Figure G-1.25 Test Setup - Reference Calibration - Loadcell

Figure G-1.26 Test Setup - SPS3 Flex Basin Test

Figure G-1.27 Test Setup - SPS4 Rigid Test Plan

Figure G-1.28 Utilities Options

Figure G-1.29 Utilities - System Checks

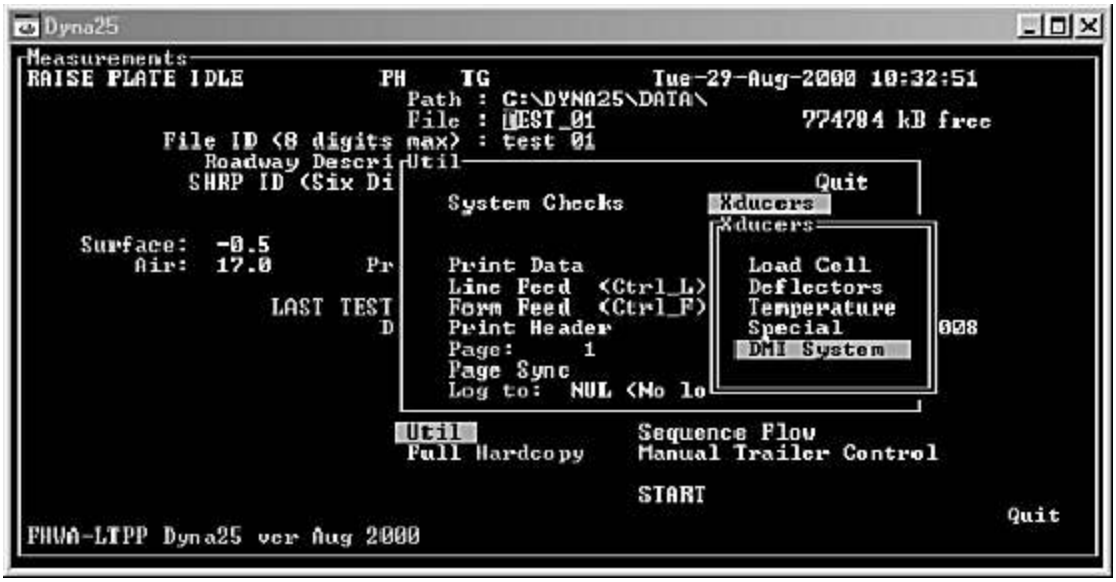


Figure G-1.30 Utilities - Xducers

Figure G-1.31 Trailer - Limits and Timing

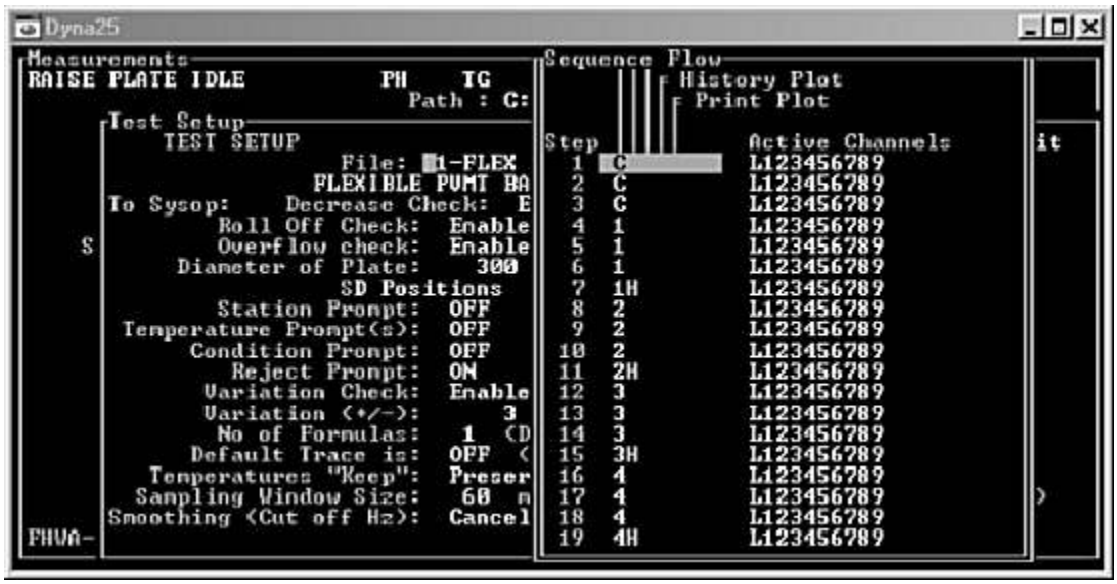


Figure G-1.32 Sequence Flow

Figure G-1.33 Load Cell Calibration

Figure G-1.34 Processor Voltages

Figure G-1.35 Page Format

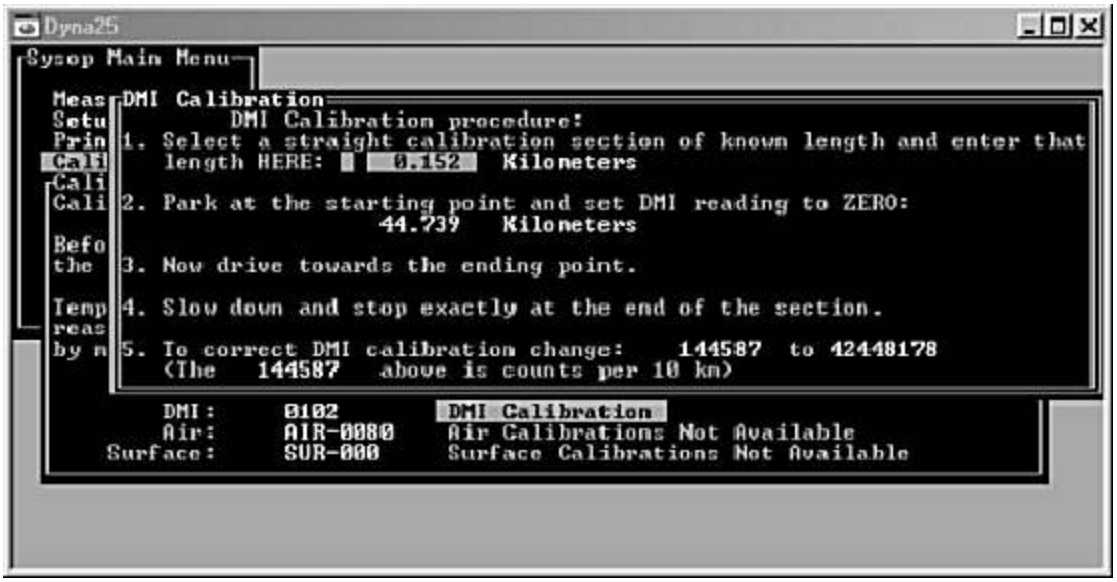


Figure G-1.36 DMI Calibrations

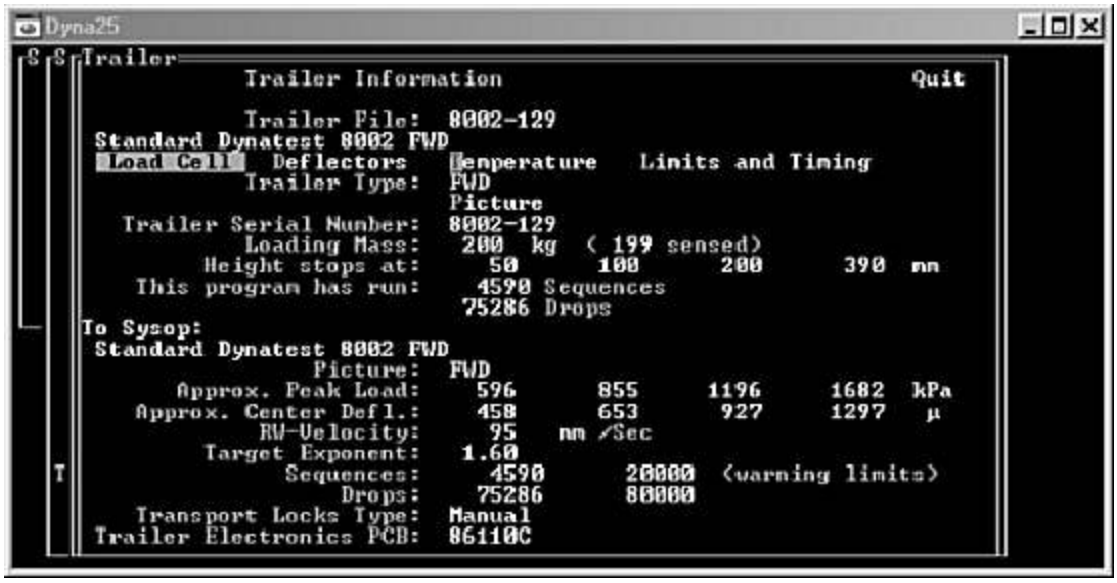


Figure G-1.37 Trailer Information

Figure G-1.38 Processor Information

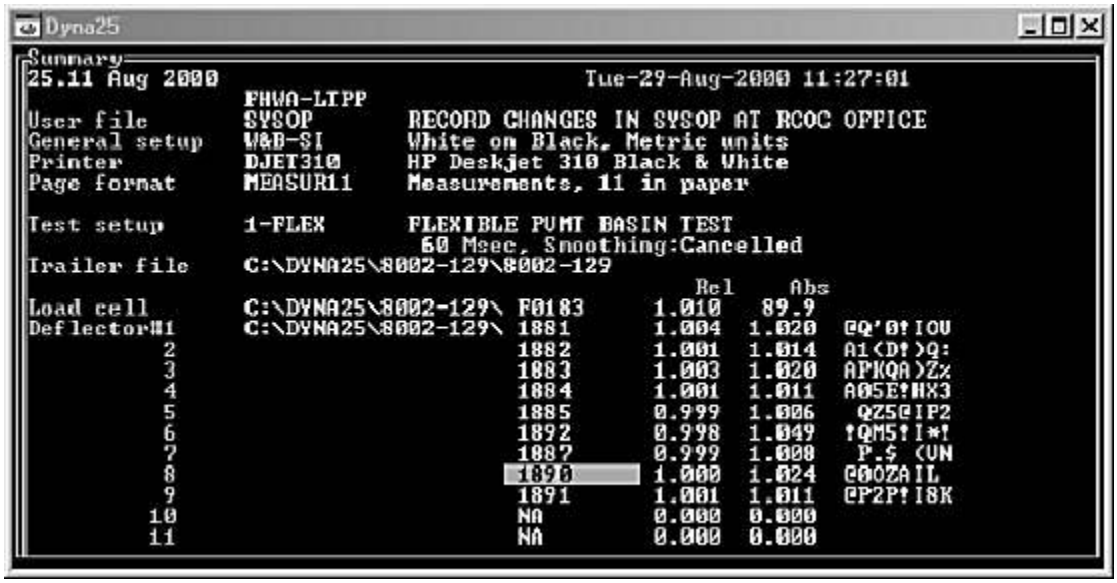


Figure G-1.39 Setup Summary

EXAMPLE F25 UPLOAD FILE FORMATS AND LISTINGS

Introduction

The Edition 25 FWD (LTPP Dyna25 ver Aug 2000) field data collection program produces two output files from field measurements. The output file with the file name extension F25 contains the header information and peak load and deflection data to be uploaded into the IMS in ASCII text format. This file typically contains 46 lines of "header" information followed by test data and/or comments. Each line or record is prefixed by a four digit "Line-ID-Number" (LIN) or object field, which identifies its format and content. Data elements on a line are stored in a fixed column, comma separated, format. Most of the text fields are enclosed in double quotes. This text data is stored as entered by the operator with leading and trailing spaces in some cases. Numbers are right justified. The second output file from the LTPP Dyna25 software contains the time history information in a binary format. The programs HISTORY9.EXE, HIST911F.exe and HIST912F.exe provided by the FWD manufacturer, are used to convert this file from binary to ASCII. The time history data is not loaded into the IMS.

In this appendix, a detailed, annotated, description of the format and contents of the Edition 25 upload file is presented. This is followed by a complete listing of the data file used in the format description. Example data files created using the FWD data file simulator, which generates an example data file which contains a data from a single test point, are also presented for many of the LTPP FWD test plans.

Annotated Description of LTPP Edition 25 FWD Upload File Format

In the following format and content descriptions of the FWD Dyna25 upload file, fields on each data line are specified using an [X, Y] column designation, where X is the begin column and Y the end column, since the data are placed in fixed column width locations. Each line of data in the file is prefixed with a Line ID Number (LIN), which serves as an object field, in columns [1,4]. This LIN is used to describe the contents of each line. Also used in the description of the header portion of file is the sequential line number in which each LIN appears in a typical file.

For values to be loaded into the IMS, the table and field name(s) are shown in the contents description of each items on the data line. Data items not loaded into the IMS are labeled as "Not Loaded" (however, some of these items are used by the filter program).

The remainder of this appendix is presented in a fixed column font to preserve column relationships in the data file formats.

