



MEMFREE WASTEWATER TREATMENT SYSTEM

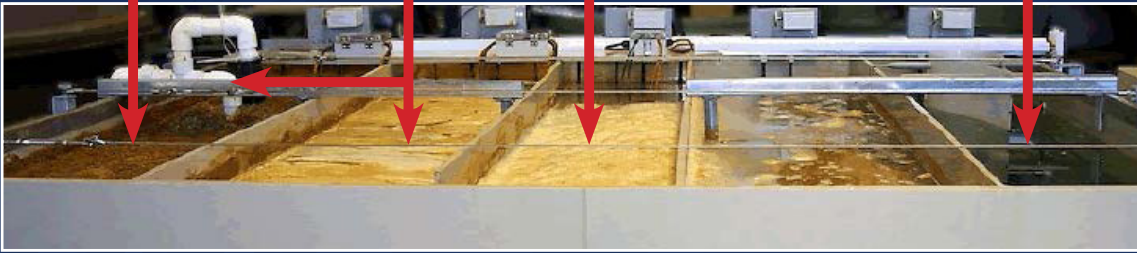


THE PROCESS

Effluent
Enters

Through electroflocculation, reactions
occur in middle chambers

Clean water in
end chamber



Treating sewage at Surprise WWTP

Floating the contaminants



Removing the waste



Treatment results from Surprise WWTP



Raw Sewage to Clean Water

TREATMENT CAPABILITIES:

- Oil + Grease
- Halogenated hydrocarbons
- Benzene ring structures
- Most natural and many synthetic dyes
- Ink, pigments and paint
- Monomers and polymers
- Decaying animal and vegetable matter
- Asbestos, clay and other suspended solids
- Some low atomic number ions, B, F, Mg, Al, Ca
- Total Nitrogen
- Removal of other total Kjeldahl nitrogen variable
- Nitrates and nitrites
- BOD/COD – large molecules <300ug/MOL difficult to remove
- Free and Emulsified fats
- >C6 Hydrocarbons
- Cautions with atomic number >23 (including hexavalent chromium)
- Anions with atomic number >33 (including bromide and iodide)
- Chemicals such as cyanide, arsenate, phosphate
- Pathogens such as algae, bacteria and viruses
- Soaps and detergents (MBAS active substances)
- Removal of radioactive contaminants
- Phosphorous
- And much more...



Derek Puttick
(587) 727-0612
dputtick@tecvalco.com



Andy Craven
(940) 368-9106
andy@elitepetrotech.com

REMOVAL RATES

Material	Raw mg/L	Cleaned mg/L	% Removal
Faecal Coliforms	72,000,000.00	1300(est)	100.00
E. coli	1,800,000.00	9,000.00	99.50
BOD5	102.60	4.50	95.60
COD	145,500.00	5,320.00	96.30
Total Kjekkahl Nitrogen	81.00	46.00	43.25
Total Nitrogen	48.00	34.00	29.20
Nitrate	4.20	0.20	95.20
Ammonia-N	0.24	<0.03	>88.9
Oxidized-N	0.20	<0.1	>50
TOC	6,091.00	36.80	99.40
TSS	1,900.00	19.00	99.00
Colour	24.20	<1	>95.9
Turbidity	>2000	20.00	>99
Oil & Grease	81,440.00	20.00	99.98
Grease	150.00	<3	>98
Petroleum Hydrocarbons	1,200.00	15.00	98.80
Ethanol	9.30	<0.05	>99.5
Acelone	0.69	<0.05	>94.2
Benzene	0.12	<0.001	>99.2
Toluene	0.99	<0.001	>99.9
Ethyl Benzene	2.1	<0.005	>99.8
Xylenes	4.8	<0.005	>99.9
TRH C6-C9	8.7	0.002	>99.8
TRH C10-C14	9.1	2.6	71.4

Material	Raw mg/L	Cleaned mg/L	% Removal
Aluminum	16	0.66	95.9
Arsenic	0.73	0.01	98.6
Barium	5.6	0.13	97.7
Boron	0.42	0.17	59.5
Cadmium	0.049	<0.001	>98
Calcium	36	16	55.6
Cobalt	0.06	0.01	83.3
Copper	260	0.27	99.9
Dissolved Oxygen	0.26	8.9	97.1
Iron	1.009	0.014	98.7
Lead	5.4	<0.01	>99.8
Magnesium	5.6	2.5	55.4
Manganese	0.28	<0.01	>96.4
Nickel	0.02	0.003	85
Phosphorus	27.5	0.4	98.5
Selenium	0.04	0.01	75
Tin	0.85	<0.01	>98.8
Titanium	1.1	<0.01	>99.1
Vanadium	0.8	<0.01	>87.5
Zinc	180	0.42	99.8



TECVALCO

WWW.TECVALCO.COM



sales@tecvalco.com



linkedin.com/company/tecvalco



facebook.com/tecvalco/



twitter.com/tecvalco



instagram.com/tecvalco/



youtube.com/c/Tecvalcoltd



TECVALCO

USA

WWW.TECVALCOUSA.COM

At Tecvalco Ltd, we are the exclusive North American sales agent and manufacturer of a revolutionary wastewater treatment process, known as MemFree. Along with our Eastern distribution centre we also have a 95,000 sq ft manufacturing facility, located in North Battleford, SK.

Our system is able to treat +/- 600 cu metres of wastewater per day, is fully automated and uses minimal energy. The system removes the widest array of pollutants and uses no filters, membranes or chemicals. One of our units is perfectly sized to accommodate a population equivalent of between 300 and 1,800. As ours is a modular system, multiple units can be piggybacked, to handle larger volumes of sewage. It also has a very small footprint, requiring less than 400sq ft and downtime for maintenance is less than 1/2%.

Our patented process is performed in a 40' vessel, is a continuous flow system, and works exceptionally well in conjunction with existing wastewater lagoons. In the case of lagoons, we draw from one cell, treat the sewage, and in less than an hour, clean water is returned to the environment. Our system also works equally well as an aid to other methods of sewage treatment.

UNITY SASKATCHEWAN

1. Tasked to clean wastewater for a community in which their current ponds and system could no longer support the growth of their town. As well as help nurse the lake back to its fish bearing state.
 - Two MemFree systems delivering up to 1200cu metres per day of filtered wastewater
2. Two 40' systems at the township of Unity, Saskatchewan at Sink Lake.
3. Other sites include:
 - a. Providing drinking water in National parks
 - b. Providing drinking water in two State prisons
 - c. Providing drinking water in a large seasonal resort community
 - d. Providing primary and secondary treatment for a food manufacturer
 - e. Recycling water used to clean municipal garbage trucks

Our first two systems have been in operation for the past 6 months in Unity, SK, and is producing outstanding results. The town had outgrown their existing lagoons, and they determined that MemFree was the best option to allow the town to grow into the future. It was found that it would be more affordable than expanding or relocating their existing ponds.

PATENTS

Patent: US/9.102.554.B2:

Approved - August 11, 2015:

The patent is for a "continuous flow electroflocculation water treatment system".

Patent: CA/2834902:

Approved - November 1, 2016:

The patent is for a "continuous flow electroflocculation water treatment system".

Patent: AU/2012253212:

Approved - August 25, 2016:

The patent is for a "continuous flow electroflocculation water treatment system".

