

TABLE 1
FIELD DATA SUMMARY TABLE
PDC ENERGY, INC - 69175
FORMER STROHAUER F 32-21D, 24, 33-32D TANK BATTERY, WELD COUNTY, COLORADO
REM # 32371

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
AST01 @ 0-6"	4/10/2024	0.5	40.351999	-104.680824	0.8	0.1
AST02 @ 0-6"	4/10/2024	0.5	40.351961	-104.680827	0.9	0.6
AST03 @ 0-6"	4/10/2024	0.5	40.351915	-104.680837	0.8	0.1
AST04 @ 0-6"	4/10/2024	0.5	40.351876	-104.680840	0.8	0.6
AST05 @ 0-6"	4/10/2024	0.5	40.351877	-104.680899	0.8	0.6
AST06 @ 0-6"	4/10/2024	0.5	40.351916	-104.680895	0.8	0.7
AST07 @ 0-6"	4/10/2024	0.5	40.351958	-104.680896	0.8	0.6
SEP01-FL @ 4'	4/10/2024	4	40.351658	-104.680968	0.9	1.0
SEP01-DL @ 4'	4/10/2024	4	40.351647	-104.681028	0.8	0.9
ECD01 @ 0-6"	4/10/2024	0.5	40.351546	-104.681023	0.8	1.1
ECD02 @ 0-6"	4/10/2024	0.5	40.351544	-104.680970	0.8	1.1
MH01 @ 0-6"	4/10/2024	0.5	40.351497	-104.680829	0.8	1.2
SEP02-FL @ 4'	4/11/2024	4	40.351608	-104.680927	0.9	1.6
SEP02-DL @ 4'	4/11/2024	4	40.351613	-104.680883	1.1	1.4
SEP03-FL @ 4'	4/11/2024	4	40.351583	-104.680973	0.9	1.6
SEP03-DL @ 4'	4/11/2024	4	40.351582	-104.681031	0.8	1.0
PWV01-B @ 6'	4/15/2024	6	NC	NC	NC	0.6
PWV01-N @ 2.5'	4/15/2024	2.5	40.352012	-104.680934	0.9	2.3
PWV01-W @ 2.5'	4/15/2024	2.5	40.351993	-104.680958	0.9	0.9
PWV01-E @ 2.5'	4/15/2024	2.5	40.351988	-104.680914	0.9	2.9
PWV02-B @ 6'	4/15/2024	6	NC	NC	NC	1.0
PWV02-W @ 2.5'	4/15/2024	2.5	40.351952	-104.680958	0.8	2.4
PWV02-E @ 2.5'	4/15/2024	2.5	40.351954	-104.680917	0.9	2.7
PWV03-B @ 6'	4/15/2024	6	NC	NC	NC	1.1
PWV03-W @ 2.5'	4/15/2024	2.5	40.351916	-104.680964	0.8	0.8
PWV03-E @ 2.5'	4/15/2024	2.5	40.351919	-104.680918	0.9	2.5
PWV04-B @ 6'	4/15/2024	6	NC	NC	NC	1.5
PWV04-W @ 2.5'	4/15/2024	2.5	40.351876	-104.680964	0.8	0.2
PWV04-S @ 2.5'	4/15/2024	2.5	40.351862	-104.680938	0.8	1.3
PWV04-E @ 2.5'	4/15/2024	2.5	40.351880	-104.680923	0.8	0.4
PWV05-B @ 10'	4/15/2024	10	NC	NC	NC	420
PWV06-B @ 6'	4/15/2024	6	NC	NC	NC	1,030
PWV07-B @ 6'	4/15/2024	6	NC	NC	NC	432
PWV08-B @ 6'	4/15/2024	6	NC	NC	NC	151
PWV05-W @ 2.5'	4/16/2024	2.5	40.351887	-104.680832	1.0	0.2
PWV05-S @ 2.5'	4/16/2024	2.5	40.351837	-104.680785	1.0	0.0
PWV05-E @ 2.5'	4/16/2024	2.5	40.351873	-104.680745	1.0	0.0
PWV06-W @ 2.5'	4/16/2024	2.5	40.351928	-104.680833	1.1	0.0
PWV06-E @ 2.5'	4/16/2024	2.5	40.351918	-104.680740	1.0	0.3
PWV07-W @ 2.5'	4/16/2024	2.5	40.351954	-104.680828	1.1	0.3
PWV07-E @ 2.5'	4/16/2024	2.5	40.351950	-104.680735	1.1	0.0
PWV08-N @ 2.5'	4/16/2024	2.5	40.352028	-104.680773	1.1	0.4
PWV08-W @ 2.5'	4/16/2024	2.5	40.352002	-104.680826	1.2	0.0
PWV08-E @ 2.5'	4/16/2024	2.5	40.351986	-104.680732	1.0	0.1

Sample ID	Sample Date	Depth (ft. bgs)	GPS Data Latitude/Longitude		PDOP Value	VOC Concentration (ppm)
BKG01 @ 0-6"	4/16/2024	0.5	40.352165	-104.680689	0.9	0.0
BKG01 @ 2.5'	4/16/2024	2.5	40.352165	-104.680689	0.9	0.0
BKG01 @ 4'	4/16/2024	4	40.352165	-104.680689	0.9	0.0
BKG01 @ 6'	4/16/2024	6	40.352165	-104.680689	0.9	0.0
BKG01 @ 10'	4/16/2024	10	40.352165	-104.680689	0.9	0.0
BKG02 @ 2.5' ⁽³⁾	10/17/2023	2.5	40.353792	-104.684881	NC	1.7
BKG02 @ 4' ⁽³⁾	10/17/2023	4	40.353792	-104.684881	NC	1.9
BKG02 @ 5' ⁽³⁾	10/17/2023	5	40.353792	-104.684881	NC	0.9
BKG02 @ 6' ⁽³⁾	10/17/2023	6	40.353792	-104.684881	NC	1.6
BKG02 @ 7' ⁽³⁾	10/17/2023	7	40.353792	-104.684881	NC	2.9
BKG02 @ 8' ⁽³⁾	10/17/2023	8	40.353792	-104.684881	NC	2.7
BKG03 @ 2.5' ⁽³⁾	10/17/2023	2.5	40.353789	-104.684735	NC	0.0
BKG03 @ 4' ⁽³⁾	10/17/2023	4	40.353789	-104.684735	NC	0.0
BKG03 @ 5' ⁽³⁾	10/17/2023	5	40.353789	-104.684735	NC	0.0
BKG03 @ 6' ⁽³⁾	10/17/2023	6	40.353789	-104.684735	NC	0.1
BKG03 @ 7' ⁽³⁾	10/17/2023	7	40.353789	-104.684735	NC	0.2
BKG03 @ 8' ⁽³⁾	10/17/2023	8	40.353789	-104.684735	NC	0.0
BKG04 @ 2.5' ⁽³⁾	10/17/2023	2.5	40.353727	-104.684398	NC	1.3
BKG04 @ 4' ⁽³⁾	10/17/2023	4	40.353727	-104.684398	NC	1.2
BKG04 @ 5' ⁽³⁾	10/17/2023	5	40.353727	-104.684398	NC	4.5
BKG04 @ 6' ⁽³⁾	10/17/2023	6	40.353727	-104.684398	NC	1.8
BKG04 @ 7' ⁽³⁾	10/17/2023	7	40.353727	-104.684398	NC	3.3
BKG04 @ 8' ⁽³⁾	10/17/2023	8	40.353727	-104.684398	NC	1.2
BKG05 @ 2.5' ⁽³⁾	10/17/2023	2.5	40.353647	-104.684388	NC	1.6
BKG05 @ 4' ⁽³⁾	10/17/2023	4	40.353647	-104.684388	NC	1.4
BKG05 @ 5' ⁽³⁾	10/17/2023	5	40.353647	-104.684388	NC	2.0
BKG05 @ 6' ⁽³⁾	10/17/2023	6	40.353647	-104.684388	NC	2.6
BKG05 @ 7' ⁽³⁾	10/17/2023	7	40.353647	-104.684388	NC	2.3
BKG05 @ 8' ⁽³⁾	10/17/2023	8	40.353647	-104.684388	NC	3.7

Notes:

1. Global Positioning System (GPS) data is provided in decimal degrees using North American Datum (NAD) 83 UTMZone 13 North.
2. Volatile organic compound (VOC) concentrations are measured in the field using a photoionization detector (PID).
3. Background soil samples collected at the nearby Bostron 32-3 Wellhead Location

PDOP = Position Dilution of Precision

ppm = Parts per million

ft. = Feet

bgs = Below ground surface

NC = Data not collected

TABLE 2
SUMMARY OF VOLATILE ORGANIC SOIL CHEMISTRY DATA
PDC ENERGY, INC - 69175
FORMER STROHAUER F 32-21D, 24, 33-32D TANK BATTERY, WELD COUNTY, COLORADO
REM # 32371

Sample ID	Sample Date	Depth (ft. bgs)	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 (mg/kg)	TPH GRO (mg/kg)	TPH DRO (mg/kg)	TPH ORO (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			1.2	490	5.8	58	30	27	2	500	500**		
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.0026	0.69	0.78	9.9	0.0081	0.0087	0.0038	500	500**		
AST01 @ 0-6"	4/10/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
AST02 @ 0-6"	4/10/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
AST03 @ 0-6"	4/10/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
AST04 @ 0-6"	4/10/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
AST05 @ 0-6"	4/10/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
AST06 @ 0-6"	4/10/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
AST07 @ 0-6"	4/10/2024	0.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
SEP01-FL @ 4'	4/10/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
SEP01-DL @ 4'	4/10/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
SEP02-FL @ 4'	4/11/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
SEP02-DL @ 4'	4/11/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
SEP03-FL @ 4'	4/11/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
SEP03-DL @ 4'	4/11/2024	4	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV01-B @ 6'	4/15/2024	6	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV01-E @ 2.5'	4/15/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV02-B @ 6'	4/15/2024	6	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV02-E @ 2.5'	4/15/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV03-B @ 6'	4/15/2024	6	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV03-E @ 2.5'	4/15/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV04-B @ 6'	4/15/2024	6	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV04-S @ 2.5'	4/15/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV05-B @ 10'	4/15/2024	10	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV06-B @ 6'	4/15/2024	6	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV07-B @ 6'	4/15/2024	6	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV08-B @ 6'	4/15/2024	6	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV05-W @ 2.5'	4/16/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV06-E @ 2.5'	4/16/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV07-W @ 2.5'	4/16/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50
PWV08-N @ 2.5'	4/16/2024	2.5	<0.0020	<0.0050	<0.0050	<0.010	<0.0050	<0.0050	<0.0038	<500	<50	<0.50	<50

Notes:
1. **Bold** values exceed the ECMC Table 915-1 limit(s)
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
3. ** Summation of GRO+DRO+ORO must be less than 500 mg/kg
ECMC = Energy & Carbon Management Commission
(<) = Analytical result is less than the indicated laboratory reporting limit.
TPH-GRO = Total petroleum hydrocarbons - gasoline range organics
TPH-DRO = Total petroleum hydrocarbons - diesel range organics
TPH-ORO = Total petroleum hydrocarbons - oil range organics
mg/kg = Milligrams per kilogram
ft. = Feet
bgs = Below ground surface

TABLE 3
SUMMARY OF POLYCYCLIC AROMATIC HYDROCARBON SOIL CHEMISTRY DATA
PDC ENERGY, INC - 69175
FORMER STROHAUER F 32-21D, 24, 33-32D TANK BATTERY, WELD COUNTY, COLORADO
REM # 32371

Sample ID	Sample Date	Depth (ft. bgs)	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)
ECMC Table 915-1 Limits (Residential SSL)			360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180	18	24
ECMC 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
AST01 @ 0-6"	4/10/2024	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
AST02 @ 0-6"	4/10/2024	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
AST03 @ 0-6"	4/10/2024	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
AST04 @ 0-6"	4/10/2024	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
AST05 @ 0-6"	4/10/2024	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
AST06 @ 0-6"	4/10/2024	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
AST07 @ 0-6"	4/10/2024	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
SEP01-FL @ 4'	4/10/2024	4	<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
SEP01-DL @ 4'	4/10/2024	4	<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
SEP02-FL @ 4'	4/11/2024	4	<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
SEP02-DL @ 4'	4/11/2024	4	<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
SEP03-FL @ 4'	4/11/2024	4	<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
SEP03-DL @ 4'	4/11/2024	4	<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
PWV01-B @ 6'	4/15/2024	6	<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
PWV01-E @ 2.5'	4/15/2024	2.5	<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
PWV02-B @ 6'	4/15/2024	6	<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
PWV02-E @ 2.5'	4/15/2024	2.5	<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
PWV03-B @ 6'	4/15/2024	6	<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
PWV03-E @ 2.5'	4/15/2024	2.5	<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
PWV04-B @ 6'	4/15/2024	6	<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
PWV04-S @ 2.5'	4/15/2024	2.5	<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
PWV05-B @ 10'	4/15/2024	10	<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
PWV06-B @ 6'	4/15/2024	6	<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
PWV07-B @ 6'	4/15/2024	6	<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
PWV08-B @ 6'	4/15/2024	6	<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
PWV05-W @ 2.5'	4/16/2024	2.5	<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
PWV06-E @ 2.5'	4/16/2024	2.5	<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
PWV07-W @ 2.5'	4/16/2024	2.5	<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
PWV08-N @ 2.5'	4/16/2024	2.5	<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

Notes:

1. **Bold** values exceed the ECMC Table 915-1 limit(s)
2. Pink & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)

ECMC = Colorado Energy & Carbon Management Commission

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

ft. = Feet

bgs = Below ground surface

mg/kg = Milligrams per kilogram

TABLE 4
SUMMARY OF SOIL SUITABILITY FOR RECLAMATION
PDC ENERGY, INC - 69175
FORMER STROHAUER F 32-21D, 24, 33-32D TANK BATTERY, WELD COUNTY, COLORADO
REM # 32371

Sample ID	Sample Date	Depth (ft. bgs)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
AST01 @ 0-6"	4/10/2024	0.5	8.47	0.300	0.381	<2.00
AST02 @ 0-6"	4/10/2024	0.5	8.85	0.327	1.14	<2.00
AST03 @ 0-6"	4/10/2024	0.5	8.73	0.241	0.578	<2.00
AST04 @ 0-6"	4/10/2024	0.5	8.52	0.391	0.548	<2.00
AST05 @ 0-6"	4/10/2024	0.5	8.58	0.299	0.428	<2.00
AST06 @ 0-6"	4/10/2024	0.5	8.59	0.324	0.589	<2.00
AST07 @ 0-6"	4/10/2024	0.5	8.90	0.148	0.205	<2.00
SEP01-FL @ 4'	4/10/2024	4	7.88	0.167	0.046	<2.00
SEP01-DL @ 4'	4/10/2024	4	7.93	0.126	0.0376	<2.00
SEP02-FL @ 4'	4/11/2024	4	7.05	0.0598	0.0353	<2.00
SEP02-DL @ 4'	4/11/2024	4	8.42	0.0759	0.0254	<2.00
SEP03-FL @ 4'	4/11/2024	4	7.15	0.0348	0.0168	<2.00
SEP03-DL @ 4'	4/11/2024	4	8.08	0.0533	0.0281	<2.00
PWV01-B @ 6'	4/15/2024	6	8.80	0.143	0.925	<2.00
PWV01-E @ 2.5'	4/15/2024	2.5	8.45	0.441	0.335	<2.00
PWV02-B @ 6'	4/15/2024	6	8.68	0.123	0.0631	<2.00
PWV02-E @ 2.5'	4/15/2024	2.5	8.50	0.285	0.44	<2.00
PWV03-B @ 6'	4/15/2024	6	8.51	0.227	0.0993	<2.00
PWV03-E @ 2.5'	4/15/2024	2.5	8.44	0.285	0.361	<2.00
PWV04-B @ 6'	4/15/2024	6	8.3	0.338	0.751	<2.00
PWV04-S @ 2.5'	4/15/2024	2.5	8.79	0.144	0.099	<2.00
PWV05-B @ 10'	4/15/2024	10	7.8	0.152	0.0933	<2.00
PWV06-B @ 6'	4/15/2024	6	8.63	0.134	0.822	<2.00
PWV07-B @ 6'	4/15/2024	6	7.14	0.0856	0.876	<2.00
PWV08-B @ 6'	4/15/2024	6	7.68	0.184	0.683	<2.00
PWV05-W @ 2.5'	4/16/2024	2.5	8.29	0.690	0.783	<2.00
PWV06-E @ 2.5'	4/16/2024	2.5	8.82	0.143	0.0253	<2.00
PWV07-W @ 2.5'	4/16/2024	2.5	8.56	0.455	0.599	<2.00
PWV08-N @ 2.5'	4/16/2024	2.5	8.63	0.301	0.472	<2.00
BKG01 @ 0-6"	4/16/2024	0.5	8.39	0.360	0.204	NA
BKG01 @ 2.5'	4/16/2024	2.5	8.06	0.234	0.116	NA

Sample ID	Sample Date	Depth (ft. bgs)	pH (Standard Units)	EC (mmhos/cm)	SAR (Standard Units)	Boron (mg/L)
ECMC Table 915-1 Soil Suitability Limits			6 - 8.3	<4	<6	2
BKG01 @ 4'	4/16/2024	4	8.31	0.133	0.0988	NA
BKG01 @ 6'	4/16/2024	6	8.50	0.0839	0.107	NA
BKG01 @ 10'	4/16/2024	10	8.80	0.279	0.564	NA
BKG02 @ 2.5' ⁽⁴⁾	10/17/2023	2.5	8.20	NA	NA	NA
BKG02 @ 4' ⁽⁴⁾	10/17/2023	4	8.57	NA	NA	NA
BKG02 @ 5' ⁽⁴⁾	10/17/2023	5	8.44	NA	NA	NA
BKG02 @ 6' ⁽⁴⁾	10/17/2023	6	8.45	NA	NA	NA
BKG02 @ 7' ⁽⁴⁾	10/17/2023	7	8.56	NA	NA	NA
BKG02 @ 8' ⁽⁴⁾	10/17/2023	8	8.63	NA	NA	NA
BKG03 @ 2.5' ⁽⁴⁾	10/17/2023	2.5	8.07	NA	NA	NA
BKG03 @ 4' ⁽⁴⁾	10/17/2023	4	8.54	NA	NA	NA
BKG03 @ 5' ⁽⁴⁾	10/17/2023	5	8.41	NA	NA	NA
BKG03 @ 6' ⁽⁴⁾	10/17/2023	6	8.43	NA	NA	NA
BKG03 @ 7' ⁽⁴⁾	10/17/2023	7	8.39	NA	NA	NA
BKG03 @ 8' ⁽⁴⁾	10/17/2023	8	8.38	NA	NA	NA
BKG04 @ 2.5' ⁽⁴⁾	10/17/2023	2.5	8.34	NA	NA	NA
BKG04 @ 4' ⁽⁴⁾	10/17/2023	4	8.76	NA	NA	NA
BKG04 @ 5' ⁽⁴⁾	10/17/2023	5	8.63	NA	NA	NA
BKG04 @ 6' ⁽⁴⁾	10/17/2023	6	8.35	NA	NA	NA
BKG04 @ 7' ⁽⁴⁾	10/17/2023	7	8.46	NA	NA	NA
BKG04 @ 8' ⁽⁴⁾	10/17/2023	8	8.50	NA	NA	NA
BKG05 @ 2.5' ⁽⁴⁾	10/17/2023	2.5	8.16	NA	NA	NA
BKG05 @ 4' ⁽⁴⁾	10/17/2023	4	8.48	NA	NA	NA
BKG05 @ 5' ⁽⁴⁾	10/17/2023	5	8.56	NA	NA	NA
BKG05 @ 6' ⁽⁴⁾	10/17/2023	6	8.55	NA	NA	NA
BKG05 @ 7' ⁽⁴⁾	10/17/2023	7	8.61	NA	NA	NA
BKG05 @ 8' ⁽⁴⁾	10/17/2023	8	8.59	NA	NA	NA

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.

2. **Bold** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.

3. Brown highlighted soil analytical values indicate a regulatory exceedance.

4. Background soil samples collected at the nearby Bostron 32-3 Wellhead Location

ECMC = Colorado Energy & Carbon Management Commission

EC = Electrical conductivity

SAR = Sodium adsorption ratio

mmhos/cm = millimhos per centimeter

mg/L = milligram per liter

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

ft. = Feet

bgs = Below ground surface

NA = Constituent not analyzed

TABLE 5
SUMMARY OF METALS IN SOIL CHEMISTRY DATA
PDC ENERGY, INC - 69175
FORMER STROHAUER F 32-21D, 24, 33-32D TANK BATTERY, WELD COUNTY, COLORADO
REM # 32371

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) ^[4] (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
AST01 @ 0-6"	4/10/2024	0.5	10.9	57.6	0.338	<0.30	42.7	118	3.49	0.826	0.0694	509
AST02 @ 0-6"	4/10/2024	0.5	1.29	28.8	<0.200	<0.30	3.21	7.18	2.02	<0.260	<0.0200	33.2
AST03 @ 0-6"	4/10/2024	0.5	2.88	32.4	<0.200	<0.30	9.10	36.9	3.23	<0.260	0.0468	145
AST04 @ 0-6"	4/10/2024	0.5	3.39	89.5	0.253	<0.30	7.09	19.8	5.44	<0.260	0.0515	72.5
AST05 @ 0-6"	4/10/2024	0.5	0.802	30.3	<0.200	<0.30	3.49	6.57	2.74	<0.260	0.0217	28.4
AST06 @ 0-6"	4/10/2024	0.5	2.47	33.7	<0.200	<0.30	5.56	20.3	2.63	<0.260	0.0298	85.3
AST07 @ 0-6"	4/10/2024	0.5	1.24	30.6	<0.200	<0.30	3.06	5.32	2.71	<0.260	0.0214	20.5
SEP01-FL @ 4'	4/10/2024	4	1.58	45.8	<0.200	<0.30	5.77	9.20	3.14	<0.260	0.0630	28.8
SEP01-DL @ 4'	4/10/2024	4	0.950	33.7	<0.200	<0.30	2.72	4.20	2.51	<0.260	0.0277	13.5
SEP02-FL @ 4'	4/11/2024	4	1.32	37.6	<0.200	<0.30	4.19	5.51	2.75	<0.260	0.0272	16.4
SEP02-DL @ 4'	4/11/2024	4	1.33	38.4	<0.200	<0.30	6.01	9.31	2.50	<0.260	0.0421	38.8
SEP03-FL @ 4'	4/11/2024	4	1.24	47.3	<0.200	<0.30	3.81	4.48	2.69	<0.260	0.0216	15.6
SEP03-DL @ 4'	4/11/2024	4	0.926	40.8	<0.200	<0.30	3.34	4.44	2.51	<0.260	0.0230	17.5
PWV01-B @ 6'	4/15/2024	6	3.85	31.5	<0.200	<0.30	2.36	4.10	1.39	<0.260	0.0230	9.00
PWV01-E @ 2.5'	4/15/2024	2.5	1.20	62.3	<0.180	<0.30	2.70	3.70	2.48	<0.234	0.0215	13.0
PWV02-B @ 6'	4/15/2024	6	1.07	20.2	<0.181	<0.30	2.59	3.95	1.37	<0.236	<0.0181	10.5
PWV02-E @ 2.5'	4/15/2024	2.5	1.66	33.5	<0.200	<0.30	4.27	10.2	2.32	<0.260	0.0338	38.8
PWV03-B @ 6'	4/15/2024	6	0.880	29.2	<0.200	<0.30	3.08	5.65	1.79	<0.260	0.0209	17.6
PWV03-E @ 2.5'	4/15/2024	2.5	1.46	30.4	<0.200	<0.30	3.93	9.06	2.16	<0.260	0.0313	33.8
PWV04-B @ 6'	4/15/2024	6	0.726	25.6	<0.200	<0.30	3.49	6.37	1.58	<0.260	0.0244	18.6
PWV04-S @ 2.5'	4/15/2024	2.5	1.21	34.3	<0.200	<0.30	2.00	4.06	2.13	<0.260	0.0241	11.4
PWV05-B @ 10'	4/15/2024	10	0.455	19.5	<0.200	<0.30	2.27	3.36	2.07	<0.260	<0.0200	11.7
PWV06-B @ 6'	4/15/2024	6	0.444	25.8	<0.200	<0.30	2.90	3.92	2.82	<0.260	0.0263	11.8
PWV07-B @ 6'	4/15/2024	6	0.615	25.3	<0.200	<0.30	3.05	6.07	2.86	<0.260	<0.0200	18.4

