

# VEU VAPOR EXTRACTION UNIT



SOLUTIONS THAT LAST



## VAPOR EXTRACTION UNIT (VEU)

*Marc Chapman of Atmos Energy was named winner of the American Gas Association's "2007 Distribution Achievement Award" for his contributions to the development of the VEU.*

The VAPOR EXTRACTION UNIT (VEU) extracts gas from saturated soil, pinpoints leak location, facilitates more timely repair and in the process delivers dramatic reductions in earthwork and pavement costs.

The VEU pinpoints difficult to locate leaks. The VEU creates vacuum (to 12" mercury) at a series of boreholes over known areas of gas saturated soil. The high volume VEU rapidly extracts gas from saturated soils and can be used to follow paths of gas migration to the leak source. Through a process of elimination, most leaks can be pinpointed to within 18 inches horizontally of vertical location.



*VEU available in trailer mounted or skid mounted versions.*

provides a real time digital readout of the gas/air concentration. Responding to the digital readout, the VEU operator manages the gas/air ratio below an established threshold by adjusting a gas/air mixing apparatus. The sensor system initiates an audio-visual alarm if the gas concentration reaches a selected percentage of LEL. In the event the percentage of LEL exceeds a secondary threshold, the VEU automatically shuts down.

The VEU is capable of running up to 18 probes simultaneously. In an alternative mode, a 3 inch hose can be inserted into a storm sewer or other enclosed area for rapid gas evacuation. The VEU moves up to 850 cubic feet of gas/air mixture per minute.

The VEU is available in skid-mounted or trailer mounted packages. Probe kits priced separately.

*LEL Sensor provides real time digital readout of gas concentration and initiates alarm and/or auto shut down should gas level exceed selected thresholds. Operator adjusts gas/air mixing valve to maintain gas concentration well below LEL.*



The powerful VEU is designed for rapid remediation of gas saturated soils. Sites that would have taken months to clear with historical means are done in days with the VEU. Sites that would have taken days are

