UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 11 1982

MEMORANDUM FOR: Robert M. Bernero, Director
Division of Risk Analysis

Richard W. Starostecki, Director
Division of Project and Resident Programs

Richard H. Vollmer, Director
Division of Engineering

Roger J. Mattson, Director
Division of Systems Integration

Stephen H. Hanauer, Director
Division of Safety Technology

Hugh L. Thompson, Jr., Acting Director
Division of Human Factors Safety

FROM: Gus C. Lainas, Assistant Director
for Safety Assessment, DL

SUBJECT: RESPONSE TO REPRESENTATIVE MORRIS UDALL'S LETTER OF FEBRUARY 5, 1982

Enclosed is a copy of Representative Udall's letter sent to Chairman Palladino regarding various aspects of Ginna's steam generator tube rupture. It has been marked to deliniate primary areas which you are requested to respond to. Please supply your responses to me by February 17, 1982. T. A. Ippolito, Chief ORAB, is coordinating this response.

Gus C. Lainas, Assistant Director
for Safety Assessment
Division of Licensing

Enclosure:
Letter dated 2/5/82

cc w/enclosure:
E. Case
D. Eisenhut
R. Haynes, RE: I
J. Funches
R. Minogue, RES
T. Ippolito
J. Lyons

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Certified By

February 5, 1982

The Honorable Nunzio Palladino
Chairman
United States Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Chairman:

As a follow-on to the February 4 briefing, I would appreciate the Commission's answers to the following questions in addition to the information requested by Mr. Markey.

NRR/RE:I 1. What is the primary significance of the Ginna incident? {45 DAY REPOR

NRR 2. What was the leak rate through the break as a function of time?

NRR/RE:I 3. What triggered the steam generator tube rupture? {45 DAY REPORT

NRR 4. Had there been indications of leaking steam generator tubes prior to the rupture on January 25?

RE:I 5. What was the cause of the PORV's apparent failure to close? Does the apparent failure of the PORV to close cause doubt about the adequacy of the industry's program to test

DE such valves?

NRR/RE:I 6. What would the course of the incident have been had the PORV block valve failed to close partially or fully following failure of the PORV to close fully? {45 DA REPORT

RE:I 7. Did the procedure for responding to a steam generator tube rupture contain instructions for actions to be taken in response to development of a steam bubble in the reactor pressure vessel?

RE:I 8. Was there a need during the incident to take actions not specified in the plant's written operating and emergency procedures? Were the emergency procedures in place at Ginna consistent with Westinghouse guidelines as discussed in the January 28 memorandum from Mr. Speis to Dr. Mattson?

RE:I 9. Had a water level measuring device been available, would it have assisted the operators in determining the size of the steam bubble in the pressure vessel and otherwise in bringing the plant to a stable condition? {45 D REPO

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11. Is it generally expected that if a leak had developed in both steam generators, the operators would have been able to complete the "feed and bleed" process described in Mr. Davis' January 28 memorandum.

DST 12. How many steam generator tube ruptures per year of the Ginna magnitude or greater do you expect?

DST 13. What is the likelihood of several steam tube ruptures occurring at one time? What is the maximum number of simultaneous or near simultaneous steam generator tube ruptures that are considered design basis accidents following which the a can be brought to a safe shutdown condition by following plant operating and emergency procedures?

RES 14. Did WASH 1400 or more recent risk assessments determine the probability of occurrence of events in which one or more steam generator tube failures are followed by various combinations of PORV, block valve, and safety valve failures?

RE:I 15. How long did it take to reach cold shutdown? Is this a period longer than desireable? What was the reason for the period being longer than normal? What kinds of malfunctions during the extended cooldown period might have led to a significant release of radioactivity to the environment?

