SPECIMEN CIRCUIT LEAKAGE PLOTS

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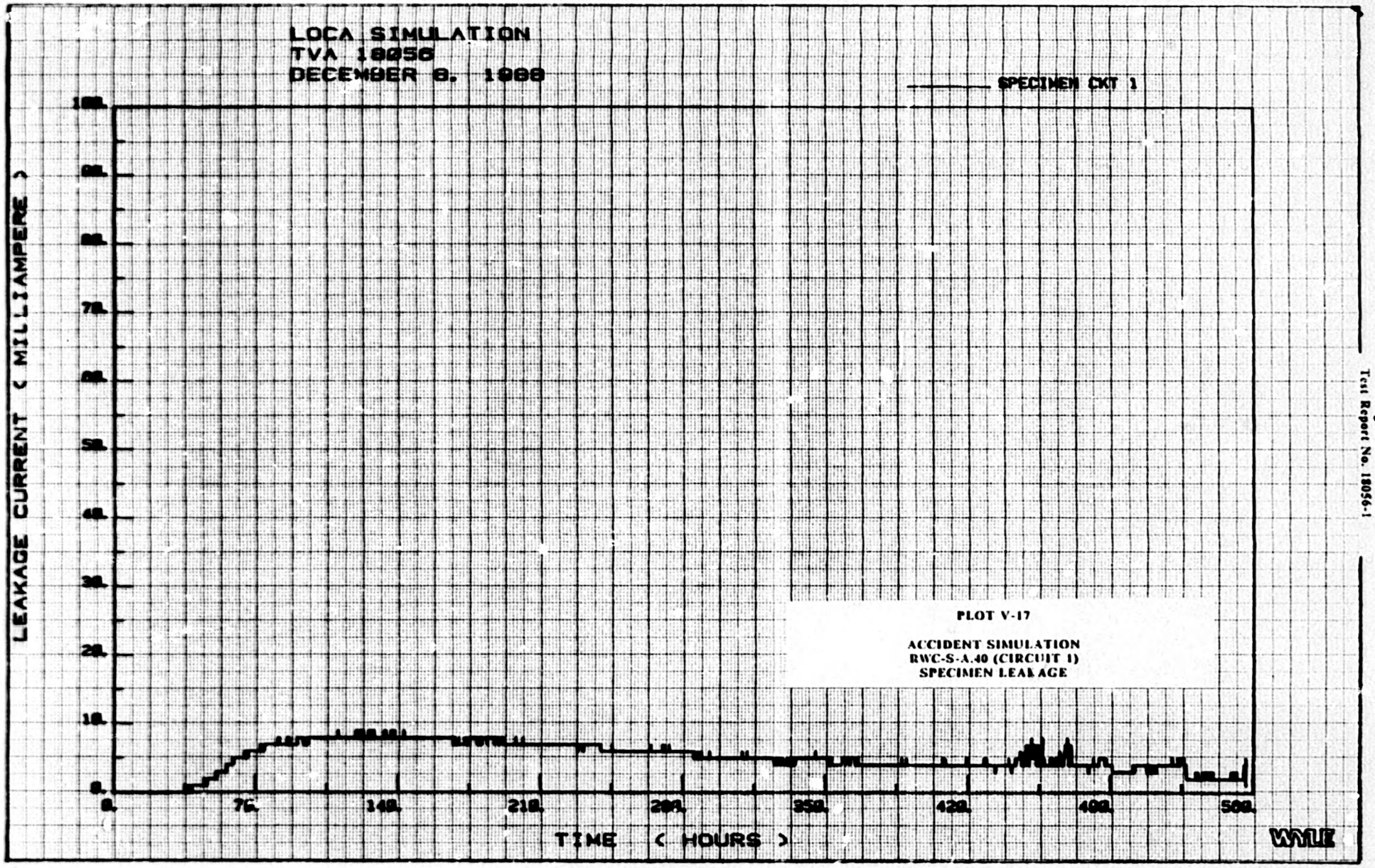
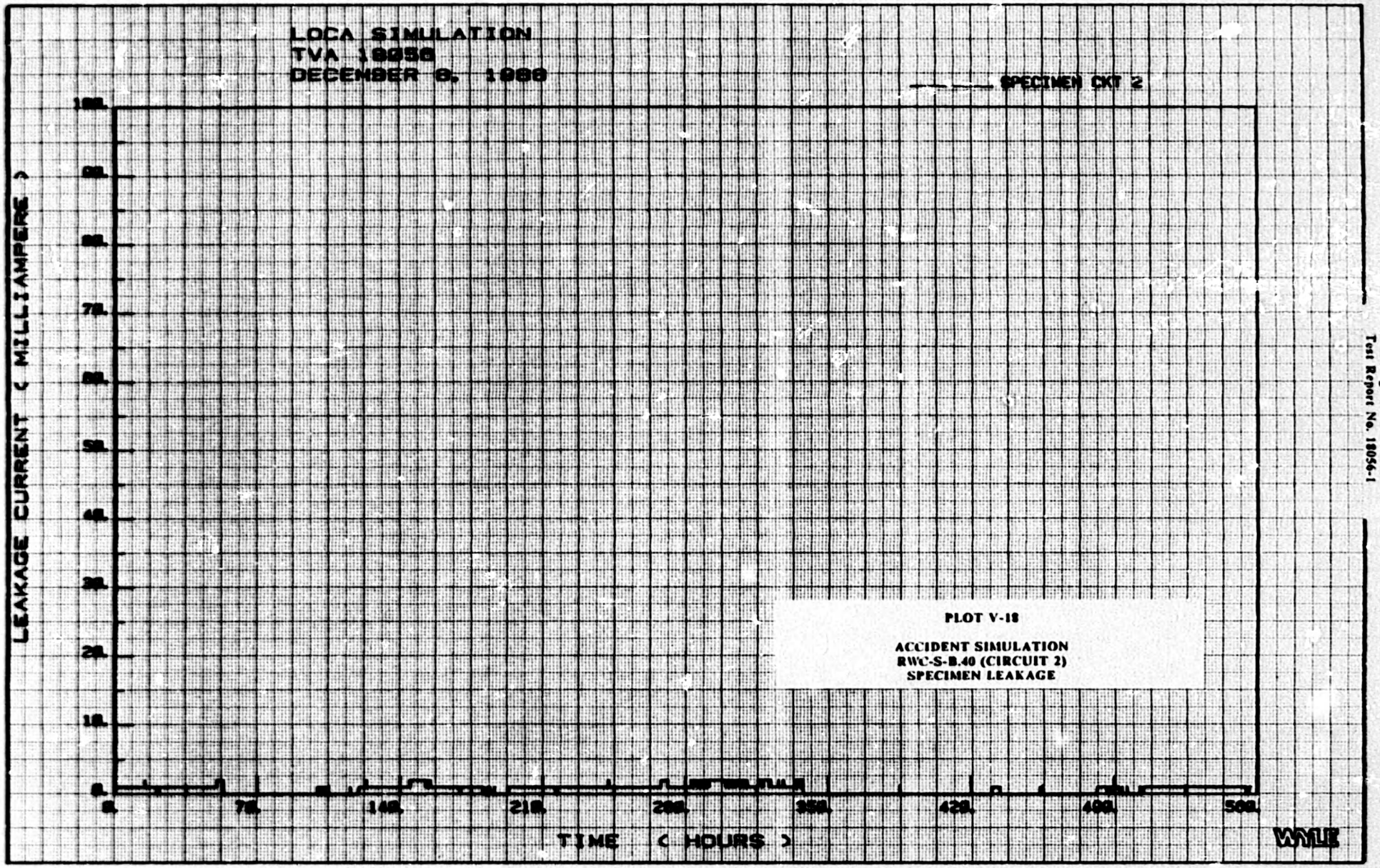


