"	"	
Nickel	4.54	0.444		"	"	"	"	"	"	
Selenium	ND	0.289	0.194	"	"	"	"	"	"	
Silver	ND	0.0222		"	"	"	"	"	"	
Zinc	16.2	0.444		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	46.5	0.0555		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	12.9	0.0555		"	"	"	"	"	"	
Sodium	46.2	0.0555		"	"	"	"	"	"	

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

BKG-E 6.0"
2306020-13 (Soil)

Summit Scientific

Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.55	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	90.1			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.615	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.04			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project: PDC - Stuttgart

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Project Manager: Paul Henehan

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**BKG-SE 6.0''
2306020-14 (Soil)**

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Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Boron	0.0741	0.0100		mg/L	1	BGF0057	06/02/23	06/03/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Arsenic	2.53	0.223		mg/kg dry	1	BGF0058	06/02/23	06/03/23	EPA 6020B	
Barium	104	0.446		"	"	"	"	"	"	
Cadmium	ND	0.223		"	"	"	"	"	"	
Copper	5.63	0.446		"	"	"	"	"	"	
Lead	4.91	0.223		"	"	"	"	"	"	
Nickel	3.99	0.446		"	"	"	"	"	"	
Selenium	ND	0.290	0.195	"	"	"	"	"	"	
Silver	ND	0.0223		"	"	"	"	"	"	
Zinc	16.6	0.446		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0075	06/02/23	06/02/23	EPA 7196A	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Calcium	42.1	0.0558		mg/L dry	1	BGF0054	06/01/23	06/06/23	EPA 6020B	
Magnesium	9.68	0.0558		"	"	"	"	"	"	
Sodium	19.7	0.0558		"	"	"	"	"	"	

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**BKG-SE 6.0''
 2306020-14 (Soil)**

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Calculated Analysis

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.712	0.00100		units	1	BGF0209	06/06/23	06/06/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	89.7			%	1	BGF0055	06/02/23	06/02/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.444	0.0100		mmhos/cm	1	BGF0078	06/02/23	06/02/23	EPA 120.1	

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

Date Sampled: **06/01/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.87			pH Units	1	BGF0077	06/02/23	06/02/23	EPA 9045D	



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Project Number: [none]
Project Manager: Paul Henehan

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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 BGF0053 - EPA 5030 Soil MS

Blank (BGF0053-BLK1)

Prepared: 06/01/23 Analyzed: 06/02/23

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>	<i>0.0407</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0448</i>		<i>"</i>	<i>0.0400</i>		<i>112</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0377</i>		<i>"</i>	<i>0.0400</i>		<i>94.3</i>	<i>50-150</i>			

LCS (BGF0053-BS1)

Prepared: 06/01/23 Analyzed: 06/02/23

Benzene	0.0815	0.0020	mg/kg	0.100		81.5	70-130			
Toluene	0.109	0.0050	"	0.100		109	70-130			
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.216	0.010	"	0.200		108	70-130			
o-Xylene	0.104	0.0050	"	0.100		104	70-130			
1,2,4-Trimethylbenzene	0.110	0.0050	"	0.100		110	70-130			
1,3,5-Trimethylbenzene	0.112	0.0050	"	0.100		112	70-130			
Naphthalene	0.0946	0.0038	"	0.100		94.6	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0388</i>		<i>"</i>	<i>0.0400</i>		<i>97.1</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0459</i>		<i>"</i>	<i>0.0400</i>		<i>115</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0379</i>		<i>"</i>	<i>0.0400</i>		<i>94.6</i>	<i>50-150</i>			

Matrix Spike (BGF0053-MS1)

Source: 2306012-01

Prepared: 06/01/23 Analyzed: 06/02/23

Benzene	0.0834	0.0020	mg/kg	0.100	ND	83.4	70-130			
Toluene	0.110	0.0050	"	0.100	ND	110	70-130			
Ethylbenzene	0.104	0.0050	"	0.100	ND	104	70-130			
m,p-Xylene	0.209	0.010	"	0.200	ND	105	70-130			
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130			
1,2,4-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
1,3,5-Trimethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
Naphthalene	0.102	0.0038	"	0.100	ND	102	70-130			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0420</i>		<i>"</i>	<i>0.0400</i>		<i>105</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0450</i>		<i>"</i>	<i>0.0400</i>		<i>112</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0374</i>		<i>"</i>	<i>0.0400</i>		<i>93.4</i>	<i>50-150</i>			

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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 BGF0053 - EPA 5030 Soil MS

Matrix Spike Dup (BGF0053-MSD1)	Source: 2306012-01			Prepared: 06/01/23 Analyzed: 06/02/23						
Benzene	0.0843	0.0020	mg/kg	0.100	ND	84.3	70-130	1.11	30	
Toluene	0.112	0.0050	"	0.100	ND	112	70-130	1.95	30	
Ethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130	5.95	30	
m,p-Xylene	0.221	0.010	"	0.200	ND	110	70-130	5.34	30	
o-Xylene	0.107	0.0050	"	0.100	ND	107	70-130	5.84	30	
1,2,4-Trimethylbenzene	0.112	0.0050	"	0.100	ND	112	70-130	4.76	30	
1,3,5-Trimethylbenzene	0.114	0.0050	"	0.100	ND	114	70-130	3.38	30	
Naphthalene	0.107	0.0038	"	0.100	ND	107	70-130	4.05	30	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>0.0409</i>		<i>"</i>	<i>0.0400</i>		<i>102</i>	<i>50-150</i>			
<i>Surrogate: Toluene-d8</i>	<i>0.0445</i>		<i>"</i>	<i>0.0400</i>		<i>111</i>	<i>50-150</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>0.0368</i>		<i>"</i>	<i>0.0400</i>		<i>91.9</i>	<i>50-150</i>			



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Project Number: [none]
 Project Manager: Paul Henehan

Reported:
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Extractable Petroleum Hydrocarbons by 8015 - Quality Control
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Analyte	Result	Reporting		Spike Level	Source Result	%REC		RPD		Notes
		Limit	Units			%REC	Limits	RPD	Limit	

Batch BGF0052 - EPA 3550A

Blank (BGF0052-BLK1)

Prepared: 06/01/23 Analyzed: 06/02/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: <i>o</i> -Terphenyl	11.7		"	12.5		93.4	30-150			

LCS (BGF0052-BS1)

Prepared: 06/01/23 Analyzed: 06/02/23

C10-C28 (DRO)	377	50	mg/kg	500	7.89	71.7	70-130			
Surrogate: <i>o</i> -Terphenyl	11.4		"	12.5		90.8	30-150			

Matrix Spike (BGF0052-MS1)

Source: 2306012-01

Prepared: 06/01/23 Analyzed: 06/02/23

C10-C28 (DRO)	366	50	mg/kg	500	7.89	71.7	70-130			
Surrogate: <i>o</i> -Terphenyl	11.3		"	12.5		90.7	30-150			

Matrix Spike Dup (BGF0052-MSD1)

Source: 2306012-01

Prepared: 06/01/23 Analyzed: 06/02/23

C10-C28 (DRO)	427	50	mg/kg	500	7.89	83.9	70-130	15.3	20	
Surrogate: <i>o</i> -Terphenyl	13.2		"	12.5		105	30-150			



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Project Number: [none]
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PAH by EPA Method 8270D SIM - Quality Control
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Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BGF0091 - EPA 5030 Soil MS

Blank (BGF0091-BLK1)

Prepared & Analyzed: 06/02/23

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>0.0284</i>		"	<i>0.0333</i>		<i>85.1</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0346</i>		"	<i>0.0333</i>		<i>104</i>	<i>40-150</i>			

LCS (BGF0091-BS1)

Prepared & Analyzed: 06/02/23

Acenaphthene	0.0344	0.00500	mg/kg	0.0333	103	31-137
Anthracene	0.0369	0.00500	"	0.0333	111	30-120
Benzo (a) anthracene	0.0326	0.00500	"	0.0333	97.9	30-120
Benzo (a) pyrene	0.0298	0.00500	"	0.0333	89.5	30-120
Benzo (b) fluoranthene	0.0339	0.00500	"	0.0333	102	30-120
Benzo (k) fluoranthene	0.0382	0.00500	"	0.0333	115	30-120
Chrysene	0.0373	0.00500	"	0.0333	112	30-120
Dibenz (a,h) anthracene	0.0238	0.00500	"	0.0333	71.3	30-120
Fluoranthene	0.0342	0.00500	"	0.0333	103	30-120
Fluorene	0.0337	0.00500	"	0.0333	101	30-120
Indeno (1,2,3-cd) pyrene	0.0270	0.00500	"	0.0333	81.1	30-120
Pyrene	0.0384	0.00500	"	0.0333	115	35-142
1-Methylnaphthalene	0.0264	0.00500	"	0.0333	79.3	35-142
2-Methylnaphthalene	0.0291	0.00500	"	0.0333	87.4	35-142
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0271</i>		"	<i>0.0333</i>	<i>81.2</i>	<i>40-150</i>
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0334</i>		"	<i>0.0333</i>	<i>100</i>	<i>40-150</i>

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
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PAH by EPA Method 8270D SIM - Quality Control

