**DON'T SAY IT** --- *Write It!*

DATE: March 30, 1992

TO: Cathy Massimino - EPA
Dan Duncan - EPA
Paul Stasch - Ecology

FROM: Cliff Clark
Telephone: (509) 376-9333

cc:

SUBJECT: ADDITIONAL INFORMATION ON THE WASTE WATER PILOT PLANT

The attached information was agreed to be informally forwarded to you at the March 19, 1992 Waste Water Pilot Plant Unit Manager Meeting. The information includes the following:

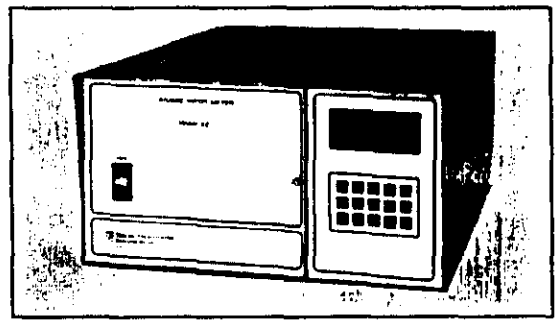
- Information on the inflatable berm liner material strength
- Sample of the inflatable berm liner material
- Information of the organic vapor analyzer
- An updated process flow diagram
- A copy of the 242-A Evaporator Stream Specific Report.

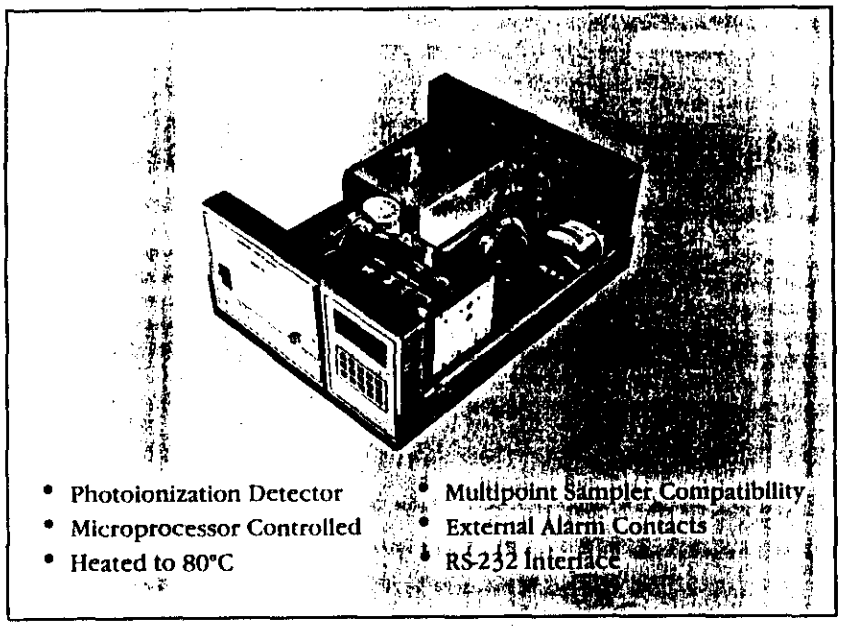
If you have any questions before the conference call scheduled for 9:00 am April 1, 1992, don't hesitate to call.