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) ^[4] (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
PWV08-B @ 6'	4/15/2024	6	0.527	22.4	<0.180	<0.30	2.68	4.16	2.80	<0.234	<0.0180	17.0
PWV05-W @ 2.5'	4/16/2024	2.5	1.45	33.4	<0.200	<0.30	4.20	8.79	2.73	<0.260	0.0381	28.7
PWV06-E @ 2.5'	4/16/2024	2.5	1.68	38.1	<0.200	<0.30	10.3	11.7	4.18	<0.260	0.0325	83.9
PWV07-W @ 2.5'	4/16/2024	2.5	1.35	40.6	<0.200	<0.30	4.72	16.2	2.36	<0.260	0.0282	47.5
PWV08-N @ 2.5'	4/16/2024	2.5	0.758	25.6	<0.200	<0.30	2.88	5.43	2.20	<0.260	<0.0200	15.2
BKG01 @ 0-6"	4/16/2024	0.5	1.32	34.2	<0.200	<0.30	3.29	5.49	2.46	<0.260	0.0312	13.5
BKG01 @ 2.5'	4/16/2024	2.5	0.909	36.1	<0.200	<0.30	3.12	5.61	2.38	<0.260	0.0521	14.3
BKG01 @ 4'	4/16/2024	4	0.668	30.2	<0.200	<0.30	2.08	3.98	2.03	<0.260	<0.0200	11.0
BKG01 @ 6'	4/16/2024	6	0.473	24.6	<0.179	<0.30	1.59	3.37	1.71	<0.232	<0.0179	8.74
BKG01 @ 10'	4/16/2024	10	0.446	21.9	<0.179	<0.30	2.38	4.15	3.63	<0.232	<0.0179	14.1
BKG02 @ 2.5' ⁽⁶⁾	10/17/2023	2.5	3.21	38.6	<0.200	<0.30	1.99	4.57	1.42	<0.260	0.0235	9.52
BKG02 @ 4' ⁽⁶⁾	10/17/2023	4	0.584	7.01	<0.200	<0.30	1.32	2.52	0.534	<0.260	<0.0200	4.53
BKG02 @ 5' ⁽⁶⁾	10/17/2023	5	0.789	10.1	<0.200	<0.30	1.77	2.43	0.842	<0.260	<0.0200	6.21
BKG02 @ 6' ⁽⁶⁾	10/17/2023	6	1.02	10.2	<0.200	<0.30	2.14	2.57	0.916	<0.260	<0.0200	7.64
BKG02 @ 7' ⁽⁶⁾	10/17/2023	7	0.958	13.3	<0.200	<0.30	1.88	3.46	1.18	<0.260	<0.0200	7.13
BKG02 @ 8' ⁽⁶⁾	10/17/2023	8	0.569	8.10	<0.200	<0.30	1.34	2.39	1.14	<0.260	<0.0200	6.19
BKG03 @ 2.5' ⁽⁶⁾	10/17/2023	2.5	1.30	36.4	<0.200	<0.30	1.97	4.85	1.61	<0.260	0.0216	10.0
BKG03 @ 4' ⁽⁶⁾	10/17/2023	4	1.13	10.3	<0.200	<0.30	1.48	2.33	0.793	<0.260	<0.0200	6.58
BKG03 @ 5' ⁽⁶⁾	10/17/2023	5	1.41	10.3	<0.200	<0.30	2.57	2.55	0.971	<0.260	<0.0200	6.57
BKG03 @ 6' ⁽⁶⁾	10/17/2023	6	1.10	9.16	<0.200	<0.30	1.84	2.08	1.68	<0.260	<0.0200	5.81
BKG03 @ 7' ⁽⁶⁾	10/17/2023	7	1.53	8.49	<0.200	<0.30	2.15	2.10	1.24	0.395	<0.0200	6.20
BKG03 @ 8' ⁽⁶⁾	10/17/2023	8	1.80	19.9	<0.200	<0.30	2.63	2.81	2.07	0.464	<0.0200	8.02
BKG04 @ 2.5' ⁽⁶⁾	10/17/2023	2.5	3.71	81.5	<0.200	<0.30	5.76	9.29	3.98	<0.260	0.0393	18.8
BKG04 @ 4' ⁽⁶⁾	10/17/2023	4	0.716	11.4	<0.200	<0.30	1.55	2.88	1.30	<0.260	<0.0200	8.08
BKG04 @ 5' ⁽⁶⁾	10/17/2023	5	0.833	11.3	<0.200	<0.30	1.31	2.39	1.57	<0.260	<0.0200	8.51
BKG04 @ 6' ⁽⁶⁾	10/17/2023	6	0.390	4.21	<0.200	<0.30	0.583	1.85	0.484	<0.260	<0.0200	2.93
BKG04 @ 7' ⁽⁶⁾	10/17/2023	7	0.606	7.74	<0.200	<0.30	1.08	1.52	0.925	<0.260	<0.0200	4.33
BKG04 @ 8' ⁽⁶⁾	10/17/2023	8	0.740	12.1	<0.200	<0.30	1.56	2.39	1.32	<0.260	<0.0200	6.86

Sample ID	Sample Date	Depth (ft. bgs)	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) ^[4] (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
ECMC Table 915-1 Limits (Residential SSL)			0.68	15,000	71	0.3	3,100	400	1,500	390	390	23,000
ECMC Table 915-1 Limits (Protection of Groundwater SSL)			0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
BKG05 @ 2.5' ⁽⁶⁾	10/17/2023	2.5	3.38	91.1	0.264	<0.30	8.53	14.7	4.75	<0.260	0.114	23.2
BKG05 @ 4' ⁽⁶⁾	10/17/2023	4	1.13	37.1	<0.200	<0.30	2.36	3.96	2.40	<0.260	<0.0200	12.8
BKG05 @ 5' ⁽⁶⁾	10/17/2023	5	1.07	13.7	<0.200	<0.30	1.89	2.38	1.27	<0.260	<0.0200	7.08
BKG05 @ 6' ⁽⁶⁾	10/17/2023	6	1.13	11.7	<0.200	<0.30	1.52	2.15	1.19	<0.260	<0.0200	6.01
BKG05 @ 7' ⁽⁶⁾	10/17/2023	7	0.946	13.5	<0.200	<0.30	1.79	2.51	1.46	<0.260	<0.0200	7.61
BKG05 @ 8' ⁽⁶⁾	10/17/2023	8	1.45	15.1	<0.200	<0.30	1.84	3.29	1.52	<0.260	<0.0200	7.77
Maximum Background Concentration			3.71	91.1	0.264	0.30	8.53	14.7	4.75	0.464	0.114	23.2
Maximum Background Concentration X 1.25			4.64	114	0.330	0.38	10.7	18.4	5.94	0.580	0.143	29.0

Notes:

1. **Bold** faced values exceed the ECMC Table 915-1 limit(s), but are within 1.25x background concentrations.
2. **Red** faced values exceed the ECMC Table 915-1 limit(s) above native background concentrations.
3. Red & blue highlighted soil analytical values indicate an exceedance of the referenced soil screening level (SSL)
4. Compound falls within ECMC Table 915-1 Footnote 9.
5. Non-detect background results accounted for in the highest background concentration by using the reporting limit.
6. Background soil samples collected at the nearby Bostron 32-3 Wellhead Location

ECMC = Energy & Carbon Management Commission

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

mg/kg = Milligrams per kilogram

ft. = Feet

bgs = Below ground surface

Attachment A

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 26, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

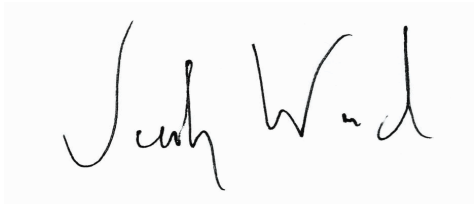
Broomfield, CO 80020

RE: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Work Order #2404188

Enclosed are the results of analyses for samples received by Summit Scientific on 04/10/24 17:32. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP01-DL@4'	2404188-01	Soil	04/10/24 13:04	04/10/24 17:32
SEP01-FL@4'	2404188-02	Soil	04/10/24 13:08	04/10/24 17:32
AST01@0-6"	2404188-03	Soil	04/10/24 13:42	04/10/24 17:32
AST02@0-6"	2404188-04	Soil	04/10/24 13:45	04/10/24 17:32
AST03@0-6"	2404188-05	Soil	04/10/24 13:47	04/10/24 17:32
AST04@0-6"	2404188-06	Soil	04/10/24 13:53	04/10/24 17:32
AST05@0-6"	2404188-07	Soil	04/10/24 14:06	04/10/24 17:32
AST06@0-6"	2404188-08	Soil	04/10/24 14:11	04/10/24 17:32
AST07@0-6"	2404188-09	Soil	04/10/24 14:15	04/10/24 17:32

Summit Scientific

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

Client: PDC / Tasman				Send Data To: Project Manager: Karen Olson				Send Invoice To: Company: PDC Energy												
Address: 6855 W 119th Ave				E-Mail: Karen.Olson@chevron.com				Project Name/Location:												
City/State/Zip: Broomfield / CO / 80020								AFE#:												
Phone: 303-487-1228				Project Name: <i>Strohauer F32-210, 24, 33-32D Tank Battery</i>				PO/Billing Codes:												
Sampler Name: David Vigil				Project Number:				Contact: Karen Olson												
				Preservative				Matrix				Analysis Requested				Special Instructions				
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs - 915	Metals - 915	
1	SEP01-DL@4'	4/10/24	1304	3			X			X			X	X	X	X	X	X	X	
2	SEP01-FL@4'		1308																	
3	AST01 @0-6"		1342																	
4	AST02 @0-6"		1345																	
5	AST03 @0-6"		1347																	
6	AST04 @0-6"		1353																	
7	AST05 @0-6"		1406																	
8	AST06 @0-6"		1411																	
9	AST07 @0-6"		1415																	
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <i>David Vigil</i>	Date/Time: 4/10/24 1735	Received by: <i>[Signature]</i>	Date/Time: 4/10/24 1732	TAT Business Days	Field DO	Notes:
Relinquished by: <i>Tasman/Logan</i>	Date/Time: 4/10/24 1732	Received by: <i>[Signature]</i>	Date/Time: 4/10/24 1732	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Temperature Upon Receipt: 94	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:	Standard	X	Field Turb.

S₂

Sample Receipt Checklist

S2 Work Order# 2404188Client: Red TasmánClient Project ID: Strohauer F32-210, 24, 33, 32DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #: _____

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

9.4

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ON 20E
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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.				

Custodian Printed Name

Date/Time



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-DL@4'
2404188-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0464	116 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0368	92.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	5.96	47.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-DL@4'
2404188-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0192	57.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0138	41.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-DL@4'
2404188-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.950	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	33.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.72	0.400	"	"	"	"	"	"
Lead	4.20	0.200	"	"	"	"	"	"
Nickel	2.51	0.400	"	"	"	"	"	"
Silver	0.0277	0.0200	"	"	"	"	"	"
Zinc	13.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	35.9	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	6.67	0.0500	"	"	"	"	"	"	
Sodium	0.935	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0376	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-DL@4'
2404188-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	83.5		%	1	BHD0545	04/17/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.126	0.0100	mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 13:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.93		pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-FL@4'
2404188-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0503	126 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0381	95.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0378	94.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.54	68.3 %	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.



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-FL@4'
2404188-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0200	60.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-FL@4'
2404188-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.58	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	45.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.77	0.400	"	"	"	"	"	"
Lead	9.20	0.200	"	"	"	"	"	"
Nickel	3.14	0.400	"	"	"	"	"	"
Silver	0.0630	0.0200	"	"	"	"	"	"
Zinc	28.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	50.1	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	9.18	0.0500	"	"	"	"	"	"	
Sodium	1.35	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0460	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

SEP01-FL@4'
2404188-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	89.6			%	1	BHD0545	04/17/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.167	0.0100		mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 13:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.88			pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST01@0-6"
2404188-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0501	125 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0369	92.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.0	88.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST01@0-6"
2404188-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0210	62.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0195	58.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST01@0-6"
2404188-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	10.9	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	57.6	0.400	"	"	"	"	"	"
Cadmium	0.338	0.200	"	"	"	"	"	"
Copper	42.7	0.400	"	"	"	"	"	"
Lead	118	0.200	"	"	"	"	"	"
Nickel	3.49	0.400	"	"	"	"	"	"
Silver	0.0694	0.0200	"	"	"	"	"	"
Zinc	509	0.400	"	"	"	"	"	"
Selenium	0.826	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.3	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	6.44	0.0500	"	"	"	"	"	"	
Sodium	8.84	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.381	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 13:42**

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

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST01@0-6"
2404188-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	91.5	%	1	BHD0545	04/17/24	04/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.300	0.0100	mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 13:42**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.47		pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST02@0-6"
2404188-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0515	129 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0374	93.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.9	87.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST02@0-6"
2404188-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0173	51.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0141	42.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST02@0-6"
2404188-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.29	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	28.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.21	0.400	"	"	"	"	"	"
Lead	7.18	0.200	"	"	"	"	"	"
Nickel	2.02	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	33.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.7	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	6.68	0.0500	"	"	"	"	"	"	
Sodium	25.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.14	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST02@0-6"
2404188-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	97.0			%	1	BHD0545	04/17/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.327	0.0100		mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 13:45**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.85			pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST03@0-6"
2404188-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0522	130 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0374	93.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.2	81.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST03@0-6"
2404188-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0190	57.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0158	47.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST03@0-6"
2404188-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.88	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	32.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	9.10	0.400	"	"	"	"	"	"
Lead	36.9	0.200	"	"	"	"	"	"
Nickel	3.23	0.400	"	"	"	"	"	"
Silver	0.0468	0.0200	"	"	"	"	"	"
Zinc	145	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	20.9	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	5.52	0.0500	"	"	"	"	"	"	
Sodium	11.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.578	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST03@0-6"
2404188-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.3		%	1	BHD0545	04/17/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.241	0.0100	mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 13:47**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.73		pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST04@0-6"
2404188-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0500	125 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0367	91.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.52	76.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST04@0-6"
2404188-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0171	51.3 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0159	47.6 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST04@0-6"
2404188-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.39	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	89.5	0.400	"	"	"	"	"	"
Cadmium	0.253	0.200	"	"	"	"	"	"
Copper	7.09	0.400	"	"	"	"	"	"
Lead	19.8	0.200	"	"	"	"	"	"
Nickel	5.44	0.400	"	"	"	"	"	"
Silver	0.0515	0.0200	"	"	"	"	"	"
Zinc	72.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	41.0	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	9.63	0.0500	"	"	"	"	"	"	
Sodium	15.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.548	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 13:53**

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST04@0-6"
2404188-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	94.8	%	1	BHD0545	04/17/24	04/17/24	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.391	0.0100	mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 13:53**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.52		pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST05@0-6"
2404188-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/17/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0380	95.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0379	94.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.4	83.4 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST05@0-6"
2404188-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0193	57.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0150	44.9 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 14:06**

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

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST05@0-6"
2404188-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.802	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	30.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.49	0.400	"	"	"	"	"	"
Lead	6.57	0.200	"	"	"	"	"	"
Nickel	2.74	0.400	"	"	"	"	"	"
Silver	0.0217	0.0200	"	"	"	"	"	"
Zinc	28.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	26.5	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	8.75	0.0500	"	"	"	"	"	"	
Sodium	9.95	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.428	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST05@0-6"
2404188-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.8		%	1	BHD0545	04/17/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.299	0.0100	mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 14:06**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.58		pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST06@0-6"
2404188-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/17/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0378	94.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0384	96.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.36	74.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST06@0-6"
2404188-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0219	65.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0171	51.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 14:11**

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

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST06@0-6"
2404188-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	2.47	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	33.7	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	5.56	0.400	"	"	"	"	"	"
Lead	20.3	0.200	"	"	"	"	"	"
Nickel	2.63	0.400	"	"	"	"	"	"
Silver	0.0298	0.0200	"	"	"	"	"	"
Zinc	85.3	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.0	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	7.30	0.0500	"	"	"	"	"	"	
Sodium	13.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.589	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST06@0-6"
2404188-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.8		%	1	BHD0545	04/17/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.324	0.0100	mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 14:11**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.59		pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST07@0-6"
2404188-09 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0411	04/12/24	04/17/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0374	93.4 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0407	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0412	04/12/24	04/16/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.33	74.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST07@0-6"
2404188-09 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0424	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0213	63.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0155	46.5 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0621	04/18/24	05/02/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST07@0-6"
2404188-09 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.24	0.200	mg/kg dry	1	BHD0890	04/24/24	05/03/24	EPA 6020B
Barium	30.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.06	0.400	"	"	"	"	"	"
Lead	5.32	0.200	"	"	"	"	"	"
Nickel	2.71	0.400	"	"	"	"	"	"
Silver	0.0214	0.0200	"	"	"	"	"	"
Zinc	20.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0723	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	64.6	0.0500	mg/L dry	1	BHD0960	04/25/24	05/21/24	EPA 6020B	
Magnesium	8.59	0.0500	"	"	"	"	"	"	
Sodium	6.62	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.205	0.00100	units	1	BHE0677	05/22/24	05/22/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

AST07@0-6"
2404188-09 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	84.3		%	1	BHD0545	04/17/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.148	0.0100	mmhos/cm	1	BHD0961	04/25/24	04/30/24	EPA 120.1	

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

Date Sampled: **04/10/24 14:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.90		pH Units	1	BHD0962	04/25/24	04/30/24	EPA 9045D	

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0411 - EPA 5030 Soil MS

Blank (BHD0411-BLK1)

Prepared: 04/12/24 Analyzed: 04/16/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0507		"	0.0400		127	50-150			
Surrogate: Toluene-d8	0.0388		"	0.0400		96.9	50-150			
Surrogate: 4-Bromofluorobenzene	0.0382		"	0.0400		95.4	50-150			

LCS (BHD0411-BS1)

Prepared: 04/12/24 Analyzed: 04/16/24

Benzene	0.0886	0.0020	mg/kg	0.100		88.6	70-130			
Toluene	0.0978	0.0050	"	0.100		97.8	70-130			
Ethylbenzene	0.111	0.0050	"	0.100		111	70-130			
m,p-Xylene	0.209	0.010	"	0.200		105	70-130			
o-Xylene	0.102	0.0050	"	0.100		102	70-130			
1,2,4-Trimethylbenzene	0.103	0.0050	"	0.100		103	70-130			
1,3,5-Trimethylbenzene	0.106	0.0050	"	0.100		106	70-130			
Naphthalene	0.0916	0.0038	"	0.100		91.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0479		"	0.0400		120	50-150			
Surrogate: Toluene-d8	0.0378		"	0.0400		94.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.6	50-150			

Matrix Spike (BHD0411-MS1)

Source: 2404188-01

Prepared: 04/12/24 Analyzed: 04/16/24

Benzene	0.0835	0.0020	mg/kg	0.100	ND	83.5	70-130			
Toluene	0.0901	0.0050	"	0.100	ND	90.1	70-130			
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
m,p-Xylene	0.193	0.010	"	0.200	ND	96.4	70-130			
o-Xylene	0.0940	0.0050	"	0.100	ND	94.0	70-130			
1,2,4-Trimethylbenzene	0.0926	0.0050	"	0.100	ND	92.6	70-130			
1,3,5-Trimethylbenzene	0.0950	0.0050	"	0.100	ND	95.0	70-130			
Naphthalene	0.0920	0.0038	"	0.100	ND	92.0	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0400		113	50-150			
Surrogate: Toluene-d8	0.0383		"	0.0400		95.7	50-150			
Surrogate: 4-Bromofluorobenzene	0.0378		"	0.0400		94.5	50-150			

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0411 - EPA 5030 Soil MS

Matrix Spike Dup (BHD0411-MSD1)		Source: 2404188-01			Prepared: 04/12/24 Analyzed: 04/16/24					
Benzene	0.0880	0.0020	mg/kg	0.100	ND	88.0	70-130	5.28	30	
Toluene	0.0969	0.0050	"	0.100	ND	96.9	70-130	7.22	30	
Ethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	4.12	30	
m,p-Xylene	0.200	0.010	"	0.200	ND	99.8	70-130	3.38	30	
o-Xylene	0.0980	0.0050	"	0.100	ND	98.0	70-130	4.12	30	
1,2,4-Trimethylbenzene	0.0962	0.0050	"	0.100	ND	96.2	70-130	3.81	30	
1,3,5-Trimethylbenzene	0.0987	0.0050	"	0.100	ND	98.7	70-130	3.90	30	
Naphthalene	0.0933	0.0038	"	0.100	ND	93.3	70-130	1.46	30	
Surrogate: 1,2-Dichloroethane-d4		0.0469	"	0.0400		117	50-150			
Surrogate: Toluene-d8		0.0386	"	0.0400		96.4	50-150			
Surrogate: 4-Bromofluorobenzene		0.0377	"	0.0400		94.3	50-150			

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHD0412 - EPA 3550A

Blank (BHD0412-BLK1)

Prepared: 04/12/24 Analyzed: 04/15/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.0		"	12.5		104	30-150			

LCS (BHD0412-BS1)

Prepared: 04/12/24 Analyzed: 04/15/24

C10-C28 (DRO)	454	50	mg/kg	500		90.8	70-130			
Surrogate: o-Terphenyl	12.8		"	12.5		103	30-150			

Matrix Spike (BHD0412-MS1)

Source: 2404188-01

Prepared: 04/12/24 Analyzed: 04/15/24

C10-C28 (DRO)	456	50	mg/kg	500	15.1	88.1	70-130			
Surrogate: o-Terphenyl	8.67		"	12.5		69.4	30-150			

Matrix Spike Dup (BHD0412-MSD1)

Source: 2404188-01

Prepared: 04/12/24 Analyzed: 04/16/24

C10-C28 (DRO)	509	50	mg/kg	500	15.1	98.8	70-130	11.1	20	
Surrogate: o-Terphenyl	8.16		"	12.5		65.3	30-150			

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0424 - EPA 5030 Soil MS

Blank (BHD0424-BLK1)

Prepared & Analyzed: 04/15/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0265		"	0.0333		79.6	40-150			
Surrogate: Fluoranthene-d10	0.0247		"	0.0333		74.0	40-150			

LCS (BHD0424-BS1)

Prepared & Analyzed: 04/15/24

Acenaphthene	0.0339	0.00500	mg/kg	0.0333	102	31-137
Anthracene	0.0347	0.00500	"	0.0333	104	30-120
Benzo (a) anthracene	0.0294	0.00500	"	0.0333	88.2	30-120
Benzo (a) pyrene	0.0262	0.00500	"	0.0333	78.5	30-120
Benzo (b) fluoranthene	0.0291	0.00500	"	0.0333	87.2	30-120
Benzo (k) fluoranthene	0.0344	0.00500	"	0.0333	103	30-120
Chrysene	0.0347	0.00500	"	0.0333	104	30-120
Dibenz (a,h) anthracene	0.0166	0.00500	"	0.0333	49.7	30-120
Fluoranthene	0.0343	0.00500	"	0.0333	103	30-120
Fluorene	0.0314	0.00500	"	0.0333	94.2	30-120
Indeno (1,2,3-cd) pyrene	0.0149	0.00500	"	0.0333	44.8	30-120
Pyrene	0.0376	0.00500	"	0.0333	113	35-142
1-Methylnaphthalene	0.0333	0.00500	"	0.0333	100	35-142
2-Methylnaphthalene	0.0430	0.00500	"	0.0333	129	35-142
Surrogate: 2-Methylnaphthalene-d10	0.0306		"	0.0333	91.8	40-150
Surrogate: Fluoranthene-d10	0.0231		"	0.0333	69.3	40-150

Summit Scientific

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



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0424 - EPA 5030 Soil MS

Matrix Spike (BHD0424-MS1)

Source: 2404188-01

Prepared & Analyzed: 04/15/24

Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.8	31-137		
Anthracene	0.0204	0.00500	"	0.0333	ND	61.1	30-120		
Benzo (a) anthracene	0.0207	0.00500	"	0.0333	ND	62.0	30-120		
Benzo (a) pyrene	0.0151	0.00500	"	0.0333	ND	45.3	30-120		
Benzo (b) fluoranthene	0.0175	0.00500	"	0.0333	ND	52.4	30-120		
Benzo (k) fluoranthene	0.0187	0.00500	"	0.0333	ND	56.2	30-120		
Chrysene	0.0220	0.00500	"	0.0333	ND	66.1	30-120		
Dibenz (a,h) anthracene	0.0162	0.00500	"	0.0333	ND	48.6	30-120		
Fluoranthene	0.0233	0.00500	"	0.0333	ND	69.9	30-120		
Fluorene	0.0217	0.00500	"	0.0333	ND	65.0	30-120		
Indeno (1,2,3-cd) pyrene	0.0145	0.00500	"	0.0333	ND	43.5	30-120		
Pyrene	0.0252	0.00500	"	0.0333	ND	75.7	35-142		
1-Methylnaphthalene	0.0192	0.00500	"	0.0333	ND	57.7	15-130		
2-Methylnaphthalene	0.0240	0.00500	"	0.0333	ND	71.9	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0160		"	0.0333		47.9	40-150		
Surrogate: Fluoranthene-d10	0.0147		"	0.0333		44.2	40-150		

Matrix Spike Dup (BHD0424-MSD1)

Source: 2404188-01

Prepared & Analyzed: 04/15/24

Acenaphthene	0.0179	0.00500	mg/kg	0.0333	ND	53.8	31-137	10.7	30
Anthracene	0.0188	0.00500	"	0.0333	ND	56.3	30-120	8.28	30
Benzo (a) anthracene	0.0184	0.00500	"	0.0333	ND	55.4	30-120	11.3	30
Benzo (a) pyrene	0.0137	0.00500	"	0.0333	ND	41.0	30-120	9.91	30
Benzo (b) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.9	30-120	11.2	30
Benzo (k) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.3	30-120	15.0	30
Chrysene	0.0187	0.00500	"	0.0333	ND	56.0	30-120	16.5	30
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	48.9	30-120	0.622	30
Fluoranthene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	12.2	30
Fluorene	0.0177	0.00500	"	0.0333	ND	53.2	30-120	19.8	30
Indeno (1,2,3-cd) pyrene	0.0140	0.00500	"	0.0333	ND	42.1	30-120	3.30	30
Pyrene	0.0218	0.00500	"	0.0333	ND	65.5	35-142	14.5	30
1-Methylnaphthalene	0.0167	0.00500	"	0.0333	ND	50.0	15-130	14.3	50
2-Methylnaphthalene	0.0173	0.00500	"	0.0333	ND	51.9	15-130	32.2	50
Surrogate: 2-Methylnaphthalene-d10	0.0147		"	0.0333		44.2	40-150		
Surrogate: Fluoranthene-d10	0.0164		"	0.0333		49.3	40-150		

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

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

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

Batch BHD0621 - EPA 3050B

Blank (BHD0621-BLK1)

Prepared: 04/18/24 Analyzed: 05/02/24

Boron ND 2.00 mg/L

LCS (BHD0621-BS1)

Prepared: 04/18/24 Analyzed: 05/02/24

Boron 5.01 2.00 mg/L 5.00 100 80-120

Duplicate (BHD0621-DUP1)

Source: 2404188-01

Prepared: 04/18/24 Analyzed: 05/02/24

Boron 0.0454 2.00 mg/L 0.0772 51.9 20

Matrix Spike (BHD0621-MS1)

Source: 2404188-01

Prepared: 04/18/24 Analyzed: 05/02/24

Boron 5.34 2.00 mg/L 4.98 0.0772 106 75-125

Matrix Spike Dup (BHD0621-MSD1)