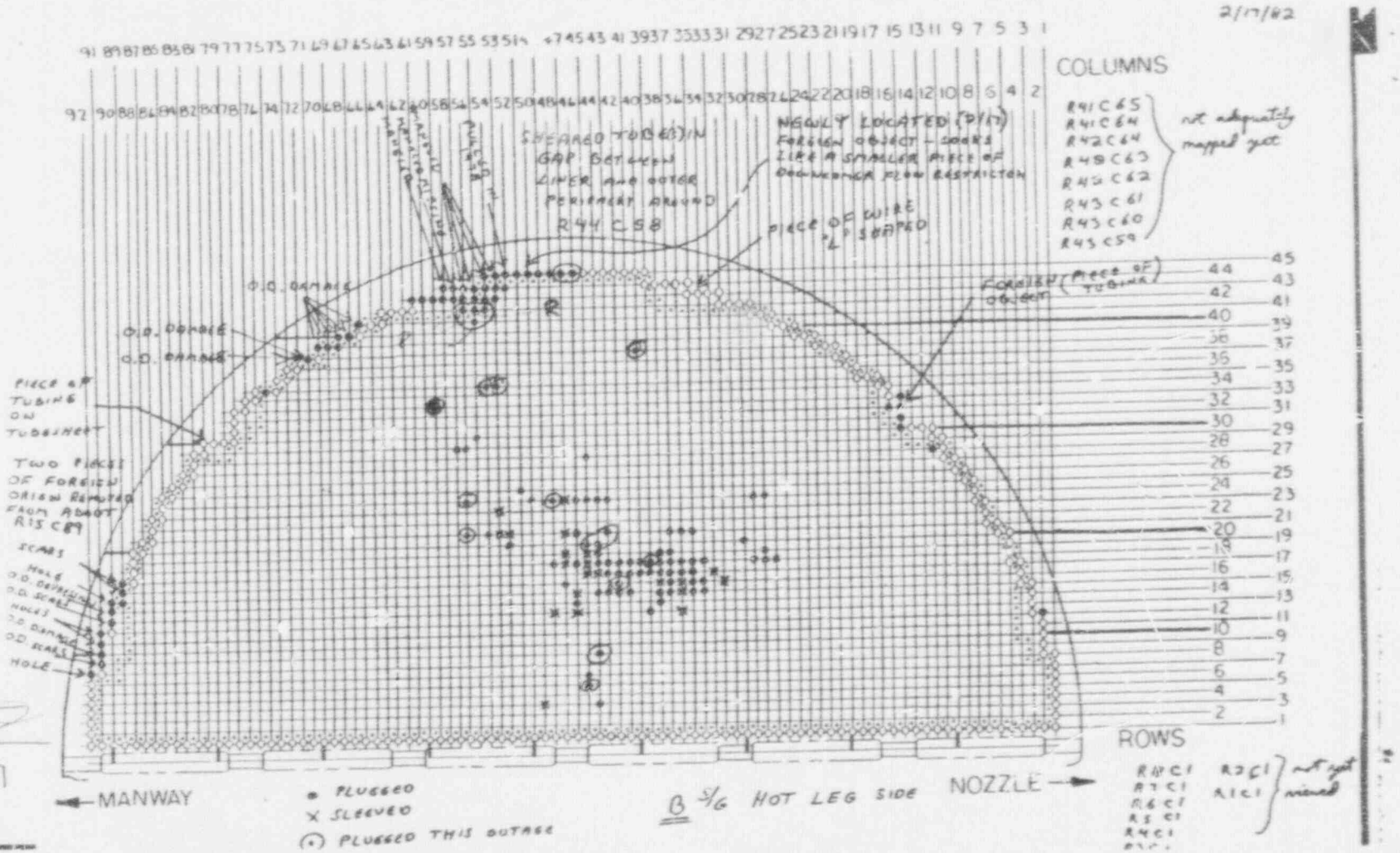
RE:I 16. Did any part of the reactor pressure vessel cool at a rate in excess of that stipulated in the plant technical specifications? { 45 DAY REPORT