MAY 1993
RECEIVED
EDMC

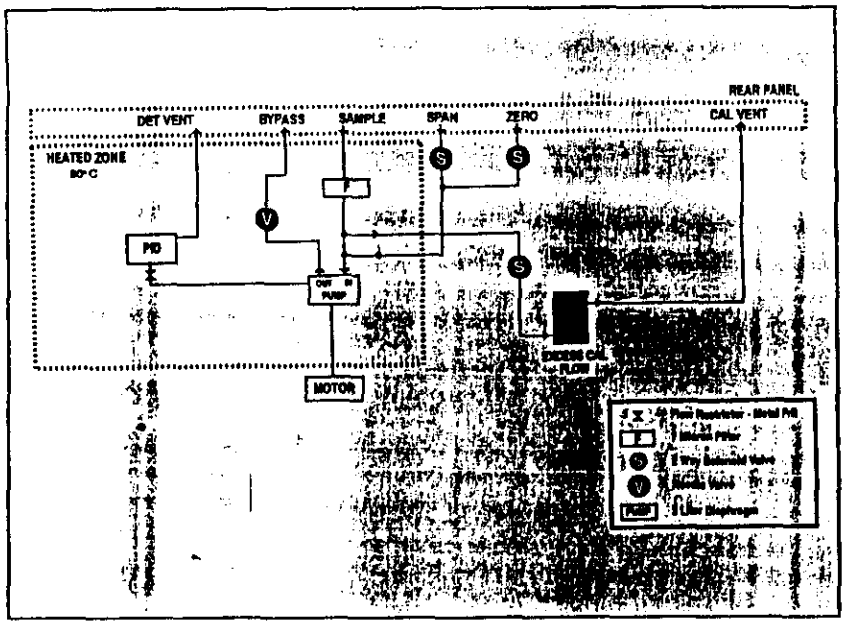
Thermo Environmental Instruments Inc.

# MODEL 52 CONTINUOUS Organic Vapor Meter






*Microprocessor control provides auto-calibration, auto-ranging, response factor settability and time-weighted average (TWA) report capability.*




*Heated detector and sample transport components eliminate sample condensation. Integrated 3 liter sample pump provided as standard.*

The Model 52 Organic Vapor Meter (OVM) utilizes a highly sensitive photoionization detector to provide continuous measurement of volatile organic compounds (VOCs).

The microprocessor based design focuses on ease-of-operation and minimization of personnel attention. The Model 52 is capable of performing automatic calibration routines at user prescribed time intervals. This eliminates the need for periodic, time-consuming manual calibration operations.

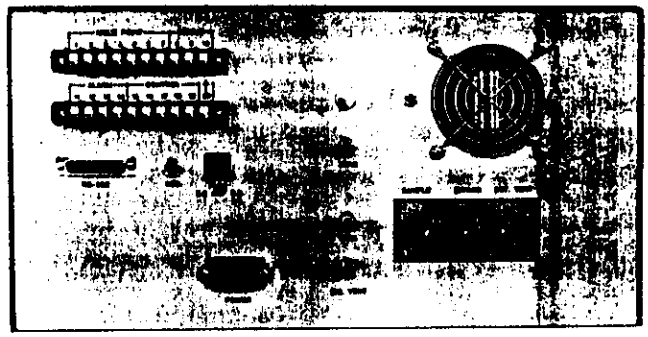
Additionally, metal frit flow restrictors have been implemented allowing all required gas flows to be settable via analyzer. This eliminates the requirement for external needle valves.

## IDEALLY SUITED FOR:

- CARBON BED BREAKTHRU DETECTION
- FENCELINE (PERIMETER) MONITORING
- SOIL VENTING EMISSION MONITORING
- AIR STRIPPING OF VOC'S EFFLUENT MONITORING

# Flexible Communications

- Analog Output (0 - 10V Full Scale) Standard
  4-20 mA option available
- Bidirectional RS-232 Communications Standard
- 3 Amp contact closure provides mechanism for external alarm activation
- Status Lines offer activation of external solenoids for calibration of entire sampling system
- Remote instrument calibration made available via Control Lines
- Multipoint sampler compatibility provides automated analysis of up to 10 monitoring locations



