

PRELIMINARY REPORT



CRYSTAL RIVER UNIT 3
REACTOR BUILDING

STRUCTURAL INTEGRITY TEST

NOVEMBER 4, 1976

*REC'd w/LTR POP 11/5/76
50-502 CWT 11274*

11274
757
8008120 ~~_____~~
A

4.0 CRACK PATTERNS

Except for minor surface crazing, all areas of the structure were free of cracks at 0.00 psig. At 35 psig, a series of hoop hairline cracks were observed on the dome surface at approximately two feet on center from about 20 feet from the base of the dome up to within 16 feet of the apex. At 45 psig, random hairline cracks were observed on the cylinder in the Elevation 93' - 103' White-Wash Area. Meridional cracks in the dome area were also appearing at the 45 psig level. At 55 psig, the meridional cracks had extended to the dome apex and also an approximate 2' x 2' pattern of cracks had developed.

At 63.3 psig, four hairline cracks appeared near Elevation 116'-0 at the Equipment Hatch and additional hairline cracks were visible in the Elevation 93' - 103' White-Wash Area.

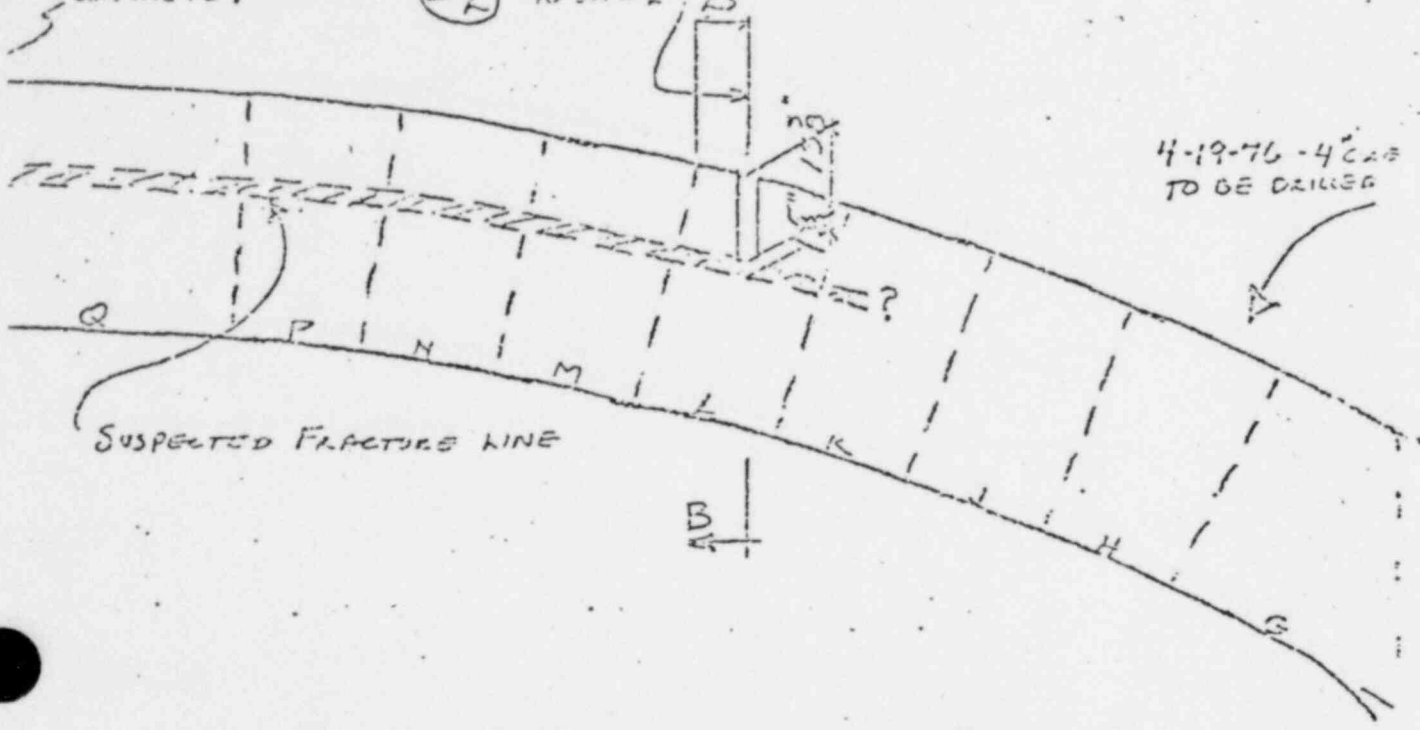
In the dome, the pattern of hoop and meridional cracks extended from 15'-0" from the edge of the dome to the apex, with the heaviest concentration between 30 and 40 feet from the apex. With minor exceptions, all cracks were hairline.