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

Batch BGF0091 - EPA 5030 Soil MS

Matrix Spike (BGF0091-MS1)	Source: 2306003-01			Prepared & Analyzed: 06/02/23						
Acenaphthene	0.0265	0.00500	mg/kg	0.0333	ND	79.4	31-137			
Anthracene	0.0253	0.00500	"	0.0333	ND	75.9	30-120			
Benzo (a) anthracene	0.0295	0.00500	"	0.0333	ND	88.5	30-120			
Benzo (a) pyrene	0.0213	0.00500	"	0.0333	ND	63.8	30-120			
Benzo (b) fluoranthene	0.0223	0.00500	"	0.0333	ND	66.8	30-120			
Benzo (k) fluoranthene	0.0235	0.00500	"	0.0333	ND	70.6	30-120			
Chrysene	0.0265	0.00500	"	0.0333	ND	79.4	30-120			
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	48.0	30-120			
Fluoranthene	0.0265	0.00500	"	0.0333	ND	79.4	30-120			
Fluorene	0.0252	0.00500	"	0.0333	ND	75.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0169	0.00500	"	0.0333	ND	50.8	30-120			
Pyrene	0.0269	0.00500	"	0.0333	ND	80.7	35-142			
1-Methylnaphthalene	0.0215	0.00500	"	0.0333	ND	64.4	15-130			
2-Methylnaphthalene	0.0232	0.00500	"	0.0333	ND	69.7	15-130			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0239</i>		<i>"</i>	<i>0.0333</i>		<i>71.6</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0296</i>		<i>"</i>	<i>0.0333</i>		<i>88.8</i>	<i>40-150</i>			

Matrix Spike Dup (BGF0091-MSD1)	Source: 2306003-01			Prepared & Analyzed: 06/02/23						
Acenaphthene	0.0282	0.00500	mg/kg	0.0333	ND	84.7	31-137	6.48	30	
Anthracene	0.0279	0.00500	"	0.0333	ND	83.6	30-120	9.63	30	
Benzo (a) anthracene	0.0332	0.00500	"	0.0333	ND	99.6	30-120	11.8	30	
Benzo (a) pyrene	0.0246	0.00500	"	0.0333	ND	73.8	30-120	14.5	30	
Benzo (b) fluoranthene	0.0258	0.00500	"	0.0333	ND	77.4	30-120	14.7	30	
Benzo (k) fluoranthene	0.0256	0.00500	"	0.0333	ND	76.9	30-120	8.55	30	
Chrysene	0.0284	0.00500	"	0.0333	ND	85.3	30-120	7.12	30	
Dibenz (a,h) anthracene	0.0187	0.00500	"	0.0333	ND	56.2	30-120	15.6	30	
Fluoranthene	0.0273	0.00500	"	0.0333	ND	81.8	30-120	2.97	30	
Fluorene	0.0274	0.00500	"	0.0333	ND	82.1	30-120	8.28	30	
Indeno (1,2,3-cd) pyrene	0.0142	0.00500	"	0.0333	ND	42.7	30-120	17.4	30	
Pyrene	0.0301	0.00500	"	0.0333	ND	90.2	35-142	11.1	30	
1-Methylnaphthalene	0.0211	0.00500	"	0.0333	ND	63.2	15-130	1.76	50	
2-Methylnaphthalene	0.0245	0.00500	"	0.0333	ND	73.4	15-130	5.18	50	
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0225</i>		<i>"</i>	<i>0.0333</i>		<i>67.5</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0303</i>		<i>"</i>	<i>0.0333</i>		<i>90.9</i>	<i>40-150</i>			

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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
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Total Metals by EPA 6020B Hot Water Soluble Extraction - Quality Control
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Analyte	Result	Reporting		Spike Level	Source		%REC		RPD		Notes
		Limit	Units		Result	%REC	Limits	RPD	Limit		

Batch BGF0057 - EPA 3050B

Blank (BGF0057-BLK1)

Prepared & Analyzed: 06/02/23

Boron ND 0.0100 mg/L

LCS (BGF0057-BS1)

Prepared & Analyzed: 06/02/23

Boron 5.54 0.0100 mg/L 5.00 111 80-120

Duplicate (BGF0057-DUP1)

Source: 2306012-01

Prepared & Analyzed: 06/02/23

Boron 0.260 0.0100 mg/L 0.284 8.77 20

Matrix Spike (BGF0057-MS1)

Source: 2306012-01

Prepared & Analyzed: 06/02/23

Boron 4.96 0.0100 mg/L 5.00 0.284 93.6 75-125

Matrix Spike Dup (BGF0057-MSD1)

Source: 2306012-01

Prepared & Analyzed: 06/02/23

Boron 4.50 0.0100 mg/L 5.00 0.284 84.2 75-125 9.88 25



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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
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Total Metals by EPA 6020B - Quality Control
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Analyte	Reporting			Spike	Source	%REC		RPD		Notes
	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	

Batch BGF0058 - EPA 3050B

Blank (BGF0058-BLK1)

Prepared: 06/02/23 Analyzed: 06/03/23

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

LCS (BGF0058-BS1)

Prepared: 06/02/23 Analyzed: 06/03/23

Arsenic	39.0	0.200	mg/kg wet	40.0		97.4	80-120			
Barium	41.7	0.400	"	40.0		104	80-120			
Cadmium	2.06	0.200	"	2.00		103	80-120			
Copper	38.8	0.400	"	40.0		97.0	80-120			
Lead	20.5	0.200	"	20.0		102	80-120			
Nickel	38.9	0.400	"	40.0		97.3	80-120			
Selenium	4.38	0.260	"	4.00		109	80-120			
Silver	2.00	0.0200	"	2.00		100	80-120			
Zinc	39.3	0.400	"	40.0		98.3	80-120			

Duplicate (BGF0058-DUP1)

Source: 2306012-01

Prepared: 06/02/23 Analyzed: 06/03/23

Arsenic	3.43	0.241	mg/kg dry		3.64			5.88	20	
Barium	141	0.481	"		156			9.55	20	
Cadmium	0.472	0.241	"		0.538			13.1	20	
Copper	10.1	0.481	"		11.1			9.30	20	
Lead	11.1	0.241	"		12.8			14.7	20	
Nickel	8.13	0.481	"		8.90			9.05	20	
Selenium	ND	0.313	"		ND				20	
Silver	0.0481	0.0241	"		0.0544			12.2	20	
Zinc	36.9	0.481	"		39.7			7.33	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.



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

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 BGF0058 - EPA 3050B

Matrix Spike (BGF0058-MS1)

Source: 2306012-01

Prepared: 06/02/23 Analyzed: 06/03/23

Arsenic	41.3	0.241	mg/kg dry	48.1	3.64	78.2	75-125			
Barium	183	0.481	"	48.1	156	57.2	75-125			QM-07
Cadmium	2.52	0.241	"	2.41	0.538	82.4	75-125			
Copper	36.2	0.481	"	48.1	11.1	52.2	75-125			QM-07
Lead	31.6	0.241	"	24.1	12.8	77.8	75-125			
Nickel	34.4	0.481	"	48.1	8.90	53.1	75-125			QM-07
Selenium	3.20	0.313	"	4.81	ND	66.6	75-125			QM-07
Silver	1.93	0.0241	"	2.41	0.0544	78.1	75-125			
Zinc	65.3	0.481	"	48.1	39.7	53.1	75-125			QM-07

Matrix Spike Dup (BGF0058-MSD1)

Source: 2306012-01

Prepared: 06/02/23 Analyzed: 06/03/23

Arsenic	46.1	0.241	mg/kg dry	48.1	3.64	88.2	75-125	11.0	25	
Barium	202	0.481	"	48.1	156	95.6	75-125	9.61	25	
Cadmium	2.84	0.241	"	2.41	0.538	95.7	75-125	11.9	25	
Copper	38.7	0.481	"	48.1	11.1	57.3	75-125	6.63	25	QM-07
Lead	34.9	0.241	"	24.1	12.8	91.6	75-125	10.0	25	
Nickel	37.1	0.481	"	48.1	8.90	58.6	75-125	7.44	25	QM-07
Selenium	3.71	0.313	"	4.81	ND	77.0	75-125	14.6	25	
Silver	2.21	0.0241	"	2.41	0.0544	89.5	75-125	13.3	25	
Zinc	68.7	0.481	"	48.1	39.7	60.2	75-125	5.10	25	QM-07



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGF0075 - 3060A Mod

Blank (BGF0075-BLK1)

Prepared & Analyzed: 06/02/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGF0075-BS1)

Prepared & Analyzed: 06/02/23

Chromium, Hexavalent 22.9 0.30 mg/kg wet 25.0 91.6 80-120

Duplicate (BGF0075-DUP1)

Source: 2306012-01

Prepared & Analyzed: 06/02/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGF0075-MS1)

Source: 2306012-01

Prepared & Analyzed: 06/02/23

Chromium, Hexavalent 24.2 0.30 mg/kg dry 30.1 ND 80.4 75-125

Matrix Spike Dup (BGF0075-MSD1)

Source: 2306012-01

Prepared & Analyzed: 06/02/23

Chromium, Hexavalent 24.3 0.30 mg/kg dry 30.1 ND 80.8 75-125 0.496 20



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

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

Summit Scientific

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

Batch BGF0054 - General Preparation

Blank (BGF0054-BLK1)