# Specifications

| | |
|---|---|
| **Measurement:** | |
| Technique: | Photoionization Detection (PID) of most organic vapors and some inorganic vapors. |
| Ranges: | Vacuum Fluorescent Display (VFD) - Auto Ranging<br>0 - 2,000 ppm,<br>0 - 100 ppm (resolution to 0.1 ppm),<br>0 - 1,000 ppm (resolution to 1.0 ppm) |
| Minimum Detectable: | 0.1 ppm benzene in air matrix |
| Sensitivity: | 0.1 ppm benzene on 0 - 100 ppm range |
| System Time Constant: | 1.0 seconds at 3LPM sample flow |
| Sampling Rate: | Nominal Flow 3LPM |
| Detector Sample Flow Rate: | 10 ml/min |
| Sample Conditioning: | Changeable 7 (seven) micron filter in heated zone |
| **Power Requirements:** | 115/220 VAC, 60/50 HZ, 2.5A |
| **Controls, Panel:** | |
| Readout: | 4 (four) line alphanumeric display 20 (twenty) character length |
| Keypad: | 15 segment pad with audible and tactile feedback |
| **Gases:** | |
| Span Gas: | Same as Sample Flow; flow controlled via metal frit restrictor |
| Zero Air: | Same as Sample Flow; flow controlled via metal frit restrictor |
| **Physical Dimensions:** | |
| Case Size: | HWD 9.2 x 16.9 x 22 inches |
| Weight: | 41 lbs. |
| **Communications:** | - 25 pin RS-232 port<br>- 0 - 10V Analog Signal<br>- 4 - 20 mA Output (optional) |

## For Price and Delivery Information, Contact:


Thermo Environmental Instruments Inc.

**Thermo Electron (U.K.) Ltd.**, Analytical Division, 830 Birchwood Blvd., Warrington, Cheshire, WA3 7QZ, ENGLAND / Telephone: 0925 / 81 36 00

**Thermo Instrument Systems GMBH**, Martenerstrasse 539, 4600 Dortmund 70, WEST GERMANY / Telephone: 231 / 6170 78

**Thermo Instrument Systems BV**, Heerbaan 220, 4817 Breda, HOLLAND / Telephone: 76 / 713717

8 West Forge Parkway
Franklin, MA 02038

(508) 520-0430
Telex: 200205 THEMO UR

FAX: (508) 520-1460

AERO TEC LABORATORIES INC.

Technical Data Sheet

# ATL PORT-A-BERM INSTALLATION PROCEDURE

## CAUTION

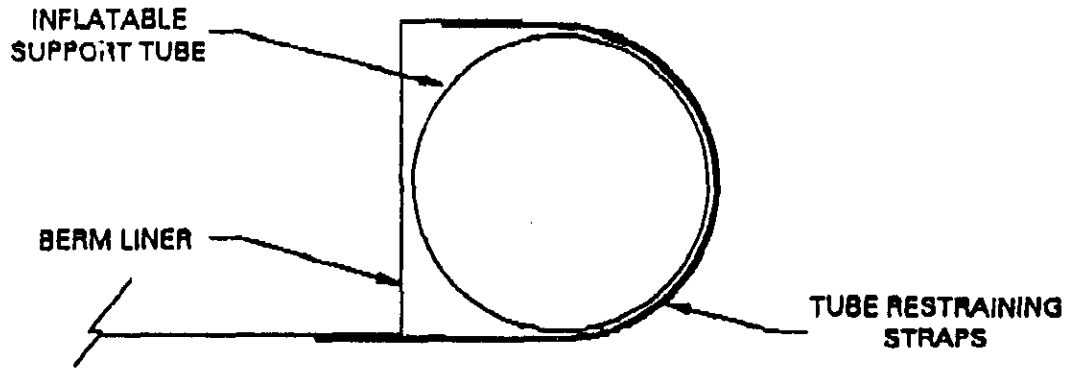
The ATL Port-A-Berm is intended for the temporary containment of materials in emergency situations. Short term resistance to most industrial chemicals may be expected, although customer verification of specific compatibilities is required.

## SITE PREPARATION

The Port-A-Berm installation site should be smooth, level and free of any objects that may puncture either the Support Tubes or the Liner. A Ground Cloth may be located under the Port-A-Berm for added protection.

