



General Topics Unit Managers Meeting  
November 20, 1991

Distribution:

Dave Einan, EPA (B5-01)	Mike Thompson, RL (A6-95)
Pam Innis, EPA (B5-01)	S.H. Wisness, RL (A6-95)
Doug Sherwood, EPA (B5-01)	J.M. Hennig, RL (A5-21)
Dan Duncan, EPA, Region 10, RCRA	John Stewart, USACE
• Chuck Cline, WDOE (two copies)	Melvin Adams, WHC (H4-55)
• Dave Nylander, WDOE (Kennewick)	Frank Calapristi, WHC (B2-35)
R.O. Patt, OR Water Resources Dept.	Steve Clark, WHC (H4-55)
Ward Staubitz, USGS	Larry Hulstrom WHC (H4-55)
Donna Lacombe, PRC	Wayne Johnson, WHC (H4-55)
Doug Fassett, SWEC (A4-35)	Alan Krug, WHC (H4-55)
C.E. Clark, RL (A6-95)	Merl Lauterbach, WHC (H4-55)
D.L. Clark, RL (A5-55)	Tim Veneziano, WHC (B2-35)
Julie Erickson, RL (A6-95)	Fred Roeck, WHC (H4-55)
R.D. Freeberg, RL (A5-19)	Jim Patterson, WHC (B2-15)
R.E. Gerton, RL (A4-02)	Steve Weiss, WHC (H4-55)
Jim Goodenough, RL (A6-95)	Tom Wintczak, WHC (L4-92)
Elizabeth A. Bracken, RL (A5-19)	R.D. Wojtasek, WHC (L4-92)
Mary Harmon, DOE-HQ (EM-442)	Don Kane, EMO (K1-74)
Paul Pak, RL (A6-95)	Terri Stewart, PNL (K2-12)
Jim Rasmussen, RL (A6-95)	Don Praast, GAO (A1-80)
Bob Stewart, RL (A6-95)	Bob Henckel, WHC (H4-55)
Nancy Werdel, RL (A5-19)	David Pabst, WHC (B2-35)

ADMINISTRATIVE RECORDS: 1100-EM-1, 300-FF-1, 300-FF-5, 200-BP-1, 200-UP-2, 100-HR-1, 100-HR-3, 100-BC-1, 100-BC-5, 100-NR-1, 100-NR-3, 100-FR-1; Care of Susan Wray, WHC (H4-22)

Please inform Doug Fassett (SWEC) of deletions or additions to the distribution list.

**Attachment #1****Summary of Meeting Commitments and Agreements  
General Topics Unit Manager's Meeting  
November 20, 1991**Introductions

1. Jane Monhart, branch chief of Richland operations branch at DOE headquarters was introduced.

Update on Laboratory Status

2. Joan Kessner (WHC) gave a presentation on the status of the analytical laboratories (see attachment #5) and provided the current status of visits by both WHC management to office site laboratories and off-site laboratory management personnel to Hanford.
3. TMA has appointed a corporate project manager to interface with WHC. He arrived on November 19, 1991 to meet with WHC staff and work out a number of issues requiring attention by both WHC and TMA. WHC and TMA senior management are also contacting Teledyne the week of November 18, 1991 to discuss Teledyne's turnaround times.
4. DataChem is still having problems analyzing PCB, and their pesticide laboratory is not turning out samples as quickly as they should. S-Cubed has a smaller sample load than the other laboratories and is able to continue with their normal customer work load.
5. The 222-S laboratory is currently analyzing their fourth set of EPA PE samples. 222-S received a passing score on inorganic analyses for round three.
6. PNL has completed a new organic laboratory in 325 building as part of their upgrade strategy. WHC plans to use the 325 and 222-S laboratories as backups for each other. The long-term strategy is to make 222-S into a full production laboratory.
7. WHC received eight technical proposals on October 31, 1991. It appears there is a significant amount of teaming taking place among the bidding companies, as these eight proposals involve over 15 laboratories and 25 facilities.
8. Ms. Kessner stated that EPA and DOE have signed an interagency agreement concerning sample preparation and management functions. Joan Fisk the EPA sample management manager will be visiting Hanford in the near future to discuss the various aspects of the activity.

9 2 1 2 3 4 1 2 3 5



### Update on the Barrier Program

15. Jerry Cammann (WHC) gave a presentation covering Hanford's protective barrier program. Mr. Cammann covered the following eight (8) phases of the program: Bio-intrusion control, erosion and *deposition*, human interference control, barrier construction materials, prototype barrier test facility, model application and validation, natural barrier analogs, and long term climate change.
16. WHC is striving to design an alternative barrier to the commonly used RCRA cap, that is one that does not require as much maintenance, and will be capable of performing over a period of time ranging from hundreds to thousands of years. The focus of the program is centered primarily on the area DOE sites. The designed barrier is to be watertight and implement infiltration to zero comments identified as .05 centimeters per year.
17. The bio-intrusion portion of the program involves evaluating the possibility of small, but prolific burrowers creating conduits for water to get into the waste sites. An animal intrusion lysimeter facility has been set up in 200 East where three mammals are being studied.
18. Water erosion and *deposition* control is a fairly complex study. Wind erosion studies involve determining the best gravel size to be employed to minimize movement and the best admix concentrations to be employed. To develop much of the information, wind tunnel performance testing is being conducted at the Pacific Northwest Laboratories where winds up to 96 miles per hour can be generated.  
  
