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PROGRESS REPORT

ON

LLTR SERIES II TEST A-2
2 2 2

(PART I)

by

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&

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AT03-76SF70030

MASTER

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Pressure	
Strain Measurements	
Temperature Measurements	
Flow Measurement	

A-2 Digital Data

Seq 1	TE-01-1	Seq 30	F-502
1	TE-01-1	31	-----
2	TE-12-4	32	P-552
3	TE-04-5	33	TE-01-3
4	TE-03-2	34	TE-12-6
4	TE-03-2	35	TE-02-1
5	TE-11-1	36	-----
5	TE-11-1	37	TE-11-3
5	TE-11-1	37	TE-11-3
6	TE-544	38	TE-532
7	TE-21-6	39	TE-22-2
8	TE-503	39	TE-22-2
9	TE-520	40	TE-505
10	TE-548	41	P-01-6
11	SG-704	42	PZ-503
12	SG-717	43	PZ-503
13	P-513	43	SG-706
14	----	44	---- (Spare)
15	W-508A	45	P-515
16	P-551	46	F-503
17	TE-01-2	46	F-503
17	TE-01-2	47	W-508C
18	TE-12-5	48	P-553
19	TE-04-6	49	TE-01-4
20	TE-03-3	50	TE-12-7
21	TE-11-2	51	TE-02-2
21	TE-11-2	52	TE-03-5
22	TE-521	53	TE-11-4
23	TE-22-1	53	TE-11-4
23	TE-22-1	54	TE-537
24	TE-504	55	TE-22-3
25	L-505	55	TE-22-3
26	TE-549	56	TE-506
27	SG-705	57	TE-526
28	SG-720	58	---- (Spare)
29	----	59	SG-709
30	F-502	60	----

A-2 Digital Data

Seq 61	P-531	Seq 89	P-01-4
61	P-531	90	SG-509B
62	F-504	91	SG-711
62	F-504	92	----
62	F-504	93	W-511
63	W-508D	94	TE-12-8
64	P-554	95	D-503
65	TE-01-5	95	D-503
66	TE-12-9	96	P-556
67	TE-02-3	97	TE-12-1
67	TE-02-3	98	TE-04-2
68	TE-03-6	99	TE-02-5
69	TE-11-5	100	TE-531
69	TE-11-5	101	TE-11-7
70	TE-21-1	101	TE-11-7
70	TE-21-1	102	TE-21-3
71	TE-22-4	103	TE-22-6
72	TE-511	104	TE-517
73	TE-527	105	PRD-1
74	----	106	SG-701
75	SG-710	107	---- (Spare)
76	---- (Spare)	108	----
77	D-501	109	DP-501
78	F-507	110	---- (Spare)
78	F-507	111	---- (Spare)
79	---- (Spare)	112	----
80	P-555	113	TE-12-2
81	TE-01-6	114	TE-04-3
82	TE-04-1	114	TE-04-3
83	TE-02-4	115	TE-02-6
84	TE-546	116	TE-536
85	TE-11-6	117	TE-11-8
85	TE-11-6	117	TE-11-8
86	TE-21-2	118	TE-21-4
86	TE-21-2	119	TE-501
87	----	120	TE-518
88	TE-512		

A-2 Digital Data

Seq 121	TE-541	Seq 207	Total Mass Injected
122	SG-702	207	Total Mass Injected
122	SG-702		
123	SG-715		
124	----		
125	DP-502		
126	---- (Spare)		
127	---- (Spare)		
128	----		
129	TE-12-3		
130	TE-04-4		
131	TE-03-1		
132	TE-538		
133	TE-11-9		
133	TE-11-9		
123	TE-21-5		
135	TE-502		
136	TE-519		
137	TE-542		
138	----		
139	----		
140	Z-503		
140	Z-503		
141	DP-503		
142	---- (Spare)		
143	Start Time		
200	D-503		
200	D-503		
201	----		
202	----		
203	Mass Injected from T1		
204	Mass Injected from T2		
205	Mass Injected from T3		
205	Mass Injected from T3		
206	Mass Injected Primary Tube		
206	Mass Injected Primary Tube		

A-2 Analog Data

Seq 1	A-501	Seq 17	P-508
1	A-501		
1	A-501	18	SG-D-4
2	SG-D-2	19	P-01-2
		19	P-01-2
3	P-501	19	P-01-2
4	P-507	20	SG-01-2
5	SG-714	21	TE-528
6	P-01-1	22	FSP-508E
6	P-01-1	23	Z-504
6	P-01-1	24	Z-503
7	SG-01-1	24	Z-503
8	TE-550	25	SG-507B
9	FSP-508B	26	D-503
10	P-524	26	D-503
11	Start Time	27	A-503
12	SG-01-7	26	A-503
13	SG-C-6	28	SG-707
14	A-502	29	P-502
14	A-502	30	P-509
15	TE-540	31	P-614
16	PRD-1B	33	A-507
16	PRD-1B	33	A-507

A-2 Analog Data

Seq 34	SG-A-1	Seq 50	P-522
35	PSG-508AF	51	SG-508A
36	P-526	52	P-01-9
37	FSP-508C	53	FSP-508G
38	SG-507C	54	TE-525
39	SG-D-1	54	P-504
40	A-504	56	P-510
40	A-504	57	P-616
41	FSP-508D	58	----
42	P-503	59	W-512
43	P-516	59	W-512
44	P-615	59	W-512
45	P-01-4	60	SG-A-3
46	A-509	61	A-505
46	A-509	61	A-505
46	A-509	62	F-510
47	SG-A-2	62	F-510
48	SG-C-1	63	P-512
49	P-525	64	SG-508B
49	P-525	65	P-A-10
49	P-525	66	F-506

A-2 Analog Data

Seq 66	F-506	Seq 80	FSP-508H
66	F-506	81	P-506
67	TE-547	82	P-527
68	P-505	83	P-618
69	P-517	83	P-618
70	P-617	83	P-618
70	P-617	84	P-01-7
70	P-617	85	SG-01-8
70	P-617	86	TE-543
71	P-01-6	87	SG-C-5
72	A-506	88	Z-505
72	A-506	88	Z-505
73	SG-A-4	89	P-521
74	SG-C-3	89	P-521
75	F-511	89	P-521
75	F-511	90	-----
75	F-511	91	P-A-12
76	P-520	92	SG-708
76	P-520	93	W-511
78	P-A-11	93	W-511
79	A-500	94	Z-506
79	A-500	94	Z-506
79	A-500		
94	Z-506		
95	SG-713		
96	P-619		
96	P-619		
96	P-619		
97	P-01-8		
98	A-510		
98	A-510		

A-2 Analog Data

Seq 99	SG-719
100	A-508 A-508
101	P-532
102	P-519
102	P-519
102	P-519
103	SG-507A
104	P-A-13
200	D-503

LLTR Series II Test A-2

(Part I)

ABSTRACT

This document contains a complete set of valid and final digital and analog data plots for LLTR Series II, Test A-2. Included is an Accuracy Statement regarding this data as required by Revision 0 of the GE Test Request, Specification No. 23A2062.

I. INTRODUCTION

This document contains a complete set of all valid and final digital and analog data plots for LLTR Series II, Test A-2, formulated in accordance with ETEC Data Processing Plan N-051E-044-TS012. Included is an Accuracy Statement regarding this data as required by the GE Test Request, Specification No. 23A2062, Revision 0, issued April 9, 1976.

The Series II, Sodium-Water Reaction Test A-2 was performed in the Large Leak Test Rig (LLTR) at the Energy Technology Engineering Center (ETEC). This was the third of three planned double-edged guillotine (DEG) rupture tests of a single tube which will be followed by a number of small leak tests. The test article is the LLTI which is a full-size diameter internals, shortened in length and prototypic of the CRBR steam generator. It is installed in the Large Leak Test Vessel (LLTV). The overall test program was formulated by General Electric (GE) as Test Requester to establish steam generator design and to verify analytical models/codes used to estimate the effects of large leak accidents in an LMFBR demonstration plant steam generator and system.

In contrast to A-1a and A-1b, this test was a prototypic DEG rupture sodium-water test, in which the primary and secondary tubes were filled with water. Rupture Disc Assembly I (RD-1) had two disc diaphragms. The purpose of the reactive test was to verify the performance of the LLTR system including instrumentation and the data acquisition system, and establish correlation of the dynamic pressure tube propagation in response to a reactive DEG rupture in the Series II system with similar parameter data obtained during the course of Series I tests.

Series II Test A-2 was performed on February 5, 1980 and test conditions were as follows:

- DEG rupture of a single tube with the break site located 122.0 in. above the end of the LLTI shroud. The test was reactive (water/sodium) with water flow through the rupture tube prior to rupture. The LLTI/LLTV was in "evaporator startup power mode," the sodium system was soft (i.e., surge tank pressurized with gas).

- Injection medium: Water (580F)
- Rupture Tube Supply Pressure: 1700±50 psig
- Water/Steam Secondary System: 1700±50 psig (N₂)
- Water/Steam Tubes and Lines: 580±10F
- Sodium Pressure (P-531): 125 $\begin{smallmatrix} +5 \\ -0 \end{smallmatrix}$ psig
- Sodium Temperature: 580±10F
- LLTV with a linear temperature gradient from 570±10F at the lower tubesheet to 590±10F at the upper tubesheet.
- The RD-1 rupture disc assembly was preheated with a temperature gradient from 565F at the upstream end to 375F at the downstream end.

Desired parameter data obtained for Test A-2 were valid except for those listed in Appendix A to the Accuracy Statement portion of this document.

II. ACCURACY STATEMENT

The assessment of accuracy given in the following discussions is based on vendor-supplied calibration data, laboratory calibration of selected transducers, data obtained during facility acceptance tests and pre-test checkout, data processing techniques and the test data themselves. The data handling and processing techniques used were particularly chosen and evaluated to minimize systematic errors above those inherent in the transducers.

The best estimate of the accuracy of each type of measurement is as follows:

Pressure

Gould:		±25 psi (static)
Kaman:	Water System	±30 psi (of absolute value)
	Sodium System	±0.25% of full range for change in pressure
Precise:		±45 psi

Strain

±25 microstrain

Flow

Turbine Flowmeter	±1% of reading
-------------------	----------------

Flow - Continued

Drag Disc Flowmeter	±1% of full range for test start conditions and ±8% for initial flow change
<u>Temperature</u>	±5F at 350F at ±12F at 900F
<u>Load</u>	±50 lbs.
<u>Position</u>	±0.05 in.
<u>Acceleration</u>	±20% of full range

A. Pressure1. Water System

Pressure measurements in the water system are made with two transducers at each point of measurement. A Kaman Sciences Model KP-1911, is used for dynamic response measurements, and a Gould Model PA4088, is used for accurate static pressure measurements. The Gould transducer is connected to the water system by approximately four feet of tubing so that the transducer is operated at ambient temperature. Between the point of measurement and the transducer is installed a 3-way solenoid operated valve which allows the transducer to be vented to atmosphere to establish a true zero psig calibration point. Each transducer incorporates a built-in electrical simulation system (shunt-calibration) which upon energizing provides a step change in output equivalent to approximately 80% of full range. The exact value of this simulated pressure change is established during laboratory calibration of the transducer.

Data from the Gould transducers is used to correct for any zero shifts in the Kaman transducers. A data slice taken just prior to tube rupture is used. The output of the Kaman transducers is then forced to agree in pressure with the Gould transducers at this time by adjusting the A-coefficient. Details of the data reduction techniques used are covered in N-051E-D44-TS012, LLTV Data Processing Plan for SWR Test A-2.

2. Sodium System

Pressure measurements in the sodium system are made using Kaman Sciences Model KP-1911 eddy-current type transducers. A low pressure range Barton Model 368 NaK transmission type transducer is used to establish the initial static sodium pressure at initiation of test.