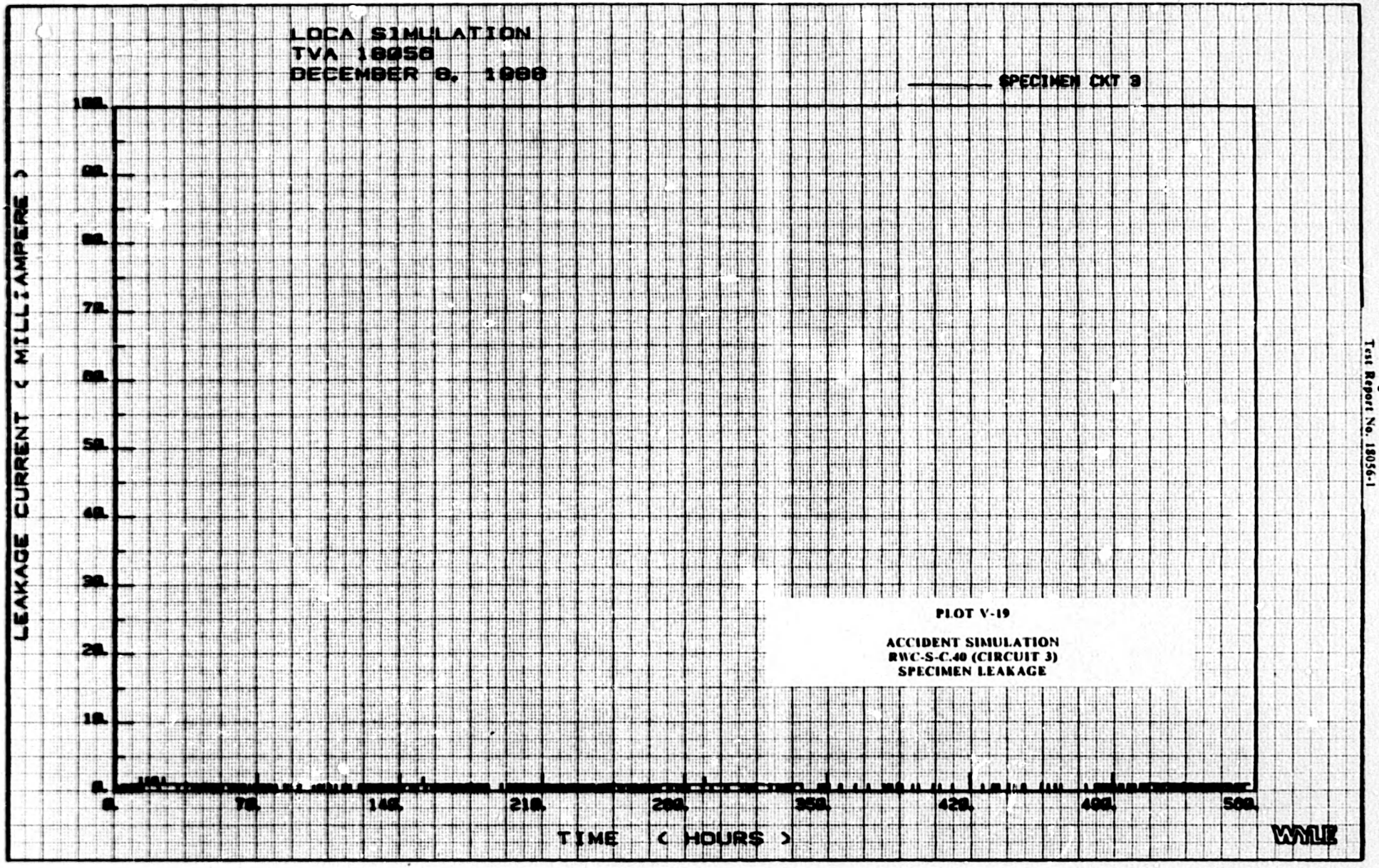
PLOT V-17

ACCIDENT SIMULATION
RWC-S-A.40 (CIRCUIT 1)
SPECIMEN LEAKAGE



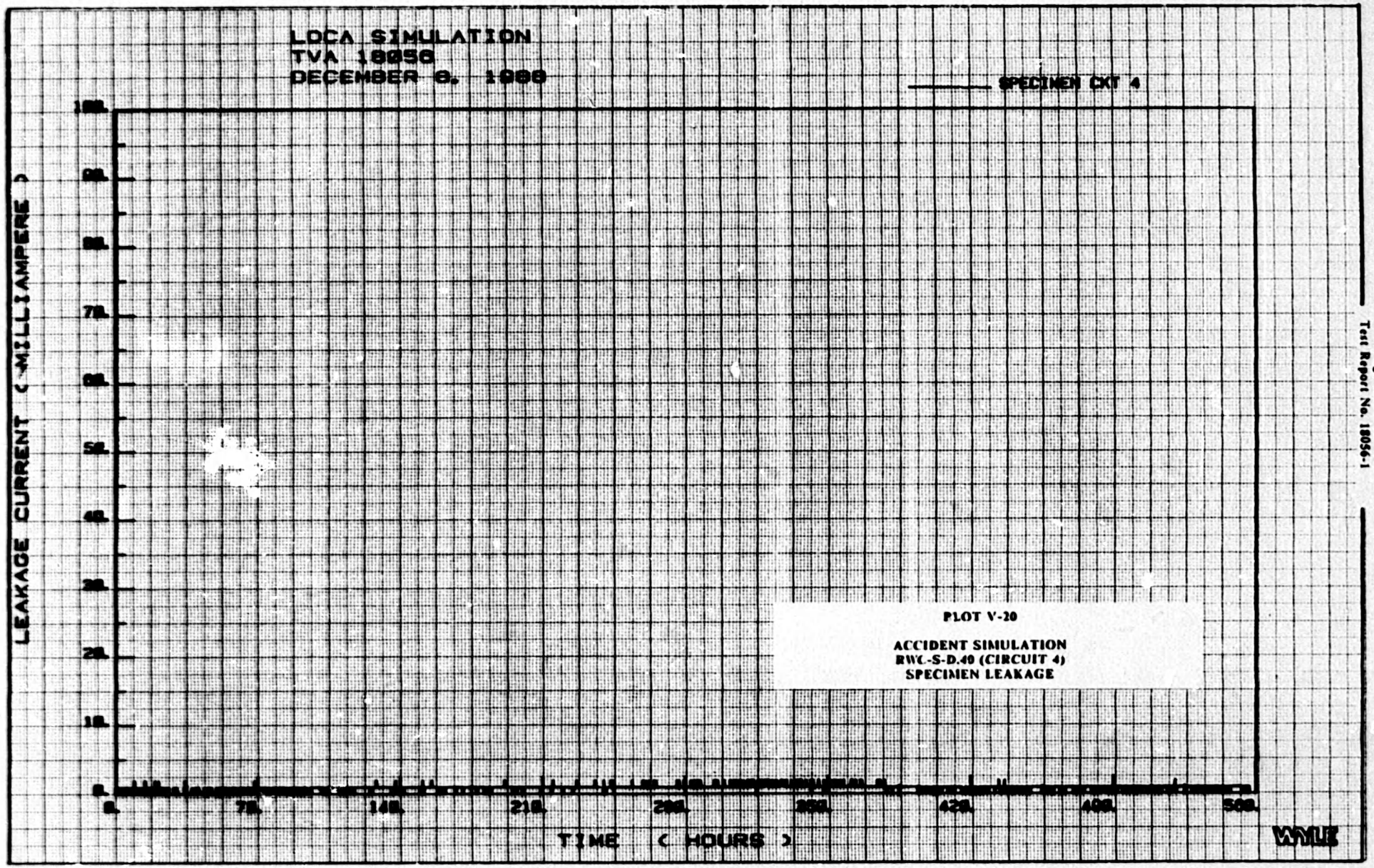
PLOT V-18

ACCIDENT SIMULATION
RWC-S-B.40 (CIRCUIT 2)
SPECIMEN LEAKAGE



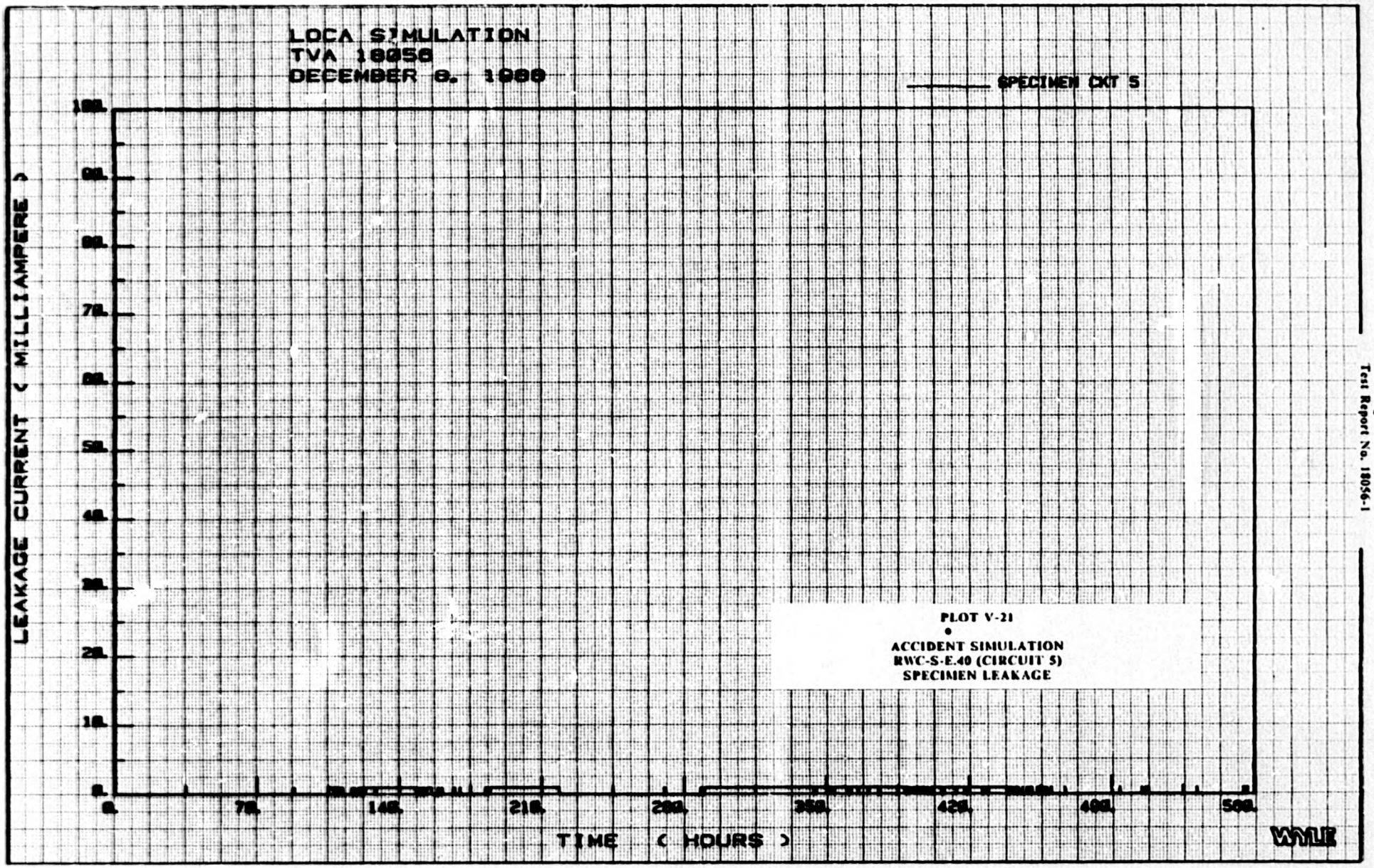
PLOT V-19

ACCIDENT SIMULATION
RWC-S-C.40 (CIRCUIT 3)
SPECIMEN LEAKAGE



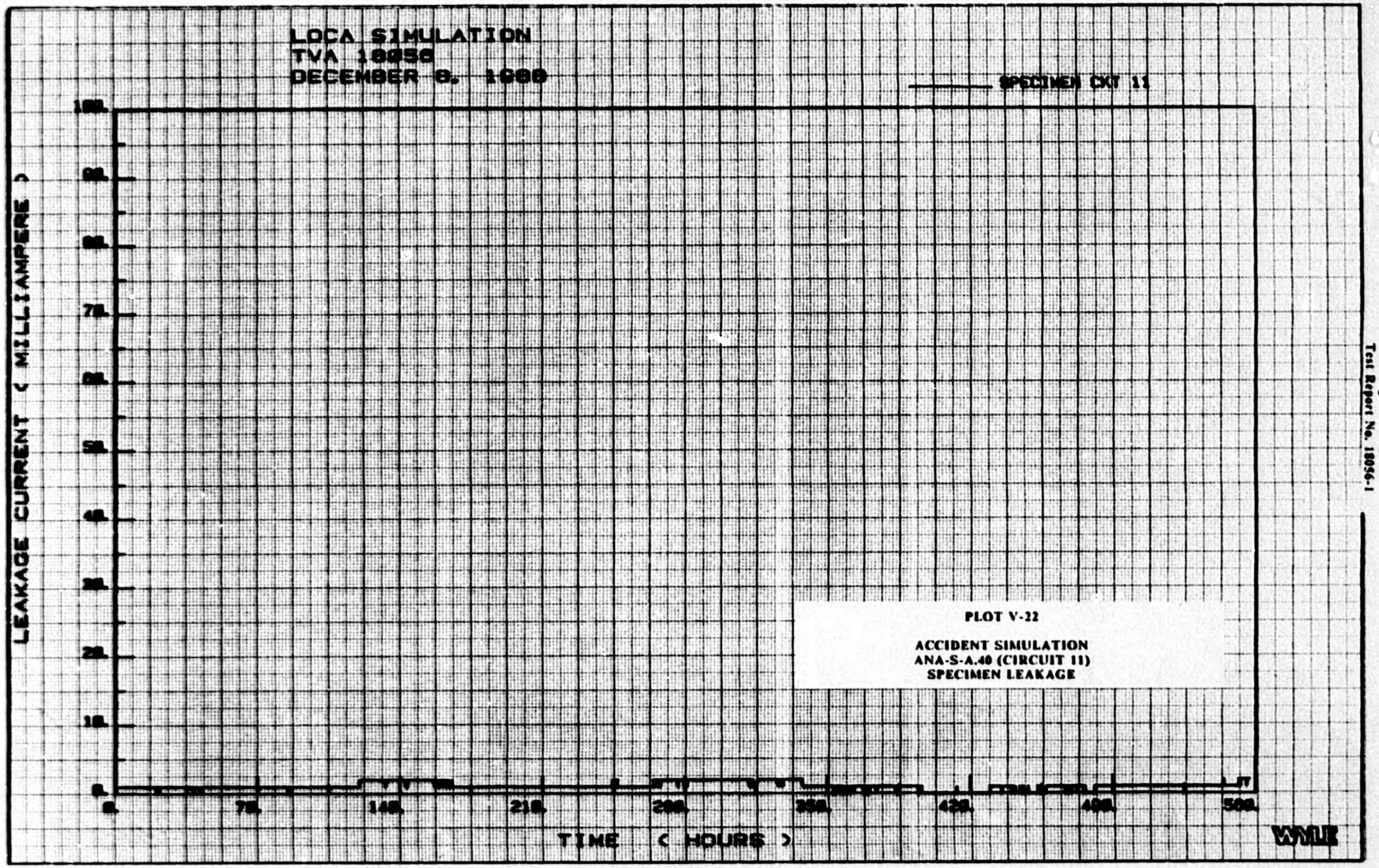
PLOT V-20

ACCIDENT SIMULATION
RWC-S-D.40 (CIRCUIT 4)
SPECIMEN LEAKAGE



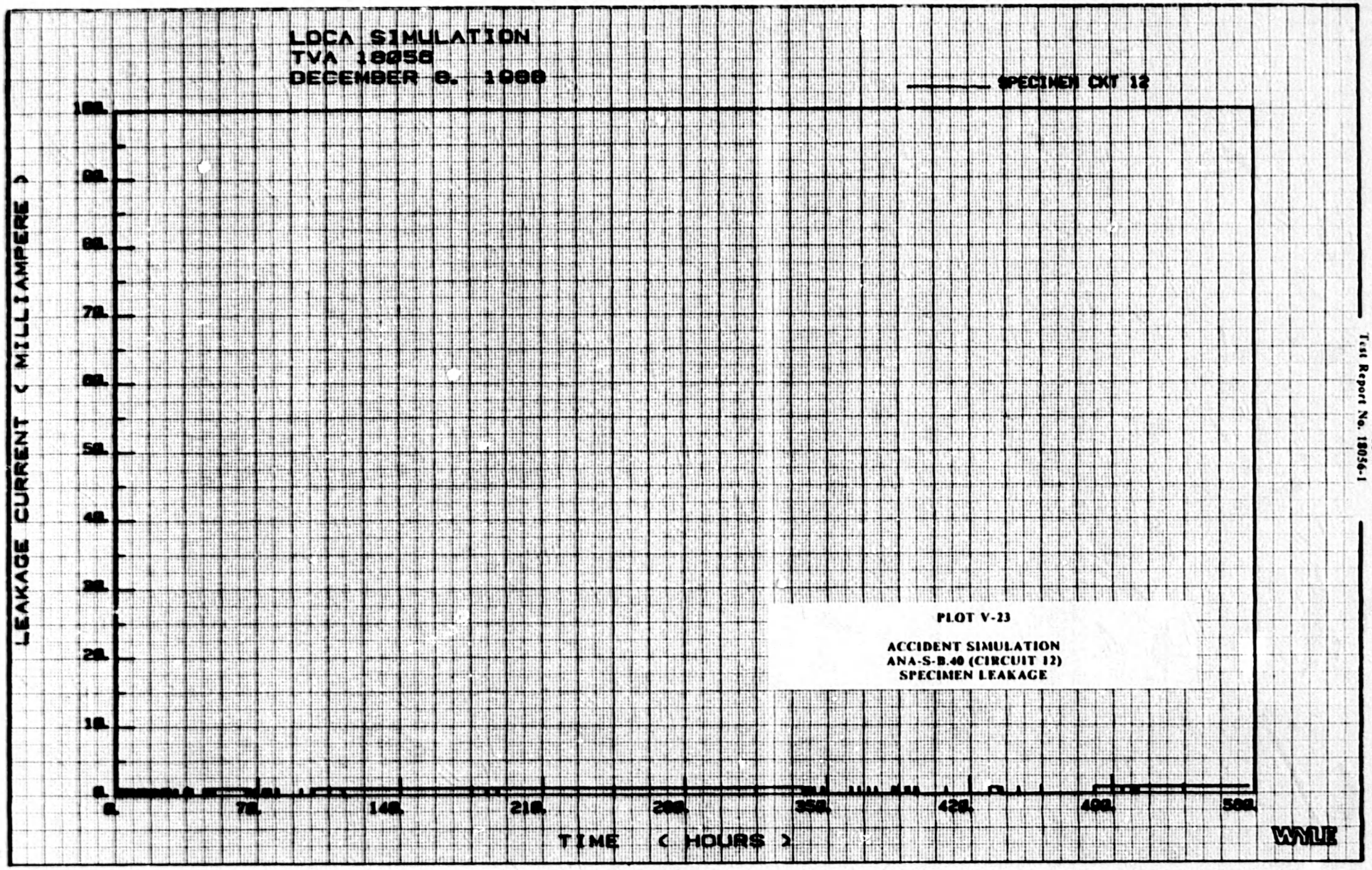
PLOT V-21

ACCIDENT SIMULATION
RWC-S-E.40 (CIRCUIT 5)
SPECIMEN LEAKAGE



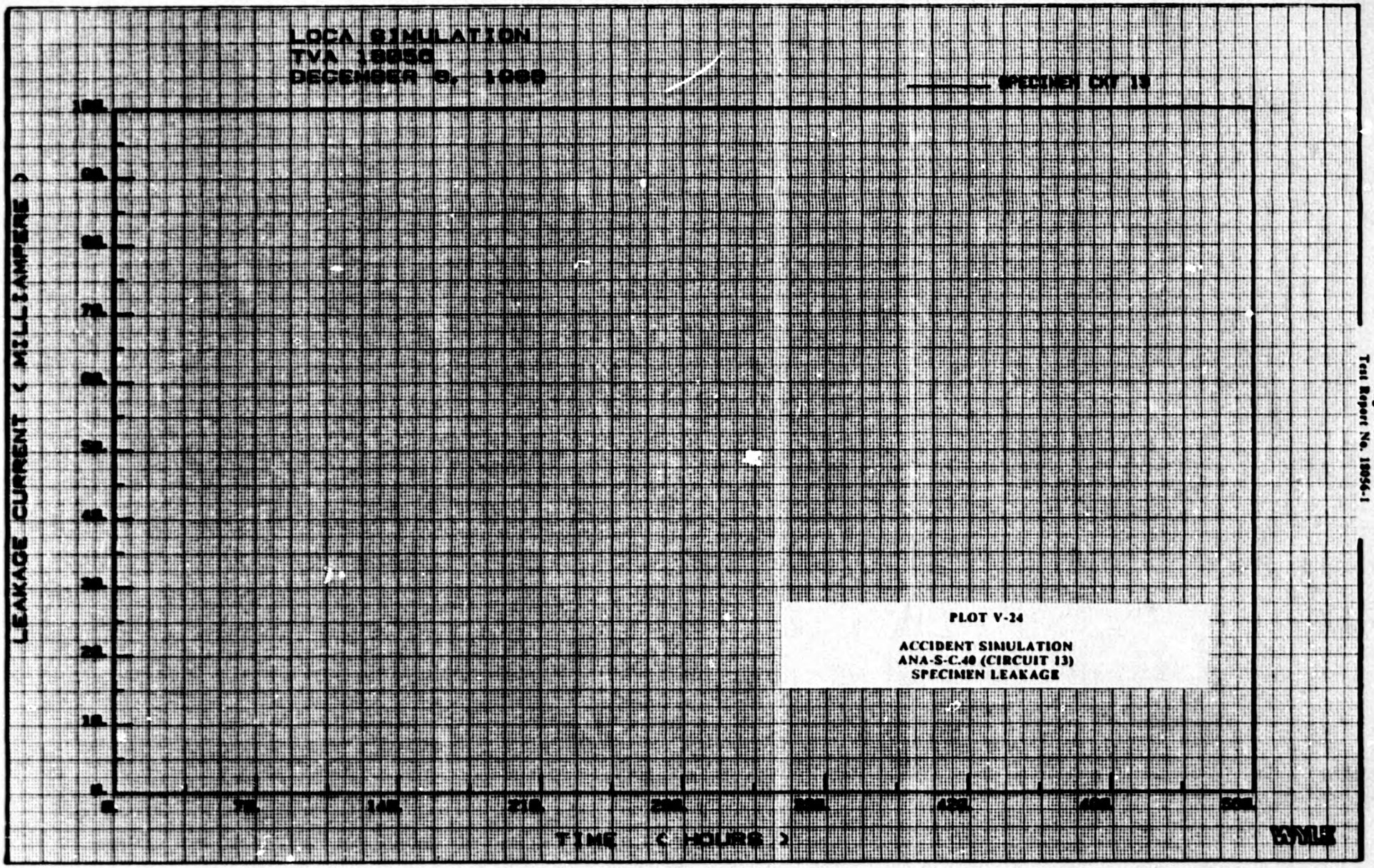
PLOT V-22

ACCIDENT SIMULATION
ANA-S-A.40 (CIRCUIT 11)
SPECIMEN LEAKAGE



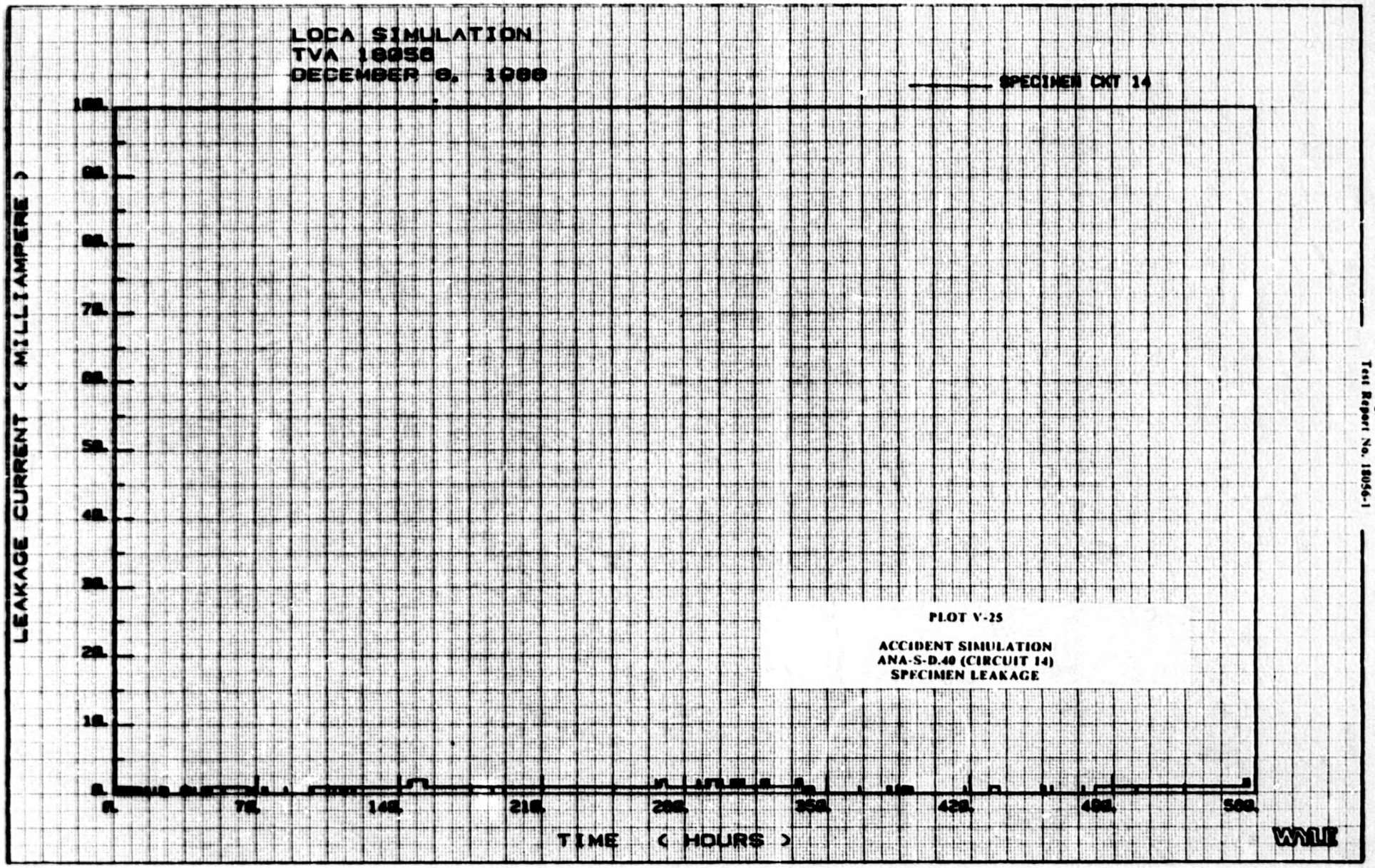
PLOT V-23

ACCIDENT SIMULATION
ANA-S-B.40 (CIRCUIT 12)
SPECIMEN LEAKAGE



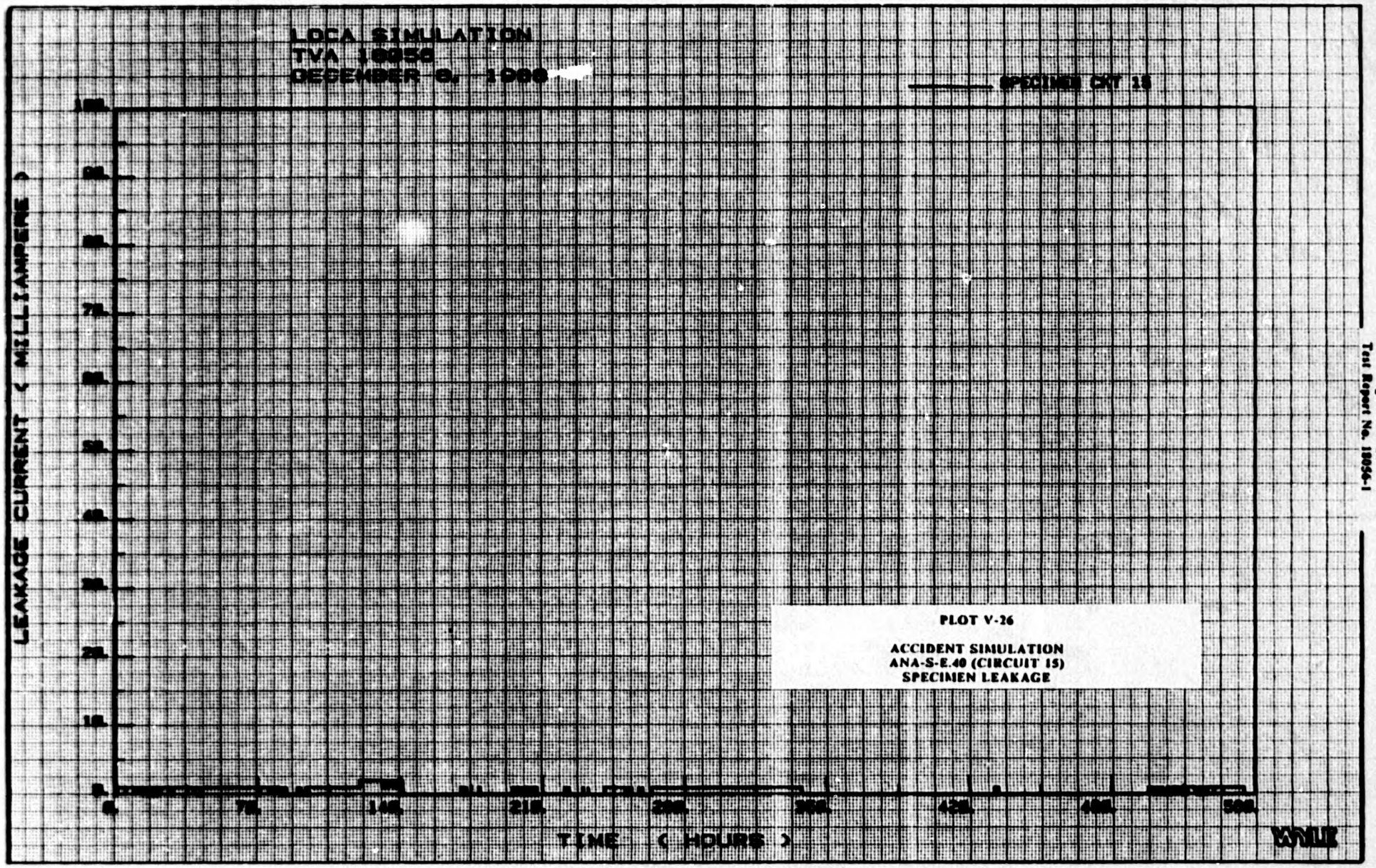
PLOT V-24

ACCIDENT SIMULATION
ANA-S-C.40 (CIRCUIT 13)
SPECIMEN LEAKAGE



PLOT V-25

ACCIDENT SIMULATION
ANA-S-D.40 (CIRCUIT 14)
SPECIMEN LEAKAGE



PLOT V-26

ACCIDENT SIMULATION
ANA-S-E.40 (CIRCUIT 15)
SPECIMEN LEAKAGE

ACCIDENT SIMULATION (LOCA)
TEST DATA

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TYPICAL LINE PRINTER OUTPUT OF ENVIRONMENTAL AND ELECTRICAL CHANNELS

```
T/C #1   151.2 DEG  T/C #2   157.8 DEG  T/C #3   153.1 DEG  AVERAGE 154.0 DEG   PRESS    5.7 PSI   FLOW     0.0 GPM
SP 1 V     308 VAC  SP 2 V     309 VAC  SP 3 V     309 VAC  SP 4 V     309 VAC  SP 5 V    309 VAC  SP 6 V     0 VAC
SP 7 V       0 VAC  SP 8 V       0 VAC  SP 9 V       0 VAC  SP 10V       0 VAC  SP 11V    311 VAC  SP 12V   311 VAC
SP 13V     311 VAC  SP 14V     310 VAC  SP 15V     311 VAC.
SP 1CUR   15.9 ACA  SP 2CUR   15.9 ACA  SP 3CUR   15.8 ACA  SP 4CUR   15.8 ACA  SP 5CUR   16.0 ACA  SP 6CUR    0 ACA
SP 7CUR      0 ACA  SP 8CUR      0 ACA  SP 9CUR      0 ACA  SP10CUR      0 ACA  SP11CUR   22.0 ACA  SP12CUR  15.9 ACA
SP13CUR   22.5 ACA  SP14CUR   15.7 ACA  SP15CUR   22.4 ACA.
SP 1 LK      4 MA   SP 2 LK      0 MA   SP 3 LK      0 MA   SP 4 LK      0 MA   SP 5 LK     0 MA   SP 6 LK    0 MA
SP 7 LK      0 MA   SP 8 LK      0 MA   SP 9 LK      0 MA   SP10 LK      0 MA   SP11 LK     1 MA   SP12 LK    1 MA
SP13 LK      0 MA   SP14 LK      1 MA   SP15 LK      0 MA.
    TVA 18056   T. WALTER   12/28/88 16:10:39
```

```
T/C #1   151.8 DEG  T/C #2   158.0 DEG  T/C #3   153.5 DEG  AVERAGE 154.4 DEG   PRESS    5.7 PSI   FLOW     0.0 GPM
SP 1 V     308 VAC  SP 2 V     309 VAC  SP 3 V     309 VAC  SP 4 V     309 VAC  SP 5 V    309 VAC  SP 6 V     0 VAC
SP 7 V       0 VAC  SP 8 V       0 VAC  SP 9 V       0 VAC  SP 10V       0 VAC  SP 11V    310 VAC  SP 12V   310 VAC
SP 13V     310 VAC  SP 14V     310 VAC  SP 15V     310 VAC.
