



## ECOPROBE 5

### Soil Contamination Survey System



#### All-in-One !!

This ideal combination of advanced world-class PID and IR technology replaces a number of separate analyzing devices with one unbelievably small, compact instrument

**Fast and cost-effective in-situ mapping of hydrocarbons and other organic contaminants in the subsurface environment**

Obtain 8 in-situ simultaneously measured values at each station in less than 1 minute !

System parameters are especially designed for *in-situ* Soil Contamination Survey and bio-remediation monitoring!

#### ECOPROBE 5 provides:

- ▶ In-situ measurement of organic contaminants with selective analyses of Methane, Petroleum Hydrocarbons, CO<sub>2</sub>, O<sub>2</sub>, atmospheric pressure, sampling vacuum and soil temperature
- ▶ Fully integrated automatic GPS data-logger
- ▶ Independent automatic monitoring station operation
- ▶ Built-in powerful computer, graphic screen, sampling pump, batteries
- ▶ and much more....



More than 200 stations could be measured within a day!

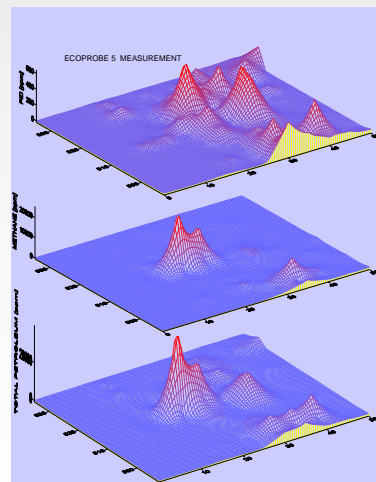
#### ECOPROBE\_VIEW

Windows 9x/NT4/2000 system software provides exceptionally friendly communication between the instrument and any PC platform and generates advanced graphic outputs...

ECOPROBE 5's GPS data logging system is a powerful tool for obtaining 3-D graphic print-outs in minutes!

#### BASIC APPLICATIONS

- ▶ Detection, delineation and monitoring of hydrocarbon and other organic contamination of soils and/or water table from fuel spills
- ▶ Fast and convenient monitoring of UST and pipe-lines for leakage
- ▶ Waste dumps & agricultural waste measurement
- ▶ Monitoring of contaminant plume migration
- ▶ Monitoring of in-situ bio-remediation processes
- ▶ Detection and monitoring of Methane effluence over closed coal mines
- ▶ Detection and monitoring of gaseous toxins in industrial plants and agriculture
- ▶ Detection and monitoring of contaminant effluents from various fittings sealing in chemical/petrochemical industry. Meets EPA 21 standards.
- ▶ Air pollution monitoring



For more info visit our web site: [www.rsdynamics.com](http://www.rsdynamics.com)

# ECOPROBE 5

# Specifications

ECOPROBE 5 is the highly sensitive, portable multi-function analytical system which provides optimum power & flexibility for efficient, low-cost Soil Contamination Surveys / Toxic Gas Monitoring with the following features:

- ▶ Simultaneous in-situ measurement of using the time integrated photo-ionization analyzer (PID) and 4-channel selective infra-red analyzer (IR).
- ▶ Automatic re-zeroing before each measurement ensures perfect baseline stability and high accuracy of the resulting values.
- ▶ Ruggedized, light-weight and compact of strong construction making it entirely suitable for the field environment.
- ▶ Easy to read graphic display, user-friendly operating system & data acquisition software.
- ▶ Real time correction of measured values for soil porosity, atmospheric / pumping pressure and temperature.
- ▶ Automatic Monitoring Station Mode without any additional hardware/software. Automatic logging of all measured data.
- ▶ A powerful surface data logging system for transparent and fast 3-D graphic visualization.
- ▶ Fully integrated automatic GPS Position Logger (up to centimeter accuracy) is referenced to the WDS 84 coordinate system and also supports surface format "in meters" for un-demanding operator navigation.
- ▶ An integral user calibration facility provides on-site fast calibration and advanced whole dynamic range calibration.
- ▶ IrDA/RS232 interface with Win9x/NT4.0 /2000 compatible **ECOPROBE\_VIEW** software, providing data transfer, graphic data acquisition and data spreadsheet for 3-D graphic outputs.
- ▶ Reliable Oxygen reading.
- ▶ Automatic date/time record for all stored data, built in adjustable acoustic alarm for all measured values.

**PID** (Photo-ionization analyzer) measures total level of volatile organic compounds (VOCs) and other toxic gases including chlorinated hydrocarbons to **sub-ppb** levels with the following characteristics:

- ▶ Detection limit: 2 ranges 0.1 ppm / **0.1 ppb**
- ▶ **0.05 ppb** zero stability
- ▶ Response time: 0.08 sec; Sampling rate: 10 samples/sec.
- ▶ ppb resolution, choice of peak or integrated values
- ▶ Indication of soil porosity/permeability
- ▶ Internal automatic calibration for quantitative vapor phase determination for about 200 compounds
- ▶ Zero response for Methane (Methane measured separately by IR unit)
- ▶ Large dynamic range (0.1 ppb to 4000 ppm), fast response
- ▶ Ion lamp 10.6/10.2 eV (other energy levels are optional)
- ▶ ppm or mg/m<sup>3</sup> (ppb or µg/m<sup>3</sup>) output

**IR** (Infra-red analyzer) comprises 4 independent channels for selective analyses of Methane, Petroleum Hydrocarbons and CO<sub>2</sub> with ppm resolution and the following characteristics:

- ▶ **Methane:** 0 -500 000 ppm, detection limit 20 ppm
- ▶ **Petroleum Hydrocarbons:** 0-500 000 ppm, detection limit 20 ppm
- ▶ **Carbon Dioxide:** 0-500 000 ppm, detection limit 20ppm
- ▶ **Reference Channel**
- ▶ Other channel & ranges optional
- ▶ Response time: 0.5 sec; Sampling rate: 10 samples/sec
- ▶ ppm or mg/m<sup>3</sup> output

### Other readings

- ▶ Oxygen, 0-100 %
- ▶ Soil temperature: deg. F,C; (+/- 0.1C, resolution 0.01C)
- ▶ Sampled gas temperature: deg. F, C
- ▶ Ambient pressure / sampling vacuum (mbar, Torr, psi, kPa), accuracy 0.1%, resolution 0.01%



- Dimensions: 105 x 260 x 170 mm (including handle), weight: 3 kg
- Shipping Weight: 13 kg (incl. probes, calibration kit, accessories)
- Power Supply: internal rechargeable battery
- Memory Capacity: about 100 000 measurements
- Output: RS 232 cable or infra-red interface
- Data Format: ASCII, EXCEL, GRAPHER, SURFER or user programmable format
- Display: full graphic back-lite LCD
- Keyboard Input: multi-function sealed keys
- Operating System: Win 9x/NT4.0 /2000 compatible
- Internal Air Pump: membrane vacuum pump with programmable speed 0.25 - 4 liters/minute
- Automatic calibration of all measuring channels



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