In the data reduction, the data from the Kaman transducers is corrected for any zero shifts and for sodium head pressure differences due to elevation of the transducers. The data taken during the data slice

immediately prior to tube rupture is used to make these corrections. The Barton transducer is used to establish the static sodium system pressure at that point, then a correction for the elevation difference is made for each of the Kaman transducers to establish the initial pressure for each Kaman transducer just prior to tube rupture. The equations used are supplied in N-051E-D44-TS012.

B. Strain Measurements

The accuracy of the strain measurement is dependent on the accuracy with which the following factors are known: (1) the individual gage factor of the strain gage, (2) the effect of temperature on this gage factor, (3) the strain transfer from the test article to the strain filament within the gage, (4) the ability to measure and record the change in resistance produced by the strain, and (5) the ability to reproduce the recorded values.

The manufacturer supplies information with each gage which specifies the room temperature gage factor within $\pm 3\%$ and a catalog curve of gage factor variation with temperature. The gage factor for the gages at LLTR was corrected for a nominal 700F gage factor, which provides a tolerance of $\pm 2\%$ for variation in temperature from 600 to 800F. The effects of variation in apparent strain due to temperature are eliminated by correcting all data to zero at the test start time.

In previous experience with these gages, some variation was noted in strain transfer from the test article to the active gage element. The variation is attributed to the variation in the weld pattern used to install the gage. No quantitative data is available for the configuration used for LLTR but the best estimate is that this variation would produce a variation in gage factor not greater than $\pm 5\%$.

The ability to measure and record the change in resistance of the gage element has not been quantified, but the best estimate of this is probably $\pm 0.1\%$ of full range of 2000 microstrain (approximately 1.1 ohm).

The strain indications from SWR A-2 were mostly less than ± 100 or $\pm 5\%$ of the full range. With this magnitude of strain and a noise level of approximately ± 20 ($\pm 1.0\%$ of full range), it is difficult to quantify the accuracy of the indicated change in strain. Using the RMS value of the errors noted here, a sensitivity error of $\pm 6.2\%$ is indicated. Using a value of 100 would indicate that the strain could be measured within $\pm 6 \mu\epsilon$ which is not reasonable when the noise level is $\pm 20 \mu\epsilon$.

The best estimate of the accuracy of the strain measurements, assuming reasonable care is taken in evaluating the data, is approximately $\pm 25 \mu\epsilon$.

C. Flow Measurements

Three turbine type flowmeters and two drag disc type flowmeters were used for the water/steam flow measurements. Each flowmeter was supplied with a calibration performed by the supplier. All calibrations were at room temperature conditions. Each unit was supplied with an internal electrical simulation signal which, from the calibration data, was representative of a known flowrate.

The turbine flowmeters generate a frequency (pulse rate) which is a function of the flowrate. A calibration curve relating the pulse rate to flowrate was supplied by the manufacturer. The signal conditioner was calibrated by substituting a frequency generator for the flowmeter. Following this, the internal frequency generator was energized and the output measured to establish a correlation between the internal calibration source and the flowrate. The internal calibration source was recorded as part of the pre-test calibration record and used in the data reduction.

The drag disc flowmeters are basically strain gage devices. The signal conditioner provides as an output a simulated flow signal created by shunting a resistor across one leg of the transducer bridge when the calibration button is depressed. The supplier's calibration indicated the flowrate equivalent to this simulated signal.

The supplier did not provide calibration data at other than room temperature. A specification is quoted on the calibration data stating that zero shift is $-0.75\%/100F$ and sensitivity shift is $1.3\%/100F$. No correction for sensitivity shift due to temperature was made in the data reduction; therefore, the change in flow could be in error by approximately 8% of reading. The zero shift due to temperature is corrected to the temperature at the time the calibrations are recorded. Assuming that the temperature change from that time to test time is less than 100F, the initial flow should be within approximately 1% of full range.

In summary, the best estimate of accuracy for the two flowmeter types is approximately 1% of full range for the turbine meter provided that there is no mixed phase flow; and, for the drag disc flowmeter, approximately $\pm 1\%$ of full range for the initial flowrate at test start and $\pm 8\%$ of the change in flow for the first flow pulse. The accuracy of the drag disc flowmeter after the first change is uncertain and is dependent on the response of the flowmeter temperature transient.

D. Temperature Measurements

All temperature measurements on the LLTR are made using premium-grade uncalibrated thermocouples. These thermocouples are rated as being accurate to $\pm 3/8\%$ of reading above 530F and to be within $\pm 2F$ from 32 to 530F.

The thermocouple is used in conjunction with a temperature reference junction set at 150F to develop a millivolt signal as a function of temperature. The millivolt signal is amplified by a Bell and Howell amplifier

whose output is recorded either on the DDAS or the analog recorders. A precision voltage is recorded as a pre- and post-test calibration signal on both the analog and digital systems.

Periodically, an end-to-end system calibration is performed by disconnecting the thermocouple lead-wires as close to the thermocouple as possible and injecting a precision, calibrated millivolt source. The DAS is then used to reduce this input signal to temperature using a fifth-order polynomial curve fit. The six thermocouples recorded on the analog tape system are played back to an oscillograph and scaled to millivolts.

The sources of error in this temperature measuring system are: (1) the thermocouple, (2) the temperature reference junction, (3) the amplifier, (4) the precision voltage calibration source, and (5) the recording device.

The thermocouple accuracy has already been defined. The temperature reference junction has a tolerance of $\pm 1^\circ\text{F}$. The accuracy requirements for the end-to-end system calibration were specified as $\pm 4^\circ\text{F}$ at 350°F and $\pm 10^\circ\text{F}$ at 900°F . During the acceptance tests, all measurements met these requirements.

From the data obtained during the acceptance tests and subsequent checkouts, the best estimate of accuracy is believed to be $\pm 5^\circ\text{F}$ at 350°F and $\pm 12^\circ\text{F}$ at 900°F . This assumes that no short range ordering has occurred in the thermocouple.

E. Load Cells

The load cells were supplied with a supplier calibration. All load cells were procured with a full range of 100,000 lb. but were set up for 50,000 lb. full range except for W-505 which was set up for 40,000 lb. full range. Resolution on the calibration plots is approximately $\pm 2,000$ lb.

The R-CAL values or key numbers were established similarly to the precise pressure measurements. The excitation was measured at the load cell and set to the same value as used by the supplier for his calibration; then the calibration resistor (precalculated to provide approximately 80% of full range change in output) was electrically shunted across one leg of the load cell bridge circuit and the output recorded. The accuracy of the key-number is limited by the resolution of the calibration data to 2000 lb. out of 40,000 lb. on $\pm 5\%$ of full range.

The inaccuracies in the load measurements result from the ability to interpret the calibration ($\pm 5\%$) and the uncertainty in setting up exactly the same conditions for the shunt calibration as were used when the original calibration was performed. The best estimate of this is approximately $\pm 2\%$ but could be as high as $\pm 5\%$. Since the data reduction technique used forces the measurement to read zero at the start of the test, the only inaccuracies involved are those dealing with the change in load.

The shunt calibration technique corrects for all system sensitivity errors from the transducer completely through the system to the reduced data.

The data from SWR-A-2 all showed load responses not exceeding 1 or 2% of the full range of the measurement. With these very small changes, it is extremely difficult to assign an accuracy. Assuming the error in sensitivity is approximately $\pm 6\%$ and the readability of data is approximately ± 20 lb., the best estimate of the accuracy of the load measurements in a range of ± 500 lb. (1% of full range) is ± 50 lb.

F. Position (Z-503)

The LLID piston position is sensed with an LVDT. The position of the outer portion of the LVDT is movable under a servo control system. Thus, the relative position of the core and the transformer can be varied without moving the piston in the LLID. By measuring the transformer position with a machinist's scale, vernier caliper, or dial indicator and at the same time recording the electrical output of the LVDT while moving the coil over the full range of movement, a calibration of inches vs. millivolt output could be generated.

The best estimate of the accuracy of this measurement is ± 0.05 in.

G. Acceleration

An electrical voltage equivalent to the full range output of the measurement channel is calculated using the accelerometer characteristics provided by the supplier. This voltage is substituted for the accelerometer and the output of the signal conditioner recorded. Immediately following this, the internal oscillator in the signal condition is energized and the output is recorded. By comparing the two recorder outputs, an equivalent acceleration level is established for the internal oscillator. The output of the internal oscillator is recorded on analog tape as a calibration signal prior to test.

The manufacturer quotes the calibration accuracy of the accelerometer as $\pm 2.5\%$ of range and states that the sensitivity shift with temperature over the LLTR operating temperature range is 10 to 15%. No correction for temperature was made in the data reduction.

The best estimate of the accuracy of the acceleration measurement is approximately $\pm 20\%$ of the range.

III. APPENDIX A

This appendix provides discussion of specific measurements which during Test A-2 exhibited questionable response or malfunctioned.

Non-Valid A-2 ParametersPressure Transducers

P-01-3

P-01-4

P-01-5

P-01-6

P-01-8

P-01-9

P-514A

Strain Gages

SG-01-3

SG-01-4

SG-01-5

SG-01-6

SG-01-9

SG-C-4

SG-C-7

SG-C-8

SG-722

SG-703

SG-716

Thermocouples

TE-03-4

TE-22-5

Flow-
meter

F-501

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

DAY 2/5/80
HOUR 21
MIN 5
SEC 16

2/5/80 DAY
21 MIN
5 SEC
146

ETEC DATA PLOT

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 1

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

21
5
25

21
6
25

21
7
25

21
8
25

21
9
25

21
10
25

21
11
25

2/ 5/80
21
12
25
146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	JO	2/15/80	DAY	2/ 5/80	DAY	2/ 5/80
NOJR	21		NOJR	21	NOJR	21
SEC	4		SEC	4	SEC	4
NSFC	146		NSFC	146	NSFC	146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

NO 31	2/5/80	DAY 21	2/5/80	DAY 21
FLD	21	4	21	4
SEC	2	4	2	4
NSFC	146	4	146	4

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTR SWR A2 2-5-80

ETEC DATA PLOT
 DIGITAL DATA AT 5 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 2 2/26/80

DAY 2/ 5/80
 HOUR 21
 MIN 5
 SEC 25
 MSEC 146

21
5
25

21
6
25

21
7
25

21
8
25

21
9
25

21
10
25

21
11
25

2/ 5/80
 21
 12
 25
 146

DAY
 HOUR
 MIN
 SEC
 MSEC

TE-11-1

TIME FROM RUPTURE - SECONDS	TEMPERATURE (DEG C)
0	600
4	700
8	1200
10	1800
12	1000
16	1200
20	1000
24	900
28	900
32	800
36	800
40	800

PLCT NO	DAY	2/ 5/80
	WHR	21
	M 4	4
	SEL	25
	NSLC	146

TIME FROM RUPTURE - SECONDS

2/ 5/80 DPY
2 HOUR
5 MT
5 SEC
100 M

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	DAY	2/ 5/80
	HOUR	21
	MIN	4
	SEC	25
	MSEC	145

2/ 5/80	DRY
21	HCLR
5	M11
5	SEC
146	MSFC

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLT NO 13	DAY 2/ 5/80	2/ 5/80	DAY
TIME 21	21	21	PLR
SEC 4	4	4	MIN
MSEC 146	146	146	SEC
			MSEC

ETEC DATA PLOT

DIGITAL DATA AT 50' PER SECOND

LLTR SWR A2 2-5-80

Y-axis: DEG C (262.50 to 315.00) and DEG F (500 to 600)

X-axis: TIME FROM RUPTURE - SECONDS (0 to 40)