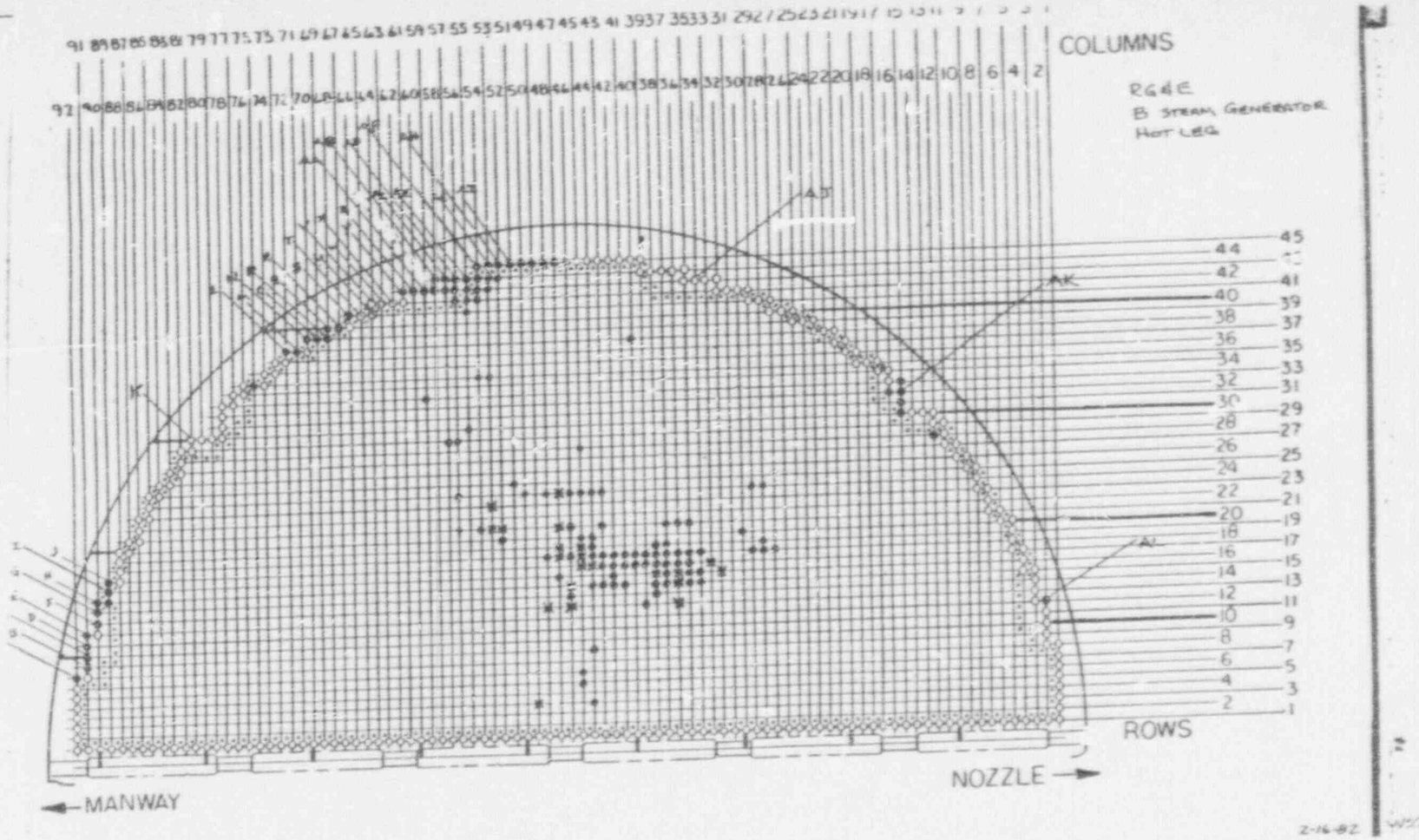
RE:I 17. Was there a capability at Ginna to remotely vent the reactor pressure vessel high points? Does the Commission
DSI believe that conditions might develop in PWRs calling for the use of remotely controlled valves for the purose of venting steam?

RE:I 18. At any point during the Ginna event, did the steam generator containing the ruptured tube control the primary system pressure? Are operators at Ginna and other PWRs
DHFS trained with respect to actions to be taken when a steam generator controls primary system pressure?