Source: 2404188-01

Prepared: 04/18/24 Analyzed: 05/02/24

Boron 5.21 2.00 mg/L 4.98 0.0772 103 75-125 2.55 25

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BHD0890 - EPA 3050B

Blank (BHD0890-BLK1)

Prepared: 04/24/24 Analyzed: 05/03/24

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

LCS (BHD0890-BS1)

Prepared: 04/24/24 Analyzed: 05/03/24

Arsenic	38.6	0.200	mg/kg wet	40.0	96.6	80-120
Barium	37.8	0.400	"	40.0	94.5	80-120
Cadmium	1.83	0.200	"	2.00	91.6	80-120
Copper	39.1	0.400	"	40.0	97.7	80-120
Lead	18.9	0.200	"	20.0	94.3	80-120
Nickel	38.1	0.400	"	40.0	95.2	80-120
Silver	1.89	0.0200	"	2.00	94.7	80-120
Zinc	38.4	0.400	"	40.0	95.9	80-120
Selenium	3.79	0.260	"	4.00	94.8	80-120

Duplicate (BHD0890-DUP1)

Source: 2404185-01

Prepared: 04/24/24 Analyzed: 05/10/24

Arsenic	2.28	0.200	mg/kg dry	2.29	0.356	20
Barium	45.5	0.400	"	46.4	2.07	20
Cadmium	0.174	0.200	"	0.181	3.95	20
Copper	6.45	0.400	"	6.58	1.96	20
Lead	5.23	0.200	"	5.36	2.34	20
Nickel	6.14	0.400	"	6.27	2.15	20
Silver	0.0164	0.0200	"	0.0166	1.77	20
Zinc	12.4	0.400	"	12.4	0.525	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BHD0890 - EPA 3050B

Matrix Spike (BHD0890-MS1)

Source: 2404185-01

Prepared: 04/24/24 Analyzed: 05/10/24

Arsenic	55.9	0.200	mg/kg dry	42.2	2.29	127	75-125			QM-07
Barium	116	0.400	"	42.2	46.4	164	75-125			QM-07
Cadmium	2.88	0.200	"	2.11	0.181	128	75-125			QM-07
Copper	59.8	0.400	"	42.2	6.58	126	75-125			QM-07
Lead	32.9	0.200	"	21.1	5.36	131	75-125			QM-07
Nickel	59.6	0.400	"	42.2	6.27	126	75-125			QM-07
Silver	2.47	0.0200	"	2.11	0.0166	116	75-125			
Zinc	43.7	0.400	"	42.2	12.4	74.2	75-125			QM-07
Selenium	4.95	0.260	"	4.22	ND	117	75-125			

Matrix Spike Dup (BHD0890-MSD1)

Source: 2404185-01

Prepared: 04/24/24 Analyzed: 05/10/24

Arsenic	57.8	0.200	mg/kg dry	42.2	2.29	132	75-125	3.50	25	QM-07
Barium	121	0.400	"	42.2	46.4	177	75-125	4.48	25	QM-07
Cadmium	3.01	0.200	"	2.11	0.181	134	75-125	4.66	25	QM-07
Copper	62.7	0.400	"	42.2	6.58	133	75-125	4.76	25	QM-07
Lead	34.5	0.200	"	21.1	5.36	138	75-125	4.68	25	QM-07
Nickel	62.3	0.400	"	42.2	6.27	133	75-125	4.37	25	QM-07
Silver	2.50	0.0200	"	2.11	0.0166	118	75-125	1.34	25	
Zinc	45.9	0.400	"	42.2	12.4	79.4	75-125	4.81	25	
Selenium	5.11	0.260	"	4.22	ND	121	75-125	3.14	25	

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0723 - 3060A Mod

Blank (BHD0723-BLK1)

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0723-BS1)

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHD0723-DUP1)

Source: 2402192-01

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0723-MS1)

Source: 2402192-01

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent 28.1 0.30 mg/kg dry 27.9 ND 101 75-125

Matrix Spike Dup (BHD0723-MSD1)

Source: 2402192-01

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent 28.1 0.30 mg/kg dry 27.9 ND 101 75-125 0.00 20

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

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

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

Batch BHD0960 - General Preparation

Blank (BHD0960-BLK1)

Prepared: 04/25/24 Analyzed: 05/21/24

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

LCS (BHD0960-BS1)

Prepared: 04/25/24 Analyzed: 05/21/24

Calcium	5.21	0.0500	mg/L wet	5.00	104	70-130
Magnesium	4.98	0.0500	"	5.00	99.6	70-130
Sodium	4.91	0.0500	"	5.00	98.1	70-130

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

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

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

Batch BHD0545 - General Preparation

Duplicate (BHD0545-DUP1)		Source: 2404184-01			Prepared & Analyzed: 04/17/24						
% Solids	95.4		%		94.7			0.785		20	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

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

Summit Scientific

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

Batch BHD0961 - General Preparation

Blank (BHD0961-BLK1)

Prepared: 04/25/24 Analyzed: 04/30/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD0961-BS1)

Prepared: 04/25/24 Analyzed: 04/30/24

Specific Conductance (EC) 0.154 0.0100 mmhos/cm 0.150 103 95-105

Duplicate (BHD0961-DUP1)

Source: 2404167-01

Prepared: 04/25/24 Analyzed: 04/30/24

Specific Conductance (EC) 0.202 0.0100 mmhos/cm 0.203 0.444 20

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

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

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

Batch BHD0962 - General Preparation

LCS (BHD0962-BS1)

Prepared: 04/25/24 Analyzed: 04/30/24

pH	9.20	pH Units	9.18	100	95-105
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Duplicate (BHD0962-DUP1)

Source: 2404167-01

Prepared: 04/25/24 Analyzed: 04/30/24

pH	8.52	pH Units	8.46	0.707	20
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Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/26/24 13:27

Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

June 03, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

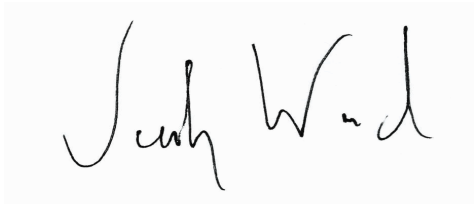
Broomfield, CO 80020

RE: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Work Order #2404213

Enclosed are the results of analyses for samples received by Summit Scientific on 04/11/24 17:41. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SEP02-DL@4'	2404213-01	Soil	04/11/24 12:55	04/11/24 17:41
SEP02-FL@4'	2404213-02	Soil	04/11/24 13:05	04/11/24 17:41
SEP03-DL@4'	2404213-03	Soil	04/11/24 13:15	04/11/24 17:41
SEP03-FL@4'	2404213-04	Soil	04/11/24 13:10	04/11/24 17:41

Summit Scientific

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

Client: PDC / Tasman				Send Data To: Project Manager: Karen Olson				Send Invoice To: Company: PDC Energy												
Address: 6855 W 119th Ave				E-Mail: Karen.Olson@chevron.com				Project Name/Location: <u>Strohwer F 32-210, 24, 33</u>												
City/State/Zip: Broomfield / CO / 80020								AFE#: 320												
Phone: 303-487-1228				Project Name: <u>Strohwer F 32-210, 24, 33-320 Battery</u>				PO/Billing Codes:												
Sampler Name: David Vigil, <u>Katie Mazalova</u>				Project Number:				Contact: Karen Olson												
				Preservative				Matrix				Analysis Requested				Special Instructions				
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs - 915	Metals - 915	
1	SEPO2-DL@4'	4/11/24	1255	3			X			X			X	X	X	X	X	X	X	
2	SEPO2-FL@4'	I	1305	I			I			I			I	I	I	I	I	I	I	
3	SEPO3-DL@4'	I	1315	I			I			I			I	I	I	I	I	I	I	
4	SEPO3-FL@4'	I	1310	I			I			I			I	I	I	I	I	I	I	
5																				
6																				
7																				
8																				
9																				
10																				
11																				
12																				
13																				
14																				
15																				

Relinquished by: <u>Tasman</u>	Date/Time: <u>4/11/24/1634</u>	Received by: <u>Tasman Lockbox</u>	Date/Time: <u>4/11/24/1634</u>	TAT Business Days	Field DO	Notes:
Relinquished by: <u>Tasman Lockbox</u>	Date/Time: <u>4/11/24/1741</u>	Received by: <u>[Signature]</u>	Date/Time: <u>4/11/24/1741</u>	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>10.4</u>		Corrected Temperature: <u>0</u>		IR gun #: <u>1</u>	HNO3 lot #:	

S₂

Sample Receipt Checklist

S2 Work Order# 2404213Client: Poc / AsmanClient Project ID: Strahaver F 32-21D, 24, 33-32DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #: _____

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☒

Water

☐

Other

☐

Temp (°C)

10.4

Thermometer #

1

	Yes	No	N/A	Comments (if any)
If samples require cooling, is the temperature < 6°C? ⁽¹⁾ NOTE: If samples are delivered the same day of sampling, this requirement is met if there is evidence that cooling has begun.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	and 2E
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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.

Custodian Printed Name

Date/Time

AS

4/11/24



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-DL@4'
2404213-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHD0486	04/16/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0414	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0416	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0399	99.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0487	04/16/24	04/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	9.64	77.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-DL@4'
2404213-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0426	04/15/24	04/15/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0291	87.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0150	45.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0622	04/18/24	05/14/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-DL@4'
2404213-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.33	0.200	mg/kg dry	1	BHD0891	04/24/24	05/16/24	EPA 6020B
Barium	38.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	6.01	0.400	"	"	"	"	"	"
Lead	9.31	0.200	"	"	"	"	"	"
Nickel	2.50	0.400	"	"	"	"	"	"
Silver	0.0421	0.0200	"	"	"	"	"	"
Zinc	38.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0730	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	54.3	0.0500	mg/L dry	1	BHD1029	04/29/24	05/31/24	EPA 6020B	
Magnesium	10.6	0.0500	"	"	"	"	"	"	
Sodium	0.783	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0254	0.00100	units	1	BHF0036	06/03/24	06/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-DL@4'
2404213-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	92.3		%	1	BHD0602	04/18/24	04/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0759	0.0100	mmhos/cm	1	BHD1104	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/11/24 12:55**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.42		pH Units	1	BHD1103	04/30/24	05/02/24	EPA 9045D	

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-FL@4'
2404213-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0486	04/16/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0396	99.0 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0403	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0390	97.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0487	04/16/24	04/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.98	79.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-FL@4'
2404213-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0426	04/15/24	04/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0225	67.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0622	04/18/24	05/14/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-FL@4'
2404213-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.32	0.200	mg/kg dry	1	BHD0891	04/24/24	05/16/24	EPA 6020B
Barium	37.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.19	0.400	"	"	"	"	"	"
Lead	5.51	0.200	"	"	"	"	"	"
Nickel	2.75	0.400	"	"	"	"	"	"
Silver	0.0272	0.0200	"	"	"	"	"	"
Zinc	16.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0730	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	25.0	0.0500	mg/L dry	1	BHD1029	04/29/24	05/31/24	EPA 6020B	
Magnesium	7.06	0.0500	"	"	"	"	"	"	
Sodium	0.777	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0353	0.00100	units	1	BHF0036	06/03/24	06/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP02-FL@4'
2404213-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	1	BHD0602	04/18/24	04/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0598	0.0100	mmhos/cm	1	BHD1104	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/11/24 13:05**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.05		pH Units	1	BHD1103	04/30/24	05/02/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-DL@4'
2404213-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0486	04/16/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0413	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0411	103 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0396	99.0 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0487	04/16/24	04/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	12.2	97.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-DL@4'
2404213-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0426	04/15/24	04/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0243	73.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0137	41.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0622	04/18/24	05/14/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-DL@4'
2404213-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.926	0.200	mg/kg dry	1	BHD0891	04/24/24	05/16/24	EPA 6020B
Barium	40.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.34	0.400	"	"	"	"	"	"
Lead	4.44	0.200	"	"	"	"	"	"
Nickel	2.51	0.400	"	"	"	"	"	"
Silver	0.0230	0.0200	"	"	"	"	"	"
Zinc	17.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0730	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	45.4	0.0500	mg/L dry	1	BHD1029	04/29/24	05/31/24	EPA 6020B	
Magnesium	8.20	0.0500	"	"	"	"	"	"	
Sodium	0.783	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0281	0.00100	units	1	BHF0036	06/03/24	06/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-DL@4'
2404213-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	1	BHD0602	04/18/24	04/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0533	0.0100	mmhos/cm	1	BHD1104	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/11/24 13:15**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.08		pH Units	1	BHD1103	04/30/24	05/02/24	EPA 9045D	

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-FL@4'
2404213-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0486	04/16/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0406	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0404	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0487	04/16/24	04/17/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.2	89.9 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-FL@4'
2404213-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0426	04/15/24	04/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0285	85.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0622	04/18/24	05/14/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-FL@4'
2404213-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.24	0.200	mg/kg dry	1	BHD0891	04/24/24	05/16/24	EPA 6020B
Barium	47.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.81	0.400	"	"	"	"	"	"
Lead	4.48	0.200	"	"	"	"	"	"
Nickel	2.69	0.400	"	"	"	"	"	"
Silver	0.0216	0.0200	"	"	"	"	"	"
Zinc	15.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0730	04/22/24	04/22/24	EPA 7196A	

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

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	28.8	0.0500	mg/L dry	1	BHD1029	04/29/24	05/31/24	EPA 6020B	
Magnesium	8.44	0.0500	"	"	"	"	"	"	
Sodium	0.398	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0168	0.00100	units	1	BHF0036	06/03/24	06/03/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

SEP03-FL@4'
2404213-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.9		%	1	BHD0602	04/18/24	04/18/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0348	0.0100	mmhos/cm	1	BHD1104	04/30/24	05/02/24	EPA 120.1	

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

Date Sampled: **04/11/24 13:10**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.15		pH Units	1	BHD1103	04/30/24	05/02/24	EPA 9045D	

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Broomfield CO, 80020

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0486 - EPA 5030 Soil MS

Blank (BHD0486-BLK1)

Prepared & Analyzed: 04/16/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0416		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0400		"	0.0400		100	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	50-150			

LCS (BHD0486-BS1)

Prepared & Analyzed: 04/16/24

Benzene	0.119	0.0020	mg/kg	0.100		119	70-130			
Toluene	0.116	0.0050	"	0.100		116	70-130			
Ethylbenzene	0.121	0.0050	"	0.100		121	70-130			
m,p-Xylene	0.240	0.010	"	0.200		120	70-130			
o-Xylene	0.112	0.0050	"	0.100		112	70-130			
1,2,4-Trimethylbenzene	0.108	0.0050	"	0.100		108	70-130			
1,3,5-Trimethylbenzene	0.111	0.0050	"	0.100		111	70-130			
Naphthalene	0.0984	0.0038	"	0.100		98.4	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0423		"	0.0400		106	50-150			
Surrogate: Toluene-d8	0.0404		"	0.0400		101	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.8	50-150			

Matrix Spike (BHD0486-MS1)

Source: 2404213-01

Prepared & Analyzed: 04/16/24

Benzene	0.110	0.0020	mg/kg	0.100	ND	110	70-130			
Toluene	0.105	0.0050	"	0.100	ND	105	70-130			
Ethylbenzene	0.107	0.0050	"	0.100	ND	107	70-130			
m,p-Xylene	0.217	0.010	"	0.200	ND	108	70-130			
o-Xylene	0.102	0.0050	"	0.100	ND	102	70-130			
1,2,4-Trimethylbenzene	0.0970	0.0050	"	0.100	ND	97.0	70-130			
1,3,5-Trimethylbenzene	0.100	0.0050	"	0.100	ND	100	70-130			
Naphthalene	0.0908	0.0038	"	0.100	ND	90.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0430		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0408		"	0.0400		102	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.2	50-150			

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

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

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

Batch BHD0486 - EPA 5030 Soil MS

Matrix Spike Dup (BHD0486-MSD1)

Source: 2404213-01

Prepared & Analyzed: 04/16/24

Benzene	0.120	0.0020	mg/kg	0.100	ND	120	70-130	8.12	30	
Toluene	0.118	0.0050	"	0.100	ND	118	70-130	11.3	30	
Ethylbenzene	0.117	0.0050	"	0.100	ND	117	70-130	9.11	30	
m,p-Xylene	0.237	0.010	"	0.200	ND	119	70-130	9.10	30	
o-Xylene	0.110	0.0050	"	0.100	ND	110	70-130	7.18	30	
1,2,4-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	7.70	30	
1,3,5-Trimethylbenzene	0.109	0.0050	"	0.100	ND	109	70-130	8.34	30	
Naphthalene	0.104	0.0038	"	0.100	ND	104	70-130	13.2	30	
Surrogate: 1,2-Dichloroethane-d4	0.0454		"	0.0400		114	50-150			
Surrogate: Toluene-d8	0.0418		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.5	50-150			

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHD0487 - EPA 3550A

Blank (BHD0487-BLK1)

Prepared & Analyzed: 04/16/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	16.6		"	12.5	133		30-150			

LCS (BHD0487-BS1)

Prepared & Analyzed: 04/16/24

C10-C28 (DRO)	500	50	mg/kg	500	99.9		70-130			
Surrogate: o-Terphenyl	13.2		"	12.5	105		30-150			

Matrix Spike (BHD0487-MS1)

Source: 2404213-01

Prepared & Analyzed: 04/16/24

C10-C28 (DRO)	526	50	mg/kg	500	15.5	102	70-130			
Surrogate: o-Terphenyl	12.7		"	12.5	102		30-150			

Matrix Spike Dup (BHD0487-MSD1)

Source: 2404213-01

Prepared: 04/16/24 Analyzed: 04/17/24

C10-C28 (DRO)	531	50	mg/kg	500	15.5	103	70-130	1.02	20	
Surrogate: o-Terphenyl	13.2		"	12.5	106		30-150			

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0426 - EPA 5030 Soil MS

Blank (BHD0426-BLK1)

Prepared & Analyzed: 04/15/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0333		"	0.0333		99.8	40-150			
Surrogate: Fluoranthene-d10	0.0237		"	0.0333		71.2	40-150			

LCS (BHD0426-BS1)

Prepared & Analyzed: 04/15/24

Acenaphthene	0.0306	0.00500	mg/kg	0.0333		91.9	31-137			
Anthracene	0.0305	0.00500	"	0.0333		91.4	30-120			
Benzo (a) anthracene	0.0285	0.00500	"	0.0333		85.4	30-120			
Benzo (a) pyrene	0.0270	0.00500	"	0.0333		81.1	30-120			
Benzo (b) fluoranthene	0.0258	0.00500	"	0.0333		77.3	30-120			
Benzo (k) fluoranthene	0.0310	0.00500	"	0.0333		93.1	30-120			
Chrysene	0.0320	0.00500	"	0.0333		96.1	30-120			
Dibenz (a,h) anthracene	0.0224	0.00500	"	0.0333		67.2	30-120			
Fluoranthene	0.0295	0.00500	"	0.0333		88.4	30-120			
Fluorene	0.0301	0.00500	"	0.0333		90.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0224	0.00500	"	0.0333		67.1	30-120			
Pyrene	0.0339	0.00500	"	0.0333		102	35-142			
1-Methylnaphthalene	0.0337	0.00500	"	0.0333		101	35-142			
2-Methylnaphthalene	0.0330	0.00500	"	0.0333		99.1	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0327		"	0.0333		98.2	40-150			
Surrogate: Fluoranthene-d10	0.0230		"	0.0333		69.0	40-150			

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0426 - EPA 5030 Soil MS

Matrix Spike (BHD0426-MS1)

Source: 2404196-01

Prepared & Analyzed: 04/15/24

Acenaphthene	0.0177	0.00500	mg/kg	0.0333	ND	53.0	31-137				
Anthracene	0.0181	0.00500	"	0.0333	ND	54.2	30-120				
Benzo (a) anthracene	0.0173	0.00500	"	0.0333	ND	51.9	30-120				
Benzo (a) pyrene	0.0171	0.00500	"	0.0333	ND	51.2	30-120				
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	45.0	30-120				
Benzo (k) fluoranthene	0.0166	0.00500	"	0.0333	ND	49.9	30-120				
Chrysene	0.0181	0.00500	"	0.0333	ND	54.2	30-120				
Dibenz (a,h) anthracene	0.0183	0.00500	"	0.0333	ND	54.8	30-120				
Fluoranthene	0.0173	0.00500	"	0.0333	ND	52.0	30-120				
Fluorene	0.0173	0.00500	"	0.0333	ND	52.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0179	0.00500	"	0.0333	ND	53.6	30-120				
Pyrene	0.0196	0.00500	"	0.0333	ND	58.7	35-142				
1-Methylnaphthalene	0.0230	0.00500	"	0.0333	ND	69.1	15-130				
2-Methylnaphthalene	0.0228	0.00500	"	0.0333	ND	68.5	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0195		"	0.0333		58.6	40-150				
Surrogate: Fluoranthene-d10	0.0141		"	0.0333		42.2	40-150				

Matrix Spike Dup (BHD0426-MSD1)

Source: 2404196-01

Prepared & Analyzed: 04/15/24

Acenaphthene	0.0162	0.00500	mg/kg	0.0333	ND	48.5	31-137	8.90	30
Anthracene	0.0173	0.00500	"	0.0333	ND	51.8	30-120	4.40	30
Benzo (a) anthracene	0.0162	0.00500	"	0.0333	ND	48.5	30-120	6.74	30
Benzo (a) pyrene	0.0168	0.00500	"	0.0333	ND	50.3	30-120	1.81	30
Benzo (b) fluoranthene	0.0145	0.00500	"	0.0333	ND	43.5	30-120	3.29	30
Benzo (k) fluoranthene	0.0163	0.00500	"	0.0333	ND	48.9	30-120	2.14	30
Chrysene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	6.02	30
Dibenz (a,h) anthracene	0.0174	0.00500	"	0.0333	ND	52.3	30-120	4.62	30
Fluoranthene	0.0176	0.00500	"	0.0333	ND	52.9	30-120	1.67	30
Fluorene	0.0160	0.00500	"	0.0333	ND	47.9	30-120	8.30	30
Indeno (1,2,3-cd) pyrene	0.0172	0.00500	"	0.0333	ND	51.6	30-120	3.95	30
Pyrene	0.0181	0.00500	"	0.0333	ND	54.3	35-142	7.74	30
1-Methylnaphthalene	0.0223	0.00500	"	0.0333	ND	67.0	15-130	3.00	50
2-Methylnaphthalene	0.0240	0.00500	"	0.0333	ND	71.9	15-130	4.80	50
Surrogate: 2-Methylnaphthalene-d10	0.0197		"	0.0333		59.0	40-150		
Surrogate: Fluoranthene-d10	0.0136		"	0.0333		40.9	40-150		

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

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

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

Batch BHD0622 - EPA 3050B

Blank (BHD0622-BLK1)

Prepared: 04/18/24 Analyzed: 05/14/24

Boron ND 2.00 mg/L

LCS (BHD0622-BS1)

Prepared: 04/18/24 Analyzed: 05/14/24

Boron 5.06 2.00 mg/L 5.00 101 80-120

Duplicate (BHD0622-DUP1)

Source: 2404200-01

Prepared: 04/18/24 Analyzed: 05/14/24

Boron 0.522 2.00 mg/L 0.540 3.34 20

Matrix Spike (BHD0622-MS1)

Source: 2404200-01

Prepared: 04/18/24 Analyzed: 05/14/24

Boron 5.64 2.00 mg/L 4.97 0.540 103 75-125

Matrix Spike Dup (BHD0622-MSD1)

Source: 2404200-01

Prepared: 04/18/24 Analyzed: 05/14/24

Boron 5.97 2.00 mg/L 4.97 0.540 109 75-125 5.57 25

Summit Scientific

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



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BHD0891 - EPA 3050B

Blank (BHD0891-BLK1)

Prepared: 04/24/24 Analyzed: 05/16/24

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

LCS (BHD0891-BS1)

Prepared: 04/24/24 Analyzed: 05/16/24

Arsenic	35.8	0.200	mg/kg wet	40.0	89.4	80-120
Barium	39.4	0.400	"	40.0	98.6	80-120
Cadmium	2.00	0.200	"	2.00	100	80-120
Copper	36.1	0.400	"	40.0	90.1	80-120
Lead	19.5	0.200	"	20.0	97.6	80-120
Nickel	40.4	0.400	"	40.0	101	80-120
Silver	1.98	0.0200	"	2.00	98.9	80-120
Zinc	36.3	0.400	"	40.0	90.7	80-120
Selenium	3.91	0.260	"	4.00	97.8	80-120

Duplicate (BHD0891-DUP1)

Source: 2404189-01

Prepared: 04/24/24 Analyzed: 05/16/24

Arsenic	2.01	0.200	mg/kg dry	1.74	14.1	20
Barium	15.1	0.400	"	11.7	25.6	20
Cadmium	0.0374	0.200	"	0.0330	12.4	20
Copper	1.39	0.400	"	1.21	14.2	20
Lead	2.11	0.200	"	1.75	18.5	20
Nickel	0.819	0.400	"	0.765	6.83	20
Silver	0.00911	0.0200	"	0.00905	0.760	20
Zinc	7.21	0.400	"	6.24	14.5	20
Selenium	ND	0.260	"	ND		20

Summit Scientific

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



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0891 - EPA 3050B

Matrix Spike (BHD0891-MS1)

Source: 2404189-01

Prepared: 04/24/24 Analyzed: 05/16/24

Arsenic	45.5	0.200	mg/kg dry	45.6	1.74	96.0	75-125
Barium	57.3	0.400	"	45.6	11.7	100	75-125
Cadmium	2.38	0.200	"	2.28	0.0330	103	75-125
Copper	45.1	0.400	"	45.6	1.21	96.4	75-125
Lead	25.2	0.200	"	22.8	1.75	103	75-125
Nickel	43.1	0.400	"	45.6	0.765	92.9	75-125
Silver	2.32	0.0200	"	2.28	0.00905	102	75-125
Zinc	51.7	0.400	"	45.6	6.24	99.8	75-125
Selenium	4.61	0.260	"	4.56	ND	101	75-125

Matrix Spike Dup (BHD0891-MSD1)