Plot ID: TE-503

Plot Date: 2/5/80

Plot Time: 21:24

Plot Location: 4

Plot Operator: 4

Plot Station: 4

Plot Instrument: 4

Plot Method: 4

Plot Results: 4

Plot Summary: 4

Plot Conclusion: 4

Plot Recommendation: 4

Plot Approval: 4

Plot Signature: 4

Plot Date: 2/5/80

Plot Time: 21:24

Plot Location: 4

Plot Operator: 4

Plot Station: 4

Plot Instrument: 4

Plot Method: 4

Plot Results: 4

Plot Summary: 4

Plot Conclusion: 4

Plot Recommendation: 4

Plot Approval: 4

Plot Signature: 4

PLCT NO B 2/15/80

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DAY      2/ 5/80
HR P      21
MIN       4
SEC       25
MSEL     146

```

TIME FROM RUPTURE - SECONDS

2/ 5/80	DAY
21	1 9
5	MI
5	SEC
146	MSFC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 56 2/15/80

DRY 2/5/80
 SEC 21
 MEC 146

2/5/80 DRY
 21 H²O
 5 H²O
 5 SFC
 146 H²O

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 41 2/15/80
LRY 2/ 5/80
MIN 21
SEC 25
MSEC 146

4
29
146

4
33
146

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37
146

4
41
146

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45
146

4
49
146

4
53
146

4
57
146

5
1
146

2/ 5/80 DAY
21 MIN
5 SEC
146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 250' PER SECOND
 LLTR SWR A2 2-5-80

2/13/80

DAY 2/ 5/80
 HOUR 21
 SEC 4
 MSEC 146

2/ 5/80
 DAY 21
 HOUR 4
 SEC 33
 MSEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 2 2/15/80

EXPERIMENTAL
 DATE 2/5/80
 TIME 21:00

166

146

146

146

146

146

146

146

146

146

146

146

2/5/80 DAY
 HOUR 21
 MIN 4
 SEC 33
 MSEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

LOT 10 2/19/80
 DAY 2/ 5/80
 HOUR 21
 MIN 21
 SEC 22
 MSEC 646

4
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4
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4
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4
 646

2/ 5/80 DAY
 21 HOUR
 4 MIN
 34 SEC
 646 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 3 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 23
 MSEC 146

146

146

146

146

146

146

146

146

146

146

146

146

146

146

2/ 5/80 DAY
 HOUR 21
 MIN 4
 SEC 33
 MSEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

DAY 2/ 5/80
 29 93 97 41 45 49 53 57 51
 146 146 146 146 146 146 146 146 146

2/ 5/80 DAY
 21 11 11 11 11 11 11 11 11
 146 146 146 146 146 146 146 146 146

ETEC DATA PLOT

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 3 2/26/80

DAY 2/ 5/80
HOUR 21
MIN 5
SEC 25
MSEC 146

21
5
25

21
6
25

21
7
25

21
8
25

21
9
25

21
10
25

21
11
25

2/ 5/80
21
12
25
146

DAY
HOUR
MIN
SEC
MSEC

DIGITAL DATA AT 125 PER SECOND
LLTR SWR A2 2-5-80

PLUT NO 17 2/18/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 15

2/ 5/80 DAY
21 HOUR
4 MIN
45 SEC
140

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

08/51/2 MC DN 10⁴

```

DAY      2/ 5/80
HOUR      21
MIN      4
SEC       25
MSEC     146

```

2/ 5/80	DAY
21	100R
5	111
5	5FC
146	M5FC

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT N3 35 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 24
SEC 25
MSEC 146

29
146

33
146

97
146

41
146

45
146

49
146

53
146

57
146

5
146

2/ 5/80 00Y
21
24
25
146
SEC
MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTA SWR A2 2-5-80

P.L.T NO 38	2/15/80	DAY	2/ 5/80	21	DAY	2/ 5/80	21
SEC	19	MIN	29	MIN	21	MIN	21
SEC	146	SEC	93	SEC	146	SEC	146
SEC	146	SEC	97	SEC	146	SEC	146
SEC	146	SEC	41	SEC	146	SEC	146
SEC	146	SEC	45	SEC	146	SEC	146
SEC	146	SEC	49	SEC	146	SEC	146
SEC	146	SEC	53	SEC	146	SEC	146
SEC	146	SEC	57	SEC	146	SEC	146
SEC	146	SEC	5	SEC	146	SEC	146
SEC	146	SEC	146	SEC	146	SEC	146

ETEC DATA PLOT
 DIGITAL DATA AT 50' PER SECOND
 LLTR SWR A2 2-5-80

PLT- 37	2/15/80	DAY	2/ 5/80	21	DAY	2/ 5/80	21	DAY	2/ 5/80	21
NO	21	NO	21	NO	21	NO	21	NO	21	NO
SE	25	SE	25	SE	25	SE	25	SE	25	SE
NO	146	NO	146	NO	146	NO	146	NO	146	NO
	4		4		4		4		4	
	29		29		29		29		29	
	93		93		93		93		93	
	97		97		97		97		97	
	41		41		41		41		41	
	45		45		45		45		45	
	49		49		49		49		49	
	53		53		53		53		53	
	57		57		57		57		57	
	146		146		146		146		146	
	5		5		5		5		5	
	146		146		146		146		146	
	146		146		146		146		146	

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTR SWR A2 2-5-80

PLT	2/19/80	2/ 5/80	2/ 5/80
DAY	21	21	21
HOUR	27	29	41
MIN	146	146	146
SEC	146	146	146
MSEC	146	146	146

ETEC DATA PLOT
 DIGITAL DATA AT 63 PER SECOND
 LLTR SWR A2 2-5-80

DAY	2/ 5/80	DAY	2/ 5/80
HOUR	21	HOUR	21
MIN	4	MIN	5
SEC	29	SEC	1
MSEC	146	MSEC	146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTA SWR A2 2-5-80

PLOT NO 62 2/15/80
 SEQ 22
 IE-521
 2/ 5/80
 21
 5
 1
 10
 DRY
 111
 5 C
 H FR

ETEC DATA PLOT
 DIGITAL DATA AT 50' PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 39 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 11
 SEC 05
 MSEC 146

23 4

93 4

97 4

41 4

45 4

49 4

53 4

57 4

1 5

146 5

2/ 5/80
 21
 1111
 05
 146

DAY 2/ 5/80
 HOUR 21
 MIN 1111
 SEC 05
 MSEC 146

ETEC DATA PLOT

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 4 2/26/80
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

21
5
25

21
6
25

21
7
25

21
8
25

21
9
25

21
10
25

21
11
25

2/ 5/80 DAY
21 HOUR
12 MIN
25 SEC
146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

7 2/15/80
 2/15/80
 2/15/80
 2/15/80

294
146

334
146

374
146

414
146

454
146

494
146

534
146

574
146

614
146

2/5/80
 2/5/80
 2/5/80
 2/5/80

DRY
 146
 146
 146
 146

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 1 2/28/00

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

146

146

146

146

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146

146

146

146

2/ 5/80
21
4
45
146

DAY
HOUR
MIN
SEC
MSEC

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

[illegible]

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	DAY Y-M-D	TIME FROM HOT TIRE - SECONDS	DAY Y-M-D
IN 4	2/ 5/80	97	2/ 5/80
SFC 25		41	
MSEC 146		45	
		49	
		59	
		57	
		146	
		146	

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLG 13 6 2/15/80

DAY 2/ 5/80
 MIN 21
 SEC 23
 MSEC 146

24
 146

25
 146

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27
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28
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29
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31
 146

32
 146

2/ 5/80
 21
 23
 146

DAY
 HOUR
 MIN
 SEC
 M SEC

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTA SWR A2 2-5-80

PLOT NO 7 2/15/80

DAY 2/ 5/80
 SEC 21
 MSEC 145

24
 146

25
 146

26
 146

27
 146

28
 146

29
 146

30
 146

31
 146

32
 146

2/ 5/80 DAY
 21 HOUR
 33 MIN
 146 SEC

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLS NO 16 2/15/80
DAY 2/ 5/80
HCU9 21
MIN 24
SEC 24
MSEC 646

25	26	27	28	29	30	31	32	33	2/ 5/80	DAY
646	646	646	646	646	646	646	646	646	21	HCU9
									4	MIN
									34	SEC
									646	MSEC

ETEC DATA PLOT

PLOT NO 1 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

4
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146

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35
146

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40
146

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45
146

4
50
146

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146

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146

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146

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146

2/ 5/80
21
5
15
146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 11 2/15/80

DAY 2/ 5/80
 SEC 21
 SEC 25
 SEC 146

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146

2/ 5/80 DAY
 21 11-TR
 5 111
 5 SEC
 146 M4FC

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLD-41 2/15/80

DAY 2/5/80
HOUR 21
MIN 50
SEC 14

DAY 2/5/80
HOUR 21
MIN 50
SEC 14

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT 1 2 3 4 2 2/5/80
 DAY 2/5/80
 TIME 21
 SEC 25
 MSEC 146

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2/5/80 DAY
 21 PROP
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 5 SFC
 146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT 10 2/15/80

DAY 2/ 5/80
 21
 146

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2/ 5/80
 21
 146

DAY 2/ 5/80
 21
 146

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 10 2/19/80

CRY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 146
 MSEC 146

27
 146

28
 146

31
 146

33
 146

35
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37
 146

39
 146

41
 146

43
 146

2/ 5/80 DAY
 21 HOUR
 25 MIN
 146 SEC
 146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 2 DATE 2/5/80 TIME 146	2/5/80 146	4 146	8 146	12 146	16 146	20 146	24 146	28 146	32 146	36 146	40 146	2/5/80 21 146	DRY 146 146 146
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DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

ETEC DATA PLOT

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	5	2/26/80	SEQ	39	550	0	1	2	3	4	5	6	7	8	TIME FROM RUPTURE - MINUTES
DAY	21	5/80	DAY	21	5/80	DAY	21	5/80	DAY	21	5/80	DAY	21	5/80	DAY
HOUR	21		HOUR	21		HOUR	21		HOUR	21		HOUR	21		HOUR
MIN	4		MIN	5		MIN	6		MIN	7		MIN	8		MIN
SEC	25		SEC	25		SEC	25		SEC	25		SEC	25		SEC
MSFC	146		MSFC	146		MSFC	146		MSFC	146		MSFC	146		MSFC

PLOT NO 8 2/13/83

TE-505 DEG F
SEQ 40

TIME FROM RUPTURE - SECONDS

2/ 5/80 DAY
21 SEP R
5 11
5 SEC
50

[illegible]

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLT NO 18	2/15/80	DAY 2	5/80	2/15/80	DAY 21	5/80
TIME 06:24	06:25	06:26	06:27	06:28	06:29	06:30
06:31	06:32	06:33	06:34	06:35	06:36	06:37

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 17 2/5/80

2/ 5/80
SEC 21
646

646

646

646

646

646

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646

646

646

2/ 5/80
21
4
34
646

DAY
1.00
MIL
SEC
M ET

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

[illegible]

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 8 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 23
 USEC 17

4
 146

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 146

2/ 5/80 DAY
 21 HOUR
 4 MIN
 23 SEC
 17 USEC

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

2/ 5/80
 21
 4
 33
 146

4
 146

4
 146

4
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4
 146

2/ 5/80
 21
 4
 33
 146

2/ 5/80
 21
 4
 33
 146

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 21 2/15/80

DAY 2/ 5/80
TIME 21: 46
SEC 046

25
646

28
646

27
646

28
646

29
646

30
646

31
646

32
646

33
646

2/ 5/80 DAY
21 HOUR
4 MIN
34 SEC
046 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 3 2/15/80

DAY 2/ 5/80
 HCUR 21
 MIN 5
 SEC 15
 NSEC 146

4
 30
 146

4
 35
 146

4
 40
 146

4
 45
 146

4
 50
 146

4
 55
 146

5
 60
 146

5
 65
 146

5
 70
 146

2/ 5/80 DAY
 HCUR 21
 MIN 5
 SEC 15
 NSEC 146

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

CR/51/2 n ON J07d

D Y 2/ 5/80
MIR 2
Y H 4
SFL 23
W EC 146

2/ 5/80 DAY
21 PM 19
4 MI
33 SEC
140 H 50

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWA A2 2-5-80

PLT 12 2/15/80

SEC 2/5/80
48
146

4
146

4
146

4
146

4
146

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146

4
146

4
146

4
146

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146

4
146

2/5/80
11 2
SEC
146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 48 2/15/80
DAY 2/ 5/80
FCR 21
FTL 4
SEC 25
NSLC 146

29
146

33
146

97
146

41
146

45
146

49
146

53
146

57
146

1
146

2/ 5/80 DRY
21 1000
5 1000
5 1000
5 1000
146 1000

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

DAY 2/ 5/80
 21
 146

146

146

146

146

146

146

146

146

146

2/ 5/80 DAY
 21 HOUR
 5 MIN
 5 SEC
 146 MS-C

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT NO 43 2/13/80

DAY 2/ 5/80
 TIME 2:05
 SEC 25
 SEC 146

29
 146

33
 146

97
 146

41
 146

45
 146

49
 146

53
 146

57
 146

5
 146

2/ 5/80 DNY
 21 1704
 5 1
 5 SEP
 146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

2/5/80
 146

146

146

146

146

146

146

146

146

146

146

2/5/80
 146

146

146

146

146

146

146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTA SWR A2 2-5-80

TIME	TEMP (C)	TEMP (F)
0	146	295
4	146	295
8	146	295
12	146	295
16	146	295
20	146	295
24	146	295
28	146	295
32	146	295
36	146	295
40	146	295

2/5/80

ETEC DATA PLOT

DIGITAL DATA AT 125 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 11 2/18/80

DRY 2/5/80
C 21
C 25
C 146

24

29

31

33

35

37

39

41

43

45

2/5/80
21
4
45
146

DRY
1.000
MIN
SEC
NGCC

ETEC DATA PLOT

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLT NO 6 2/26/80

DAY 2/ 5/80
HOUR 21
MIN 5
SEC 25
MSEC 146

21
5
25

21
6
25

21
7
25

21
8
25

21
9
25

21
10
25

21
11
25

2/ 5/80
21
12
25
146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 51 2/15/80
 DAY 2/ 5/80
 21
 11
 5
 146

DAY 2/ 5/80
 21
 11
 5
 146

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	DAY	2/ 5/80
	HOURL	21
	KIN	4
	SEC	25
	MSEC	146

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2/ 5/80  DAY
  21     HOUR
   5     MIN
   5     SEC
  146    MSEC