Water erosion studies are being conducted at a number of test plats throughout the Hanford site. The effects of various percentages of gravel admix, surrounding soil textures, and slopes are being evaluated as well as loss of fine soils through water erosion.
19. Human interference control includes the development and placement or deployment of a marker system to warn the future generation to avoid digging. The system will involve small circular markers placed around buried waste sites, and large monoliths (20 feet high) around the periphery of the waste sites.
20. Barrier construction materials studies include building and testing barrier prototypes, doing modeling and validation studies as well as evaluating natural analogs of the proposed barrier designs. One additional study consists of developing a long term climate change model for Hanford.

### Update on Drilling-Sonic Drilling and Cone Penetrometer

21. Greg McLellan's (WHC) presentation covered sonic drilling and included both the advantages and disadvantages of the system (see attachment # 8). At the present time WHC is using a leased drill rig. WHC hopes to buy a sonic drill rig in the near future. WHC is presently drilling in



**Attachment #2**

**Agenda  
Unit Managers Meeting  
November 20, 1991**

**General Topics**

- 9:00 - 9:10  
Approval of September Unit Managers Meeting Minutes - Doug Fassett
- 9:10 - 9:25  
Update on Laboratory Status - Joan Kessner
- 9:25 - 9:40  
DOE Integration of Past Practice Sites - Bob Stewart/Bill Fryer
- 9:40 - 9:50  
Update on Inspection Protocols at Past Practice Sites - Eric Goller
- 9:50 - 10:00  
Role of the Tri-Party Agreement Integration Office - Dave Pabst
- 10:00 - 10:15  
Break
- 10:15 - 10:30  
Update on the Sitewide Background Study - Andrea Prignano
- 10:30 - 11:00  
Update on the Barrier Program - Jerry Cammann
- 11:00- 11:30  
Update on Drilling-Sonic Drilling & Cone Penetration - Greg McLellan  
Virginia Rohay
- 11:30 - 12:00:  
Action Item Status - Doug Fassett  
November Unit Managers Meeting - Bob Stewart

6  
0  
0  
1  
0  
0  
0  
1  
0  
6





- 9 2 1 2 3 4 5 6 7 8 9
- GT.77A      A mechanism for the WHC to inform the regulators of sample results and disposal methods for rinsate is to be developed. Action: Hal Downey (7/17/91)
- Open  
This action has been forwarded to Bob Hobbs, the manager in WHC responsible for the disposition of decontamination rinsate waters generated at drill sites. His organization obtains the sample data, submits it for designation, and subsequently disposes of the waste. Mr. Hobbs will contact Mr. Hibbard to discuss a method for sharing data with regard to waste designation (8/6/91). Efforts to contact Mr. Hibbard in the weeks of 9/9/91 and 9/16/91 were unsuccessful (9/17/91). An alternate means of communication was arranged (9/18/91).
- GT.104      A presentation on inter-program coordination between the Waste Management Division and the Environmental Restoration Division is to be given. Ecology requests that information on management decision making, data management, field work and cross-program communication between ERD and WMD be included. Specific examples include: 1) decontamination and decommissioning of the reactors; 2) surface radiation reduction; 3) RCRA-site activities; and, 4) reactor operations (mulberry trees). The objective is to assure the regulators that these activities are being conducted in accordance with federal and state law, the TPA, and any ongoing or planned past practice work. Action: *David Pabst (WHC)* (4/16/91)
- Open  
Bill Fryer will partially address this action as part of the operable unit consistency task (7/17/91). Bob Stewart suggested that the presentation at the September Project Managers Meeting be given at a Unit Managers Meeting (9/18/91). The subject was not addressed at the September meeting and will be given at the October Project Managers Meeting (10/16/91).

- 9 2 1 2 3 4 5 6
- GT.108      Protocols are to be developed to facilitate conduct of regulatory inspections and site visits at past practice sites. Action: Eric Goller (DOE) (6/19/91)      Open  
The unofficial draft was provided to the regulators on 10/16/91 (10/16/91).
- GT.109      The surpassing of the turnaround times identified in the TPA for radiochemical sample analyses and the actions that will be taken to improve the turnaround times are to be provided to the regulators in a written document. Action: Joan Kessner (WHC) (7/19/91)      Closed  
The documents were given to EPA and Ecology on 10/16/91 (10/16/91).
- GT.111      EPA and Ecology are to provide comments on the "Draft Data Validation Procedures for Chemical Analyses" received from WHC at the August 1991 1100-EM-1 Unit Managers Meeting. Action: Dave Einan and Rich Hibbard (8/14/91)      Closed  
Billie Mauss (Ecology) and Donna Lacombe have completed their comments (10/16/91).
- GT.112      Conflicting requirements by the regulators will be described and provided to Julie Erickson by the end of the week of September 23. The conflicts will then be provided to the regulators (Larry Goldstein and Doug Sherwood) by the end of September. Action: Bill Fryer (9/18/91)      Open  
The efforts are ongoing (10/16/91).
- GT.113      Provide an explanation of how information, including supplementary documents, on new sites and on sites that have been cleaned up is included in WIDS. Examples will be provided for illustration. The explanation is to be provided by the first week of October. Action: Nancy Werdel (9/18/91)      Open  
Dick Fox (WHC) provided the information on WIDS to Nancy Werdel on the 8th of October (10/16/91).