Source: 2404189-01

Prepared: 04/24/24 Analyzed: 05/16/24

Arsenic	44.9	0.200	mg/kg dry	45.6	1.74	94.8	75-125	1.23	25
Barium	57.3	0.400	"	45.6	11.7	100	75-125	0.126	25
Cadmium	2.36	0.200	"	2.28	0.0330	102	75-125	1.08	25
Copper	44.8	0.400	"	45.6	1.21	95.5	75-125	0.879	25
Lead	24.9	0.200	"	22.8	1.75	102	75-125	1.03	25
Nickel	41.9	0.400	"	45.6	0.765	90.2	75-125	2.98	25
Silver	2.29	0.0200	"	2.28	0.00905	100	75-125	1.48	25
Zinc	51.3	0.400	"	45.6	6.24	98.9	75-125	0.793	25
Selenium	4.47	0.260	"	4.56	ND	98.2	75-125	3.09	25

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0730 - 3060A Mod

Blank (BHD0730-BLK1)

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0730-BS1)

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent 25.8 0.30 mg/kg wet 25.0 103 80-120

Duplicate (BHD0730-DUP1)

Source: 2404201-01

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0730-MS1)

Source: 2404201-01

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent 29.1 0.30 mg/kg dry 29.5 ND 98.6 75-125

Matrix Spike Dup (BHD0730-MSD1)

Source: 2404201-01

Prepared & Analyzed: 04/22/24

Chromium, Hexavalent 29.0 0.30 mg/kg dry 29.5 ND 98.4 75-125 0.203 20

Summit Scientific

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



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

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 BHD1029 - General Preparation

Blank (BHD1029-BLK1)

Prepared: 04/29/24 Analyzed: 05/31/24

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

LCS (BHD1029-BS1)

Prepared: 04/29/24 Analyzed: 05/31/24

Calcium	5.43	0.0500	mg/L wet	5.00	109	70-130
Magnesium	4.81	0.0500	"	5.00	96.2	70-130
Sodium	4.67	0.0500	"	5.00	93.3	70-130

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

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

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

Batch BHD0602 - General Preparation

Duplicate (BHD0602-DUP1)		Source: 2404200-01		Prepared & Analyzed: 04/18/24						
% Solids	84.4		%		83.5			0.972	20	

Summit Scientific

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



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

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

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

Batch BHD1104 - General Preparation

Blank (BHD1104-BLK1)

Prepared: 04/30/24 Analyzed: 05/02/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD1104-BS1)

Prepared: 04/30/24 Analyzed: 05/02/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHD1104-DUP1)

Source: 2404200-01

Prepared: 04/30/24 Analyzed: 05/02/24

Specific Conductance (EC) 0.298 0.0100 mmhos/cm 0.300 0.634 20

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

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

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

Batch BHD1103 - General Preparation

LCS (BHD1103-BS1)

Prepared: 04/30/24 Analyzed: 05/02/24

pH	9.18	pH Units	9.18	100	95-105
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Duplicate (BHD1103-DUP1)

Source: 2404200-01

Prepared: 04/30/24 Analyzed: 05/02/24

pH	8.28	pH Units	8.33	0.602	20
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Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
06/03/24 12:50

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.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

July 23, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

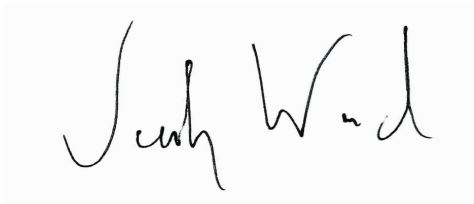
Broomfield, CO 80020

RE: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Work Order #2404250

Enclosed are the results of analyses for samples received by Summit Scientific on 04/15/24 18:05. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV01-B@6'	2404250-01	Soil	04/15/24 14:25	04/15/24 18:05
PWV01-E@2.5'	2404250-04	Soil	04/15/24 15:04	04/15/24 18:05
PWV02-B@6'	2404250-05	Soil	04/15/24 14:34	04/15/24 18:05
PWV02-E@2.5'	2404250-07	Soil	04/15/24 15:01	04/15/24 18:05
PWV03-B@6'	2404250-08	Soil	04/15/24 14:40	04/15/24 18:05
PWV03-E@2.5'	2404250-10	Soil	04/15/24 14:58	04/15/24 18:05
PWV04-B@6'	2404250-11	Soil	04/15/24 14:46	04/15/24 18:05
PWV04-S@2.5'	2404250-13	Soil	04/15/24 14:52	04/15/24 18:05
PWV05-B@10'	2404250-15	Soil	04/15/24 15:30	04/15/24 18:05
PWV06-B@6'	2404250-16	Soil	04/15/24 15:35	04/15/24 18:05
PWV07-B@6'	2404250-17	Soil	04/15/24 15:40	04/15/24 18:05
PWV08-B@6'	2404250-18	Soil	04/15/24 15:45	04/15/24 18:05

Case Narrative

Reported PAH analyte list has been corrected on 7/23/2024.

This is a revision of the report originally sent on 4/16/2024 at 09:03 AM MT.

Summit Scientific

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

SUMMIT SCIENTIFIC

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

Lab ID	Page 1 of 2
2404250.1	

Client: PDC / Tasman		Send Data To: Project Manager: Karen Olson		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: Karen.Olson@chevron.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020				AFE#:	
Phone: 303-487-1228		Project Name: Strecker F32-21D, 24, 33-32D Tank Battery		PO/Billing Codes:	
Sampler Name: David Vigil		Project Number:		Contact: Karen Olson	

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs - 915	Metals - 915	HQIC	
1	PWV01-B@6'	4/15/24	1425	1			X			X			X	X	X	X	X	X	X	X	
2	PWV01-N@2.5'		1428																	X	
3	PWV01-W@2.5'		1431																	X	
4	PWV01-E@2.5'		1504										X	X	X	X	X	X	X		
5	PWV02-B@6'		1434										X	X	X	X	X	X	X		
6	PWV02-W@2.5'		1437																	X	
7	PWV02-E@2.5'		1501										X	X	X	X	X	X	X		
8	PWV03-B@6'		1440										X	X	X	X	X	X	X		
9	PWV03-W@2.5'		1443																	X	
10	PWV03-E@2.5'		1458										X	X	X	X	X	X	X		
11	PWV04-B@6'		1446										X	X	X	X	X	X	X		
12	PWV04-W@2.5'		1449																	X	
13	PWV04-S@2.5'		1452										X	X	X	X	X	X	X		
14	PWV04-E@2.5'		1435																	X	
15																					

Relinquished by: <i>Dr. V</i>	Date/Time: 4/15/24 1405	Received by: <i>[Signature]</i>	Date/Time: 4/15/24 1805	TAT Business Days	Field DO	Notes:
Relinquished by:	Date/Time:	Received by:	Date/Time:	Same Day	Field EC	
				1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	X Field Turb.	
Temperature Upon Receipt: 89	Corrected Temperature: 6	IR gun #: 1	HNO3 lot #:			

SUMMIT SCIENTIFIC

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

Lab ID	Page 2 of 2
2404250.2	

Client: PDC / Tasman		Send Data To: Project Manager: Karen Olson		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: Karen.Olson@chevron.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020				AFE#:	
Phone: 303-487-1228		Project Name: Strohauser F32-24D, 24, 33-32D Tank Battery		PO/Billing Codes:	
Sampler Name: David Vigil		Project Number:		Contact: Karen Olson	

					Preservative				Matrix				Analysis Requested								Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	PAHs - 915	Metals - 915		
1	PWV05-B @ 10'	4/15/24	1530	3			X			X			X	X	X	X	X	X	X	X	
2	PWV05-B @ 10'		1535																		
3	PWV06-B @ 6'		1540																		
4	PWV07-B @ 6'		1545																		
5	PWV08-B @ 6'																				
6																					
7																					
8																					
9																					
10																					
11																					
12																					
13																					
14																					
15																					

Relinquished by: <i>Dr. 2/2</i>	Date/Time: 4/15/24 1805	Received by: <i>[Signature]</i>	Date/Time: 4/15/24 1805	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <i>[Signature]</i>	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
				2 Days	Field pH	
				3 Days	Field Temp.	
Relinquished by:	Date/Time:	Received by:	Date/Time:	Standard	Field Turb.	
Temperature Upon Receipt: 8.5	Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:			

S₂

Sample Receipt Checklist

S2 Work Order# 2409250

Client: PactarmanClient Project ID: StrohaverTank Battery
F32-21D, 33, 32DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other

Airbill #:

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

8.5

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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	MDCE
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.

Custodian Printed Name

Date/Time

AS

4/15/2014

5.00



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-B@6'
2404250-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0223	55.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0404	101 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	11.4	91.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-B@6'
2404250-01 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0214	64.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0144	43.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-B@6'
2404250-01 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.85	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	31.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.36	0.400	"	"	"	"	"	"
Lead	4.10	0.200	"	"	"	"	"	"
Nickel	1.39	0.400	"	"	"	"	"	"
Silver	0.0230	0.0200	"	"	"	"	"	"
Zinc	9.00	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.1	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	5.79	0.0500	"	"	"	"	"	"	
Sodium	19.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.925	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-B@6'
2404250-01 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	95.6			%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.143	0.0100		mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 14:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.80			pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-E@2.5'
2404250-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0262	65.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0414	104 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0398	99.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.0	112 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-E@2.5'
2404250-04 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0212	63.5 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0136	40.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-E@2.5'
2404250-04 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.20	0.180	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	62.3	0.360	"	"	"	"	"	"
Cadmium	ND	0.180	"	"	"	"	"	"
Copper	2.70	0.360	"	"	"	"	"	"
Lead	3.70	0.180	"	"	"	"	"	"
Nickel	2.48	0.360	"	"	"	"	"	"
Silver	0.0215	0.0180	"	"	"	"	"	"
Zinc	13.0	0.360	"	"	"	"	"	"
Selenium	ND	0.234	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	56.9	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	13.4	0.0500	"	"	"	"	"	"	
Sodium	10.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.335	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV01-E@2.5'
2404250-04 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	88.5		%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.441	0.0100	mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 15:04**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.45		pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-B@6'
2404250-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0272	68.1 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0400	100 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.6	125 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-B@6'
2404250-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0231	69.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0149	44.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-B@6'
2404250-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.07	0.181	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	20.2	0.362	"	"	"	"	"	"
Cadmium	ND	0.181	"	"	"	"	"	"
Copper	2.59	0.362	"	"	"	"	"	"
Lead	3.95	0.181	"	"	"	"	"	"
Nickel	1.37	0.362	"	"	"	"	"	"
Silver	ND	0.0181	"	"	"	"	"	"
Zinc	10.5	0.362	"	"	"	"	"	"
Selenium	ND	0.236	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.8	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	3.12	0.0500	"	"	"	"	"	"	
Sodium	1.19	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0631	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-B@6'
2404250-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.7		%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.123	0.0100	mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 14:34**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.68		pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-E@2.5'
2404250-07 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0246	61.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0398	99.4 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0401	100 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/18/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	17.0	136 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-E@2.5'
2404250-07 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0155	46.5 %	40-150		"	"	04/17/24	"	
Surrogate: Fluoranthene-d10	0.0144	43.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-E@2.5'
2404250-07 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.66	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	33.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.27	0.400	"	"	"	"	"	"
Lead	10.2	0.200	"	"	"	"	"	"
Nickel	2.32	0.400	"	"	"	"	"	"
Silver	0.0338	0.0200	"	"	"	"	"	"
Zinc	38.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	27.3	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	6.01	0.0500	"	"	"	"	"	"	
Sodium	9.75	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.440	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV02-E@2.5'
2404250-07 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.7		%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.285	0.0100	mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 15:01**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-B@6'
2404250-08 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0297	74.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0393	98.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.2	122 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-B@6'
2404250-08 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0141	42.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0147	44.1 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-B@6'
2404250-08 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.880	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	29.2	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.08	0.400	"	"	"	"	"	"
Lead	5.65	0.200	"	"	"	"	"	"
Nickel	1.79	0.400	"	"	"	"	"	"
Silver	0.0209	0.0200	"	"	"	"	"	"
Zinc	17.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	51.3	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	6.80	0.0500	"	"	"	"	"	"	
Sodium	2.85	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0993	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-B@6'
2404250-08 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.4		%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.227	0.0100	mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 14:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.51		pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-E@2.5'
2404250-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0283	70.7 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0392	98.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0379	94.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	15.4	123 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-E@2.5'
2404250-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0161	48.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0184	55.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-E@2.5'
2404250-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.46	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	30.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.93	0.400	"	"	"	"	"	"
Lead	9.06	0.200	"	"	"	"	"	"
Nickel	2.16	0.400	"	"	"	"	"	"
Silver	0.0313	0.0200	"	"	"	"	"	"
Zinc	33.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	32.8	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	6.15	0.0500	"	"	"	"	"	"	
Sodium	8.59	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.361	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV03-E@2.5'
2404250-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.7		%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.285	0.0100	mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 14:58**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.44		pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-B@6'
2404250-11 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0276	68.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0374	93.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	14.7	118 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-B@6'
2404250-11 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0160	47.9 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0153	45.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-B@6'
2404250-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.726	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	25.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.49	0.400	"	"	"	"	"	"
Lead	6.37	0.200	"	"	"	"	"	"
Nickel	1.58	0.400	"	"	"	"	"	"
Silver	0.0244	0.0200	"	"	"	"	"	"
Zinc	18.6	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	32.4	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	5.33	0.0500	"	"	"	"	"	"	
Sodium	17.5	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.751	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-B@6'
2404250-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.7		%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.338	0.0100	mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 14:46**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.30		pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-S@2.5'
2404250-13 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0569	04/17/24	04/18/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0393	98.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0382	95.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0395	98.8 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0571	04/17/24	04/19/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	18.3	146 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-S@2.5'
2404250-13 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0481	04/16/24	04/17/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0135	40.6 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0161	48.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0690	04/19/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-S@2.5'
2404250-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.21	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	34.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.00	0.400	"	"	"	"	"	"
Lead	4.06	0.200	"	"	"	"	"	"
Nickel	2.13	0.400	"	"	"	"	"	"
Silver	0.0241	0.0200	"	"	"	"	"	"
Zinc	11.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0800	04/23/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	544	0.0500	mg/L dry	1	BHD1097	04/30/24	05/08/24	EPA 6020B	
Magnesium	17.0	0.0500	"	"	"	"	"	"	
Sodium	8.60	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0990	0.00100	units	1	BHE0306	05/09/24	05/09/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV04-S@2.5'
2404250-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.5		%	1	BHD0755	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.144	0.0100	mmhos/cm	1	BHD1098	04/30/24	05/01/24	EPA 120.1	

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

Date Sampled: **04/15/24 14:52**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.79		pH Units	1	BHD1099	04/30/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV05-B@10'
2404250-15 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0475	04/15/24	04/15/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0446	112 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0383	95.7 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0386	96.4 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0474	04/15/24	04/15/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.78	78.2 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV05-B@10'
2404250-15 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0479	04/16/24	04/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0227	68.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0167	50.0 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0594	04/18/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV05-B@10'
2404250-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.455	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	19.5	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.27	0.400	"	"	"	"	"	"
Lead	3.36	0.200	"	"	"	"	"	"
Nickel	2.07	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	11.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0667	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	23.9	0.0500	mg/L dry	1	BHD0856	04/23/24	05/11/24	EPA 6020B	
Magnesium	7.07	0.0500	"	"	"	"	"	"	
Sodium	2.02	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0933	0.00100	units	1	BHE0399	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV05-B@10'
2404250-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.9		%	1	BHD0513	04/16/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.152	0.0100	mmhos/cm	1	BHD0857	04/23/24	05/01/24	EPA 120.1	I-02

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

Date Sampled: **04/15/24 15:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.80		pH Units	1	BHD0858	04/23/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV06-B@6'
2404250-16 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0475	04/15/24	04/16/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0356	88.9 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0393	98.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0388	97.1 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0474	04/15/24	04/15/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.85	70.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV06-B@6'
2404250-16 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0479	04/16/24	04/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0133	40.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0159	47.7 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0594	04/18/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV06-B@6'
2404250-16 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.444	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	25.8	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.90	0.400	"	"	"	"	"	"
Lead	3.92	0.200	"	"	"	"	"	"
Nickel	2.82	0.400	"	"	"	"	"	"
Silver	0.0263	0.0200	"	"	"	"	"	"
Zinc	11.8	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0667	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	40.3	0.0500	mg/L dry	1	BHD0856	04/23/24	05/11/24	EPA 6020B	
Magnesium	12.5	0.0500	"	"	"	"	"	"	
Sodium	23.3	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.822	0.00100	units	1	BHE0399	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV06-B@6'
2404250-16 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	93.7			%	1	BHD0513	04/16/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.134	0.0100		mmhos/cm	1	BHD0857	04/23/24	05/01/24	EPA 120.1	I-02

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

Date Sampled: **04/15/24 15:35**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.63			pH Units	1	BHD0858	04/23/24	05/01/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV07-B@6'
2404250-17 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0475	04/15/24	04/15/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0385	96.2 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0381	95.2 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0391	97.7 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0474	04/15/24	04/15/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.2	90.0 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV07-B@6'
2404250-17 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0479	04/16/24	04/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0147	44.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0185	55.4 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0594	04/18/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV07-B@6'
2404250-17 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.615	0.200	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	25.3	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	3.05	0.400	"	"	"	"	"	"
Lead	6.07	0.200	"	"	"	"	"	"
Nickel	2.86	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	18.4	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0667	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	21.8	0.0500	mg/L dry	1	BHD0856	04/23/24	05/11/24	EPA 6020B	
Magnesium	21.6	0.0500	"	"	"	"	"	"	
Sodium	24.1	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.876	0.00100	units	1	BHE0399	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV07-B@6'
2404250-17 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.4		%	1	BHD0513	04/16/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0856	0.0100	mmhos/cm	1	BHD0857	04/23/24	05/01/24	EPA 120.1	I-02

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

Date Sampled: **04/15/24 15:40**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.14		pH Units	1	BHD0858	04/23/24	05/01/24	EPA 9045D	

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV08-B@6'
2404250-18 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0475	04/15/24	04/15/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0398	99.5 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0368	92.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0409	102 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0474	04/15/24	04/15/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	8.45	67.6 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV08-B@6'
2404250-18 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0479	04/16/24	04/16/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0161	48.4 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0191	57.3 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0594	04/18/24	05/29/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV08-B@6'
2404250-18 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.527	0.180	mg/kg dry	1	BHD0823	04/23/24	05/02/24	EPA 6020B
Barium	22.4	0.360	"	"	"	"	"	"
Cadmium	ND	0.180	"	"	"	"	"	"
Copper	2.68	0.360	"	"	"	"	"	"
Lead	4.16	0.180	"	"	"	"	"	"
Nickel	2.80	0.360	"	"	"	"	"	"
Silver	ND	0.0180	"	"	"	"	"	"
Zinc	17.0	0.360	"	"	"	"	"	"
Selenium	ND	0.234	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0667	04/19/24	04/19/24	EPA 7196A	

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

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	29.0	0.0500	mg/L dry	1	BHD0856	04/23/24	05/11/24	EPA 6020B	
Magnesium	21.9	0.0500	"	"	"	"	"	"	
Sodium	20.0	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.683	0.00100	units	1	BHE0399	05/13/24	05/13/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PWV08-B@6'
2404250-18 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	93.8		%	1	BHD0513	04/16/24	04/17/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.184	0.0100	mmhos/cm	1	BHD0857	04/23/24	05/01/24	EPA 120.1	I-02

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

Date Sampled: **04/15/24 15:45**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	7.68		pH Units	1	BHD0858	04/23/24	05/01/24	EPA 9045D	

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0475 - EPA 5030 Soil MS

Blank (BHD0475-BLK1)

Prepared: 04/15/24 Analyzed: 04/16/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0375		"	0.0400		93.8	50-150			
Surrogate: Toluene-d8	0.0387		"	0.0400		96.8	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.4	50-150			

LCS (BHD0475-BS1)

Prepared: 04/15/24 Analyzed: 04/16/24

Benzene	0.0765	0.0020	mg/kg	0.100		76.5	70-130			
Toluene	0.0981	0.0050	"	0.100		98.1	70-130			
Ethylbenzene	0.0984	0.0050	"	0.100		98.4	70-130			
m,p-Xylene	0.188	0.010	"	0.200		94.1	70-130			
o-Xylene	0.0950	0.0050	"	0.100		95.0	70-130			
1,2,4-Trimethylbenzene	0.0900	0.0050	"	0.100		90.0	70-130			
1,3,5-Trimethylbenzene	0.0928	0.0050	"	0.100		92.8	70-130			
Naphthalene	0.0728	0.0038	"	0.100		72.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0372		"	0.0400		93.1	50-150			
Surrogate: Toluene-d8	0.0422		"	0.0400		106	50-150			
Surrogate: 4-Bromofluorobenzene	0.0416		"	0.0400		104	50-150			

Matrix Spike (BHD0475-MS1)

Source: 2404247-01

Prepared: 04/15/24 Analyzed: 04/16/24

Benzene	0.0706	0.0020	mg/kg	0.100	ND	70.6	70-130			
Toluene	0.0925	0.0050	"	0.100	ND	92.5	70-130			
Ethylbenzene	0.0920	0.0050	"	0.100	ND	92.0	70-130			
m,p-Xylene	0.175	0.010	"	0.200	ND	87.4	70-130			
o-Xylene	0.0879	0.0050	"	0.100	ND	87.9	70-130			
1,2,4-Trimethylbenzene	0.0834	0.0050	"	0.100	ND	83.4	70-130			
1,3,5-Trimethylbenzene	0.0858	0.0050	"	0.100	ND	85.8	70-130			
Naphthalene	0.0736	0.0038	"	0.100	ND	73.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0320		"	0.0400		79.9	50-150			
Surrogate: Toluene-d8	0.0417		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	50-150			

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0475 - EPA 5030 Soil MS

Matrix Spike Dup (BHD0475-MSD1)

Source: 2404247-01

Prepared: 04/15/24 Analyzed: 04/16/24

Benzene	0.0762	0.0020	mg/kg	0.100	ND	76.2	70-130	7.69	30	
Toluene	0.101	0.0050	"	0.100	ND	101	70-130	9.05	30	
Ethylbenzene	0.0976	0.0050	"	0.100	ND	97.6	70-130	5.95	30	
m,p-Xylene	0.186	0.010	"	0.200	ND	93.0	70-130	6.25	30	
o-Xylene	0.0932	0.0050	"	0.100	ND	93.2	70-130	5.86	30	
1,2,4-Trimethylbenzene	0.0868	0.0050	"	0.100	ND	86.8	70-130	4.09	30	
1,3,5-Trimethylbenzene	0.0897	0.0050	"	0.100	ND	89.7	70-130	4.48	30	
Naphthalene	0.0759	0.0038	"	0.100	ND	75.9	70-130	3.09	30	
Surrogate: 1,2-Dichloroethane-d4	0.0366		"	0.0400		91.5	50-150			
Surrogate: Toluene-d8	0.0427		"	0.0400		107	50-150			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150			

Batch BHD0569 - EPA 5030 Soil MS

Blank (BHD0569-BLK1)

Prepared: 04/17/24 Analyzed: 04/18/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0224		"	0.0400		56.0	50-150			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0398		"	0.0400		99.6	50-150			

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0569 - EPA 5030 Soil MS

LCS (BHD0569-BS1)

Prepared: 04/17/24 Analyzed: 04/18/24

Benzene	0.0734	0.0020	mg/kg	0.100		73.4	70-130			
Toluene	0.110	0.0050	"	0.100		110	70-130			
Ethylbenzene	0.0900	0.0050	"	0.100		90.0	70-130			
m,p-Xylene	0.171	0.010	"	0.200		85.7	70-130			
o-Xylene	0.0846	0.0050	"	0.100		84.6	70-130			
1,2,4-Trimethylbenzene	0.0815	0.0050	"	0.100		81.5	70-130			
1,3,5-Trimethylbenzene	0.0844	0.0050	"	0.100		84.4	70-130			
Naphthalene	0.0786	0.0038	"	0.100		78.6	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0285		"	0.0400		71.2	50-150			
Surrogate: Toluene-d8	0.0534		"	0.0400		134	50-150			
Surrogate: 4-Bromofluorobenzene	0.0374		"	0.0400		93.5	50-150			

Matrix Spike (BHD0569-MS1)

Source: 2404211-06

Prepared: 04/17/24 Analyzed: 04/18/24

Benzene	0.0559	0.0020	mg/kg	0.100	ND	55.9	70-130			QM-07
Toluene	0.0842	0.0050	"	0.100	ND	84.2	70-130			
Ethylbenzene	0.0835	0.0050	"	0.100	ND	83.5	70-130			
m,p-Xylene	0.160	0.010	"	0.200	ND	79.8	70-130			
o-Xylene	0.0788	0.0050	"	0.100	ND	78.8	70-130			
1,2,4-Trimethylbenzene	0.0792	0.0050	"	0.100	ND	79.2	70-130			
1,3,5-Trimethylbenzene	0.0784	0.0050	"	0.100	ND	78.4	70-130			
Naphthalene	0.0567	0.0038	"	0.100	ND	56.7	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0196		"	0.0400		48.9	50-150			QM-07
Surrogate: Toluene-d8	0.0447		"	0.0400		112	50-150			
Surrogate: 4-Bromofluorobenzene	0.0383		"	0.0400		95.7	50-150			

Matrix Spike Dup (BHD0569-MSD1)

Source: 2404211-06

Prepared: 04/17/24 Analyzed: 04/18/24

Benzene	0.0615	0.0020	mg/kg	0.100	ND	61.5	70-130	9.51	30	QM-07
Toluene	0.0930	0.0050	"	0.100	ND	93.0	70-130	9.99	30	
Ethylbenzene	0.0884	0.0050	"	0.100	ND	88.4	70-130	5.76	30	
m,p-Xylene	0.164	0.010	"	0.200	ND	82.2	70-130	2.94	30	
o-Xylene	0.0820	0.0050	"	0.100	ND	82.0	70-130	4.03	30	
1,2,4-Trimethylbenzene	0.0809	0.0050	"	0.100	ND	80.9	70-130	2.21	30	
1,3,5-Trimethylbenzene	0.0818	0.0050	"	0.100	ND	81.8	70-130	4.31	30	
Naphthalene	0.0575	0.0038	"	0.100	ND	57.5	70-130	1.42	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0218		"	0.0400		54.4	50-150			
Surrogate: Toluene-d8	0.0445		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0390		"	0.0400		97.4	50-150			

