U.S. Department
of Transportation
Federal Highway
Administration

LTPP Seasonal Monitoring Program

Site Monitoring Suspension
Status Report
Section 364018
Oneonta, New York

Report No. FHWA-TS-98-36-01

January 1998

SEASONAL MONITORING PROGRAM SUSPENSION STATUS REPORT
ONEONTA, NEW YORK - SECTION 364018

I. INTRODUCTION

Seasonal monitoring equipment was initially installed at site 364018 on I-88 near Oneonta, New York in October 1993 and was used to collect data continuously from October 28, 1993 to June 20, 1995 (Round 1) and from September 19, 1996 to October 14, 1997 (Round 2). On October 14, 1997, Round 2 site suspension activities were completed according to LTPP Directive SM-8 "Suspension of SMP Site Monitoring Activities". See Table 1 for a summary of the Round 2 seasonal data collected. The site will remain out of operation until a decision relative to further testing is reached.

This report entitled "SMP Site Monitoring Suspension Status Report" details the suspension preparation activities, site specific conditions, and provides information pertinent to seasonal site 364018.

II. SUSPENSION PREPARATION ACTIVITIES

The suspension preparation activities at site 364018 with the exception of a manual distress survey were conducted during the final site visit on October 14, 1997. A manual distress survey of the entire section was conducted on the September 9, 1997 site visit. PK nails were reconfirmed and replaced as necessary. The site markings did not need to be refreshed. One complete set of FWD tests were completed. FWD testing had to be suspended approximately three quarters of the way through the second set of tests because of an equipment breakdown. One set of elevations, joint opening measurements, joint faulting measurements and a distress survey of the instrumentation area were obtained. Water table measurements and manual resistivity measurements (2 and 4 point) were performed in the morning and afternoon. The onsite datalogger was downloaded before being dismantled. Two sets of TDR traces and resistance voltages were extracted by the mobile datalogger. The instrumentation area was cleaned and sealed as required. The temperature holes and snap ring holes were cleaned and sealed with a silicone joint sealant.

The air temperature probe, tipping bucket, and the upper part of the support pole were dismantled. The lead wires from the air temperature probe and tipping bucket were removed from the cabinet and sprayed with an anti-corrosive compound. The above ground conduit from the pole to the equipment cabinet was removed and the resulting hole in the back of the cabinet sealed. The bottom part of the support pole was cleaned and lubricated prior to installing the end cap.

The solar panel was disconnected. After all wires from the control panel were disconnected, the panel was detached from the equipment cabinet along with the CR10 datalogger, terminal strip and battery pack. The TDR cables, resistivity cable and MRC lead wires were sprayed with an anti-corrosion compound and sealed with desiccant packs in air tight bags. All cables were hung up high inside the equipment cabinet. After the last piezometer reading was recorded, the pipe was cleaned and sealed with grease. The access cover and seat were cleaned and lubricated before being covered and brought up to grade with native soil.

The Profilometer survey corresponding to the close-out was conducted on October 15, 1997.

All the necessary suspension activities were completed on October 14, 1997. The dismantled equipment was removed from the site. The suspended site contains all the underground instrumentation and equipment, and an equipment cabinet with all the cables in it. The equipment cabinet was locked before leaving the site. The site was cleaned and left in a condition such that the instrumentation could be easily accessed when the need arises.

III. SPECIAL SITE CONDITIONS

The installation of site 364018 followed the "LTPP Seasonal Monitoring Program: Instrumentation Installation and Data Collection Guidelines" closely. There were no irregularities associated with the installation of this site.

IV. SUPPLEMENTAL INFORMATION

Figure 1 shows the locations of the installed instrumentation at the site. The instrument hole is at Station 0-18 and the piezometer is at Station 1+00. Table 2 gives the elevations of the portion of test section 364018 that was used for elevation measurements. All offsets are measured from the outside pavement edge.

At the time of suspension, MRC #1 sensor was not functioning. This sensor was not functioning at the time Round 2 data collection activities began in September 1996. Also, TDR sensors 2, 5 & 7 are not functioning. At the time of re-commission (September 19, 1996), these sensors were producing irregular traces. At that time, we speculated that they might have broken at the beginning of the probe or were filled with water. Figure 2 shows the daily temperature trends during a sample period indicating that the MRC #1 sensor was malfunctioning. Figure 3 shows the second set of Mobile Data collected on October 14, 1997. Other than the above, there were no unresolved problems with any other sensors. The plots from ONSFIELD, MOBFIELD and SMPCHECK follow expected trends and produced expected values.