GT.114 Determine where the macro engineering study is in the approval process of DOE. A presentation will be contingent on DOE management approval.  
Action: Allan Harris (9/18/91)

Open  
WHC gave a presentation to DOE at the unit manager level, then to upper management (Mr. Bixby and Mr. Little) on 10/10/91. A presentation to DOE-HQ will be scheduled before it is given to EPA and Ecology. The document is currently under RL review (10/16/91).

9 2 1 2 4 3 4 1 2 9 4

**ANALYTICAL SERVICES  
STATUS**

**Joan Kessner  
November 20, 1991**

9 2 1 2 4 6 4 0 2 9 5

## **COMMERCIAL CONTRACTS**

- **WHC continues to work with laboratories to improve turnaround times and efficiency.**
- **Weston expects to award ECOTEK contract within a week of November 18, 1991.**
- **TMA visit to WHC scheduled for November 19, 1991.**
- **WHC Senior Management to contact Teledyne directly during the week of November 18, 1991.**

## **RFP STATUS**

- **Eight Technical Proposals received October 31.**
- **Over 15 laboratories and 25 facilities are represented.**
- **Evaluation team has been formed**
  - WHC Procurement, OSM, ESQA, EEG are represented.**
- **Evaluation of technical proposals underway.**

## ON-SITE LABORATORIES

- **222-S analyzing fourth set of EPA PE samples.**
- **222-S received passing score on inorganic PE number three - Organic results not yet received.**
- **PNL Organic upgrade complete.**

## CURRENT LABORATORY PERFORMANCE

<u>Analysis Type</u>	<u>TPA Turnaround Requirements</u>	<u>Laboratory</u>	<u>Current Performance*</u>	<u>Projected TPA Compliance</u>
Chemical	50 Days	DataChem	35	Continue
		S-Cubed	40	Continue
		Weston	80	Jan. 1992
		TMA	75	March 1992
Radiochemical	75 Days avg (not to exceed 90 Days)	Weston	130	May 1992
		TMA	90	May 1992

\* performance through September 1991

## **ROLE OF WHC TRI-PARTY AGREEMENT INTEGRATION OFFICE**

**OBJECTIVE:** Provide integration and coordination of assigned TPA milestone activities that span multiple WHC divisions. Ensure milestones continue on schedule and budget, and that appropriate changes are effected. Provide interface with other WHC organizations, USDOE-RL, other RL contractors, regulatory agencies, and the public.

### **WHAT DOES IT MEAN**

- o Coordinate and Facilitate Interfaces to Meet TPA Milestones**
- o Review and Concur with Technical, Cost and Schedule Approach to Meeting TPA Milestones**
- o Take Ownership of Correspondence from Customer that Require Action Related to Milestone**
- o Ensure Issues which Impact Milestone are Resolved in a Timely Manner**
- o Support Operating Organizations to Meet TPA Milestones**

**SITE-WIDE BACKGROUND STUDY**

**SCHEDULE UPDATE**

**RCRA CLOSURE ACTIVITIES SECTION**

**November 20, 1991**

9 2 1 2 4 6 4 0 3 0 1

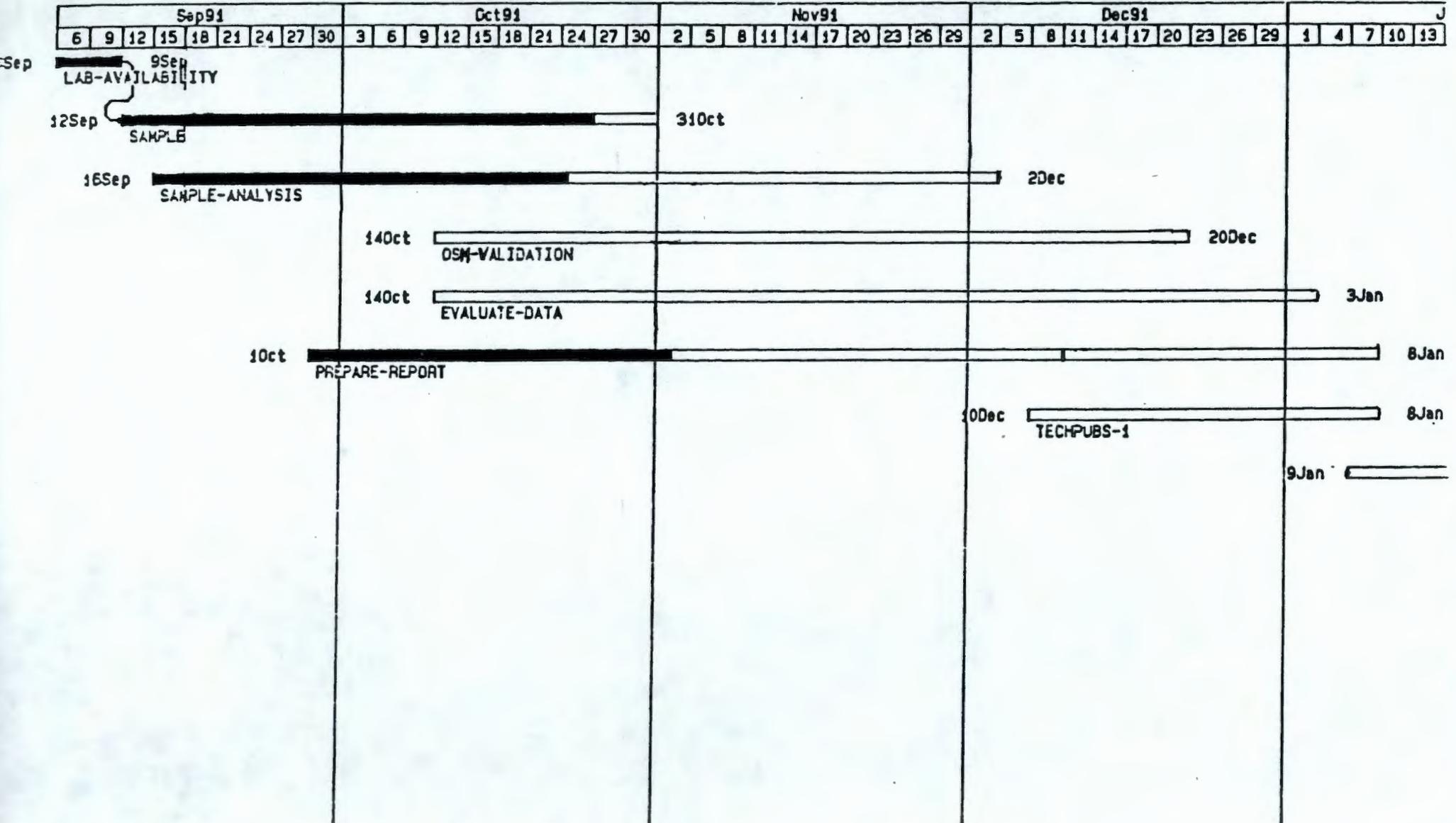
**SCHEDULE FOR SITE-WIDE BACKGROUND, SOIL STUDY  
(M-28-03)**