SP 1CUR   15.9 ACA  SP 2CUR   15.9 ACA  SP 3CUR   15.8 ACA  SP 4CUR   15.8 ACA  SP 5CUR   16.0 ACA  SP 6CUR    0 ACA
SP 7CUR      0 ACA  SP 8CUR      0 ACA  SP 9CUR      0 ACA  SP10CUR      0 ACA  SP11CUR   22.0 ACA  SP12CUR  15.8 ACA
SP13CUR   22.5 ACA  SP14CUR   15.7 ACA  SP15CUR   22.4 ACA.
SP 1 LK      4 MA   SP 2 LK      1 MA   SP 3 LK      0 MA   SP 4 LK      1 MA   SP 5 LK     0 MA   SP 6 LK    0 MA
SP 7 LK      0 MA   SP 8 LK      0 MA   SP 9 LK      0 MA   SP10 LK      0 MA   SP11 LK     1 MA   SP12 LK    1 MA
SP13 LK      0 MA   SP14 LK      1 MA   SP15 LK      0 MA.
    TVA 18056   T. WALTER   12/28/88 16:25:39
```

```
T/C #1   151.2 DEG  T/C #2   157.1 DEG  T/C #3   152.9 DEG  AVERAGE 153.7 DEG   PRESS    5.7 PSI   FLOW     0.0 GPM
SP 1 V     308 VAC  SP 2 V     309 VAC  SP 3 V     309 VAC  SP 4 V     309 VAC  SP 5 V    309 VAC  SP 6 V     0 VAC
SP 7 V       0 VAC  SP 8 V       0 VAC  SP 9 V       0 VAC  SP 10V       0 VAC  SP 11V    312 VAC  SP 12V   312 VAC
SP 13V     312 VAC  SP 14V     311 VAC  SP 15V     311 VAC.
SP 1CUR   15.9 ACA  SP 2CUR   16.0 ACA  SP 3CUR   15.9 ACA  SP 4CUR   15.8 ACA  SP 5CUR   16.0 ACA  SP 6CUR    0 ACA
SP 7CUR      0 ACA  SP 8CUR      0 ACA  SP 9CUR      0 ACA  SP10CUR      0 ACA  SP11CUR   22.1 ACA  SP12CUR  15.9 ACA
SP13CUR   22.5 ACA  SP14CUR   15.8 ACA  SP15CUR   22.5 ACA.
SP 1 LK      5 MA   SP 2 LK      0 MA   SP 3 LK      0 MA   SP 4 LK      1 MA   SP 5 LK     0 MA   SP 6 LK    0 MA
SP 7 LK      0 MA   SP 8 LK      0 MA   SP 9 LK      0 MA   SP10 LK      0 MA   SP11 LK     1 MA   SP12 LK    1 MA
SP13 LK      0 MA   SP14 LK      1 MA   SP15 LK      0 MA.
    TVA 18056   T. WALTER   12/28/88 16:40:39
```

```
T/C #1   151.9 DEG  T/C #2   157.1 DEG  T/C #3   153.8 DEG  AVERAGE 154.3 DEG   PRESS    5.7 PSI   FLOW     0.0 GPM
SP 1 V     306 VAC  SP 2 V     307 VAC  SP 3 V     307 VAC  SP 4 V     307 VAC  SP 5 V    307 VAC  SP 6 V     0 VAC
SP 7 V       0 VAC  SP 8 V       0 VAC  SP 9 V       0 VAC  SP 10V       0 VAC  SP 11V    309 VAC  SP 12V   309 VAC
SP 13V     309 VAC  SP 14V     309 VAC  SP 15V     309 VAC.
SP 1CUR   15.8 ACA  SP 2CUR   15.9 ACA  SP 3CUR   15.7 ACA  SP 4CUR   15.7 ACA  SP 5CUR   15.9 ACA  SP 6CUR    0 ACA
SP 7CUR      0 ACA  SP 8CUR      0 ACA  SP 9CUR      0 ACA  SP10CUR      0 ACA  SP11CUR   21.9 ACA  SP12CUR  15.8 ACA
SP13CUR   22.3 ACA  SP14CUR   15.7 ACA  SP15CUR   22.3 ACA.
SP 1 LK      4 MA   SP 2 LK      0 MA   SP 3 LK      1 MA   SP 4 LK      1 MA   SP 5 LK     0 MA   SP 6 LK    0 MA
SP 7 LK      0 MA   SP 8 LK      0 MA   SP 9 LK      0 MA   SP10 LK      0 MA   SP11 LK     1 MA   SP12 LK    1 MA
SP13 LK      0 MA   SP14 LK      1 MA   SP15 LK      0 MA.
    TVA 18056   T. WALTER   12/28/88 16:55:39
```

DATA SHEET

Customer T.V.A.