```


ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 12 2/15/80

DAY 2/ 5/80
TIME 21
EC 23
MSFC 146

24

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68

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72

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74

75

2/ 5/80 DAY
TIME 21 PM
EC 23
MSFC 146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 4 2/15/80

DRY 2/ 5/80
TIME 21
SEC 15
M 146

90
146

95
146

40
146

45
146

50
146

55
146

50
146

55
146

50
146

2/ 5/80
TIME 21
SEC 15
M 146

DRY
TIME
SEC
M CC

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLST NO 1 2/25/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 35
 MSEC 146

26
 146

27
 146

28
 146

29
 146

30
 146

31
 146

32
 146

33
 146

34
 146

2/ 5/80
 DAY 21
 HOUR 4
 MIN 35
 SEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTA SWR A2 2-5-80

PLOT NO 5 2/13/80

DAY 2/ 5/80
 HOUR 21
 MIN 04
 SEC 25
 MSEC 146

4
 24
 146

4
 25
 146

4
 26
 146

4
 27
 146

4
 28
 146

4
 29
 146

4
 30
 146

4
 31
 146

4
 32
 146

2/ 5/80
 DAY 21
 HOUR 04
 MIN 33
 SEC 33
 MSEC 146

4
 33
 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWA A2 2-5-80

PLOT NO 13 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 5
 SEC 57
 MSEC 146

292
 146

93
 146

97
 146

41
 146

45
 146

49
 146

53
 146

57
 146

5
 146

2/ 5/80 DAY
 21 HOUR
 5 MIN
 57 SEC
 146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 13 2/15/80

DRY 2/ 5/80
 21
 21
 21
 21

4

29

146

4

93

146

4

97

146

4

41

146

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45

146

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49

146

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53

146

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57

146

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146

21

21

21

2/ 5/80

DRY
 1 MJA
 1111
 21
 21

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 53 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
NSEC 146

4
29
146

4
93
146

6
97
146

6
41
146

4
45
146

4
49
146

4
53
146

4
57
146

5
1
146

2/ 5/80 DAY
21 HOUR
4 MIN
5 SEC
146 NSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 34 2/15/80

DAY 2/ 5/80
 HOUR 21
 SEC 25
 MSEC 46

4
 29
 146

4
 33
 146

4
 37
 146

4
 41
 146

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 45
 146

4
 49
 146

4
 53
 146

4
 57
 146

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 146

2/ 5/80
 DAY 21
 HOUR 5
 SEC 5
 MSEC 146

ETEC DATA PLOT

DIGITAL DATA AT 125 PER SECOND
LLTR SWR A2 2-5-80

DIGITAL DATA AT 125 PER SECOND
LLTR SWR A2 2-5-80

[illegible]

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	2/ 5/80					2/ 5/80					DAY HOUR
	DAY HOUR	MIN	SEC	MSEC		DAY HOUR	MIN	SEC	MSEC		
1	21	4	93	146		21	5	5	146		
2	4	93	146		4	5	5	146			
3	97	41	45	146		97	49	59	146		
4	41	45	146		41	46	57	146			
5	45	146			45	146	146				
6	49	59	146		49	59	146				
7	57	146			57	146					
8	146				146						

ETEC DATA PLOT
 DIGITAL DATA AT 5 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 7 2/26/80

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 25
 MSEC 48

21
25

21
25

21
25

21
25

21
25

21
25

21
25

2/ 5/80
 21
 25
 25
 100

DAY
 HOUR
 MIN
 SEC
 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 4 2/15/80
 DAY 2/ 5/80
 HOUR 21
 MIN 5
 SEC 5
 MSEC 146

2/ 5/80
 DAY 21
 HOUR 5
 MIN 5
 SEC 5
 MSEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT 13 85 2/15/80

DAY 2/ 5/80
 MIN 21
 SEC 29
 MSEC 146

DAY 2/ 5/80
 MIN 21
 SEC 5
 MSEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT NO 2715/80	DAY 2/ 5/80	2/ 5/80	DAY
HR 21	21	21	HR 21
MIN 25	25	25	MIN 25
SEC 146	146	146	SEC 146

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

LOT NO 14 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 46
SEC 146

DAY 2/ 5/80
HOUR 21
MIN 46
SEC 146

DAY 2/ 5/80
HOUR 21
MIN 46
SEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTA SWR A2 2-5-80

PLCT NO 5 2/13/80
 DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 90
 MSEC 146

146

146

146

146

146

146

146

146

146

146

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146

146

146

2/ 5/80
 DAY 21
 HOUR 5
 MIN 15
 SEC 10
 MSEC 146

2/ 5/80
 DAY 21
 HOUR 5
 MIN 15
 SEC 10
 MSEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 18 2/15/80

DAY 2/ 5/80
 POS 21
 REL 27
 SEC 146

27
 146

29
 146

31
 146

33
 146

35
 146

37
 146

39
 146

41
 146

43
 146

2/ 5/80 DAY
 21 HOUR
 27 MIN
 146 SEC
 146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 18 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 24
 SEC 146

4
 29
 146

4
 33
 146

4
 97
 146

4
 41
 146

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 45
 146

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 49
 146

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 53
 146

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 57
 146

5
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 146

2/ 5/80 DAY
 21 HOUR
 24 MIN
 146 SEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 14 DAY 2/ 5/80 HOUR 21 MIN 5 SEC 25 MSEC 146	29 146 33 146 97 146 41 146 45 146 48 146 53 146 57 146 5 146	2/ 5/80 DAY 21 HOUR 5 MIN 5 SEC 25 MSEC 146
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ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

FACT NO 5 2/15/80
DAY 2/ 5/80
HOUR 21
MIN 24
SEC 25
WSEC 146

4
146

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146

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146

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146

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146

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146

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146

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146

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146

4
146

2/ 5/80
DAY 21
HOUR 25
MIN 25
SEC 146

DRY
HOUR
MIN
SEC
WSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 6 2/13/80
 DAY 2/ 5/80
 HOUR 21
 MIN 21
 SEC 5
 MSEC 146

4
 29
 146

4
 93
 146

4
 97
 146

4
 41
 146

4
 45
 146

4
 49
 146

4
 53
 146

4
 57
 146

5
 1
 146

2/ 5/80 DAY
 21 MIN
 5 SEC
 146 MSEC

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	DAY	2/ 5/80	2/ 5/80	DAY
7	2/ 5/80	21	21	2/ 5/80
	21	4	4	21
	4	93	93	4
	93	97	97	93
	97	41	41	97
	41	45	45	41
	45	49	49	45
	49	59	59	49
	59	57	57	59
	57	1	1	57
	1	146	146	1
	146	146	146	146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 63 2/15/80
 DAY 2/ 5/80
 HOUR 21
 MIN 21
 SEC 16
 SEC 146
 26 146
 93 146
 97 146
 41 146
 45 146
 49 146
 53 146
 57 146
 5 146
 2/ 5/80
 DAY 21
 HOUR 21
 MIN 50
 SEC 146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

FL0T NO 8 2/15/80
DAY 2/ 5/80
MIN 21
SEC 25
MSEC 146

4
29
146

4
93
146

4
97
146

4
41
146

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45
146

4
49
146

4
53
146

4
57
146

5
1
146

2/ 5/80 DAY
21 HOUR
5 MIN
5 SEC
146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 13	2/18/80	SEQ 85	2/5/80	21	2/5/80	21
DAY	2/5/80	27	29	31	33	35
HOUR	146	146	146	146	146	146
MIN	146	146	146	146	146	146
SEC	146	146	146	146	146	146
MSEC	146	146	146	146	146	146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

FLIGHT NO 9 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 29
 SEC 4
 MSEC 146

2/ 5/80
 21
 5
 57
 146

DAY
 HOUR
 MIN
 SEC
 MSEC

ETEC DATA , LUF

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLUT NO 8 2/26/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

21
5
25

21
6
25

21
7
25

21
8
25

21
9
25

21
10
25

21
11
25

2/ 5/80
21
12
25
146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 8 2/26/80

DAY 2/ 5/80
HOUR 21
MIN 11
SEC 25
MSEC 146

21
5
25

21
6
25

21
7
25

21
8
25

21
9
25

21
10
25

21
11
25

2/ 5/80
21
11
25
146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

FLG NO 10 2/15/80
 DRY 2/ 5/80
 HOUR 21
 MIN 24
 SEC 25
 MSEC 146

2/ 5/80
 DRY 21
 HOUR 21
 MIN 24
 SEC 25
 MSEC 146

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2/5/80

PLOT NO 1 3/10/80
SEQ 88
200

2/ 5/80 DAY
21 HOUR
4 MIN
30 SEC
146 MSG

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 20 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 24
SEC 646

4
646

4
646

4
646

4
616

4
646

4
646

4
646

4
646

4
646

4
646

2/ 5/80 DAY
21 HOUR
4 MIN
24 SEC
646 H FC

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLDT NO 17 2/14/80

GAY 2/ 5/80
HOL R 21
MIN 4
SEC 25
MSEC 146

2/ 5/80	DAY
21	HOUR
4	MIN
28	SEC
146	M°C C

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLCT NO 13 2/13/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 33
 MSEC 146

24
 146

25
 146

26
 146

27
 146

28
 146

29
 146

30
 146

31
 146

32
 146

33
 146

2/ 5/80 DAY
 21 HOUR
 4 MIN
 33 SEC
 146 MSEC

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 9 2/14/80

SEC 93
 W-511
 LBF

TIME FROM RUPTURE - SECONDS

2/ 5/80
 21
 4
 26
 145

DRY
 POUR
 MIN
 SEC
 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 11 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 54
 SEC 33
 °C 146

29
146

34
146

39
146

44
146

49
146

54
146

59
146

64
146

69
146

2/ 5/80
 21
 54
 33
 146

DAY 2/ 5/80
 HOUR 21
 MIN 54
 SEC 33
 °C 146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 10 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 5
SEC 15
MSEC 146

4
90
146

4
95
146

4
40
146

4
45
146

4
50
146

4
55
146

5
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146

5
5
146

5
10
146

2/ 5/80 DAY
21 HOUR
5 MIN
15 SEC
146 MSEC

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

ETEC DATA PLOT
 DIGITAL DATA AT 42 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 1 2/18/80

DAY 2/ 5/80
 HOUR 21
 MIN 5
 SEC 25
 NSFC 146

DAY 2/ 5/80
 HOUR 21
 MIN 5
 SEC 25
 NSFC 146

ETEC DATA PLO

DIGITAL DATA AT 40 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 1 2/25/80
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

4
31
146

4
37
146

4
43
146

4
49
146

4
55
146

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146

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146

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13
146

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19
146

2/ 5/80
DAY 21
HOUR 5
MIN 25
SEC 146

DAY 21
HOUR 5
MIN 25
SEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLCT NO 12 2/15/80
 DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 23
 MSEC 146

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 23
 146

4
 93
 146

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 97
 146

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 41
 146

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 45
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 49
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 53
 146

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 57
 146

4
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 146

2/ 5/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 23
 MSEC 146

13 2/15/80

TE-04-2

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DEG F

TIME FROM RUPTURE - SECONDS

SEQ 98

2/ 5/80	DAY
21	HOUR
5	MIN
5	SEC
146	M.S.C.