Sincerely,

MORRIS K. UDALL
Chairman


2/17/82
COLUMNS
R41 C65
R41 C64
R42 C64
R42 C63
R42 C62
R43 C61
R43 C60
R43 C59
not adequately mapped yet
SEVERED TUBE (3/4) IN GAP BETWEEN LINER AND OUTER PERIMETER AROUND R44 C58
HEAVILY LOCATED (PIT) FOREIGN OBJECT - LOOKS LIKE A SMALLER PIECE OF DOUBLE FLOW RESTRICTOR
PIECE OF WIRE "L" SHAPED
O.D. DAMAGE
O.D. DENTS
O.D. DENTS
PIECE OF TUBING ON TUBESHEET
TWO PIECES OF FOREIGN ORIGIN REMOVED FROM ADJACENT R15 C89
FOREIGN OBJECT (Piece of Tubing)
SCARS
HOLE
O.D. DENTS
O.D. SCARS
HOLES
O.D. DENTS
O.D. SCARS
HOLE
ROWS
R41 C1
R42 C1
R43 C1
R44 C1
R45 C1
R46 C1
R47 C1
R48 C1
not yet viewed
MANWAY
NOZZLE
B 3/6 HOT LEG SIDE
* PLUGGED
X SLEEVED
⊙ PLUGGED THIS OUTAGE


COLUMNS
R6&E
B STEAM GENERATOR
HOT LEG
ROWS
NOZZLE
MANWAY
2-16-82

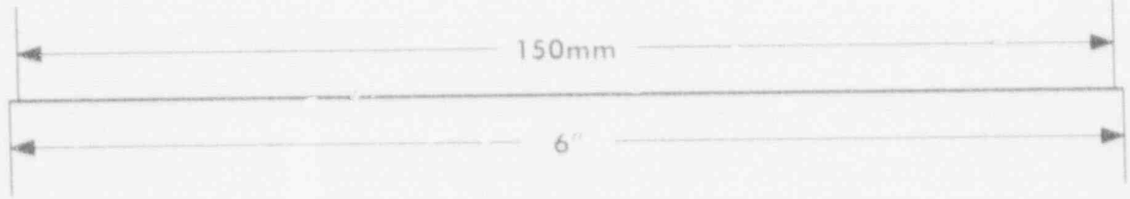
2-16-82	DATA REVIEW "B" S/G HOT LEG	
R1C92	OK	
R2C92	OK	
R3C92	OK	
R4C92	OK	
R5C92	OK	
R6C92	OK	
R7C92	OK	
R8C92	STARTED OUT WITH HOLE, SHOULD BE OK	A
R9C91	SCARS ON OD	B
R10C91	OD DAMAGE - WIPED AREA - SCRAPED	C
R11C91	HOLE AND DAMAGE	D
R12C91	HOLE AND DAMAGE	E
R13C90	SCARS ON OD	F
R14C90	OD DAMAGE - DEPRESSION	G
R15C90	OD DAMAGE AND HOLE	H
R16C89	LITTLE SCARS	I
R17C89	OD SCARS	J
R18C88	OK	
R19C88	OK	
R20C88	OK	
R21C87	OK	
R22C86	OK	
R23C86	OK	
R24C85	OK	
R25C85	OK	
R26C84	OK	
R27C83	OK	
R28C82	OK	
R29C82	OK	
R30C81	OK - PIECE OF TUBING ON TUBE SHEET	K
STAY ROD	OK	

2-16-82 DATA REVIEW "B" S/G HOT LEG.