Header Data

Typically, the first 46 lines of data in the Dyna25 FWD data file, as customized by LTPP, contains header data. The number of lines of header data in the file is shown in columns 14 and 15 in the first line of the data file.

```
1.    Program Version -  LIN 5001
      5001,25.11,1,46, 4, 1,"Aug 2000        "

      [  6,  7]  25          Program Edition - MON_DEFL_MASTER.SOFTWARE_VERSION
      [  8, 10]  .11         Program Edition Version - Not loaded
      [ 12, 12]  1           No of Headers (always 1) - Not loaded
      [ 14, 15]  46          No of Lines in Header - Not loaded
      [ 17, 18]  4           Lines per Station Id - Not loaded
      [ 20, 21]  1           Lines per Drop - Not loaded
      [ 24, 39] Aug 2000     Program Comment - Not Loaded

2.    Primary "Files" - LIN 5002
      5002,"25SIN   ","8002-061","9000-323"
      [  7, 14]  25SIN       Data Format Setup File - 25SIN (SI units with Numeric
                             Stations) LTPP Standard - Not Loaded
      [ 18, 25]  8002-061    Trailer File -DEFL_UNIT_ID in MON_DEFL_MASTER,
                             MON_DEFL_LOC_INFO, MON_DEFL_DROP_DATA
      [ 29, 36]  9000-323    Processor File - Not Loaded

3.    Secondary "Files" - LIN 5003

      5003,"OPERATOR","3-RGD_LT"

      [  7, 14]  OPERATOR    Operator File; Not Loaded
      [ 18, 25]  3-RGD_LT    TSU - Test Setup File - Used to determine drop number and
                             drop height sequence; Not Loaded

4.    Units & History option - LIN 5010

      5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"

      [  6,  6]  0           Temperature - 0=deg C, 1=deg F; Not Loaded
      [  8,  8]  0           Spare
      [ 10, 10]  0           Weight(Mass) - 0=Kg, 1=lb; Not Loaded
      [ 12, 12]  0           Spare
      [ 14, 14]  0           Deflection - 0=microns, 1=milli-inches; Not Loaded
      [ 16, 16]  0           Distance - 0-mm, 1=inch; Not Loaded
      [ 18, 18]  0           Spare
      [ 20, 20]  5           Location      2=Meters    ; Not Loaded
                                           3=km
                                           4=km extended
                                           5=Feet, LTPP Standard
                                           6=Yards
                                           7=Miles
                                           8=Miles extended
                                           9=Miles.feet
      [ 22, 22]  1           Geographic angle; Not Loaded
      [ 24, 24]  0           Force - 0=kN, 1=lb; Not Loaded
      [ 26, 26]  0           Pressure - 0=kPa, 1=psi; Not Loaded
      [ 28, 28]  0           Heavy Pressure; Not Loaded
      [ 30, 30]  0           Spare
      [ 32, 32]  0           Spare
      [ 34, 34]  1           Angle (Rad, Deg); Not Loaded
      [ 36, 36]  0           Spare
      [ 38, 38]  0           Spare
      [ 40, 40]  0           Spare
```

```
      [ 42, 42]  0          Spare
      [ 44, 44]  0          Spare
      [ 46, 46]  1          History Mode, 0=ASCII  1=BINARY (separate file); Not Loaded
      [ 49, 51]  H25        History File Extension; Not Loaded

  5.  Date and Time
      5011,0,1,1999,11,08,17,32,1,"Mon",312

      [  6,  6]  0          Date
      [  8,  8]  1          Time
      [ 10, 20]  1999,11,08 Date - TEST_DATE in MON_DEFL_MASTER, MON_DEFL_LOC_INFO, and
                            MON_DEFL_DROP_DATA
      [ 11, 14]  1999       Year
      [ 16, 17]  11         Month
      [ 19, 20]  08         Day
      [ 22, 26]  17,32      Time; Not Loaded
      [ 22, 23]  17         Hour; Not Loaded
      [ 25, 26]  32         Minute; Not Loaded
      [ 28, 28]  1          Day of week (0=Sun); Not Loaded
      [ 31, 33]  Mon        Literal Day of week; Not Loaded
      [ 36, 38]  312        Julian Day (1=Jan 1); Not Loaded

6.    Load Cell - LIN 5200
      5200,"F0201   ",2,0.980, 87.6, -0.72,  7.229

      [  7,  8]  F0         First two Characters Load Cell File Name; Not Loaded
      [  9, 11]  201        Load Cell Serial Number -
                            MON_DEFL_DEV_CONFIG.LOAD_CELL_SERIAL_NO
      [ 12, 14]             Remaining Characters in load Cell File Name; Not Loaded
      [ 17, 17]  2          Type
      [ 19, 23]  0.980      Relative Gain - MON_DEFL_DEV_CONFIG.LOAD_CELL_REL_GAIN
      [ 25, 29]  87.6       Absolute Gain - MON_DEFL_DEV_CONFIG.LOAD_CELL_INIT_GAIN
      [ 31, 36] -0.72       Unbalanced Zero; Not Loaded
      [ 38, 44]  7.229      Shunt Value; Not Loaded

7.    Deflection Sensors - LIN 5201 - 5218
      5201,"2181    ",4,0.998,1.014

      [  1,  4]  5201       LIN Number - Representing Sensor Number
      [  1,  2]  52         First two Digits of LIN
      [  3,  4]  01         Sensor Number - MON_DEFL_DEV_SENSORS.SENSOR_NO
                            LTPP Standard Setup 1, 2, 3, ... 9
      [  7, 14]  2181       Deflection Sensor File Name, Deflection Sensor Serial Number
                            - MON_DEFL_DEV_SENSORS.SENSOR_SERIAL_NO
                            Equal to NA if Sensor Not Active.
      [ 17, 17]  4          Type; Not Loaded
      [ 19, 23]  0.998      Relative Gain - MON_DEFL_DEV_SENSORS.RELATIVE_GAIN
      [ 25, 29]  1.014      Absolute Gain - MON_DEFL_DEV_SENSORS.INITIAL_GAIN

    LIN 5202...5218 (lines 8..24) same format as LIN 5201

25.   Load Plate Radius and X Positions of Deflection Sensors - LIN 5020
      5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0   ,..

      [  6, 11]  150        Load Plate Radius- MON_DEFL_DEV_CONFIG.PLATE_RADIUS
      [ 13, 18]  0          X-Position Sensor 1 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
                            MON_DEFL_DEV_SENSORS.SENSOR_NO=1
      [ 20, 25]  203        X-Position Sensor 2 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
                            MON_DEFL_DEV_SENSORS.SENSOR_NO=2
      [ 27, 32]  305        X-Position Sensor 3 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
                            MON_DEFL_DEV_SENSORS.SENSOR_NO=3
      [ 34, 39]  457        X-Position Sensor 4 - MON_DEFL_DEV_SENSORS.CENTER_OFFSET for
```

MON_DEFL_DEV_SENSORS.SENSOR_NO=4

```
      .
      .
      .
[132,137]  NO          X-Position Sensor 18 - NO - Not Active; Not Loaded
```

26. Load Plate Diameter of Plate and Y-Positions of Deflection Sensors - LIN 5021

```
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0    ,..

[  6, 11]  300         Load Plate Diameter; Not Loaded
[ 13, 18]  0           Y - Position of Sensor 1; Not Loaded
[ 20, 25]  0           Y - Position of Sensor 2; Not Loaded
[ 27, 32]  0           Y - Position of Sensor 3; Not Loaded
      .
      .
[132,137] NO           Y - Position of Sensor 18, Not Loaded
```

27. "Other" Physicals - LIN 5022

```
5022,0, 200, 192,   50,  100,  200,  390

[  6,  6]  0           Plate Type: 0=Standard  1=Split Plate; Not Loaded
[  8, 11]  200         Loading Mass; Not Loaded
[ 13, 16]  192         Mass (sensed); Not Loaded
[ 18, 22]  50          Load Height ONE; Not Loaded
[ 24, 28]  100         Load Height TWO; Not Loaded
[ 30, 34]  200         Load Height THREE; Not Loaded
[ 36, 40]  390         Load Height FOUR; Not Loaded
```

28. Station and Lane Information - LIN 5023

```
5023,1,3,2,       8,     481,     481,       1,     328,1,1

[  6,  6]  1           Station is: 0=Alpha  1=Numeric; Not Loaded
[  8,  8]  3           Numeric Station is: 1=Real, 2=Location, 3=DMI, 4=DMI Rounded;
                       Not Loaded
[ 10, 10]  2           Step Mode: 0=None, 1=Fixed, 2=Logical; Not Loaded
[ 12, 19]  8           Min Station; Not Loaded
[ 21, 28]  481         Max Station; Not Loaded
[ 30, 37]  481         Previous Station; Not Loaded
[ 39, 46]  1           Station Step; Not Loaded
[ 48, 55]  328         DMI Rounding; Not Loaded
[ 57, 57]  1           Lane is: 0=Alpha  1=Numeric; Not Loaded
[ 59, 59]  1           Numeric Lane is:  1=Real  2=Location; Not Loaded
```

29. Test Setup Options - LIN 5024

```
5024,0,0,0,1,0,1,     3, 2.0,     2, 3.0,0,0,0, 120

[  6,  6]  0           Station Prompt; Not Loaded
[  8,  8]  0           Temperature Prompt(s); Not Loaded
[ 10, 10]  0           Condition Prompt; Not Loaded
[ 12, 12]  1           Reject Prompt; Not Loaded
[ 14, 14]  0           Decrease Check; Not Loaded
[ 16, 16]  1           Roll Off Check; Not Loaded
[ 18, 23]  3           Pressure Variation; Not Loaded
[ 25, 28]  2.0         Pressure Variation %; Not Loaded
[ 30, 35]  2           Deflection Variation; Not Loaded
[ 37, 40]  3.0         Deflection Variation %; Not Loaded
[ 42, 42]  0           Temperatures "Keep"; Not Loaded
[ 44, 44]  0           Smoothing, Used to determine MON_DEFL_MASTER.FILTER_MODE
[ 46, 46]  0           History Smoothing, Used to determine
                       MON_DEFL_MASTER.FILTER_MODE
[ 48, 51]  120         Cut off (Hz), Used to determine MON_DEFL_MASTER.FILTER_MODE
```

30. No of Sequences, Drops total - LIN 5029

```
      5029,      20,     240,     134,    2579
      [  6, 13]  20          Sequences stored in file; Not Loaded
      [ 15, 22]  240         Drops stored in file; Not Loaded
      [ 24, 31]  134         Total No Sequences Run by Program with this Rig; Not Loaded
      [ 33, 40]  2579        Total No Drops Run by Program with this Rig; Not Loaded

31.   Operator Name - LIN 5030
      5030,"Mike Esposito                    "

      [  7, 38]  Mike Espos.. Operators Name - MON_DEFL_MASTER.OPERATOR

32.   LTPP FWD File Name - LIN 5031
      5031,"060811C3"

      [ 7, 14] 060811C3      LTPP FWD Data File Name; Not Loaded

33.   LTPP STATE_CODE & SHRP_ID - LIN 7924

      7924,"060811"

      [  7,  8]  06          LTPP STATE_CODE, used in MON_DEFL_MASTER, MON_DEFL_LOC_INFO,
                             and MON_DEFL_DROP_DATA
      [  9, 12]  0811        LTPP SHRP_ID,  used in MON_DEFL_MASTER, MON_DEFL_LOC_INFO,
                             and MON_DEFL_DROP_DATA

34.   Subsection Id - LIN 5032
      5032,"SYCAMORE,CA SPS-8  KM 103+80.0              "

      [  7, 51] SYCAMOR...  Roadway ID and Description - MON_DEFL_MASTER.ROADWAY_ID

35.   Operator File Comment - LIN 7920

      7920,"060811                                      "
      [  7, 51]  060811...  Operator File Comment; Not Loaded
```

Lines 36 (LIN 5301), 37 (LIN 5302), and 38 (LIN 5303) present the "Station Information" at the time of file closing. These LIN have the same format as those presented for the test data below. The data from these LIN entries in the header are not loaded into the IMS.

```
36.   Station Id for NUMERIC type Station and Lane - LIN 5301 (This LIN in the header
      potion of the data file is not loaded)

      5301,2,1,3,5,      15,1,1,   0.000,1999,11,08,17,32,"J5","13"

      [  6,  6]  2           Side of Road
      [  8,  8]  1           Station
      [ 10, 10]  3           Numeric Station
      [ 12, 12]  5           Location
      [ 14, 21]  15          Station
      [ 23, 23]  1           Alpha/Numeric Lane
      [ 25, 25]  1           Numeric Lane
      [ 27, 34]  0.000       Lane
      [ 36, 45]  1999,11,08  Date
      [ 36, 39]  1999        Year
      [ 41, 42]  11          Month
      [ 44, 45]  08          Day
      [ 47, 51]  17,32       Time
      [ 47, 48]  17          Hour
      [ 50, 51]  32          Minute
      [ 54, 55]  J5          LTPP LANE_NO Code
      [ 59, 60]  13          LTPP CRACK_JOINT_OPEN_WIDTH, mm
```

37. Comment Codes - LIN 5302 (This LIN in the header potion of the data file is not loaded)

```
5302,0,1,8,2,0,0,0,0

[  6,  6]  0          Weather
[  8,  8]  1          Sunlight
[ 10, 10]  8          Pavement
[ 12, 12]  2          Cracks
[ 14, 14]  0          E
[ 16, 16]  0          F
[ 18, 18]  0          G
[ 20, 20]  0          H
```

38. Temperatures - LIN 5303 (This LIN in the header potion of the data file is not loaded)

```
5303,0,  0.0, 16.7, 18.3

[  6,  6]  0          Temperature Units Code: 0= Deg C, 1= Deg F
[  8, 12]  0.0        Asphalt
[ 14, 18]  16.7       Pavement Surface
[ 20, 24]  18.3       Air
```

Lines 37..40 are the most recently used Comments 1..4.