With the reduction to 0.0 psig, the vast majority of cracks closed.

Attachment 3 presents the crack survey of White-Wash areas for 63.3 psig and final 0.0.

(S.S. PIN (WELDED TO STAFF OF LINE)
 SURVEY RUN 4-17-76 INDI. TO ESTABLISH
 3" to 1/2" DROP AFTER CONCRETE CUR.
 SURVEY TO BE RETURN TO ESTABLISH
 TRUE ELEVATION &
 ELEVATION OF
 CONCRETE.

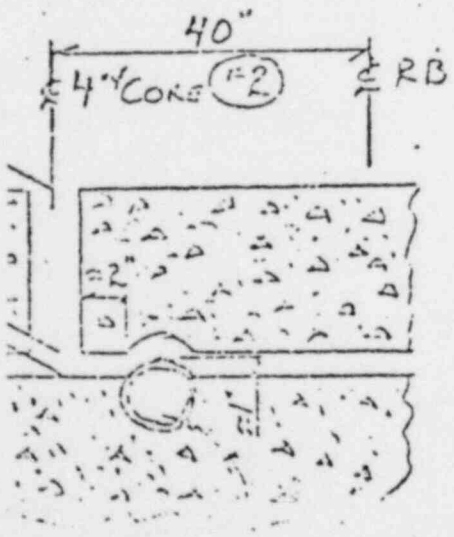
4" CORE-DRILLED 4-15-76
 #2 40" SOUTH 23°



4-19-76 - 4" CORE
 TO BE DRILLED

DOME SECTION - EAST HALF ON Az 90°-270°

NOT TO SCALE



SECTION B

VERY POOR
 ORIGINAL

(V)