Prepared: 06/01/23 Analyzed: 06/06/23

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

LCS (BGF0054-BS1)

Prepared: 06/01/23 Analyzed: 06/06/23

Calcium	6.17	0.0500	mg/L wet	5.00		123	70-130			
Magnesium	4.99	0.0500	"	5.00		99.8	70-130			
Sodium	5.00	0.0500	"	5.00		100	70-130			



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

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 BGF0055 - General Preparation

Duplicate (BGF0055-DUP1)		Source: 2306012-01			Prepared & Analyzed: 06/02/23						
% Solids	83.0		%		83.1			0.0928		20	



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

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

Summit Scientific

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

Batch BGF0078 - General Preparation

Blank (BGF0078-BLK1)

Prepared & Analyzed: 06/02/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGF0078-BS1)

Prepared & Analyzed: 06/02/23

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

Duplicate (BGF0078-DUP1)

Source: 2305600-01

Prepared & Analyzed: 06/02/23

Specific Conductance (EC) 1.78 0.0100 mmhos/cm 1.80 1.23 20



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/07/23 08:44

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 BGF0077 - General Preparation

LCS (BGF0077-BS1)

Prepared & Analyzed: 06/02/23

pH	9.11		pH Units	9.18	99.2	95-105
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Duplicate (BGF0077-DUP1)

Source: 2305600-01

Prepared & Analyzed: 06/02/23

pH	10.6		pH Units	10.6	0.661	20
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/07/23 08:44

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 80401

303.277.9310

June 08, 2023

Paul Henehan
Fremont Environmental
PO Box 1289
Wellington, CO 80549
RE: PDC - Stuttgart
Work Order # 2306039

Enclosed are the results of analyses for samples received by Summit Scientific on 06/02/23 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Scott Sheely For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
WCS 2.0'	2306039-01	Soil	06/02/23 00:00	06/02/23 15:00
N-01 2.0'	2306039-02	Soil	06/02/23 00:00	06/02/23 15:00
S-01 2.0'	2306039-03	Soil	06/02/23 00:00	06/02/23 15:00
E-01 2.0'	2306039-04	Soil	06/02/23 00:00	06/02/23 15:00
W-01 2.0'	2306039-05	Soil	06/02/23 00:00	06/02/23 15:00

Summit Scientific

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

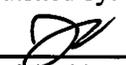
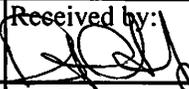
SUMMIT SCIENTIFIC

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

Lab ID
2306039
Page 1 of 1

Client: Fremont Env		Send Data To:		Send Invoice To:	
Address:		Project Manager: Paul Henehan		Company: PDC	
City/State/Zip:		E-Mail: Paul.h@fremontenv.com		Project Name/Location:	
Phone:		jeffg@fremontenv.com Ethonb@fremontenv.com		AFE#:	
Sampler Name: JG		Project Name: Stuttgart		PO/Billing Codes:	
		Project Number:		Contact:	

ID	Sample Description	Date Sampled	Time Sampled	# of containers	Preservative				Matrix		Air-Canister #	Other	Analysis Requested						Special Instructions
					HCl	HNO3	None	Other	Water	Soil			BTEX+N	TMBs (915)	DRD, DRD, GRD	PAHs (915)	EC, PH, SAR, ^{Baron}	Metals (915)	
1	WCS 6.0"	6/2/23		1			X			X			X	X	X	X	X		
2	N-01 6.0"	↓		↓			↓			↓			↓	↓	↓	↓	↓		
3	S-01 6.0"	↓		↓			↓			↓			↓	↓	↓	↓	↓		
4	E-01 6.0"	↓		↓			↓			↓			↓	↓	↓	↓	↓		
5	W-01 6.0"	↓		↓			↓			↓			↓	↓	↓	↓	↓		
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: 	Date/Time: 6/2/2023	Received by: 	Date/Time: 6/2/23 1500	TAT Business Days	Field DO	Notes:
				Same Day	<input checked="" type="checkbox"/> Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	Field Turb.	
Temperature Upon Receipt: 11.7	Corrected Temperature: 	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2306039

Client: Fremont

Client Project ID: Stuttgart

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"/>	with ICE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input 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.

AS

Custodian Printed Name

6/2/23

Date/Time



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

WCS 2.0'
2306039-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0108	06/02/23	06/03/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	0.031	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	0.017	0.0050		"	"	"	"	"	"	
Naphthalene	0.0084	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		103 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.3 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	140	50		mg/kg	1	BGF0109	06/02/23	06/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		99.6 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

WCS 2.0'
2306039-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0123	06/05/23	06/06/23	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	0.0417	0.00500		"	"	"	"	"	"	"
2-Methylnaphthalene	0.0895	0.00500		"	"	"	"	"	"	"

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		68.9 %		40-150		"	"	"	"	"
Surrogate: Fluoranthene-d10		67.3 %		40-150		"	"	"	"	"

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.101	0.0100		mg/L	1	BGF0147	06/05/23	06/07/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/23 00:00**

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

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

WCS 2.0'
2306039-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.14	0.206		mg/kg dry	1	BGF0163	06/06/23	06/07/23	EPA 6020B	
Barium	86.9	0.411		"	"	"	"	"	"	
Cadmium	ND	0.206		"	"	"	"	"	"	
Copper	3.12	0.411		"	"	"	"	"	"	
Lead	5.97	0.206		"	"	"	"	"	"	
Nickel	1.87	0.411		"	"	"	"	"	"	
Selenium	0.189	0.267	0.180	"	"	"	"	"	"	
Silver	0.0222	0.0206		"	"	"	"	"	"	
Zinc	7.79	0.411		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 06/02/23 00:00

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0136	06/05/23	06/06/23	EPA 7196A	

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

Date Sampled: 06/02/23 00:00

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	132	0.0514		mg/L dry	1	BGF0098	06/02/23	06/06/23	EPA 6020B	
Magnesium	39.6	0.0514		"	"	"	"	"	"	
Sodium	90.5	0.0514		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 06/02/23 00:00

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.77	0.00100		units	1	BGF0249	06/07/23	06/07/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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.



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

WCS 2.0'
2306039-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	97.3			%	1	BGF0114	06/04/23	06/05/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.70	0.0100		mmhos/cm	1	BGF0138	06/05/23	06/05/23	EPA 120.1	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.73			pH Units	1	BGF0137	06/05/23	06/05/23	EPA 9045D	

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

N-01 2.0'
2306039-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0108	06/02/23	06/03/23	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: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		102 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.0 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	50	50		mg/kg	1	BGF0109	06/02/23	06/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		90.3 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

N-01 2.0'
2306039-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0123	06/05/23	06/06/23	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	0.00525	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	0.0243	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	0.0537	0.00500		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	68.4 %			40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	71.9 %			40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.139	0.0100		mg/L	1	BGF0147	06/05/23	06/07/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

N-01 2.0'
2306039-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.995	0.210		mg/kg dry	1	BGF0163	06/06/23	06/07/23	EPA 6020B	
Barium	73.7	0.420		"	"	"	"	"	"	
Cadmium	ND	0.210		"	"	"	"	"	"	
Copper	3.36	0.420		"	"	"	"	"	"	
Lead	6.22	0.210		"	"	"	"	"	"	
Nickel	1.77	0.420		"	"	"	"	"	"	
Selenium	0.195	0.273	0.184	"	"	"	"	"	"	
Silver	0.0332	0.0210		"	"	"	"	"	"	
Zinc	7.16	0.420		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0136	06/05/23	06/06/23	EPA 7196A	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	112	0.0525		mg/L dry	1	BGF0098	06/02/23	06/06/23	EPA 6020B	
Magnesium	30.4	0.0525		"	"	"	"	"	"	
Sodium	93.4	0.0525		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.02	0.00100		units	1	BGF0249	06/07/23	06/07/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

N-01 2.0'
2306039-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	95.1			%	1	BGF0114	06/04/23	06/05/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.52	0.0100		mmhos/cm	1	BGF0138	06/05/23	06/05/23	EPA 120.1	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.66			pH Units	1	BGF0137	06/05/23	06/05/23	EPA 9045D	

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PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

S-01 2.0'
2306039-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0108	06/02/23	06/03/23	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: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		106 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		112 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		98.4 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	ND	50		mg/kg	1	BGF0109	06/02/23	06/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		120 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

S-01 2.0'
2306039-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0123	06/05/23	06/06/23	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: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		60.9 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		69.8 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.138	0.0100		mg/L	1	BGF0147	06/05/23	06/07/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

S-01 2.0'
2306039-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.952	0.210		mg/kg dry	1	BGF0163	06/06/23	06/07/23	EPA 6020B	
Barium	108	0.419		"	"	"	"	"	"	
Cadmium	ND	0.210		"	"	"	"	"	"	
Copper	3.64	0.419		"	"	"	"	"	"	
Lead	8.78	0.210		"	"	"	"	"	"	
Nickel	1.94	0.419		"	"	"	"	"	"	
Selenium	0.183	0.272	0.183	"	"	"	"	"	"	
Silver	0.0277	0.0210		"	"	"	"	"	"	
Zinc	8.09	0.419		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: 06/02/23 00:00