2/ 5/80	DAY
21	HOUR
5	MIN
5	SEC
116	M SEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

DAY	2/ 5/80	DAY	2/ 5/80
MIN	21	MIN	21
SEC	35	SEC	35
MSEC	146	MSEC	146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 1 2/15/80
 DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 146

146

146

146

146

146

146

146

146

146

146

146

146

2/ 5/80 DAY
 21 HOUR
 25 MIN
 146 SEC
 146 NSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO	1	2/13/80	DAY	2/ 5/80	21	DAY	2/ 5/80
REVISION			21		21	REVISION	
SEC	146		146		146	SEC	146
MIN	146		146		146	MIN	146
HOUR	146		146		146	HOUR	146
DATE	146		146		146	DATE	146
TIME	146		146		146	TIME	146
LOCATION	146		146		146	LOCATION	146
OPERATOR	146		146		146	OPERATOR	146
INSTRUMENT	146		146		146	INSTRUMENT	146
TEST	146		146		146	TEST	146
RESULT	146		146		146	RESULT	146
REMARKS	146		146		146	REMARKS	146

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTR SWA A2 2-5-80

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

2/5/80

DAY 2/5/80
 TIME 10:10
 101

101

93

97

41

45

49

53

57

61

65

69

73

77

81

2/5/80 DAY
 21 10:10
 53 101
 57 101
 61 101
 65 101
 69 101
 73 101
 77 101
 81 101

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

DAY 2/ 5/80
FOUR 21
MIN 4
SEC 25
MSEC 146

2/ 5/80	DAY
21	HOUR
	MIN
5	SEC
146	M FC

ETEC DATA PLOT

DIGITAL DATA AT 5 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 9 2/26/80

DAY 2/ 5/80
HOUR 21
MIN 5
SEC 25
MSEC 146

21
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25

21
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21
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21
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21
10
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21
11
25

2/ 5/80
21
12
25
146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLAT NO 67 2/15/80

DAY 2/ 5/80
 SEC 21
 MIN 5
 SFC 5

146

146

146

146

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146

2/ 5/80
 SEC 21
 MIN 5
 SFC 5

DAY 2/ 5/80
 SEC 21
 MIN 5
 SFC 5

DAY 2/ 5/80
 SEC 21
 MIN 5
 SFC 5

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 23

DAY 2/ 5/80
 HOUR 21
 MIN 24
 SEC 646

DAY 2/ 5/80
 HOUR 21
 MIN 24
 SEC 646

DAY
 HOUR
 MIN
 SEC
 NSFC

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLT 13 9 15/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 146

24
 146

25
 146

26
 146

27
 146

28
 146

29
 146

30
 146

31
 146

32
 146

2/ 5/80 DAY
 21 HOUR
 4 MIN
 33 SEC
 146 MFC

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTA SWR A2 2-5-80

PLOT NO 2 2/19/80

SEQ 108
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 15
MSEC 146

146

146

146

146

146

146

146

146

146

146

146

2/ 5/80 DAY
HOUR 21
MIN 4
SEC 15
MSEC 146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 18 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 5
SEC 5
MSEC 146

4
146

4
146

4
146

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146

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146

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146

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146

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146

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146

2/ 5/80 DAY
21 HOUR
5 MIN
5 SEC
146 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 2 2/12/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 27
 MSEC 146

4

146

4

146

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146

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146

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146

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146

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146

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146

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146

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146

2/ 5/80
 21
 4
 45
 146

DAY
 HOUR
 MIN
 SEC
 MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 30 2/15/80

DAY	HOUR	MIN	SEC	USEC
2/	5/	21	11	146
2/	5/	21	29	146
2/	5/	21	93	146
2/	5/	21	97	146
2/	5/	21	41	146
2/	5/	21	45	146
2/	5/	21	49	146
2/	5/	21	53	146
2/	5/	21	57	146
2/	5/	21	1	146
2/	5/	21	5	146
2/	5/	21	9	146

2/ 5/80 DAY HOUR MIN SEC USEC

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 15 2/18/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 23
 MSEC 146

4

4

4

4

4

4

4

4

4

2/ 5/80
 DAY 21
 HOUR 4
 MIN 45
 SEC 146

DAY 21
 HOUR 4
 MIN 45
 SEC 146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLC NO 21 2/5/80

DAY	2/5/80	DAY	2/5/80
HR	21	HR	2
MIN	4	MIN	5
SEC	25	SEC	5
USEC	146	USEC	146

TIME FROM RUPTURE - SECONDS

TIME FROM RUPTURE - SECONDS	TIME FROM RUPTURE - SECONDS	TIME FROM RUPTURE - SECONDS	TIME FROM RUPTURE - SECONDS
4	8	12	16
20	24	28	32
36	40		

ETEC DATA PLOT
DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

LOT 10 22 2/15/80

DRY 2/ 5/80
HOUR 21
MIN 5
SEC 5
H-SEC 146

2/ 5/80 DRY
HOUR 21
MIN 5
SEC 5
H-SEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT NO	DAY	2/5/80	SEQ	119	500	510	520	530	540	550	560	570	580	590	600	315.00	307.50	300.00	292.50	285.00	277.50	270.00	262.50
146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146	146

2/5/80 DAY 1 11 56

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTA SWR A2 2-5-80

PLOT NO 60 2/15/80

DAY 2/ 5/80
 SEC 120
 SEC 146

4
 29
 143

4
 93
 146

4
 97
 146

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 41
 146

4
 45
 146

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 49
 146

4
 53
 146

4
 57
 146

5
 1
 146

2/ 5/80 DAY
 21
 5
 5
 146

DAY
 21
 5
 5
 146

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 10 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 23
146

4
146

4
146

4
146

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146

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146

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146

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146

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146

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146

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146

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146

2/ 5/80 DAY
21 HOUR
4 MIN
33 SEC
146

ETEC DATA PLOT

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 20 2/19/80

SEQ 122
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 33
MSEC 146

24
146

25
146

26
146

27
146

28
146

29
146

30
146

31
146

32
146

2/ 5/80
DAY 21
HOUR 4
MIN 33
SEC 146
MSEC

ETEC DATA PLOT
 DIGITAL DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLT 10 21 2/18/80

2/ 5/80
 21
 33
 158

2/ 5/80
 21
 33
 158

DRY
 HOUR
 MIN
 SEC
 MSEC

[illegible]

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT 25 2/13/80
 DAY 2/ 5/80
 P. 21
 SEC 1
 MSEC 1

P/ 5/80 DAY
 21
 5
 1
 148

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTA SWR A2 2-5-80

2/5/80
 DAY 21
 NIGHT 21
 WPC 146
 SEC 146

2/5/80
 DAY 21
 NIGHT 21
 WPC 146
 SEC 146

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTA SWR A2 2-5-80

DEG C

TE-11-9 DEG F

TIME FROM RUPTURE - SECONDS

Time (Seconds)	Temperature (DEG C)
0	600
4	650
8	700
12	750
16	800
20	850
24	900
28	1000
32	980
36	950
40	920

ETEC DATA PLOT
 DIGITAL DATA AT 125 PER SECOND
 LLTA SWA A2 2-5-80

PLOT NO 18 2/18/80
 SEQ 133
 DAY 2/ 5/80
 HOUR 21
 MIN 21
 SEC 14

DAY 2/ 5/80
 HOUR 21
 MIN 21
 SEC 14

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLT NO 5 2/15/80
 SEQ 135
 500 510 520 530 540 550 560 570 580 590 600

2/ 5/80
 21
 DRY
 P R
 MIN
 MAX
 AVE

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 57 2/15/80

SEQ 136
 200
 215
 220

2/ 5/80
 215
 220

215
 220

215
 220

215
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215
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215
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215
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215
 220

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 58 2/15/80
 150 300 340 380 420 460 500 540 580 620 660 700
 SEQ 137
 2/ 5/80
 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700
 150 160 170 180 190 200 210 220 230 240 250 260 270 280 290 300 310 320 330 340 350 360 370 380 390 400 410 420 430 440 450 460 470 480 490 500 510 520 530 540 550 560 570 580 590 600 610 620 630 640 650 660 670 680 690 700
 2/ 5/80 DRY
 21 1" R
 5 14
 5 SEC
 115 NGFC

DIGITAL DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	DAY	2/ 5/80
	HR	21
	MIN	4
	SEC	24
	DEC	546

2/ 5/AD	DAY
2	1 AM
4	11 1
34	5 FT
6 16	6 50

Graph showing Pressure (KG/CU M and LB/CU FT) versus Time from Rupture - Seconds for D503.

The graph displays a sharp drop in pressure starting around 42 seconds, reaching a minimum of approximately -40 LB/CU FT at 54 seconds, followed by a recovery.

Time from Rupture - Seconds	Pressure (LB/CU FT)	Pressure (KG/CU M)
0	40	20
42	40	20
48	-10	-5
54	-40	-20
60	-10	-5

2/ 5/80 DAY
21 HOUR
5 MIN
25 SEC
146 NSFC

LLTH SWH H2 2-5-60

KG/CU M

D-503 LB/CUFT

TIME FROM RUPTURE - SECONDS

2/ 5/80	DAY
21	HOUR
4	MIN
30	SEC
146	MSEC

DIGITAL DATA AT 50 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	TIME FROM ROTURE - SECONDS					2/ 5/80				
	DAY	HOUR	MIN	SEC	MSEC	DAY	HOUR	MIN	SEC	MSEC
	2/	5/80				2/	5/80			
	21					21				
	4					4				
	25					25				
	146					146				

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 15 2/13/80

SEQ 205

DAY 2/ 4/80
 HOUR 21
 MIN 5
 SEC 15

2/ 5/80 DAY
 21 HOUR
 5 MIN
 15 SEC
 M F C

ETEC DATA PLOT
 DIGITAL DATA AT 50 PER SECOND
 LLTR SWR A2 2-5-80

PLOT A2 1 2/19/80
 DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 25
 MSEC 146

4
 146

4
 146

4
 146

4
 146

4
 146

4
 146

4
 146

4
 146

4
 146

4
 146

2/ 5/80
 DAY 21
 HOUR 4
 MIN 25
 SEC 146

ETEC DATA PL.

