

TABLE 1
Hudson 11-35A/ Eichth O SA
SOIL SAMPLE FIELD DATA SUMMARY TABLE
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	Approximate Depth (feet bgs)	PID (ppm-v)	Visual Observation	Olfactory Observation	Latitude, Longitude	Submitted for Lab Analysis (Y/N)
Produced Water Vault Soil Samples							
PW-B01 @ 3'	12/4/2023	3	4.1	N/S	N/O	40.09192846, -104.6356131	Y
PW-N01 @ 2'	12/4/2023	2	3.3	N/S	N/O	40.09194354, -104.6356149	N
PW-S01 @ 2'	12/4/2023	2	3.5	N/S	N/O	40.09191506, -104.635616	N
PW-E01 @ 2'	12/4/2023	2	2.9	N/S	N/O	40.0919296, -104.6355956	Y
PW-W01 @ 2'	12/4/2023	2	3.6	N/S	N/O	40.0919319, -104.6356395	N
PW-B01 @ 5'	2/27/24	5	0.9	N/S	N/O	40.09192846, -104.6356131	Y
PW-S01 @ 5'	2/27/24	5	0.7	N/S	N/O	40.09191506, -104.635616	Y
Tank Battery Soil Samples							
SEP-B01 @ 4'	12/4/2023	4	2.6	N/S	N/O	40.09164164, -104.6356507	Y
SEP-B02 @ 4'	12/4/2023	4	2.4	N/S	N/O	40.09161896, -104.6356523	Y
MH-B01 @ 3"	12/4/2023	0.25	2.5	N/S	N/O	40.09173792, -104.6355412	N
ECD-B01 @ 3"	12/4/2023	0.25	2.1	N/S	N/O	40.09160977, -104.6355499	N
AST-B01 @ 3"	12/4/2023	0.25	2.8	N/S	N/O	40.09189007, -104.6356165	Y
AST-B02 @ 3"	12/4/2023	0.25	2.2	N/S	N/O	40.0918691, -104.6356166	N
DL-B01 @ 3'	12/4/2023	3	2.2	N/S	N/O	40.09175733, -104.635635	N
AST-B01 @ 3'	2/27/24	3	24.4	N/S	N/O	40.09189007, -104.6356165	Y
Background Soil Samples							
PW-BG01 @ 3"	12/4/2023	0.25	0.8	N/S	N/O	40.0918534, -104.6353696	Y
PW-BG01 @ 3'	12/4/2023	3	1.2	N/S	N/O	40.0918534, -104.6353697	Y
PW-BG01 @ 6'	12/4/2023	6	1.1	N/S	N/O	40.0918534, -104.6353698	Y
PW-BG02 @ 3"	12/4/2023	0.25	0.6	N/S	N/O	40.09155039, -104.6356424	Y
PW-BG03 @ 3"	12/4/2023	0.25	1.0	N/S	N/O	40.09189429, -104.6357489	Y
PW-BG04 @ 3"	12/4/2023	0.25	0.6	N/S	N/O	40.09204663, -104.6355614	Y

Notes:

bgs = below ground surface

PID = photoionization detector

ppm-v = parts per million by volume

N/S = No Staining

N/O = No Odor

HC = hydrocarbon

Values presented in **BOLD** contained concentrations exceeding ECMC Table 915-1 Cleanup Concentrations

TABLE 2
Hudson 11-35A/Eichth O SA
SOIL SAMPLE RESULTS SUMMARY TABLE - VOCs
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)	TPH-ORO (mg/kg)	Naphthalene (mg/kg)	1,2,4-TMB (mg/kg)	1,3,5-TMB (mg/kg)
ECMC standards for soil (mg/kg) ⁽¹⁾		0.0026	0.69	0.78	9.9	500			0.0038	0.0081	0.0087
ECMC standards for soil (mg/kg) ⁽²⁾		1.2	490	5.8	58	500			2	30	27
Produced Water Vault Soil Samples											
PW-B01 @ 3'	12/04/23	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00380	<0.00200	<0.00200
PW-S01 @ 2'	12/04/23	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00380	<0.00200	<0.00200
PW-B01 @ 5'	2/27/24	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.002	<0.00200	<0.00200
PW-S01 @ 5'	2/27/24	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.002	<0.00200	<0.00200
Tank Battery Soil Samples											
AST-B01 @ 3"	12/04/23	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00380	<0.00200	<0.00200
SEP-B01 @ 4'	12/04/23	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00380	<0.00200	<0.00200
SEP-B02 @ 4'	12/04/23	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.00380	<0.00200	<0.00200
AST-B01 @ 3'	2/27/24	<0.00200	<0.00200	<0.00200	<0.00200	<0.200	<25.0	<100	<0.002	<0.00200	<0.00200

Notes:

⁽¹⁾ ECMC Table 915-1: Protection of Groundwater Soil Screening Level Concentrations, effective January 15, 2021

⁽²⁾ ECMC Table 915-1: Residential Soil Screening Level Concentrations, effective January 15, 2021