## SET-UP

The Port-A-Berm was designed with ease of on-site installation in mind. The first step is to remove the Port-A-Berm Liner (black) from it's shipping container. NOTE: DO NOT PULL THE LINER BY THE TUBE RESTRAINING STRAPS. Center the Liner on the prepared site and unfold it. The next step is to insert the the uninflated Tubes (grey) into the Liner Tube Restraining Straps. The Tubes, if folded in half lengthwise first, will slide easily through the straps along the sides of the Liner. Once the four Tubes have been installed and centered on the sides of the Liner they may be inflated. The Tubes are inflated through the red capped valves, one per Tube. To inflate the tubes the red cap is turned one full revolution counter clockwise and a low pressure air source (max 1 psi) is applied . When the Tubes are filled to their full diameter the air source is removed and the red cap is tightened. The Port-A-Berm is now ready for use. Note: fast deflation may be accomplished by removing the red cap completely.




DS-416

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37 Clarke Road
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"INNOVATION THROUGH INVOLVEMENT"

**AERO TEC LABORATORIES INC.**

March 20, 1992

Westinghouse
Attn: Mr Don Scully

Dear Don,

Below is a list of the physical properties that you requested for our ATL 524-B, the material used as the liner for the Port-A-Berm. ATL 524-B is a coated fabric consisting of a very strong polyester cloth coated with a chemical resistant rubber-like coating. We have found that the coating will stand up to most chemicals, especially in short term exposure as is typical with a Port-A-Berm.

I have enclosed a Port-A-Berm installation instruction sheet for your perusal, unfortunately we have no specific instructions regarding the positioning of a truck in the Berm.

ATL TYPE R (524-B) PORT-A-BERM LINER MATERIAL SPECIFICATIONS

| | |
|---|---|
| COATING | Modified PVC |
| REINFORCEMENT | Polyester |
| COLOR | Black |
| TENSILE | 275 lb./in. |
| TEAR | 60 lb. |
| PUNCTURE | 120 lb. |
| WEIGHT | 30 oz./sq. yd. |

If there are any questions or problems or if you need any further information please don't hesitate to call.

Sincerely,

Albert S. Baris
V.P. Research and Development

ASB/asb

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"INNOVATION THROUGH INVOLVEMENT"