<u>task</u>	<u>start</u>	<u>complete</u>	<u>status</u>
Lab Availablility	09/06/91	09/11/91	completed - on time
Sample	09/12/91	10/31/91	~90% (1 site left for inorganics)
Analysis by Off-Site lab	09/16/91	12/02/91	in progress
OSM Validation	10/14/91	12/20/91	in progress
Start Report - Intro	10/01/91	12/10/91	in progress
Evaluate Data	10/14/91	12/03/91	behind
Finalize Report - Results	12/10/91	01/08/92	
Editing	12/23/91	01/08/92	
Review (WHC/DOE)	01/09/92	01/29/92	
Comments/Editing	01/30/92	02/12/92	
Concurrence (WHC/DOE)	02/13/92	02/27/92	
Transmit	02/28/92		

92124540302

9 2 1 2 4 6 4 0 3 0 3

### SITE-WIDE BACKGROUND - SOIL SAMPLING PROJECT



**SAMPLING ACTIVITIES  
(M-28-03)**

**Inorganics Sites:**

<u>site #</u>	<u>location</u>	<u>date sampled</u>	<u>date labs received samples</u>	<u>date OSM received data</u>	<u>number of samples</u>
1	sub ramp	09/12	09/17	9/30	3
2	WPPSS pit	09/26	10/07	11/11	6
3	Wye Bar.				~10
4	old Hanford	10/08	10/12		3
5	S. of 100D	10/21	10/24	11/11	9
6	grout pit	10/08	10/12		16
7	sub pit	10/11	10/19		10
8, 9	200E; Batch Plant	10/11	10/19		15
10	N. of Y-bar.	10/08	10/12		5
11	Cold Creek	10/15	10/19		5
12	Rattlesnake springs	09/24	09/30	10/31	9
13,14	off-site	10/01	10/08	11/11	15

**Archived Samples:**

<u>archived samples</u>	<u>date collected</u>	<u>date labs received samples</u>	<u>date OSM received data</u>	<u>number of samples</u>
Y-barricade Borehole (1)	09/24	09/30	10/31	7
Y-barricade Borehole (2)	09/26	10/07	11/11	11

92121510304

9 2 1 2 4 6 4 0 3 0 5

Attachment # 8

# **SONIC DRILLING METHOD**

**DRILLING TECHNOLOGY**

**GREG McLELLAN  
ENVIRONMENTAL FIELD  
SERVICES, WESTINGHOUSE**

## **SONIC PERFORMANCE AT 300-FF-5**

**(9/3/91 THROUGH 10/11/91)**

- o COMPLETED 3 GROUND WATER WELLS**
  
- o EXTRACTED STUCK CASING FROM CABLE  
TOOL DRILLED WELL**

**DRILLING TECHNOLOGY**

## **SONIC PERFORMANCE AT 100-D**

**(10/13/91 THROUGH 11/13/91)**

- o COMPLETED 2 RCRA WELLS TO 85 AND 103 FEET IN COARSE GRAVELS AND COBBLES**

**DRILLING TECHNOLOGY**

## **SONIC -- ADVANTAGES**

- o CONTINUOUS SAMPLING**
- o PENETRATION RATE**
- o NO STUCK CASINGS**
- o RETRIEVAL OF STUCK CASING**

## **SONIC -- DISADVANTAGES**

- o **CURRENT WELL COMPLETION SIZE**
- o **TELESCOPING CAPABILITY**

**SONIC -- ENHANCEMENTS (NEAR TERM)**

- o **DRILLING TOOLS**
- o **DRILL RIG**

**SONIC DRILLING (LONG TERM)**

- o **CURRENT CONTRACT**
- o **RIG PROCUREMENT**

## **SONIC -- DRILLING SCHEDULE**

- o **3000 AREA -- UNDERGROUND STORAGE TANK INVESTIGATION**
- o **200 WEST -- CARBON TETRACHLORIDE VAPOR EXTRACTION WELLS**

