# SEASONAL MONITORING PROGRAM
# DISMANTLE REPORT
# SITE 041024, FLAGSTAFF, ARIZONA.

January 1997

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## MEMORANDUM

TO: Mr. Aramis Lopez, Jr.
Long-Term Pavement Performance Division
FROM: Srikanth S. Holikatti and Douglas J. Frith
DATE: January 31, 1997
SUBJECT: **Suspension of SMP Site Monitoring Activities, Site 041024**

This memo will serve as the SMP Site Monitoring Suspension Status Report for Site 041024 (04SC) near Flagstaff, Arizona. This report narrates the activities associated with the suspension of SMP site monitoring.

The site was last monitored on August 15, 1996 and de-installation occurred at this time. The following activities were performed before suspension of SMP monitoring activities and dismantling of SMP instrumentation:

- FWD testing of the section.
- Transverse profile by dipstick.
- Elevation measurements.
- Ground water table measurements.
- Automated mobile data collection.
- Downloading of Onsite data before dismantling the CR10 datalogger.

Longitudinal profile measurements were performed on August 8, 1996 using a K J Law profilometer.

The following pre-dismantle and dismantle activities were performed:

- The observation well and cap threads were thoroughly cleaned and lubricated

(greased) before the well was sealed.

- The air temperature probe and rain gauge were disconnected from the steel pole and the pole was removed from the bottom joint. The pole stub, embedded in the ground, was cleaned and lubricated before capping.

- The instrumentation hole and access trench were both closely inspected and the joints were sealed with silicone sealant wherever necessary. No patching was required.

- All TDR probes, resistivity probe, thermistor temperature sensor unit cables and wiring were disconnected from CR10 datalogger. These were carefully checked and labeled. Labels on each cable were scotch taped to ensure they would remain in place.

- A coat of electronics grade anti-corrosive compound was applied to all the cables and wiring connections to protect against corrosion of contact points. The cables were then put in a heavy duty plastic bag and were taped to keep out the elements and then were secured inside the equipment cabin.

- The instrument panel board containing the CR10 datalogger, the relay and the terminal strip was removed.

- The equipment cabinet was checked and adequate drainage was ensured in case of heavy precipitation.

- The equipment cabinet lock was lubricated with graphite lubricant, the lock was taped to keep out the natural elements.

- Nails were driven into the pavement at the elevation measurement and FWD test locations, the nailheads were spray painted white for easy identification

- A layout sketch of the section indicating the location of instrumentation hole, observation hole, equipment cabinet, FWD test points and elevation measurement points was drawn so that the site can be re-established easily upon return.

The instrumentation hole is located in the outside lane, at a distance of 157.04m (section station 5.00+15'), from the section beginning, in the outer wheel path. The equipment cabinet is located 9.3m to the right of the lane edge and the pole is 0.6m behind the equipment cabinet. The observation well/piezometer is located at a distance of 121.95m from the start of the section, 5.1m away from the lane edge. Please refer to the site layout schematic for the testing and monitoring locations within the test section.

The following are enclosed with this report:

- A summary table of SMP measurements over the preceding data collection cycle following the standard format.
- Section layout schematic clearly showing the location of the instrument hole, observation well, equipment cabinet, FWD test points and elevation measurement locations.
- Copies of photographs taken during the suspension and dismantle activities.
- TDR traces manually obtained just before the instrument panel board was dismantled.

The summary table indicates this data set is mostly complete with the exception of one month of missing air temperature, pavement temperature and precipitation. In addition during march, no TDR measurements due to malfunctioning 1502B (cable tester). Also the FWD was inoperable during one round. Review of average hourly temperature data collected by the "ONSITE" program indicated that the MRC sensor 1 recorded some unlikely temperatures. Apart from this the rest of the installed equipment appears to be functioning correctly at the time of de-installation.

No unusual or non standard equipment was installed at this site. Information in this report and its attachments are provided to document the SMP suspension and dismantle activities. Any further information about suspension/dismantle activities can be obtained by calling Nichols Consulting Engineers at (702)329-4955.