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0136	06/05/23	06/06/23	EPA 7196A	

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

Date Sampled: 06/02/23 00:00

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	160	0.0524		mg/L dry	1	BGF0098	06/02/23	06/06/23	EPA 6020B	
Magnesium	46.0	0.0524		"	"	"	"	"	"	
Sodium	86.5	0.0524		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: 06/02/23 00:00

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.55	0.00100		units	1	BGF0249	06/07/23	06/07/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

S-01 2.0'
2306039-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	95.4			%	1	BGF0114	06/04/23	06/05/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.81	0.0100		mmhos/cm	1	BGF0138	06/05/23	06/05/23	EPA 120.1	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.74			pH Units	1	BGF0137	06/05/23	06/05/23	EPA 9045D	

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

E-01 2.0'
2306039-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Benzene	ND	0.0020		mg/kg	1	BGF0108	06/02/23	06/03/23	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: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: 1,2-Dichloroethane-d4		103 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		95.3 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
C10-C28 (DRO)	63	50		mg/kg	1	BGF0109	06/02/23	06/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Surrogate: o-Terphenyl		94.8 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

E-01 2.0'
2306039-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0123	06/05/23	06/06/23	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	0.0121	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	0.0281	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	0.0493	0.00500		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	66.8 %			40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	76.1 %			40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.119	0.0100		mg/L	1	BGF0147	06/05/23	06/07/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

E-01 2.0'
2306039-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.01	0.210		mg/kg dry	1	BGF0163	06/06/23	06/07/23	EPA 6020B	
Barium	96.0	0.419		"	"	"	"	"	"	
Cadmium	ND	0.210		"	"	"	"	"	"	
Copper	2.55	0.419		"	"	"	"	"	"	
Lead	7.43	0.210		"	"	"	"	"	"	
Nickel	1.79	0.419		"	"	"	"	"	"	
Selenium	0.212	0.273	0.183	"	"	"	"	"	"	
Silver	0.0264	0.0210		"	"	"	"	"	"	
Zinc	7.50	0.419		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0136	06/05/23	06/06/23	EPA 7196A	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	135	0.0524		mg/L dry	1	BGF0098	06/02/23	06/06/23	EPA 6020B	
Magnesium	41.4	0.0524		"	"	"	"	"	"	
Sodium	104	0.0524		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	2.01	0.00100		units	1	BGF0249	06/07/23	06/07/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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Fremont Environmental
 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

E-01 2.0'
2306039-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	95.4			%	1	BGF0114	06/04/23	06/05/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.73	0.0100		mmhos/cm	1	BGF0138	06/05/23	06/05/23	EPA 120.1	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.75			pH Units	1	BGF0137	06/05/23	06/05/23	EPA 9045D	

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PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

W-01 2.0'
2306039-05 (Soil)

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Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Benzene	ND	0.0020		mg/kg	1	BGF0108	06/02/23	06/03/23	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: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4		99.2 %		50-150		"	"	"	"	
Surrogate: Toluene-d8		110 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene		93.6 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
C10-C28 (DRO)	65	50		mg/kg	1	BGF0109	06/02/23	06/03/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: o-Terphenyl		94.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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Fremont Environmental
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

W-01 2.0'
2306039-05 (Soil)

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PAH by EPA Method 8270D SIM

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500		mg/kg	1	BGF0123	06/05/23	06/06/23	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	0.00598	0.00500		"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500		"	"	"	"	"	"	
Pyrene	ND	0.00500		"	"	"	"	"	"	
1-Methylnaphthalene	0.0198	0.00500		"	"	"	"	"	"	
2-Methylnaphthalene	0.0365	0.00500		"	"	"	"	"	"	

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10		58.3 %		40-150		"	"	"	"	
Surrogate: Fluoranthene-d10		67.9 %		40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.105	0.0100		mg/L	1	BGF0147	06/05/23	06/07/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

W-01 2.0'
2306039-05 (Soil)

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Total Metals by EPA 6020B

Analyte	Result	Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	1.00	0.210		mg/kg dry	1	BGF0163	06/06/23	06/07/23	EPA 6020B	
Barium	94.7	0.419		"	"	"	"	"	"	
Cadmium	ND	0.210		"	"	"	"	"	"	
Copper	2.70	0.419		"	"	"	"	"	"	
Lead	6.46	0.210		"	"	"	"	"	"	
Nickel	1.90	0.419		"	"	"	"	"	"	
Selenium	0.249	0.272	0.183	"	"	"	"	"	"	
Silver	0.0298	0.0210		"	"	"	"	"	"	
Zinc	7.61	0.419		"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30		mg/kg dry	1	BGF0136	06/05/23	06/06/23	EPA 7196A	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	140	0.0524		mg/L dry	1	BGF0098	06/02/23	06/06/23	EPA 6020B	
Magnesium	41.9	0.0524		"	"	"	"	"	"	
Sodium	94.1	0.0524		"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting Limit	MDL	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.79	0.00100		units	1	BGF0249	06/07/23	06/07/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

W-01 2.0'
2306039-05 (Soil)

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Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
% Solids	95.4			%	1	BGF0114	06/04/23	06/05/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
Specific Conductance (EC)	1.65	0.0100		mmhos/cm	1	BGF0138	06/05/23	06/05/23	EPA 120.1	

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

Date Sampled: **06/02/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	MDL							
pH	7.79			pH Units	1	BGF0137	06/05/23	06/05/23	EPA 9045D	

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Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

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 BGF0108 - EPA 5030 Soil MS

Blank (BGF0108-BLK1)

Prepared: 06/02/23 Analyzed: 06/03/23

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	0.0406		"	0.0400		102	50-150			
Surrogate: Toluene-d8	0.0461		"	0.0400		115	50-150			
Surrogate: 4-Bromofluorobenzene	0.0375		"	0.0400		93.8	50-150			

LCS (BGF0108-BS1)

Prepared: 06/02/23 Analyzed: 06/03/23

Benzene	0.0802	0.0020	mg/kg	0.100		80.2	70-130			
Toluene	0.107	0.0050	"	0.100		107	70-130			
Ethylbenzene	0.103	0.0050	"	0.100		103	70-130			
m,p-Xylene	0.206	0.010	"	0.200		103	70-130			
o-Xylene	0.101	0.0050	"	0.100		101	70-130			
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100		105	70-130			
1,3,5-Trimethylbenzene	0.109	0.0050	"	0.100		109	70-130			
Naphthalene	0.0871	0.0038	"	0.100		87.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.4	50-150			
Surrogate: Toluene-d8	0.0455		"	0.0400		114	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.6	50-150			

Matrix Spike (BGF0108-MS1)

Source: 2306037-01

Prepared: 06/02/23 Analyzed: 06/03/23

Benzene	0.0801	0.0020	mg/kg	0.100	ND	80.1	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130			
m,p-Xylene	0.212	0.010	"	0.200	ND	106	70-130			
o-Xylene	0.101	0.0050	"	0.100	ND	101	70-130			
1,2,4-Trimethylbenzene	0.106	0.0050	"	0.100	ND	106	70-130			
1,3,5-Trimethylbenzene	0.110	0.0050	"	0.100	ND	110	70-130			
Naphthalene	0.0934	0.0038	"	0.100	ND	93.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0386		"	0.0400		96.4	50-150			
Surrogate: Toluene-d8	0.0449		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0369		"	0.0400		92.2	50-150			

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 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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

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

Batch BGF0108 - EPA 5030 Soil MS

Matrix Spike Dup (BGF0108-MSD1)	Source: 2306037-01			Prepared: 06/02/23 Analyzed: 06/03/23						
Benzene	0.0708	0.0020	mg/kg	0.100	ND	70.8	70-130	12.3	30	
Toluene	0.106	0.0050	"	0.100	ND	106	70-130	0.851	30	
Ethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	2.67	30	
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130	1.44	30	
o-Xylene	0.0908	0.0050	"	0.100	ND	90.8	70-130	10.5	30	
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100	ND	103	70-130	3.13	30	
1,3,5-Trimethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130	2.87	30	
Naphthalene	0.0901	0.0038	"	0.100	ND	90.1	70-130	3.66	30	
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.8	50-150			
Surrogate: Toluene-d8	0.0442		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0392		"	0.0400		98.0	50-150			

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Fremont Environmental
 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGF0109 - EPA 3550A

Blank (BGF0109-BLK1)

Prepared & Analyzed: 06/02/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5	91.8	30-150					

LCS (BGF0109-BS1)

Prepared & Analyzed: 06/02/23

C10-C28 (DRO)	445	50	mg/kg	500	89.0	70-130					
Surrogate: <i>o</i> -Terphenyl	12.0		"	12.5	96.1	30-150					

Matrix Spike (BGF0109-MS1)

Source: 2306037-01

Prepared & Analyzed: 06/02/23

C10-C28 (DRO)	437	50	mg/kg	500	9.68	85.5	70-130				
Surrogate: <i>o</i> -Terphenyl	13.2		"	12.5	106	30-150					

Matrix Spike Dup (BGF0109-MSD1)