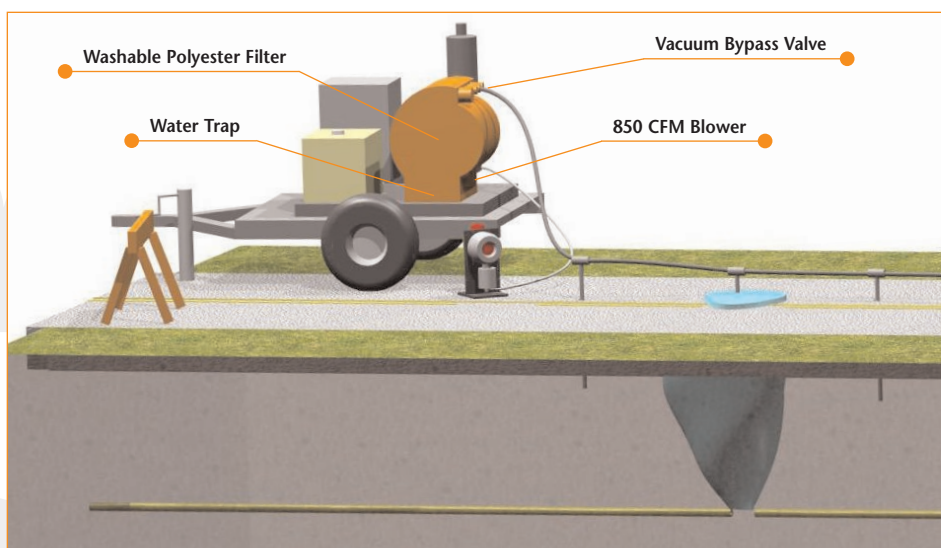
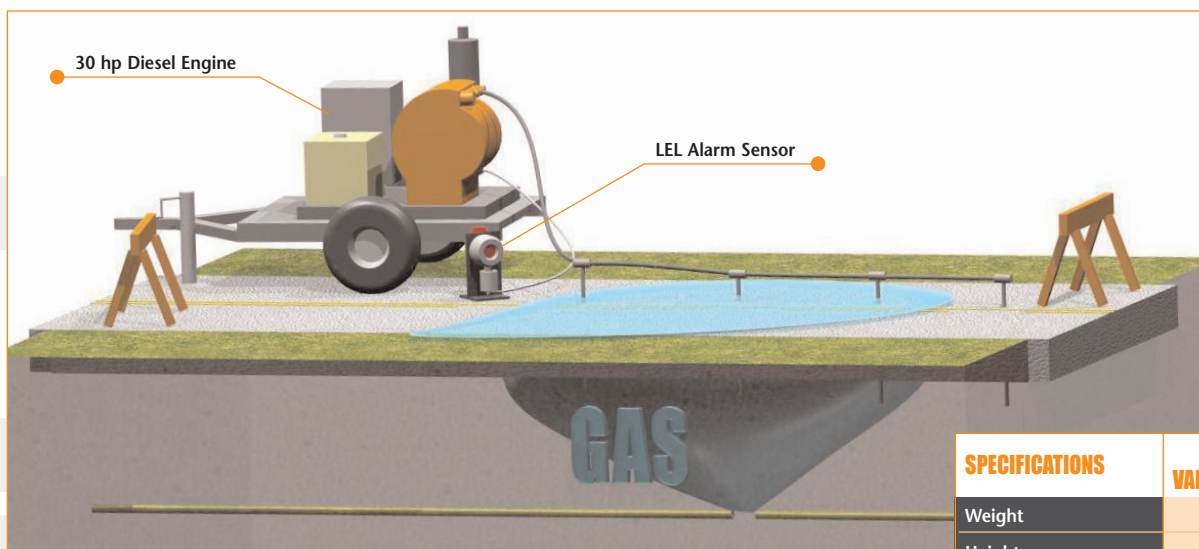
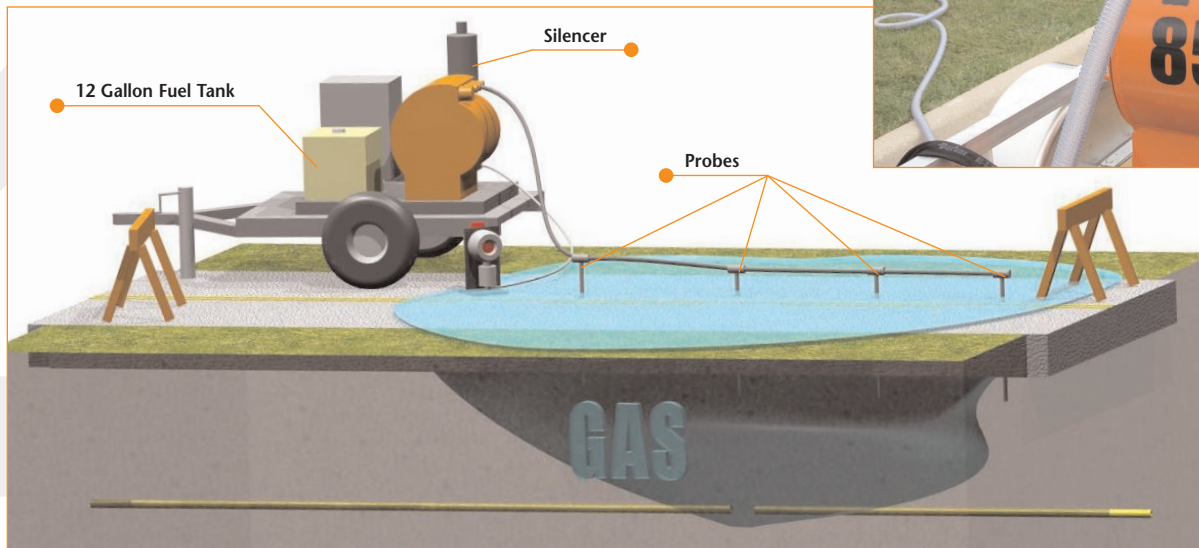
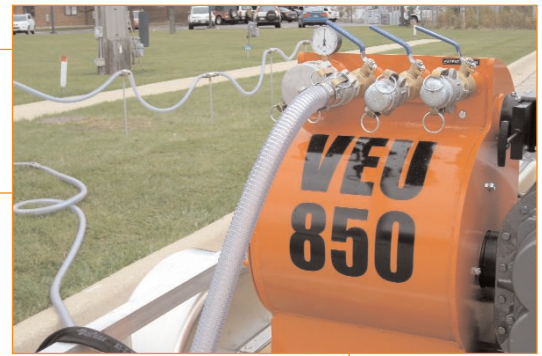
completed in hours. Rapid remediation and pinpointing of leak location results in minimum soil excavation and pavement destruction. Cost reductions in earthworks and pavement repair are enormous.