R33C78	OK	
R34C77	OK	
→ R34C76	OK	
R35C76	OK	
→ R35C75	OK	
⇕ R35C74	OK	
R36C74	OK	
→ R36C73	OK	
R37C73	OK	
→ R37C72	OK	
R38C72	OD DAMAGE - PLUGGED - OK	L
→ R38C71	OD DAMAGE - PLUGGED - OK	M
⇕ R38C70	OK	
R39C70	OD DAMAGE - PLUGGED - OK	N
→ R39C69	OD DAMAGE - PLUGGED - OK	O
⇕ R39C68	OD DAMAGE - PLUGGED - OK	P
R40C68	OK - PLUGGED	Q
→ R40C67	OK - PLUGGED	R
R41C66	OK - PLUGGED - HUNG UP	S
→ R41C65		T
⇕ R41C64		U
R42C64		V
→ R42C63		W
⇕ R42C62		X
R43C61		Y
→ R43C60		Z
⇕ R43C59		AA
R44C58	MANGLED	AB
→ R44C57	MANGLED - MISSING ?	AC
⇕ R44C56	MANGLED	AD
⇕ R44C55	MANGLED	AE

1

IMAGE EVALUATION
TEST TARGET (MT-3)




1
IMAGE EVALUATION
TEST TARGET (MT-3)
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
150mm
6"

1

IMAGE EVALUATION
TEST TARGET (MT-3)

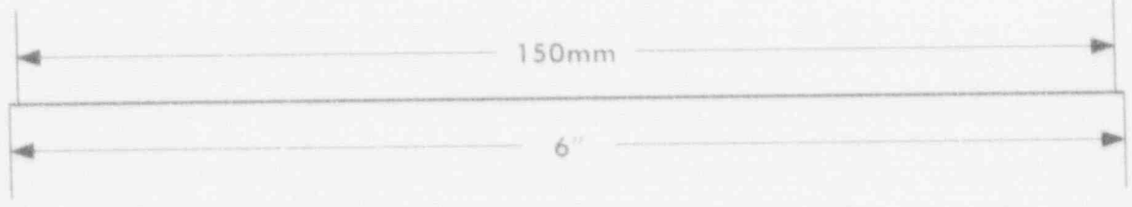


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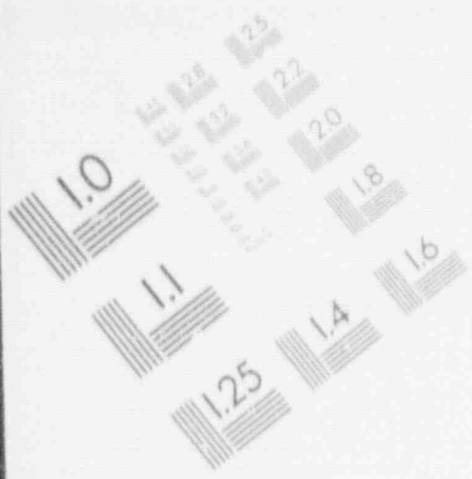
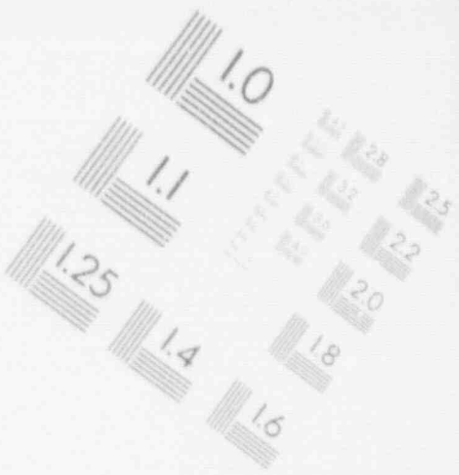
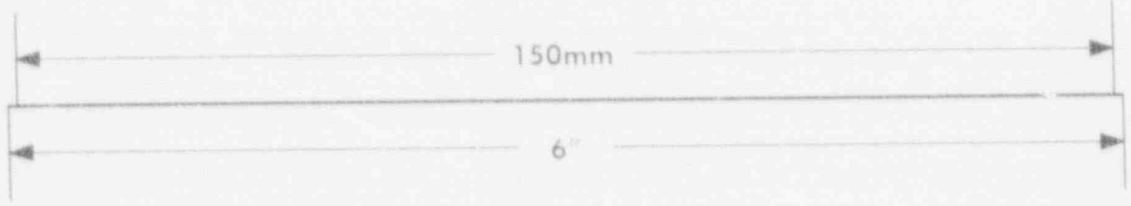
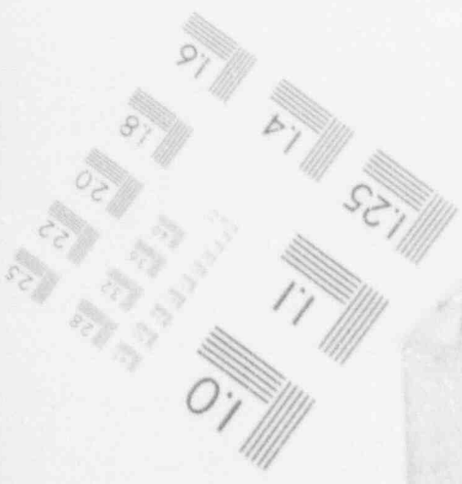
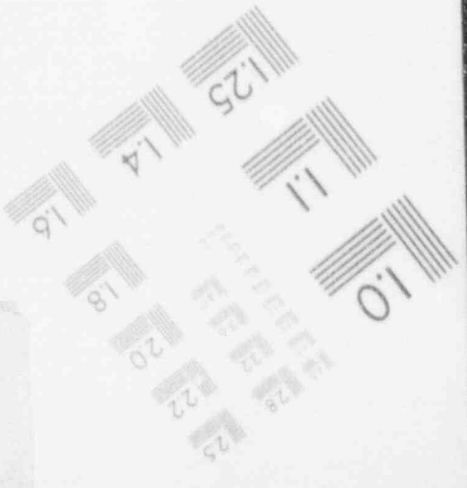
IMAGE EVALUATION
TEST TARGET (MT-3)