# WASTE WATER PILOT PLANT

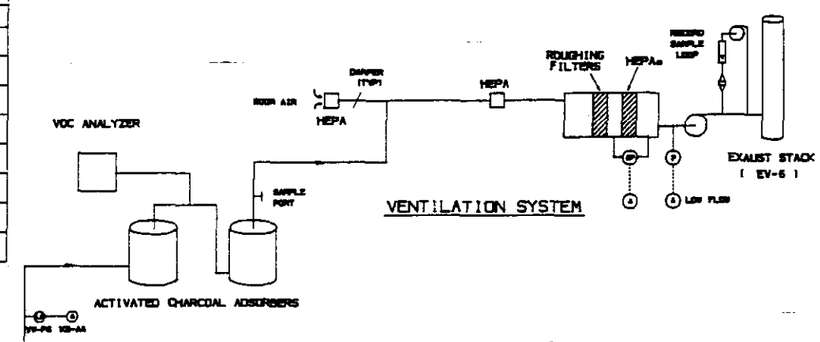
## STREAM CHARACTERISTICS

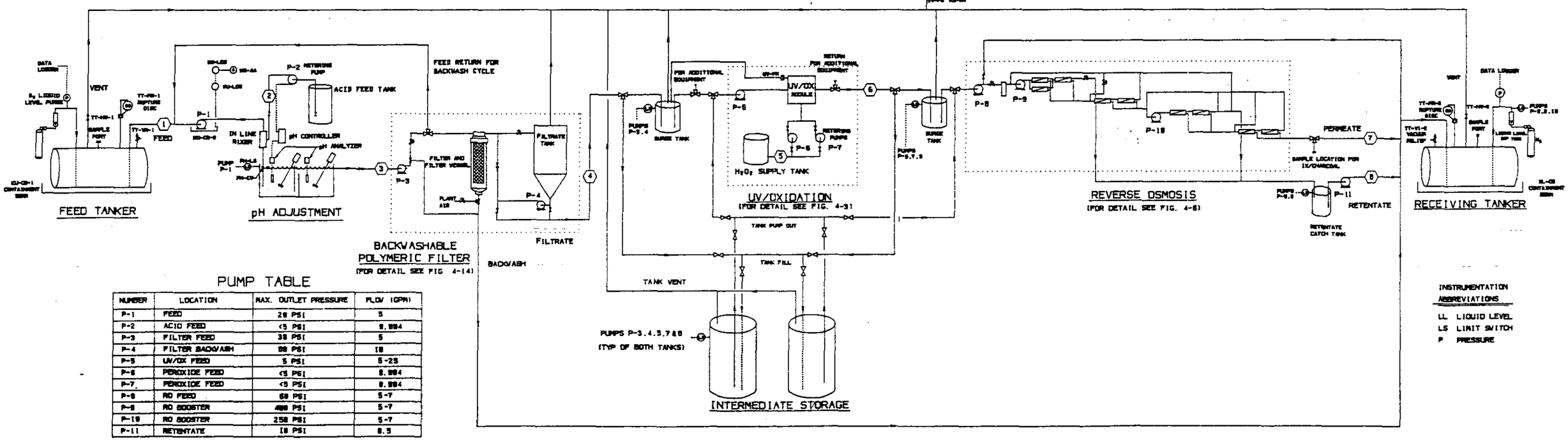
| LOCATION | 1 FEED | 2 ACID FEED | 3 pH OUT | 4 FILTRATE | 5 PEROXIDE FEED | 6 UV/OX OUT | 7 RO PERMEATE | 8 RO RETENTATE |
|---|---|---|---|---|---|---|---|---|
| FLOW (GPM) | 5 | 0.004 | 5 | 5 | 0.004 | 5-25 | 4.5 | 0.5 |
| TEMP (F) | AMBIENT | 60 - 70 | 60 - 70 | 60 - 70 | 60 - 70 | 60 - 80 | 60 - 70 | 60 - 70 |
| pH | 7 - 11 | - | 5 - 6.5 | 5 - 6.5 | 5 - 6.5 | 5 - 6.5 | 5 - 6.5 | 5 - 6.5 |
| VOC (PPM) | 11.0 | - | 11.0 | 11.0 | - | <1.0 | <1.0 | <1.0 |
| OTHER | - | 93% H2SO4 | - | - | 50% H2O2 | - | - | - |

NOTE: DOTTED LINES AROUND UNIT OPERATIONS DENOTE THE BOUNDARIES OF THE REFERENCED FIGURES

## TANK TABLE

| TANK | QUANTITY | CAPACITY (GALLONS) |
|---|---|---|
| FEED TANKER | 1 | 5,000 |
| H2SO4 ACID FEED | 1 | 30 |
| FILTRATE STORAGE | 1 | 100 |
| UV/OX FEED SURGE | 1 | 200 |
| H2O2 SUPPLY | 1 | 55 |
| RO FEED SURGE | 1 | 100 |
| RETENTATE CATCH | 1 | 55 |
| INTERMEDIATE STORAGE | 2 | 3,000 |
| RECEIVING TANKER | 1 | 5,000 |




## PUMP TABLE

| NUMBER | LOCATION | MAX. OUTLET PRESSURE | FLOW (GPM) |
|---|---|---|---|
| P-1 | FEED | 20 PSI | 5 |
| P-2 | ACID FEED | <5 PSI | 0.004 |
| P-3 | FILTER FEED | 30 PSI | 5 |
| P-4 | FILTER BACKWASH | 80 PSI | 10 |
| P-5 | UV/OX FEED | 5 PSI | 5-25 |
| P-6 | PEROXIDE FEED | <5 PSI | 0.004 |
| P-7 | PEROXIDE FEED | <5 PSI | 0.004 |
| P-8 | RO FEED | 60 PSI | 5-7 |
| P-9 | RO BOOSTER | 400 PSI | 5-7 |
| P-10 | RO BOOSTER | 250 PSI | 5-7 |
| P-11 | RETENTATE | 10 PSI | 0.5 |