DIGITAL DATA AT 40 PER SECOND
LLTR SWR A2 2-5-80

PLUT NO 4 2/25/80
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

4
31
146

4
37
146

4
43
146

4
49
146

4
55
146

5
1
146

5
7
146

5
13
146

5
19
146

2/ 5/80
21
5
25
146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT

DIGITAL DATA AT 50 PER SECOND
LLTR SWA A2 2-5-80

PLOT NO 2/19/80
DAY 2/ 5/80
HOUR 21
MIN 21
SEC 15
MSEC 146

2/ 5/80 DAY
HOUR 21
MIN 21
SEC 15
MSEC 146

ETEC DATA PLOT
 DIGITAL DATA AT 40 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 5 2/25/80

SEQ 207
 DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 31
 MSEC 146

4
 31
 146

4
 37
 146

4
 43
 146

4
 49
 146

5
 55
 146

5
 1
 146

5
 7
 146

5
 13
 146

5
 19
 146

2/ 5/80 DAY
 21 HOUR
 5 MIN
 25 SEC
 146 MSEC

ETEC DATA PLOT

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 31 2/13/83

DAY 2/5/80

TIME 10:00

100

25

25

25

25

25

25

25

25

25

25

25

25

25

25

25

25

25

25

25

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25

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 8 2/10/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 396

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 396

25 171 25 196 25 221 25 246 25 271 25 296 25 321 25 346 25 371

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT 41 2/5/80

DAY 2/ 5/80
HOUR 21
MIN 25
SEC 138

25
138

25
241

25
298

25
346

25
396

25
446

25
496

25
546

25
596

2/ 5/80 DAY
21
25
138

MEGAPASCALS

PSIG

P-501

SEQ 3

TIME FROM RUPTURE - SECONDS

2/ 5/80	DAY
21	HOUR
4	MIN
00	SEC
146	MSEC

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLDT NO 42 2/13/80

DAY 2/ 5'80
PM A 21
RI 4
ST 25

2/ 5/80 DAY
21
1
27 SEC
61

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PL01 NO 2/11/80
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSFC 97

25
107

25
117

25
127

25
137

25
147

25
157

25
167

25
177

25
187

2/ 5/80 DAY
21 HOUR
4 MIN
25 SEC
197 MSFC

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PLOT NO 1 2/11/80
DAY 2/ 5/80
FOUR 21
SER 25
NO 143

25
143

25
144

25
145

25
146

25
147

25
148

25
149

25
150

25
151

2/ 5/80 DAY
21 HOURS
2 MIN
1 SEC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PLT NO 1 2/13/80

DAY 2/ 5/80

TIME 11:21

25 25 25 25 25 25 25

2/ 5/80 DAY

2 11

25 25 25 25 25 25 25

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLCT J 43 2/13/80

DAY 2/ 5/80
TIME 11:11
11:11
11:11

2/ 5/80 DAY
21
11:11
11:11

ETEC DATA PLOT

DIGITIZED DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLT NO 3 2/15/80

2/ 5/80
21
11

2/ 5/80
21
11

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

210 40 2 2/11/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 145

4
25
246

4
25
346

4
25
446

4
25
546

4
25
646

4
25
746

4
25
846

4
25
946

4
26
46

2/ 5/80 DAY
HOUR 21
MIN 4
SEC 26
MSEC 145

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2/5/80

PLOT NO 3 3/11/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 46

25
96

25
146

25
196

25
246

25
296

25
346

25
396

25
446

25
496

2/ 5/80
21
4
25
546

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 2 2/13/80

DAY 2/5/80
MOJH 21
SEC 4
C 25

25

25

25

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25

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25

2/5/80
2
2
2

DAY
1-1
1-1
SEP
M-L-C

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLG 13 47 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 24
SEC 13

2/ 5/80 DAY
21 MIN
13 SEC

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLG- N° 32 2/13/80

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DPY      2/ 5/80
HOL P    21
MIN      4
SEC      25
MSEC     146

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2/ 5/80 DNY
21 1-7P
2 4
25 SRC
FI MFC

ETEC DATA PLOT

DIGITIZED DATA AT 1250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 23 2/11/80

DAY 2/ 5/80
TIME 21
16.5

2/ 5/80 DAY
1 11.1
1 11.1
1 11.1

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PL01 A2 2/15/80

DAY 2/5/80
 HOUR 21
 MIN 11
 SEC 11

126

126

126

126

126

126

126

126

126

126

126

126

126

126

126

2/5/80 DAY
 21:11:11
 35

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 23 2/14/80

DAY 2/ 5/80
SEC 1
MIN 16
SEC 16

2/ 5/80 DAY
21
14
26
146

DAY
21
14
26
146

ETEC DATA PLOT

DIGITIZED DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 48 2/14/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 26
NSC 146

4
26
146

4
27
146

4
28
146

4
29
146

4
30
146

4
31
146

4
32
146

4
33
146

4
34
146

2/ 5/80
21
4
35
146

DAY
MIN
SEC
NSC

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT 20 2/13/80

DAY 2/ 5/80
2/ 5/80
2/ 5/80

2/ 5/80 DAY
2/ 5/80 DAY
2/ 5/80 DAY

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT M3 03 2/13/80

DAY 2/ 5/80
TIME 21
MIN 4
SEC 25
M.F.C.

DAY 2/ 5/80
TIME 21
MIN 4
SEC 25
M.F.C.

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PLOT NO 2 2/11/80

DAY 2/ 5/80
HOUR 21
SEC 25

25
143

25
144

25
145

25
146

25
147

25
148

25
149

25
150

25
151

2/ 5/80
21
4
25
152

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PLT NO 2 2/11/80

DAY 2/ 5/80
HOUR 21
SEC 4
MFC

25
107

25
117

25
127

25
137

25
147

25
157

25
167

25
177

25
187

2/ 5/80
21
4
25
197

DAY
HOUR
M
SEC
MFC

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

FIG NO 2 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 6
SEC 25
MS 145

25
17

25
195

25

24

27

25

323

2
34

37²

2/ 5/80 DAY
2
25 SE
31

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 44 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25

2/ 5/80 DAY
21 FRI
4 M
25 SEC

ETEC DATA PLOT

DIGITIZED DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 5 2/13/80

SEQ 21

2/ 5/80

2/ 5/80

DAY

21

TIME

11:05

SFC

11:05

M FR

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 5 2/14/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
M-PC 146

25
246

25
346

25
446

25
546

25
646

25
746

25
846

25
946

26
46

2/ 5/80 DAY
21 HOUR
4 MIN
26 SEC
146 M-PC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PLOT No 21 2/13/80

DAY

2/

5/80

21

21

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21

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 1 2/15/80
 DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 26

25
146

25

25

25

25

25

25

25

25

25

2/ 5/80 DAY
 21 HOUR
 4
 26

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO	DAY HOUR	MIN	SEC	MSEC	FIRE FROM HOT TONE	SECONDS	2/ 5/80	DAY HOUR	MIN	SEC	MSEC
	21	4	25	46		4	21	4	25	46	
	24	25	46	746		4	24	25	46	746	
	25	46	846	446		4	25	46	846	446	
	25	46	846	546		4	25	46	846	546	
	25	46	846	646		4	25	46	846	646	
	25	46	846	746		4	25	46	846	746	
	25	46	846	846		4	25	46	846	846	
	25	46	846	946		4	25	46	846	946	
	25	46	846	046		4	25	46	846	046	
	25	46	846	146		4	25	46	846	146	
	25	46	846	246		4	25	46	846	246	
	25	46	846	346		4	25	46	846	346	
	25	46	846	446		4	25	46	846	446	
	25	46	846	546		4	25	46	846	546	
	25	46	846	646		4	25	46	846	646	
	25	46	846	746		4	25	46	846	746	
	25	46	846	846		4	25	46	846	846	
	25	46	846	946		4	25	46	846	946	
	25	46	846	046		4	25	46	846	046	
	25	46	846	146		4	25	46	846	146	
	25	46	846	246		4	25	46	846	246	
	25	46	846	346		4	25	46	846	346	
	25	46	846	446		4	25	46	846	446	
	25	46	846	546		4	25	46	846	546	
	25	46	846	646		4	25	46	846	646	
	25	46	846	746		4	25	46	846	746	
	25	46	846	846		4	25	46	846	846	
	25	46	846	946		4	25	46	846	946	
	25	46	846	046		4	25	46	846	046	
	25	46	846	146		4	25	46	846	146	
	25	46	846	246		4	25	46	846	246	
	25	46	846	346		4	25	46	846	346	
	25	46	846	446		4	25	46	846	446	
	25	46	846	546		4	25	46	846	546	
	25	46	846	646		4	25	46	846	646	
	25	46	846	746		4	25	46	846	746	
	25	46	846	846		4	25	46	846	846	
	25	46	846	946		4	25	46	846	946	
	25	46	846	046		4	25	46	846	046	
	25	46	846	146		4	25	46	846	146	
	25	46	846	246		4	25	46	846	246	

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 12 2/14/80

DAY 2/ 5/80
TIME 21
SEC 14
REC 46

22

22

22

22

22

22

22

22

22

2/ 5/80 DAY
21 TIME
14 SEC
46 REC

ETEC DATA PLOT
 DIGITIZED DATA AT 500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 2 2/19/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 26
 MSEC 146

2/ 5/80
 HOUR 21
 MIN 4
 SEC 30
 MSEC 146

DAY
 HOUR
 MIN
 SEC
 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 500 PER SECOND
LLTR SWR A2 2-5-80

#101 IN 2 2/15/80

2/ 5/80
11 21 30
11 21 30

2/ 5/80 00Y
21 11 3
4 30
11 11 30

ETEC DATA PLOT
 DIGITIZED DATA AT 1250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 24 2/14/80

DAY 2/ 5/80
 21
 125

2/ 5/80 DAY
 21
 27
 146

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
 , LLTR SWR A2 2-5-80

PLOT NO 33 2/13/80

2/ 5/80
 2/ 5/80
 2/ 5/80

2/ 5/80 DNY
 2/ 5/80 DNY
 2/ 5/80 DNY

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 1 2/13/80

DAY 2/ 5/80
TIME 2: 21
SEC 25

25
171

25
196

25
221

25
245

25
271

25
296

25
321

25
346

25
371

2/ 5/80 [A]
21 7: 00 P
25 1: 11 N
27 4: 11 N
29 8: 11 N

ETEC DATA PLOT
 DIGITIZED DATA AT 500 PER SECOND
 LLTR SWR A2 2-5-80

P-3T NC 2/19/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 30
 MSEC 146

25 4
 646

26 4
 146

27 4
 946

27 4
 146

27 4
 546

28 4
 146

28 4
 646

29 4
 146

29 4
 646

2/ 5/80 DAY
 21 HOUR
 4 MIN
 30 SEC
 146 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

2/5/80 DAY
10:10
10:10
10:10

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 3 2/13/80

DAY 2/ 5/80
 SEC 2
 MIN 25
 SEC 46

25
171

25
196

25
221

25
246

25
271

25
296

25
321

25
346

25
371

DAY 2/ 5/80
 SEC 2
 MIN 25
 SEC 46

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT 13 37 2/13/80

DAY 2/ 5/80
TIME 12:27
SEC 4
MIN 10
HOUR 10

DAY 2/ 5/80
TIME 12:27
SEC 4
MIN 10
HOUR 10

ETEC DATA PLOT
 DIGITIZED DATA AT 1250 PER SECOND
 LLTR SWR A2 2-5-80

2/14/80

2/5/80

2/5/80

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

2031 NC 1 2/19/80

DAY 2/ 5/80
HOUR 21
MIN 25
SEC 14

4
25
240

4
25
340

4
25
440

4
25
540

4
25
640

4
25
740

4
25
840

4
25
940

4
26
46

2/ 5/80 DAY
21 HOUR
4 MIN
25 SEC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2/5/80