Source: 2306037-01

Prepared & Analyzed: 06/02/23

C10-C28 (DRO)	400	50	mg/kg	500	9.68	78.0	70-130	9.02	20		
Surrogate: <i>o</i> -Terphenyl	12.0		"	12.5	95.7	30-150					

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 PO Box 1289
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Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGF0123 - EPA 5030 Soil MS

Blank (BGF0123-BLK1)

Prepared & Analyzed: 06/05/23

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>0.0231</i>		"	<i>0.0333</i>		<i>69.3</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0329</i>		"	<i>0.0333</i>		<i>98.6</i>		<i>40-150</i>		

LCS (BGF0123-BS1)

Prepared & Analyzed: 06/05/23

Acenaphthene	0.0325	0.00500	mg/kg	0.0333		97.6		31-137		
Anthracene	0.0344	0.00500	"	0.0333		103		30-120		
Benzo (a) anthracene	0.0283	0.00500	"	0.0333		85.0		30-120		
Benzo (a) pyrene	0.0257	0.00500	"	0.0333		77.1		30-120		
Benzo (b) fluoranthene	0.0332	0.00500	"	0.0333		99.5		30-120		
Benzo (k) fluoranthene	0.0347	0.00500	"	0.0333		104		30-120		
Chrysene	0.0335	0.00500	"	0.0333		101		30-120		
Dibenz (a,h) anthracene	0.0321	0.00500	"	0.0333		96.2		30-120		
Fluoranthene	0.0322	0.00500	"	0.0333		96.7		30-120		
Fluorene	0.0319	0.00500	"	0.0333		95.6		30-120		
Indeno (1,2,3-cd) pyrene	0.0307	0.00500	"	0.0333		92.2		30-120		
Pyrene	0.0351	0.00500	"	0.0333		105		35-142		
1-Methylnaphthalene	0.0136	0.00500	"	0.0333		40.7		35-142		
2-Methylnaphthalene	0.0281	0.00500	"	0.0333		84.3		35-142		
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0326</i>		"	<i>0.0333</i>		<i>97.8</i>		<i>40-150</i>		
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0343</i>		"	<i>0.0333</i>		<i>103</i>		<i>40-150</i>		

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

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 BGF0123 - EPA 5030 Soil MS

Matrix Spike (BGF0123-MS1)	Source: 2305713-01			Prepared & Analyzed: 06/05/23						
Acenaphthene	0.0246	0.00500	mg/kg	0.0333	ND	73.7	31-137			
Anthracene	0.0253	0.00500	"	0.0333	ND	75.8	30-120			
Benzo (a) anthracene	0.0223	0.00500	"	0.0333	ND	67.0	30-120			
Benzo (a) pyrene	0.0180	0.00500	"	0.0333	ND	54.0	30-120			
Benzo (b) fluoranthene	0.0248	0.00500	"	0.0333	ND	74.3	30-120			
Benzo (k) fluoranthene	0.0256	0.00500	"	0.0333	ND	76.7	30-120			
Chrysene	0.0256	0.00500	"	0.0333	ND	76.8	30-120			
Dibenz (a,h) anthracene	0.0236	0.00500	"	0.0333	ND	70.9	30-120			
Fluoranthene	0.0245	0.00500	"	0.0333	ND	73.4	30-120			
Fluorene	0.0243	0.00500	"	0.0333	ND	72.8	30-120			
Indeno (1,2,3-cd) pyrene	0.0217	0.00500	"	0.0333	ND	65.0	30-120			
Pyrene	0.0263	0.00500	"	0.0333	ND	78.8	35-142			
1-Methylnaphthalene	0.00592	0.00500	"	0.0333	ND	17.8	15-130			
2-Methylnaphthalene	0.0188	0.00500	"	0.0333	ND	56.5	15-130			
Surrogate: 2-Methylnaphthalene-d10	0.0228		"	0.0333		68.4	40-150			
Surrogate: Fluoranthene-d10	0.0261		"	0.0333		78.4	40-150			

Matrix Spike Dup (BGF0123-MSD1)	Source: 2305713-01			Prepared & Analyzed: 06/05/23						
Acenaphthene	0.0229	0.00500	mg/kg	0.0333	ND	68.6	31-137	7.22	30	
Anthracene	0.0229	0.00500	"	0.0333	ND	68.6	30-120	10.0	30	
Benzo (a) anthracene	0.0201	0.00500	"	0.0333	ND	60.3	30-120	10.5	30	
Benzo (a) pyrene	0.0164	0.00500	"	0.0333	ND	49.3	30-120	9.14	30	
Benzo (b) fluoranthene	0.0225	0.00500	"	0.0333	ND	67.5	30-120	9.49	30	
Benzo (k) fluoranthene	0.0237	0.00500	"	0.0333	ND	71.2	30-120	7.44	30	
Chrysene	0.0234	0.00500	"	0.0333	ND	70.2	30-120	9.00	30	
Dibenz (a,h) anthracene	0.0216	0.00500	"	0.0333	ND	64.8	30-120	8.97	30	
Fluoranthene	0.0222	0.00500	"	0.0333	ND	66.7	30-120	9.59	30	
Fluorene	0.0222	0.00500	"	0.0333	ND	66.6	30-120	8.92	30	
Indeno (1,2,3-cd) pyrene	0.0197	0.00500	"	0.0333	ND	59.2	30-120	9.40	30	
Pyrene	0.0236	0.00500	"	0.0333	ND	70.7	35-142	10.9	30	
1-Methylnaphthalene	0.00781	0.00500	"	0.0333	ND	23.4	15-130	27.4	50	
2-Methylnaphthalene	0.0229	0.00500	"	0.0333	ND	68.6	15-130	19.4	50	
Surrogate: 2-Methylnaphthalene-d10	0.0229		"	0.0333		68.6	40-150			
Surrogate: Fluoranthene-d10	0.0239		"	0.0333		71.6	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.



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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

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

Batch BGF0147 - EPA 3050B

Blank (BGF0147-BLK1)				Prepared: 06/05/23 Analyzed: 06/07/23							
Boron	ND	0.0100	mg/L								
LCS (BGF0147-BS1)				Prepared: 06/05/23 Analyzed: 06/07/23							
Boron	6.00	0.0100	mg/L	5.00	120	80-120					
Duplicate (BGF0147-DUP1)				Source: 2305660-01		Prepared: 06/05/23 Analyzed: 06/07/23					
Boron	0.0958	0.0100	mg/L	0.102	6.13	20					
Matrix Spike (BGF0147-MS1)				Source: 2305660-01		Prepared: 06/05/23 Analyzed: 06/07/23					
Boron	5.76	0.0100	mg/L	5.00	0.102	113	75-125				
Matrix Spike Dup (BGF0147-MSD1)				Source: 2305660-01		Prepared: 06/05/23 Analyzed: 06/07/23					
Boron	5.66	0.0100	mg/L	5.00	0.102	111	75-125	1.74	25		

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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 BGF0163 - EPA 3050B

Blank (BGF0163-BLK1)

Prepared: 06/06/23 Analyzed: 06/07/23

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

LCS (BGF0163-BS1)

Prepared: 06/06/23 Analyzed: 06/07/23

Arsenic	44.0	0.200	mg/kg wet	40.0	110	80-120
Barium	45.9	0.400	"	40.0	115	80-120
Cadmium	2.30	0.200	"	2.00	115	80-120
Copper	45.2	0.400	"	40.0	113	80-120
Lead	22.9	0.200	"	20.0	114	80-120
Nickel	44.5	0.400	"	40.0	111	80-120
Selenium	4.45	0.260	"	4.00	111	80-120
Silver	2.23	0.0200	"	2.00	112	80-120
Zinc	44.7	0.400	"	40.0	112	80-120

Duplicate (BGF0163-DUP1)

Source: 2305690-01

Prepared: 06/06/23 Analyzed: 06/07/23

Arsenic	0.998	0.226	mg/kg dry	1.05	5.30	20
Barium	192	0.453	"	184	4.65	20
Cadmium	0.469	0.226	"	0.498	6.09	20
Copper	1.50	0.453	"	1.44	3.94	20
Lead	8.39	0.226	"	8.51	1.42	20
Nickel	1.66	0.453	"	1.60	3.72	20
Selenium	ND	0.294	"	ND		20
Silver	0.0308	0.0226	"	0.0294	4.51	20
Zinc	5.97	0.453	"	5.50	8.17	20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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 BGF0163 - EPA 3050B

Matrix Spike (BGF0163-MS1)	Source: 2305690-01			Prepared: 06/06/23		Analyzed: 06/07/23					
Arsenic	9.77	0.226	mg/kg dry	45.3	1.05	19.3	75-125				QM-05
Barium	236	0.453	"	45.3	184	115	75-125				
Cadmium	2.88	0.226	"	2.26	0.498	105	75-125				
Copper	10.9	0.453	"	45.3	1.44	20.9	75-125				QM-05
Lead	30.8	0.226	"	22.6	8.51	98.6	75-125				
Nickel	11.0	0.453	"	45.3	1.60	20.6	75-125				QM-05
Selenium	3.45	0.294	"	4.53	ND	76.2	75-125				
Silver	2.45	0.0226	"	2.26	0.0294	107	75-125				
Zinc	15.5	0.453	"	45.3	5.50	22.2	75-125				QM-05