ECMC= Energy and Carbon Management Commission

< = Analytical result is less than the laboratory reporting limit

mg/kg = milligrams per kilogram

TPH-GRO = Total petroleum hydrocarbons - gasoline range organics

TPH-DRO = Total petroleum hydrocarbons - diesel range organics

TPH-ORO = Total petroleum hydrocarbons - oil range organics

TMB = Trimethylbenzene

TABLE 3
Hudson 11-35A/Eichth O SA
SOIL SAMPLE RESULTS SUMMARY TABLE - SOIL SUITABILITY FOR RECLAMATION
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	Depth (ft. bgs)	pH	SAR	EC (mmhos/cm)	Boron (mg/L)
<i>ECMC standards for soil (mg/kg)</i> ⁽¹⁾			6 - 8.3	<6	<4	2
<i>Produced Water Vault Soil Samples</i>						
PW-B01 @ 3'	12/4/23	3	8.13	0.0890	0.116	<0.100
PW-S01 @ 2'	12/4/23	2	8.24	0.0394	0.136	<0.0983
PW-B01 @ 5'	2/27/24	5	8.28	0.715	0.229	<0.0997
PW-S01 @ 5'	2/27/24	5	8.34*	0.747	0.218	<0.0998
<i>Tank Battery Soil Samples</i>						
SEP-B01 @ 4'	12/4/23	4	7.16	0.604	0.0844	<0.0997
SEP-B02 @ 4'	12/4/23	4	8.38*	0.208	0.213	<0.101
AST-B01 @ 3"	12/4/23	0.25	7.21	0.0780	0.0744	<0.0992
AST-B01 @ 3'	2/27/24	3	8.29	0.562	0.215	0.143
<i>Background Soil Samples</i>						
PW-BG01 @ 3"	12/4/23	0.25	6.26	0.0633	0.0682	<0.0989
PW-BG01 @ 3'	12/4/23	3	7.88	0.102	0.0571	<0.0998
PW-BG01 @ 6'	12/4/23	6	7.90	0.427	0.0637	<0.101
PW-BG02 @ 3"	12/4/23	0.25	8.30	0.0357	0.294	0.136
PW-BG03 @ 3"	12/4/23	0.25	8.19	0.0472	0.110	<0.101
PW-BG04 @ 3"	12/4/23	0.25	6.83	0.0477	0.0641	<0.101

Notes:

⁽¹⁾ Standards for soil are taken from ECMC Table 915-1, effective January 15, 2021

ECMC= Energy and Carbon Management Commission

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

ft. bgs = Feet below ground surface

mmhos/cm = Millimhos per centimeter

mg/L = Milligrams per liter

SAR = Sodium Absorption Ratio

EC = Electrical Conductivity

Values presented in **BOLD** contained concentrations exceeding ECMC Table 915-1 Cleanup Concentrations

Values presented in **BOLD*** contained concentrations exceeding ECMC Table 915-1 Cleanup Concentrations, but are within the acceptable range of analytical variability of background limits.

TABLE 4
Hudson 11-35A/Eichth O SA
SOIL SAMPLE RESULTS SUMMARY TABLE - PAHs
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	1-Methyl-naphthalene (mg/kg)	2-Methyl-naphthalene (mg/kg)	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)	Ideno(1,2,3-cd)-pyrene (mg/kg)	Pyrene (mg/kg)
<i>ECMC standards for soil (mg/kg) ⁽¹⁾</i>		0.006	0.019	0.55	5.8	0.011	0.24	0.3	2.9	9	0.096	8.9	0.54	0.98	1.3
<i>ECMC standards for soil (mg/kg) ⁽²⁾</i>		18	24	360	1,800	1.1	0.11	1.1	11	110	0.11	240	240	1.1	180
<i>Produced Water Vault Soil Samples</i>															
PW-B01 @ 5'	2/27/24	<0.002	<0.002	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
PW-S01 @ 5'	2/27/24	<0.002	<0.002	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
<i>Tank Battery Soil Samples</i>															
AST-B01 @ 3'	2/27/24	0.003	0.005	<0.020	<0.020	<0.005	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

Notes:

⁽¹⁾ Standards are taken from ECMC Table 915-1: Protection of Groundwater Soil Screening Level Concentrations, effective January 15, 2021

⁽²⁾ Standards for soil are taken from ECMC Table 915-1: Residential Soil Screening Level Concentrations, effective January 15, 2021

ECMC = Energy and Carbon Management Commission

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

mg/kg = milligrams per kilogram

PAH = Polycyclic Aromatic Hydrocarbons

TABLE 5
Hudson 11-35A/Eichth O SA
SOIL SAMPLE RESULTS SUMMARY TABLE - METALS
KERR-McGEE OIL AND GAS ONSHORE LP

Sample Location	Date	Arsenic (mg/kg)	Barium (mg/kg)	Cadmium (mg/kg)	Chromium (VI) (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Silver (mg/kg)	Zinc (mg/kg)
<i>ECMC standards for soil (mg/kg) ⁽¹⁾</i>		0.29	82	0.38	0.00067	46	14	26	0.26	0.8	370
<i>Background Limits</i>		2.85									
<i>Produced Water Vault Soil Samples</i>											
PW-B01 @ 5'	2/27/24	1.92	39.6	0.115	<0.5*	<8.66	4.35	4.22	<0.225	<0.0866	34.6
PW-S01 @ 5'	2/27/24	1.71	34.7	0.0971	<0.5*	<9.52	4.49	3.90	<0.247	<0.0952	<35.2
<i>Tank Battery Soil Samples</i>											
AST-B01 @ 3'	2/27/24	2.28	44.3	0.111	<0.5*	<8.70	4.82	5.74	<0.226	<0.0870	<32.2

Notes:

⁽¹⁾ Standards are taken from ECMC Table 915-1: Protection of Groundwater Soil Screening Level Concentrations, effective January 15, 2021

⁽²⁾ Standards for soil are taken from ECMC Table 915-1: Residential Soil Screening Level Concentrations, effective January 15, 2021

ECMC = Energy and Carbon Management Commission

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

Values presented in **BOLD*** contained concentrations exceeding ECMC Table 915-1 Cleanup Concentrations, but within background limits.

* = compound is in accordance with the ECMC Table 915-1 Footnote 9.