39. Most Recently Used Comment 1 - LIN 5041

```
5041,"                                                "
[  7, 51]             Comment 1, Not Loaded
```

40. Air Temperature Sensor Calibration Voltage at 0 Deg C - LIN 8672

```
8672,2698

[  6,  9]  2698       Air Temperature Sensor Voltage @ 0 Deg C, milli-volts,
                      MON_DEFL_DEV_CONFIG.AIR_SENSOR_VOLTAGE_0C
```

41. Air Temperature Sensor Calibration Voltage at 100 Deg C - LIN 8673

```
8673,3708

[  6,  9]  3708       Air Temperature Sensor Voltage @ 100 Deg C, milli-Volts,
                      MON_DEFL_DEV_CONFIG.AIR_SENSOR_VOLTAGE_100C
```

42. Pavement Surface Temperature Sensor Calibration Voltage at 0 Deg C - LIN 8682

```
8682,1259

[  6,  9]  1259       Pavement Surface Temperature Sensor Voltage @ 0 Deg C, milli-
                      volts, MON_DEFL_DEV_CONFIG.PVMT_SENSOR_VOLTAGE_0C
```

43. Pavement Surface Temperature Sensor Calibration Voltage at 100 Deg C - LIN 8683

```
8683,4217

[  6,  9]  4217       Pavement Surface Temperature Sensor Voltage @ 100 Deg C,
                      milli-volts, MON_DEFL_DEV_CONFIG.PVMT_SENSOR_VOLTAGE_100C
```

44. Most Recently Used Comment 2 - LIN 5042

```
      5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.       "

      [  7, 51] NO OBVIOUS... Operator Comment 2, (This LIN in the header potion of the
                              data file is not loaded)

45.   Most Recently Used Comment 3 - LIN 5043

      5043,"                                                                          "

      [  7, 82]               Operator Comment 3, Not Loaded

46.   Most Recently Used Comment 4 - LIN 5044

      5044,"                                                                          "

      [  7, 82]               Operator Comment 4, Not Loaded
```

Test Data

In the test data portion of the file, test data are stored in chronological order in repeating data blocks which contain measurements at each test point or station. The number of data lines in each data group varies depending on the test setup and the operators use of the optional Crack/Joint opening measurement field. The test data are arranged in the following groups:

```
      Optional Crack/Joint Opening Measurement - LIN 7925
      Station Information - LIN 5301, 5302, and 5303
      Operator Comment - LIN 7902
      FWD Peak Load and Deflection Measurements
      Time History Blocks - LIN 5185
```

Station Information

Unless the LIN 7925 option was used, each block of test data typically begins with three lines of station information. The first line of station information data always has a LIN of 5301.

LIN 5301 Station Id for NUMERIC type Station and Lane -

```
      5301,2,1,3,5,       8,1,1,   0.000,1999,11,08,16,24,"J4","13"

      [  6,  6]  2          Side of Road; Not Loaded
      [  8,  8]  1          Station is: 0=Alpha  1=Numeric; Not Loaded
      [ 10, 10]  3          Numeric Station is: 1=Real, 2=Location, 3=DMI, 4=DMI Rounded;
                            Not Loaded
      [ 12, 12]  5          Location      2=Meters    ; Not Loaded
                                          3=km
                                          4=km extended
                                          5=Feet, LTPP Standard
                                          6=Yards
                                          7=Miles
                                          8=Miles extended
                                          9=Miles.feet
      [ 14, 21]  8          Station, converted to meters and loaded as POINT_LOC in
                            MON_DEFL_LOC_INFO and MON_DEFL_DROP_DATA for all records for
                            this station (POINT_LOC)
      [ 23, 23]  1          Alpha/Numeric Lane, 0=Alpha  1=Numeric; Not Loaded
```

```
      [ 25, 25]  1           Numeric Lane,  1=Real  2=Location; Not Loaded
      [ 27, 34]  0.000       Lane; Not Loaded
      [ 36, 45]  1999,11,08  Date, loaded as TEST_DATE in MON_DEFL_LOC_INFO and
                             MON_DEFL_DROP_DATA for all records for this station
                             (POINT_LOC).
      [ 36, 39]  1999        Year
      [ 41, 42]  11          Month
      [ 44, 45]  08          Day
      [ 47, 51]  16,24       Time, loaded as TEST_TIME in MON_DEFL_LOC_INFO and
                             MON_DEFL_DROP_DATA for all records for this station
                             (POINT_LOC).
      [ 47, 48]  16          Hour, 00 - 24
      [ 50, 51]  24          Minute, 00-59
      [ 54, 55]  J4          LTPP LANE_NO Code, Loaded as LANE_NO in MON_DEFL_LOC_INFO and
                             MON_DEFL_DROP_DATA for all records for this station
                             (POINT_LOC).
      [ 59, 60]  13          LTPP CRACK_JOINT_OPEN_WIDTH, mm, loaded as
                             MON_DEFL_LOC_INFO.CRACK_JOINT_OPEN_WIDTH

LIN 5302    Comment Codes - LIN 5302 (Data from this LIN are not loaded)

      5302,0,1,8,2,0,0,0,0

      [  6,  6]  0           Weather Code; Not Loaded
      [  8,  8]  1           Sunlight Code; Not Loaded
      [ 10, 10]  8           Pavement Code; Not Loaded
      [ 12, 12]  2           Cracks Code; Not Loaded
      [ 14, 14]  0           E; Not Loaded
      [ 16, 16]  0           F; Not Loaded
      [ 18, 18]  0           G; Not Loaded
      [ 20, 20]  0           H; Not Loaded

LIN 5303    Temperatures - LIN 5303

      5303,0,  0.0, 20.2, 21.7

      [  6,  6]  0           Temperature Units Code: 0= Deg C, 1= Deg F; Not Loaded
      [  8, 12]  0.0         Asphalt; Not Loaded
      [ 14, 18]  20.2        Pavement Surface Temperature, loaded as
                             MON_DEFL_LOC_INFO.PVMT_SURF_TEMP
      [ 20, 24]  21.7        Air Temperature, loaded as MON_DEFL_LOC_INFO.AIR_TEMP_TEST

LIN 7901 - Pre-Test Operator Comment

      7901,"                                                "

      [  7, 51]      Pre Test Operator Comment, not loaded into IMS

LIN 7902 - Post-Test Operator Comment

      7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.       "

      [  7, 51] NO OBVIOUS... Operator Comment, Loaded as MON_DEFL_LOC_INFO.COMMENTS_1
```

FWD Peak Load and Deflection Measurements

The lines which contain FWD peak load and deflection values use the LIN object field as a sequence step number. Its value corresponds to the drop number in the load sequence at the test location. (Which is not the same as the value stored as DROP_NO in the IMS.) For most LTPP data, the LIN will start with 4, since 3 seating drops are normally performed prior to recording the deflection and load measurements. (Note, for some LANE_NO codes, only two seating drops are performed.) The following example data are 4 repeat drops from two drop

heights. The number of drop heights, repeat drops, and order of drop height varies depending on the LANE_NO.

```
 4,   572,   209,   194,   179,   159,   140,   109,    85,    68,   169
 5,   575,   210,   195,   181,   160,   141,   110,    86,    68,   170
 6,   579,   212,   196,   182,   161,   142,   111,    86,    69,   171
 7,   575,   211,   195,   181,   160,   141,   110,    86,    68,   170
 8,   771,   276,   258,   239,   210,   185,   144,   111,    90,   223
 9,   775,   278,   260,   241,   212,   185,   145,   112,    90,   225
10,   775,   279,   259,   241,   212,   186,   145,   113,    90,   225
11,   778,   279,   260,   241,   212,   186,   145,   112,    90,   226
 .
 .
 .
```

[1, 4]	4	Sequence Step No is LIN, Used to compute values for DROP_NO and DROP_HEIGHT in **MON_DEFL_DROP_DATA**
[6, 11]	572	Peak Load (pressure) (kPa), loaded as **MON_DEFL_DROP_DATA.**DROP_LOAD
[13, 18]	209	Peak Deflection Sensor 1, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_1
[20, 25]	194	Peak Deflection Sensor 2, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_2
[27, 32]	179	Peak Deflection Sensor 3, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_3
[34, 39]	159	Peak Deflection Sensor 4, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_4
[41, 46]	140	Peak Deflection Sensor 5, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_5
[48, 53]	109	Peak Deflection Sensor 6, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_6
[55, 60]	85	Peak Deflection Sensor 7, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_7
[62, 67]	68	Peak Deflection Sensor 8, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_8
[69, 74]	169	Peak Deflection Sensor 9, microns, loaded as **MON_DEFL_DROP_DATA.**PEAK_DEFL_9
[75, *]		If more than 9 sensors are used on the FWD, the deflection values are repeated in the same sequence. For LTPP, 9 is the maximum number of sensors used.

Time History Blocks

```
5185,2,1,3,5,       8,1,1,   0.000,1999,11,08,16,24, 7,1100, 100,         0
```

[6, 6]	2	Side of Road; Not Loaded
[8, 8]	1	Station is: 0=Alpha 1=Numeric; Not Loaded
[10, 10]	3	Numeric Station is: 1=Real, 2=Location, 3=DMI, 4=DMI Rounded; Not Loaded
[12, 12]	5	Location 2=Meters ; Not Loaded 3=km 4=km extended 5=Feet, **LTPP Standard** 6=Yards 7=Miles 8=Miles extended 9=Miles.feet
[14, 21]	8	Station, not loaded from this LIN type
[23, 23]	1	Alpha/Numeric Lane, 0=Alpha 1=Numeric; Not Loaded
[25, 25]	1	Numeric Lane, 1=Real 2=Location; Not Loaded
[27, 34]	0.000	Lane; Not Loaded
[36, 45]	1999,11,08	Date, not loaded from this LIN type
[36, 39]	1999	Year
[41, 42]	11	Month
[44, 45]	08	Day
[47, 51]	16,24	Time, not loaded from this LIN type
[47, 48]	16	Hour, 00 - 24
[50, 51]	24	Minute, 00-59
[53, 54]	7	Sequence Step, used to match sequence step in peak load and deflection data lines in order to load value for **MON_DEFL_DROP_DATA**.HISTORY_STORED
[56, 59]	1100	Line Count (Samples per Channel)constant for all time history data contained in the file, loaded once for each data file as **MON_DEFL_MASTER**.NO_HISTORY_STEPS
[61, 64]	100	Time step (uSec 'per Line'), constant for all time history data contained in the file, loaded once for each data file as **MON_DEFL_MASTER**.HISTORY_TIME_STEP
[66, 75]	0	File Position, -1=time history stored as ASCII in this file, ≥ 0 line number in binary history file, Not Loaded

Standard LTPP protocol for FWD testing using Dyan25 is to store time history data in a separate binary file. In this case, File Position should be ≥ 0. If the File Position is -1, the time history data is stored in this file, following the reference LIN 5185. The number of lines of time history data correspond to the value specified in Line Count in LIN 5185. The time history data are stored in the same format in the peak load and deflection measurements discussed above, with the exception that the LIN value starts with 1001 and is incremented by one for each successive line. If the time history data are stored in this file, the filter program should not load the values.

Complete Fwd *.F25 File Used in Annotated Format Description

```
5001,25.11,1,46, 4, 1,"Aug 2000        "
5002,"25SIN   ","8002-061","9000-323"
5003,"OPERATOR","3-RGD_LT"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,11,08,17,32,1,"Mon",312
5200,"F0201   ",2,0.980, 87.6, -0.72,  7.229
5201,"2181    ",4,0.998,1.014
5202,"2182    ",4,0.996,1.032
5203,"2183    ",4,0.997,1.041
5204,"2184    ",4,0.998,1.024
5205,"2185    ",4,0.996,1.009
5206,"2186    ",4,1.001,1.000
5207,"3092    ",4,1.000,1.038
5208,"3458    ",4,0.997,0.987
5209,"3459    ",4,0.999,1.008
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0    ,N0    ,N0    ,N0    ,N0    ,N0
  ,N0    ,N0    ,N0
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0    ,N0    ,N0    ,N0    ,N0    ,N0
  ,N0    ,N0    ,N0
5022,0, 200, 192,   50,  100,  200,  390
5023,1,3,2,       8,     481,     481,       1,     328,1,1
5024,0,0,0,1,0,1,     3, 2.0,     2, 3.0,0,0,0, 120
5029,      20,     240,     134,    2579
5030,"Bill Murray                  "
5031,"060811C3"
7924,"060811"
5032,"SYCAMORE,CA SPS-8  KM 103+80.0              "
7920,"060811                                     "
5301,2,1,3,5,      15,1,1,   0.000,1999,11,08,17,32,"J5","13"
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, 16.7, 18.3
5041,"                                           "
8672,2698
8673,3708
8682,1259
8683,4217
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.     "
5043,"                                                                  "
5044,"                                                                  "
5301,2,1,3,5,       8,1,1,   0.000,1999,11,08,16,24,"J4","13"
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, 20.2, 21.7
7901,"                                           "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.     "
   4,   572,   209,   194,   179,   159,   140,   109,    85,    68,   169
   5,   575,   210,   195,   181,   160,   141,   110,    86,    68,   170
   6,   579,   212,   196,   182,   161,   142,   111,    86,    69,   171
   7,   575,   211,   195,   181,   160,   141,   110,    86,    68,   170
   8,   771,   276,   258,   239,   210,   185,   144,   111,    90,   223
   9,   775,   278,   260,   241,   212,   185,   145,   112,    90,   225
  10,   775,   279,   259,   241,   212,   186,   145,   113,    90,   225
  11,   778,   279,   260,   241,   212,   186,   145,   112,    90,   226
  12,  1010,   355,   331,   307,   271,   237,   184,   142,   115,   286
  13,  1011,   355,   334,   309,   269,   236,   184,   142,   114,   291
  14,  1014,   358,   334,   310,   272,   238,   185,   143,   115,   290
  15,  1012,   357,   332,   308,   273,   238,   185,   143,   115,   287
5185,2,1,3,5,       8,1,1,   0.000,1999,11,08,16,24, 7,1100, 100,         0
5185,2,1,3,5,       8,1,1,   0.000,1999,11,08,16,24,11,1100, 100,     11064
5185,2,1,3,5,       8,1,1,   0.000,1999,11,08,16,24,15,1100, 100,     22128
5301,2,1,3,5,       9,1,1,   0.000,1999,11,08,16,28,"J5","13"
```