Matrix Spike Dup (BGF0163-MSD1)	Source: 2305690-01			Prepared: 06/06/23		Analyzed: 06/07/23					
Arsenic	8.63	0.226	mg/kg dry	45.3	1.05	16.7	75-125	12.4	25		QM-05
Barium	219	0.453	"	45.3	184	77.3	75-125	7.44	25		
Cadmium	2.61	0.226	"	2.26	0.498	93.3	75-125	9.86	25		
Copper	9.65	0.453	"	45.3	1.44	18.1	75-125	12.1	25		QM-05
Lead	26.5	0.226	"	22.6	8.51	79.6	75-125	15.0	25		
Nickel	9.77	0.453	"	45.3	1.60	18.0	75-125	11.4	25		QM-05
Selenium	2.83	0.294	"	4.53	ND	62.5	75-125	19.8	25		QM-05
Silver	2.13	0.0226	"	2.26	0.0294	92.9	75-125	14.0	25		
Zinc	14.2	0.453	"	45.3	5.50	19.3	75-125	8.72	25		QM-05

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGF0136 - 3060A Mod

Blank (BGF0136-BLK1)

Prepared: 06/05/23 Analyzed: 06/06/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGF0136-BS1)

Prepared: 06/05/23 Analyzed: 06/06/23

Chromium, Hexavalent 23.6 0.30 mg/kg wet 25.0 94.4 80-120

Duplicate (BGF0136-DUP1)

Source: 2306037-01

Prepared: 06/05/23 Analyzed: 06/06/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGF0136-MS1)

Source: 2306037-01

Prepared: 06/05/23 Analyzed: 06/06/23

Chromium, Hexavalent 25.7 0.30 mg/kg dry 26.5 ND 97.2 75-125

Matrix Spike Dup (BGF0136-MSD1)

Source: 2306037-01

Prepared: 06/05/23 Analyzed: 06/06/23

Chromium, Hexavalent 26.0 0.30 mg/kg dry 26.5 ND 98.2 75-125 1.02 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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

Summit Scientific

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

Batch BGF0098 - General Preparation

Blank (BGF0098-BLK1)

Prepared: 06/02/23 Analyzed: 06/06/23

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

LCS (BGF0098-BS1)

Prepared: 06/02/23 Analyzed: 06/06/23

Calcium	4.98	0.0500	mg/L wet	5.00		99.6	70-130			
Magnesium	4.51	0.0500	"	5.00		90.3	70-130			
Sodium	4.44	0.0500	"	5.00		88.9	70-130			

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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 BGF0114 - General Preparation

Duplicate (BGF0114-DUP1)		Source: 2306036-01		Prepared: 06/04/23 Analyzed: 06/05/23	
% Solids	93.4		%	93.5	0.0812 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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

Summit Scientific

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

Batch BGF0138 - General Preparation

Blank (BGF0138-BLK1)

Prepared & Analyzed: 06/05/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGF0138-BS1)

Prepared & Analyzed: 06/05/23

Specific Conductance (EC) 0.155 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BGF0138-DUP1)

Source: 2306021-01

Prepared & Analyzed: 06/05/23

Specific Conductance (EC) 1.18 0.0100 mmhos/cm 1.19 1.35 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
 Project Manager: Paul Henehan

Reported:
 06/08/23 15:50

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 BGF0137 - General Preparation

LCS (BGF0137-BS1)

Prepared & Analyzed: 06/05/23

pH	9.02	pH Units	9.18	98.3	95-105
----	------	----------	------	------	--------

Duplicate (BGF0137-DUP1)

Source: 2306021-01

Prepared & Analyzed: 06/05/23

pH	7.89	pH Units	7.80	1.15	20
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Summit Scientific

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Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stuttgart

Project Number: [none]
Project Manager: Paul Henehan

Reported:
06/08/23 15:50

Notes and Definitions

- QM-05 The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
- 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

August 10, 2023

Paul Henchan
Fremont Environmental
PO Box 1289
Wellington, CO 80549
RE: PDC - Stugart Wellhead
Work Order #2308100

Enclosed are the results of analyses for samples received by Summit Scientific on 08/04/23 16:30. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in blue ink that reads "Jacob Wood". The signature is written in a cursive style with a small "nd" at the end of the last name.

Jacob Wood For Paul Shrewsbury
President



Fremont Environmental
PO Box 1289
Wellington CO, 80549

Project: PDC - Stugart Wellhead

Project Number: [none]
Project Manager: Paul Henchan

Reported:
08/10/23 09:26

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Composite 0.5ft	2308100-01	Soil	08/04/23 00:00	08/04/23 16:30

Summit Scientific

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

SUMMIT SCIENTIFIC

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

Lab ID 2308100 Page 1 of 1

Send Data To:		Send Invoice To:	
Client: Fremont Environmental, Inc.	Project Manager: <u>Aenehan</u>	Company: <u>PDCE, Inc.</u>	
Address: 8305 6th St.,	E-Mail: Fremont Distribution List	Project Name/Location:	
City/State/Zip: Wellington, CO, 80549		AFE#:	
Phone: 603-477-6907	Project Name: <u>PDC - Stegert Wellhead</u>	PO/Billing Codes:	
Sampler Name: Ethan Black	Project Number:	Contact: <u>Phillip Porter</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	BTEX, Naphthalene, TMBs	TPH (C6-C36)	PAH	SAR, EC, pH, Boron	TDS, Chloride, Sulfate		Metals (915-1)
1	<u>Composite 0.5 FT</u>	<u>8/4/23</u>		<u>1</u>			<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>					
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			

Relinquished by: <u>Eth Black</u>	Date/Time: <u>8/4/23 1407</u>	Received by: <u>SZ</u>	Date/Time: <u>8/4/23 1407</u>	TAT Business Days	Field DO	Notes:
				Same Day <input checked="" type="checkbox"/>	Field EC	
Relinquished by: <u>SZ</u>	Date/Time: <u>8/23 1130</u>	Received by: <u>[Signature]</u>	Date/Time: <u>8/23 1630</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by: <u>[Signature]</u>	Date/Time: <u>[Signature]</u>	Received by: <u>[Signature]</u>	Date/Time: <u>[Signature]</u>	3 Days	Field Temp.	
				Standard <input checked="" type="checkbox"/>	Field Turb.	
Temperature Upon Receipt: <u>9.0</u>	Corrected Temperature: <u>8</u>	IR gun #: <u>1</u>	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2308100

Client: Fremont Client Project ID: Pac-Stugart wellhead

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

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

Temp (°C) 9.9 Thermometer #

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	on ICE
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are samples due within 48 hours present?	<input 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 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

8/4/23
Date/Time

4.5



Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

**Composite 0.5ft
 2308100-01 (Soil)**

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Benzene	ND	0.0020		mg/kg	1	BGH0211	08/04/23	08/04/23	EPA 8260B	
Toluene	ND	0.0050		"	"	"	"	"	"	
Ethylbenzene	ND	0.0050		"	"	"	"	"	"	
Xylenes (total)	ND	0.010		"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050		"	"	"	"	"	"	
Naphthalene	ND	0.0038		"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50		"	"	"	"	"	"	

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: 1,2-Dichloroethane-d4	0.0447	112 %		50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	96.1 %		50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0375	93.7 %		50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
C10-C28 (DRO)	ND	50		mg/kg	1	BGH0212	08/04/23	08/04/23	EPA 8015M	
C28-C36 (ORO)	ND	50		"	"	"	"	"	"	

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Surrogate: o-Terphenyl	11.5	91.9 %		30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

**Composite 0.5ft
 2308100-01 (Soil)**

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGH0220	08/07/23	08/07/23	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0181	54.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0195	58.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	0.239	0.0100	mg/L	1	BGH0228	08/07/23	08/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Total Metals by EPA 6020B

Analyte	Result	Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.999	0.200	mg/kg dry	1	BGH0216	08/07/23	08/07/23	EPA 6020B	
Barium	117	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.39	0.400	"	"	"	"	"	"	
Lead	5.91	0.200	"	"	"	"	"	"	
Nickel	1.74	0.400	"	"	"	"	"	"	
Selenium	ND	0.275	"	"	"	"	"	"	
Silver	0.0241	0.0200	"	"	"	"	"	"	
Zinc	7.69	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGH0219	08/07/23	08/07/23	EPA 7196A	

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

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	177	0.0529	mg/L dry	1	BGH0195	08/04/23	08/08/23	EPA 6020B	
Magnesium	46.5	0.0529	"	"	"	"	"	"	
Sodium	111	0.0529	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.92	0.00100	units	1	BGH0298	08/08/23	08/08/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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 2308100-01 (Soil)**

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.5		%	1	BGH0214	08/07/23	08/07/23	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	1.56	0.0100	mmhos/cm	1	BGH0253	08/07/23	08/07/23	EPA 120.1	

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

Date Sampled: **08/04/23 00:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.79		pH Units	1	BGH0254	08/07/23	08/08/23	EPA 9045D	

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Project: PDC - Stugart Wellhead

Project Number: [none]
Project Manager: Paul Henchan

Reported:
08/10/23 09:26

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 BGH0211 - EPA 5030 Soil MS

Blank (BGH0211-BLK1)