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHD0474 - EPA 3550A

Blank (BHD0474-BLK1)

Prepared: 04/15/24 Analyzed: 04/16/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	16.3		"	12.5		130	30-150			

LCS (BHD0474-BS1)

Prepared: 04/15/24 Analyzed: 04/16/24

C10-C28 (DRO)	517	50	mg/kg	500		103	70-130			
Surrogate: o-Terphenyl	12.0		"	12.5		95.8	30-150			

Matrix Spike (BHD0474-MS1)

Source: 2404247-01

Prepared: 04/15/24 Analyzed: 04/16/24

C10-C28 (DRO)	524	50	mg/kg	500	19.1	101	70-130			
Surrogate: o-Terphenyl	9.98		"	12.5		79.9	30-150			

Matrix Spike Dup (BHD0474-MSD1)

Source: 2404247-01

Prepared: 04/15/24 Analyzed: 04/16/24

C10-C28 (DRO)	387	50	mg/kg	500	19.1	73.7	70-130	30.1	20	QR-02
Surrogate: o-Terphenyl	10.6		"	12.5		84.9	30-150			

Batch BHD0571 - EPA 3550A

Blank (BHD0571-BLK1)

Prepared: 04/17/24 Analyzed: 04/18/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	13.4		"	12.5		108	30-150			

LCS (BHD0571-BS1)

Prepared: 04/17/24 Analyzed: 04/18/24

C10-C28 (DRO)	461	50	mg/kg	500		92.3	70-130			
Surrogate: o-Terphenyl	14.1		"	12.5		113	30-150			

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHD0571 - EPA 3550A

Matrix Spike (BHD0571-MS1)

Source: 2404211-06

Prepared: 04/17/24 Analyzed: 04/18/24

C10-C28 (DRO)	421	50	mg/kg	500	13.0	81.6	70-130
Surrogate: o-Terphenyl	9.66		"	12.5		77.3	30-150

Matrix Spike Dup (BHD0571-MSD1)

Source: 2404211-06

Prepared: 04/17/24 Analyzed: 04/18/24

C10-C28 (DRO)	452	50	mg/kg	500	13.0	87.7	70-130	7.01	20
Surrogate: o-Terphenyl	10.6		"	12.5		84.8	30-150		

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0479 - EPA 5030 Soil MS

Blank (BHD0479-BLK1)

Prepared & Analyzed: 04/16/24

Acenaphthene	ND	0.00500	mg/kg							
Anthracene	ND	0.00500	"							
Benzo (a) anthracene	ND	0.00500	"							
Benzo (a) pyrene	ND	0.00500	"							
Benzo (b) fluoranthene	ND	0.00500	"							
Benzo (k) fluoranthene	ND	0.00500	"							
Chrysene	ND	0.00500	"							
Dibenz (a,h) anthracene	ND	0.00500	"							
Fluoranthene	ND	0.00500	"							
Fluorene	ND	0.00500	"							
Indeno (1,2,3-cd) pyrene	ND	0.00500	"							
Pyrene	ND	0.00500	"							
1-Methylnaphthalene	ND	0.00500	"							
2-Methylnaphthalene	ND	0.00500	"							
Surrogate: 2-Methylnaphthalene-d10	0.0236		"	0.0333		70.8	40-150			
Surrogate: Fluoranthene-d10	0.0191		"	0.0333		57.4	40-150			

LCS (BHD0479-BS1)

Prepared & Analyzed: 04/16/24

Acenaphthene	0.0210	0.00500	mg/kg	0.0333		62.9	31-137			
Anthracene	0.0268	0.00500	"	0.0333		80.4	30-120			
Benzo (a) anthracene	0.0184	0.00500	"	0.0333		55.2	30-120			
Benzo (a) pyrene	0.0207	0.00500	"	0.0333		62.0	30-120			
Benzo (b) fluoranthene	0.0256	0.00500	"	0.0333		76.7	30-120			
Benzo (k) fluoranthene	0.0303	0.00500	"	0.0333		90.8	30-120			
Chrysene	0.0209	0.00500	"	0.0333		62.8	30-120			
Dibenz (a,h) anthracene	0.0161	0.00500	"	0.0333		48.2	30-120			
Fluoranthene	0.0255	0.00500	"	0.0333		76.5	30-120			
Fluorene	0.0162	0.00500	"	0.0333		48.6	30-120			
Indeno (1,2,3-cd) pyrene	0.0181	0.00500	"	0.0333		54.4	30-120			
Pyrene	0.0224	0.00500	"	0.0333		67.3	35-142			
1-Methylnaphthalene	0.0213	0.00500	"	0.0333		63.8	35-142			
2-Methylnaphthalene	0.0244	0.00500	"	0.0333		73.2	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0205		"	0.0333		61.6	40-150			
Surrogate: Fluoranthene-d10	0.0165		"	0.0333		49.5	40-150			

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0479 - EPA 5030 Soil MS

Matrix Spike (BHD0479-MS1)

Source: 2404082-01

Prepared & Analyzed: 04/16/24

Acenaphthene	0.0164	0.00500	mg/kg	0.0333	ND	49.2	31-137				
Anthracene	0.0157	0.00500	"	0.0333	ND	47.0	30-120				
Benzo (a) anthracene	0.0159	0.00500	"	0.0333	ND	47.8	30-120				
Benzo (a) pyrene	0.0161	0.00500	"	0.0333	ND	48.2	30-120				
Benzo (b) fluoranthene	0.0164	0.00500	"	0.0333	ND	49.2	30-120				
Benzo (k) fluoranthene	0.0185	0.00500	"	0.0333	ND	55.5	30-120				
Chrysene	0.0159	0.00500	"	0.0333	ND	47.6	30-120				
Dibenz (a,h) anthracene	0.0160	0.00500	"	0.0333	ND	48.0	30-120				
Fluoranthene	0.0155	0.00500	"	0.0333	ND	46.6	30-120				
Fluorene	0.0163	0.00500	"	0.0333	ND	49.0	30-120				
Indeno (1,2,3-cd) pyrene	0.0219	0.00500	"	0.0333	ND	65.8	30-120				
Pyrene	0.0179	0.00500	"	0.0333	ND	53.8	35-142				
1-Methylnaphthalene	0.0150	0.00500	"	0.0333	ND	44.9	15-130				
2-Methylnaphthalene	0.0207	0.00500	"	0.0333	ND	62.2	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0142		"	0.0333		42.7	40-150				
Surrogate: Fluoranthene-d10	0.0191		"	0.0333		57.3	40-150				

Matrix Spike Dup (BHD0479-MSD1)

Source: 2404082-01

Prepared & Analyzed: 04/16/24

Acenaphthene	0.0142	0.00500	mg/kg	0.0333	ND	42.5	31-137	14.7	30		
Anthracene	0.0215	0.00500	"	0.0333	ND	64.6	30-120	31.6	30		QR-02
Benzo (a) anthracene	0.0179	0.00500	"	0.0333	ND	53.6	30-120	11.5	30		
Benzo (a) pyrene	0.0140	0.00500	"	0.0333	ND	41.9	30-120	14.0	30		
Benzo (b) fluoranthene	0.0150	0.00500	"	0.0333	ND	45.0	30-120	8.93	30		
Benzo (k) fluoranthene	0.0170	0.00500	"	0.0333	ND	51.0	30-120	8.44	30		
Chrysene	0.0186	0.00500	"	0.0333	ND	55.7	30-120	15.8	30		
Dibenz (a,h) anthracene	0.0153	0.00500	"	0.0333	ND	45.8	30-120	4.83	30		
Fluoranthene	0.0204	0.00500	"	0.0333	ND	61.3	30-120	27.3	30		
Fluorene	0.0134	0.00500	"	0.0333	ND	40.1	30-120	20.0	30		
Indeno (1,2,3-cd) pyrene	0.0159	0.00500	"	0.0333	ND	47.7	30-120	31.9	30		QR-02
Pyrene	0.0206	0.00500	"	0.0333	ND	61.8	35-142	13.7	30		
1-Methylnaphthalene	0.0165	0.00500	"	0.0333	ND	49.6	15-130	9.93	50		
2-Methylnaphthalene	0.0201	0.00500	"	0.0333	ND	60.3	15-130	2.97	50		
Surrogate: 2-Methylnaphthalene-d10	0.0152		"	0.0333		45.7	40-150				
Surrogate: Fluoranthene-d10	0.0140		"	0.0333		41.9	40-150				

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0481 - EPA 5030 Soil MS

Blank (BHD0481-BLK1)

Prepared & Analyzed: 04/16/24

Acenaphthene	ND	0.00500	mg/kg
Anthracene	ND	0.00500	"
Benzo (a) anthracene	ND	0.00500	"
Benzo (a) pyrene	ND	0.00500	"
Benzo (b) fluoranthene	ND	0.00500	"
Benzo (k) fluoranthene	ND	0.00500	"
Chrysene	ND	0.00500	"
Dibenz (a,h) anthracene	ND	0.00500	"
Fluoranthene	ND	0.00500	"
Fluorene	ND	0.00500	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"
Pyrene	ND	0.00500	"
1-Methylnaphthalene	ND	0.00500	"
2-Methylnaphthalene	ND	0.00500	"

Surrogate: 2-Methylnaphthalene-d10	0.0160	"	0.0333	48.0	40-150
Surrogate: Fluoranthene-d10	0.0209	"	0.0333	62.6	40-150

LCS (BHD0481-BS1)

Prepared & Analyzed: 04/16/24

Acenaphthene	0.0184	0.00500	mg/kg	0.0333	55.1	31-137
Anthracene	0.0213	0.00500	"	0.0333	63.8	30-120
Benzo (a) anthracene	0.0185	0.00500	"	0.0333	55.5	30-120
Benzo (a) pyrene	0.0134	0.00500	"	0.0333	40.2	30-120
Benzo (b) fluoranthene	0.0134	0.00500	"	0.0333	40.3	30-120
Benzo (k) fluoranthene	0.0159	0.00500	"	0.0333	47.8	30-120
Chrysene	0.0196	0.00500	"	0.0333	58.8	30-120
Dibenz (a,h) anthracene	0.0247	0.00500	"	0.0333	74.0	30-120
Fluoranthene	0.0156	0.00500	"	0.0333	46.7	30-120
Fluorene	0.0200	0.00500	"	0.0333	59.9	30-120
Indeno (1,2,3-cd) pyrene	0.0336	0.00500	"	0.0333	101	30-120
Pyrene	0.0453	0.00500	"	0.0333	136	35-142
1-Methylnaphthalene	0.0202	0.00500	"	0.0333	60.7	35-142
2-Methylnaphthalene	0.0200	0.00500	"	0.0333	60.1	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0170	"	0.0333	51.0	40-150
Surrogate: Fluoranthene-d10	0.0206	"	0.0333	61.7	40-150

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0481 - EPA 5030 Soil MS

Matrix Spike (BHD0481-MS1)

Source: 2404241-01

Prepared: 04/16/24 Analyzed: 04/17/24

Acenaphthene	0.0157	0.00500	mg/kg	0.0333	ND	47.1	31-137				
Anthracene	0.0206	0.00500	"	0.0333	ND	61.8	30-120				
Benzo (a) anthracene	0.0179	0.00500	"	0.0333	ND	53.8	30-120				
Benzo (a) pyrene	0.0166	0.00500	"	0.0333	ND	49.7	30-120				
Benzo (b) fluoranthene	0.0172	0.00500	"	0.0333	ND	51.6	30-120				
Benzo (k) fluoranthene	0.0140	0.00500	"	0.0333	ND	42.1	30-120				
Chrysene	0.0187	0.00500	"	0.0333	ND	56.0	30-120				
Dibenz (a,h) anthracene	0.0359	0.00500	"	0.0333	ND	108	30-120				
Fluoranthene	0.0163	0.00500	"	0.0333	ND	49.0	30-120				
Fluorene	0.0189	0.00500	"	0.0333	ND	56.6	30-120				
Indeno (1,2,3-cd) pyrene	0.0296	0.00500	"	0.0333	ND	88.7	30-120				
Pyrene	0.0300	0.00500	"	0.0333	ND	89.9	35-142				
1-Methylnaphthalene	0.0167	0.00500	"	0.0333	ND	50.1	15-130				
2-Methylnaphthalene	0.0167	0.00500	"	0.0333	ND	50.2	15-130				
Surrogate: 2-Methylnaphthalene-d10	0.0144		"	0.0333		43.3	40-150				
Surrogate: Fluoranthene-d10	0.0203		"	0.0333		60.9	40-150				

Matrix Spike Dup (BHD0481-MSD1)

Source: 2404241-01

Prepared: 04/16/24 Analyzed: 04/17/24

Acenaphthene	0.0178	0.00500	mg/kg	0.0333	ND	53.3	31-137	12.3	30		
Anthracene	0.0208	0.00500	"	0.0333	ND	62.3	30-120	0.859	30		
Benzo (a) anthracene	0.0207	0.00500	"	0.0333	ND	62.2	30-120	14.5	30		
Benzo (a) pyrene	0.0167	0.00500	"	0.0333	ND	50.1	30-120	0.774	30		
Benzo (b) fluoranthene	0.0156	0.00500	"	0.0333	ND	46.8	30-120	9.62	30		
Benzo (k) fluoranthene	0.0161	0.00500	"	0.0333	ND	48.3	30-120	13.7	30		
Chrysene	0.0205	0.00500	"	0.0333	ND	61.4	30-120	9.24	30		
Dibenz (a,h) anthracene	0.0255	0.00500	"	0.0333	ND	76.6	30-120	33.8	30		QR-02
Fluoranthene	0.0143	0.00500	"	0.0333	ND	42.8	30-120	13.4	30		
Fluorene	0.0213	0.00500	"	0.0333	ND	63.9	30-120	12.2	30		
Indeno (1,2,3-cd) pyrene	0.0306	0.00500	"	0.0333	ND	91.9	30-120	3.54	30		
Pyrene	0.0203	0.00500	"	0.0333	ND	61.0	35-142	38.2	30		QR-02
1-Methylnaphthalene	0.0212	0.00500	"	0.0333	ND	63.5	15-130	23.6	50		
2-Methylnaphthalene	0.0219	0.00500	"	0.0333	ND	65.8	15-130	26.9	50		
Surrogate: 2-Methylnaphthalene-d10	0.0196		"	0.0333		58.9	40-150				
Surrogate: Fluoranthene-d10	0.0191		"	0.0333		57.4	40-150				

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

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

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

Batch BHD0594 - EPA 3050B

Blank (BHD0594-BLK1)

Prepared: 04/18/24 Analyzed: 05/29/24

Boron ND 2.00 mg/L

LCS (BHD0594-BS1)

Prepared: 04/18/24 Analyzed: 05/29/24

Boron 5.59 2.00 mg/L 5.00 112 80-120

Duplicate (BHD0594-DUP1)

Source: 2404166-01

Prepared: 04/18/24 Analyzed: 05/29/24

Boron 0.441 2.00 mg/L 0.433 1.73 20

Matrix Spike (BHD0594-MS1)

Source: 2404166-01

Prepared: 04/18/24 Analyzed: 05/29/24

Boron 5.44 2.00 mg/L 5.00 0.433 100 75-125

Matrix Spike Dup (BHD0594-MSD1)

Source: 2404166-01

Prepared: 04/18/24 Analyzed: 05/29/24

Boron 5.99 2.00 mg/L 5.00 0.433 111 75-125 9.69 25

Batch BHD0690 - EPA 3050B

Blank (BHD0690-BLK1)

Prepared: 04/19/24 Analyzed: 05/29/24

Boron ND 2.00 mg/L

LCS (BHD0690-BS1)

Prepared: 04/19/24 Analyzed: 05/29/24

Boron 5.31 2.00 mg/L 5.00 106 80-120

Duplicate (BHD0690-DUP1)

Source: 2404250-01

Prepared: 04/19/24 Analyzed: 05/29/24

Boron 0.214 2.00 mg/L 0.105 68.5 20 QR-01

Matrix Spike (BHD0690-MS1)

Source: 2404250-01

Prepared: 04/19/24 Analyzed: 05/29/24

Boron 5.49 2.00 mg/L 4.97 0.105 108 75-125

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

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

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

Batch BHD0690 - EPA 3050B

Matrix Spike Dup (BHD0690-MSD1)				Source: 2404250-01		Prepared: 04/19/24 Analyzed: 05/29/24				
Boron	5.91	2.00	mg/L	5.01	0.105	116	75-125	7.36	25	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0823 - EPA 3050B

Blank (BHD0823-BLK1)

Prepared: 04/23/24 Analyzed: 05/02/24

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

LCS (BHD0823-BS1)

Prepared: 04/23/24 Analyzed: 05/02/24

Arsenic	38.1	0.200	mg/kg wet	40.0	95.3	80-120
Barium	37.7	0.400	"	40.0	94.2	80-120
Cadmium	1.89	0.200	"	2.00	94.6	80-120
Copper	39.5	0.400	"	40.0	98.8	80-120
Lead	19.3	0.200	"	20.0	96.3	80-120
Nickel	38.5	0.400	"	40.0	96.3	80-120
Silver	1.94	0.0200	"	2.00	97.0	80-120
Zinc	38.4	0.400	"	40.0	96.0	80-120
Selenium	3.91	0.260	"	4.00	97.8	80-120

Duplicate (BHD0823-DUP1)

Source: 2404208-01

Prepared: 04/23/24 Analyzed: 05/02/24

Arsenic	3.80	0.180	mg/kg dry	4.00	5.23	20
Barium	120	0.360	"	129	7.54	20
Cadmium	0.233	0.180	"	0.259	10.6	20
Copper	6.29	0.360	"	6.67	5.98	20
Lead	7.45	0.180	"	8.14	8.79	20
Nickel	5.26	0.360	"	5.51	4.73	20
Silver	0.0335	0.0180	"	0.0397	16.8	20
Zinc	20.0	0.360	"	21.0	4.83	20
Selenium	ND	0.234	"	ND		20

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD0823 - EPA 3050B

Matrix Spike (BHD0823-MS1)		Source: 2404208-01			Prepared: 04/23/24 Analyzed: 05/02/24					
Arsenic	46.8	0.200	mg/kg dry	44.3	4.00	96.8	75-125			
Barium	145	0.400	"	44.3	129	35.8	75-125			QM-07
Cadmium	2.39	0.200	"	2.21	0.259	96.2	75-125			
Copper	32.8	0.400	"	44.3	6.67	59.1	75-125			QM-05
Lead	27.7	0.200	"	22.1	8.14	88.5	75-125			
Nickel	31.6	0.400	"	44.3	5.51	58.9	75-125			QM-05
Silver	2.15	0.0200	"	2.21	0.0397	95.3	75-125			
Zinc	46.6	0.400	"	44.3	21.0	57.9	75-125			QM-05
Selenium	3.65	0.260	"	4.43	ND	82.6	75-125			

Matrix Spike Dup (BHD0823-MSD1)		Source: 2404208-01			Prepared: 04/23/24 Analyzed: 05/02/24					
Arsenic	46.2	0.200	mg/kg dry	44.3	4.00	95.5	75-125	1.29	25	
Barium	145	0.400	"	44.3	129	35.9	75-125	0.0387	25	QM-07
Cadmium	2.41	0.200	"	2.21	0.259	97.3	75-125	1.01	25	
Copper	32.7	0.400	"	44.3	6.67	58.8	75-125	0.488	25	QM-05
Lead	27.6	0.200	"	22.1	8.14	88.1	75-125	0.289	25	
Nickel	31.6	0.400	"	44.3	5.51	58.9	75-125	0.0406	25	QM-05
Silver	2.16	0.0200	"	2.21	0.0397	95.8	75-125	0.575	25	
Zinc	46.4	0.400	"	44.3	21.0	57.3	75-125	0.583	25	QM-05
Selenium	3.80	0.260	"	4.43	ND	86.0	75-125	4.01	25	

Summit Scientific

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



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0667 - 3060A Mod

Blank (BHD0667-BLK1)

Prepared & Analyzed: 04/19/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0667-BS1)

Prepared & Analyzed: 04/19/24

Chromium, Hexavalent 25.0 0.30 mg/kg wet 25.0 99.8 80-120

Duplicate (BHD0667-DUP1)

Source: 2404143-01

Prepared & Analyzed: 04/19/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0667-MS1)

Source: 2404143-01

Prepared & Analyzed: 04/19/24

Chromium, Hexavalent 27.6 0.30 mg/kg dry 28.5 ND 96.6 75-125

Matrix Spike Dup (BHD0667-MSD1)

Source: 2404143-01

Prepared & Analyzed: 04/19/24

Chromium, Hexavalent 27.6 0.30 mg/kg dry 28.5 ND 96.6 75-125 0.00 20

Batch BHD0800 - 3060A Mod

Blank (BHD0800-BLK1)

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0800-BS1)

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent 24.6 0.30 mg/kg wet 25.0 98.4 80-120

Duplicate (BHD0800-DUP1)

Source: 2404242-01

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0800-MS1)

Source: 2404242-01

Prepared: 04/23/24 Analyzed: 04/24/24

Chromium, Hexavalent 26.7 0.30 mg/kg dry 27.2 ND 98.2 75-125

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0800 - 3060A Mod

Matrix Spike Dup (BHD0800-MSD1)		Source: 2404242-01		Prepared: 04/23/24		Analyzed: 04/24/24			
Chromium, Hexavalent	26.7	0.30	mg/kg dry	27.2	ND	98.4	75-125	0.203	20

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

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 BHD0856 - General Preparation

Blank (BHD0856-BLK1)

Prepared: 04/23/24 Analyzed: 05/10/24

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

LCS (BHD0856-BS1)

Prepared: 04/23/24 Analyzed: 05/10/24

Calcium	5.40	0.0500	mg/L wet	5.00	108	70-130
Magnesium	5.19	0.0500	"	5.00	104	70-130
Sodium	4.86	0.0500	"	5.00	97.2	70-130

Batch BHD1097 - General Preparation

Blank (BHD1097-BLK1)

Prepared: 04/30/24 Analyzed: 05/08/24

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

LCS (BHD1097-BS1)

Prepared: 04/30/24 Analyzed: 05/08/24

Calcium	5.40	0.0500	mg/L wet	5.00	108	70-130
Magnesium	5.05	0.0500	"	5.00	101	70-130
Sodium	5.11	0.0500	"	5.00	102	70-130

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

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

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

Batch BHD0513 - General Preparation

Duplicate (BHD0513-DUP1)		Source: 2402304-04			Prepared: 04/16/24 Analyzed: 04/17/24						
% Solids	83.0		%		82.5			0.586		20	

Batch BHD0755 - General Preparation

Duplicate (BHD0755-DUP1)		Source: 2404250-01			Prepared: 04/22/24 Analyzed: 04/23/24						
% Solids	95.3		%		95.6			0.233		20	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

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

Summit Scientific

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

Batch BHD0857 - General Preparation

Blank (BHD0857-BLK1)

Prepared: 04/23/24 Analyzed: 05/01/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD0857-BS1)

Prepared: 04/23/24 Analyzed: 05/01/24

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

Duplicate (BHD0857-DUP1)

Source: 2404159-01

Prepared: 04/23/24 Analyzed: 05/01/24

Specific Conductance (EC) 0.620 0.0100 mmhos/cm 0.608 2.00 20

Batch BHD1098 - General Preparation

Blank (BHD1098-BLK1)

Prepared: 04/30/24 Analyzed: 05/01/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHD1098-BS1)

Prepared: 04/30/24 Analyzed: 05/01/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHD1098-DUP1)

Source: 2404211-06

Prepared: 04/30/24 Analyzed: 05/01/24

Specific Conductance (EC) 0.0280 0.0100 mmhos/cm 0.0282 0.427 20

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

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

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

Batch BHD0858 - General Preparation

LCS (BHD0858-BS1)

Prepared: 04/23/24 Analyzed: 05/01/24

pH	9.11		pH Units	9.18		99.2	95-105		
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Duplicate (BHD0858-DUP1)

Source: 2404159-01

Prepared: 04/23/24 Analyzed: 05/01/24

pH	8.23		pH Units		8.24			0.121	20
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Batch BHD1099 - General Preparation

LCS (BHD1099-BS1)

Prepared: 04/30/24 Analyzed: 05/01/24

pH	9.16		pH Units	9.18		99.8	95-105		
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Duplicate (BHD1099-DUP1)

Source: 2404211-06

Prepared: 04/30/24 Analyzed: 05/01/24

pH	7.30		pH Units		7.41			1.50	20
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Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
07/23/24 12:00

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
I-02	This sample was analyzed outside of the recommended holding time.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

May 31, 2024

Karen Olson

Tasman Geosciences

6855 W. 119th Ave.

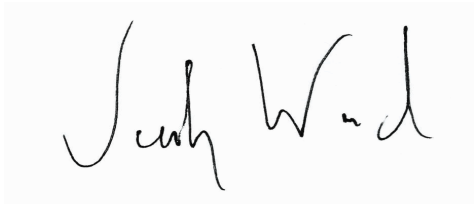
Broomfield, CO 80020

RE: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Work Order #2404287

Enclosed are the results of analyses for samples received by Summit Scientific on 04/16/24 17:36. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
PWV05-W@2.5'	2404287-02	Soil	04/16/24 09:56	04/16/24 17:36
PWV06-S@2.5'	2404287-05	Soil	04/16/24 09:50	04/16/24 17:36
PWV07-W@2.5'	2404287-06	Soil	04/16/24 09:48	04/16/24 17:36
PWV08-N@2.5'	2404287-10	Soil	04/16/24 09:35	04/16/24 17:36
BKG01@0.6'	2404287-11	Soil	04/16/24 10:24	04/16/24 17:36
BKG01@2.5'	2404287-12	Soil	04/16/24 10:26	04/16/24 17:36
BKG01@4'	2404287-13	Soil	04/16/24 10:28	04/16/24 17:36
BKG01@6'	2404287-14	Soil	04/16/24 10:30	04/16/24 17:36
BKG01@10'	2404287-15	Soil	04/16/24 10:32	04/16/24 17:36

Summit Scientific

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

Client: PDC / Tasman		Send Data To: Project Manager: Karen Olson		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: karen.olson@chevron.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020				AFE#:	
Phone: 303-487-1228		Project Name: Summit 32-210, 24, 33-321		PO/Billing Codes:	
Sampler Name: Shannon Wadsworth		Project Number: TANWDEHCRU		Contact: Karen Olson	

					Preservative				Matrix				Analysis Requested							Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN - 8260B	1,2,4 & 1,3,5-TMB	TDS, Cl, SO4	metals-q15	TPH-q15	PAH-q15	EC, SAR, PH	SW DO BOC	annoi
1	PWV05-S0 2.5'	4/16/24	0958	2			X			X											X
2	PWV05-W0 2.5'		0956	1									X	X		X	X	X	X	X	
3	PWV05-E0 2.5'		0954	1																	X
4	PWV06-W0 2.5'		0952	1																	X
5	PWV06-E0 2.5'		0950	1									X	X		X	X	X	X	X	
6	PWV07-W0 2.5'		0948	1									X	X		X	X	X	X	X	
7	PWV07-E0 2.5'		0943	1																	X
8	PWV08-W0 2.5'		0945	1																	X
9	PWV08-E0 2.5'		0939	1																	X
10	PWV08-N0 2.5'		0935	1									X	X		X	X	X	X	X	
11	BWV01 @ 0.6'		1024	1												X			X	X	
12	BWV01 @ 2.5'		1026	1																	
13	BWV01 @ 4'		1028	1																	
14	BWV01 @ 6'		1030	1																	
15	BWV01 @ 10'		1032	1																	

Relinquished by: Shannon Wadsworth	Date/Time: 4/16/24 1300	Received by: Tasman Leck	Date/Time: 4/16/24 1300	TAT Business Days	Field DO	Notes:
Relinquished by: Tasman Leck	Date/Time: 4/16/24 0300	Received by: Shannon Wadsworth	Date/Time: 4/16/24 1730	Same Day	Field EC	
Relinquished by:	Date/Time:	Received by:	Date/Time:	1 Day	Field ORP	
Relinquished by:	Date/Time:	Received by:	Date/Time:	2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
Temperature Upon Receipt: 8.1				Corrected Temperature: 8	IR gun #: 1	HNO3 lot #:

S₂

Sample Receipt Checklist

S2 Work Order# 2404287Client: POC Trasmann

Client Project ID:

Tank Bottom
Strohman 32-21D, 24, 33-32DShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐

Airbill #:

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

Matrix (Check all that apply)

Air

☐

Soil/Solid

☐

Water

☐

Other

☐

Temp (°C)

8.1

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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<u>none</u>
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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.				