The following portion of this appendix contains example data files, generated using the FWD simulator program, which are typical of the different LTPP FWD test patterns. (Note that the section ID numbers are fictitious.) Each data set only contains only one station and the data on LIN's 5020 and 5021 have been truncated for better legibility. (The files also contain intentional misspellings to replicate real-world conditions)

Example data file 1 - Typical output from flexible pavement test setup
Example data file 2 - Typical output from rigid pavement basin/edge test setup
Example data file 3 - Typical output from rigid pavement load transfer test setup
Example data file 4 - Typical output from P059 base test setup
Example data file 5 - Typical output from P059 subgrade test setup
Example data file 6 - Typical output from SPS-3 test setup
Example data file 7 - Typical output from SPS-4 test setup

Example data file 1 - Typical output from flexible pavement test setup

```
5001,25.11,1,46, 4, 1,"Aug 2000        "
5002,"25SIN   ","8002-129","9000-316"
5003,"OPERATOR   ","1-FLEX  "
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,10,26,16,25,2,"Wed",299
5200,"F0183   ",2,1.010, 89.9,  0.02,  7.133
5201,"1881    ",4,1.004,1.020
5202,"1882    ",4,1.001,1.014
5203,"1883    ",4,1.003,1.020
5204,"1884    ",4,1.001,1.011
5205,"1885    ",4,0.999,1.006
5206,"1892    ",4,0.998,1.049
5207,"1887    ",4,0.999,1.008
5208,"1890    ",4,1.000,1.024
5209,"1891    ",4,1.001,1.011
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0
5022,0, 200, 199,   50,  100,  200,  390
5023,1,3,2,N0      ,N0      ,N0      ,   0.100,     328,1,1
5024,0,0,0,1,1,1,     3, 2.0,     2, 1.0,0,0,0, 120
5029,       1,      16,     364,    6227
5030,"Bill Murray                "
5031,"991000a2"
7924,"991000"
5032,"I-75, SOUTHBOUND                              "
7920,"Testing Filter file format for SAIC           "
5301,2,1,3,5,  181062,1,1,     0.0,1999,10,26,16,25,"C1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.3
5041,"                                              "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.        "
5043,"                                                          "
5044,"                                                          "
5301,2,1,3,5,  181062,1,1,   0.000,1999,10,26,16,25,"F1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.3
7901,"                                              "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS         "
   4,   595,   458,   403,   380,   339,   292,   209,   127,    42,   378
   5,   595,   463,   409,   381,   336,   295,   212,   127,    42,   381
   6,   606,   464,   408,   374,   335,   293,   208,   127,    42,   381
   7,   605,   458,   409,   381,   336,   295,   210,   126,    42,   380
   8,   846,   655,   575,   540,   472,   420,   294,   179,    59,   535
   9,   851,   658,   576,   539,   475,   416,   300,   177,    59,   534
  10,   852,   657,   569,   536,   478,   415,   295,   179,    59,   540
  11,   854,   658,   574,   529,   473,   416,   299,   177,    59,   539
  12,  1209,   931,   816,   763,   668,   584,   422,   254,    84,   749
  13,  1208,   925,   812,   755,   668,   592,   424,   250,    84,   761
  14,  1194,   924,   811,   756,   675,   591,   419,   250,    84,   753
  15,  1190,   924,   808,   750,   674,   592,   419,   251,    84,   763
  16,  1684,  1288,  1125,  1062,   934,   814,   585,   355,   118,  1055
  17,  1668,  1289,  1131,  1059,   938,   823,   590,   354,   117,  1057
  18,  1680,  1286,  1129,  1054,   943,   824,   583,   355,   116,  1052
  19,  1690,  1290,  1135,  1064,   942,   820,   588,   350,   118,  1055
5185,2,1,3,5,  181062,1,1,   0.000,1999,10,26,16,25, 7,1100, 100,         0
5185,2,1,3,5,  181062,1,1,   0.000,1999,10,26,16,25,11,1100, 100,     11064
```

```
5185,2,1,3,5,  181062,1,1,   0.000,1999,10,26,16,25,15,1100, 100,     22128
5185,2,1,3,5,  181062,1,1,   0.000,1999,10,26,16,25,19,1100, 100,     33192
```

Example data file 2 - Typical output from rigid pavement basin/edge test setup

```
5001,25.11,1,46, 4, 1,"Aug 2000        "
5002,"25SIN   ","8002-129","9000-316"
5003,"OPERATOR     ","2-RGD_BE"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,10,26,16,05,2,"Tue",299
5200,"F0183   ",2,1.010, 89.9,  0.02,  7.127
5201,"1881    ",4,1.004,1.020
5202,"1882    ",4,1.001,1.014
5203,"1883    ",4,1.003,1.020
5204,"1884    ",4,1.001,1.011
5205,"1885    ",4,0.999,1.006
5206,"1892    ",4,0.998,1.049
5207,"1887    ",4,0.999,1.008
5208,"1890    ",4,1.000,1.024
5209,"1891    ",4,1.001,1.011
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0
5022,0, 200, 196,   50,  100,  200,  390
5023,1,3,2,  176150,  176150,  176150,       0,     328,1,1
5024,0,0,0,1,0,1,     3, 2.0,     2, 1.0,0,0,0, 120
5029,       1,      12,     364,    6227
5030,"Bill Murray                    "
5031,"48sa98a2"
7924,"481057"
5032,"I-75, SOUTHBOUND                                "
7920,"testing SHRP ID and file naming convention  "
5301,2,1,3,5,  176150,1,1,   0.000,1999,10,26,16,05,"C1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.6
5041,"CORNER/EDGE                                    "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.      "
5043,"                                                          "
5044,"                                                          "
5301,2,1,3,5,  176150,1,1,   0.000,1999,10,26,16,05,"C1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.7
7901,"                                               "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.      "
   4,   848,   659,   577,   534,   471,   418,   296,   177,    59,   539
   5,   855,   653,   572,   534,   474,   417,   297,   179,    60,   538
   6,   848,   654,   576,   533,   473,   415,   299,   179,    59,   540
   7,   841,   651,   579,   534,   476,   419,   298,   178,    59,   531
   8,  1212,   924,   807,   753,   674,   592,   420,   250,    84,   751
   9,  1196,   927,   818,   762,   668,   584,   422,   251,    84,   752
  10,  1189,   932,   815,   750,   675,   582,   421,   253,    84,   752
  11,  1210,   930,   815,   756,   676,   591,   418,   252,    85,   757
  12,  1689,  1297,  1130,  1058,   932,   818,   585,   352,   117,  1065
  13,  1682,  1297,  1146,  1053,   931,   819,   584,   355,   117,  1053
  14,  1662,  1291,  1135,  1057,   934,   816,   586,   356,   117,  1058
  15,  1672,  1288,  1141,  1065,   942,   822,   587,   355,   117,  1046
5185,2,1,3,5,  176150,1,1,   0.000,1999,10,26,16,05, 7,1100, 100,    132768
5185,2,1,3,5,  176150,1,1,   0.000,1999,10,26,16,05,11,1100, 100,    143832
5185,2,1,3,5,  176150,1,1,   0.000,1999,10,26,16,05,15,1100, 100,    154896
```

Example data file 3 - Typical output from rigid pavement load transfer test setup

```
5001,25.11,1,46, 4, 1,"Aug 2000        "
5002,"25SIN   ","8002-059","9000-316"
5003,"OPERATOR","3-RGD_LT"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,10,28,16,05,4,"Wed",301
5200,"F0201   ",2,1.000, 87.6,  0.03,  7.140
5201,"2181    ",4,1.001,1.014
5202,"2182    ",4,1.001,1.032
5203,"2183    ",4,1.002,1.041
5204,"2184    ",4,1.000,1.024
5205,"2185    ",4,0.997,1.009
5206,"2186    ",4,1.000,1.000
5207,"2187    ",4,1.001,0.986
5208,"2188    ",4,0.999,1.012
5209,"0811    ",4,1.000,1.067
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,NO
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0
5022,0, 200, 205,   50,  100,  200,  390
5023,1,3,2,N0      ,N0      ,N0      ,   0.100,     328,1,1
5024,0,0,0,1,0,1,     3, 2.0,     2, 1.0,0,0,0, 120
5029,       2,      24,       0,       0
5030,"Bill Murray                    "
5031,"992000a1"
7924,"481057"
5032,"I-75, SOUTHBOUND                          "
7920,"Testing Filter file output test for SAIC    "
5301,2,1,3,5,   44389,1,1,     0.0,1999,10,28,16,05,"F1","2 "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, 39.3, 20.3
5041,"                                          "
8672,2730
8673,3730
8682, 800
8683,2080
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.      "
5043,"                                                    "
5044,"                                                    "
5301,2,1,3,5,   44389,1,1,   0.000,1999,10,26,15,56,"J1","2 "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, 39.2, 20.1
7901,"                                          "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.      "
   4,   843,   660,   575,   531,   478,   419,   297,   178,    60,   534
   5,   850,   656,   573,   538,   475,   412,   298,   179,    60,   531
   6,   853,   660,   578,   537,   472,   417,   295,   180,    60,   540
   7,   843,   651,   572,   539,   474,   417,   298,   177,    59,   540
   8,  1201,   930,   807,   751,   675,   587,   422,   252,    83,   759
   9,  1198,   918,   811,   751,   677,   593,   418,   250,    84,   758
  10,  1207,   928,   816,   758,   674,   582,   423,   252,    84,   759
  11,  1204,   933,   806,   763,   667,   592,   417,   251,    84,   758
  12,  1678,  1288,  1126,  1065,   932,   816,   591,   353,   118,  1056
  13,  1670,  1287,  1128,  1048,   948,   824,   591,   352,   118,  1055
  14,  1672,  1280,  1138,  1052,   930,   825,   591,   355,   118,  1046
  15,  1673,  1296,  1129,  1064,   932,   817,   582,   352,   118,  1045
5185,2,1,3,5,   44389,1,1,   0.000,1999,10,26,15,56, 7,1100, 100,         0
5185,2,1,3,5,   44389,1,1,   0.000,1999,10,26,15,56,11,1100, 100,     11064
5185,2,1,3,5,   44389,1,1,   0.000,1999,10,26,15,56,15,1100, 100,     22128
```

Example data file 4 - Typical output from P059 base test setup

```
5001,25.11,1,46, 4, 1,"Aug 2000       "
5002,"25SIN   ","8002-129","9000-316"
5003,"OPERATOR        ","PO59_BAS"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,10,26,16,10,2,"Wed",299
5200,"F0183   ",2,1.010, 89.9,  0.02,  7.126
5201,"1881    ",4,1.004,1.020
5202,"1882    ",4,1.001,1.014
5203,"1883    ",4,1.003,1.020
5204,"1884    ",4,1.001,1.011
5205,"1885    ",4,0.999,1.006
5206,"1892    ",4,0.998,1.049
5207,"1887    ",4,0.999,1.008
5208,"1890    ",4,1.000,1.024
5209,"1891    ",4,1.001,1.011
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0
5022,0, 200, 204,   50,  100,  200,  390
5023,1,3,2,N0      ,N0      ,N0      ,   0.100,     328,1,1
5024,0,0,0,1,0,0,     3, 2.0,     2, 1.0,0,0,0, 120
5029,       1,       8,     364,    6227
5030,"Bill Murray           "
5031,"993000a2"
7924,"993000"
5032,"I-75, SOUTHBOUND                          "
7920,"Testing Filter file format for SAIC       "
5301,2,1,3,5,  176470,1,1,     0.0,1999,10,26,16,10,"C1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.6, 17.6
5041,"no comment                                "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"THE BITTER END-NO OBVIOUS DISTRESS        "
5043,"                                                      "
5044,"                                                      "
5301,2,1,3,5,  176470,1,1,   0.000,1999,10,26,16,10,"S1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.6, 17.6
7901,"                                          "
7902,"THE BITTER END-NO OBVIOUS DISTRESS        "
   2,   604,   464,   402,   380,   336,   293,   208,   127,    42,   374
   3,   598,   464,   410,   379,   335,   293,   212,   126,    42,   378
   4,   847,   651,   570,   531,   471,   418,   296,   179,    59,   532
   5,   843,   649,   577,   539,   476,   412,   296,   180,    59,   536
   6,  1212,   916,   814,   760,   671,   592,   419,   253,    84,   749
   7,  1199,   924,   817,   749,   667,   592,   421,   253,    85,   762
   8,  1666,  1302,  1125,  1059,   941,   821,   582,   355,   117,  1060
   9,  1665,  1299,  1136,  1047,   937,   814,   592,   354,   118,  1055
5185,2,1,3,5,  176470,1,1,   0.000,1999,10,26,16,10, 3,1100, 100,         0
5185,2,1,3,5,  176470,1,1,   0.000,1999,10,26,16,10, 5,1100, 100,     11064
5185,2,1,3,5,  176470,1,1,   0.000,1999,10,26,16,10, 7,1100, 100,     22128
5185,2,1,3,5,  176470,1,1,   0.000,1999,10,26,16,10, 9,1100, 100,     33192
```