Prepared: 08/04/23 Analyzed: 08/05/23

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>	0.0372		"	0.0400		93.1	50-150				
<i>Surrogate: Toluene-d8</i>	0.0385		"	0.0400		96.3	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0386		"	0.0400		96.4	50-150				

LCS (BGH0211-BS1)

Prepared: 08/04/23 Analyzed: 08/05/23

Benzene	0.0994	0.0020	mg/kg	0.100		99.4	70-130				
Toluene	0.0923	0.0050	"	0.100		92.3	70-130				
Ethylbenzene	0.0925	0.0050	"	0.100		92.5	70-130				
m,p-Xylene	0.184	0.010	"	0.200		92.2	70-130				
o-Xylene	0.0891	0.0050	"	0.100		89.1	70-130				
1,2,4-Trimethylbenzene	0.0940	0.0050	"	0.100		94.0	70-130				
1,3,5-Trimethylbenzene	0.0897	0.0050	"	0.100		89.7	70-130				
Naphthalene	0.0718	0.0038	"	0.100		71.8	70-130				
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0341		"	0.0400		85.3	50-150				
<i>Surrogate: Toluene-d8</i>	0.0381		"	0.0400		95.2	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0381		"	0.0400		95.3	50-150				

Matrix Spike (BGH0211-MS1)

Source: 2307584-01

Prepared: 08/04/23 Analyzed: 08/05/23

Benzene	0.0718	0.0020	mg/kg	0.100	ND	71.8	70-130				
Toluene	0.0597	0.0050	"	0.100	ND	59.7	70-130				QM-07
Ethylbenzene	0.0502	0.0050	"	0.100	ND	50.2	70-130				QM-07
m,p-Xylene	0.0818	0.010	"	0.200	ND	40.9	70-130				QM-07
o-Xylene	0.0455	0.0050	"	0.100	ND	45.5	70-130				QM-07
1,2,4-Trimethylbenzene	0.0269	0.0050	"	0.100	ND	26.9	70-130				QM-07
1,3,5-Trimethylbenzene	0.0364	0.0050	"	0.100	ND	36.4	70-130				QM-07
Naphthalene	0.0240	0.0038	"	0.100	0.00327	20.8	70-130				QM-07
<i>Surrogate: 1,2-Dichloroethane-d4</i>	0.0364		"	0.0400		91.1	50-150				
<i>Surrogate: Toluene-d8</i>	0.0390		"	0.0400		97.5	50-150				
<i>Surrogate: 4-Bromofluorobenzene</i>	0.0556		"	0.0400		139	50-150				

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Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGH0211 - EPA 5030 Soil MS

Matrix Spike Dup (BGH0211-MSD1)	Source: 2307584-01			Prepared: 08/04/23 Analyzed: 08/05/23						
Benzene	0.0666	0.0020	mg/kg	0.100	ND	66.6	70-130	7.55	30	QM-07
Toluene	0.0541	0.0050	"	0.100	ND	54.1	70-130	9.87	30	QM-07
Ethylbenzene	0.0448	0.0050	"	0.100	ND	44.8	70-130	11.2	30	QM-07
m,p-Xylene	0.0678	0.010	"	0.200	ND	33.9	70-130	18.7	30	QM-07
o-Xylene	0.0420	0.0050	"	0.100	ND	42.0	70-130	8.02	30	QM-07
1,2,4-Trimethylbenzene	0.0216	0.0050	"	0.100	ND	21.6	70-130	21.6	30	QM-07
1,3,5-Trimethylbenzene	0.0284	0.0050	"	0.100	ND	28.4	70-130	24.9	30	QM-07
Naphthalene	0.0200	0.0038	"	0.100	0.00327	16.7	70-130	18.3	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	50-150			
Surrogate: Toluene-d8	0.0396		"	0.0400		99.0	50-150			
Surrogate: 4-Bromofluorobenzene	0.0554		"	0.0400		138	50-150			

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Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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 BGH0212 - EPA 3550A

Blank (BGH0212-BLK1)

Prepared: 08/04/23 Analyzed: 08/05/23

C10-C28 (DRO)	ND	50	mg/kg								
C28-C36 (ORO)	ND	50	"								
Surrogate: <i>o</i> -Terphenyl	12.1		"	12.5		96.7	30-150				

LCS (BGH0212-BS1)

Prepared: 08/04/23 Analyzed: 08/05/23

C10-C28 (DRO)	354	50	mg/kg	500		70.9	70-130				
Surrogate: <i>o</i> -Terphenyl	11.0		"	12.5		88.3	30-150				

Matrix Spike (BGH0212-MS1)

Source: 2307584-01

Prepared: 08/04/23 Analyzed: 08/05/23

C10-C28 (DRO)	481	50	mg/kg	500	24.9	91.2	70-130				
Surrogate: <i>o</i> -Terphenyl	11.5		"	12.5		91.9	30-150				

Matrix Spike Dup (BGH0212-MSD1)

Source: 2307584-01

Prepared: 08/04/23 Analyzed: 08/05/23

C10-C28 (DRO)	543	50	mg/kg	500	24.9	104	70-130	12.2	20		
Surrogate: <i>o</i> -Terphenyl	12.2		"	12.5		97.6	30-150				

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Project: PDC - Stugart Wellhead

Project Number: [none]
Project Manager: Paul Henchan

Reported:
08/10/23 09:26

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 BGH0220 - EPA 5030 Soil MS

Blank (BGH0220-BLK1)

Prepared & Analyzed: 08/07/23

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>0.0281</i>		"	<i>0.0333</i>		<i>84.2</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0262</i>		"	<i>0.0333</i>		<i>78.5</i>	<i>40-150</i>			

LCS (BGH0220-BS1)

Prepared & Analyzed: 08/07/23

Acenaphthene	0.0279	0.00500	mg/kg	0.0333		83.7	31-137			
Anthracene	0.0298	0.00500	"	0.0333		89.3	30-120			
Benzo (a) anthracene	0.0253	0.00500	"	0.0333		75.8	30-120			
Benzo (a) pyrene	0.0263	0.00500	"	0.0333		78.9	30-120			
Benzo (b) fluoranthene	0.0271	0.00500	"	0.0333		81.3	30-120			
Benzo (k) fluoranthene	0.0277	0.00500	"	0.0333		83.1	30-120			
Chrysene	0.0286	0.00500	"	0.0333		85.7	30-120			
Dibenz (a,h) anthracene	0.0246	0.00500	"	0.0333		73.8	30-120			
Fluoranthene	0.0292	0.00500	"	0.0333		87.7	30-120			
Fluorene	0.0277	0.00500	"	0.0333		83.2	30-120			
Indeno (1,2,3-cd) pyrene	0.0205	0.00500	"	0.0333		61.6	30-120			
Pyrene	0.0281	0.00500	"	0.0333		84.3	35-142			
1-Methylnaphthalene	0.0270	0.00500	"	0.0333		80.9	35-142			
2-Methylnaphthalene	0.0285	0.00500	"	0.0333		85.4	35-142			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0258</i>		"	<i>0.0333</i>		<i>77.3</i>	<i>40-150</i>			
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0292</i>		"	<i>0.0333</i>		<i>87.5</i>	<i>40-150</i>			

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Project Number: [none]
Project Manager: Paul Henchan

Reported:
08/10/23 09:26

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 BGH0220 - EPA 5030 Soil MS

Matrix Spike (BGH0220-MS1)	Source: 2308099-01			Prepared & Analyzed: 08/07/23								
Acenaphthene	0.0209	0.00500	mg/kg	0.0333	ND	62.8	31-137					
Anthracene	0.0230	0.00500	"	0.0333	ND	69.1	30-120					
Benzo (a) anthracene	0.0199	0.00500	"	0.0333	ND	59.6	30-120					
Benzo (a) pyrene	0.0207	0.00500	"	0.0333	ND	62.1	30-120					
Benzo (b) fluoranthene	0.0216	0.00500	"	0.0333	ND	64.9	30-120					
Benzo (k) fluoranthene	0.0217	0.00500	"	0.0333	ND	65.2	30-120					
Chrysene	0.0220	0.00500	"	0.0333	ND	66.1	30-120					
Dibenz (a,h) anthracene	0.0190	0.00500	"	0.0333	ND	57.1	30-120					
Fluoranthene	0.0230	0.00500	"	0.0333	ND	69.0	30-120					
Fluorene	0.0212	0.00500	"	0.0333	ND	63.5	30-120					
Indeno (1,2,3-cd) pyrene	0.0160	0.00500	"	0.0333	ND	47.9	30-120					
Pyrene	0.0221	0.00500	"	0.0333	ND	66.2	35-142					
1-Methylnaphthalene	0.0213	0.00500	"	0.0333	ND	63.8	15-130					
2-Methylnaphthalene	0.0274	0.00500	"	0.0333	ND	82.1	15-130					
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0202</i>		<i>"</i>	<i>0.0333</i>		<i>60.6</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0234</i>		<i>"</i>	<i>0.0333</i>		<i>70.1</i>	<i>40-150</i>					