Specimen SILICONE RUBBER INSULATED CABLES

Part No. VARIOUS

Spec. WLQP 18057-00, IPR 01

Para. 3.10.7

S/N TEST SPECIMENS

GSI N/A

Amb. Temp. 75°F

Photo No

Test Med. WATER

Specimen Temp. VARIOUS

WYLE LABORATORIES

Job No. 18056

Report No. 18056-1

Start Date 12-8-88

Test Title CHEM SPRAY FLOW RATE & PH LEVEL

TIME	FLOW RATE	PH	INITIALS
0945	N/A	9.0	BG
10.20	7.5 gpm	9.0	BG
10.35	7.5 gpm	9.0	BG
11:05	7.4 gpm	9.0	[illegible]
12:00	7.4 gpm	9.0	[illegible]
13:00	7.4 gpm	9.0	[illegible]
14:00	7.4 gpm	9.0	[illegible]
15:00	7.4 gpm	9.0	[illegible]
16:00	7.5 gpm	9.0	[illegible]
17:00	7.5 gpm	9.0	[illegible]
18:00	7.4 gpm	9.0	[illegible]
1900	7.5 gpm	9.0	BHB
2000	7.5 gpm	9.0	BHB
2100	7.5 gpm	9.0	BHB
2200	7.5 gpm	9.0	BHB
2300	7.5 gpm	9.0	BHB
0000 12/9/88	7.5 gpm	8.9	BHB
0100	7.5 gpm	8.9	BHB
0200	7.5 gpm	8.8	BHB
0300	7.5 gpm	8.8	BHB

Tested By [illegible] Date: 12-8-88

Witness [illegible] Date: 12-9-88

Sheet No. 1 of 2

Approved Robert Todd Watts 12-28-88

Notice of Anomaly ~~None~~ RTW #4

Wyle Form WH 614A, Rev. APR '84

DATA SHEET

Customer: TVA

Specimen: SILICONE RUBBER INSULATED CABLES

Part No.: VARIOUS

Spec.: WLQP 18057-00, IPR 01

Para.: 3.10.7

S/N: TEST SPECIMENS

GSI: N/A

Amb. Temp.: 75°F

Photo: NO

Test Med.: WATER

Specimen Temp.: VARIOUS

WYLE LABORATORIES

Job No.: 18056

Report No.: 18056-1

Start Date: 12/9/88

Test Title: CHEM SPRAY FLOW RATE & PH Level

Time	Flow Rate	PH.	Initials
0400	7.5 gpm	8.7	BHB
0500	7.5 gpm	8.7	BHB
06:00	7.5 gpm	8.7	22
07:00	7.5 gpm	8.7	22
08:00	7.5 gpm	8.6	22
08:15 ADDED CAUSTIC TO BOOST PH UP TO 9.5			22
09:00	7.4 gpm	9.5	22
10:00	7.5	9.5	22
10:40	7.5	9.5	22
10:40 END OF CHEM SPRAY. SHUT DOWN @ THIS TIME			22

Tested By: [signature] Date: 12/9/88

Witness: [signature] Date: 12-9-88

Sheet No. 2 of 2

Approved: [signature] 12-28-88

Notice of Anomaly: ~~NONE~~ RTW #4

Wyle Form WH 614A. Rev. APR '84

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APPENDIX V

PHOTOGRAPHS

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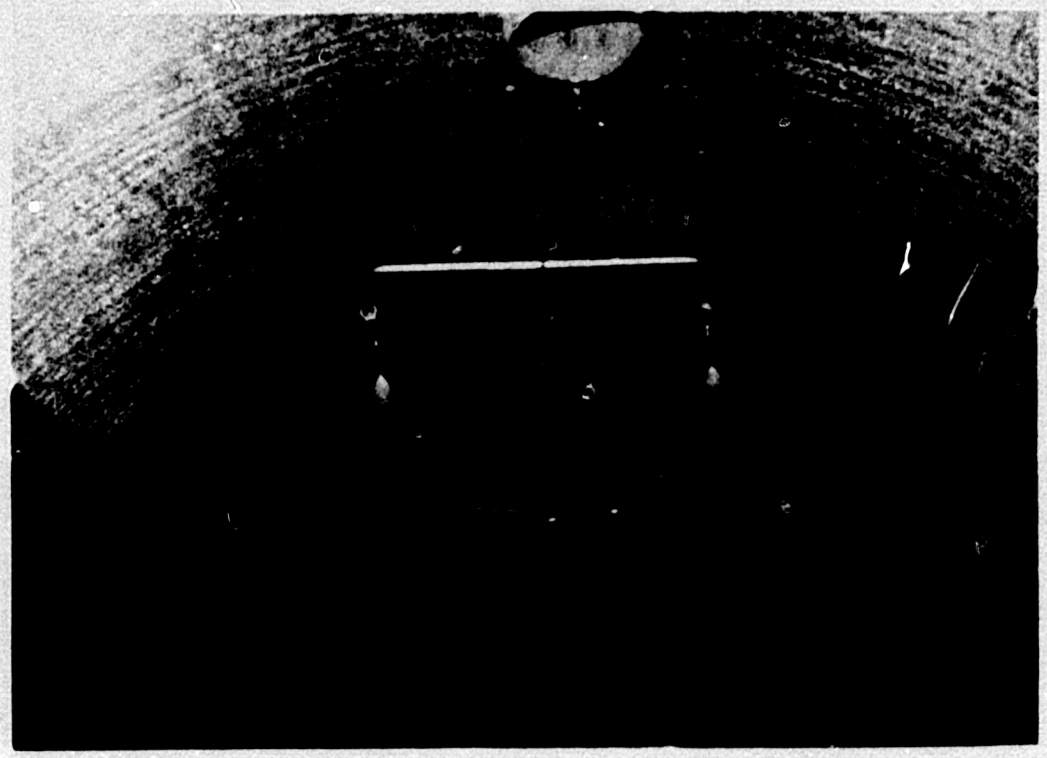
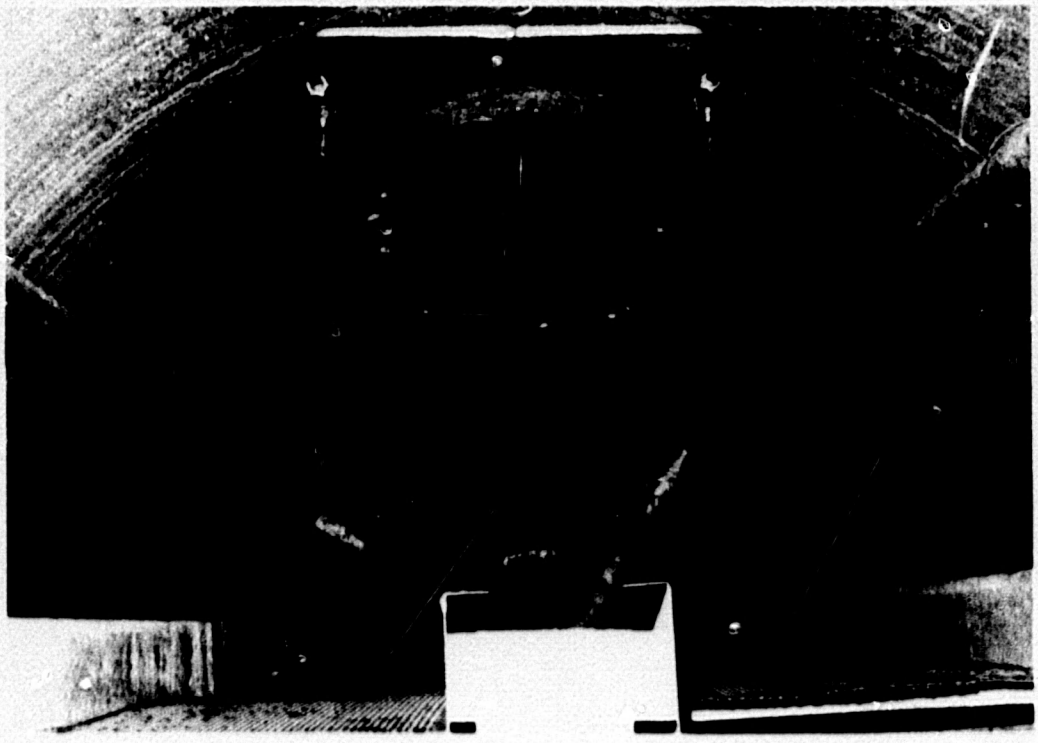