Custodian Printed Name

Date/Time

AS4/16/24

140



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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV05-W@2.5'
2404287-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BHD0630	04/18/24	04/20/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0394	98.6 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0364	91.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0385	96.2 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0634	04/18/24	04/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	10.3	82.5 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV05-W@2.5'
2404287-02 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0590	04/18/24	04/18/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0164	49.2 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0136	40.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0746	04/22/24	05/31/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV05-W@2.5'
2404287-02 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.45	0.200	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B
Barium	33.4	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.20	0.400	"	"	"	"	"	"
Lead	8.79	0.200	"	"	"	"	"	"
Nickel	2.73	0.400	"	"	"	"	"	"
Silver	0.0381	0.0200	"	"	"	"	"	"
Zinc	28.7	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	54.0	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	12.7	0.0500	"	"	"	"	"	"	
Sodium	24.6	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.783	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV05-W@2.5'
2404287-02 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.0		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.690	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 09:56**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.29		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV06-S@2.5'
2404287-05 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0630	04/18/24	04/20/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0538	134 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0365	91.3 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0378	94.5 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0634	04/18/24	04/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.39	75.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV06-S@2.5'
2404287-05 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0590	04/18/24	04/18/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0187	56.0 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0157	47.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0746	04/22/24	05/31/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV06-S@2.5'
2404287-05 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.68	0.200	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B
Barium	38.1	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	10.3	0.400	"	"	"	"	"	"
Lead	11.7	0.200	"	"	"	"	"	"
Nickel	4.18	0.400	"	"	"	"	"	"
Silver	0.0325	0.0200	"	"	"	"	"	"
Zinc	83.9	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	190	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	15.6	0.0500	"	"	"	"	"	"	
Sodium	1.35	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.0253	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV06-S@2.5'
2404287-05 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.2		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.143	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 09:50**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.82		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV07-W@2.5'
2404287-06 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0630	04/18/24	04/20/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0514	129 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0358	89.5 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0382	95.6 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0634	04/18/24	04/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	9.64	77.1 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV07-W@2.5'
2404287-06 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0590	04/18/24	04/18/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0229	68.8 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0166	49.8 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0746	04/22/24	05/31/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV07-W@2.5'
2404287-06 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	1.35	0.200	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B
Barium	40.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	4.72	0.400	"	"	"	"	"	"
Lead	16.2	0.200	"	"	"	"	"	"
Nickel	2.36	0.400	"	"	"	"	"	"
Silver	0.0282	0.0200	"	"	"	"	"	"
Zinc	47.5	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	33.4	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	7.82	0.0500	"	"	"	"	"	"	
Sodium	14.8	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.599	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV07-W@2.5'
2404287-06 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	95.5		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.455	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 09:48**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.56		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV08-N@2.5'
2404287-10 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BHD0630	04/18/24	04/20/24	EPA 8260B	
Toluene	ND	0.0050	"	"	"	"	"	"	
Ethylbenzene	ND	0.0050	"	"	"	"	"	"	
Xylenes (total)	ND	0.010	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.0050	"	"	"	"	"	"	
Naphthalene	ND	0.0038	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0541	135 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0368	92.0 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0400	99.9 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BHD0634	04/18/24	04/20/24	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.1	88.8 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV08-N@2.5'
2404287-10 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Acenaphthene	ND	0.00500	mg/kg	1	BHD0590	04/18/24	04/18/24	EPA 8270D SIM	
Anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	
Chrysene	ND	0.00500	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	
Fluoranthene	ND	0.00500	"	"	"	"	"	"	
Fluorene	ND	0.00500	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	
Pyrene	ND	0.00500	"	"	"	"	"	"	
1-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	
2-Methylnaphthalene	ND	0.00500	"	"	"	"	"	"	

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 2-Methylnaphthalene-d10	0.0167	50.1 %	40-150		"	"	"	"	
Surrogate: Fluoranthene-d10	0.0144	43.2 %	40-150		"	"	"	"	

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Boron	ND	2.00	mg/L	1	BHD0746	04/22/24	05/31/24	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV08-N@2.5'
2404287-10 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	0.758	0.200	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B
Barium	25.6	0.400	"	"	"	"	"	"
Cadmium	ND	0.200	"	"	"	"	"	"
Copper	2.88	0.400	"	"	"	"	"	"
Lead	5.43	0.200	"	"	"	"	"	"
Nickel	2.20	0.400	"	"	"	"	"	"
Silver	ND	0.0200	"	"	"	"	"	"
Zinc	15.2	0.400	"	"	"	"	"	"
Selenium	ND	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	22.3	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	6.23	0.0500	"	"	"	"	"	"	
Sodium	9.78	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	0.472	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PWV08-N@2.5'
2404287-10 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.1		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.301	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 09:35**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.63		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@0.6'
2404287-11 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/16/24 10:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.32	0.200	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B	
Barium	34.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.29	0.400	"	"	"	"	"	"	
Lead	5.49	0.200	"	"	"	"	"	"	
Nickel	2.46	0.400	"	"	"	"	"	"	
Silver	0.0312	0.0200	"	"	"	"	"	"	
Zinc	13.5	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 10:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 10:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	24.0	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	5.18	0.0500	"	"	"	"	"	"	
Sodium	4.22	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 10:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.204	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@0.6'
2404287-11 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.0		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.360	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 10:24**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.39		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@2.5'
2404287-12 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/16/24 10:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.909	0.200	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B	
Barium	36.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	3.12	0.400	"	"	"	"	"	"	
Lead	5.61	0.200	"	"	"	"	"	"	
Nickel	2.38	0.400	"	"	"	"	"	"	
Silver	0.0521	0.0200	"	"	"	"	"	"	
Zinc	14.3	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 10:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 10:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	247	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	53.7	0.0500	"	"	"	"	"	"	
Sodium	7.71	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 10:26**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.116	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@2.5'
2404287-12 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.0		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.234	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 10:26**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.06		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@4'
2404287-13 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/16/24 10:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.668	0.200	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B	
Barium	30.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.08	0.400	"	"	"	"	"	"	
Lead	3.98	0.200	"	"	"	"	"	"	
Nickel	2.03	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	11.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 10:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 10:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	276	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	45.8	0.0500	"	"	"	"	"	"	
Sodium	6.73	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 10:28**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.0988	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@4'
2404287-13 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 10:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
% Solids	96.1			%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 10:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
Specific Conductance (EC)	0.133	0.0100		mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 10:28**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.31			pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@6'
2404287-14 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/16/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.473	0.179	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B	
Barium	24.6	0.357	"	"	"	"	"	"	
Cadmium	ND	0.179	"	"	"	"	"	"	
Copper	1.59	0.357	"	"	"	"	"	"	
Lead	3.37	0.179	"	"	"	"	"	"	
Nickel	1.71	0.357	"	"	"	"	"	"	
Silver	ND	0.0179	"	"	"	"	"	"	
Zinc	8.74	0.357	"	"	"	"	"	"	
Selenium	ND	0.232	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	167	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	40.8	0.0500	"	"	"	"	"	"	
Sodium	5.95	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 10:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.107	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@6'
2404287-14 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	96.7		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.0839	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 10:30**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.50		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@10'
2404287-15 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **04/16/24 10:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.446	0.179	mg/kg dry	1	BHD1030	04/29/24	05/23/24	EPA 6020B	
Barium	21.9	0.357	"	"	"	"	"	"	
Cadmium	ND	0.179	"	"	"	"	"	"	
Copper	2.38	0.357	"	"	"	"	"	"	
Lead	4.15	0.179	"	"	"	"	"	"	
Nickel	3.63	0.357	"	"	"	"	"	"	
Silver	ND	0.0179	"	"	"	"	"	"	
Zinc	14.1	0.357	"	"	"	"	"	"	
Selenium	ND	0.232	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **04/16/24 10:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BHD0870	04/24/24	04/24/24	EPA 7196A	

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

Date Sampled: **04/16/24 10:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Calcium	16.0	0.0500	mg/L dry	1	BHE0036	05/01/24	05/22/24	EPA 6020B	
Magnesium	8.43	0.0500	"	"	"	"	"	"	
Sodium	11.2	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **04/16/24 10:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Sodium Adsorption Ratio	0.564	0.00100	units	1	BHE0732	05/23/24	05/23/24	Calculation	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery
Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

BKG01@10'
2404287-15 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **04/16/24 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	94.7		%	1	BHD0768	04/22/24	04/23/24	Calculation	

Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **04/16/24 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.279	0.0100	mmhos/cm	1	BHE0038	05/01/24	05/06/24	EPA 120.1	

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

Date Sampled: **04/16/24 10:32**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.80		pH Units	1	BHE0037	05/01/24	05/06/24	EPA 9045D	

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BHD0630 - EPA 5030 Soil MS

Blank (BHD0630-BLK1)

Prepared: 04/18/24 Analyzed: 04/20/24

Benzene	ND	0.0020	mg/kg							
Toluene	ND	0.0050	"							
Ethylbenzene	ND	0.0050	"							
Xylenes (total)	ND	0.010	"							
1,2,4-Trimethylbenzene	ND	0.0050	"							
1,3,5-Trimethylbenzene	ND	0.0050	"							
Naphthalene	ND	0.0038	"							
Gasoline Range Hydrocarbons	ND	0.50	"							
Surrogate: 1,2-Dichloroethane-d4	0.0506		"	0.0400		127	50-150			
Surrogate: Toluene-d8	0.0364		"	0.0400		91.1	50-150			
Surrogate: 4-Bromofluorobenzene	0.0385		"	0.0400		96.2	50-150			

LCS (BHD0630-BS1)

Prepared: 04/18/24 Analyzed: 04/20/24

Benzene	0.0768	0.0020	mg/kg	0.100		76.8	70-130			
Toluene	0.0820	0.0050	"	0.100		82.0	70-130			
Ethylbenzene	0.0869	0.0050	"	0.100		86.9	70-130			
m,p-Xylene	0.163	0.010	"	0.200		81.4	70-130			
o-Xylene	0.0832	0.0050	"	0.100		83.2	70-130			
1,2,4-Trimethylbenzene	0.0793	0.0050	"	0.100		79.3	70-130			
1,3,5-Trimethylbenzene	0.0808	0.0050	"	0.100		80.8	70-130			
Naphthalene	0.0888	0.0038	"	0.100		88.8	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0503		"	0.0400		126	50-150			
Surrogate: Toluene-d8	0.0382		"	0.0400		95.5	50-150			
Surrogate: 4-Bromofluorobenzene	0.0379		"	0.0400		94.6	50-150			

Matrix Spike (BHD0630-MS1)

Source: 2404287-02

Prepared: 04/18/24 Analyzed: 04/20/24

Benzene	0.0239	0.0020	mg/kg	0.100	ND	23.9	70-130			QM-07
Toluene	0.0254	0.0050	"	0.100	ND	25.4	70-130			QM-07
Ethylbenzene	0.0656	0.0050	"	0.100	ND	65.6	70-130			QM-07
m,p-Xylene	0.137	0.010	"	0.200	ND	68.3	70-130			QM-07
o-Xylene	0.0740	0.0050	"	0.100	ND	74.0	70-130			
1,2,4-Trimethylbenzene	0.0689	0.0050	"	0.100	ND	68.9	70-130			QM-07
1,3,5-Trimethylbenzene	0.0815	0.0050	"	0.100	ND	81.5	70-130			
Naphthalene	0.0177	0.0038	"	0.100	ND	17.7	70-130			QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0494		"	0.0400		123	50-150			
Surrogate: Toluene-d8	0.0361		"	0.0400		90.3	50-150			
Surrogate: 4-Bromofluorobenzene	0.0389		"	0.0400		97.3	50-150			

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

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

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

Batch BHD0630 - EPA 5030 Soil MS

Matrix Spike Dup (BHD0630-MSD1)

Source: 2404287-02

Prepared: 04/18/24 Analyzed: 04/20/24

Benzene	ND	0.0020	mg/kg	0.100	ND		70-130	200	30	QM-07
Toluene	0.00318	0.0050	"	0.100	ND	3.18	70-130	155	30	QM-07
Ethylbenzene	0.0576	0.0050	"	0.100	ND	57.6	70-130	13.0	30	QM-07
m,p-Xylene	0.102	0.010	"	0.200	ND	50.8	70-130	29.3	30	QM-07
o-Xylene	0.0506	0.0050	"	0.100	ND	50.6	70-130	37.5	30	QM-07
1,2,4-Trimethylbenzene	0.0392	0.0050	"	0.100	ND	39.2	70-130	55.0	30	QM-07
1,3,5-Trimethylbenzene	0.0830	0.0050	"	0.100	ND	83.0	70-130	1.75	30	
Naphthalene	0.00435	0.0038	"	0.100	ND	4.35	70-130	121	30	QM-07
Surrogate: 1,2-Dichloroethane-d4	0.0505		"	0.0400		126	50-150			
Surrogate: Toluene-d8	0.0366		"	0.0400		91.6	50-150			
Surrogate: 4-Bromofluorobenzene	0.0387		"	0.0400		96.8	50-150			

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BHD0634 - EPA 3550A

Blank (BHD0634-BLK1)

Prepared: 04/18/24 Analyzed: 04/20/24

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	14.0		"	12.5		112	30-150			

LCS (BHD0634-BS1)

Prepared: 04/18/24 Analyzed: 04/20/24

C10-C28 (DRO)	444	50	mg/kg	500		88.8	70-130			
Surrogate: o-Terphenyl	13.2		"	12.5		106	30-150			

Matrix Spike (BHD0634-MS1)

Source: 2404287-02

Prepared: 04/18/24 Analyzed: 04/20/24

C10-C28 (DRO)	404	50	mg/kg	500	15.4	77.7	70-130			
Surrogate: o-Terphenyl	11.7		"	12.5		93.3	30-150			

Matrix Spike Dup (BHD0634-MSD1)

Source: 2404287-02

Prepared: 04/18/24 Analyzed: 04/20/24

C10-C28 (DRO)	399	50	mg/kg	500	15.4	76.6	70-130	1.31	20	
Surrogate: o-Terphenyl	12.0		"	12.5		96.0	30-150			

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0590 - EPA 5030 Soil MS

Blank (BHD0590-BLK1)

Prepared & Analyzed: 04/18/24

Acenaphthene	ND	0.00500	mg/kg
Anthracene	ND	0.00500	"
Benzo (a) anthracene	ND	0.00500	"
Benzo (a) pyrene	ND	0.00500	"
Benzo (b) fluoranthene	ND	0.00500	"
Benzo (k) fluoranthene	ND	0.00500	"
Chrysene	ND	0.00500	"
Dibenz (a,h) anthracene	ND	0.00500	"
Fluoranthene	ND	0.00500	"
Fluorene	ND	0.00500	"
Indeno (1,2,3-cd) pyrene	ND	0.00500	"
Pyrene	ND	0.00500	"
1-Methylnaphthalene	ND	0.00500	"
2-Methylnaphthalene	ND	0.00500	"

Surrogate: 2-Methylnaphthalene-d10	0.0374	"	0.0333	112	40-150
Surrogate: Fluoranthene-d10	0.0216	"	0.0333	64.8	40-150

LCS (BHD0590-BS1)

Prepared & Analyzed: 04/18/24

Acenaphthene	0.0302	0.00500	mg/kg	0.0333	90.7	31-137
Anthracene	0.0290	0.00500	"	0.0333	87.1	30-120
Benzo (a) anthracene	0.0254	0.00500	"	0.0333	76.3	30-120
Benzo (a) pyrene	0.0254	0.00500	"	0.0333	76.1	30-120
Benzo (b) fluoranthene	0.0244	0.00500	"	0.0333	73.3	30-120
Benzo (k) fluoranthene	0.0305	0.00500	"	0.0333	91.5	30-120
Chrysene	0.0297	0.00500	"	0.0333	89.2	30-120
Dibenz (a,h) anthracene	0.0221	0.00500	"	0.0333	66.3	30-120
Fluoranthene	0.0285	0.00500	"	0.0333	85.6	30-120
Fluorene	0.0298	0.00500	"	0.0333	89.3	30-120
Indeno (1,2,3-cd) pyrene	0.0194	0.00500	"	0.0333	58.3	30-120
Pyrene	0.0348	0.00500	"	0.0333	104	35-142
1-Methylnaphthalene	0.0286	0.00500	"	0.0333	85.9	35-142
2-Methylnaphthalene	0.0270	0.00500	"	0.0333	80.9	35-142

Surrogate: 2-Methylnaphthalene-d10	0.0272	"	0.0333	81.6	40-150
Surrogate: Fluoranthene-d10	0.0211	"	0.0333	63.3	40-150

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BHD0590 - EPA 5030 Soil MS

Matrix Spike (BHD0590-MS1)

Source: 2404287-02

Prepared & Analyzed: 04/18/24

Acenaphthene	0.0152	0.00500	mg/kg	0.0333	ND	45.5	31-137		
Anthracene	0.0156	0.00500	"	0.0333	ND	46.8	30-120		
Benzo (a) anthracene	0.0145	0.00500	"	0.0333	ND	43.5	30-120		
Benzo (a) pyrene	0.0160	0.00500	"	0.0333	ND	47.9	30-120		
Benzo (b) fluoranthene	0.0106	0.00500	"	0.0333	ND	31.9	30-120		
Benzo (k) fluoranthene	0.0123	0.00500	"	0.0333	ND	37.0	30-120		
Chrysene	0.0144	0.00500	"	0.0333	ND	43.1	30-120		
Dibenz (a,h) anthracene	0.0155	0.00500	"	0.0333	ND	46.6	30-120		
Fluoranthene	0.0157	0.00500	"	0.0333	ND	47.2	30-120		
Fluorene	0.0154	0.00500	"	0.0333	ND	46.2	30-120		
Indeno (1,2,3-cd) pyrene	0.0157	0.00500	"	0.0333	ND	47.0	30-120		
Pyrene	0.0165	0.00500	"	0.0333	ND	49.5	35-142		
1-Methylnaphthalene	0.0131	0.00500	"	0.0333	ND	39.3	15-130		
2-Methylnaphthalene	0.0136	0.00500	"	0.0333	ND	40.7	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0158		"	0.0333		47.5	40-150		
Surrogate: Fluoranthene-d10	0.0153		"	0.0333		45.8	40-150		

Matrix Spike Dup (BHD0590-MSD1)

Source: 2404287-02

Prepared & Analyzed: 04/18/24

Acenaphthene	0.0199	0.00500	mg/kg	0.0333	ND	59.8	31-137	27.1	30	
Anthracene	0.0211	0.00500	"	0.0333	ND	63.3	30-120	30.0	30	
Benzo (a) anthracene	0.0207	0.00500	"	0.0333	ND	62.0	30-120	35.1	30	QR-02
Benzo (a) pyrene	0.0209	0.00500	"	0.0333	ND	62.6	30-120	26.6	30	
Benzo (b) fluoranthene	0.0159	0.00500	"	0.0333	ND	47.7	30-120	39.6	30	QR-02
Benzo (k) fluoranthene	0.0168	0.00500	"	0.0333	ND	50.4	30-120	30.6	30	QR-02
Chrysene	0.0196	0.00500	"	0.0333	ND	58.8	30-120	30.7	30	QR-02
Dibenz (a,h) anthracene	0.0221	0.00500	"	0.0333	ND	66.3	30-120	34.9	30	QR-02
Fluoranthene	0.0206	0.00500	"	0.0333	ND	61.9	30-120	26.8	30	
Fluorene	0.0201	0.00500	"	0.0333	ND	60.2	30-120	26.4	30	
Indeno (1,2,3-cd) pyrene	0.0219	0.00500	"	0.0333	ND	65.7	30-120	33.1	30	QR-02
Pyrene	0.0222	0.00500	"	0.0333	ND	66.7	35-142	29.6	30	
1-Methylnaphthalene	0.0185	0.00500	"	0.0333	ND	55.4	15-130	34.0	50	
2-Methylnaphthalene	0.0191	0.00500	"	0.0333	ND	57.3	15-130	33.8	50	
Surrogate: 2-Methylnaphthalene-d10	0.0148		"	0.0333		44.5	40-150			
Surrogate: Fluoranthene-d10	0.0135		"	0.0333		40.6	40-150			

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

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

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

Batch BHD0746 - EPA 3050B

Blank (BHD0746-BLK1)

Prepared: 04/22/24 Analyzed: 05/31/24

Boron ND 2.00 mg/L

LCS (BHD0746-BS1)

Prepared: 04/22/24 Analyzed: 05/31/24

Boron 4.77 2.00 mg/L 5.00 95.5 80-120

Duplicate (BHD0746-DUP1)

Source: 2404282-01

Prepared: 04/22/24 Analyzed: 05/31/24

Boron 0.194 2.00 mg/L 0.280 36.3 20 QR-01

Matrix Spike (BHD0746-MS1)

Source: 2404282-01

Prepared: 04/22/24 Analyzed: 05/31/24

Boron 4.80 2.00 mg/L 5.04 0.280 89.8 75-125

Matrix Spike Dup (BHD0746-MSD1)

Source: 2404282-01

Prepared: 04/22/24 Analyzed: 05/31/24

Boron 5.36 2.00 mg/L 5.04 0.280 101 75-125 10.9 25

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

Total Metals by EPA 6020B - Quality Control

Summit Scientific

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

Batch BHD1030 - EPA 3050B

Blank (BHD1030-BLK1)

Prepared: 04/29/24 Analyzed: 05/22/24

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

LCS (BHD1030-BS1)

Prepared: 04/29/24 Analyzed: 05/22/24

Arsenic	34.7	0.200	mg/kg wet	40.0	86.7	80-120
Barium	37.2	0.400	"	40.0	92.9	80-120
Cadmium	1.92	0.200	"	2.00	96.0	80-120
Copper	38.9	0.400	"	40.0	97.4	80-120
Lead	18.7	0.200	"	20.0	93.4	80-120
Nickel	38.0	0.400	"	40.0	95.1	80-120
Silver	1.95	0.0200	"	2.00	97.7	80-120
Zinc	37.8	0.400	"	40.0	94.4	80-120
Selenium	4.56	0.260	"	4.00	114	80-120

Duplicate (BHD1030-DUP1)

Source: 2404281-01

Prepared: 04/29/24 Analyzed: 05/23/24

Arsenic	3.07	0.200	mg/kg dry	3.21	4.39	20
Barium	64.1	0.400	"	78.0	19.5	20
Cadmium	0.147	0.200	"	0.171	15.5	20
Copper	3.11	0.400	"	3.30	5.84	20
Lead	5.16	0.200	"	5.62	8.57	20
Nickel	4.65	0.400	"	5.11	9.43	20
Silver	0.0139	0.0200	"	0.0182	27.1	20
Zinc	15.4	0.400	"	15.1	2.20	20
Selenium	ND	0.260	"	ND		20

QR-01

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BHD1030 - EPA 3050B

Matrix Spike (BHD1030-MS1)

Source: 2404281-01

Prepared: 04/29/24 Analyzed: 05/23/24

Arsenic	42.8	0.200	mg/kg dry	44.8	3.21	88.3	75-125			
Barium	115	0.400	"	44.8	78.0	82.7	75-125			
Cadmium	2.45	0.200	"	2.24	0.171	102	75-125			
Copper	28.1	0.400	"	44.8	3.30	55.4	75-125			QM-05
Lead	26.5	0.200	"	22.4	5.62	93.1	75-125			
Nickel	29.8	0.400	"	44.8	5.11	55.2	75-125			QM-05
Silver	2.19	0.0200	"	2.24	0.0182	97.0	75-125			
Zinc	40.1	0.400	"	44.8	15.1	55.8	75-125			QM-05
Selenium	4.74	0.260	"	4.48	ND	106	75-125			