The VEU's vapor extraction and leak locating capabilities are enabled by a patented means of performing these functions safely. A LEL sensor continuously monitors flow through the VEU and

*Typical VEU layout in pavement application.*



# VAPOR EXTRACTION PROCESS AND PINPOINTING



SPECIFICATIONS	VEU VAPOR EXTRACTION UNIT
Weight	1,500 lb (816 kg)
Height	46 in (117 cm)
Width	42 in (107 cm)
Length	53 in (135 cm)
Engine	30 hp Hatz 2M41
Fuel Tank	12 Gallon (45 l)
Blower	Tutthill 850 CFM
Recommended Vacuum	10 inHg.
Maximum Vacuum	15 inHg.
Operating Noise Level <sup>1</sup>	100-110 db
Alarm Threshold	25% LEL
Engine Stop Threshold	50% LEL

( ) Metric Measurements.  
Specifications subject to change without notice.

## PROBLEM SOLVING DAMAGE PREVENTION TECHNOLOGIES

### SOIL COMPACTION SUPERVISOR 2

The SCS2 is both a process management tool and quality control instrument for soil compaction. This seismic technology monitors growth in amplitude of pressure waves imparted by compaction equipment as soil is being compacted. The SCS2 instructs compactor operators when they must continue the compaction effort and provides a visual signal when compaction activity may be terminated.



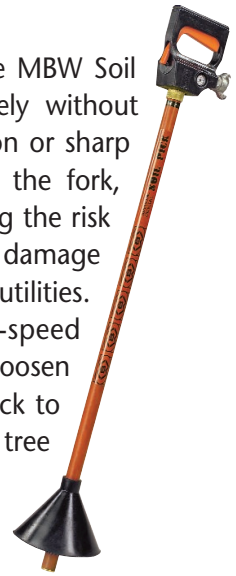
### AIRAMMER®

The Airammer® is a pneumatically powered rammer. It eliminates a long list of engine related problems. There are no fuel or fuel mixing issues, no carburetor, no spark plug, no exhaust ports or muffler to foul with carbon, no rewind starter, no flooding problems, no air or fuel filters that can be plugged, no rpm issues, all of which affect performance.



### SOIL PICK

The main purpose of using the MBW Soil Pick is to loosen the soil safely without having to use the striking action or sharp edges of alternative tools like the fork, pick axe or bar; thus eliminating the risk of injury to the operator and damage to other buried cables and utilities. As the unit utilizes a high-speed stream of compressed air to loosen soils it is safe to use the Soil Pick to expose buried pipes, cables and tree root structures.



### VIBRATION SUPPRESSOR

The MBW Vibration Suppressor reduces the level of Hand/Arm vibration being transferred to the operator while engaging a pneumatic tamper. Pneumatic tampers (also known as "pogo stick") are a common industry tool which has fallen behind the progression toward modern health/safety standards. In fact, pneumatic tampers without the MBW Vibration Suppressor attachment, can expose the operator to Hand/Arm vibration much higher than gas powered rammers. These Hand/Arm levels are extremely dangerous and degenerative to the operator's elbows, wrists, fingers and shoulders over long periods of time.

The MBW Vibration Suppressor reduces up to 70% of the Hand/Arm vibration. Patents pending.



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