



Surface Water Sampling Results
Thomas Jacquez E #1
BP America Production Co.

Parameter	WS01 11/4/18	WS02 11/4/18	WS03 11/4/18	WS04 11/4/18	WS05 11/4/18	WS06 11/5/18	WS07 11/5/18	WS08 11/5/18	WS09 11/6/18	WS10 11/6/18	WS11 11/6/18	WS12 11/6/18	WS13 11/6/18	WS14 11/6/18	EPA Standard	Units
Alkalinity, Bicarbonate	116	114	109	101	106	110	106	107	-	-	-	-	-	-	-	mg/L
Alkalinity, Carbonate	<10.0	<10.0	14.0	12.0	14.0	14.0	14.0	14.0	-	-	-	-	-	-	-	mg/L
Alkalinity, Total	124	122	123	113	120	124	120	121	-	-	-	-	-	-	-	mg/L
Chloride	27.7	18.2	17.5	17.2	17.9	18.0	18.1	19.5	-	-	-	-	-	-	250	mg/L
Conductivity	675	591	668	628	652	595	598	605	-	-	-	-	-	-	-	uS/cm
pH	8.06	8.16	8.26	8.33	8.29	8.12	8.30	8.21	-	-	-	-	-	-	6.5-8.5	pH Units
Resistivity	1,480	1,690	1,500	1,590	1,530	1,680	1,670	1,650	-	-	-	-	-	-	-	ohm/cm
TDS	290	385	380	365	380	380	395	360	-	-	-	-	-	-	500	mg/L
Sulfate	134	142	143	141	144	142	143	144	-	-	-	-	-	-	250	mg/L
Hardness	256	254	254	249	258	259	268	260	-	-	-	-	-	-	-	mg/L
Barium	0.079	0.081	0.090	0.070	0.083	0.091	0.087	0.085	-	-	-	-	-	-	2	mg/L
Calcium	83.7	82.8	82.7	81.0	84.1	84.3	87.5	84.3	-	-	-	-	-	-	-	mg/L
Dissolved Iron	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	-	-	-	-	-	-	0.3	mg/L
Total Iron	5.34	1.01	4.84	0.280	0.492	2.65	2.66	0.666	-	-	-	-	-	-	-	mg/L
Magnesium	11.5	11.6	11.6	11.4	11.7	11.7	11.9	12.0	-	-	-	-	-	-	-	mg/L
Manganese	0.061	0.070	0.082	0.035	0.052	0.087	0.080	0.042	-	-	-	-	-	-	0.05	mg/L
Potassium	3.40	3.16	3.23	3.27	3.26	3.23	3.36	3.37	-	-	-	-	-	-	-	mg/L
Sodium	19.7	20.0	19.7	19.1	20.6	19.2	19.9	22.3	-	-	-	-	-	-	-	mg/L
Strontium	0.876	0.888	0.893	0.852	0.908	0.893	0.914	0.929	-	-	-	-	-	-	-	mg/L
Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005*	mg/L
Toluene	0.017	0.001	<0.001	<0.001	0.002	<0.001	<0.001	0.012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	1*	mg/L
Ethylbenzene	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.7*	mg/L
Total Xylenes	0.084	0.006	<0.003	<0.003	0.009	<0.003	<0.003	0.048	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	10*	mg/L
Total BTEX	0.105	0.007	<0.006	<0.006	0.011	<0.006	<0.006	0.062	<0.006	<0.006	<0.006	<0.006	<0.006	<0.006	-	mg/L
TPH (GRO)	3.40	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	mg/L
TPH (DRO)	60.5	1.80	1.44	<1.00	23.3	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	2.12	-	mg/L
TPH (EXT DRO)	12.6	1.18	<1.00	<1.00	5.51	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	<1.00	-	mg/L

Notes:

mg/L - milligrams per liter
uS/cm - microsiemens per centimeter
ohm/cm - ohms per centimeter
EPA - Environmental Protection Agency
TDS - Total Dissolved Solids
BTEX - Benzene, Toluene, Ethylbenzene, Total Xylenes
TPH - Total Petroleum Hydrocarbons
GRO - Gasoline Range Organics

DRO - Diesel Range Organics
EXT - Extended
Bold values exceed EPA Standard
EPA Standards are Secondary Maximum Contaminant Levels (MCLs) unless otherwise noted
* - EPA Primary MCL
"- " indicates results are pending
See map for sample locations



Surface Water Sampling Results (continued)
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Parameter	WS15 11/6/18	WS16 11/6/18	WS17 11/6/18	WS18 11/6/18	WS19 11/6/18	WS20 11/7/18	WS21 11/7/18	WS22 11/7/18	WS23 11/7/18	WS24 11/7/18	WS25 11/8/18	WS26 11/8/18	WS27 11/8/18	WS28 11/8/18	EPA Standard	Units
Alkalinity, Bicarbonate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Alkalinity, Carbonate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Alkalinity, Total	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Chloride	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	mg/L
Conductivity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	uS/cm
pH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5-8.5	pH Units
Resistivity	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ohm/cm
TDS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	500	mg/L
Sulfate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	250	mg/L
Hardness	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Barium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	mg/L
Calcium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Dissolved Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	mg/L
Total Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Magnesium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Manganese	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	mg/L
Potassium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Sodium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Strontium	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	mg/L
Benzene	<0.001	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	0.005*	mg/L
Toluene	0.011	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	1*	mg/L
Ethylbenzene	0.002	<0.001	<0.001	<0.001	<0.001	-	-	-	-	-	-	-	-	-	0.7*	mg/L
Total Xylenes	0.034	<0.003	<0.003	<0.003	<0.003	-	-	-	-	-	-	-	-	-	10*	mg/L
Total BTEX	0.046	<0.006	<0.006	<0.006	<0.006	-	-	-	-	-	-	-	-	-	-	mg/L
TPH (GRO)	<1.00	<1.00	<1.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	mg/L
TPH (DRO)	<1.00	<1.00	2.45	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	mg/L
TPH (EXT DRO)	<1.00	<1.00	<1.00	<1.00	<1.00	-	-	-	-	-	-	-	-	-	-	mg/L

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