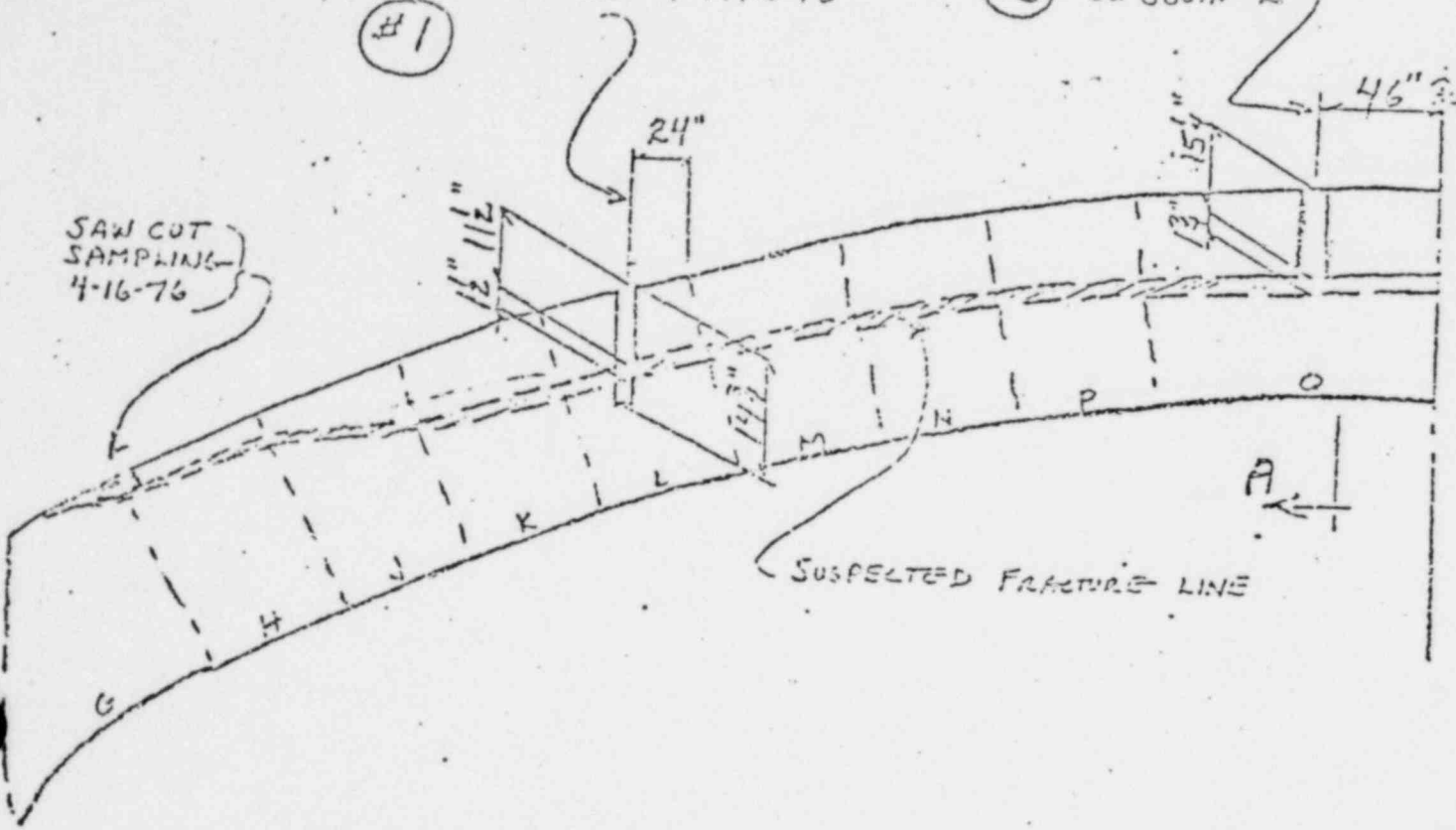
1 3/4" CORE - DRILLED 4-17/18-76

#1

4" CORE - DRILLED 4-13-76

#3 6' SOUNDED

SAW CUT SAMPLING 4-16-76



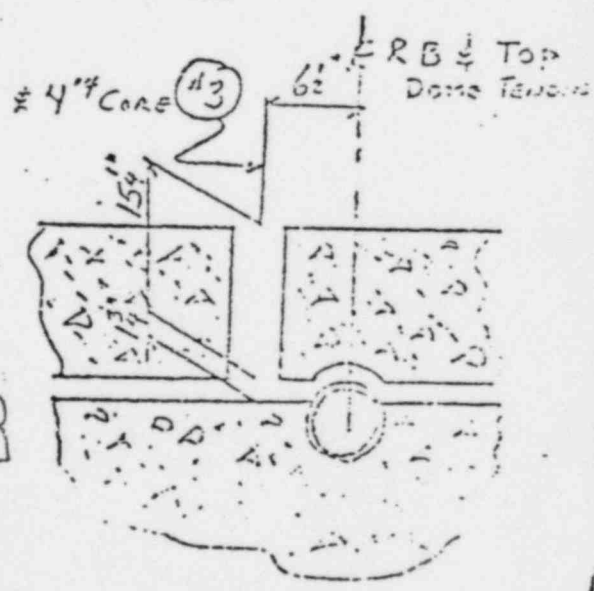
DOMES SECTION - WEST HALF ON AZ 90°-270°

NOT TO SCALE

NOTE:

CORE #1 & #2 WERE DRILLED AT SAME LOCATION AS TEST CORES TAKEN IN 1974 AT TIME OF POUR.

VERY POOR ORIGINAL



SECTION A

VI

5.0 TENDON ANCHORAGE ZONE INSPECTION

Both end anchorages for 21 tendons distributed among dome, cylinder hoop and vertical tendons were examined at each hold level up to 63.3 psi. No unusual cracking, bearing plate displacement or other unexpected occurrence was observed during the test.