SH:DF/cac
Attachments

cc: Gonzalo Rada
Cal Berge

# SUMMARY of SMP DATA COLLECTED to DATE.

**Agency Code:** 04, Arizona.

**Location:** Flagstaff.

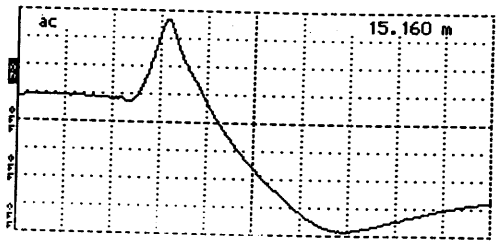
**LTPP Section Code:**1024.

**Pavement Type:**Asphalt concrete.

| | | ONSITE Data | | | MOBILE Data. | | Manual Data | | | | | | F W D Data | | | | Distress Data | | Profile Data | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Test Date dd/mm/yy | Visit Identity \ Code | Pav Temp | Ambient Temp | Precptn. | Subsurface Moisture (TDR) | Frost Depth 2-Point | Backup Pav Temp | Backup Moisture (TDR) | Frost Depth 2-Point. | Frost Depth 4-Point. | Water Table. | Surface Elev. | Surface Layer Temp. | No. of Cycles/Visit. OWP | ML | PE | Manual | PASCO | Profiler | Dipstick | Comments |
| 22-Aug, 95 | NA | X | X | X | | | | X | | | | | X | 2 | 2 | NA | | | | | Installation, Rain Damage to Mobile Box. |
| 14-Sep, 95 | A | X | X | X | X** | X | | X | X | X | X | | X | 4 | 4 | NA | | | | | High Temperatures @ sensor #1(>50'C) |
| 12-Oct, 95 | B | | | | X** | X | | | X | X | X | | X | 4 | 4 | NA | | | | | High Temperatures @ sensor #1(>50'C) |
| 09-Nov, 95 | C | X | X | X | X | X | | | X | X | X | X | X | 4 | 4 | NA | X | | | X | High Temperatures @ sensor #1(>50'C) |
| 07-Dec, 95 | D | X | X | X | X | X | | | X | X | X | | X | 4 | 4 | NA | | | X | | High Temperatures @ sensor #1(>50'C) |
| 11-Jan, 96 | A | X | X | X | X | X | | | X | X | X | | X | 4 | 4 | NA | | | | | High Temperatures @ sensor #1(>50'C) |
| 08-Feb, 96 | B | X | X | X | X | X | | | X | X | X | X | X | 5 | 5 | NA | X | | | X | High Temperatures @ sensor #1(>50'C) |
| 07-Mar, 96 | C | X | X | X | | | | | X | X | X | | X | 5 | 5 | NA | | | | | High Temperatures @ sensor #1(>50'C) |
| 04-Apr, 96 | D | X | X | X | | | | X | X | X | X | X | X | 3 | 3 | NA | X | | | X | High Temperatures @ sensor #1(>50'C) |
| 10-May, 96 | E | X | X | X | | | | X | X | X | | | X | 4 | 4 | NA | | | | | High Temperatures @ sensor #1(>50'C) |
| 13-Jun, 96 | F | X | X | X | X | X | | | X | X | X | | X | | | NA | X | | | X | High Temperatures @ sensor #1(>50'C) |
| 11-Jul, 96 | G | X | X | X | X | X | | | X | X | X | X | X | 4 | 4 | NA | | | | | High Temperatures @ sensor #1(>50'C) |
| 15-Aug, 96 | H | X | X | X | X | X | | X | X | X | X | X | X | 4 | 4 | NA | X | | X | X | High Temperatures @ sensor #1(>50'C) |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

**X** = Partial TDR traces.**

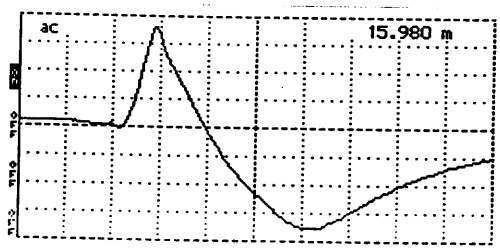
Cursor ..... 15.160 m
Distance/Div..... .25 m/div
Vertical Scale.... 56.1 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #1 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