2-16-82 DATA REVIEW "B" S/G HOT LEG

R45C54	MANGLED TUBE	AF
R45C53	MANGLED TUBE	AI
R45C52	PULLED TUBE	AH
R45C51	MOTTLED (RIPPLED OD) - COLD WORKED?	AI
R45C50	OK.	
R45C49	OK.	
R45C48	OK	
R45C47	OK - PLUGGED	
R45C46	OK - PLUGGED	
R45C45	OK	
R45C44	OK.	
R45C43	OK	
R45C42	OK.	
R45C41		
R45C40	OK.	
R45C39	OK.	
R44C38	OK	
R44C37	OK.	
R44C36	OK.	
R44C35	OK.	
R43C34	OK - PIECE OF WIRE →	AI
R43C33	OK.	
R43C32	OK.	
R42C31	OK.	
R42C30	OK.	
R42C29	OK	
R41C28	OK.	
R41C27	OK.	
R40C26	OK.	
R40C25	OK.	
R39C24	OK.	

2-16-82 DATA REVIEW "B" 5/6 HOTLEG

R39C23	OK.
R38C21	OK.
R37C20	OK.
R36C19	OK.
→ R35C18	OK.
R35C17	OK.
R34C16	OK.
→ R33C16	OK.
R32C15	OK. AK
	FOREIGN OBJECT (PIECE OF TUBING) BETWEEN R32C15 & STAY BA
STAYBAR	OK.
→ R30C13	OK.
R30C12	OK.
R29C11	OK.
→ R28C11	OK.
R27C10	OK.
R26C9	OK.
R25C8	OK.
→ R24C8	OK.
R23C7	OK.
→ R22C7	OK.
R21C6	OK.
R20C5	OK.
→ R19C5	OK.
→ R18C5	OK.
R17C4	OK.
→ R16C4	OK.
R15C3	OK.
→ R14C3	OK.
→ R13C3	OK.
R12C2	PLUGGED AND OK. AL

2-16-82 DATA REVIEW "B" S/G HOT LEG.

→ R11C2 OK
→ R10C2 OK
→ R9C2 OK
R8C1
R7C1
R6C1
R5C1
R4C1
R3C1
R2C1
R1C1