Example data file 5 - Typical output from P059 subgrade test setup

```
5001,25.11,1,46, 4, 1,"Aug 2000        "
5002,"25SIN   ","8002-129","9000-316"
5003,"OPERATOR   ","PO59_SUB"
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,10,26,16,13,2,"Wed",299
5200,"F0183   ",2,1.010, 89.9,  0.02,  7.128
5201,"1881    ",4,1.004,1.020
5202,"1882    ",4,1.001,1.014
5203,"1883    ",4,1.003,1.020
5204,"1884    ",4,1.001,1.011
5205,"1885    ",4,0.999,1.006
5206,"1892    ",4,0.998,1.049
5207,"1887    ",4,0.999,1.008
5208,"1890    ",4,1.000,1.024
5209,"1891    ",4,1.001,1.011
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0
5022,0, 200, 203,   50,  100,  200,  390
5023,1,3,2,N0      ,N0      ,N0      ,   0.100,     328,1,1
5024,0,0,0,1,1,0,     3, 2.0,     2, 1.0,0,0,0, 120
5029,       1,       8,     364,    6227
5030,"Bill Murray                   "
5031,"994000a2"
7924,"994000"
5032,"I-75, SOUTHBOUND                              "
7920,"Testing Filter file format for SAIC           "
5301,2,1,3,5,  177734,1,1,     0.0,1999,10,26,16,13,"C1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.4
5041,"no comment                                    "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"THE BITTER END-NO OBVIOUS DISTRESS            "
5043,"                                                        "
5044,"                                                        "
5301,2,1,3,5,  177734,1,1,   0.000,1999,10,26,16,13,"S1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.4
7901,"                                              "
7902,"THE BITTER END-NO OBVIOUS DISTRESS            "
   2,   602,   466,   406,   378,   340,   292,   209,   126,    42,   380
   3,   595,   463,   409,   378,   334,   295,   208,   127,    42,   381
   4,   848,   647,   571,   536,   479,   412,   297,   180,    60,   538
   5,   853,   660,   571,   531,   477,   418,   295,   177,    60,   535
   6,  1200,   923,   807,   761,   677,   583,   421,   254,    84,   756
   7,  1198,   924,   816,   760,   670,   583,   421,   251,    83,   756
   8,  1667,  1280,  1138,  1063,   936,   818,   587,   355,   118,  1054
   9,  1662,  1299,  1129,  1046,   936,   827,   591,   352,   117,  1054
5185,2,1,3,5,  177734,1,1,   0.000,1999,10,26,16,13, 3,1100, 100,         0
5185,2,1,3,5,  177734,1,1,   0.000,1999,10,26,16,13, 5,1100, 100,     11064
5185,2,1,3,5,  177734,1,1,   0.000,1999,10,26,16,13, 7,1100, 100,     22128
5185,2,1,3,5,  177734,1,1,   0.000,1999,10,26,16,13, 9,1100, 100,     33192
```

Example data file 6 - Typical output from SPS-3 test setup

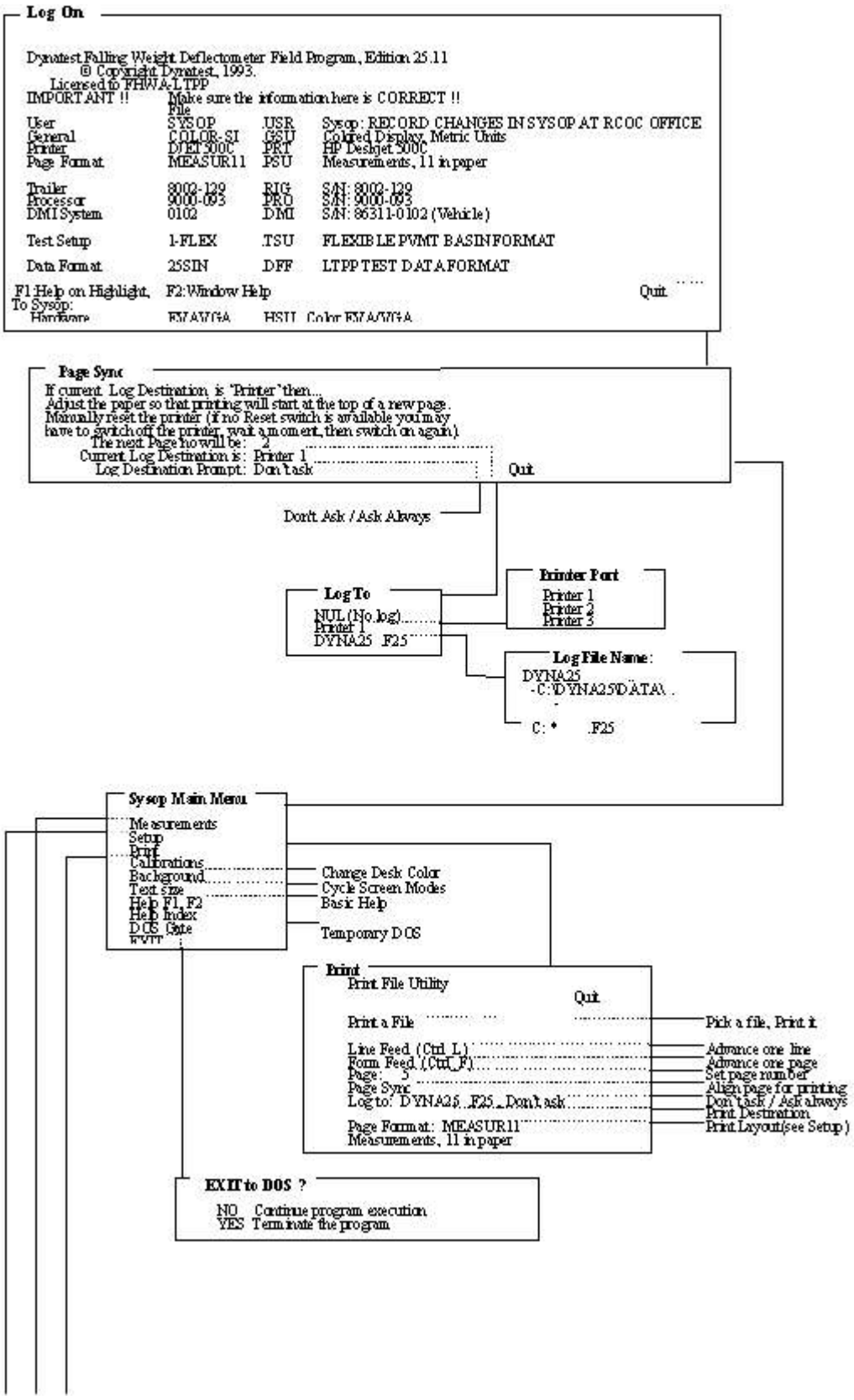
```
5001,25.11,1,46, 4, 1,"Aug 2000        "
5002,"25SIN   ","8002-129","9000-316"
5003,"OPERATOR   ","SPS-3    "
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,0,1,"H25"
5011,0,1,1999,10,26,16,17,2,"Wed",299
5200,"F0183   ",2,1.010, 89.9,  0.02,  7.130
5201,"1881    ",4,1.004,1.020
5202,"1882    ",4,1.001,1.014
5203,"1883    ",4,1.003,1.020
5204,"1884    ",4,1.001,1.011
5205,"1885    ",4,0.999,1.006
5206,"1892    ",4,0.998,1.049
5207,"1887    ",4,0.999,1.008
5208,"1890    ",4,1.000,1.024
5209,"1891    ",4,1.001,1.011
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0
5022,0, 200, 205,   50,  100,  200,  390
5023,1,3,2,N0      ,N0      ,N0      ,   0.100,     328,1,1
5024,0,0,0,1,1,1,     3, 2.0,     2, 1.0,0,0,0, 120
5029,       1,      12,     364,    6227
5030,"Bill Murray                    "
5031,"995000a2"
7924,"995000"
5032,"I-75, SOUTHBOUND                              "
7920,"Testing Filter file format for SAIC           "
5301,2,1,3,5,  179142,1,1,     0.0,1999,10,26,16,17,"C1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.7
5041,"                                              "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.        "
5043,"                                                          "
5044,"                                                          "
5301,2,1,3,5,  179142,1,1,   0.000,1999,10,26,16,17,"F1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.7
7901,"                                              "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.        "
   4,   604,   463,   406,   378,   334,   296,   212,   125,    42,   380
   5,   597,   462,   405,   378,   338,   296,   209,   125,    42,   376
   6,   595,   462,   404,   375,   337,   296,   210,   126,    42,   381
   7,   853,   652,   570,   538,   473,   412,   296,   180,    60,   534
   8,   845,   653,   573,   536,   475,   417,   299,   179,    59,   535
   9,   851,   651,   572,   534,   478,   417,   295,   180,    59,   533
  10,  1210,   924,   813,   762,   675,   587,   421,   250,    85,   756
  11,  1192,   921,   814,   761,   672,   584,   420,   250,    84,   759
  12,  1208,   931,   807,   751,   676,   585,   419,   251,    83,   762
  13,  1683,  1280,  1138,  1046,   941,   822,   590,   350,   118,  1063
  14,  1681,  1290,  1141,  1061,   933,   819,   592,   352,   118,  1061
  15,  1669,  1293,  1126,  1053,   936,   820,   588,   355,   118,  1061
5185,2,1,3,5,  179142,1,1,   0.000,1999,10,26,16,17, 6,1100, 100,         0
5185,2,1,3,5,  179142,1,1,   0.000,1999,10,26,16,17, 9,1100, 100,     11064
5185,2,1,3,5,  179142,1,1,   0.000,1999,10,26,16,17,12,1100, 100,     22128
5185,2,1,3,5,  179142,1,1,   0.000,1999,10,26,16,17,15,1100, 100,     33192
```

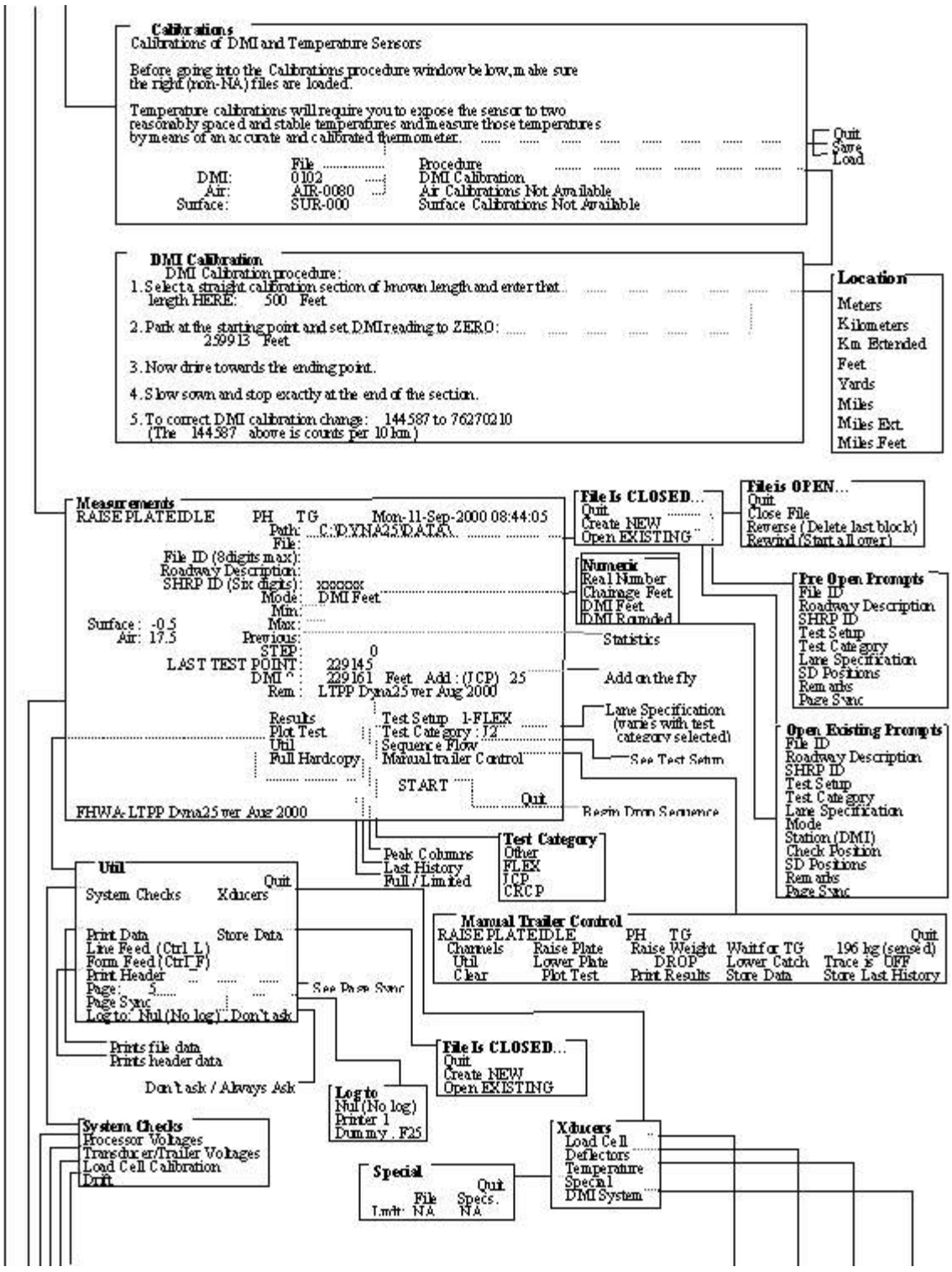
Example data file 7 - Typical output from SPS-4 test setup