Matrix Spike Dup (BGH0220-MSD1)	Source: 2308099-01			Prepared & Analyzed: 08/07/23								
Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.8	31-137	4.88	30			
Anthracene	0.0204	0.00500	"	0.0333	ND	61.2	30-120	12.2	30			
Benzo (a) anthracene	0.0179	0.00500	"	0.0333	ND	53.6	30-120	10.5	30			
Benzo (a) pyrene	0.0192	0.00500	"	0.0333	ND	57.5	30-120	7.68	30			
Benzo (b) fluoranthene	0.0199	0.00500	"	0.0333	ND	59.8	30-120	8.24	30			
Benzo (k) fluoranthene	0.0201	0.00500	"	0.0333	ND	60.2	30-120	7.88	30			
Chrysene	0.0203	0.00500	"	0.0333	ND	60.8	30-120	8.32	30			
Dibenz (a,h) anthracene	0.0175	0.00500	"	0.0333	ND	52.6	30-120	8.16	30			
Fluoranthene	0.0204	0.00500	"	0.0333	ND	61.2	30-120	12.0	30			
Fluorene	0.0203	0.00500	"	0.0333	ND	60.8	30-120	4.43	30			
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	9.57	30			
Pyrene	0.0199	0.00500	"	0.0333	ND	59.6	35-142	10.6	30			
1-Methylnaphthalene	0.0205	0.00500	"	0.0333	ND	61.6	15-130	3.51	50			
2-Methylnaphthalene	0.0245	0.00500	"	0.0333	ND	73.6	15-130	10.8	50			
<i>Surrogate: 2-Methylnaphthalene-d10</i>	<i>0.0218</i>		<i>"</i>	<i>0.0333</i>		<i>65.5</i>	<i>40-150</i>					
<i>Surrogate: Fluoranthene-d10</i>	<i>0.0212</i>		<i>"</i>	<i>0.0333</i>		<i>63.7</i>	<i>40-150</i>					

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 PO Box 1289
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Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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

Summit Scientific

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

Batch BGH0228 - EPA 3050B

Blank (BGH0228-BLK1)

Prepared: 08/07/23 Analyzed: 08/08/23

Boron ND 0.0100 mg/L

LCS (BGH0228-BS1)

Prepared: 08/07/23 Analyzed: 08/08/23

Boron 5.30 0.0100 mg/L 5.00 106 80-120

Duplicate (BGH0228-DUP1)

Source: 2308099-01

Prepared: 08/07/23 Analyzed: 08/08/23

Boron 0.136 0.0100 mg/L 0.230 51.1 20 QR-04

Matrix Spike (BGH0228-MS1)

Source: 2308099-01

Prepared: 08/07/23 Analyzed: 08/08/23

Boron 4.69 0.0100 mg/L 5.00 0.230 89.3 75-125

Matrix Spike Dup (BGH0228-MSD1)

Source: 2308099-01

Prepared: 08/07/23 Analyzed: 08/08/23

Boron 5.43 0.0100 mg/L 5.00 0.230 104 75-125 14.6 25

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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 BGH0216 - EPA 3050B

Blank (BGH0216-BLK1)

Prepared & Analyzed: 08/07/23

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

LCS (BGH0216-BS1)

Prepared & Analyzed: 08/07/23

Arsenic	43.1	0.200	mg/kg wet	40.0	108	80-120
Barium	39.1	0.400	"	40.0	97.7	80-120
Cadmium	1.94	0.200	"	2.00	97.1	80-120
Copper	39.1	0.400	"	40.0	97.7	80-120
Lead	19.3	0.200	"	20.0	96.3	80-120
Nickel	39.9	0.400	"	40.0	99.7	80-120
Selenium	4.35	0.260	"	4.00	109	80-120
Silver	1.93	0.0200	"	2.00	96.6	80-120
Zinc	40.3	0.400	"	40.0	101	80-120

Duplicate (BGH0216-DUP1)

Source: 2308099-01

Prepared & Analyzed: 08/07/23

Arsenic	0.341	0.200	mg/kg dry	0.399	15.6	20
Barium	60.5	0.400	"	56.6	6.57	20
Cadmium	0.0696	0.200	"	0.0573	19.3	20
Copper	ND	0.400	"	ND		20
Lead	4.73	0.200	"	4.50	5.02	20
Nickel	1.26	0.400	"	1.29	2.78	20
Selenium	ND	0.285	"	ND		20
Silver	0.0193	0.0200	"	0.0193	0.00	20
Zinc	5.91	0.400	"	6.14	3.88	20
Selenium	ND	0.260	"	ND		20

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Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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 BGH0216 - EPA 3050B

Matrix Spike (BGH0216-MS1)	Source: 2308099-01			Prepared & Analyzed: 08/07/23								
Arsenic	14.2	0.200	mg/kg dry	43.8	0.399	31.6	75-125					QM-07
Barium	121	0.400	"	43.8	56.6	148	75-125					QM-07
Cadmium	2.40	0.200	"	2.19	0.0573	107	75-125					
Copper	13.0	0.400	"	43.8	ND	29.8	75-125					QM-07
Lead	26.7	0.200	"	21.9	4.50	101	75-125					
Nickel	14.4	0.400	"	43.8	1.29	30.0	75-125					QM-07
Selenium	4.97	0.285	"	4.38	ND	114	75-125					
Silver	2.30	0.0200	"	2.19	0.0193	104	75-125					
Zinc	19.7	0.400	"	43.8	6.14	30.9	75-125					QM-07

Matrix Spike Dup (BGH0216-MSD1)	Source: 2308099-01			Prepared & Analyzed: 08/07/23								
Arsenic	14.5	0.200	mg/kg dry	43.8	0.399	32.2	75-125	1.86	25			QM-07
Barium	118	0.400	"	43.8	56.6	140	75-125	2.84	25			QM-07
Cadmium	2.36	0.200	"	2.19	0.0573	105	75-125	1.56	25			
Copper	13.3	0.400	"	43.8	ND	30.3	75-125	1.82	25			QM-07
Lead	26.3	0.200	"	21.9	4.50	99.5	75-125	1.52	25			
Nickel	14.7	0.400	"	43.8	1.29	30.7	75-125	1.95	25			QM-07
Selenium	4.85	0.285	"	4.38	ND	111	75-125	2.44	25			
Silver	2.26	0.0200	"	2.19	0.0193	102	75-125	1.94	25			
Zinc	20.0	0.400	"	43.8	6.14	31.6	75-125	1.53	25			QM-07

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Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGH0219 - 3060A Mod

Blank (BGH0219-BLK1)

Prepared & Analyzed: 08/07/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGH0219-BS1)

Prepared & Analyzed: 08/07/23

Chromium, Hexavalent 23.7 0.30 mg/kg wet 25.0 94.8 80-120

Duplicate (BGH0219-DUP1)

Source: 2308099-01

Prepared & Analyzed: 08/07/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGH0219-MS1)

Source: 2308099-01

Prepared & Analyzed: 08/07/23

Chromium, Hexavalent 26.0 0.30 mg/kg dry 27.4 ND 95.2 75-125

Matrix Spike Dup (BGH0219-MSD1)

Source: 2308099-01

Prepared & Analyzed: 08/07/23

Chromium, Hexavalent 26.2 0.30 mg/kg dry 27.4 ND 95.6 75-125 0.419 20

Summit Scientific

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Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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

Summit Scientific

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

Batch BGH0195 - General Preparation

Blank (BGH0195-BLK1)

Prepared: 08/04/23 Analyzed: 08/08/23

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

LCS (BGH0195-BS1)

Prepared: 08/04/23 Analyzed: 08/08/23

Calcium	6.18	0.0500	mg/L wet	5.00	124	70-130
Magnesium	5.71	0.0500	"	5.00	114	70-130
Sodium	5.90	0.0500	"	5.00	118	70-130

Summit Scientific



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Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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 BGH0214 - General Preparation

Duplicate (BGH0214-DUP1)

Source: 2308067-01

Prepared & Analyzed: 08/07/23

% Solids	87.9		%		89.5			1.80	20	
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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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

Summit Scientific

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

Batch BGH0253 - General Preparation

Blank (BGH0253-BLK1)

Prepared & Analyzed: 08/07/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGH0253-BS1)

Prepared & Analyzed: 08/07/23

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

Duplicate (BGH0253-DUP1)

Source: 2308057-01

Prepared & Analyzed: 08/07/23

Specific Conductance (EC) 8.80 0.0100 mmhos/cm 8.96 1.82 20

Summit Scientific

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Fremont Environmental
 PO Box 1289
 Wellington CO, 80549

Project: PDC - Stugart Wellhead

Project Number: [none]
 Project Manager: Paul Henchan

Reported:
 08/10/23 09:26

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 BGH0254 - General Preparation

LCS (BGH0254-BS1)

Prepared: 08/07/23 Analyzed: 08/08/23

pH	9.09	pH Units	9.18	99.0	95-105
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Duplicate (BGH0254-DUP1)

Source: 2308075-01

Prepared: 08/07/23 Analyzed: 08/08/23

pH	6.56	pH Units	6.54	0.305	20
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Project: PDC - Stugart Wellhead

Project Number: [none]
Project Manager: Paul Henchan

Reported:
08/10/23 09:26

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.
- 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