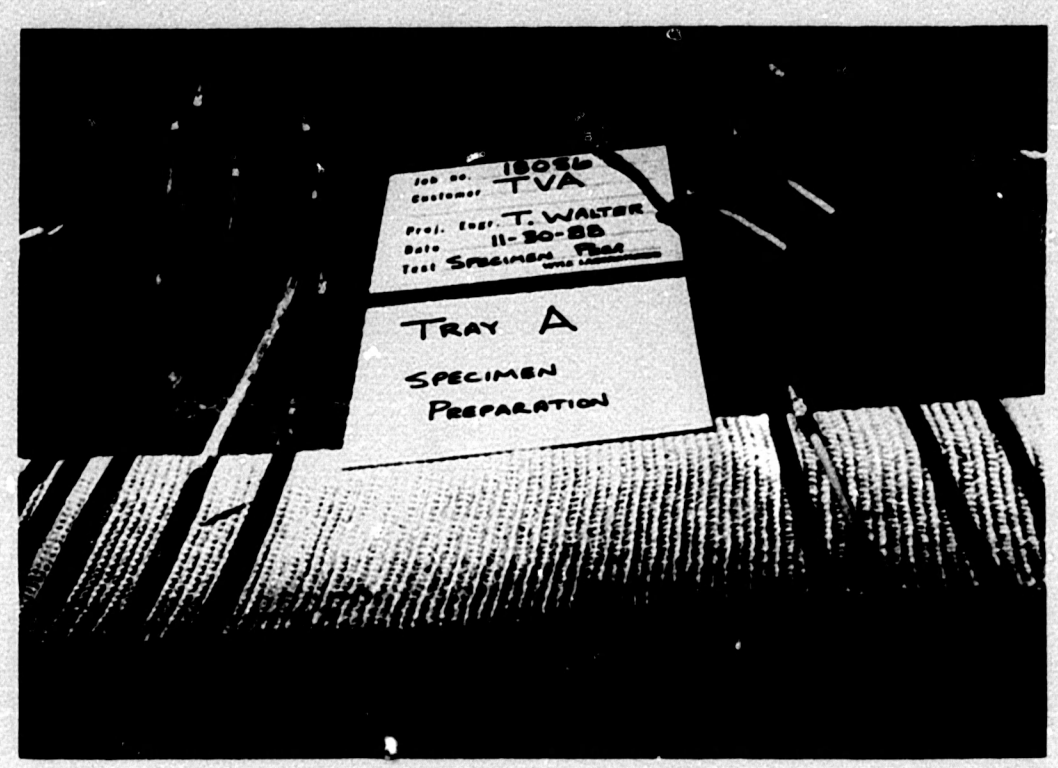
PHOTOGRAPH V-1

TRIAL RUN TEST SETUP
TEST OF CHEMICAL SPRAY SYSTEM USING DI WATER



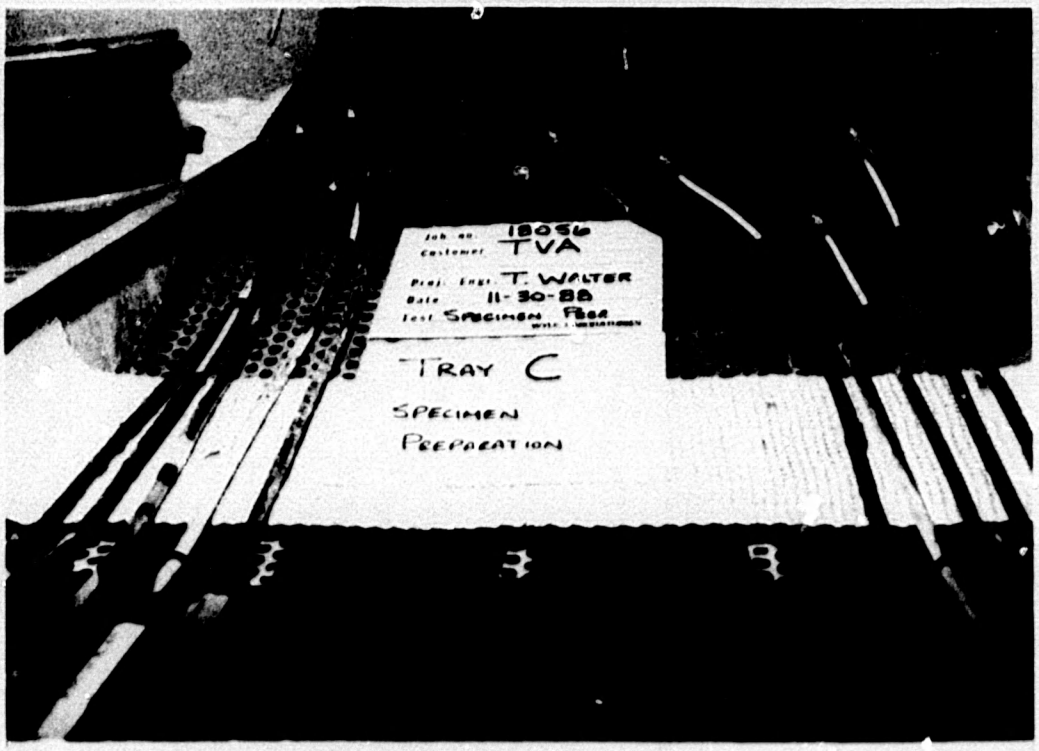
PHOTOGRAPH V-2

TRIAL RUN TEST SETUP
DUMMY LOAD CABLE TRAYS WITH THERMOCOUPLES ATTACHED



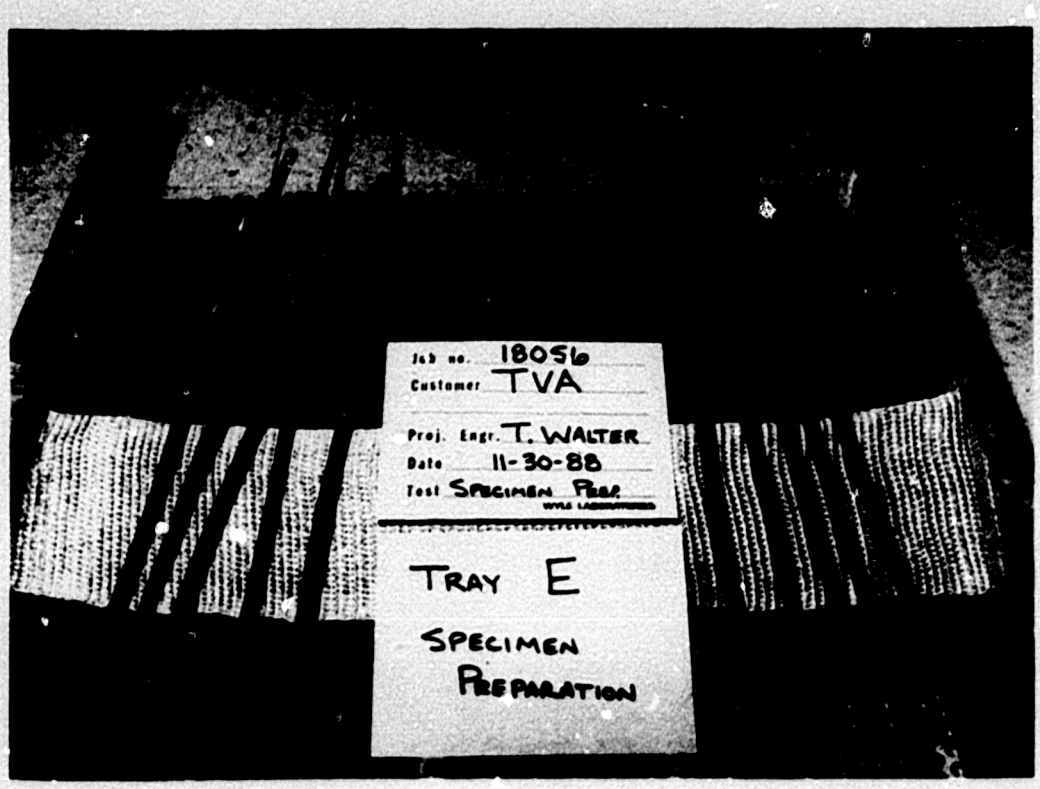
PHOTOGRAPH V-3

**SPECIMEN PREPARATION
CABLE TRAY A TEST SPECIMENS WITH BUTT SPLICES
AND ADAPTERS CRIMPED TO 14AWG LEAD ENDS**



PHOTOGRAPH V-4

**SPECIMEN PREPARATION
CABLE TRAY C TEST SPECIMENS WITH BUTT SPLICES
AND ADAPTERS CRIMPED TO 14AWG LEAD ENDS**

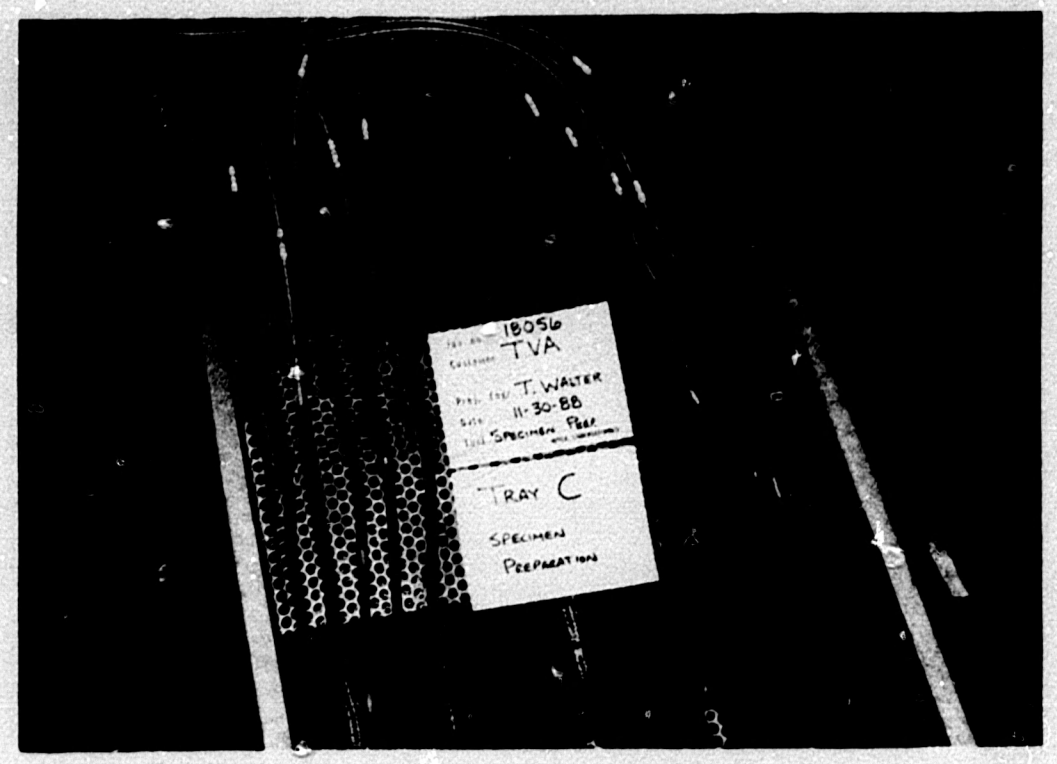


PHOTOGRAPH V-5

SPECIMEN PREPARATION
CABLE TRAY E TEST SPECIMENS WITH BUTT SPLICES CRIMPED TO 12AWG LEAD ENDS AND BUTT SPLICES WITH ADAPTERS CRIMPED TO 14AWG LEAD ENDS

PHOTOGRAPH V-6

SPECIMEN PREPARATION
CABLE TRAY A TEST SPECIMENS WITH SPLICES AND TEST LEADS SECURED TO THE INCLINED SECTION OF THE CABLE TRAY

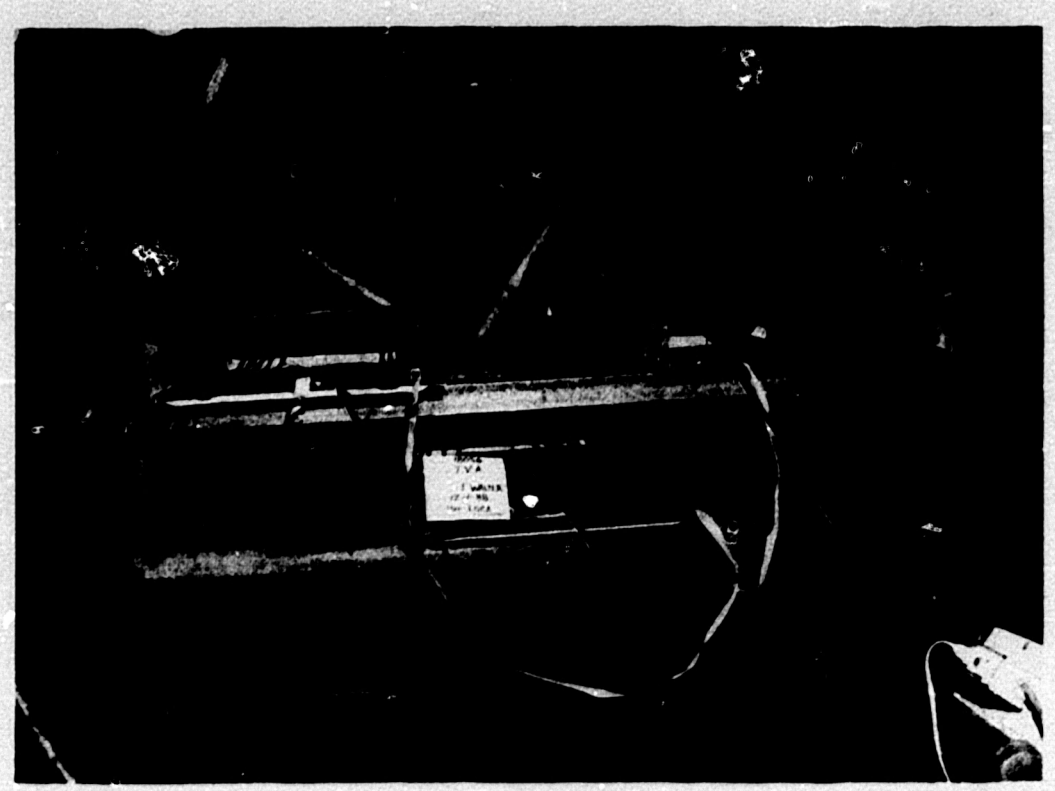


PHOTOGRAPH V-7

**SPECIMEN PREPARATION
CABLE TRAY C TEST SPECIMENS WITH SPLICES AND TEST LEADS SECURED TO THE INCLINED SECTION OF THE CABLE TRAY**

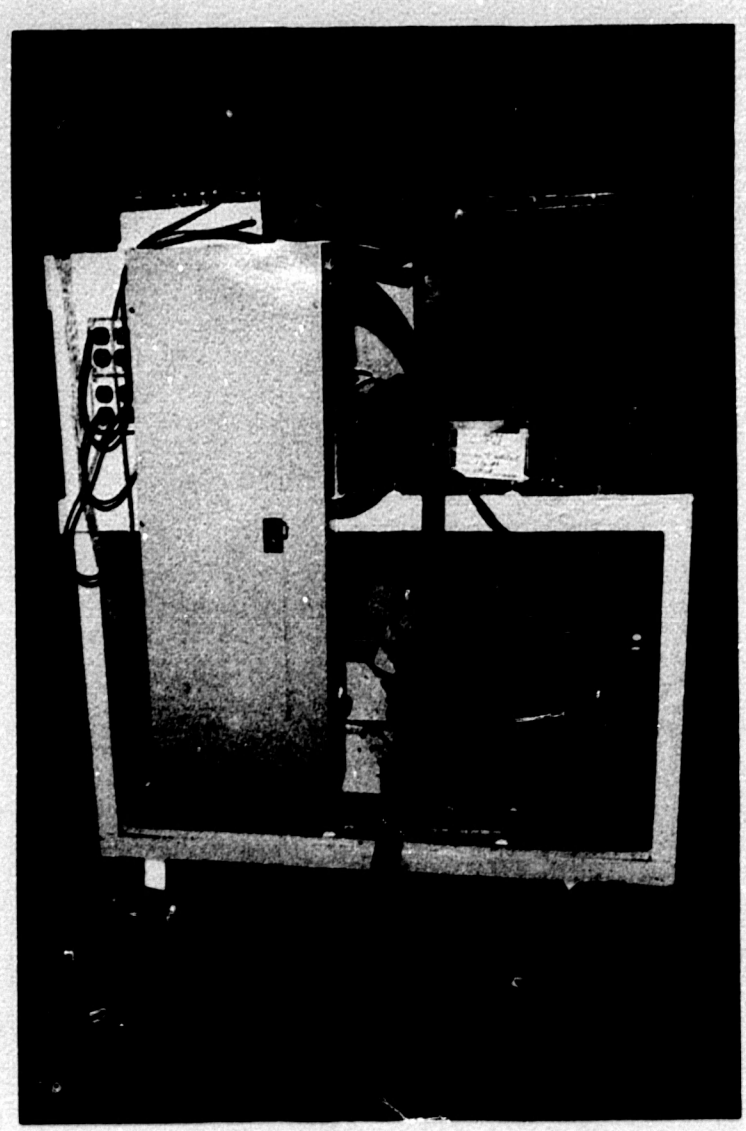
PHOTOGRAPH V-8

**SPECIMEN PREPARATION
CABLE TRAY E WITH SPLICES AND TEST LEADS SECURED TO THE INCLINED SECTION OF THE CABLE TRAY DURING POST-SPECIMEN PREPARATION FUNCTIONAL TEST**