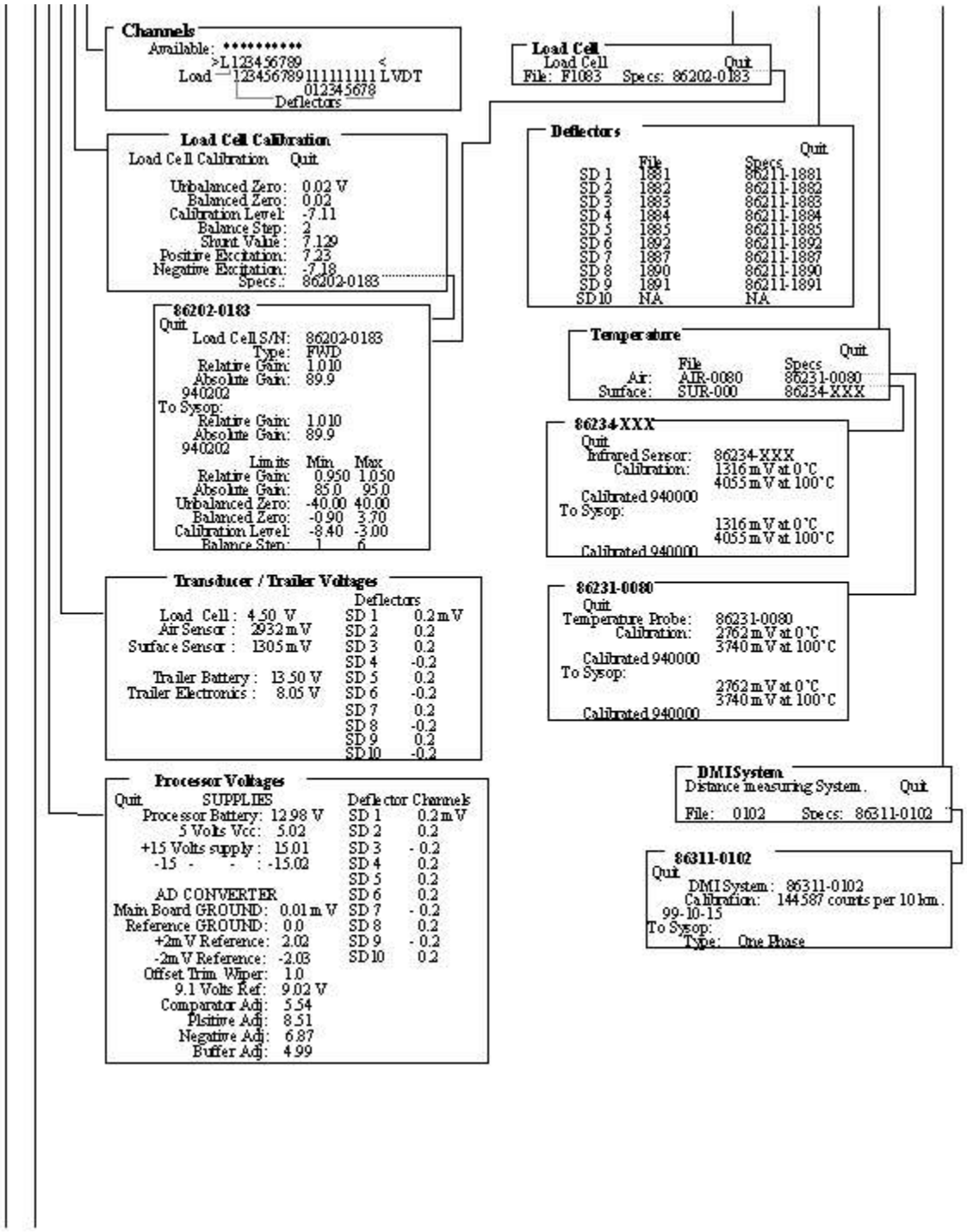
```
5001,25.11,1,46, 4, 1,"Aug 2000        "
5002,"25SIN   ","8002-129","9000-316"
5003,"OPERATOR          ","SPS-4   "
5010,0,0,0,0,0,0,0,5,1,0,0,0,0,0,1,0,0,0,0,1,"H25"
5011,0,1,1999,10,26,16,20,2,"Wed",299
5200,"F0183   ",2,1.010, 89.9,  0.02,  7.128
5201,"1881    ",4,1.004,1.020
5202,"1882    ",4,1.001,1.014
5203,"1883    ",4,1.003,1.020
5204,"1884    ",4,1.001,1.011
5205,"1885    ",4,0.999,1.006
5206,"1892    ",4,0.998,1.049
5207,"1887    ",4,0.999,1.008
5208,"1890    ",4,1.000,1.024
5209,"1891    ",4,1.001,1.011
5210,"NA      ",0,0.000,0.000
5211,"NA      ",0,0.000,0.000
5212,"NA      ",0,0.000,0.000
5213,"NA      ",0,0.000,0.000
5214,"NA      ",0,0.000,0.000
5215,"NA      ",0,0.000,0.000
5216,"NA      ",0,0.000,0.000
5217,"NA      ",0,0.000,0.000
5218,"NA      ",0,0.000,0.000
5020,   150,     0,   203,   305,   457,   610,   914,  1219,  1524,  -305,N0
5021,   300,     0,     0,     0,     0,     0,     0,     0,     0,     0,N0
5022,0, 200, 201,   50,  100,  200,  390
5023,1,3,2,N0      ,N0      ,N0      ,   0.100,     328,1,1
5024,0,0,0,1,0,1,     3, 2.0,     2, 1.0,0,0,0, 120
5029,       1,       9,     364,    6227
5030,"Bill Murray                    "
5031,"996000a2"
7924,"996000"
5032,"I-75, SOUTHBOUND                              "
7920,"Testing Filter file format for SAIC           "
5301,2,1,3,5,  180374,1,1,     0.0,1999,10,26,16,20,"C1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.7
5041,"                                              "
8672,2762
8673,3740
8682,1316
8683,4055
5042,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.        "
5043,"                                                          "
5044,"                                                          "
5301,2,1,3,5,  180374,1,1,   0.000,1999,10,26,16,20,"J1","  "
5302,0,1,8,2,0,0,0,0
5303,0,  0.0, -0.5, 17.7
7901,"                                              "
7902,"NO OBVIOUS DISTRESS AT TEST LOCATIONS.        "
   4,   595,   466,   408,   381,   336,   291,   209,   126,    42,   375
   5,   600,   466,   409,   381,   338,   297,   209,   125,    42,   381
   6,   596,   458,   409,   378,   336,   294,   209,   127,    42,   375
   7,   850,   658,   571,   534,   475,   416,   299,   179,    59,   530
   8,   851,   651,   569,   534,   473,   412,   298,   180,    59,   533
   9,   848,   659,   577,   534,   471,   418,   296,   177,    59,   539
  10,  1209,   923,   808,   755,   671,   590,   420,   253,    84,   761
  11,  1199,   925,   814,   753,   669,   587,   422,   253,    84,   763
  12,  1189,   921,   819,   756,   672,   592,   422,   252,    84,   751
```

