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Contaminated Water Remediation Mobile Service

BME Environmental provides a wastewater remediation service ahead of current trends with green energy efficient technology equipment that eliminates a wide range of contaminants from water. This green technology has been proven effective on contaminants that include, organics - such as bacteria, E-coli and other pathogens, metals, oil production water, effluence, oil and grease, slop oil, silica in water, a multitude of contaminated mining tailing ponds, and dried contaminated sediments from evaporation ponds – including uranium sediment beds. See test results, below, for a full list of contaminants.

The advanced technology called the “Electro Coagulation” (EC) provides a revolution to the treatment and reuse of wastewater.

The EC processes large flows of wastewater making remediation more efficient and cost effective compared to current methods. Other than for pH adjustments and blade cleaning, **no chemicals** are used in the process, resulting in significant reduction in sludge generation. The resulting contaminants are turned into an oxidized non-hazardous state and can be buried anywhere without harm to the ecosystem. This is truly a green operation that gives clean water back to the user.

It is the distinct economical and environmental choice for meeting contaminated water remediation discharge standards and compliance requirements. Volumes can be processed from 50 to 135 GPM (189 to 510 LPM) in a mobile unit at client’s site. Multiple units can be staged together for faster volume processing times. The Electro Coagulation technology units and other equipment are in enclosed trailers to be protected from outside elements.

Below is a picture of one of two trailers to make up a mobile operation. Whether it is a brownfield or oil well production project, the mobile unit setup and dismantle is very quick and can relocate to any site to meet our client’s needs.

Depending on your requirements, our wastewater treatment services are available on-site or off-site. The Electro Coagulation units are energy efficient and eco-friendly.

ELECTRO COAGULATION

Water Recovery and Reuse

TEST RESULTS

The following test results were conducted by a qualified independent laboratory or government facility and are specific examples of the patented Electro Coagulation (EC) process. The listed "Removal Rate" indicates the percentage each contaminant was removed from water to an oxidized non-hazardous residue. Therein, the residue can be buried without harm to the ecosystem.

Metals, Ions, Solids, Hardness, and Turbidity

Contaminant	Before mg/l	After mg/l	Removal Rate (%)	Contaminant	Before mg/l	After mg/l	Removal Rate (%)
Aldrin (Pesticide)	0.0630	0.0010	98.40	Mercury	0.7200	<0.0031	98.45
Aluminum	224.0000	0.6900	99.69	Molybdenum	0.3500	0.0290	91.71
Ammonia	49.0000	19.4000	60.41	MP-Xylene	41.6000	0.0570	99.86
Arsenic	0.0760	<0.0022	97.12	MTBE	21.5800	0.0462	99.79
Barium	0.0145	<0.0010	93.10	Nickel	183.0000	0.0700	99.96
Benzene	90.1000	0.3590	99.60	Nitrate	11.7000	2.6000	77.78
BOD5	1050.0000	14.0000	98.67	Nitrite	21.0000	12.0000	42.86
Boron	4.8600	1.4100	70.98	Nitrogen TKN	1118.880	59.0800	94.72
Cadmium	0.1252	<0.0040	96.81	NTU	35.3800	0.3200	99.10
Calcium	1321.0000	21.4000	98.40	O-Xylene	191.0000	0.4160	99.78
Chlorieviphos	5.8700	0.0300	99.50	PCB	0.0007	<0.0001	85.71
Chromium	139.0000	<0.1000	99.92	Petroleum	72.500	<0.200	99.72
Cobalt	0.1238	0.0214	82.71	Phosphate	28.000	0.200	99.28
Copper	0.7984	<0.0020	99.75	Phosphorus	158.750	<10.000	99.93
Cyanide (Free)	723.0000	<0.0200	99.99	Platinum	4.400	0.680	84.55
Cypermethrin	1.3000	0.0700	94.60	Potassium	200.00	110.00	45.00
DDT	0.2610	0.0020	99.20	Propetamphos	80.8700	0.3600	99.60
Diazinon	34.0000	0.2100	99.40	Selenium	68.000	38.000	44.00
Ethyl Benzene	428.0000	0.3720	99.91	Silicon	21.0700	0.1000	99.50
Fluoride	1.1000	0.4150	62.27	Sulfate	104.000	68.000	34.61
Gold	5.7200	1.3800	75.87	Silver	0.0081	0.0006	92.59
Hydrocarbon	72.5000	<0.200	99.72	Tin	0.2130	<0.020	90.61
Iron	68.3400	0.1939	99.72	Tolulene	28480.0	0.2270	99.99
Lead	0.5900	0.0032	99.46	TSS	1560.00	8.0000	99.49
Lindane	0.1430	0.0010	99.30	Vanadium	0.2621	<0.002	99.24
Magnesium	13.1500	0.0444	99.66	Zinc	221.000	0.1400	99.90
Manganese	1.0610	0.0184	98.27				

Organics, Isotopes & Dyes

Bacteria	Before mg/l	After mg/l	Removal Rate %
Bacteria	110,000,000.00 cfu	2,700.00 cfu	99.99
Coliform	318000.00 cfu	<1.00 cfu	99.99
E. coli	>2,419.20 mpn	0.00 mpn	99.99
Enterococcus	83.00 mpn	<10.00 mpn	82.87
Total Coliform	>2,419.20 mpn	0.0000	99.99
Radioisotopes	Before mg/l	After mg/l	Removal Rate %
Americium-241	71.9900 pCi/L	0.5700 pCi/L	99.20
Plutonium-239	29.8500 pCi/L	0.2900 pCi/L	99.00
Radium	1 093.0000pCi/L	0.1000 pCi/L	99.99
Uranium	0.1300 mg/L	0.0002 mg/L	99.83
Dyes	Before NTU	After NTU	Removal Rate %
Ref. 006-691	125.1000	12.1000	90.00
Ref. 006-692	129.4000	2.2000	98.30
Ref. 006-854	68.3000	0.6800	99.00
Ref. 006-851	2340.0000	4.5000	99.80

Synthetic Organofluorine Chemical Compounds (PFAS)

PFAS	Before ug/l	After ug/l	Removal Rate %
PFOA	1.620	<LOD (0.166)*	99.74**
PFOS	0.867	<LOD(0.0981)*	99.44**

* LOD - Limit of Detection (This is the equipment's lowest reading level. The removal rate may be higher than indicated.)

** USEPA New Regulation Limit for PFOA & PFOS is 4 ng/l (ppt) and this is below that level. PFAS is not just removed from the water, it is actually destroyed into a non-hazardous state - it becomes inert after passing through the EC unit.



50 GPM "Electro Coagulation" Unit



Mobile Operational Unit