Case Study 4

COMPANY: CONFIDENTIAL

ADDRESS:

CITY, ECT

INDUSTRY: OIL PRODUCER

POLLUTANT REDUCED: GHG- CRUDE OIL

PROCESS: TANK BATTERY

CONTACT PERSON:

CONTACT PHONE:

CONTACT E-MAIL

What factors drove you to undertake this project?

This was a research and development project to reduce Green House Gases to the atmosphere. We are always looking for ways to improve our environment.

Tell us how you reduced the pollution:

We installed the ERS Bio-Filter system in March of 2008. The process included installation and test monitoring to see the effectiveness of this new technology.

Innovative Application of Technology:

Emissions Reduction Systems has different models available for plunger pumps, centrifugal pumps, compressors, tank batteries, valves, and other fugitive emission sources.

Additional Information:

The method 21 test results showed a reduction from 130,000 + ppm (used filter attachment to increase readings and it still flamed out equipment) to average of 8,000 ppm (spiked at 12,000). The IR camera video was very impressive, with dark

cloud of vapors with out filter pillows, to very light (almost non-detectable) source with filter pillows in place.
More tests are forth coming, including flow rate (estimate of 5 cfm), H2S reductions and Tclp test for Benzene levels. The tank battery has (3) 500 barrel oil tanks and (1) water tank, a single manifold to an Enardo Valve set at 8oz.

Environmental Benefits & Reductions Achieved:

Data pending future test results:
Up date 08/04/08
Flow rate estimates before filter at 7.2 mcf, after filter to 2.5 mcf and back pressure of 7.2 oz. maximum thru a 2" ball valve. Next test pending will try 4" ball valve to reduce back pressure or install second 2"system to another tank.

Reduction:	H2S before .4000 mole %	after filter .2000 mole%	= 50% reduction
	Methane 24.8946 mole %	after filter 20.988 mole%	= 18% reduction
	Benzene .2083 mole %	after filter .0888 mole %	= 61% reduction
	Toluene .0873 mole %	after filter .0202 mole %	= 77% reduction
	Ethyl benzene .0295 %	after filter .0000	= 100% reduction
	Xylene P-M-O .0161%	after filter .0000	= 100% reduction

For a complete extended Gas Analysis contact Mitchell Analytical Laboratory
Phone # 432-561-5579 Lab ref # 08-Jul-45022 and 45023

Overall Savings:

This innovative filter technology compared to a vapor recovery unit or flare system is an affordable way to help reduce emissions and leave a positive Carbon foot print for years to come.

Example:	VRU	$ 50,000 estimated costs
	Flare	$ 20,000 estimated costs
	Filter	$ 5,000 estimated costs

Contact: © Emission Reduction Systems - Bio – Filters
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Mike Strickland / mike@ersbiofilter.com
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U.S. Patent No. 7,951,226 (patented process for pumps)
Patents and Patents Pending
ERS has multiple systems for various emission sources available.