

BME Environmental
ELECTRO COAGULATION

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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	98.4	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	93.1	Nickel	183.0000	0.0700	99.96
Benzene	90.1000	0.3590	99.6	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	99.1
Calcium	1321.0000	21.4000	98.4	O-Xylene	191.0000	0.4160	99.78
Chlorieivphos	5.8700	0.0300	99.5	PCB	0.0007	<0.0001	85.71
Chromium	139.0000	<0.1000	99.92	Petroleum	72.5	<0.200	99.72
Cobalt	0.1238	0.0214	82.71	Phosphate	28	0.2	99.28
Copper	0.7984	<0.0020	99.75	Phosphorus	158.75	<10.000	99.93
Cyanide (Free)	723.0000	<0.0200	99.99	Platinum	4.4	0.68	84.55
Cypermethrin	1.3000	0.0700	94.6	Potassium	200	110	45
DDT	0.2610	0.0020	99.2	Propetamphos	80.87	0.36	99.6
Diazinon	34.0000	0.2100	99.4	Selenium	68	38	44
Ethyl Benzene	428.0000	0.3720	99.91	Silicon	21.07	0.1	99.5
Fluoride	1.1000	0.4150	62.27	Sulfate	104	68	34.61
Gold	5.7200	1.3800	75.87	Silver	0.0081	0	92.59
Hydrocarbon	72.5	<0.200	99.72	Tin	0.213	<0.020	90.61
Iron	68.34	0.1939	99.72	Tolulene	28480	0.227	99.99
Lead	0.59	0.003	99.46	TSS	1560	8	99.49
Lindane	0.143	0.001	99.3	Vanadium	0.2621	<0.002	99.24
Magnesium	13.15	0.0444	99.66	Zinc	221.000	0.1400	99.9
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	99.2
Plutonium-239	29.8500 pCi/L	0.2900 pCi/L	99
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
Ref. 006-692	129.4000	2.2000	98.3
Ref. 006-854	68.3000	0.6800	99
Ref. 006-851	2340.0000	4.5000	99.8

ELECTRO COAGULATION

Unit Sizes and Voltage Requirements

Unit Model	Unit Size (Gallons per Minute)	Unit Size (Litres per Minute)	Current (60 sec. res.)
A	1.5	5.67	GPM 110 Volts
B	3	11.35	GPM 240 Volts
C	6	22.71	GPM 480 Volts
D	10	37.35	GPM 480 Volts
E	15	56.76	GPM 480 Volts
F	30	113.52	GPM 480 Volts
G	50	189.20	GPM 480 Volts
H	90	340.56	GPM 480 Volts
I	135	510.84	GPM 480 Volts
J	250	946.00	GPM 480 Volts
K	360	1,362.24	GPM 480 Volts
L	500	1,892.00	GPM 480 Volts
M	600	2,270.40	GPM 480 Volts
N	2,500	9,460.00	GPM 2,400 Volts