Matrix Spike Dup (BHD1030-MSD1)

Source: 2404281-01

Prepared: 04/29/24 Analyzed: 05/23/24

Arsenic	43.4	0.200	mg/kg dry	44.8	3.21	89.6	75-125	1.34	25	
Barium	116	0.400	"	44.8	78.0	84.8	75-125	0.825	25	
Cadmium	2.37	0.200	"	2.24	0.171	98.2	75-125	3.11	25	
Copper	28.4	0.400	"	44.8	3.30	56.1	75-125	0.981	25	QM-05
Lead	26.5	0.200	"	22.4	5.62	93.1	75-125	0.0170	25	
Nickel	29.8	0.400	"	44.8	5.11	55.2	75-125	0.0135	25	QM-05
Silver	2.18	0.0200	"	2.24	0.0182	96.5	75-125	0.513	25	
Zinc	40.9	0.400	"	44.8	15.1	57.6	75-125	2.03	25	QM-05
Selenium	4.67	0.260	"	4.48	ND	104	75-125	1.60	25	

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BHD0870 - 3060A Mod

Blank (BHD0870-BLK1)

Prepared & Analyzed: 04/24/24

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BHD0870-BS1)

Prepared & Analyzed: 04/24/24

Chromium, Hexavalent 25.4 0.30 mg/kg wet 25.0 102 80-120

Duplicate (BHD0870-DUP1)

Source: 2404283-01

Prepared & Analyzed: 04/24/24

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BHD0870-MS1)

Source: 2404283-01

Prepared & Analyzed: 04/24/24

Chromium, Hexavalent 27.2 0.30 mg/kg dry 29.4 ND 92.6 75-125

Matrix Spike Dup (BHD0870-MSD1)

Source: 2404283-01

Prepared & Analyzed: 04/24/24

Chromium, Hexavalent 27.2 0.30 mg/kg dry 29.4 ND 92.6 75-125 0.00 20

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

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

Summit Scientific

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

Batch BHE0036 - General Preparation

Blank (BHE0036-BLK1)

Prepared: 05/01/24 Analyzed: 05/22/24

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

LCS (BHE0036-BS1)

Prepared: 05/01/24 Analyzed: 05/22/24

Calcium	5.48	0.0500	mg/L wet	5.00	110	70-130
Magnesium	5.10	0.0500	"	5.00	102	70-130
Sodium	5.17	0.0500	"	5.00	103	70-130

Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

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

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

Batch BHD0768 - General Preparation

Duplicate (BHD0768-DUP1)		Source: 2404283-01		Prepared: 04/22/24 Analyzed: 04/23/24						
% Solids	85.8		%		85.1			0.777	20	

Summit Scientific

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

Project: PDC - Strohauser F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

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

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

Batch BHE0038 - General Preparation

Blank (BHE0038-BLK1)

Prepared: 05/01/24 Analyzed: 05/06/24

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BHE0038-BS1)

Prepared: 05/01/24 Analyzed: 05/06/24

Specific Conductance (EC) 0.157 0.0100 mmhos/cm 0.150 105 95-105

Duplicate (BHE0038-DUP1)

Source: 2404287-02

Prepared: 05/01/24 Analyzed: 05/06/24

Specific Conductance (EC) 0.686 0.0100 mmhos/cm 0.690 0.596 20

Summit Scientific

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



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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

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

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

Batch BHE0037 - General Preparation

LCS (BHE0037-BS1)

Prepared: 05/01/24 Analyzed: 05/06/24

pH	9.11	pH Units	9.18	99.2	95-105
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Duplicate (BHE0037-DUP1)

Source: 2404287-02

Prepared: 05/01/24 Analyzed: 05/06/24

pH	8.27	pH Units	8.29	0.242	20
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Summit Scientific

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

Project: PDC - Strohauer F 32-21D,24,33-32D Tank Battery

Project Number: [none]
Project Manager: Karen Olson

Reported:
05/31/24 11:53

Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
QR-01	Analyses are not controlled on RPD values from sample concentrations less than 10 times the reporting limit. QC batch accepted based on LCS and/or LCSD QC results.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS/LCSD recovery.
QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The associated LCS and/or LCSD were within acceptance limits, therefore the data are considered valid.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Summit Scientific

4653 Table Mountain Drive, Golden, Colorado 80403

303.277.9310

November 14, 2023

Mark Longhurst

Tasman Geosciences

6855 W. 119th Ave.

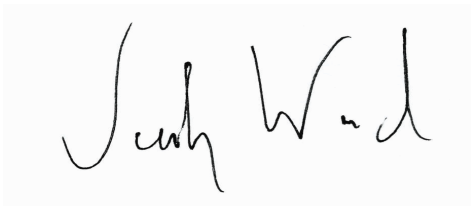
Broomfield, CO 80020

RE: PDC - Bostron 32-3 Wellhead

Work Order #2310322

Enclosed are the results of analyses for samples received by Summit Scientific on 10/17/23 17:43. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

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

Jacob Wood For Paul Shrewsbury

President



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
SB01@4'	2310322-01	Soil	10/17/23 12:30	10/17/23 17:43
SB01@8'	2310322-02	Soil	10/17/23 12:28	10/17/23 17:43
SB02@3'	2310322-03	Soil	10/17/23 13:00	10/17/23 17:43
SB02@8'	2310322-04	Soil	10/17/23 12:56	10/17/23 17:43
SB03@6'	2310322-07	Soil	10/17/23 10:26	10/17/23 17:43
SB04@6'	2310322-12	Soil	10/17/23 10:25	10/17/23 17:43
SB05@6'	2310322-17	Soil	10/17/23 12:07	10/17/23 17:43
BKG02@2.5'	2310322-20	Soil	10/17/23 11:45	10/17/23 17:43
BKG02@4'	2310322-21	Soil	10/17/23 11:47	10/17/23 17:43
BKG02@5'	2310322-22	Soil	10/17/23 11:50	10/17/23 17:43
BKG02@6'	2310322-23	Soil	10/17/23 11:55	10/17/23 17:43
BKG02@7'	2310322-24	Soil	10/17/23 12:00	10/17/23 17:43
BKG02@8'	2310322-25	Soil	10/17/23 12:05	10/17/23 17:43
BKG03@2.5'	2310322-26	Soil	10/17/23 12:55	10/17/23 17:43
BKG03@4'	2310322-27	Soil	10/17/23 13:05	10/17/23 17:43
BKG03@5'	2310322-28	Soil	10/17/23 13:10	10/17/23 17:43
BKG03@6'	2310322-29	Soil	10/17/23 13:15	10/17/23 17:43
BKG03@7'	2310322-30	Soil	10/17/23 13:20	10/17/23 17:43
BKG03@8'	2310322-31	Soil	10/17/23 13:25	10/17/23 17:43
BKG04@2.5'	2310322-32	Soil	10/17/23 12:19	10/17/23 17:43
BKG04@4'	2310322-33	Soil	10/17/23 12:22	10/17/23 17:43
BKG04@5'	2310322-34	Soil	10/17/23 12:24	10/17/23 17:43
BKG04@6'	2310322-35	Soil	10/17/23 12:29	10/17/23 17:43
BKG04@7'	2310322-36	Soil	10/17/23 12:34	10/17/23 17:43
BKG04@8'	2310322-37	Soil	10/17/23 12:39	10/17/23 17:43
BKG05@2.5'	2310322-38	Soil	10/17/23 11:22	10/17/23 17:43
BKG05@4'	2310322-39	Soil	10/17/23 11:25	10/17/23 17:43

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
BKG05@5'	2310322-40	Soil	10/17/23 11:27	10/17/23 17:43
BKG05@6'	2310322-41	Soil	10/17/23 11:32	10/17/23 17:43
BKG05@7'	2310322-42	Soil	10/17/23 11:37	10/17/23 17:43
BKG05@8'	2310322-43	Soil	10/17/23 11:42	10/17/23 17:43
SB01@2.5'	2310322-44	Soil	10/17/23 12:08	10/17/23 17:43
SB01@5'	2310322-45	Soil	10/17/23 12:13	10/17/23 17:43
SB01@6'	2310322-46	Soil	10/17/23 12:18	10/17/23 17:43
SB01@7'	2310322-47	Soil	10/17/23 12:23	10/17/23 17:43
SB02@6'	2310322-50	Soil	10/17/23 12:46	10/17/23 17:43

Case Narrative

Bryce Goldade requested PAH, Metals, pH, EC, SAR, & Boron be added to SB02@3' on 10/31/2023.

Bryce Goldade requested 915 Metals be added to BKG02 - BKG05 on 10/31/2023.

This report includes those results.

Summit Scientific

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

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020				AFE#:	
Phone: 303-487-1228		Project Name: Bostron 32-3 Wellhead		PO/Billing Codes:	
Sampler Name: Gabe Semenza		Project Number:		Contact: Mark Longhurst	

				Preservative				Matrix				Analysis Requested				Special Instructions			
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	pH	Hold
1	SB01@4'	10/17/23	1230	2			X			X			X	X	X				
2	SB01@8'		1228	↓									↓	↓	↓				
3	SB02@3'		1300	↓									↓	↓	↓				
4	SB02@8'		1256	↓									↓	↓	↓				
5	SB03@2.5' 1st GS		1016	1															X
6	SB03@5'		1021	↓															X
7	SB03@6'		1026	↓													X		
8	SB03@7'		1031	↓															X
9	SB03@8'		1036	↓															↓
10	SB04@2.5'		1015	↓															↓
11	SB04@5'		1020	↓															↓
12	SB04@6'		1025	↓													X		
13	SB04@7'		1030	↓															X
14	SB04@8'		1035	↓															↓
15	SB05@2.5'		1157	↓															↓

Relinquished by: <i>G. Semenza</i>	Date/Time: 10/17/23 1650	Received by: Tasman Lockbox	Date/Time: 10/17/23 1650	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lockbox	Date/Time: 10/17/23 1743	Received by: <i>[Signature]</i>	Date/Time: 10/17/23 1743	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 11.0	Corrected Temperature: <i>[Symbol]</i>	IR gun #: 1	HNO3 lot #:			

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020				AFE#:	
Phone: 303-487-1228		Project Name: Bostron 32-3 Wellhead		PO/Billing Codes:	
Sampler Name: Gabe Semenza		Project Number:		Contact: Mark Longhurst	

				Preservative				Matrix				Analysis Requested						Special Instructions	
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	pH	Hold
1	SB05 @ 5'	10/17/23	1202	1			X			X								X	
2	SB05 @ 6'		1207															X	
3	SB05 @ 7'		1212															X	
4	SB05 @ 8'		1217															X	
5	BKG02 @ 2.5'		1145															X	
6	BKG02 @ 4'		1147															X	
7	BKG02 @ 5'		1150															X	
8	BKG02 @ 6'		1155															X	
9	BKG02 @ 7'		1200																
10	BKG02 @ 8'		1205																
11	BKG03 @ 2.5'		1255																
12	BKG03 @ 4'		1305																
13	BKG03 @ 5'		1310																
14	BKG03 @ 6'		1315															X	
15	BKG03 @ 7'		1320															X	

Relinquished by: <i>G. Semenza</i>	Date/Time: 10/17/23 1650	Received by: Tasman Lockbox	Date/Time: 10/17/23 1650	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: Tasman Lockbox	Date/Time: 10/17/23 1743	Received by: <i>[Signature]</i>	Date/Time: 10/17/23 1743	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: 11.5		Corrected Temperature: 8		IR gun #: 1		HNO3 lot #:

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020		Project Name: <u>Bostron 32-3 Wellhead</u>		AFE#:	
Phone: 303-487-1228		Project Number:		PO/Billing Codes:	
Sampler Name: Gabe Semenza		Contact: Mark Longhurst			

					Preservative				Matrix				Analysis Requested						Special Instructions		
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other _____	Water	Soil	Air-Canister #	Other _____	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	pH			
1	BKG03 @ 8'	10/17/23	1325	1			X			X									X		
2	BKG04 @ 2.5'	↓	1219	↓			↓			↓									↓		
3	BKG04 @ 4'		1222	↓			↓			↓									↓		
4	BKG04 @ 5'		1224	↓			↓			↓									↓		
5	BKG04 @ 6'		1229	↓			↓			↓									↓		
6	BKG04 @ 7'		1234	↓			↓			↓									↓		
7	BKG04 @ 8'		1239	↓			↓			↓									↓		
8	BKG05 @ 2.5'		1122	↓			↓			↓									↓		
9	BKG05 @ 4'		1125	↓			↓			↓									↓		
10	BKG05 @ 5'		1127	↓			↓			↓									↓		
11	BKG05 @ 6'		1132	↓			↓			↓									↓		
12	BKG05 @ 7'		1137	↓			↓			↓									↓		
13	BKG05 @ 8'	↓	1142	↓			↓			↓									↓		
14	SB01 @ 2.5'	↓	1208	2			↓			↓									X		
15	SB01 @ 5'	↓	1213	2			↓			↓									X		

Relinquished by: <u>G. Semenza</u>	Date/Time: <u>10/17/23 1650</u>	Received by: <u>Tasman Lockbox</u>	Date/Time: <u>10/17/23 1650</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>Tasman Lockbox</u>	Date/Time: <u>10/17/23 1743</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/17/23 1743</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>11.0</u>	Corrected Temperature: <u>0</u>	IR gun #: <u>1</u>	HNO3 lot #:			

Client: PDC / Tasman		Send Data To: Project Manager: Mark Longhurst		Send Invoice To: Company: PDC Energy	
Address: 6855 W 119th Ave		E-Mail: mark.longhurst@PDCE.com		Project Name/Location:	
City/State/Zip: Broomfield / CO / 80020				AFE#:	
Phone: 303-487-1228		Project Name: <u>Bostron 32-3 Wellhead</u>		PO/Billing Codes:	
Sampler Name: Gabe Semenza		Project Number:		Contact: Mark Longhurst	

				Preservative				Matrix				Analysis Requested						Special Instructions
ID	Sample Description	Date Sampled	Time Sampled	# of containers	HCl	HNO3	None	Other	Water	Soil	Air-Canister #	Other	BTEXN - 8260B	TPH - (C6 - C36)	1,2,4 & 1,3,5-TMB	Boron - HWS	pH, EC, SAR	
1	SB01 @ 6'	10/17/23	1218	2			X			X								X
2	SB01 @ 7'		1223															X
3	SB01 @ 8' SB02 @ 2.5'		1236															X
4	SB02 @ 5'		1241															X
5	SB02 @ 6'		1246															X
6	SB02 @ 7'		1256															X
7																		
8																		
9																		
10																		
11																		
12																		
13																		
14																		
15																		

Relinquished by: <u>G. Semenza</u>	Date/Time: <u>10/17/23 1650</u>	Received by: <u>Tasman Lockbox</u>	Date/Time: <u>10/17/23 1650</u>	TAT Business Days	Field DO	Notes:
				Same Day	Field EC	
Relinquished by: <u>Tasman Lockbox</u>	Date/Time: <u>10/17/23 1743</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/17/23 1743</u>	1 Day	Field ORP	
				2 Days	Field pH	
Relinquished by:	Date/Time:	Received by:	Date/Time:	3 Days	Field Temp.	
				Standard	X Field Turb.	
Temperature Upon Receipt: <u>11-0</u>		Corrected Temperature: <u>0</u>		IR gun #: <u>1</u>	HNO3 lot #:	

S₂

4/4

Sample Receipt Checklist

S2 Work Order# 2310322Client: DeCassmanClient Project ID: Boston 32-3 wellheadShipped Via: H.D./P.U./FedEx/UPS/USPS/Other ☐Airbill #:

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

Matrix (Check all that apply)

Air ☐Soil/Solid ☒Water ☐Other ☐

Temp (°C)

11.0

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"/>	
If custody seals are present, are they intact? ⁽¹⁾	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	OK
Are samples due within 48 hours present?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Are water samples with short hold times present? Note the short hold analysis in the comments column - pH, Nitrate/Nitrite, Ferrous Iron (Fe ²⁺), Hexavalent Chromium (Cr ⁶⁺ , Cr VI), COD/BOD, Total Coliform, E. Coli, Total Residual Chlorine (TRC), Dissolved Oxygen	<input type="checkbox"/>	<input 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"/>	Sent extra sample, sent extra jar for sample #2
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

10/17/23
Date/Time



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB01@4'
2310322-01 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Benzene	ND	0.0020	mg/kg	1	BGJ0729	10/18/23	10/18/23	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: **10/17/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: 1,2-Dichloroethane-d4	0.0421	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0440	110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0437	109 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0732	10/18/23	10/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/17/23 12:30**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Surrogate: o-Terphenyl	10.6	84.8 %	30-150		"	"	"	"	

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB01@8'
2310322-02 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/23 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0729	10/18/23	10/18/23	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: **10/17/23 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0410	102 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0441	110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0444	111 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/23 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0732	10/18/23	10/19/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/17/23 12:28**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.0	88.3 %	30-150		"	"	"	"	

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB02@3'
2310322-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0729	10/18/23	10/18/23	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	"	"	"	"	"	"	
Gasoline Range Hydrocarbons	ND	0.50	"	"	"	"	"	"	

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0416	104 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0440	110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0439	110 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0732	10/18/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	10.7	85.7 %	30-150		"	"	"	"	

PAH by EPA Method 8270D SIM

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB02@3'
2310322-03 (Soil)

Summit Scientific

PAH by EPA Method 8270D SIM

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Acenaphthene	ND	0.00500	mg/kg	1	BGK0008	11/01/23	11/01/23	EPA 8270D SIM	I-04
Anthracene	ND	0.00500	"	"	"	"	"	"	I-04
Benzo (a) anthracene	ND	0.00500	"	"	"	"	"	"	I-04
Benzo (a) pyrene	ND	0.00500	"	"	"	"	"	"	I-04
Benzo (b) fluoranthene	ND	0.00500	"	"	"	"	"	"	I-04
Benzo (k) fluoranthene	ND	0.00500	"	"	"	"	"	"	I-04
Chrysene	ND	0.00500	"	"	"	"	"	"	I-04
Dibenz (a,h) anthracene	ND	0.00500	"	"	"	"	"	"	I-04
Fluoranthene	ND	0.00500	"	"	"	"	"	"	I-04
Fluorene	ND	0.00500	"	"	"	"	"	"	I-04
Indeno (1,2,3-cd) pyrene	ND	0.00500	"	"	"	"	"	"	I-04
Pyrene	ND	0.00500	"	"	"	"	"	"	I-04
1-Methylnaphthalene	0.0692	0.00500	"	"	"	"	"	"	I-04
2-Methylnaphthalene	0.0939	0.00500	"	"	"	"	"	"	I-04

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 2-Methylnaphthalene-d10	0.0149	44.8 %	40-150		"	"	"	"	I-04
Surrogate: Fluoranthene-d10	0.0142	42.6 %	40-150		"	"	"	"	I-04

Total Metals by EPA 6020B Hot Water Soluble Extraction

Date Sampled: **10/17/23 13:00**


Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Boron	ND	2.00	mg/L	1	BGK0215	11/07/23	11/08/23	EPA 6020B	

Total Metals by EPA 6020B

Date Sampled: **10/17/23 13:00**

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB02@3'
2310322-03 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Arsenic	3.31	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B
Barium	77.6	0.400	"	"	"	"	"	"
Cadmium	0.528	0.200	"	"	"	"	"	"
Copper	11.0	0.400	"	"	"	"	"	"
Lead	37.1	0.200	"	"	"	"	"	"
Nickel	4.62	0.400	"	"	"	"	"	"
Silver	0.257	0.0200	"	"	"	"	"	"
Zinc	56.0	0.400	"	"	"	"	"	"
Selenium	0.316	0.260	"	"	"	"	"	"

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

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

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Calcium	30.3	0.0500	mg/L dry	1	BGK0092	11/02/23	11/06/23	EPA 6020B	
Magnesium	16.0	0.0500	"	"	"	"	"	"	
Sodium	39.7	0.0500	"	"	"	"	"	"	

Calculated Analysis

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sodium Adsorption Ratio	1.45	0.00100	units	1	BGK0242	11/07/23	11/07/23	Calculation	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 13:00**

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

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB02@3'
2310322-03 (Soil)

Summit Scientific

Physical Parameters by APHA/ASTM/EPA Methods

% Solids	84.8	%	1	BGK0201	11/07/23	11/07/23	Calculation
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Specific Conductance by EPA Method 120.1, Saturated Paste Extraction

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Specific Conductance (EC)	0.411	0.0100	mmhos/cm	1	BGK0112	11/03/23	11/03/23	EPA 120.1	

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

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.22		pH Units	1	BGK0113	11/03/23	11/03/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB02@3'
2310322-03 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Naphthalene	0.0092	0.0038	mg/kg	1	BGJ1141	10/18/23	10/27/23	EPA 8260B	

Date Sampled: **10/17/23 13:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Surrogate: 1,2-Dichloroethane-d4	0.0419	105 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0405	101 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0411	103 %	50-150		"	"	"	"	

Summit Scientific

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB02@8'
2310322-04 (Soil)

Summit Scientific

Volatile Organic Compounds by EPA Method 8260B

Date Sampled: **10/17/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Benzene	ND	0.0020	mg/kg	1	BGJ0729	10/18/23	10/18/23	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: **10/17/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: 1,2-Dichloroethane-d4	0.0413	103 %	50-150		"	"	"	"	
Surrogate: Toluene-d8	0.0439	110 %	50-150		"	"	"	"	
Surrogate: 4-Bromofluorobenzene	0.0434	108 %	50-150		"	"	"	"	

Extractable Petroleum Hydrocarbons by 8015

Date Sampled: **10/17/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
C10-C28 (DRO)	ND	50	mg/kg	1	BGJ0732	10/18/23	10/20/23	EPA 8015M	
C28-C36 (ORO)	ND	50	"	"	"	"	"	"	

Date Sampled: **10/17/23 12:56**

Analyte	Result	Reporting	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit							
Surrogate: o-Terphenyl	11.0	87.6 %	30-150		"	"	"	"	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB03@6'
2310322-07 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 10:26**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.43			pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB04@6'
2310322-12 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 10:25**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.55			pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB05@6'
2310322-17 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 12:07**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.37			pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG02@2.5'
2310322-20 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.21	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	38.6	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.99	0.400	"	"	"	"	"	"	
Lead	4.57	0.200	"	"	"	"	"	"	
Nickel	1.42	0.400	"	"	"	"	"	"	
Silver	0.0235	0.0200	"	"	"	"	"	"	
Zinc	9.52	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.3		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:45**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.20		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG02@4'
2310322-21 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.584	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	7.01	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.32	0.400	"	"	"	"	"	"	
Lead	2.52	0.200	"	"	"	"	"	"	
Nickel	0.534	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.53	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.2		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:47**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.57		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG02@5'
2310322-22 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.789	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	10.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.77	0.400	"	"	"	"	"	"	
Lead	2.43	0.200	"	"	"	"	"	"	
Nickel	0.842	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.21	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.7		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:50**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.44		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG02@6'
2310322-23 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.02	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	10.2	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.14	0.400	"	"	"	"	"	"	
Lead	2.57	0.200	"	"	"	"	"	"	
Nickel	0.916	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	7.64	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.6		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.45		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG02@7'
2310322-24 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Arsenic	0.958	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	13.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.88	0.400	"	"	"	"	"	"	
Lead	3.46	0.200	"	"	"	"	"	"	
Nickel	1.18	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	7.13	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
% Solids	97.6		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:00**

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
pH	8.56		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG02@8'
2310322-25 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.569	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	8.10	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.34	0.400	"	"	"	"	"	"	
Lead	2.39	0.200	"	"	"	"	"	"	
Nickel	1.14	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.19	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.1		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.63		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG03@2.5'
2310322-26 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.30	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	36.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.97	0.400	"	"	"	"	"	"	
Lead	4.85	0.200	"	"	"	"	"	"	
Nickel	1.61	0.400	"	"	"	"	"	"	
Silver	0.0216	0.0200	"	"	"	"	"	"	
Zinc	10.0	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	90.8		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:55**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.07		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG03@4'
2310322-27 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.13	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	10.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.48	0.400	"	"	"	"	"	"	
Lead	2.33	0.200	"	"	"	"	"	"	
Nickel	0.793	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.58	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.3		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 13:05**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.54		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG03@5'
2310322-28 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.41	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	10.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.57	0.400	"	"	"	"	"	"	
Lead	2.55	0.200	"	"	"	"	"	"	
Nickel	0.971	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.57	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.4		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 13:10**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.41		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG03@6'
2310322-29 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.10	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	9.16	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.84	0.400	"	"	"	"	"	"	
Lead	2.08	0.200	"	"	"	"	"	"	
Nickel	1.68	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	5.81	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.6		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 13:15**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.43		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG03@7'
2310322-30 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.53	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	8.49	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.15	0.400	"	"	"	"	"	"	
Lead	2.10	0.200	"	"	"	"	"	"	
Nickel	1.24	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.20	0.400	"	"	"	"	"	"	
Selenium	0.395	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.9		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 13:20**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.39		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG03@8'
2310322-31 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.80	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	19.9	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.63	0.400	"	"	"	"	"	"	
Lead	2.81	0.200	"	"	"	"	"	"	
Nickel	2.07	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.02	0.400	"	"	"	"	"	"	
Selenium	0.464	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	94.8		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 13:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.38		pH Units	1	BGJ0900	10/23/23	10/23/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG04@2.5'
2310322-32 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.71	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	81.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	5.76	0.400	"	"	"	"	"	"	
Lead	9.29	0.200	"	"	"	"	"	"	
Nickel	3.98	0.400	"	"	"	"	"	"	
Silver	0.0393	0.0200	"	"	"	"	"	"	
Zinc	18.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	85.5		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:19**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.34		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG04@4'
2310322-33 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.716	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	11.4	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.55	0.400	"	"	"	"	"	"	
Lead	2.88	0.200	"	"	"	"	"	"	
Nickel	1.30	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.08	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.7		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.76		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG04@5'
2310322-34 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.833	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	11.3	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.31	0.400	"	"	"	"	"	"	
Lead	2.39	0.200	"	"	"	"	"	"	
Nickel	1.57	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	8.51	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.6		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:24**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.63		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG04@6'
2310322-35 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.390	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	4.21	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	0.583	0.400	"	"	"	"	"	"	
Lead	1.85	0.200	"	"	"	"	"	"	
Nickel	0.484	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	2.93	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.2		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:29**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.35		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG04@7'
2310322-36 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.606	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	7.74	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.08	0.400	"	"	"	"	"	"	
Lead	1.52	0.200	"	"	"	"	"	"	
Nickel	0.925	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	4.33	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.6		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:34**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.46		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG04@8'
2310322-37 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.740	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	12.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.56	0.400	"	"	"	"	"	"	
Lead	2.39	0.200	"	"	"	"	"	"	
Nickel	1.32	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.86	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.9		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 12:39**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.50		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG05@2.5'
2310322-38 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	3.38	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	91.1	0.400	"	"	"	"	"	"	
Cadmium	0.264	0.200	"	"	"	"	"	"	
Copper	8.53	0.400	"	"	"	"	"	"	
Lead	14.7	0.200	"	"	"	"	"	"	
Nickel	4.75	0.400	"	"	"	"	"	"	
Silver	0.114	0.0200	"	"	"	"	"	"	
Zinc	23.2	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	87.3		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:22**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.16		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG05@4'
2310322-39 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.13	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	37.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	2.36	0.400	"	"	"	"	"	"	
Lead	3.96	0.200	"	"	"	"	"	"	
Nickel	2.40	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	12.8	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	93.8		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:25**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.48		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG05@5'
2310322-40 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.07	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	13.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.89	0.400	"	"	"	"	"	"	
Lead	2.38	0.200	"	"	"	"	"	"	
Nickel	1.27	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	7.08	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.2		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:27**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.56		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG05@6'
2310322-41 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.13	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	11.7	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.52	0.400	"	"	"	"	"	"	
Lead	2.15	0.200	"	"	"	"	"	"	
Nickel	1.19	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	6.01	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.0		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:32**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.55		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG05@7'
2310322-42 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:37**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	0.946	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	13.5	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.79	0.400	"	"	"	"	"	"	
Lead	2.51	0.200	"	"	"	"	"	"	
Nickel	1.46	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	7.61	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:37**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:37**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	97.3		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:37**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.61		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