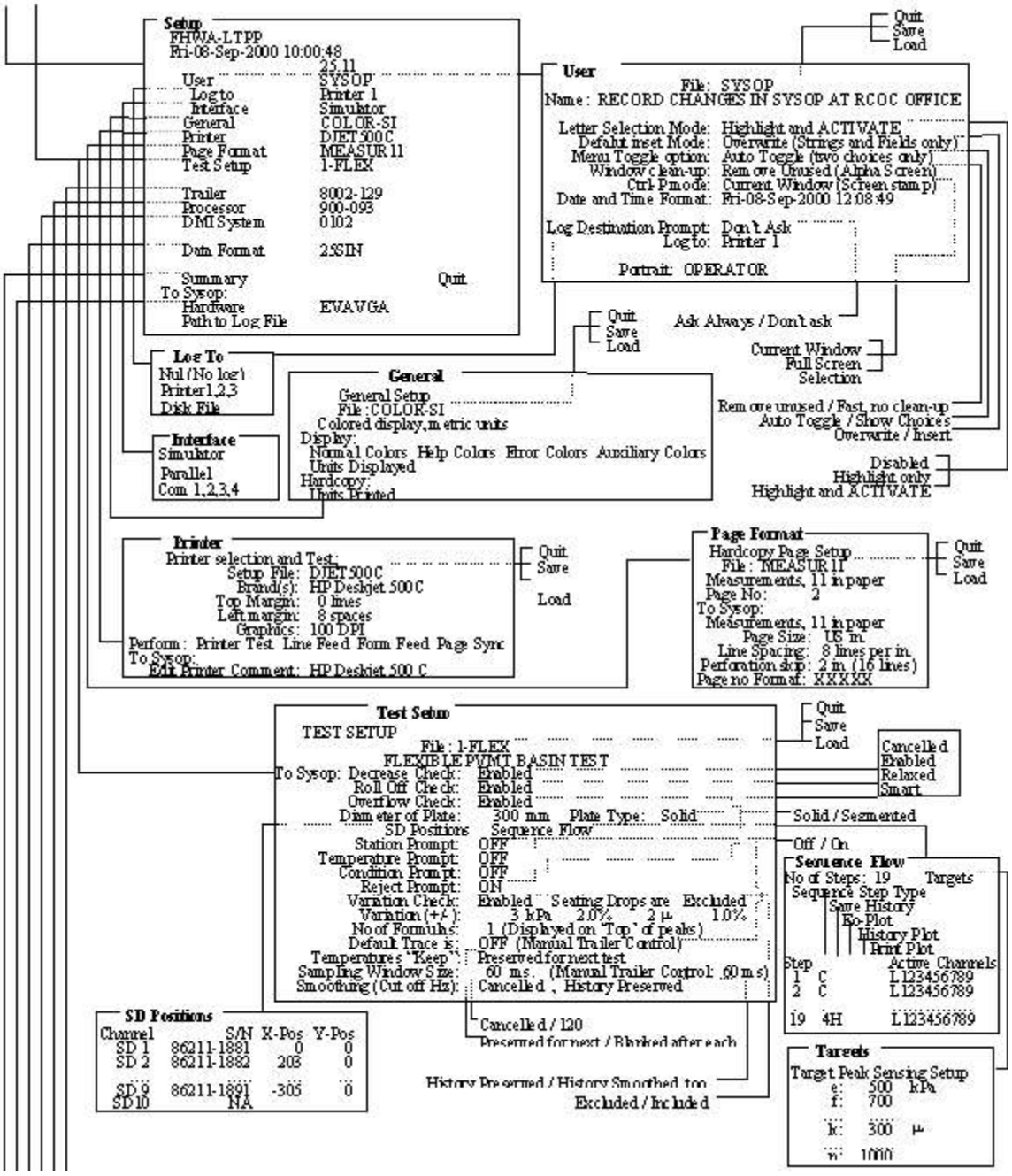
APPENDIX H

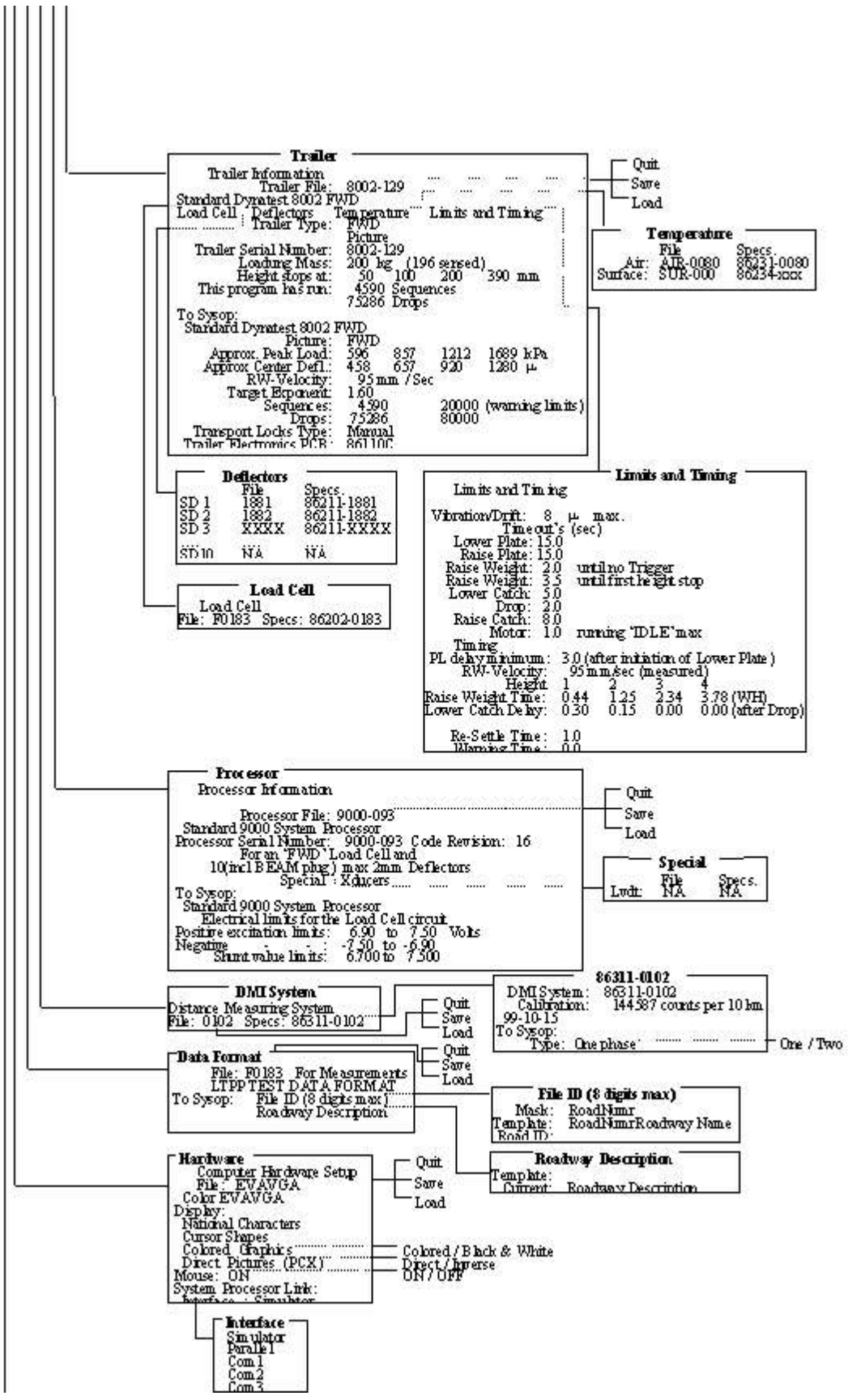
EXAMPLE DYNA25 PROGRAM SCHEMA

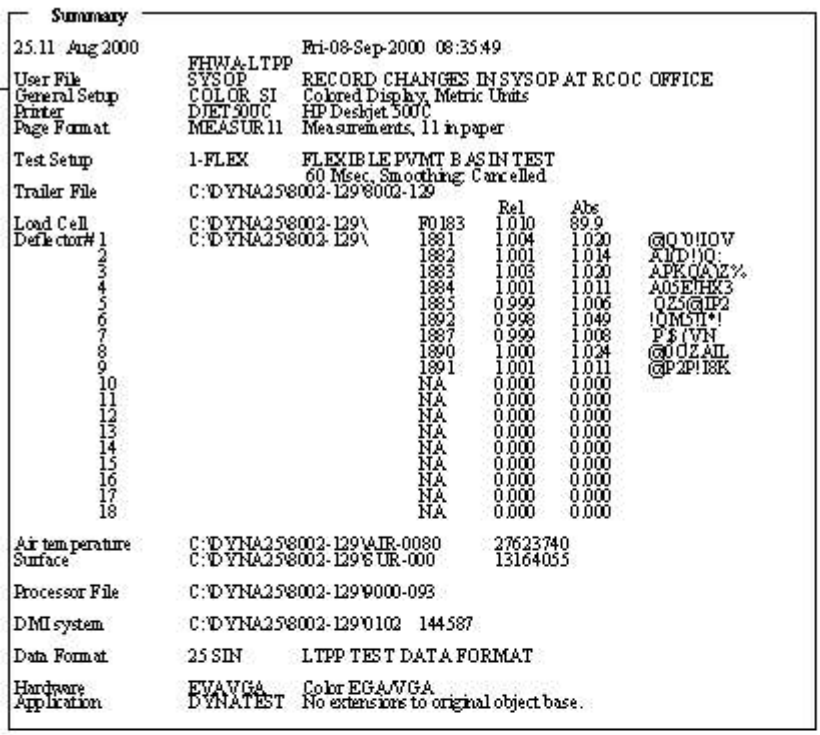

Log On
Dynatest Falling Weight Deflectometer Field Program, Edition 25.11
© Copyright Dynatest, 1993.
Licensed to FHWA-LTPP
IMPORTANT !! Make sure the information here is CORRECT !!
File
User SYSOP .USR Sysop: RECORD CHANGES IN SYSOP AT RCOC OFFICE
General COLOR-SI .GSU Colored Display, Metric Units
Printer DJET 500C .PRT HP Deskjet 500C
Page Format MEASUR11 .PSU Measurements, 11 in paper
Trailer 8002-129 .RIG S/N: 8002-129
Processor 9000-093 .PRO S/N: 9000-093
DMI System 0102 .DMI S/N: 86311-0102 (Vehicle)
Test Setup 1-FLEX .TSU FLEXIBLE PVMT BASIN FORMAT
Data Format 25SIN .DFF LTPP TEST DATA FORMAT
F1:Help on Highlight, F2:Window Help Quit
To Sysop:
Hardware F5/A/W/4A HSU Color F5/A/W/4A
Page Sync
If current Log Destination is "Printer" then...
Adjust the paper so that printing will start at the top of a new page.
Manually reset the printer (if no Reset switch is available you may
have to switch off the printer, wait a moment, then switch on again).
The next Page No will be: 2
Current Log Destination is: Printer 1
Log Destination Prompt: Don't ask
Quit
Don't Ask / Ask Always
Log To
NUL (No log)
Printer 1
DYNA25 .F25
Printer Port
Printer 1
Printer 2
Printer 3
Log File Name:
DYNA25
C:\DYNA25\DATA\
C: * .F25
Sysop Main Menu
Measurements
Setup
Print
Calibrations
Background
Text size
Help F1, F2
Help Index
DOS Gate
EXIT
Change Desk Color
Cycle Screen Modes
Basic Help
Temporary DOS
Print
Print File Utility
Quit
Print a File
Line Feed (Ctrl_L)
Form Feed (Ctrl_F)
Page: 3
Page Sync
Log to: DYNA25 .F25 Don't ask
Page Format: MEASUR11
Measurements, 11 in paper
Pick a file, Print it
Advance one line
Advance one page
Set page number
Align page for printing
Don't ask / Ask always
Print Destination
Print Layout (see Setup)
EXIT to DOS ?
NO Continue program execution
YES Terminate the program


Calibrations
Calibrations of DMI and Temperature Sensors
Before going into the Calibrations procedure window below, make sure the right (non-NA) files are loaded.
Temperature calibrations will require you to expose the sensor to two reasonably spaced and stable temperatures and measure those temperatures by means of an accurate and calibrated thermometer.
File
Procedure
DMI: 0102 DMI Calibration
Air: AIR-0080 Air Calibrations Not Available
Surface: SUR-000 Surface Calibrations Not Available
Quit
Save
Load
DMI Calibration
DMI Calibration procedure:
1. Select a straight calibration section of known length and enter that length HERE: 500 Feet
2. Park at the starting point and set DMI reading to ZERO: 259913 Feet
3. Now drive towards the ending point.
4. Slow down and stop exactly at the end of the section.
5. To correct DMI calibration change: 144587 to 76270210
(The 144587 above is counts per 10 km.)
Location
Meters
Kilometers
Km Extended
Feet
Yards
Miles
Miles Ext.
Miles Feet
Measurements
RAISE PLATE IDLE PH TG Mon-11-Sep-2000 08:44:05
Path: C:\DYNA25\DATA\
File:
File ID (8 digits max):
Roadway Description:
SHRP ID (Six digits): xxxxxx
Mode: DMI Feet
Min:
Max:
Surface: -0.5
Air: 17.5
Previous:
STEP: 0
LAST TEST POINT: 229145
DMI *: 229161 Feet Add: (JCP) 25
Rem: LTPP Dyna25 ver Aug 2000
Results
Plot Test
Util
Full Hardcopy
Test Setup 1-FLEX
Test Category: J2
Sequence Flow
Manual trailer Control
START
Quit
FHWA-LTPP Dyna25 ver Aug 2000
File Is CLOSED...
Quit
Create NEW
Open EXISTING
File is OPEN...
Quit
Close File
Reverse (Delete last block)
Rewind (Start all over)
Numeric
Real Number
Chainage Feet
DMI Feet
DMI Rounded
Statistics
Add on the fly
Lane Specification (varies with test category selected)
See Test Setup
Begin Drop Sequence
Pre Open Prompts
File ID
Roadway Description
SHRP ID
Test Setup
Test Category
Lane Specification
SD Positions
Remarks
Page Sync
Open Existing Prompts
File ID
Roadway Description
SHRP ID
Test Setup
Test Category
Lane Specification
Mode
Station (DMI)
Check Position
SD Positions
Remarks
Page Sync
Peak Columns
Last History
Full / Limited
Test Category
Other
FLEX
JCP
CRCP
Util
Quit
System Checks
Xducers
Print Data
Store Data
Line Feed (Ctrl_L)
Form Feed (Ctrl_F)
Print Header
Page: 5
Page Sync
Log to: Nul (No log), Don't ask
See Page Sync
Prints file data
Prints header data
Don't ask / Always Ask
Manual Trailer Control
RAISE PLATE IDLE PH TG Quit
Channels
Raise Plate
Raise Weight
Wait for TG
196 kg (sensed)
Util
Lower Plate
DROP
Lower Catch
Trace is OFF
Clear
Plot Test
Print Results
Store Data
Store Last History
File Is CLOSED...
Quit
Create NEW
Open EXISTING
Log to
Nul (No log)
Printer 1
Dummy.F25
System Checks
Processor Voltages
Transducer/Trailer Voltages
Load Cell Calibration
Drift
Special
Quit
File
Specs.
Limit: NA
NA
Xducers
Load Cell
Deflectors
Temperature
Special
DMI System


Channels
Available: **********
>L123456789 <
Load 123456789111111111 LVDT
012345678
Deflectors
Load Cell
Load Cell Quit
File: F1083 Specs: 86202-0183
Load Cell Calibration
Load Cell Calibration Quit
Unbalanced Zero: 0.02 V
Balanced Zero: 0.02
Calibration Level: -7.11
Balance Step: 2
Shunt Value: 7.129
Positive Excitation: 7.23
Negative Excitation: -7.18
Specs.: 86202-0183
Deflectors
Quit
File Specs
SD 1 1881 86211-1881
SD 2 1882 86211-1882
SD 3 1883 86211-1883
SD 4 1884 86211-1884
SD 5 1885 86211-1885
SD 6 1892 86211-1892
SD 7 1887 86211-1887
SD 8 1890 86211-1890
SD 9 1891 86211-1891
SD10 NA NA
86202-0183
Quit
Load Cell S/N: 86202-0183
Type: FWD
Relative Gain: 1.010
Absolute Gain: 89.9
940202
To Sysop:
Relative Gain: 1.010
Absolute Gain: 89.9
940202
Limits Min Max
Relative Gain: 0.950 1.050
Absolute Gain: 85.0 95.0
Unbalanced Zero: -40.00 40.00
Balanced Zero: -0.90 3.70
Calibration Level: -8.40 -3.00
Balance Step: 1 6
Temperature
Quit
File Specs
Air: AIR-0080 86231-0080
Surface: SUR-000 86234-XXX
86234-XXX
Quit
Infrared Sensor: 86234-XXX
Calibration: 1316 mV at 0°C
4055 mV at 100°C
Calibrated 940000
To Sysop:
1316 mV at 0°C
4055 mV at 100°C
Calibrated 940000
Transducer / Trailer Voltages
Load Cell : 4.50 V
Air Sensor : 2932 mV
Surface Sensor : 1305 mV
Trailer Battery : 13.50 V
Trailer Electronics : 8.05 V
Deflectors
SD 1 0.2 mV
SD 2 0.2
SD 3 0.2
SD 4 -0.2
SD 5 0.2
SD 6 -0.2
SD 7 0.2
SD 8 -0.2
SD 9 0.2
SD10 -0.2
86231-0080
Quit
Temperature Probe: 86231-0080
Calibration: 2762 mV at 0°C
3740 mV at 100°C
Calibrated 940000
To Sysop:
2762 mV at 0°C
3740 mV at 100°C
Calibrated 940000
Processor Voltages
Quit
SUPPLIES
Processor Battery: 12.98 V
5 Volts Vcc: 5.02
+15 Volts supply : 15.01
-15 - - : -15.02
AD CONVERTER
Main Board GROUND: 0.01 mV
Reference GROUND: 0.0
+2mV Reference: 2.02
-2mV Reference: -2.03
Offset Trim Wiper: 1.0
9.1 Volts Ref: 9.02 V
Comparator Adj: 5.54
Plsitive Adj: 8.51
Negative Adj: 6.87
Buffer Adj: 4.99
Deflector Channels
SD 1 0.2 mV
SD 2 0.2
SD 3 - 0.2
SD 4 0.2
SD 5 0.2
SD 6 0.2
SD 7 - 0.2
SD 8 0.2
SD 9 - 0.2
SD10 0.2
DMISystem
Distance measuring System. Quit
File: 0102 Specs: 86311-0102
86311-0102
Quit
DMI System: 86311-0102
Calibration: 144587 counts per 10 km.
99-10-15
To Sysop:
Type: One Phase


