

**Problem:**

- Heavy Oil/Tar Cut With Bis(2-Chloroethyl) ether
- From Crude Oil Refineries
- Deposited in Salt Water Lagoons Subject to Gulf Storm Flooding Contaminating Ground Water
- 75 ft Slurry Wall & 24 Wells in Place
- Heavy Litigation in Public Domain
- Lethal Off Gas
- UV Peroxide System with Pretreatment Award in Progress
- Fear and Doubt of Unknown, but Engineering Approach

**Challenge:**

- Corrosion & Explosion Hazard
- High Chlorides & TDS

Treatment Required	Influent ppm	Effluent ppm
Flow	15 litres/min	
Bis (2-chloroethyl) ether	200	> 0.020
Vinyl chloride	0.67	ND
1,2-Dichloroethane	8.4	4.8
Benzene	1.3	ND
Chloride	6,000	
COD	1,720	
TDS	14,500	
Iron	3	
NAPL	0.3%	

**Solution:**

- CERCLA ID #TXD980629851
- No Flocculation or Pretreatment
- Corrosion Resistant Construction
- Surface Water Discharge
- Duty 24/7, > 35,000 hrs
- 1994-2000



**Benefits:**

- Capital Cost Savings: \$1 Million
- O&M Cost Savings: 80%
- ROI: Immediate
- Full Remote Automation

Reduced Life Cycle Costs

	Photo-Cat	UV/H <sub>2</sub> O <sub>2</sub>	\$ Saved	%
Flocculation	N.R.	\$30,000	\$30,000	100%
Power	\$7,568	\$19,710	\$12,141	62%
Lamps	\$4,500	\$9,000	\$4,500	50%
Total Train	\$12,068	\$58,710	\$46,642	80%

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**Unique Technologies...Achieve Solutions...Eliminate Problems**