BKG05@8'
2310322-43 (Soil)

Summit Scientific

Total Metals by EPA 6020B

Date Sampled: **10/17/23 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Arsenic	1.45	0.200	mg/kg dry	1	BGK0283	11/08/23	11/10/23	EPA 6020B	
Barium	15.1	0.400	"	"	"	"	"	"	
Cadmium	ND	0.200	"	"	"	"	"	"	
Copper	1.84	0.400	"	"	"	"	"	"	
Lead	3.29	0.200	"	"	"	"	"	"	
Nickel	1.52	0.400	"	"	"	"	"	"	
Silver	ND	0.0200	"	"	"	"	"	"	
Zinc	7.77	0.400	"	"	"	"	"	"	
Selenium	ND	0.260	"	"	"	"	"	"	

Hexavalent Chromium by EPA Method 7196

Date Sampled: **10/17/23 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
Chromium, Hexavalent	ND	0.30	mg/kg dry	1	BGK0235	11/07/23	11/13/23	EPA 7196A	

Physical Parameters by APHA/ASTM/EPA Methods

Date Sampled: **10/17/23 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
% Solids	98.2		%	1	BGK0201	11/07/23	11/07/23	Calculation	

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

Date Sampled: **10/17/23 11:42**

Analyte	Result	Reporting		Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit	Units						
pH	8.59		pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB01@2.5'
2310322-44 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 12:08**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.01			pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB01@5'
2310322-45 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 12:13**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	7.85			pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB01@6'
2310322-46 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 12:18**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.44			pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB01@7'
2310322-47 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 12:23**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.46			pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

SB02@6'
2310322-50 (Soil)

Summit Scientific

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

Date Sampled: **10/17/23 12:46**

Analyte	Result	Reporting		Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
		Limit								
pH	8.65			pH Units	1	BGJ0954	10/24/23	10/24/23	EPA 9045D	

Summit Scientific

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Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0729 - EPA 5030 Soil MS

Blank (BGJ0729-BLK1)

Prepared & Analyzed: 10/18/23

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	0.0428		"	0.0400		107	50-150			
Surrogate: Toluene-d8	0.0437		"	0.0400		109	50-150			
Surrogate: 4-Bromofluorobenzene	0.0445		"	0.0400		111	50-150			

LCS (BGJ0729-BS1)

Prepared & Analyzed: 10/18/23

Benzene	0.153	0.0020	mg/kg	0.100		153	70-130			QLCS-02
Toluene	0.145	0.0050	"	0.100		145	70-130			QLCS-02
Ethylbenzene	0.106	0.0050	"	0.100		106	70-130			
m,p-Xylene	0.196	0.010	"	0.200		98.0	70-130			
o-Xylene	0.0955	0.0050	"	0.100		95.5	70-130			
1,2,4-Trimethylbenzene	0.0998	0.0050	"	0.100		99.8	70-130			
1,3,5-Trimethylbenzene	0.102	0.0050	"	0.100		102	70-130			
Naphthalene	0.0903	0.0038	"	0.100		90.3	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0421		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0440		"	0.0400		110	50-150			
Surrogate: 4-Bromofluorobenzene	0.0428		"	0.0400		107	50-150			

Matrix Spike (BGJ0729-MS1)

Source: 2310319-01

Prepared & Analyzed: 10/18/23

Benzene	0.151	0.0020	mg/kg	0.100	ND	151	70-130			QLCS-02
Toluene	0.144	0.0050	"	0.100	ND	144	70-130			QLCS-02
Ethylbenzene	0.101	0.0050	"	0.100	ND	101	70-130			
m,p-Xylene	0.190	0.010	"	0.200	ND	95.0	70-130			
o-Xylene	0.0909	0.0050	"	0.100	ND	90.9	70-130			
1,2,4-Trimethylbenzene	0.0942	0.0050	"	0.100	ND	94.2	70-130			
1,3,5-Trimethylbenzene	0.0959	0.0050	"	0.100	ND	95.9	70-130			
Naphthalene	0.0867	0.0038	"	0.100	ND	86.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0414		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0446		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0433		"	0.0400		108	50-150			

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Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ0729 - EPA 5030 Soil MS

Matrix Spike Dup (BGJ0729-MSD1)			Source: 2310319-01		Prepared & Analyzed: 10/18/23					
Benzene	0.164	0.0020	mg/kg	0.100	ND	164	70-130	8.40	30	QLCS-02
Toluene	0.157	0.0050	"	0.100	ND	157	70-130	8.94	30	QLCS-02
Ethylbenzene	0.111	0.0050	"	0.100	ND	111	70-130	9.33	30	
m,p-Xylene	0.208	0.010	"	0.200	ND	104	70-130	9.03	30	
o-Xylene	0.0982	0.0050	"	0.100	ND	98.2	70-130	7.74	30	
1,2,4-Trimethylbenzene	0.102	0.0050	"	0.100	ND	102	70-130	7.74	30	
1,3,5-Trimethylbenzene	0.105	0.0050	"	0.100	ND	105	70-130	9.02	30	
Naphthalene	0.0904	0.0038	"	0.100	ND	90.4	70-130	4.20	30	
Surrogate: 1,2-Dichloroethane-d4	0.0417		"	0.0400		104	50-150			
Surrogate: Toluene-d8	0.0446		"	0.0400		111	50-150			
Surrogate: 4-Bromofluorobenzene	0.0429		"	0.0400		107	50-150			

Batch BGJ1141 - EPA 5030 Soil MS

Blank (BGJ1141-BLK1)			Prepared & Analyzed: 10/27/23							
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	0.0411		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0403		"	0.0400		101	50-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Summit Scientific

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

Batch BGJ1141 - EPA 5030 Soil MS

LCS (BGJ1141-BS1)

Prepared & Analyzed: 10/27/23

Benzene	0.124	0.0020	mg/kg	0.100		124	70-130			
Toluene	0.117	0.0050	"	0.100		117	70-130			
Ethylbenzene	0.126	0.0050	"	0.100		126	70-130			
m,p-Xylene	0.237	0.010	"	0.200		118	70-130			
o-Xylene	0.114	0.0050	"	0.100		114	70-130			
1,2,4-Trimethylbenzene	0.120	0.0050	"	0.100		120	70-130			
1,3,5-Trimethylbenzene	0.121	0.0050	"	0.100		121	70-130			
Naphthalene	0.118	0.0038	"	0.100		118	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0395		"	0.0400		98.8	50-150			
Surrogate: Toluene-d8	0.0411		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0401		"	0.0400		100	50-150			

Matrix Spike (BGJ1141-MS1)

Source: 2310492-04

Prepared & Analyzed: 10/27/23

Benzene	0.0954	0.0020	mg/kg	0.100	ND	95.4	70-130			
Toluene	0.0877	0.0050	"	0.100	ND	87.7	70-130			
Ethylbenzene	0.0891	0.0050	"	0.100	ND	89.1	70-130			
m,p-Xylene	0.169	0.010	"	0.200	ND	84.3	70-130			
o-Xylene	0.0801	0.0050	"	0.100	ND	80.1	70-130			
1,2,4-Trimethylbenzene	0.0780	0.0050	"	0.100	ND	78.0	70-130			
1,3,5-Trimethylbenzene	0.0788	0.0050	"	0.100	ND	78.8	70-130			
Naphthalene	0.0777	0.0038	"	0.100	ND	77.7	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.0419		"	0.0400		105	50-150			
Surrogate: Toluene-d8	0.0413		"	0.0400		103	50-150			
Surrogate: 4-Bromofluorobenzene	0.0395		"	0.0400		98.7	50-150			

Matrix Spike Dup (BGJ1141-MSD1)

Source: 2310492-04

Prepared & Analyzed: 10/27/23

Benzene	0.0988	0.0020	mg/kg	0.100	ND	98.8	70-130	3.49	30	
Toluene	0.0924	0.0050	"	0.100	ND	92.4	70-130	5.20	30	
Ethylbenzene	0.0956	0.0050	"	0.100	ND	95.6	70-130	7.02	30	
m,p-Xylene	0.178	0.010	"	0.200	ND	89.1	70-130	5.53	30	
o-Xylene	0.0850	0.0050	"	0.100	ND	85.0	70-130	5.89	30	
1,2,4-Trimethylbenzene	0.0832	0.0050	"	0.100	ND	83.2	70-130	6.47	30	
1,3,5-Trimethylbenzene	0.0852	0.0050	"	0.100	ND	85.2	70-130	7.79	30	
Naphthalene	0.0828	0.0038	"	0.100	ND	82.8	70-130	6.32	30	
Surrogate: 1,2-Dichloroethane-d4	0.0410		"	0.0400		103	50-150			
Surrogate: Toluene-d8	0.0416		"	0.0400		104	50-150			
Surrogate: 4-Bromofluorobenzene	0.0394		"	0.0400		98.5	50-150			

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

Extractable Petroleum Hydrocarbons by 8015 - Quality Control
Summit Scientific

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

Batch BGJ0732 - EPA 3550A

Blank (BGJ0732-BLK1)

Prepared: 10/18/23 Analyzed: 10/19/23

C10-C28 (DRO)	ND	50	mg/kg							
C28-C36 (ORO)	ND	50	"							
Surrogate: o-Terphenyl	12.4		"	12.5		99.4	30-150			

LCS (BGJ0732-BS1)

Prepared: 10/18/23 Analyzed: 10/19/23

C10-C28 (DRO)	552	50	mg/kg	500		110	70-130			
Surrogate: o-Terphenyl	10.2		"	12.5		81.3	30-150			

Matrix Spike (BGJ0732-MS1)

Source: 2310319-01

Prepared: 10/18/23 Analyzed: 10/19/23

C10-C28 (DRO)	496	50	mg/kg	500	45.6	90.1	70-130			
Surrogate: o-Terphenyl	11.7		"	12.5		94.0	30-150			


Matrix Spike Dup (BGJ0732-MSD1)

Source: 2310319-01

Prepared: 10/18/23 Analyzed: 10/19/23

C10-C28 (DRO)	527	50	mg/kg	500	45.6	96.2	70-130	5.96	20	
Surrogate: o-Terphenyl	12.2		"	12.5		97.3	30-150			

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6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead
Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGK0008 - EPA 5030 Soil MS

Blank (BGK0008-BLK1)

Prepared & Analyzed: 11/01/23

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	"							
Surrogate: 2-Methylnaphthalene-d10	0.0248		"	0.0333		74.4	40-150			
Surrogate: Fluoranthene-d10	0.0246		"	0.0333		73.7	40-150			

LCS (BGK0008-BS1)

Prepared & Analyzed: 11/01/23

Acenaphthene	0.0283	0.00500	mg/kg	0.0333		84.9	31-137			
Anthracene	0.0254	0.00500	"	0.0333		76.3	30-120			
Benzo (a) anthracene	0.0240	0.00500	"	0.0333		71.9	30-120			
Benzo (a) pyrene	0.0238	0.00500	"	0.0333		71.5	30-120			
Benzo (b) fluoranthene	0.0243	0.00500	"	0.0333		72.8	30-120			
Benzo (k) fluoranthene	0.0243	0.00500	"	0.0333		73.0	30-120			
Chrysene	0.0253	0.00500	"	0.0333		75.9	30-120			
Dibenz (a,h) anthracene	0.0224	0.00500	"	0.0333		67.2	30-120			
Fluoranthene	0.0261	0.00500	"	0.0333		78.3	30-120			
Fluorene	0.0268	0.00500	"	0.0333		80.4	30-120			
Indeno (1,2,3-cd) pyrene	0.0152	0.00500	"	0.0333		45.5	30-120			
Pyrene	0.0246	0.00500	"	0.0333		73.7	35-142			
1-Methylnaphthalene	0.0257	0.00500	"	0.0333		77.2	35-142			
2-Methylnaphthalene	0.0265	0.00500	"	0.0333		79.4	35-142			
Surrogate: 2-Methylnaphthalene-d10	0.0268		"	0.0333		80.5	40-150			
Surrogate: Fluoranthene-d10	0.0255		"	0.0333		76.6	40-150			

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

PAH by EPA Method 8270D SIM - Quality Control

Summit Scientific

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

Batch BGK0008 - EPA 5030 Soil MS

Matrix Spike (BGK0008-MS1)

Source: 2310537-01

Prepared & Analyzed: 11/01/23

Acenaphthene	0.0141	0.00500	mg/kg	0.0333	ND	42.3	31-137		
Anthracene	0.0153	0.00500	"	0.0333	ND	46.0	30-120		
Benzo (a) anthracene	0.0150	0.00500	"	0.0333	ND	45.1	30-120		
Benzo (a) pyrene	0.0137	0.00500	"	0.0333	ND	41.2	30-120		
Benzo (b) fluoranthene	0.0136	0.00500	"	0.0333	ND	40.8	30-120		
Benzo (k) fluoranthene	0.0142	0.00500	"	0.0333	ND	42.6	30-120		
Chrysene	0.0153	0.00500	"	0.0333	ND	46.0	30-120		
Dibenz (a,h) anthracene	0.0163	0.00500	"	0.0333	ND	48.9	30-120		
Fluoranthene	0.0169	0.00500	"	0.0333	ND	50.7	30-120		
Fluorene	0.0146	0.00500	"	0.0333	ND	43.8	30-120		
Indeno (1,2,3-cd) pyrene	0.0143	0.00500	"	0.0333	ND	43.0	30-120		
Pyrene	0.0160	0.00500	"	0.0333	ND	47.9	35-142		
1-Methylnaphthalene	0.0158	0.00500	"	0.0333	ND	47.4	15-130		
2-Methylnaphthalene	0.0149	0.00500	"	0.0333	ND	44.8	15-130		
Surrogate: 2-Methylnaphthalene-d10	0.0157		"	0.0333		47.0	40-150		
Surrogate: Fluoranthene-d10	0.0171		"	0.0333		51.4	40-150		

Matrix Spike Dup (BGK0008-MSD1)

Source: 2310537-01

Prepared & Analyzed: 11/01/23

Acenaphthene	0.0149	0.00500	mg/kg	0.0333	ND	44.6	31-137	5.26	30
Anthracene	0.0150	0.00500	"	0.0333	ND	45.1	30-120	1.95	30
Benzo (a) anthracene	0.0151	0.00500	"	0.0333	ND	45.3	30-120	0.542	30
Benzo (a) pyrene	0.0136	0.00500	"	0.0333	ND	40.7	30-120	1.15	30
Benzo (b) fluoranthene	0.0136	0.00500	"	0.0333	ND	40.7	30-120	0.275	30
Benzo (k) fluoranthene	0.0182	0.00500	"	0.0333	ND	54.5	30-120	24.4	30
Chrysene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	2.77	30
Dibenz (a,h) anthracene	0.0136	0.00500	"	0.0333	ND	40.7	30-120	18.4	30
Fluoranthene	0.0157	0.00500	"	0.0333	ND	47.2	30-120	7.23	30
Fluorene	0.0149	0.00500	"	0.0333	ND	44.8	30-120	2.25	30
Indeno (1,2,3-cd) pyrene	0.0181	0.00500	"	0.0333	ND	54.4	30-120	23.4	30
Pyrene	0.0162	0.00500	"	0.0333	ND	48.7	35-142	1.67	30
1-Methylnaphthalene	0.0147	0.00500	"	0.0333	ND	44.1	15-130	7.03	50
2-Methylnaphthalene	0.0145	0.00500	"	0.0333	ND	43.6	15-130	2.71	50
Surrogate: 2-Methylnaphthalene-d10	0.0153		"	0.0333		45.9	40-150		
Surrogate: Fluoranthene-d10	0.0158		"	0.0333		47.5	40-150		

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

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

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

Batch BGK0215 - EPA 3050B

Blank (BGK0215-BLK1)

Prepared: 11/07/23 Analyzed: 11/08/23

Boron ND 2.00 mg/L

LCS (BGK0215-BS1)

Prepared: 11/07/23 Analyzed: 11/08/23

Boron 5.95 2.00 mg/L 5.00 119 80-120

Duplicate (BGK0215-DUP1)

Source: 2310322-03

Prepared: 11/07/23 Analyzed: 11/08/23

Boron 0.449 2.00 mg/L 0.454 1.17 20

Matrix Spike (BGK0215-MS1)

Source: 2310322-03

Prepared: 11/07/23 Analyzed: 11/10/23

Boron 4.96 2.00 mg/L 5.00 0.454 90.1 75-125

Matrix Spike Dup (BGK0215-MSD1)

Source: 2310322-03

Prepared: 11/07/23 Analyzed: 11/10/23

Boron 4.74 2.00 mg/L 5.00 0.454 85.7 75-125 4.57 25

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGK0283 - EPA 3050B

Blank (BGK0283-BLK1)

Prepared: 11/08/23 Analyzed: 11/10/23

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

LCS (BGK0283-BS1)

Prepared: 11/08/23 Analyzed: 11/10/23

Arsenic	39.2	0.200	mg/kg wet	40.0	98.1	80-120
Barium	42.7	0.400	"	40.0	107	80-120
Cadmium	1.85	0.200	"	2.00	92.3	80-120
Copper	38.3	0.400	"	40.0	95.6	80-120
Lead	19.2	0.200	"	20.0	96.1	80-120
Nickel	38.5	0.400	"	40.0	96.1	80-120
Silver	1.83	0.0200	"	2.00	91.6	80-120
Zinc	36.3	0.400	"	40.0	90.8	80-120
Selenium	4.21	0.260	"	4.00	105	80-120


Duplicate (BGK0283-DUP1)

Source: 2310322-03

Prepared: 11/08/23 Analyzed: 11/10/23

Arsenic	3.93	0.200	mg/kg dry	3.31	17.1	20
Barium	81.3	0.400	"	77.6	4.60	20
Cadmium	0.536	0.200	"	0.528	1.69	20
Copper	11.4	0.400	"	11.0	4.32	20
Lead	40.0	0.200	"	37.1	7.49	20
Nickel	5.16	0.400	"	4.62	11.2	20
Silver	0.277	0.0200	"	0.257	7.60	20
Zinc	60.7	0.400	"	56.0	7.97	20
Selenium	0.368	0.260	"	0.316	15.3	20

Summit Scientific



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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

Total Metals by EPA 6020B - Quality Control
Summit Scientific

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

Batch BGK0283 - EPA 3050B

Matrix Spike (BGK0283-MS1)	Source: 2310322-03			Prepared: 11/08/23 Analyzed: 11/10/23						
Arsenic	52.0	0.200	mg/kg dry	47.2	3.31	103	75-125			
Barium	133	0.400	"	47.2	77.6	118	75-125			
Cadmium	2.72	0.200	"	2.36	0.528	93.0	75-125			
Copper	40.2	0.400	"	47.2	11.0	61.9	75-125			QM-07
Lead	55.1	0.200	"	23.6	37.1	76.0	75-125			
Nickel	35.1	0.400	"	47.2	4.62	64.5	75-125			QM-07
Silver	2.46	0.0200	"	2.36	0.257	93.6	75-125			
Zinc	101	0.400	"	47.2	56.0	94.4	75-125			
Selenium	7.37	0.260	"	4.72	0.316	149	75-125			QM-07

Matrix Spike Dup (BGK0283-MSD1)	Source: 2310322-03			Prepared: 11/08/23 Analyzed: 11/10/23						
Arsenic	52.3	0.200	mg/kg dry	47.2	3.31	104	75-125	0.680	25	
Barium	139	0.400	"	47.2	77.6	129	75-125	4.03	25	QM-07
Cadmium	2.81	0.200	"	2.36	0.528	96.6	75-125	3.14	25	
Copper	39.3	0.400	"	47.2	11.0	60.2	75-125	2.09	25	QM-07
Lead	57.2	0.200	"	23.6	37.1	84.9	75-125	3.74	25	
Nickel	34.7	0.400	"	47.2	4.62	63.8	75-125	0.929	25	QM-07
Silver	2.49	0.0200	"	2.36	0.257	94.5	75-125	0.858	25	
Zinc	98.0	0.400	"	47.2	56.0	88.9	75-125	2.63	25	
Selenium	7.46	0.260	"	4.72	0.316	151	75-125	1.26	25	QM-07

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

Hexavalent Chromium by EPA Method 7196 - Quality Control
Summit Scientific

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

Batch BGK0235 - 3060A Mod

Blank (BGK0235-BLK1)

Prepared: 11/07/23 Analyzed: 11/13/23

Chromium, Hexavalent ND 0.30 mg/kg wet

LCS (BGK0235-BS1)

Prepared: 11/07/23 Analyzed: 11/13/23

Chromium, Hexavalent 27.0 0.30 mg/kg wet 25.0 108 80-120

Duplicate (BGK0235-DUP1)

Source: 2310322-03

Prepared: 11/07/23 Analyzed: 11/13/23

Chromium, Hexavalent ND 0.30 mg/kg dry ND 20

Matrix Spike (BGK0235-MS1)

Source: 2310322-03

Prepared: 11/07/23 Analyzed: 11/13/23

Chromium, Hexavalent 29.8 0.30 mg/kg dry 29.5 ND 101 75-125

Matrix Spike Dup (BGK0235-MSD1)

Source: 2310322-03

Prepared: 11/07/23 Analyzed: 11/13/23

Chromium, Hexavalent 29.3 0.30 mg/kg dry 29.5 ND 99.2 75-125 1.80 20

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

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 BGK0092 - General Preparation

Blank (BGK0092-BLK1)

Prepared: 11/02/23 Analyzed: 11/06/23

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

LCS (BGK0092-BS1)

Prepared: 11/02/23 Analyzed: 11/06/23

Calcium	5.14	0.0500	mg/L wet	5.00	103	70-130
Magnesium	5.35	0.0500	"	5.00	107	70-130
Sodium	5.27	0.0500	"	5.00	105	70-130

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

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

Summit Scientific

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

Batch BGK0201 - General Preparation

Duplicate (BGK0201-DUP1)

Source: 2310322-03

Prepared & Analyzed: 11/07/23

% Solids	83.1	%	84.8	2.04	20
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Tasman Geosciences
6855 W. 119th Ave.
Broomfield CO, 80020

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]

Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

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

Summit Scientific

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

Batch BGK0112 - General Preparation

Blank (BGK0112-BLK1)

Prepared & Analyzed: 11/03/23

Specific Conductance (EC) ND 0.0100 mmhos/cm

LCS (BGK0112-BS1)

Prepared & Analyzed: 11/03/23

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

Duplicate (BGK0112-DUP1)

Source: 2310322-03

Prepared & Analyzed: 11/03/23

Specific Conductance (EC) 0.411 0.0100 mmhos/cm 0.411 0.00 20

Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

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

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

Batch BGJ0900 - General Preparation

LCS (BGJ0900-BS1)

Prepared & Analyzed: 10/23/23

pH	9.04		pH Units	9.18	98.5	95-105
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Duplicate (BGJ0900-DUP1)

Source: 2310312-01

Prepared & Analyzed: 10/23/23

pH	7.49		pH Units	7.55	0.798	20
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Batch BGJ0954 - General Preparation

LCS (BGJ0954-BS1)

Prepared & Analyzed: 10/24/23

pH	9.13		pH Units	9.18	99.5	95-105
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Duplicate (BGJ0954-DUP1)

Source: 2310143-09

Prepared & Analyzed: 10/24/23

pH	8.02		pH Units	8.02	0.00	20
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Batch BGK0113 - General Preparation

LCS (BGK0113-BS1)

Prepared & Analyzed: 11/03/23

pH	9.03		pH Units	9.18	98.4	95-105
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Duplicate (BGK0113-DUP1)

Source: 2310322-03

Prepared & Analyzed: 11/03/23

pH	8.22		pH Units	8.22	0.00	20
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Summit Scientific

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

Project: PDC - Bostron 32-3 Wellhead

Project Number: [none]
Project Manager: Mark Longhurst

Reported:
11/14/23 08:55

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.
QLCS-02	The spike recovery was outside acceptance limits for this analyte indicating a potential high bias.
I-04	Sample was analyzed out of recommended holding time per clients request.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference