

An additional example of Oil field water with BTEX concerns follows:

AGAT Laboratories
Project JAB5122

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	Sweet Flowback Water		% Reduction
	Pre	Post EC/AI	
Benzene mg/l	17.6	0.745	95.77%
Toluene mg/l	37.7	1.27	96.63%
Ethylbenzene mg/l	1.5	0.04	97.33%
Xylenes mg/l	35	0.79	97.74%
Total Purgeable Hydrocarbons mg/l	622	4.2	99.32%
Total Extractable Hydrocarbons mg/l	86.6	1	98.85%
Total Petroleum Hydrocarbons mg/l	709	5.2	99.27%
pH	7.1	7	1.41%
p-Alkalinity as CaCO3 mg/l	<5	<5	
T- Alkaninity as CaCO3 mg/l	336	52	84.52%
Bicarbonate mg/l	410	64	84.39%
Carbonate mg/l	<5	<5	
Hydroxide mg/l	<5	<5	
Electrical Conductivity	66400	66700	-0.45%
Chloride mg/l	28400	28400	0.00%
Flouride mg/l	0.49	<0.05	89.80%
Nitrate mg/l	<0.5	<0.5	
Sulfate mg/l	46	17	63.04%
Dissolved Calcium mg/l	2600	2530	2.69%
Dissolved Magnesium mg/l	409	356	12.96%
Dissolved Sodium mg/l	13800	14000	-1.45%
Dissolved Potassium mg/l	618	640	-3.56%
Dissolved Iron mg/l	13.8	<0.1	99.28%
Dissolved Manganese mg/l	4.16	3.02	27.40%
Total Suspended Solids mg/l	78	25	67.95%
Calculated TDS mg/l	46100	46000	0.22%
Hardness mg/l CaCO3	8180	7780	4.89%

	Sweet Produced Water		% Reduction
	Pre	Post AI	
Benzene mg/l	10.8	0.0658	99.39%
Toluene mg/l	155	0.115	99.93%
Ethylbenzene mg/l	12.6	0.0072	99.94%
Xylenes mg/l	216	0.131	99.94%
Total Purgeable Hydrocarbons mg/l	2300	0.7	99.97%
Total Extractable Hydrocarbons mg/l	4570	0.9	99.98%
Total Petroleum Hydrocarbons mg/l	6870	1.6	99.98%
pH	6.3	6	4.76%
p-Alkalinity as CaCO3 mg/l	<5	<5	
T- Alkaninity as CaCO3 mg/l	48	9	81.25%
Bicarbonate mg/l	58	16	72.41%
Carbonate mg/l	<5	<5	
Hydroxide mg/l	<5	<5	

Electrical Conductivity	346000	335000	3.18%
Chloride mg/l	123000	123000	0.00%
Flouride mg/l	0.67	<0.05	92.54%
Nitrate mg/l	<0.5	<0.5	
Sulfate mg/l	6	5	16.67%
Dissolved Calcium mg/l	7940	9020	-13.60%
Dissolved Magnesium mg/l	820	912	-11.22%
Dissolved Sodium mg/l	63400	63500	-0.16%
Dissolved Potassium mg/l	1990	2450	-23.12%
Dissolved Iron mg/l	6.9	4.1	40.58%
Dissolved Manganese mg/l	1.12	1.76	-57.14%
Total Suspended Solids mg/l	384	95	75.26%
Calculated TDS mg/l	197000	199000	-1.02%
Hardness mg/l CaCO3	23200	26300	-13.36%

	Leachate Post Sweet Flowback		% Reduction
	Pre	Post Al	
Benzene mg/l	1.91	0.0048	99.75%
Toluene mg/l	2.92	0.0093	99.68%
Ethylbenzene mg/l	0.055	0.0012	97.82%
Xylenes mg/l	1.25	0.0104	99.17%
Total Purgeable Hydrocarbons mg/l	10.9	0.3	97.25%
Total Extractable Hydrocarbons mg/l	1.6	14.9	-831.25%
Total Petroleum Hydrocarbons mg/l	12.5	15.2	-21.60%
pH	7.1	7.5	-5.63%
p-Alkalinity as CaCO3 mg/l	<5	<5	
T- Alkaninity as CaCO3 mg/l	1410	795	43.62%
Bicarbonate mg/l	1720	970	43.60%
Carbonate mg/l	<5	<5	
Hydroxide mg/l	<5	<5	
Electrical Conductivity	19500	18700	4.10%
Chloride mg/l	6720	6630	1.34%
Flouride mg/l	<0.05	<0.05	
Nitrate mg/l	<0.5	<0.5	
Sulfate mg/l	5	7	-40.00%
Dissolved Calcium mg/l	2290	1950	14.85%
Dissolved Magnesium mg/l	252	230	8.73%
Dissolved Sodium mg/l	2100	1970	6.19%
Dissolved Potassium mg/l	252	230	8.73%
Dissolved Iron mg/l	0.2	0.2	0.00%
Dissolved Manganese mg/l	6.67	4.53	32.08%
Total Suspended Solids mg/l	400	9	97.75%
Calculated TDS mg/l	12700	11700	7.87%
Hardness mg/l CaCO3	6760	5820	13.91%

Electrocoagulation is effective on carbon chains 6 or longer. Benzene is 6 carbon chains.