TABLE 1:
SUMMARY OF ROUND TWO NORTHERN LOOP SMP DATA COLLECTION TO DATE

Agency Code [3 6]
LTPP Section I.D. [4 0 1 6]
Location Oneonta, New York

Test Date dd/mmm/yy	Visit Ident./ Code	ONSITE Data			MOBILE Data		Manual Data								FWD Data				Distress Data		Profile Data		Comments
		Pav Temp.	Ambient Temp.	Rainfall	Moisture (TDR)	Frost Depth (Resist.)	Backup Pav. Temp.	Backup Moisture (TDR)	Frost Depth 2 - point	Frost Depth 4 - point	Water Table	Surface Elev.	Joint Open.	Joint Fault.	Surface Layer Temp.	No. of Cycles/Visit OWP	ML	PE	Manual	PASCO	Profiler	Dipstick	
19-Sep-96	A	X	X	X	X	X			X	X	X	X	X	X	X	1	1	1	X				Re-commission
05-Nov-96	B	X	X	X	X	X					X		X	X	X	1	1	1					Solar Panel Installed
03-Dec-96	C	X	X	X	X	X			X	X	X	X	X	X	X	2	2	2					
07-Jan-97	A	X	X	X	X	X			X	X	X	X	X	X	X	2	2	2			02-Jan-97		
04-Feb-97	B	X	X	X	X	X			X	X	X	X	X	X	X	3	3	3			07-Feb-97		
04-Mar-97	C	X	X	X	X	X					X		X	X	X	1	1	1					
18-Mar-97	D								X	X	X				X	3	4	3			10-Apr-97		no ONS/MOB data due to dual FWD mobilization
15-Apr-97	E	X	X	X	X	X			X	X	X	X	X	X	X	2	2	2					
06-May-97	F	X	X	X	X	X			X	X	X		X	X	X		1	1					Incomplete FWD & MDS due to rain
03-Jun-97	G	X	X	X	X	X					X												no FWD due to equipment malfunction
08-Jul-97	H	X	X	X	X	X			X	X	X	X	X	X	X	3	3	3	X				
05-Aug-97	I	X	X	X	X	X					X		X	X	X	2	2	2			28-Aug-97		Profile data 'daily variation'
09-Sep-97	J	X	X	X	X	X					X		X	X	X	1	1	1	X				
14-Oct-97	K	X	X	X	X	X			X	X	X	X	X	X	X	1	1	1			15-Oct-97		De-commission

Table 2. Surface Elevation Measurements

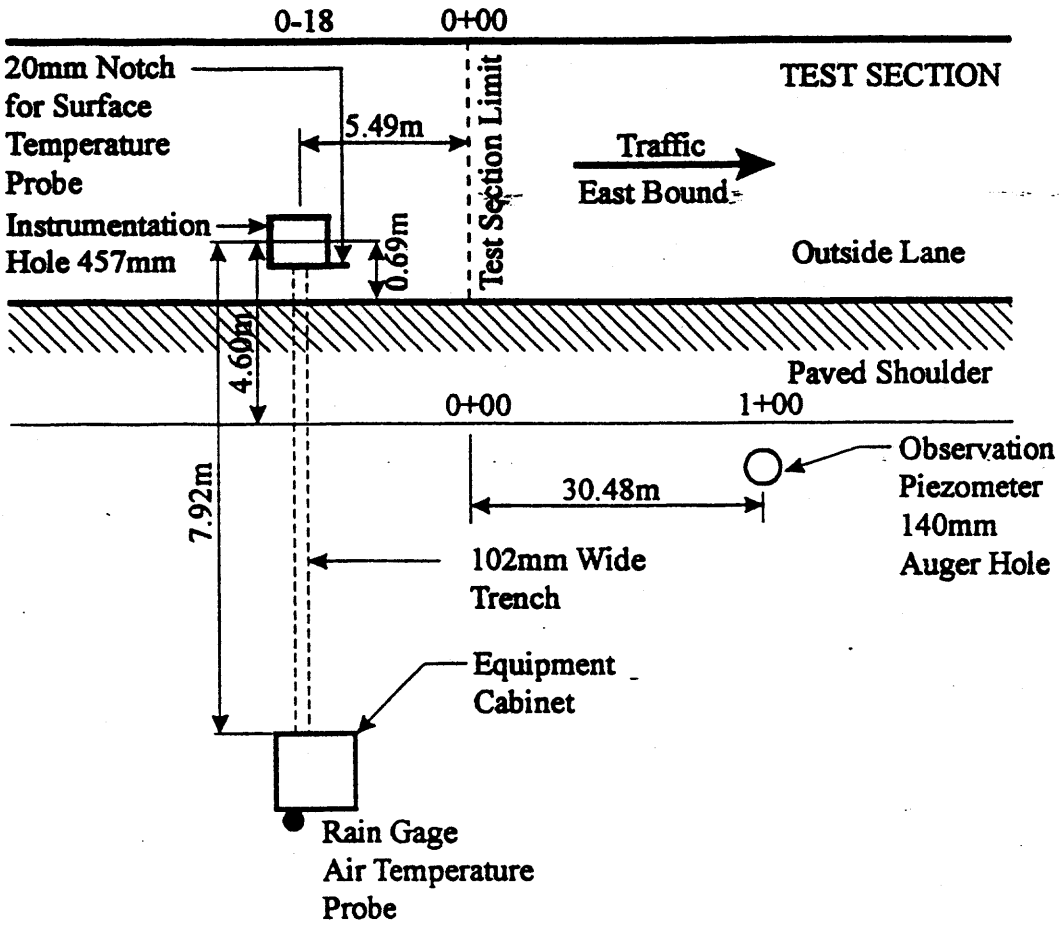
LTPP Seasonal Monitoring Study	State Code	[36]
Surface Elevation Measurements	Test Section Number	[4018]

