

### VAPOR SYSTEMS TECHNOLOGIES, Inc. SINCE 1989



SPECIALIZES IN:

- DEVELOPMENT
- ENGINEERING
- MANUFACTURING
- SALES OF INNOVATIVE PRODUCTS SOLD INTO THE GDF SEGMENT OF THE PETROLEUM INDUSTRY

(HOSES, SAFETY BREAKAWAYS, NOZZLES, AND MEMBRANE PROCESSORS)

www.vsthose.com



## **ORVR SYSTEM SOLUTION**

The VST ORVR Solution. Negative Pressure. Positive Cashflow.



CONSISTS OF – COMPLETE VST HANGING HARDWARE SET DESIGNED AND CERTIFIED AS A SYSTEM

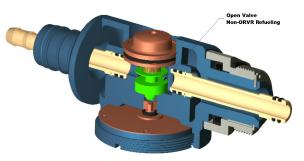
#### **INCLUDES** -

- WHIP HOSE
- SAFETY BREAKAWAY
- VACUUM ASSIST HOSE (INCLUDING ORVR VALVE)
- ENVIRO-LOC<sup>™</sup> NOZZLE

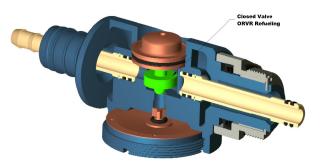


### ENVIRO-LOC<sup>™</sup> ORVR VALVE

- RECOGNIZES ORVR AND NON-ORVR VEHICLES
- OPEN = NON-ORVR VEHICLES
- CLOSED = ORVR VEHICLES
- PATENTED TECHNOLOGY
- ADDITIONAL PATENTS
  PENDING

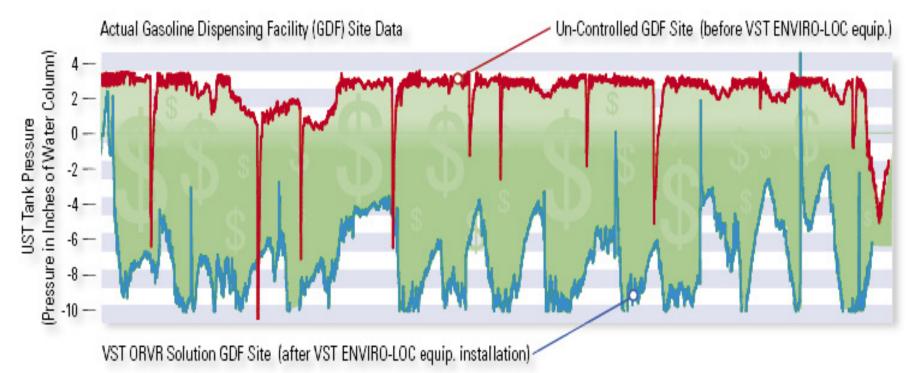


VST ENVIRO-LOC<sup>™</sup> ORVR VALVE



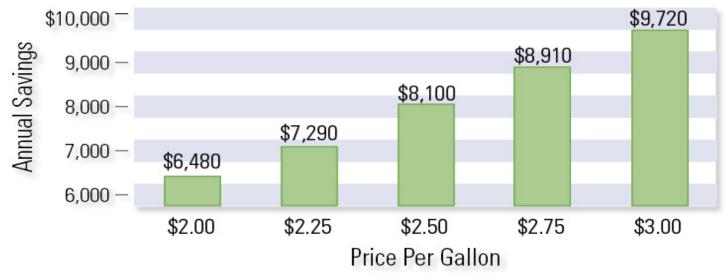
VST ENVIRO-LOC<sup>™</sup> ORVR VALVE





#### FUGITIVE EMISSIONS CAN NOT ESCAPE FROM NEGATIVE UST PRESSURES





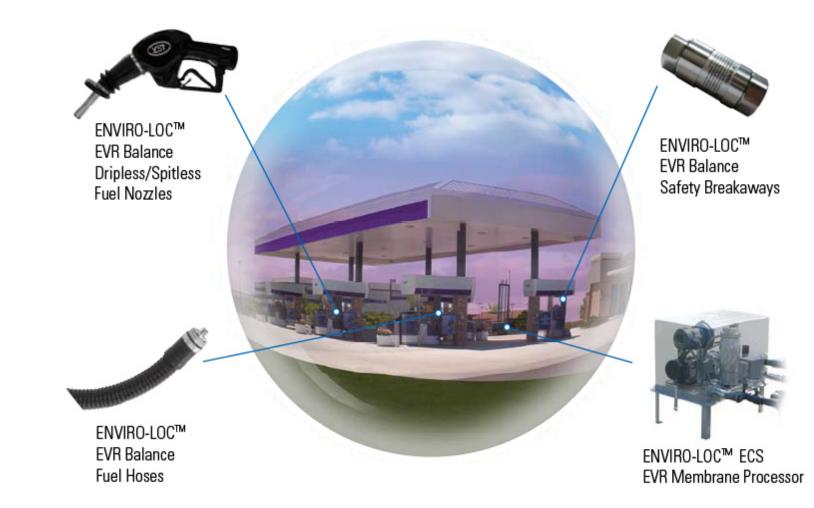
Savings Formula:

Gallons per Month x Vaporization Standard x Price per Gallon x 12 months = Additional Profit Dollars

Example: 150,000 Gal./Mo. x 0.0018 x \$2.25/Gal. x 12 = \$7,290

#### SAVINGS TODAY: 150,000 x .0018 x \$3.00 x 12 = \$9,720

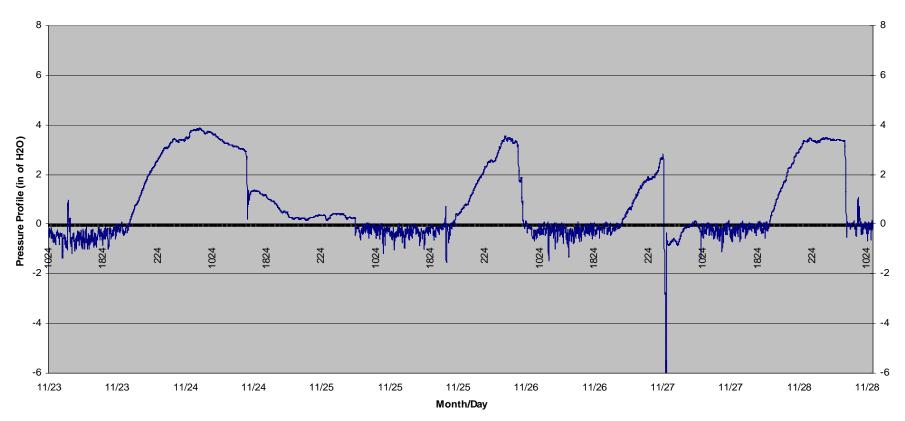
# **VST** Simple Solution for Vapor Recovery



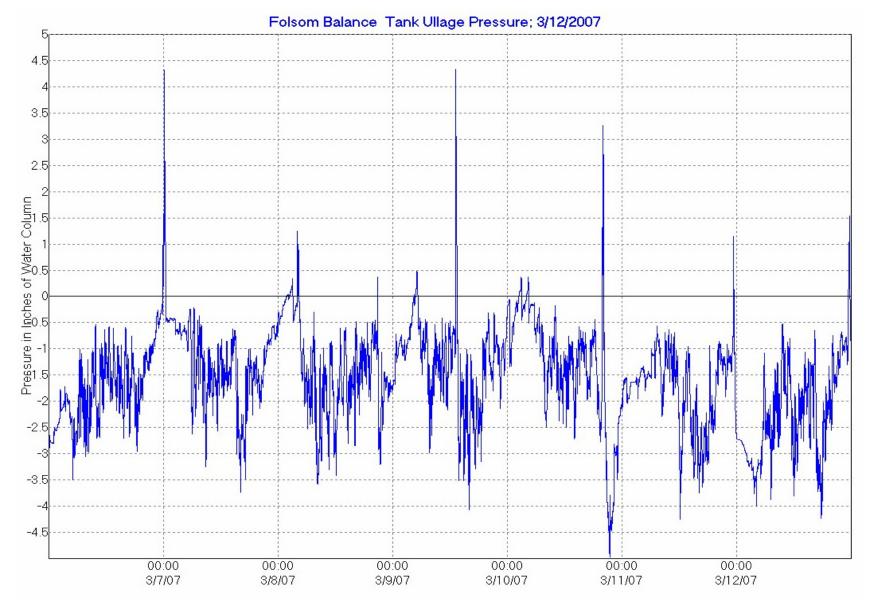


### No ECS Membrane Processor Pressure Profile Challenge Mode Test Site

#### **Riverside Ullage Pressure Profile**



# VSTPressure Profile with ECSMembrane Processor



#### ENVIRO-LOC<sup>TM</sup>



### Enhanced Vapor Recovery Nozzles

Nozzle Category	Current USA Standards	CARB EVR Requirement	CARB Test Results
A. Liquid Retention	No known standard	$\leq$ 100 ml. per 1,000 gal. dispensed	≤ 14.759 ml. per 1,000 gal. dispensed
B. Spillage	$\leq$ .42 lbs per 1,000 gal. dispensed	$\leq$ .24 lbs. per 1,000 gal. dispensed	≤ .016 lbs. per 1,000 gal. dispensed
C. Spitting	No known standard	≤ 1.0 ml. per refueling	Zero
D. Drops/refueling	No known standard	** $\leq$ 3 drops per refueling	≤ 2.375drops per refueling
		** (included in spillage totals)	



Vehicles Tested		TP-203.2 Efficiency (%)	Emission Factor (lbs/10 <sup>3</sup> gal)
Conventional	127	98.8	0.09
ORVR	73	96.2	0.04
Combined	200	98.5	0.07

Fugitive Emission Rate: 0.015408 lbs/ 1000 gal

ORVR penetration rate: 36.5% by vehicle population, 41.2% by gasoline dispensed.



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