**DRILLING TECHNOLOGY**

*Presented by  
Virginia Rohay  
11/20/91  
Unit Managers Meeting*

## **CONE PENETROMETER BACKGROUND**

- **Used for over 50 years**
  - **Stratigraphic Logging**
  - **Evaluation Of Soil Properties**
- **In Last 5-10 Years**
  - **Environmental Site Characterization Studies**
  - **Groundwater And Soil Gas Sampling**

## **ELECTRONIC CONE PENETROMETER TEST**

- **Instrumented Probe**
- **Data Transmitted From Probe Via Cable To Computer In Cone Penetrometer Truck**
- **One Data Set Recorded Every Second (One Data Set Per 0.8 in Of Advance)**
- **Forced Into Ground Using Pair Of Large Hydraulic Cylinders Bolted To Frame Of Heavy Truck (Push Capacity Of 45,000 lbs)**
- **Conducted According To ASTM D3441**

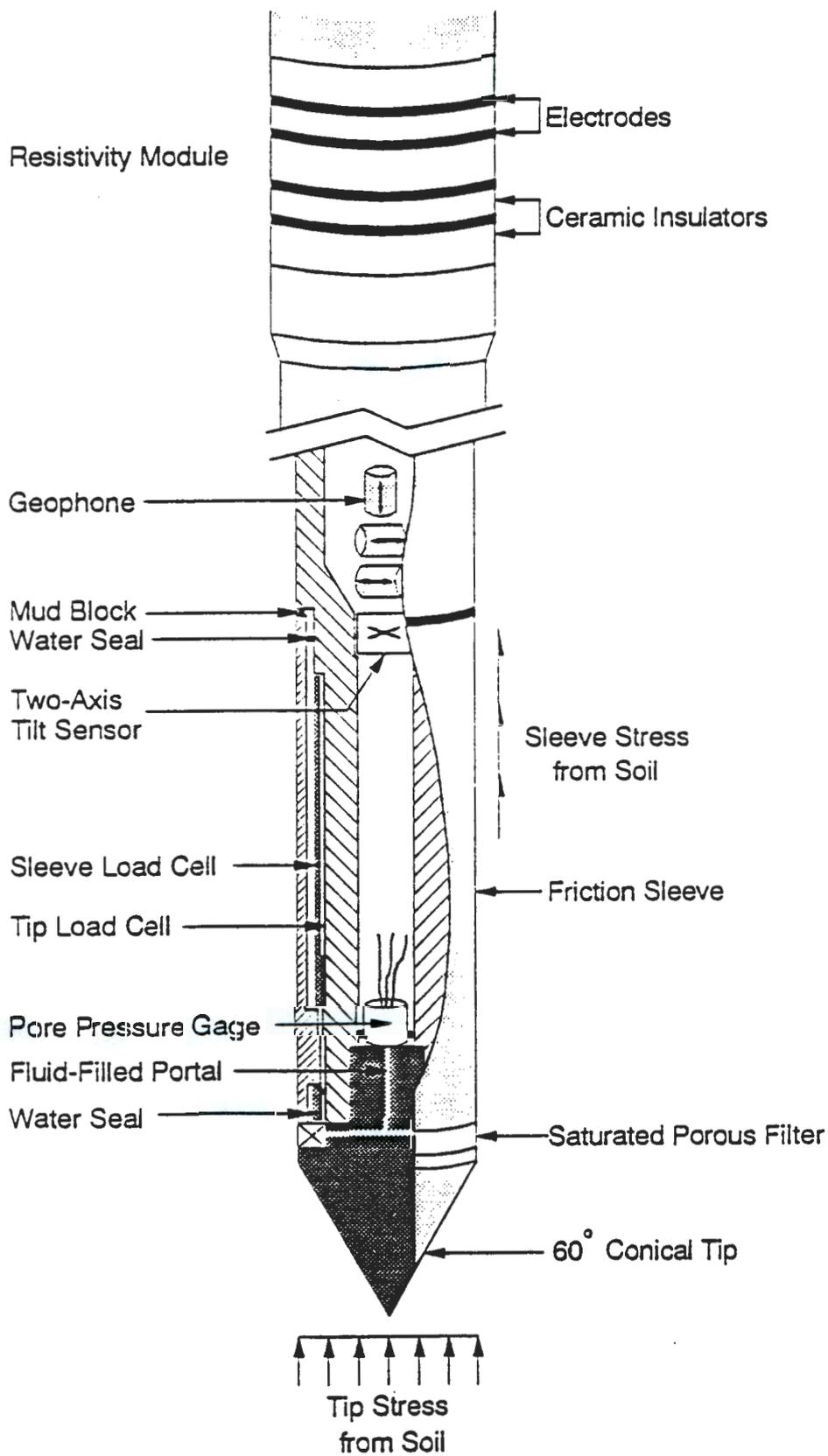
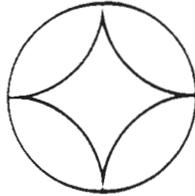


Figure 1. Schematic of ARA's cone penetrometer probe.