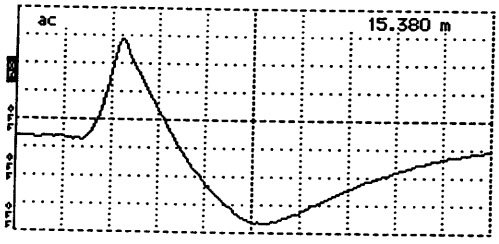
Cursor ..... 15.980 m
Distance/Div..... .25 m/div
Vertical Scale.... 51.5 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #2 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

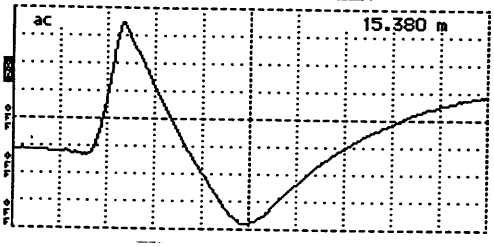
Cursor ..... 15.380 m
Distance/Div..... .25 m/div
Vertical Scale.... 51.5 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #3 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

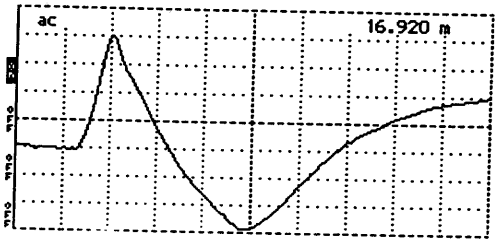
Cursor ..... 15.380 m
Distance/Div..... .25 m/div
Vertical Scale.... 40.9 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #4 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

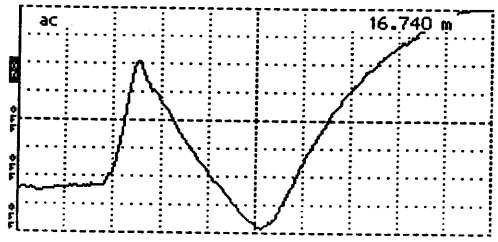
Cursor ..... 16.920 m
Distance/Div..... .25 m/div
Vertical Scale.... 39.7 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #5 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

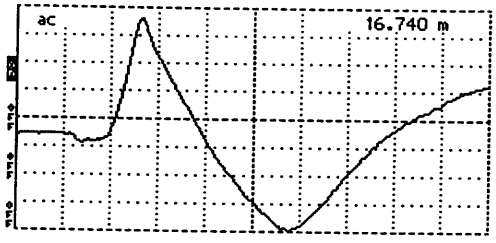
Cursor ..... 16.740 m
Distance/Div..... .25 m/div
Vertical Scale.... 37.5 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #6 041024
Notes Look Good

Input Trace
Stored Trace
Difference Trace

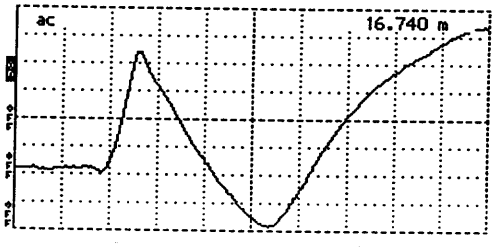
Cursor ..... 16.740 m
Distance/Div..... .25 m/div
Vertical Scale.... 37.5 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #7 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

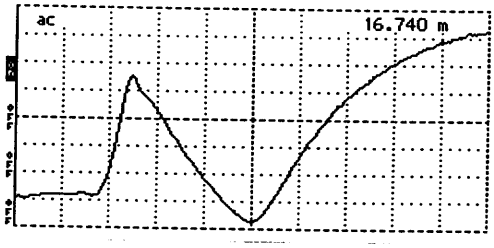
Cursor ..... 16.740 m
Distance/Div..... .25 m/div
Vertical Scale.... 37.5 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #8 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