6.0 CONCLUSIONS

Measurements and observations recorded during the structural integrity test have been evaluated and compared with predictions of the expected structural behavior during the test. The data confirmed the expected behavior. It is concluded that the Crystal River Unit #3 Reactor Building meets the structural design criteria.

ATTACHMENT 1

DISPLACEMENT DATA

TEST PRESSURE 63.3 PSIG

FINAL ZERO 0.00 PSIG

DISPLACEMENT PLOTS

VERTICAL DISPLACEMENTS

PRESSURE	63.30	PSIG	TIME :	2.41
CHANNEL		GAGE	DISPLACEMENT	
401		28V	1.7065E-01	
402		128V	2.9667E-01	
403		164V	7.4465E-01	
404		34V	7.4955E-01	
407		29V	1.9577E-01	
408		129V	3.1589E-01	
409		165V	7.1521E-01	
404		34V	7.4955E-01	
412		30V	1.9186E-01	
413		130V	3.0786E-01	
414		166V	7.3052E-01	
404		34V	7.4955E-01	

VERY POOR ORIGINAL

SIGNED SGR

VERTICAL DISPLACEMENTS

PRESSURE	0.00	PSIG	TIME : 12.08
CHANNEL		GAGE	DISPLACEMENT
401		28V	2.5773E-02
402		128V	3.9685E-02
403		164V	7.3256E-02
404		34V	5.8440E-02
407		29V	1.4119E-02
408		129V	2.7406E-02
409		165V	7.9211E-02
404		34V	5.8440E-02
412		30V	1.9879E-02
413		130V	3.5130E-02
414		166V	8.6797E-02
404		34V	5.8440E-02

VERY POOR ORIGINAL

Handwritten signature or initials

RADIAL DISPLACEMENTS

PRESSURE 63.30 PSIG TIME : 2.41

CHANNEL GAGE DISPLACEMENT

417	1	3.0571E-02
418	4	1.2440E-01
419	7	1.7462E-01
420	10	1.7148E-01
421	13	9.2597E-02
422	16	5.0172E-02
423	19	-6.2861E-02
424	22	-6.8609E-02
425	25	-1.1387E-01
426	128	-1.1971E-01
427	2	3.7750E-02
428	5	1.0643E-01
429	8	2.4392E-01
430	11	2.0539E-01
431	14	1.4026E-01
432	17	1.0761E-01
433	20	1.8518E-02
434	23	3.1035E-03
435	26	-7.1133E-02
436	129	-3.8240E-03
437	3	3.5737E-02
438	6	9.7857E-02
439	9	2.1106E-01
440	12	1.9470E-01
441	15	1.2800E-01
442	18	7.0411E-02
443	21	3.6081E-02
444	24	-1.0010E-02
445	27	-9.0912E-02
446	130	-7.6072E-03