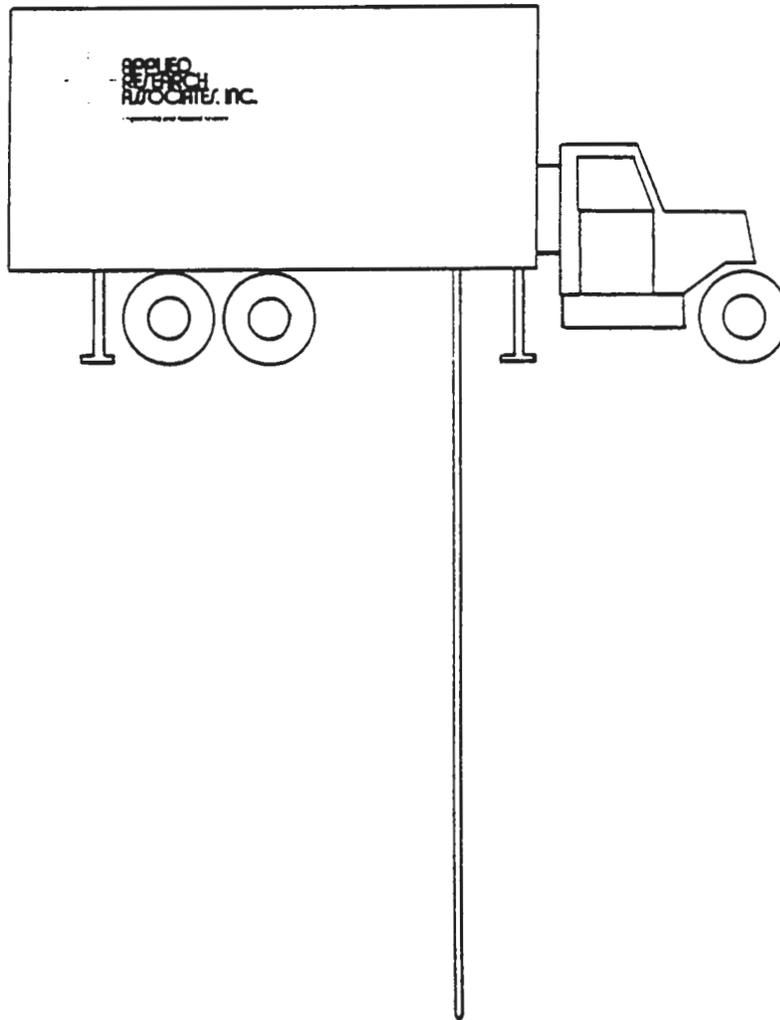
9 2 1 2 0 5 4 7 3 1 5



**APPLIED  
RESEARCH  
ASSOCIATES, INC.**

*Engineering and Applied Science*

Electric Cone Penetration Testing  
and  
Geophysical Services



**New England Division**  
Box 120A, Waterman Road  
S. Royalton VT 05068  
(802) 763-8348

9 2 1 2 4 5 1 7 3 1 6

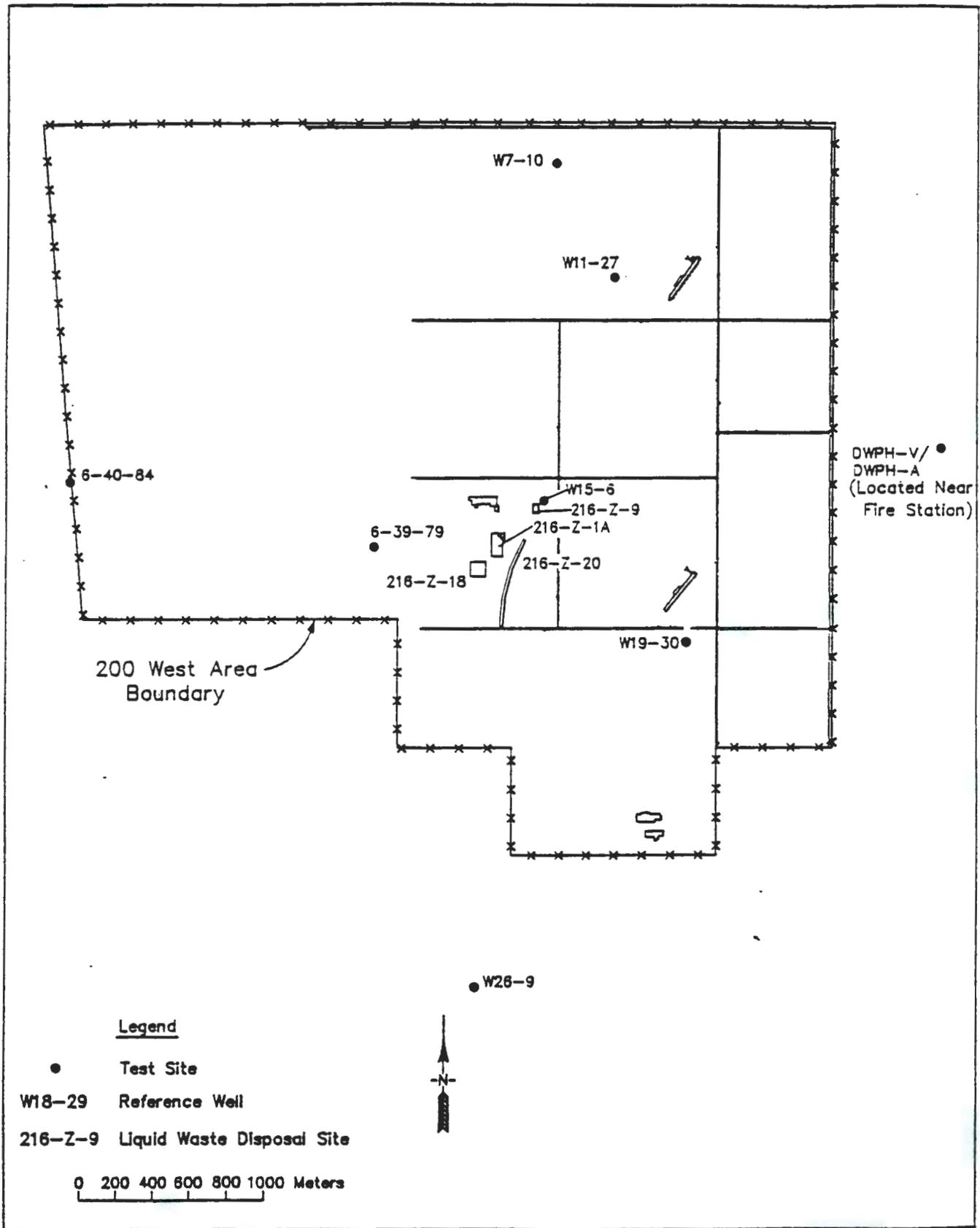
## **ADVANTAGES**

- **Brings No Material To Surface**
- **Uses No Drilling Water**
- **Minimizes Contact Of Equipment And Personnel With Contaminants**
- **Faster Than Conventional Borehole Drilling**