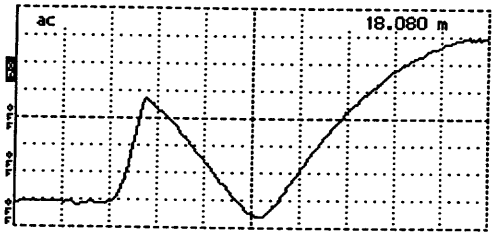
Cursor ..... 16.740 m
Distance/Div..... .25 m/div
Vertical Scale.... 39.7 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #9 041024
Notes Looks Good

Input Trace
Stored Trace
Difference Trace

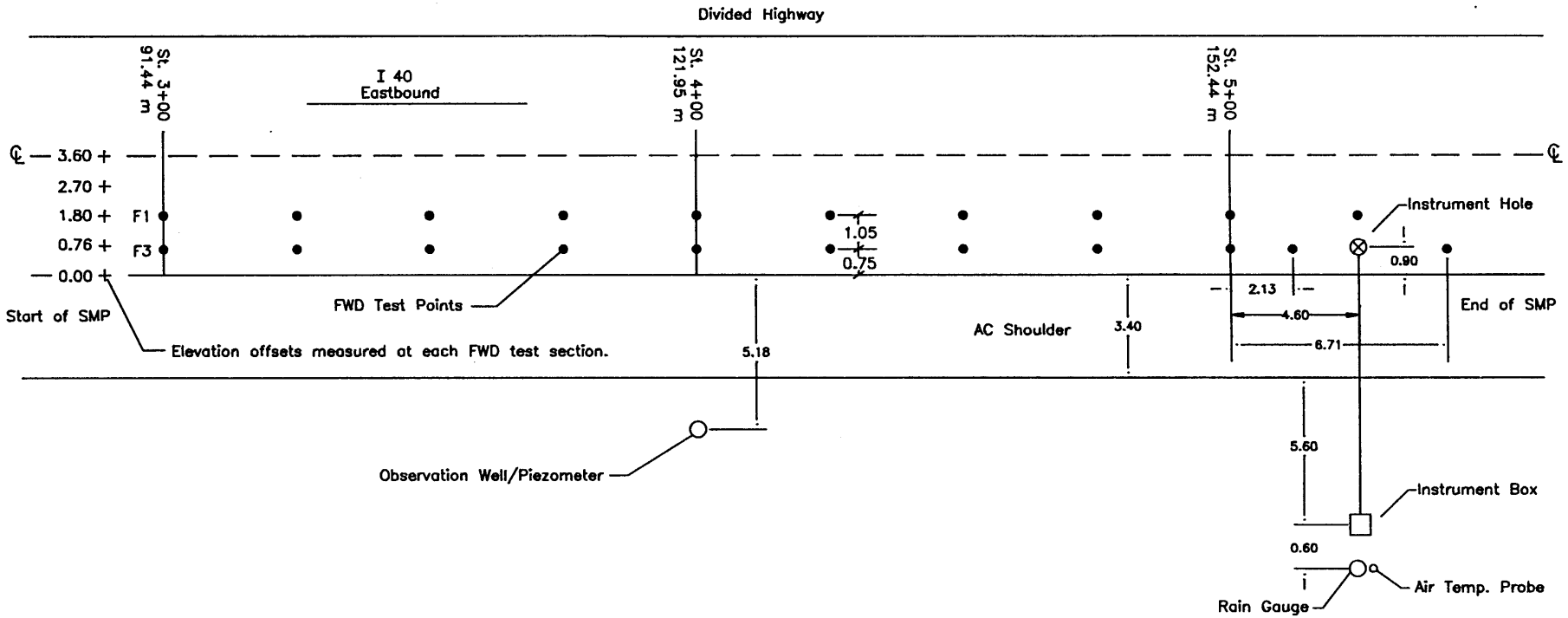
Cursor ..... 18.080 m
Distance/Div..... .25 m/div
Vertical Scale.... 39.7 mΩ/div
VP ..... 0.99
Noise Filter..... 1 avg
Power..... ac




Tektronix 1502B TDR
Date 8/15/96
Cable #10 041024
Notes Looks Good.

Input Trace
Stored Trace
Difference Trace

SECTION 041024
Kingman, AZ




Note: All dimensions are in meters.


Instrumentation Hole.


Observation Piezometer.


Equipment Cabinet.