

Soil Sampling Results
Leroy McCaw B#1
BP America Production Company

Parameter	SS01	SS02	SS05	SS07	COGCC	Units
Sample Date	4/2/2019	4/2/2019	5/3/2019	8/1/2019		
Sample Location	Background	Release Area	Release Area	Release Area	Table 910	
Field, PID	1.8	0.8	1.3	-	NA	ppm
Conductivity	0.254	3.870	1.230	1.770	<4 or 2x BG	mmhos/cm
pH	6.66	7.29	7.96	8.17	6-9	pH units
SAR	0.39	14.1	10.7	14.0	<12	no units
Calcium	35.5	111	22.0	32.3	NA	mg/L
Magnesium	6.19	17.9	6.96	5.62	NA	mg/L
Sodium	9.46	607	225	327	NA	mg/L
Arsenic	2.64	4.04	2.72	2.82	0.39	mg/kg
Barium	452	275	286	261	15,000	mg/kg
Cadmium	<5.00	<5.00	<5.00	<5.00	70	mg/kg
Chromium	7.17	6.42	6.58	8.23	23	mg/kg
Copper	24.4	22.5	17.9	18.6	3,100	mg/kg
Lead	16.1	11.4	10.3	10.1	400	mg/kg
Nickel	10.6	8.96	10.3	9.31	1,600	mg/kg
Selenium	<20.0	<20.0	<20.0	<20.0	390	mg/kg
Silver	<1.00	<1.00	<1.00	<1.00	390	mg/kg
Zinc	55.2	50.5	46.8	57.2	23,000	mg/kg
Mercury	<0.0496	<0.0553	<0.0480	<0.0426	23	mg/kg
Boron	<1.20	2.18	<1.20	1.28	2	mg/L
Benzene	<0.050	<0.050	-	-	0.17	mg/kg
Toluene	<0.050	<0.050	-	-	85	mg/kg
Ethylbenzene	<0.050	<0.050	-	-	100	mg/kg
Total Xylenes	<0.150	<0.150	-	-	175	mg/kg
Total BTEX	<0.300	<0.300	-	-	NA	mg/kg
TPH (GRO)	<10.0	<10.0	-	-	NA	mg/kg
TPH (DRO)	<10.0	<10.0	-	-	NA	mg/kg
TPH (EXT DRO)	<10.0	<10.0	-	-	NA	mg/kg
Total TPH	<30.0	<30.0	-	-	500	mg/kg
Naphthalene	<0.014	<0.014	-	-	23	mg/kg
Acenaphthene	<0.007	<0.007	-	-	1,000	mg/kg
Fluorene	<0.006	<0.006	-	-	1,000	mg/kg
Anthracene	<0.008	<0.008	-	-	1,000	mg/kg
Fluoranthene	<0.006	<0.006	-	-	1,000	mg/kg
Pyrene	<0.007	<0.007	-	-	1,000	mg/kg
Benzo(a)anthracene	<0.008	<0.008	-	-	0.22	mg/kg
Chrysene	<0.010	<0.010	-	-	22	mg/kg
Benzo(b)fluoranthene	<0.009	<0.009	-	-	0.22	mg/kg
Benzo(k)fluoranthene	<0.010	<0.010	-	-	2.2	mg/kg
Benzo(a)pyrene	<0.007	<0.007	-	-	0.022	mg/kg
Indeno(1,2,3-cd)pyrene	<0.010	<0.010	-	-	0.22	mg/kg
Dibenz(a,h)anthracene	<0.006	<0.006	-	-	0.022	mg/kg

Notes: SS01 collected as a background sample. SS02, SS05, and SS07 collected from the same sample location within the release area. SS03, SS06, and SS08 collected from the same sample location within the wetland area.

ppm - parts per million

mg/kg - milligrams per kilogram

mg/L - milligrams per liter

mmhos/cm - millihos per centimeter

PID - Photoionization Detector

SAR - Sodium Adsorption Ratio

NA - Not Applicable

"-" - indicates no data

BTEX - Benzene, Toluene, Ethylbenzene, and Total Xylenes

TPH - Total Petroleum Hydrocarbons

GRO - Gasoline Range Organics

DRO - Diesel Range Organics

EXT - Extended

BG - Background

COGCC- Colorado Oil & Gas Conservation Commission

Bold values exceed COGCC Table 910.

Soil Sampling Results (continued)
Leroy McCaw B#1
BP America Production Company

Parameter	SS04	SS03	SS06	SS08	COGCC	Units
Sample Date	4/2/2019	4/2/2019	5/3/2019	8/1/2019		
Sample Location	Downstream	Wetland Area	Wetland Area	Wetland Area	Table 910	
Field, PID	0.5	0.6	0.6	-	NA	ppm
Conductivity	1.000	1.770	2.740	1.210	<4 or 2x BG	mmhos/cm
pH	5.50	8.01	6.70	6.89	6-9	pH units
SAR	2.80	19.3	9.50	6.03	<12	no units
Calcium	74.4	74.7	143	71.6	NA	mg/L
Magnesium	14.6	11.7	21.1	11.8	NA	mg/L
Sodium	101	681	460	209	NA	mg/L
Arsenic	2.48	3.12	1.92	1.82	0.39	mg/kg
Barium	251	322	322	254	15,000	mg/kg
Cadmium	<5.00	<5.00	<5.00	<5.00	70	mg/kg
Chromium	6.25	6.02	6.26	5.17	23	mg/kg
Copper	16.8	16.3	14.4	11.7	3,100	mg/kg
Lead	11.9	13.2	11.7	10.6	400	mg/kg
Nickel	7.95	7.67	7.49	6.65	1,600	mg/kg
Selenium	<20.0	<20.0	<20.0	<20.0	390	mg/kg
Silver	<1.00	<1.00	<1.00	<1.00	390	mg/kg
Zinc	51.2	55.6	54.8	53.6	23,000	mg/kg
Mercury	<0.0651	<0.0660	<0.0657	<0.0635	23	mg/kg
Boron	<1.20	<1.20	2.21	1.41	2	mg/L
Benzene	<0.050	<0.050	-	-	0.17	mg/kg
Toluene	<0.050	<0.050	-	-	85	mg/kg
Ethylbenzene	<0.050	<0.050	-	-	100	mg/kg
Total Xylenes	<0.150	<0.150	-	-	175	mg/kg
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Fluoranthene	<0.006	<0.006	-	-	1,000	mg/kg
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Benzo(a)pyrene	<0.007	<0.007	-	-	0.022	mg/kg
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