- **Cheaper Than Conventional Borehole Drilling**
- **Continuous Data With Depth**
- **In Situ Measurements**
- **Delineates Very Thin Layers**

## **TEST OBJECTIVES**

- **Determine Depths/Lithologies Which Can Be Penetrated**
- **Monitor Soil Gas For Organic Compounds**
- **Sample And Analyze Dense, Nonaqueous Phase Liquids If Encountered**
- **Measure Resistivity**
- **Detect Seismic Signals**
- **Install Vadose Zone Wells**

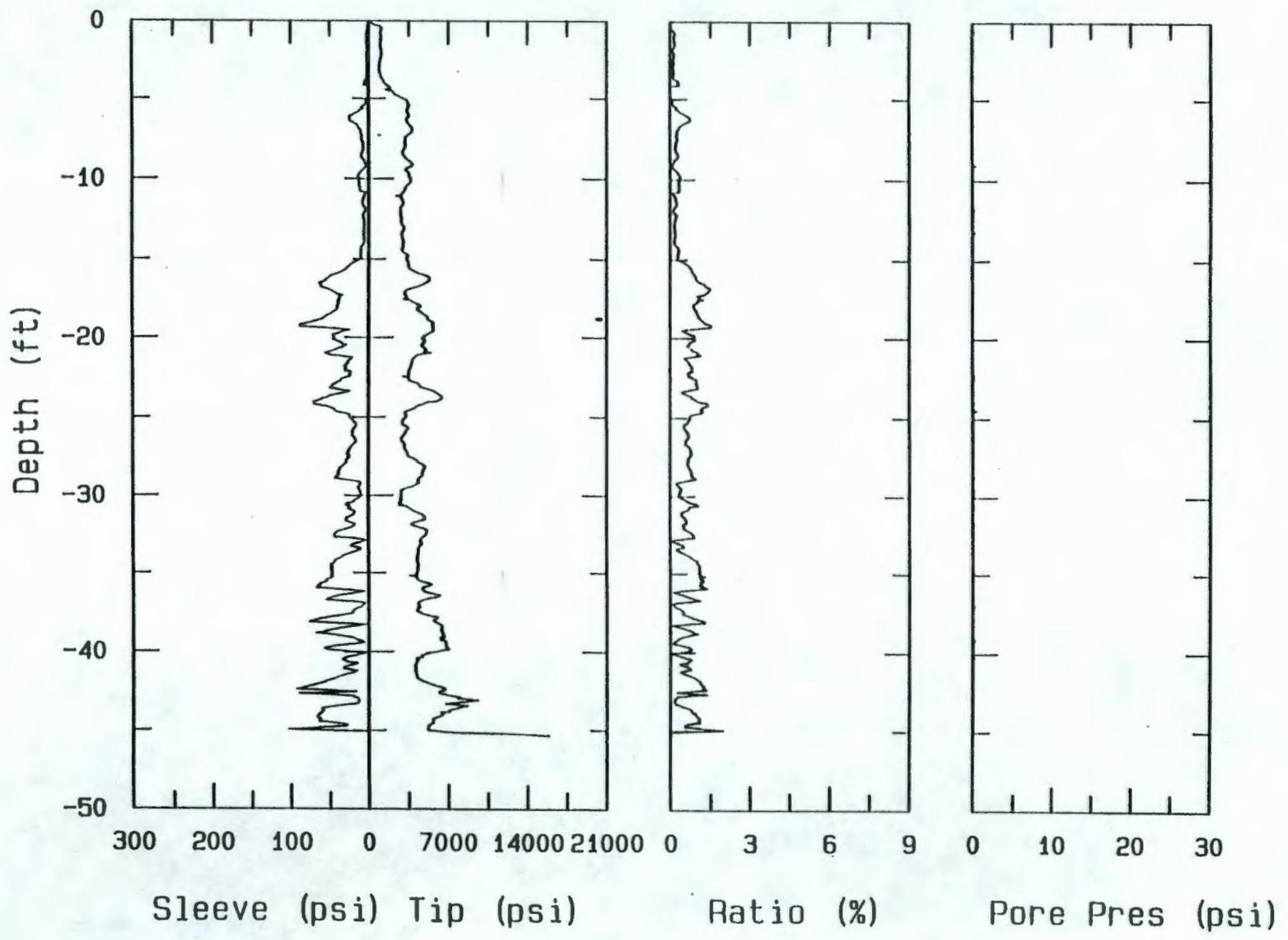
9 2 1 2 0 5 4 1 3 1 9



GEOSCI\080691X1

Figure 1.2. 200 West Area site map showing locations of ECPT testing (Rohay, 1991).