PHOTOGRAPH V-9

**ACCIDENT SIMULATION TEST SETUP
CABLE TRAYS A, C, AND E AS MOUNTED IN THE TEST CHAMBER
WITH THERMOCOUPLES ATTACHED**



PHOTOGRAPH V-10

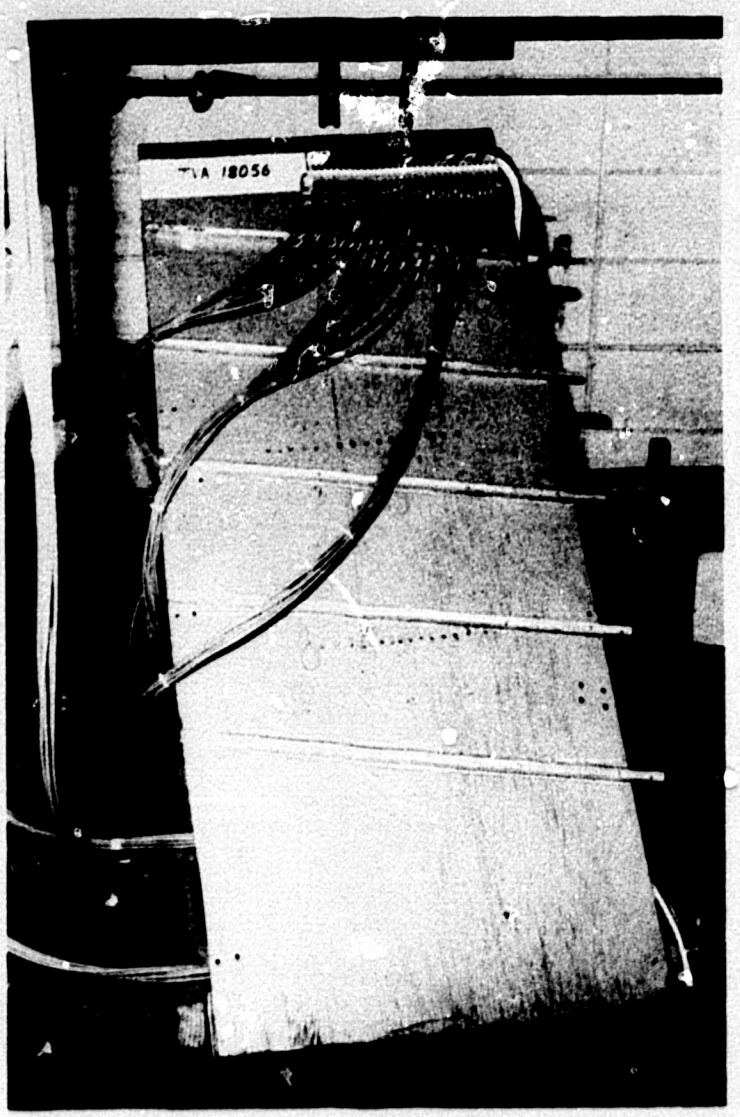
ACCIDENT SIMULATION TEST SETUP
TEST BENCH FOR CURRENT AND VOLTAGE SOURCES

PHOTOGRAPH V-11

**ACCIDENT SIMULATION TEST SETUP
CURRENT CIRCUITS WITH TRANSFORMERS AND VARIACS**

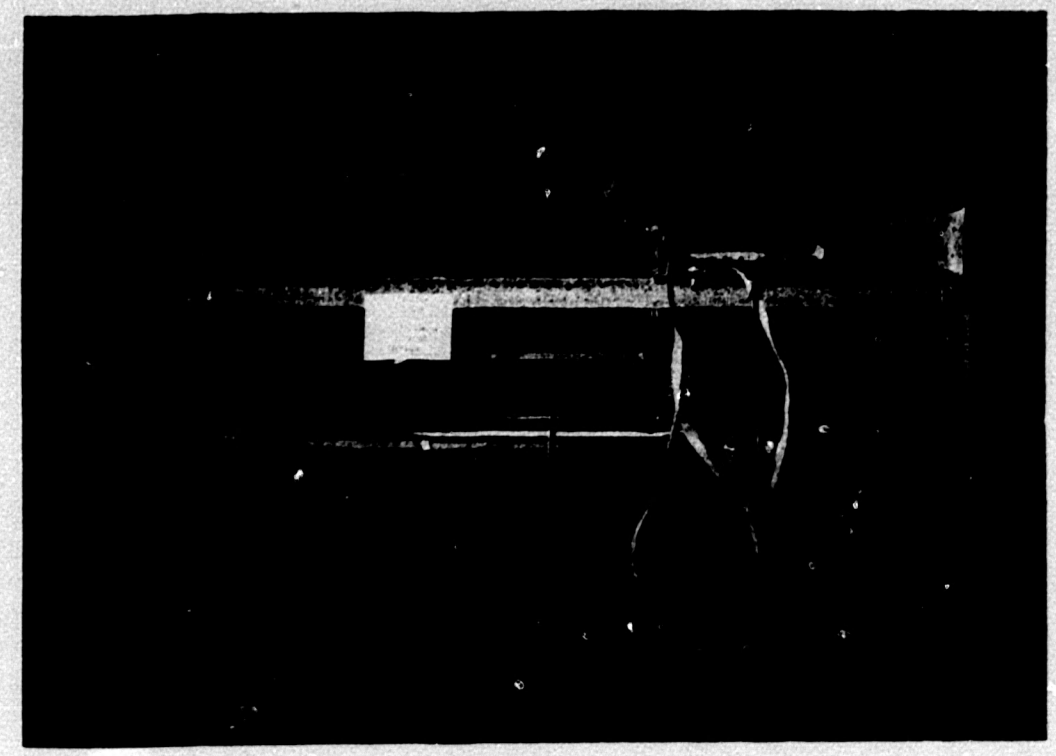
PHOTOGRAPH V-12

**ACCIDENT SIMULATION TEST SETUP
VOLTAGE SOURCES FOR SPECIMEN CIRCUITS**



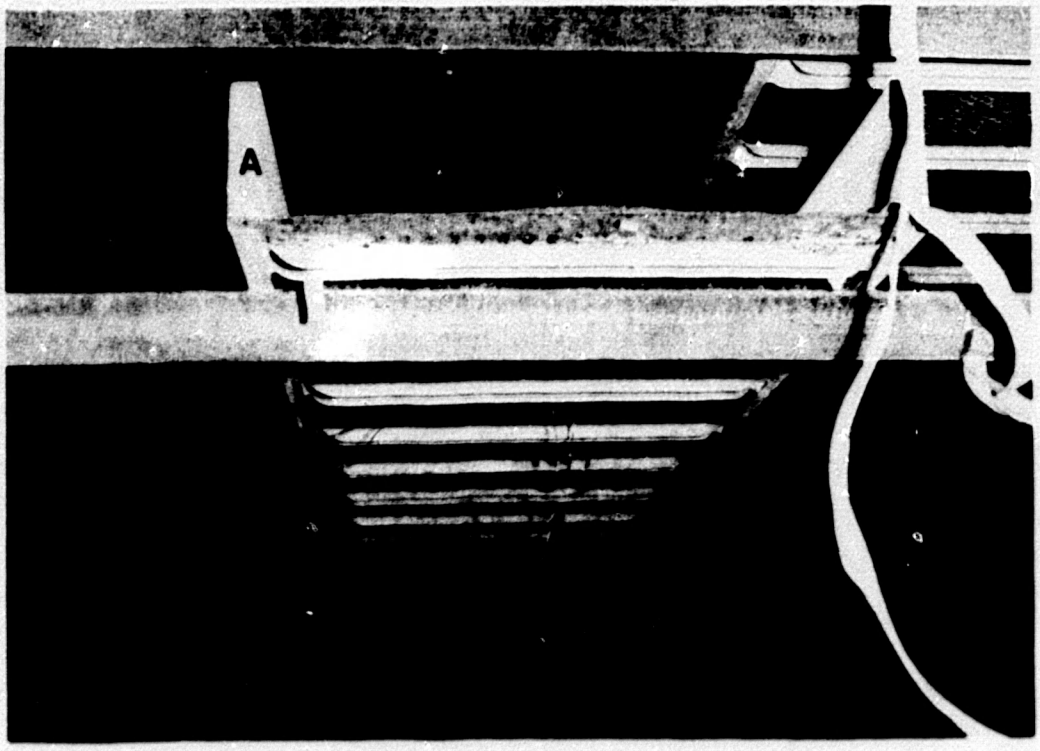
PHOTOGRAPH V-13

ACCIDENT SIMULATION TEST SETUP
TEST LEAD CONNECTIONS TO TEST BENCH CIRCUITRY



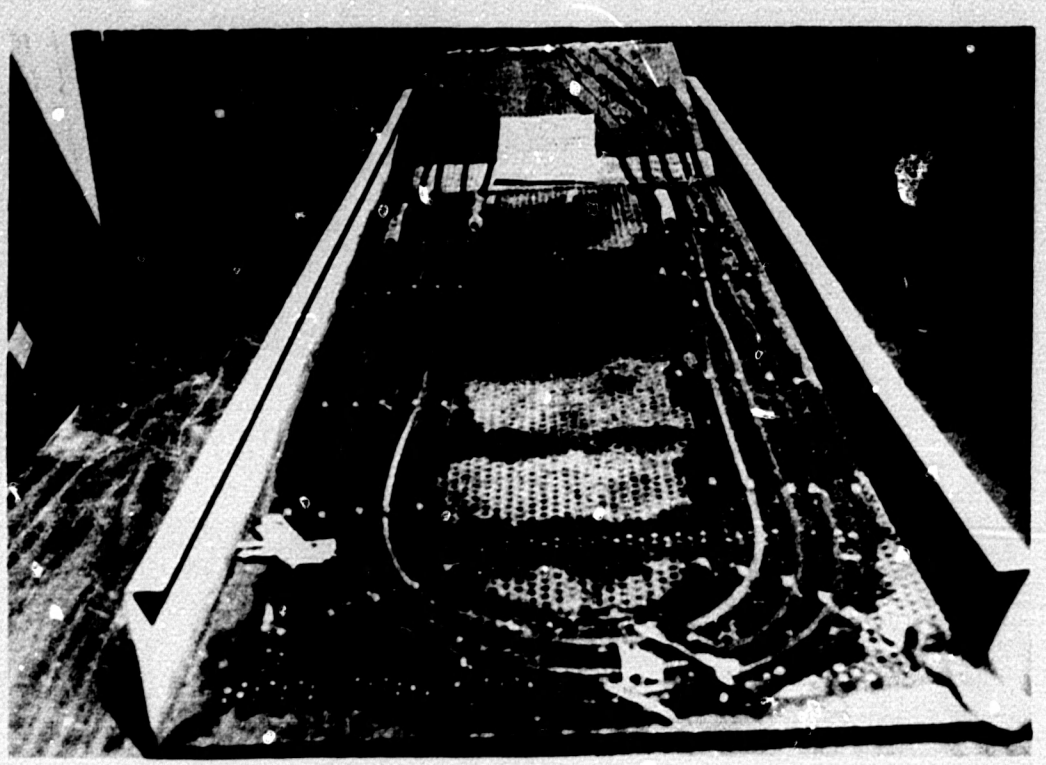
PHOTOGRAPH V-14

**ACCIDENT SIMULATION TEST SETUP
CABLE TRAYS A AND E AS MOUNTED IN THE TEST CHAMBER
WITH THERMOCOUPLES ATTACHED**



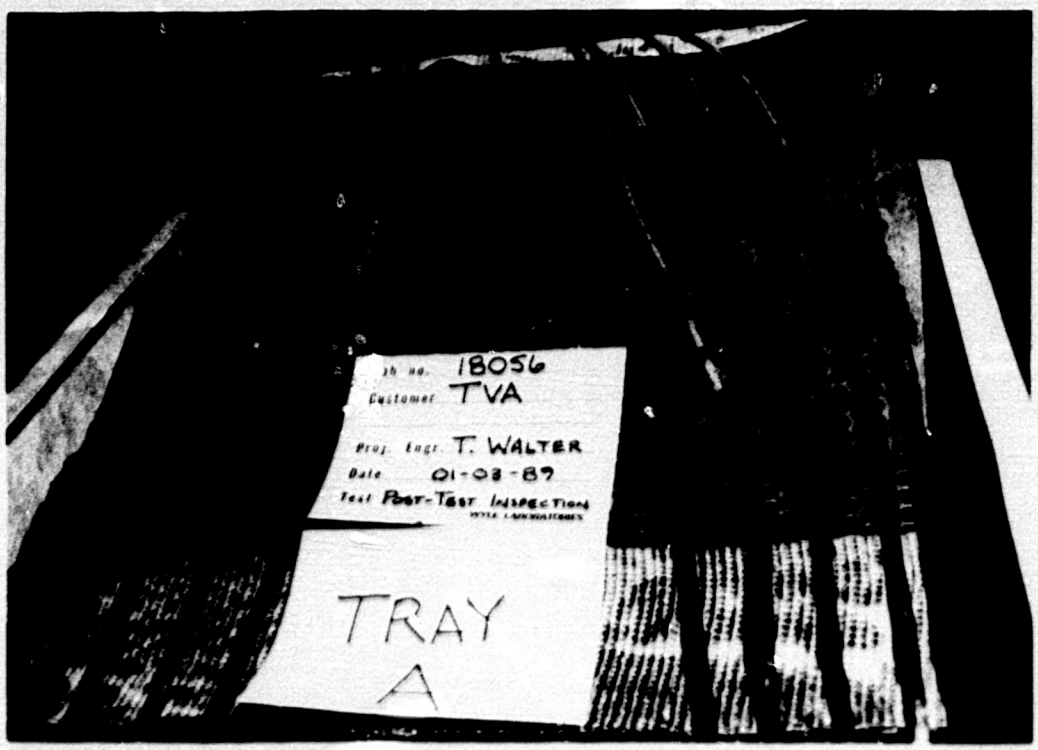
PHOTOGRAPH V-15

**ACCIDENT SIMULATION TEST SETUP
CABLE TRAY A AS MOUNTED IN THE TEST CHAMBER
WITH THERMOCOUPLES ATTACHED**



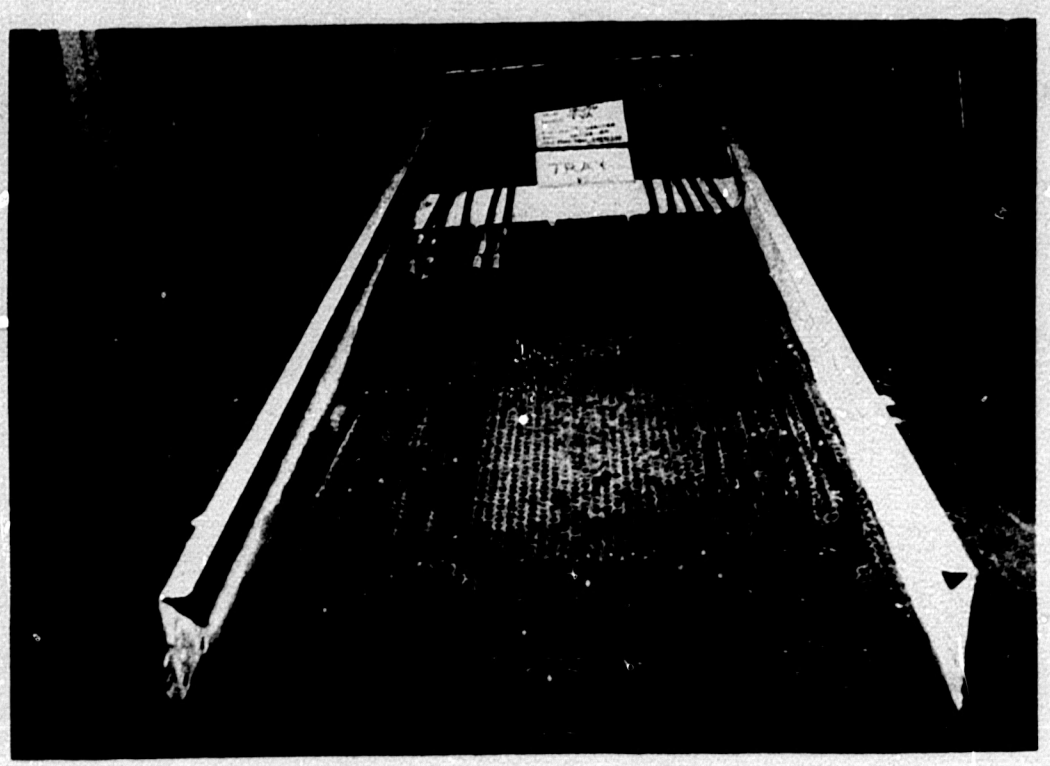
PHOTOGRAPH V-16

**POST-TEST FUNCTIONAL TEST VISUAL INSPECTION
CABLE TRAY A RWC 40-YEAR SPECIMENS**



PHOTOGRAPH V-17

**POST-TEST FUNCTIONAL TEST VISUAL INSPECTION
CABLE TRAY A TEST LEAD SPLICES**



PHOTOGRAPH V-18

**POST-TEST FUNCTIONAL TEST VISUAL INSPECTION
CABLE TRAY E ANA 40-YEAR SPECIMENS**

PHOTOGRAPH V-19

**POST-TEST FUNCTIONAL TEST VISUAL INSPECTION
CABLE TRAY E TEST LEAD SPLICES**

APPENDIX VI

DATA SHEETS

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DATA SHEET

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLOP 18057-00, IPR 01
Para.: N/A
S/N: Listed
GSI: N/A