PLT 10 3/11/80
DAY 2/ 5/80
HOUR 21
MIN 44
SEC 25
MSEC 146

25 171 25 196 25 221 25 246 25 271 25 296 25 321

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 2/11/80

DAY 2/ 5/80
FOUR 21
SEC 25
ETEC 146

246

25

346

25

446

25

546

25

646

25

746

25

846

25

946

26

46

2/ 5/80

21

4

26

146

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

FLIGHT NO 13 2/14/80

DAY 2/ 5/80
MIN 21
SEC 25
MSEC 46

DAY 2/ 5/80
MIN 21
SEC 25
MSEC 46

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

7.3 NO 48 2/13/80

DAY 2/5/80
TIME 12:25
PAGE 1

2/5/80
TIME 12:25
PAGE 1

ETEC DATA PLOT
 DIGITIZED DATA AT 1250 PER SECOND
 LLTA SWR A2 2-5-80

PLOT NO 25 2/14/80

DAY 2/ 5/80
 SEC 21
 MIN 21
 SEC 21

25
 346

25
 546

25
 746

25
 946

28
 146

28
 346

26
 546

26
 746

26
 946

2/ 5/80 DAY
 21 MIN
 27 SEC
 14H

ETEC DATA PLOT
 DIGITIZED DATA AT 5000 PER SECOND
 LLTR SWR A2 2-5-80

2/ 5/80
 2/ 5/80
 2/ 5/80

2/ 5/80 DAY
 21 HOUR
 25 MIN
 25 SEC

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLT NO 5 2/14/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MTC 146

4
25
246

4
25
246

4
25
446

4
25
546

4
25
646

4
25
746

4
25
846

4
25
946

4
26
46

2/ 5/80 DAY
21 HOUR
4 MIN
26 SEC
146 MTC

ETEC DATA PLOT
 DIGITIZED DATA AT 500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 10 2/12/80
 DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 30
 MSEC 146
 28 27 27 28 28 29 29
 146 146 146 146 146 146 146
 646 646 646 646 646 646 646

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PICT NO 28 2/13/80

DAY 2/ 5/80
- P 21
Y 4
SLC 5
M C 1

2/ 5/80	DAY
21	1
22	2
23	3
24	4
25	5
26	6
27	7
28	8
29	9
30	10
31	11
32	12
33	13
34	14
35	15
36	16
37	17
38	18
39	19
40	20
41	21
42	22
43	23
44	24
45	25
46	26
47	27
48	28
49	29
50	30
51	31
52	32
53	33
54	34
55	35
56	36
57	37
58	38
59	39
60	40
61	41
62	42
63	43
64	44
65	45
66	46
67	47
68	48
69	49
70	50
71	51
72	52
73	53
74	54
75	55
76	56
77	57
78	58
79	59
80	60
81	61
82	62
83	63
84	64
85	65
86	66
87	67
88	68
89	69
90	70
91	71
92	72
93	73
94	74
95	75
96	76
97	77
98	78
99	79
100	80
101	81
102	82
103	83
104	84
105	85
106	86
107	87
108	88
109	89
110	90
111	91
112	92
113	93
114	94
115	95
116	96
117	97
118	98
119	99
120	100

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

2/13/80

2/5/80

2/5/80

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

2/5/80 DAY

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 39 2/13/80

DAY 2/ 5/80
SEC 21
MIN 16
SEC 21

2/ 5/80 DAY
21 MIN
16 SEC

DIGITIZED DATA AT 1250 PER SECOND
LLTR SWR A2 2-5-80

PLST NO 30 2/14/80

DAY	2/ 5/80
NO R	21
P H	4
S C	25
N EC	1 F

2/ 5/80	DRY
21	F 7
4	11
23	SFC
110	MFC

ETEC DATA PLOT
 DIGITIZED DATA AT 5000 PER SECOND
 LLTR SWR A2 2-5-80

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 16

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 16

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 52 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MTC 105

25

25

25

25

25

25

25

25

25

2/ 5/80
DAY 21
HOUR 4
MIN 25
SEC 105

DAY 21
HOUR 4
MIN 25
SEC 105

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 166

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 166

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLT NO 7 3/ 5/80
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 218

2/ 5/80
DAY 21
HOUR 4
MIN 25
SEC 218

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PLOT #3 8 2/13/80

2/ 5/80
21
21
21
21

25

25

25

25

25

25

25

25

25

2/ 5/80
21
21
21
21

DAY
H*JR
H N
SEP

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

7/31/80 14 2/14/80

SEQ 51

2/ 5/80 DAY
2 1-119
2/ 5/80

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 7 2/13/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 146

25

25

25

25

25

25

25

25

25

2/ 5/80 DAY
 21
 4
 25
 31

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 6 2/14/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 25
 MSEC 146

25
246

4
346

4
446

4
546

4
646

4
746

4
846

4
946

4
46

2/ 5/80
 21
 4
 26
 146

DAY
 HOUR
 MIN
 SEC
 MSEC

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 8 2/15/80
 DAY 2/ 5/80
 TIME 21 28 27 28 30 31 32 33 34 35
 146 146 146 146 146 146 146 146 146 146
 2/ 5/80 DDY
 21 146
 28 146
 27 146
 28 146
 30 146
 31 146
 32 146
 33 146
 34 146
 35 146

DIGITIZED DATA AT 500 PER SECOND
LLTR SWR A2 2-5-80

08/01/2 11 CR JC7D

DRY 2/ 5/80
 H7JR 21
 MIN 4
 SEC 25
 KS 185

```

2/ 5/80    DAY
  21       HOUR
   4        MIN
  30        SEC
 146       MSEC

```

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

TIME FROM RUPTURE - MILLISECONDS

2/ 5/80 DNY
21 11
25 11
11 11

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

FL0T NO 8 2/13/80

DAY 2/ 5/80
H 17 24
M 14 4
SE 25
M 10 145

2/ 5/10 DAY
2 10 7
1 11 4
25 5 0
31

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 53 2/15/80

DAY 2/ 5/80
HOUR 21
MIN 25
SEC 25
NO. 0

2/ 5/80 DAY
21 HOUR
25 MIN
25 SEC
NO. 0

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PL01 NO 55 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
M 57

2/ 5/80 DAY
21 "J
4 "C
25 "C
"C

ETEC DATA PLOT
 DIGITIZED DATA AT 1250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT N3 25 2/14/80

DAY 2/ 5/80
 MIN 21
 SEC 14

2/ 5/80 DAY
 21 HOUR
 14 MIN
 27 SEC
 146 N PC

ETEC DATA PLOT
 DIGITIZED DATA AT 500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 38 2/14/80

DRY 2/ 5/80
 HJ 9
 MIN 21
 SEC 25
 145

4
 25
 646

4
 26
 146

4
 26
 646

4
 27
 146

4
 27
 646

4
 28
 146

4
 28
 646

4
 29
 146

4
 29
 646

2/ 5/80 DRY
 HJ 9
 MIN 21
 SEC 25
 145

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 7 2/15/80

DAY 2/ 5/80
 TIME 21
 SEC 25
 SEC 146

26
146

27
146

28
146

29
146

30
146

31
146

32
146

33
146

34
146

35
146

2/ 5/80 DAY
 TIME 21
 SEC 35
 SEC 146

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

2/ 5/80 DAY
21 11 11
11 11 11

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

2/ 5/80 DAY
21 PMJR
1 1 1
25 SEC
115 N Ff

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2/5/80

PLOT NO 2 3/11/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

25

25

25

25

25

25

25

25

25

2/ 5/80

DAY 21
HOUR 4
MIN 25
SEC 396

MSFC

ETEC DATA PLOT

DIGITIZED DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 8 2/15/80

DAY 2/ 5/80
TIME 21
SEC 25
SEC 145

26
146

27
146

28
146

29
146

30
146

31
146

32
146

33
146

34
146

2/ 5/80
21
25
145

DAY
TIME
SEC
SEC

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

2/25/80
 DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 35
 MSEC 146

2/ 5/80
 DAY 21
 HOUR 4
 MIN 35
 SEC 146
 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 39 2/19/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

4
25
646

4
26
146

4
26
646

4
27
146

4
27
646

4
28
146

4
28
646

4
29
146

4
29
646

2/ 5/80 DAY
HOUR 21
MIN 4
SEC 30
MSEC 146

DIGITIZED DATA AT 250 PER SECOND
LLTR SWR A2 2-5-80

[illegible]

ETEC DATA PLOT

DIGITIZED DATA AT 500 PER SECOND

LLTR SWR A2 2-5-80

MEGAPASCALS

P-505 PSIG

SEQ 68

TIME FROM RUPTURE - SECONDS

Time from Rupture (Seconds)	Pressure (Megapascals)
0.00	11.80
0.50	12.00
1.00	12.20
1.50	12.40
2.00	12.60
2.50	12.80
3.00	12.90
3.50	13.00
4.00	13.10
4.50	13.20
5.00	13.20

DAY 2/ 5/80		FILE FROM		NOT FILE		SECONDS		2/ 5/80		DAY	
WFLR	21	u				u		u	21	u	DRY
WFLR	4					u		u	4	u	FIN
WFLR	25	u	26	u	27	u	28	u	29	u	SEC
WFLR	100	u	100	u	100	u	100	u	100	u	SEC

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTA SWR A2 2-5-80

2/ 5/80 DRY
21
11
11

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PLOT NO 3 2/11/80
DAY 2/ 5/80
HOUR 21
SEC 4
PC 47

25 107 25 117 25 127 25 137 25 147 25 157 25 167 25 177 25 187

2/ 5/80 DAY
21 HOUR
4 SEC
47 PC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLOT NO 2 3/ 5/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MTC 170

2/ 5/80 DAY
21 HOUR
4 MIN
25 SEC
170 MTC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLOT NO 8 3/ 5/80
DAY 2/ 5/80
SEC 21
MSEC 160

152

158

164

170

176

182

189

194

200

206

212

2/ 5/80 DAY
21 HOUR
4 MIN
25 SEC
218 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PLOT NO 3 2/11/80
DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
FILE 142

2/ 5/80 DAY
21 HOUR
4 MIN
25 SEC
152 FILE

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

DPY 2/ 5/80
HJUR 21
F H
SEA 25
MSEA 146

2/ 5/80 DRY
21
4
25
21

DIGITIZED DATA AT 1250 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 27 2/14/80

DAY	2/ 5/80
MON	21
TUE	4
WED	25
THU	4

2/ 5/60	DOY
21	PO 13
4	MIN
27	CLC
100	100

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 30 2/13/80

DAY 2/ 5/80
TIME 21
MIN 6
SEC 25
FILE 51

DAY 2/ 5/80
TIME 21
MIN 6
SEC 25
FILE 51

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

PLT NO 58 2/13/80

DAY 2/5/80
 TIME 21
 SEC 4
 MIN 16

2/5/80 DAY
 21 TIME
 4 MIN
 16 SEC
 1600

ETEC DATA PLOT
 DIGITIZED DATA AT 500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 40 2/14/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 25
 MSEC 146

4
 25
 848

4
 26
 148

4
 26
 848

4
 27
 148

4
 27
 848

4
 28
 148

4
 28
 848

4
 29
 148

4
 29
 848

2/ 5/80 DAY
 21 HOUR
 4 MIN
 30 SEC
 146 MSEC

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 3 2/25/80

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 34
 MSEC 146

26
146

27
146

28
146

29
146

30
146

31
146

32
146

33
146

34
146

2/ 5/80
 DAY 21
 HOUR 25
 MIN 34
 SEC 146

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 9 2/15/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 25
 MSEC 146

26 4
 146

27 4
 146

28 4
 146

29 4
 146

30 4
 146

31 4
 146

32 4
 146

33 4
 146

34 4
 146

2/ 5/80

DAY 21
 HOUR 4
 MIN 35
 SEC 141

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLOT NO 3 3/ 5/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 166