Survey Date	October 14, 1997
Surveyed By	DS/AL
Surface Type	PCC
Benchmark	Observation Piezometer - 1.000 meters - assumed

STATION	PE m offset 0.46m	ML m offset 1.83m	ILE m offset 3.35m
0-25	1.8775	1.8975	1.9275
0-12	1.8250	1.8525	1.8750
0+07	1.7525 [IH]	1.7800	1.8025
0+38	1.6250	1.6525	1.6800
0+39	1.6275	1.6500	1.6775
0+70	1.5000	1.5300	1.5600
1+01	1.3850	1.4100	1.4350
1+02	1.3825	1.4100	1.4350
1+33	1.2725	1.2975	1.3225
1+64	1.1475	1.1850	1.2000
1+65	1.1450	1.1825	1.2000
1+96	1.0225	1.0500	1.0750
2+27	0.8950	0.9325	0.9575

PE	Outer Slab Edge
ML	Mid Slab
ILE	Inner Slab Edge

Note: Offsets are measured from the PCC/AC interface at the shoulder.
[IH] - Designates the reading taken on the Instrument Hole.



- Height of Air Temperature Probe (center): 3.28m
- Height of Tipping Bucket Rain Gage (center): 3.18m
- Total Depth of Piezometer: 4.29m
- Distance of Piezometer Below Ground Level: 127mm

Figure 1. Location for Seasonal Monitoring Instrumentation Installed at GPS 364018