Amb. Temp.: 72°F
Photo: No
Test Med.: Water
Specimen Temp.: Ambient

WYLE LABORATORIES
Job No.: 18056
Report No.: 18056-1
Start Date: 11-30-88

Test Title: POST-SPECIMEN PREPARATION Functional Test (PRIOR TO INSTALLATION IN TEST CHAMBER)

Specimen No.	Reading	Specimen No.	Reading
RWC-S-A.40	$4.0 \times 10^{12}\ \Omega$	RWC-W-A.15	N/A
RWC-S-B.40	$3.0 \times 10^{12}\ \Omega$	RWC-W-B.15	
RWC-S-C.40	$2.8 \times 10^{12}\ \Omega$	RWC-W-C.15	
RWC-S-D.40	$2.4 \times 10^{12}\ \Omega$	RWC-W-D.15	
RWC-S-E.40	$3.5 \times 10^{12}\ \Omega$	RWC-W-E.15	N/A
RWC-S-A.15	N/A	ANA-S-A.40	$1.1 \times 10^{12}\ \Omega$
RWC-S-B.15		ANA-S-B.40	$6.0 \times 10^{11}\ \Omega$
RWC-S-C.15		ANA-S-C.40	$8.6 \times 10^{11}\ \Omega$
RWC-S-D.15		ANA-S-D.40	$1.4 \times 10^{12}\ \Omega$
RWC-S-E.15	N/A	ANA-S-E.40	$4.5 \times 10^{11}\ \Omega$
RWC-W-A.40	$2.6 \times 10^{12}\ \Omega$	ANA-S-A.15	N/A
RWC-W-B.40	$6.8 \times 10^{11}\ \Omega$	ANA-S-B.15	
RWC-W-C.40	$4.0 \times 10^{10}\ \Omega$	ANA-S-C.15	
RWC-W-D.40	$1.4 \times 10^{12}\ \Omega$	ANA-S-D.15	
RWC-W-E.40	$2.2 \times 10^{12}\ \Omega$	ANA-S-E.15	N/A

Tested By: D Compton Date: 11/30/88
Witness: N/A Date:
Sheet No. 1 of 1
Approved: Robert Lee Walter 12-01-88

Notice of Anomaly: NONE

Wyle Form WH 614A, Rev. APR 84

DATA SHEET

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLOP 18057-00, 1PR 01
Para.: 3.10.6
S/N: Listed
GSI: N/A

WYLE LABORATORIES

Amb. Temp.: 66°F
Photo: No
Test Med.: Water
Specimen Temp.: Ambient

Job No.: 18056
Report No.: 18056-1
Start Date: 12/3/88

Test Title: SUBMERGED IR Functional Test SPECIMENS ~~Sub~~ LTN. MOUNTED IN TEST CHAMBER

Specimen No.	Reading		Specimen No.	Reading
RWC-S-A.40	1.7E12 Ω		RWC-W-A.15	N/A
RWC-S-B.40	1.4E12 Ω		RWC-W-B.15	|
RWC-S-C.40	1.7E12 Ω		RWC-W-C.15	|
RWC-S-D.40	1.7E12 Ω		RWC-W-D.15	|
RWC-S-E.40	1.6E12 Ω		RWC-W-E.15	N/A
RWC-S-A.15	N/A		ANA-S-A.40	8.8E11 Ω
RWC-S-B.15	|		ANA-S-B.40	6.1E11 Ω
RWC-S-C.15	|		ANA-S-C.40	3.3E11 Ω
RWC-S-D.15	|		ANA-S-D.40	1.2E12 Ω
RWC-S-E.15	N/A		ANA-S-E.40	5.2E11 Ω
RWC-W-A.40	1.3E12 Ω		ANA-S-A.15	N/A
RWC-W-B.40	3.5E11 Ω		ANA-S-B.15	|
RWC-W-C.40	1.1E7 Ω	6.8E6 Ω *	ANA-S-C.15	|
RWC-W-D.40	9.5E5 Ω	1.9E6 Ω *	ANA-S-D.15	|
RWC-W-E.40	1.5E12 Ω		ANA-S-E.15	N/A

* REPEAT MEASUREMENTS AFTER APPROXIMATELY 5 MINUTES. RTN

Tested By: B. Hand Date: 12/3/88
Witness: N/A Date:
Sheet No. 1 of 1
Approved: Robert J. Dodge 12-05-88

Notice of Anomaly: NONE

Wyle Form WH 6144. Rev. APR 84

DATA SHEET

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLOP 18057-00, 1PR 01
Para.: 3.10.6
S/N: Listed
GSI: N/A

WYLE LABORATORIES

Amb. Temp.: 74°F
Photo: No
Test Med.: ~~Water~~ LTN Air
Specimen Temp.: Ambient

Job No.: 18056
Report No.: 18056-1
Start Date: 12-03-88

Test Title: INSULATION RESISTANCE Functional Test SPECIMENS UNSUB. MOUNTED IN TEST CHAMBER READINGS TAKEN IMMEDIATELY AFTER REMOVING ETC. TEST CHAMBER

Specimen No.	Reading	Specimen No.	Reading
RWC-S-A.40	1.3E12 Ω	RWC-W-A.15	N/A
RWC-S-B.40	1.2E12 Ω	RWC-W-B.15	
RWC-S-C.40	1.3E12 Ω	RWC-W-C.15	
RWC-S-D.40	1.3E12 Ω	RWC-W-D.15	
RWC-S-E.40	1.2E12 Ω	RWC-W-E.15	N/A
RWC-S-A.15	N/A	ANA-S-A.40	6.2E11 Ω
RWC-S-B.15		ANA-S-B.40	4.6E11 Ω
RWC-S-C.15		ANA-S-C.40	5.6E11 Ω
RWC-S-D.15		ANA-S-D.40	8.2E11 Ω
RWC-S-E.15	N/A	ANA-S-E.40	4.0E11 Ω
RWC-W-A.40	8.4E11 Ω	ANA-S-A.15	N/A
RWC-W-B.40	3.2E11 Ω	ANA-S-B.15	
RWC-W-C.40	2.0E7 Ω	ANA-S-C.15	
RWC-W-D.40	1.8E6 Ω	ANA-S-D.15	
RWC-W-E.40	9.2E11 Ω	ANA-S-E.15	N/A

Tested By: B. Hand Date: 12/3/88
Witness: N/A Date:
Sheet No. 1 of 1
Approved: Robert Lee Walk 12-05-88

Notice of Anomaly: NONE

Wyle Form WH 614A. Rev. APR '84

DATA SHEET

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLOP 18057-00, IPR 01
Para.: 3.10.6
S/N: Listed
GSI: N/A

Amb. Temp.: 74.2°F
Photo: No
Test Med.: Air
Specimen Temp.: Ambient

WYLE LABORATORIES
Job No.: 18056
Report No.: 18056-1
Start Date: 12-05-88

Test Title: Insulation Resistance Functional Test Specimens in Test Chamber. Readings taken approx. 48 Hours after starting test chamber.

Specimen No.	Reading	Specimen No.	Reading
RWC-S-A.40	N/A	RWC-W-A.15	N/A
RWC-S-B.40		RWC-W-B.15	
RWC-S-C.40		RWC-W-C.15	
RWC-S-D.40		RWC-W-D.15	
RWC-S-E.40		RWC-W-E.15	
RWC-S-A.15		ANA-S-A.40	
RWC-S-B.15		ANA-S-B.40	
RWC-S-C.15		ANA-S-C.40	
RWC-S-D.15		ANA-S-D.40	
RWC-S-E.15	N/A	ANA-S-E.40	
RWC-W-A.40	6.3E11 Ω	ANA-S-A.15	
RWC-W-B.40	5.8E11 Ω	ANA-S-B.15	
RWC-W-C.40	1.4E5 Ω @ 10V	ANA-S-C.15	
RWC-W-D.40	6.0E5 Ω	ANA-S-D.15	
RWC-W-E.40	5.7E11 Ω	ANA-S-E.15	N/A

Tested By: B. Hart Date: 12/5/88
Witness: N/A Date:
Sheet No. 1 of 1
Approved: [illegible] 12-05-88

Notice of Anomaly: None

Wyle Form WH 614A, Rev. APR '86

DATA SHEET

WYLE LABORATORIES

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLOP 18057-00, IPR 01
Para.: N/A
S/N: Listed
GSI: N/A

Amb. Temp.: 85°F
Photo: No
Test Med.: Air
Specimen Temp.: Ambient

Job No.: 18056
Report No.: 18056-1
Start Date: 12-06-88

Test Title: Insulation Resistance Functional Test - Specimens in Chamber Prior to Opening Chamber to Remove Inspect Cable Temp C

Specimen No.	Reading	Specimen No.	Reading
RWC-S-A.40	$9.0 \times 10^{11}\ \Omega$	RWC-W-A.15	N/A
RWC-S-B.40	$5.8 \times 10^{11}\ \Omega$ RW	RWC-W-B.15	
RWC-S-C.40	$6.0 \times 10^{11}\ \Omega$ RW	RWC-W-C.15	
RWC-S-D.40	$6.4 \times 10^{11}\ \Omega$	RWC-W-D.15	
RWC-S-E.40	$7.2 \times 10^{11}\ \Omega$	RWC-W-E.15	N/A
RWC-S-A.15	N/A	ANA-S-A.40	$3.7 \times 10^{11}\ \Omega$
RWC-S-B.15		ANA-S-B.40	$3.5 \times 10^{11}\ \Omega$
RWC-S-C.15		ANA-S-C.40	$3.5 \times 10^{11}\ \Omega$
RWC-S-D.15		ANA-S-D.40	$5.0 \times 10^{11}\ \Omega$
RWC-S-E.15	N/A	ANA-S-E.40	$2.6 \times 10^{11}\ \Omega$
RWC-W-A.40	$4.0 \times 10^{1}\ \Omega$	ANA-S-A.15	N/A
RWC-W-B.40	$3.5 \times 10^{11}\ \Omega$	ANA-S-B.15	
RWC-W-C.40	$3.0 \times 10^{5}\ \Omega$ @ 100V	ANA-S-C.15	
RWC-W-D.40	$1.0 \times 10^{6}\ \Omega$	ANA-S-D.15	
RWC-W-E.40	$1.1 \times 10^{6}\ \Omega$ *	ANA-S-E.15	N/A
* ERRATIC READING			

Tested By: D. Compton Date: 12/6/88
Witness: N/A Date:
Sheet No. 1 of 1
Approved: [illegible]

Notice of Anomaly: None

Wyle Form WH 614A, Rev. APR '84

DATA SHEET

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLCP 18057-00, [illegible]
Para.: [illegible]
S/N: Listed
GSI: N/A

Amb. Temp.: 64°F
Photo: No
Test Med.: Water
Specimen Temp.: Ambient

WYLE LABORATORIES
Job No.: 18056
Report No.: 18056-1
Start Date: [illegible]

Test Title: [illegible] Functional Test [illegible]

Specimen No.	Reading	Specimen No.	Reading
RWC-S-A.40	$1.6 \times 10^{12}\ \Omega$	RWC-W-A.15	N/A
RWC-S-B.40	$1.4 \times 10^{12}\ \Omega$	RWC-W-B.15	
RWC-S-C.40	$1.5 \times 10^{12}\ \Omega$	RWC-W-C.15	
RWC-S-D.40	$1.3 \times 10^{12}\ \Omega$	RWC-W-D.15	
RWC-S-E.40	$1.6 \times 10^{12}\ \Omega$	RWC-W-E.15	N/A
RWC-S-A.15	N/A	ANA-S-A.40	$8.0 \times 10^{11}\ \Omega$
RWC-S-B.15		ANA-S-B.40	$7.4 \times 10^{11}\ \Omega$
RWC-S-C.15		ANA-S-C.40	$6.4 \times 10^{11}\ \Omega$
RWC-S-D.15		ANA-S-D.40	$8.8 \times 10^{11}\ \Omega$
RWC-S-E.15		ANA-S-E.40	$6.6 \times 10^{11}\ \Omega$
RWC-W-A.40		ANA-S-A.15	N/A
RWC-W-B.40		ANA-S-B.15	
RWC-W-C.40		ANA-S-C.15	
RWC-W-D.40		ANA-S-D.15	
RWC-W-E.40	N/A	ANA-S-E.15	N/A

Tested By: D Lempster Date: 12/7/88
Witness: N/A Date:
Sheet No. 1 of 1
Approved: [illegible]

Notice of Anomaly: None

DATA SHEET

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLOP 18057-00, IPR 01
Para.: N/A
S/N: Listed
GSI: N/A

WYLE LABORATORIES

Amb. Temp.: 72.1°F
Photo: No
Test Med.: Air
Specimen Temp.: Ambient

Job No.: 18056
Report No.: 18056-1
Start Date: 01-03-89

Test Title: POST-TEST Functional Test (UPON COMPLETION OF LOCA)
(CABLE TRAYS A & E MOUNTED IN TEST CHAMBER)

Specimen No.	Reading	Specimen No.	Reading
RWC-S-A.40	$5.0 \times 10^{4}\,\Omega$ @190VDC	RWC-W-A.15	N/A
RWC-S-B.40	$2.4 \times 10^{8}\,\Omega$	RWC-W-B.15	
RWC-S-C.40	$8.4 \times 10^{7}\,\Omega$	RWC-W-C.15	
RWC-S-D.40	$3.5 \times 10^{6}\,\Omega$	RWC-W-D.15	
RWC-S-E.40	$1.0 \times 10^{5}\,\Omega$ @190VAC	RWC-W-E.15	N/A
RWC-S-A.15	N/A	ANA-S-A.40	$8.8 \times 10^{10}\,\Omega$
RWC-S-B.15		ANA-S-B.40	$1.0 \times 10^{11}\,\Omega$
RWC-S-C.15		ANA-S-C.40	$7.8 \times 10^{10}\,\Omega$
RWC-S-D.15		ANA-S-D.40	$1.1 \times 10^{11}\,\Omega$
RWC-S-E.15		ANA-S-E.40	$1.0 \times 10^{11}\,\Omega$
RWC-W-A.40		ANA-S-A.15	N/A
RWC-W-B.40		ANA-S-B.15	
RWC-W-C.40		ANA-S-C.15	
RWC-W-D.40		ANA-S-D.15	
RWC-W-E.40	N/A	ANA-S-E.15	N/A