Setup
FHWA-LTPP
Fri-08-Sep-2000 10:00:48
25.11
User SYSOP
Log to Printer 1
Interface Simulator
General COLOR-SI
Printer DJET500C
Page Format MEASUR11
Test Setup 1-FLEX
Trailer 8002-129
Processor 900-093
DMI System 0102
Data Format 2SSIN
Summary
Quit
To Sysop:
Hardware EVAVGA
Path to Log File
Quit
Save
Load
User
File: SYSOP
Name: RECORD CHANGES IN SYSOP AT RCOC OFFICE
Letter Selection Mode: Highlight and ACTIVATE
Default inset Mode: Overwrite (Strings and Fields only)
Menu Toggle option: Auto Toggle (two choices only)
Window clean-up: Remove Unused (Alpha Screen)
Ctrl-P mode: Current Window (Screen stamp)
Date and Time Format: Fri-08-Sep-2000 12:08:49
Log Destination Prompt: Don't Ask
Log to: Printer 1
Portrait: OPERATOR
Ask Always / Don't ask
Current Window
Full Screen
Selection
Remove unused / Fast, no clean-up
Auto Toggle / Show Choices
Overwrite / Insert
Disabled
Highlight only
Highlight and ACTIVATE
Log To
Nul (No log)
Printer1,2,3
Disk File
Interface
Simulator
Parallel
Com 1,2,3,4
General
General Setup
File: COLOR-SI
Colored display, metric units
Display:
Normal Colors Help Colors Error Colors Auxiliary Colors
Units Displayed
Hardcopy:
Units Printed
Printer
Printer selection and Test:
Setup File: DJET500C
Brand(s): HP Deskjet 500C
Top Margin: 0 lines
Left margin: 8 spaces
Graphics: 100 DPI
Perform: Printer Test Line Feed Form Feed Page Sync
To Sysop:
Edit Printer Comment: HP Deskjet 500 C
Page Format
Hardcopy Page Setup
File: MEASUR11
Measurements, 11 in paper
Page No: 2
To Sysop:
Measurements, 11 in paper
Page Size: US in
Line Spacing: 8 lines per in
Perforation skip: 2 in (16 lines)
Page no Format: XXXXX
Test Setup
TEST SETUP
File: 1-FLEX
FLEXIBLE PVMT BASIN TEST
To Sysop: Decrease Check: Enabled
Roll Off Check: Enabled
Overflow Check: Enabled
Diameter of Plate: 300 mm Plate Type: Solid
SD Positions Sequence Flow
Station Prompt: OFF
Temperature Prompt: OFF
Condition Prompt: OFF
Reject Prompt: ON
Variation Check: Enabled Seating Drops are Excluded
Variation (+/-): 3 kPa 2.0% 2 µ 1.0%
No of Formulas: 1 (Displayed on 'Top' of peaks)
Default Trace is: OFF (Manual Trailer Control)
Temperatures "Keep": Preserved for next test
Sampling Window Size: 60 ms. (Manual Trailer Control: 60 ms)
Smoothing (Cut off Hz): Cancelled , History Preserved
Cancelled / 120
Preserved for next / Blanked after each
History Preserved / History Smoothed too
Excluded / Included
Quit
Save
Load
Cancelled
Enabled
Relaxed
Smart
Solid / Segmented
Off / On
Sequence Flow
No of Steps: 19 Targets
Sequence Step Type
Save History
Ko-Plot
History Plot
Print Plot
Step Active Channels
1 C L123456789
2 C L123456789
19 4H L123456789
SD Positions
Channel S/N X-Pos Y-Pos
SD 1 86211-1881 0 0
SD 2 86211-1882 203 0
SD 9 86211-1891 -305 0
SD10 NA
Targets
Target Peak Sensing Setup
e: 500 kPa
f: 700
k: 300 µ
w: 1000


Trailer
Trailer Information
Trailer File: 8002-129
Standard Dynatest 8002 FWD
Load Cell | Deflectors | Temperature | Limits and Timing
Trailer Type: FWD
Picture
Trailer Serial Number: 8002-129
Loading Mass: 200 kg (196 sensed)
Height stops at: 50 100 200 390 mm
This program has run: 4590 Sequences
75286 Drops
To Sysop:
Standard Dynatest 8002 FWD
Picture: FWD
Approx. Peak Load: 596 857 1212 1689 kPa
Approx. Center Defl.: 458 657 920 1280 µ
RW-Velocity: 95 mm / Sec
Target Exponent: 1.60
Sequences: 4590 20000 (warning limits)
Drops: 75286 80000
Transport Locks Type: Manual
Trailer Electronics PCB: 861100
Quit
Save
Load
Temperature
File Specs.
Air: AIR-0080 86233-0080
Surface: SUR-000 86234-xxxx
Deflectors
File Specs.
SD 1 1881 86211-1881
SD 2 1882 86211-1882
SD 3 XXXX 86211-XXXX
SD 10 NA NA
Load Cell
Load Cell
File: F0183 Specs: 86202-0183
Limits and Timing
Limits and Timing
Vibration/Drift: 8 µ max.
Time out's (sec)
Lower Plate: 15.0
Raise Plate: 15.0
Raise Weight: 2.0 until no Trigger
Raise Weight: 3.5 until first height stop
Lower Catch: 5.0
Drop: 2.0
Raise Catch: 8.0
Motor: 1.0 running "IDLE" max
Timing
PL delay minimum: 3.0 (after initiation of Lower Plate)
RW-Velocity: 95 mm/sec (measured)
Height 1 2 3 4
Raise Weight Time: 0.44 1.25 2.34 3.78 (WH)
Lower Catch Delay: 0.30 0.15 0.00 0.00 (after Drop)
Re-Settle Time: 1.0
Warning Time: 0.0
Processor
Processor Information
Processor File: 9000-093
Standard 9000 System Processor
Processor Serial Number: 9000-093 Code Revision: 16
For an "FWD" Load Cell and
10(incl BEAM plug) max 2mm Deflectors
Special Xducers
To Sysop:
Standard 9000 System Processor
Electrical limits for the Load Cell circuit
Positive excitation limits: 6.90 to 7.50 Volts
Negative : -7.50 to -6.90
Shunt value limits: 6.700 to 7.500
Quit
Save
Load
Special
File Specs.
Ludt: NA NA
DMI System
Distance Measuring System
File: 0102 Specs: 86311-0102
Quit
Save
Load
86311-0102
DMI System: 86311-0102
Calibration: 144587 counts per 10 km
99-10-15
To Sysop:
Type: One phase
One / Two
Data Format
File: F0183 For Measurements
LTPP TEST DATA FORMAT
To Sysop: File ID (8 digits max)
Roadway Description
Quit
Save
Load
File ID (8 digits max)
Mask: RoadNumr
Template: RoadNumrRoadway Name
Road ID:
Roadway Description
Template:
Current: Roadway Description
Hardware
Computer Hardware Setup
File: EVAVGA
Color EVAVGA
Display:
National Characters
Cursor Shapes
Colored Graphics
Direct Pictures (PCX)
Mouse: ON
System Processor Link:
Interface: Simulator
Quit
Save
Load
Colored / Black & White
Direct / Inverse
ON / OFF
Interface
Simulator
Parallel
Com 1
Com 2
Com 3



Summary

25.11 Aug 2000 Fri-08-Sep-2000 08:35:49

	FHWA-LTPP					
User File	SYSOP	RECORD CHANGES IN SYSOP AT RCOC OFFICE				
General Setup	COLOR_SI	Colored Display, Metric Units				
Printer	DJET500C	HP Deskjet 500C				
Page Format	MEASUR11	Measurements, 11 in paper				
Test Setup	1-FLEX	FLEXIBLE PVMT BASIN TEST 60 Msec, Smoothing: Cancelled				
Trailer File	C:\DYNA25\8002-129\8002-129					
				Rel	Abs	
Load Cell	C:\DYNA25\8002-129\		F0183	1.010	89.9	
Deflector# 1	C:\DYNA25\8002-129\		1881	1.004	1.020	@Q'0!IOV
2			1882	1.001	1.014	A!D!)Q:
3			1883	1.003	1.020	APKQA)Z%
4			1884	1.001	1.011	A05ETHK3
5			1885	0.999	1.006	QZ5@IP2
6			1892	0.998	1.049	!QM5T*!
7			1887	0.999	1.008	P$(VN
8			1890	1.000	1.024	@0QZAIL
9			1891	1.001	1.011	@P2P!I8K
10			NA	0.000	0.000	
11			NA	0.000	0.000	
12			NA	0.000	0.000	
13			NA	0.000	0.000	
14			NA	0.000	0.000	
15			NA	0.000	0.000	
16			NA	0.000	0.000	
17			NA	0.000	0.000	
18			NA	0.000	0.000	
Air temperature	C:\DYNA25\8002-129\AIR-0080			27623740		
Surface	C:\DYNA25\8002-129\SUR-000			13164055		
Processor File	C:\DYNA25\8002-129\9000-093					
DMI system	C:\DYNA25\8002-129\0102 144587					
Data Format	25 SIN	LTPP TEST DATA FORMAT				
Hardware	EVAVGA	Color EGA/VGA				
Application	DYNATEST	No extensions to original object base.				

APPENDIX I

STANDARD FWD FORMS

LTPP FWD Monitoring Temperature Measurements - Form F01	Region [__ __] State Code [__ __] LTPP Section ID [__ __ __ __]

AGENCY _____ TESTING _____

LTPP EXPERIMENT CODE _____ ROUTE/HIGHWAY NUMBER _____

TESTING DATE _____ SHEET NUMBER _____ FIELD SET NO. _____

LOCATION STATION _____

DEPTH	D_1 =	D_2 =	D_3 =	D_4 =	D_5 =	WEATHER CONDITIONS
TIME	T_1(°C)	T_2(°C)	T_3(°C)	T_4(°C)	T_5(°C)	

LOCATION STATION _____

DEPTH	D_1 =	D_2 =	D_3 =	D_4 =	D_5 =	WEATHER CONDITIONS
TIME	T_1(°C)	T_2(°C)	T_3(°C)	T_4(°C)	T_5(°C)	

NOTES: 1) D_i = DEPTH BELOW PAVEMENT SURFACE, MILLIMETER
2) T_i = TEMPERATURE AT DEPTH i, °C
3) D_4 AND D_5 ONLY FOR GPS-7 IN ACCORDANCE WITH FIGURE 6 OF THE FWD MANUAL
4) USE ONLY THESE WEATHER TERMS: SUNNY, PARTLY CLOUDY, CLOUDY, RAIN, NIGHT

TEST COMPLETED

_____ ____/___/_____ _____
FWD OPERATOR MONTH/DAY/YEAR AFFILIATION

FORM F01/ISSUED 15 OCTOBER 1999

LTPP FWD Monitoring Field Activity Report - Form F02	Region [__ __] State Code [__ __] LTPP Section ID [__ __ __ __]

AGENCY _____ TESTING _____

LTPP EXPERIMENT CODE _____ ROUTE/HIGHWAY NUMBER _____

TESTING DATE _____ SHEET NUMBER _____ FIELD SET NO. _____

FWD AND TOW VEHICLE BEFORE OPERATION CHECKS _____ (initial)

	TIME	ODOMETER
START TRAVEL		
END TRAVEL		
READY TO TEST		
TRAFFIC CONTROL READY		
BEGIN TESTING		
END TESTING		
START TRAVEL		
END TRAVEL		

DOWN TIME _____ HOURS REASON(S) _____

_____

_____

NUMBER OF TESTS:	BASIN	JT/CRACK
TP		
OWP		
PE		
ML		

ADDITIONAL REMARKS REGARDING TESTING _____

_____

_____

FIELD SAMPLING AND TESTING CREW

NAMES: _____

_____

_____

_____

_____

TRAFFIC CONTROL CREW

AGENCY: _____

NAMES: _____

_____

_____

_____

COPIES: RCOC

FORM F02/ISSUED 15 OCTOBER 1999FORM F03/ISSUED 15 OCTOBER 1999

LTPP FWD Monitoring Load Plate Buffer Shape - Form F04	Region [__ __]

Deflection Unit ID: [_ _ _ _ _ _ _ _ _ _ _ _]

Buffer Shape: [_] see the following code

Assign Date: [_ _ / _ _ _ / _ _ _ _]

De-assign Date: [_ _ / _ _ _ / _ _ _ _]

Code	Description
1	**Flat** - 100 mm diameter, flat (90°) buffers
2	**Fully Rounded** - 100 mm diameter, "knife" cut variable cone shaped (45°) buffers
3	**Semi-Rounded** - 110 mm diameter, tapered (60°) buffers
9	**Unknown** - buffer shape is unknown

LTPP TEMPERATURE SENSOR CHECK (TSC) FORM

RCO: _____ Date: _____

FWD Operator Name: _____ FWD SN: _____

Air Temperature SN: _____

Assistant's Names: _____ IR SN: _____

_____ Thermometer SN: _____

Check Location: Office / Field If Field, Where? _____

Initial Air Temp. (C) _____ Initial IR Temperature (C) _____

COLD TEMPERATURE TEST					
Step No. 4 - A	**IR Sensor (C)**	**Mercury Therm. (C)**	**Diff.**	**P or F**	**Acceptable?**
Reading 1					Yes
Reading 2					No
Reading 3 (if Necessary)					
Step No. 4 - B	**Air Temp Sensor (C)**	**Mercury Therm. (C)**	**Diff.**	**P or F**	**Acceptable?**
Reading 1					Yes
Reading 2					No
Reading 3 (if Necessary)					

AMBIENT TEMPERATURE CHECK					
Step No. 5 - A	IR Sensor (C)	Mercury Therm. (C)	Diff.	P or F	Acceptable?
Reading 1					Yes
Reading 2					No
Reading 3 (if Necessary)					
Step No. 5 - B	Air Temp Sensor (C)	Mercury Therm. (C)	Diff.	P or F	Acceptable?
Reading 1					Yes
Reading 2					No
Reading 3 (if Necessary)					

HOT TEMPERATURE CHECK - IR SENSOR ONLY					
Step No. 6	**IR Sensor (C)**	**Mercury Therm. (C)**	**Diff.**	**P or F**	**Acceptable?**
Reading 1					Yes
Reading 2					No
Reading 3 (if Necessary)					

Was IR sensor acceptable for all three checks? YES or NO

Was air temperature sensor acceptable for checks 1 and 2? YES or NO

Agency: _____

FWDPR #: _____

LONG-TERM PAVEMENT PERFORMANCE (LTPP)
FALLING WEIGHT DEFLECTOMETER (FWD) TESTING
FWD PROBLEM REPORT (FWDPR)

Attention: Cheryl Richter FAX: (703) 285-2767
Gonzalo R. Rada FAX: (301) 210-5032

Type of Problem: Guidelines ___ Equipment ___ Software ___ Name: _____ Version: _____ Other: _____ ___	Reported by: _____ Agency: _____ Date: _____ Urgent?(Y/N) ___ Page ____ of ____
Description:	

THIS SECTION FOR USE BY FHWA AND PCS/LAW	
Received by: _____	Date Received: _____
Referred to: _____ Date Referred: _____	Approved by: _____ Date Approved: _____
Resolution:	
Notes:	

LTPP Monitoring Maintenance and Repair Summary - Form F03	Region [__ __]

Date	Odometer	Problem Description[1]	Description of Maontenance/Repair	Performed by[2]	Cost		
					Labor	Parts	Total

[1] Enter “routine” for routine maintenence

[2] Enter “RCOC”, “Dynatest”, or “Other”, as applicable