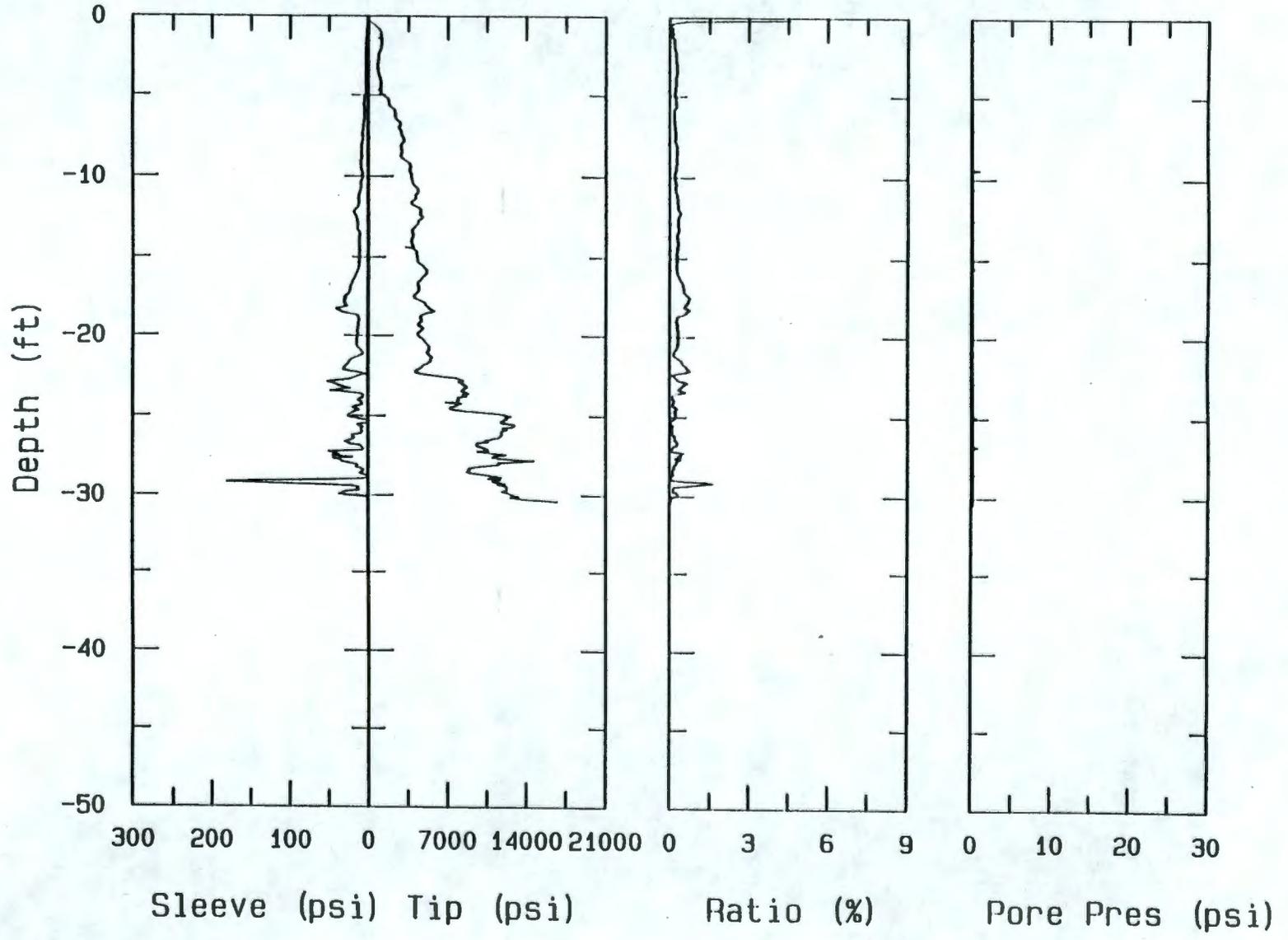
HC5A Applied Research Associates, Inc. 09/26/91  
HANFORD 200 West Area Well No. 26-9



38

Figure 3.10. Penetration test near Well 26-9.

HC4A Applied Research Associates, Inc. 09/26/91  
HANFORD 200 West Area Well No. 6-39-79



37

Figure 3.9. Penetration test near Well 6-39-79.

## **POSSIBLE MODIFICATIONS**

- **Need Better Penetration Ability To Get Through Cobbles/Boulders**
  - **Drill In Combination With Pushing**
  - **Improve Piercing Capabilities (Tip Shape, Duration Of Blow, Downhole Hammer, Increased Load)**
- **Radiation Probe**
- **Ground Penetrating Radar**

**FUTURE WORK FOR 200 WEST AREA CARBON TETRACHLORIDE  
EXPEDITED RESPONSE ACTION AND VOC-ARID INTEGRATED  
DEMONSTRATION**

- **Install Additional Vadose Zone Wells**
  - **Extraction/Injection**
  - **Soil Vapor Monitoring**
- **Deploy Other Subsurface Sensors**
- **Additional Site Characterization**