Tested By: D. Lemasters Date: 1/3/89
Witness: N/A Date:
Sheet No. 1 of 1
Approved: Robert L. Walk 01-03-89

Notice of Anomaly: NONE

Wyle Form WH 614A, Rev. APR '84

DATA SHEET

Customer: Tennessee Valley Authority
Specimen: Silicone Rubber Insulated Cables
Part No.: Various
Spec.: WLOP 18057-00, IPR 01
Para.: 3.11
S/N: Listed
GSI: N/A

WYLE LABORATORIES

Amb. Temp.: 62.5°F
Photo: No
Test Med.: Water
Specimen Temp.: Ambient

Job No.: 18056
Report No.: 18056-1
Start Date: 01-03-88

Test Title: POST-TEST Functional Test
(CABLE TRAYS A & E MOUNTED IN TEST CHAMBER)

Specimen No.	Reading	Specimen No.	Reading
RWC-S-A.40	SHORT @ 10VDC	RWC-W-A.15	N/A
RWC-S-B.40	$2.0 \times 10^8\ \Omega$	RWC-W-B.15	
RWC-S-C.40	$9.6 \times 10^6\ \Omega$	RWC-W-C.15	
RWC-S-D.40	$3.5 \times 10^6\ \Omega$	RWC-W-D.15	
RWC-S-E.40	$5.8 \times 10^5\ \Omega$ @ 190VDC	RWC-W-E.15	N/A
RWC-S-A.15	N/A	ANA-S-A.40	$4.0 \times 10^{10}\ \Omega$
RWC-S-B.15		ANA-S-B.40	$1.4 \times 10^{11}\ \Omega$
RWC-S-C.15		ANA-S-C.40	$1.1 \times 10^{11}\ \Omega$
RWC-S-D.15		ANA-S-D.40	$1.7 \times 10^{11}\ \Omega$
RWC-S-E.15		ANA-S-E.40	$1.6 \times 10^{11}\ \Omega$
RWC-W-A.40		ANA-S-A.15	N/A
RWC-W-B.40		ANA-S-B.15	
RWC-W-C.40		ANA-S-C.15	
RWC-W-D.40		ANA-S-D.15	
RWC-W-E.40	N/A	ANA-S-E.15	N/A

Tested By: D Lempton Date: 1/3/88
Witness: N/A Date:
Sheet No. 1 of 1
Approved: Robert T. Walt 01-03-89

Notice of Anomaly: NONE

Wyle Form WH 614A, Rev. APR 84

APPENDIX VII

INSTRUMENTATION EQUIPMENT SHEETS

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INSTRUMENTATION EQUIPMENT SHEET

Page No. V-91

Test Report No. 18056-1

DATE: 11/30/88
TECHNICIAN: D. COMPTON

JOB NUMBER: 18056-00
CUSTOMER: T. V. A.

TEST AREA: LOCA
TYPE TEST: PRE-LOCA-TEST FUNCTIONAL

NO.	INSTRUMENT	MANUFACTURER	MODEL#	SERIAL #	WYLE #	RANGE 1	ACCURACY 1	CALDATE	CALDUE
1	MEG MTR	GENERAL RADIO	1864	1864-9700-00	106840	50K-50T OHM	2-5% RANGE	10/03/88	03/31/89

THIS IS TO CERTIFY THAT THE ABOVE INSTRUMENTS WERE CALIBRATED USING STATE-OF-THE-ART TECHNIQUES WITH STANDARDS WHOSE CALIBRATION IS TRACEABLE TO THE NATIONAL BUREAU OF STANDARDS.

INSTRUMENTATION R.E. Archer 11-30-88

CHECKED & RECEIVED BY Robert [illegible] 11-30-88

Q.A. TR Hamilton 11-30-88

INSTRUMENTATION EQUIPMENT SHEET

Page No. V-92

Test Report No. 18056-1

DATE: 12/02/88 JOB NUMBER: 18056-00 TEST AREA: LOCA

TECHNICIAN: B. HARDY CUSTOMER: T. V. A. TYPE TEST: LOCA

NO.	INSTRUMENT	MANUFACTURER	MODEL#	SERIAL #	WYLE #	RANGE 1	ACCURACY 1	CALDATE	CALDUE
1	CURRENT I/CR	FLUKE	80I-600	102190	102190	200GA	3%	08/03/88	01/30/89
2	XFORMER	METERMASTER	7SFT101	N/A	103445	RATIO 100:5	2%	11/02/88	05/01/89
3	XFORMER	METERMASTER	7SFT101	N/A	103446	RATIO 100:5	2%	11/02/88	05/01/89
4	XFORMER	METERMASTER	7SFT101	N/A	103449	RATIO 100:5	2%	11/02/88	05/01/89
5	XFORMER	METERMASTER	7SFT101	N/A	103443	RATIO 100:5	2%	11/02/88	05/01/89
6	XFORMER	METERMASTER	7SFT101	N/A	103447	RATIO 100:5	2%	11/02/88	05/01/89
7	XFORMER	METERMASTER	7SFT101	N/A	103441	RATIO 100:5	2%	11/02/88	05/01/89
8	XFORMER	METERMASTER	7SFT101	N/A	103444	RATIO 100:5	2%	11/02/88	05/01/89
9	XFORMER	METERMASTER	7SFT101	N/A	103448	RATIO 100:5	2%	11/02/88	05/01/89
10	XFORMER	METERMASTER	7SFT101	N/A	103440	RATIO 100:5	2%	11/02/88	05/01/89
11	XFORMER	METERMASTER	7SFT101	N/A	103451	RATIO 100:5	2%	11/02/88	05/01/89
12	XFORMER	METERMASTER	7SFT101	N/A	103439	RATIO 100:5	2%	11/02/88	05/01/89
13	XFORMER	METERMASTER	7SFT101	N/A	103450	RATIO 100:5	2%	11/02/88	05/01/89
14	XFORMER	METERMASTER	7SFT101	N/A	103438	RATIO 100:5	2%	11/02/88	05/01/89
15	XFORMER	METERMASTER	7SFT101	N/A	103437	RATIO 100:5	2%	11/02/88	05/01/89
16	XFORMER	WESTON	461	17534	103281	800:5 RATIO	1%	11/02/88	05/01/89
17	XFORMER	WESTON	461-2	17756	103106	10-100 AMP	1%	11/02/88	05/01/89
18	XFORMER	WESTON	461	N/A	103340	2.5KV/15VA	1%	11/02/88	05/01/89
19	XFORMER	WESTON	461	18435	102379	RATIO 800:5	1%	11/02/88	05/01/89
20	XFORMER	WESTON	461-2	22304	104415	25-500	.25%	11/02/88	05/01/89
21	XFORMER	WESTON	461-1	24979	097428	100/15A	1%	11/02/88	05/01/89
22	XFORMER	WESTON	461-5	25679	103148	.5-50AMPS	1%	11/02/88	05/01/89
23	XFORMER	WESTON	461-5	22869	103147	.5-50AMPS	1%	11/02/88	05/01/89
24	XFORMER CURRENT	WESTON	461-2	22054	104416	25-500	.25%	11/02/88	05/01/89
25	XFORMER	WESTON	461-2	17770	103104	10-100 AMP	1%	11/02/88	05/01/89
26	XFORMER	WESTON	461-2	22055	104417	25-500	.25%	11/02/88	05/01/89
27	XFORMER	WESTON	461-1	7963	103145	100/5AMPS	1%	11/02/88	05/01/89
28	XFORMER	WESTON	461-5	22870	103146	.5-50AMPS	.25%	11/02/88	05/01/89
29	XFORMER	WESTON	461	17755	102377	RATIO 800:5	1%	11/02/88	05/01/89
30	XFORMER	WESTON	461-1	13132	003022	100/5AMP	1%	11/02/88	05/01/89
31	DIG MTR	FLUKE	8060A	4510534	104886	DC VOLTS	.04%	07/26/88	07/26/89
32	DIG MTR	FLUKE	77	35751665	102117	AC	2%	06/30/88	12/27/88
33	DIG MTR	FLUKE	77	45312151	104881	DC VOLTS	.3%	07/26/88	07/26/89
34	RES DECADE	CLAROSTAT	240C	4885	011423	0-999.999 OHMS	2%	11/21/88	11/21/89
35	DIG MTR	FLUKE	77	45314286	104882	DC VOLTS	.3%	07/26/88	07/26/89
36	DIGITAL TEMP	FLUKE	2190A	208	094906	MULT	.03%	12/01/88	03/01/89
37	DATA SYS	DAYTRONIC	10K6	N/A	101936	MULTI	MFG	07/27/88	07/27/89
38	TERMINAL	H/P	2648A	1931A05363	100615	SYSTEM	PM	10/18/88	04/14/89

THIS IS TO CERTIFY THAT THE ABOVE INSTRUMENTS WERE CALIBRATED USING STATE-OF-THE-ART TECHNIQUES WITH STANDARDS WHOSE CALIBRATION IS TRACEABLE TO THE NATIONAL BUREAU OF STANDARDS.

INSTRUMENTATION R.E. Archer 12-2-88

CHECKED & RECEIVED BY [signature] 12-02-88

Q.A. J R Hamilton 12-2-88 (Wyle A)

INSTRUMENTATION EQUIPMENT SHEET

Page No. V-93

Test Report No. 18056-1

DATE: 12/02/88 JOB NUMBER: 18056-00 TEST AREA: LOCA

TECHNICIAN: B. HARDY CUSTOMER: T. V. A. TYPE TEST: LOCA

NO.	INSTRUMENT	MANUFACTURER	MODEL#	SERIAL #	WYLE #	RANGE 1	ACCURACY 1	CALDATE	CALDUE
39	TEMP IND	DORIC	402A	106717	011831	-50+2552*F K	2.5*f	07/26/88	01/20/89
40	STRAIN PWR	VISHAY	2110	21804	011603	15VDC	1%REG	11/01/88	01/30/89
41	COND STRAIN	VISHAY	2120	22889	011709	DC-5KHZ	2%G	11/01/88	01/30/89
42	AMPL TEMP MV	AGM ELECTRONICS	EA4002	70-509	000680	0+1000*F K	1%	08/09/88	02/03/89
43	AMPL TEMP MV	AGM ELECTRONICS	EA4002	70-510	000681	0+1000*F K	1%	08/09/88	02/03/89
44	AMPL TEMP MV	AGM ELECTRONICS	EA4002	70-512	000683	0+1000*F K	1%	08/09/88	02/03/89
45	CONTR TEMP	RESEARCH	61011	102360	100316	-175+375*F T	.5%	09/26/88	03/24/89
46	TEMP ALARM	RESEARCH	61034	240158	000716	-175+375*F T	.5%	09/06/88	03/03/89
47	GEN SIG	EXACT	340	25656	003150	1MSEC-99.900	+-0.01%	10/28/88	04/26/89
48	RECORD TEMP	HONEYWELL	45	8009283019001	092815	0-400*F T	.5%	10/20/88	01/18/89
49	PRINTER	LEAR	310	9039	104401	MULT	PM	09/27/88	03/24/89
50	PRINTER	LEAR	310	4661	104402	MULT	PM	10/18/88	04/14/89
51	FLOW MTR	POTTER	1/2	83475	103286	0-10GPM	SEE CERT.	01/04/88	01/03/89
52	PRESS GAUGE	USG	N/A	N/A	100689	0-30 PSI	1%	10/24/88	01/20/89
53	PRESS XDUCER	B/H	0001	3059	101317	0-25PSIG	.05%	08/01/88	01/27/89
54	XFORMER	METERMASTER	SFT-101	N/A	102396	RATIO 100:5	2%	11/02/88	05/01/89

THIS IS TO CERTIFY THAT THE ABOVE INSTRUMENTS WERE CALIBRATED USING STATE-OF-THE-ART TECHNIQUES WITH STANDARDS WHOSE CALIBRATION IS TRACEABLE TO THE NATIONAL BUREAU OF STANDARDS.

INSTRUMENTATION R.E. Archer 12-2-88

CHECKED & RECEIVED BY [illegible] 12-2-88

Q.A. TR Hamilton 12-2-88

INSTRUMENTATION EQUIPMENT SHEET

Page No. V-94

Test Report No. 18056-1

DATE: 12/02/88 JOB NUMBER: 18056-00 TEST AREA: LOCA

TECHNICIAN: R. HARDY CUSTOMER: T. V. A. TYPE TEST: PRE-TEST FUNCTIONAL

NO.	INSTRUMENT	MANUFACTURER	MODEL#	SERIAL #	WYLE #	RANGE 1	ACCURACY 1	CALDATE	CALDUE
1	MEG MTR	GENERAL RADIO	1864	1864-9700-00	106840	50K-50T OHM	2-5% RANGE	10/03/88	03/31/89

THIS IS TO CERTIFY THAT THE ABOVE INSTRUMENTS WERE CALIBRATED USING STATE-OF-THE-ART TECHNIQUES WITH STANDARDS WHOSE CALIBRATION IS TRACEABLE TO THE NATIONAL BUREAU OF STANDARDS.

INSTRUMENTATION R.E. Archer 12-2-88 CHECKED & RECEIVED BY [illegible] 12-2-88

Q.A. [illegible] 12-2-88

INSTRUMENTATION EQUIPMENT SHEET

Page No. V-95

Test Report No. 18056-1

DATE: 01/03/89
TECHNICIAN: D. COMPTON

JOB NUMBER: 18056-00
CUSTOMER: T. V. A.

TEST AREA: LOCA
TYPE TEST: POST-LOCA FUNCTIONAL

NO.	INSTRUMENT	MANUFACTURER	MODEL#	SERIAL #	WYLE #	RANGE 1	ACCURACY 1	CALDATE	CALDUE
1	MEG MTR	GENERAL RADIO	1864	1864-9700-00	106840	50K-50T OHM	2-5% RANGE	10/03/88	03/31/89

THIS IS TO CERTIFY THAT THE ABOVE INSTRUMENTS WERE CALIBRATED USING STATE-OF-THE-ART TECHNIQUES WITH STANDARDS WHOSE CALIBRATION IS TRACKABLE TO THE NATIONAL BUREAU OF STANDARDS.

INSTRUMENTATION R.E. Archer 1-4-89

CHECKED & RECEIVED BY Robert L. Wolf 01-03-89

Q.A. Bennie M. Turner 1-4-89

S Wyle A

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