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 166

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLOT NO 9 3/5/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

25

152

25

158

25

164

25

170

25

176

25

182

25

188

25

194

25

200

25

206

25

212

2/ 5/80
21

DAY HOUR
MIN 4
SEC 25
MSEC 218

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 11 2/19/80

DAY 2/ 5/80
HOUR 21
MI 4
SFC 25
M EC 146

2/ 5/80 DAY
21 1 CLR
4 1 1 1
25 SEC
11 M 1

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 18 2/14/80

SEQ 77
 DAY 2/ 5/80
 HOUR 21
 MIN 12
 SEC 25
 MFC 125

2/ 5/80 DAY
 21 HOUR
 4 M
 26 SEC
 140 MFC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

2.31 12 2/13/80

DAY 2/ 5/80
HOUR 21
SEC 25
MFC 141

25

25

25

25

25

25

25

25

25

2/ 5/80
21
25
306

DAY 2/ 5/80
HOUR 21
SEC 25
MFC 306

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLT NO 30 2/13/80

DAY 2/ 5/80
TIME 21 06

2/ 5/80 DAY
21 HOUR
06 MIN
25 SEC
61°F

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 7 2/18/80

BRY 2/ 5/80
 FOUR 21
 MIN 11:34
 SEC 11:34

2/ 5/80 DAY
 21 HOUR
 11 MIN
 34 SEC
 11 NSEC

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

PL3 NO 7 2/11/80

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 25
 MSEC 148

25
 246

25
 346

25
 446

25
 546

25
 646

25
 746

25
 846

25
 946

26
 46

2/ 5/80

DAY 21
 HOUR 26
 MIN 26
 SEC 146

ETEC DATA PLOT
 DIGITIZED DATA AT 500 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 1 2/25/80

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 140

4
 25
 140

4
 26
 140

4
 26
 140

4
 27
 140

4
 27
 140

4
 28
 140

4
 28
 140

4
 29
 140

4
 29
 140

2/ 5/80
 DAY 21
 HOUR 30
 MIN 140

DAY 21
 HOUR 30
 MIN 140

ETEC DATA PLOT
 DIGITIZED DATA AT 5000 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 29 2/13/80

DAY 2/ 5/80
 HOUR 21
 MIN 4
 SEC 25
 MSEC 146

25
196

25
246

25
296

25
346

25
396

25
446

25
496

25
546

25
596

2/ 5/80
 21
 4
 25
 146

DAY
 HOUR
 MIN
 SEC
 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PLAT NO 2/11/80

DAY 2/ 5/80
HOUR 21
MIN 25
SEC 25
MFC 97

25
107

25
117

25
127

25
137

25
147

25
157

25
167

25
177

25
187

2/ 5/80 DAY
21 HOUR
25 MIN
25 SEC
197 SFC
197 HSE

ETEC DATA PLOT

DIGITIZED DATA AT 10,000 SAMPLES/SECOND
LLTR SWR A2 02/05/80

PLT NO 2/11/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 143

25
143

25
144

25
145

25
146

25
147

25
148

25
149

25
150

25
151

2/ 5/80 DAY
21 HOUR
4 MIN
25 SEC
152 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

DAY 2/5/80
HOUR 21
MIN 4
SEC 24

2/5/80 DAY
21 HOUR
4 MIN
24 SEC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

2/13/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 171

25

25

25

25

25

25

25

25

25

25

25

2/ 5/80
DAY 21
HOUR 4
MIN 25
SEC 171

25

25

25

25

25

25

ETEC DATA PLOT
 DIGITIZED DATA AT 2500 PER SECOND
 LLTR SWR A2 2-5-80

2/5/80 2/13/80

DAY 2/ 5/80
 MIN 21
 SEC 25
 USEC 6

25
106

25
206

25
296

25
306

25
396

25
446

25
496

25
506

25
596

2/ 5/80 DAY
 21 MIN
 25 SEC
 6 USEC

ETEC DATA PLOT
 DIGITIZED DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO	DAY	HOUR	MIN	SEC	MSFC
46	2/	5/80	21	4	146
			26	27	146
			28	29	146
			30	31	146
			32	33	146
			34	35	146
			36	37	146

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 61 2/13/80

DAY 2/ 5/80
TIME 21
SEC 146

25
196

25
246

25
296

25
346

25
396

25
446

25
496

25
546

25
596

2/ 5/80
21
114
25
SEC
146

DAY
HOUR
MIN
SEC
H 10

ETEC DATA PLOT
 DIGITIZED DATA AT 500 PER SECOND
 LLTR SWR A2 2-5-80

2/11/80
 DAY 2/ 5/80
 TIME 21
 SEC 146
 25 646
 24 146
 28 646
 27 146
 27 646
 28 146
 28 646
 29 146
 29 646
 2/ 5/80 DAY
 21 TIME
 4 MIN
 30 SEC
 146 H Fr

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 1 2/19/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 396

25

171

25

196

25

221

25

248

25

271

25

296

25

321

25

346

25

371

2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 396

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 396

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLOT NO 3/ 3/80

SEQ 89
P-521 PSIG

2/ 5/80 DAY
21 HOUR
4 MIN
25 SEC
170 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

SEQ 89
-50

2/ 5/80
21
4
25
218

DAY
HOUR
MIN
SEC

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

PLT NO 15 2/13/80

DAY 2/ 5/80
 TIME 21
 SEC 14

2/ 5/80 DAY
 21 FCJR
 25 M11
 31 SEC

ETEC DATA PL.

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PL01 10 17 2/18/83

DAY 2/ 5/83
21
SEC 25
EC 146

25
4

25
4

25
4

25
4

25
4

25
4

25
4

25
4

25
4

25
4

2/ 5/83 DAY
21 HCH
25 MIN
146 SEC
H P

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 15 2/13/80

DAY 2/ 5/80
 HOUR 21
 MIN 24
 SEC 14

DAY 2/ 5/80
 HOUR 21
 MIN 24
 SEC 14

25 171 25 196 25 221 25 246 25 271 25 296 25 321 25 346 25 371

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

7-01 NO 57 2/13/80

DAY 2/ 5/80
MIN 21
SEC 4
MFC 146

25

25

25

25

25

25

25

25

25

2/ 5/80 DAY
21 MIN
4 SEC
146 MFC

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 82 2/13/80

DAY 2/ 5/80
MIN 21
SEC 25
MSEC 15

25
196

25
246

25
296

25
346

25
396

25
446

25
496

25
546

25
596

2/ 5/80
21
4
25
646

DAY
MIN
SEC
MSEC

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

2/ 5/80	DAY
21	HOUR
4	MIN
25	SEC
396	MSEC

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 2 2/10/80

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 15
 SEC 156

25

25

25

25

25

25

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25

25

25

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25

25

25

25

25

2/ 5/80 DAY
 21 HOUR
 25 MIN
 15 SEC
 156 MSEC

PLOT NO 3 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 146

25
171

25
196

25
221

25
246

25
271

25
296

25
321

25
346

25
371

2/ 5/80
21
4
25
396

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M

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 11 2/14/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 26
MSEC 146

254

254

254

254

254

254

254

254

254

254

254

254

254

254

254

254

254

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254

254

254

2/ 5/80 DAY
HOUR 21
MIN 4
SEC 26
MSEC 146

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

PLUT NO 56 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 45
SFC 105

25
196

25
246

25
206

25
346

25
396

25
446

25
496

25
546

25
596

2/ 5/80
21
4
45
105

DAY
HOUR
MIN
SEC
SFC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWA A2 2-5-1980

PLOT NO 5 5/ 5/80

DRY
HOUR
MIN
SEC
MSEC

2/ 5/80
21
4
25
170

DRY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLOT NO 11 3/ 5/80

DAY 2/ 5/80
HOUR 21
MIN 25
SEC 15

25

25

25

25

25

25

25

25

25

25

25

2/ 5/80
21
25
218

DAY
HOUR
MIN
SEC
MSEC

ETEC DATA PLOT
 DATA AT 250 PER SECOND
 LLTR SWR A2 2-5-80

FLGT NO 1 2/15/80
 DRY 2/ 5/80
 MIN 21
 MAX 146
 SEC 96

2/ 5/80 DRY
 MIN 21
 MAX 146
 SEC 96

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 16 2/13/80

DAY 2/ 5/80
TIME 21
SEC 25
MSEC 145

25

25

25

25

25

25

25

25

25

2/ 5/80
21
25
21

DAY
TIME
SEC
MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLOT NO 40 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 46
SEC 25
1500

25 196 25 246 25 246 25 246 25 396 25 446 25 496 25 546 25 596

2/ 5/80 DAY
21 HOUR
46 MIN
25 SEC
1500

ETEC DATA PLOT

DIGITIZED DATA AT 1250 PER SECOND
LLTR SWR A2 2-5-80

7.0 NO 31 2/14/80

DAY 2/ 5/80
MIN 21
SEC 4
TIME 145

2/ 5/80
21
4
27
145

DAY
POUR
MIN
SEC
TIME

ETEC DATA PLOT

DIGITIZED DATA AT 2500 PER SECOND
LLTR SWR A2 2-5-80

DRY 2/5/80
NO. 21
11

2/5/80 DRY
21
11

ETEC DATA PLOT
 DIGITIZED DATA AT 1250 PER SECOND
 LLTR SWR A2 2-5-80

PLOT NO 39 2/14/80

DAY 2/ 5/80
 HOUR 21
 MIN 25
 SEC 16

2/ 5/80 DAY
 21 HOUR
 25 MIN
 16 SEC

DIGITIZED DATA AT 5000 PER SECOND
LLTR SWR A2 2-5-80

PLD- NC 38 2/13/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25
MSEC 144

2/ 5/80	DAY
21	HOUR
4	MIN
25	SEC
FBI	M C

ETEC DATA PLOT

DIGITIZED DATA AT 250 PER SECOND

LLTR SWR A2

2-5-80

PLOT NO	DAY	2/ 5/80
	HOUR	21
	MIN	4
	SEC	25
	MSEC	140

2/ 5/80	DAY
21	HOUR
4	MIN
35	SEC
146	MSFC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLT NO 6 3/ 5/80

DRY HOUR 2/ 5/80
SEC 21
MIN 4
SEC 25
MSEC 166

25 148

25 150

25 152

25 154

25 156

25 158

25 160

25 162

25 164

25 166

25 168

2/ 5/80 DRY HOUR
21
4
25
170 MSEC

ETEC DATA PLOT

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-1980

PLOT NO. 2 3/3/80

DAY 2/ 5/80
HOUR 21
MIN 4
SEC 25

152

158

164

170

176

182

188

194

200

206

212

2/ 5/80
DAY 21
HOUR 4
MIN 25
SEC 218
MSEC

DIGITIZED DATA AT 10000 PER SECOND
LLTR SWR A2 2-5-80

PL 90-19 2/13/80

2/ 5/89
21
24
0
-50
950 102

2/ 5/80	DRY
21	PCUR
4	1 11
2	11
	11 11

ETEC DATA PLOT

DIGITIZED DATA AT 500 PER SECOND
LLTR SWR A2 2-5-80

2/ 5/80
21

2/ 5/80
21
DAY
HOUR

ETEC DATA PLOT
 DIGITIZED DATA AT 10000 PER SECOND
 LLTR SWR A2 2-5-80

PLT M3 20 2/13/80

DAY 2/ 5/80
 HOUR 21
 MIN 21
 SEC 25

2/ 5/80 DAY
 21 HOUR
 21 MIN
 25 SEC

ETEC DATA PLOT

DIGITIZED DATA AT 500 PER SECOND
LLTR SWR A2 2-5-80

2107 NO 15 2/19/80

DAY 2/ 5/80
HOUR 21
MIN 24
SEC 14

2/ 5/80
DAY 21
HOUR 24
MIN 30
SEC 14

DAY 21
HOUR 24
MIN 30
SEC 14