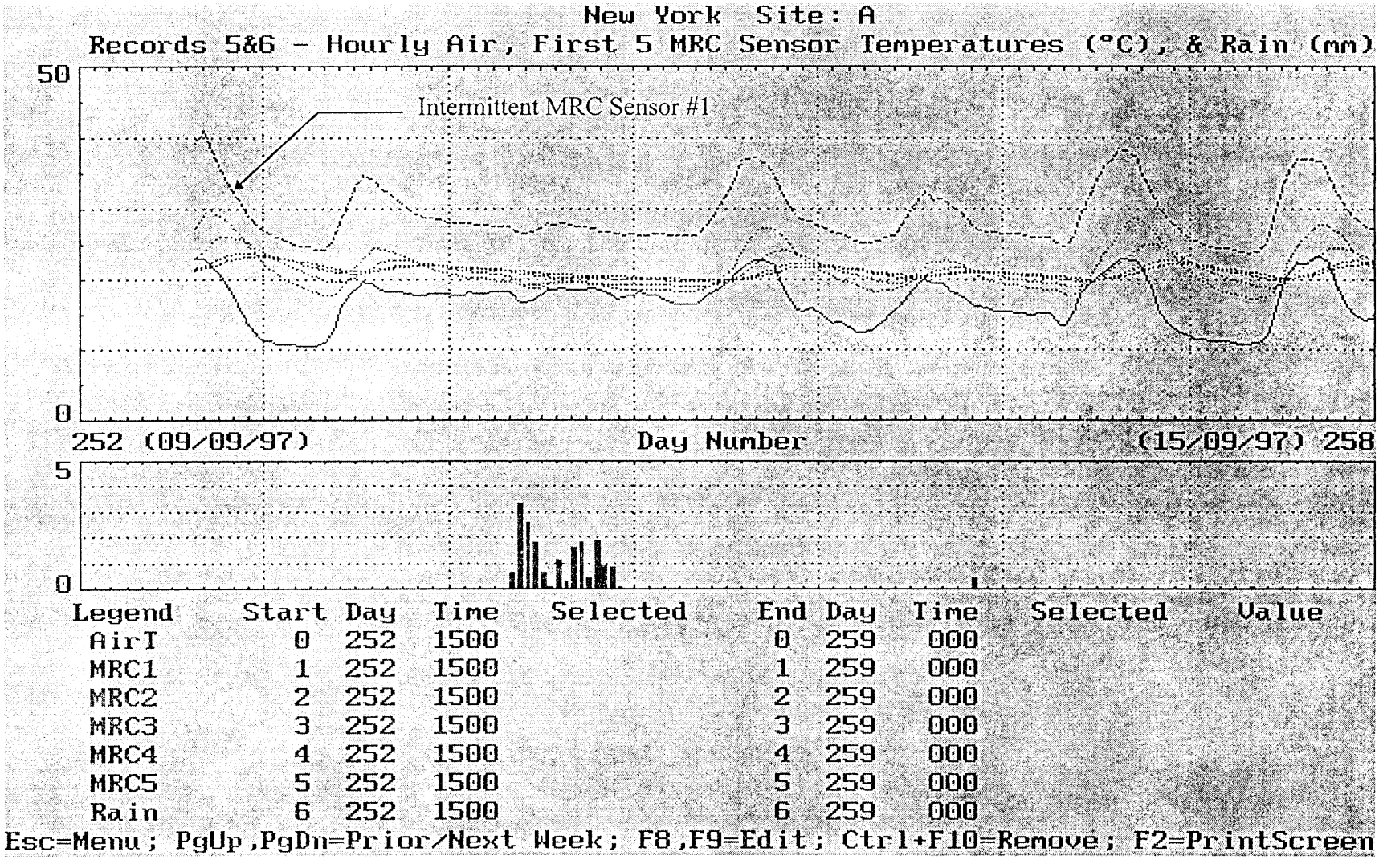


Figure 2: Sample of Erroneous Readings from MRC Sensor #1

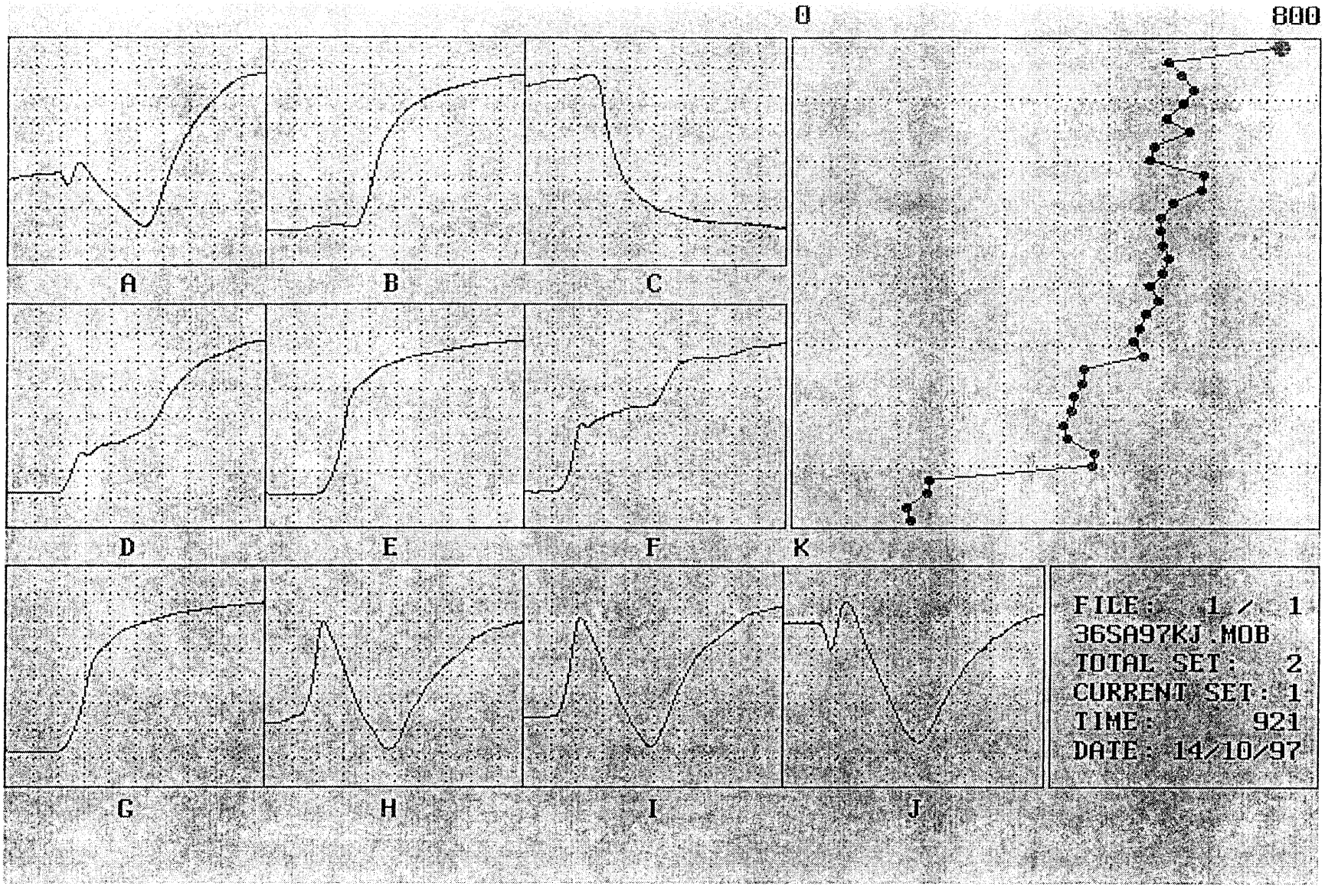
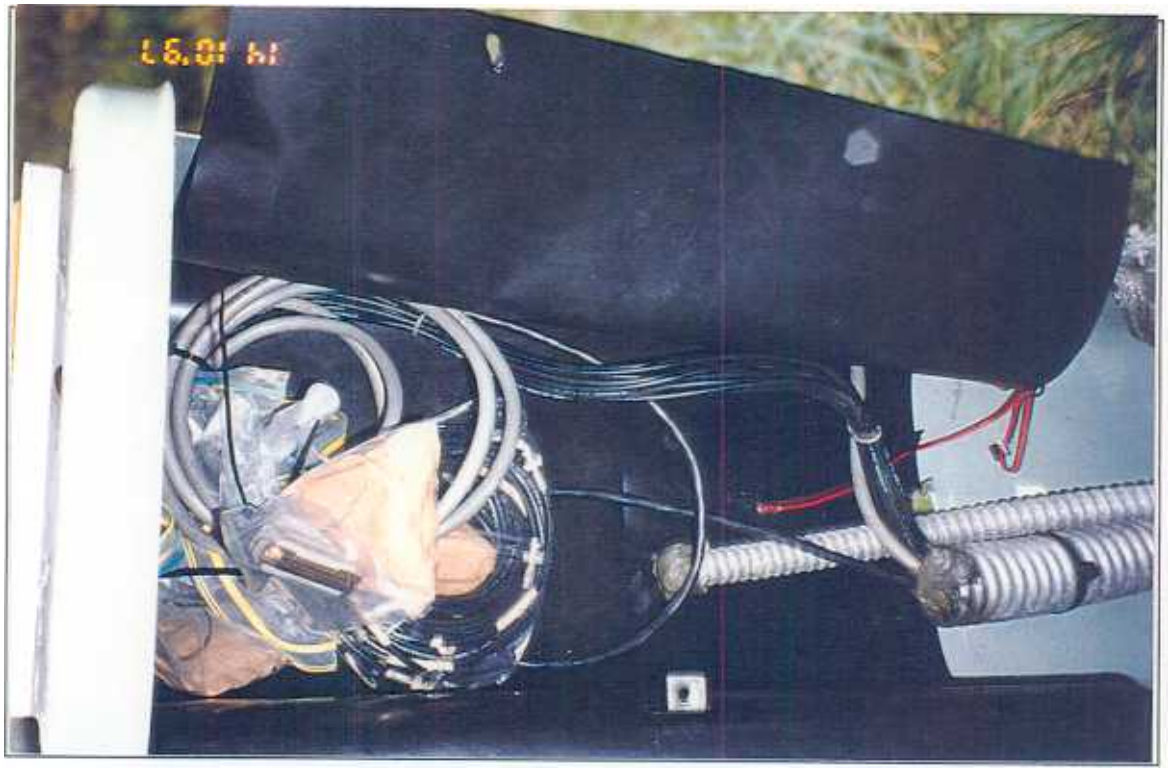


Figure 3: First Set of Mobile Data Collected on October 14, 1997



Inside Equipment Cabinet, Seasonal Site 364018 - Oct. 1997, after Suspension Activities

Equipment Cabinet, Seasonal Site 364018 - Oct. 1997, after Suspension Activities