VERY POOR ORIGINAL

SIGNED SCP

RADIAL DISPLACEMENTS

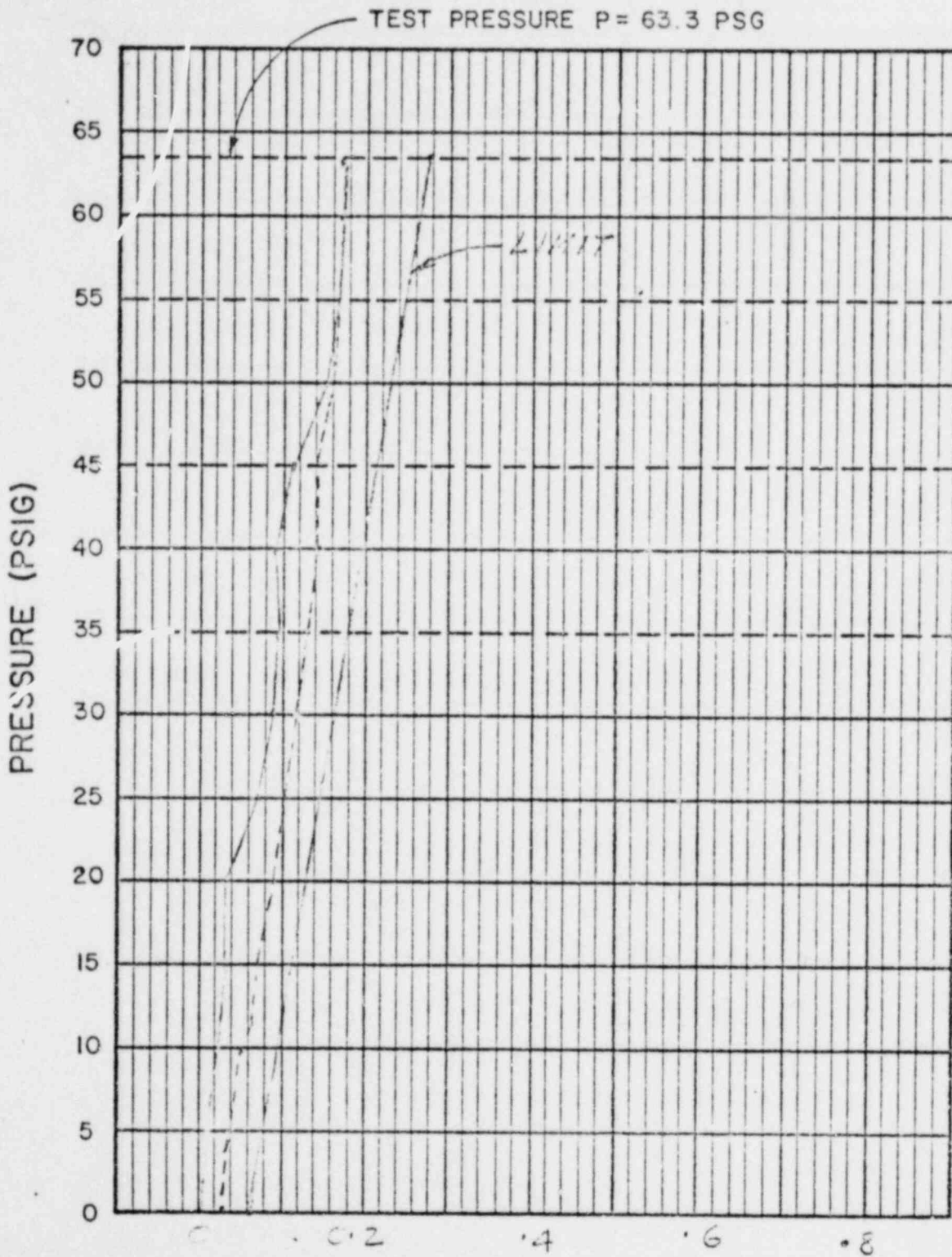
PRESSURE	0.00	PSIG	TIME : 12.08
CHANNEL		GAGE	DISPLACEMENT
417		1	6.8708E-03
418		4	1.3635E-02
419		7	7.0782E-03
420		10	3.4748E-02
421		13	-2.2246E-02
422		16	-2.5996E-02
423		19	-1.2569E-02
424		22	-2.7808E-02
425		25	-3.8466E-02
426		128	-4.6917E-02
427		2	2.4462E-02
428		5	1.2642E-02
429		8	3.4976E-02
430		11	1.5404E-02
431		14	-1.3587E-03
432		17	-8.2958E-03
433		20	1.0025E-02
434		23	3.3051E-03
435		26	5.3481E-02
436		129	2.7098E-02
437		3	1.4702E-02
438		6	7.8435E-03
439		9	1.4938E-02
440		12	2.0495E-02
441		15	6.0979E-03
442		18	2.2523E-02
443		21	1.6655E-02
444		24	1.1170E-02
445		27	2.1040E-02
446		130	3.6510E-05

VERY POOR
ORIGINAL

REACTOR BLDG. LOCATION VERT

LOCATION No. 28 CHANNEL 401 INSTRUMENT No. _____

AZIMUTH 90° ELEVATION 270'-8"



DISPLACEMENT (INCHES)

LEGEND:

—————

PRESSURIZATION

- - - - -

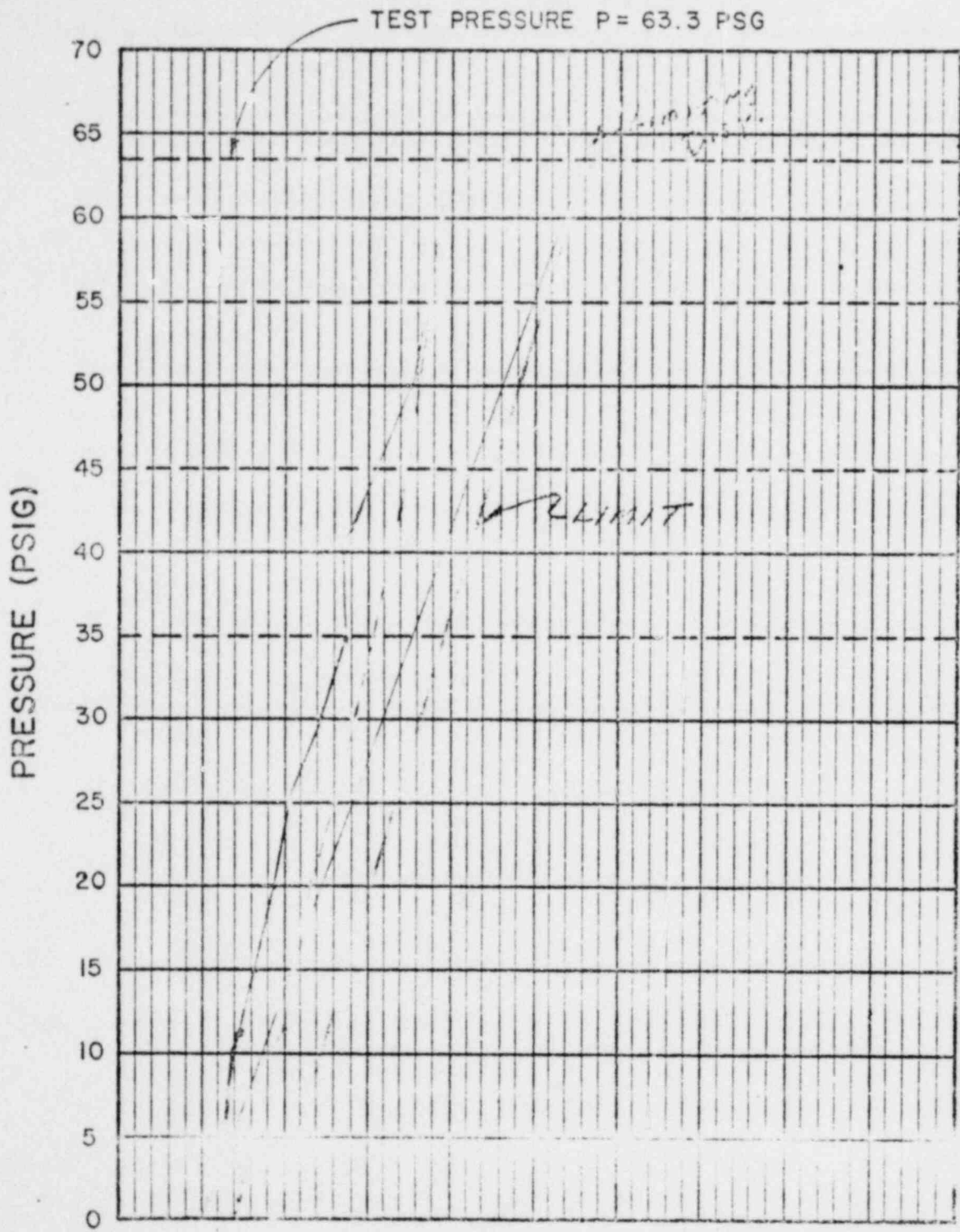
DEPRESSURIZATION

T. S. SIGNOFF AB Back 11-3-76

REACTOR BLDG. LOCATION VERT

LOCATION No. 125 CHANNEL 200 INSTRUMENT No.

AZIMUTH 90° ELEVATION 207-6'



DISPLACEMENT (INCHES)

LEGEND:

— PRESSURIZATION

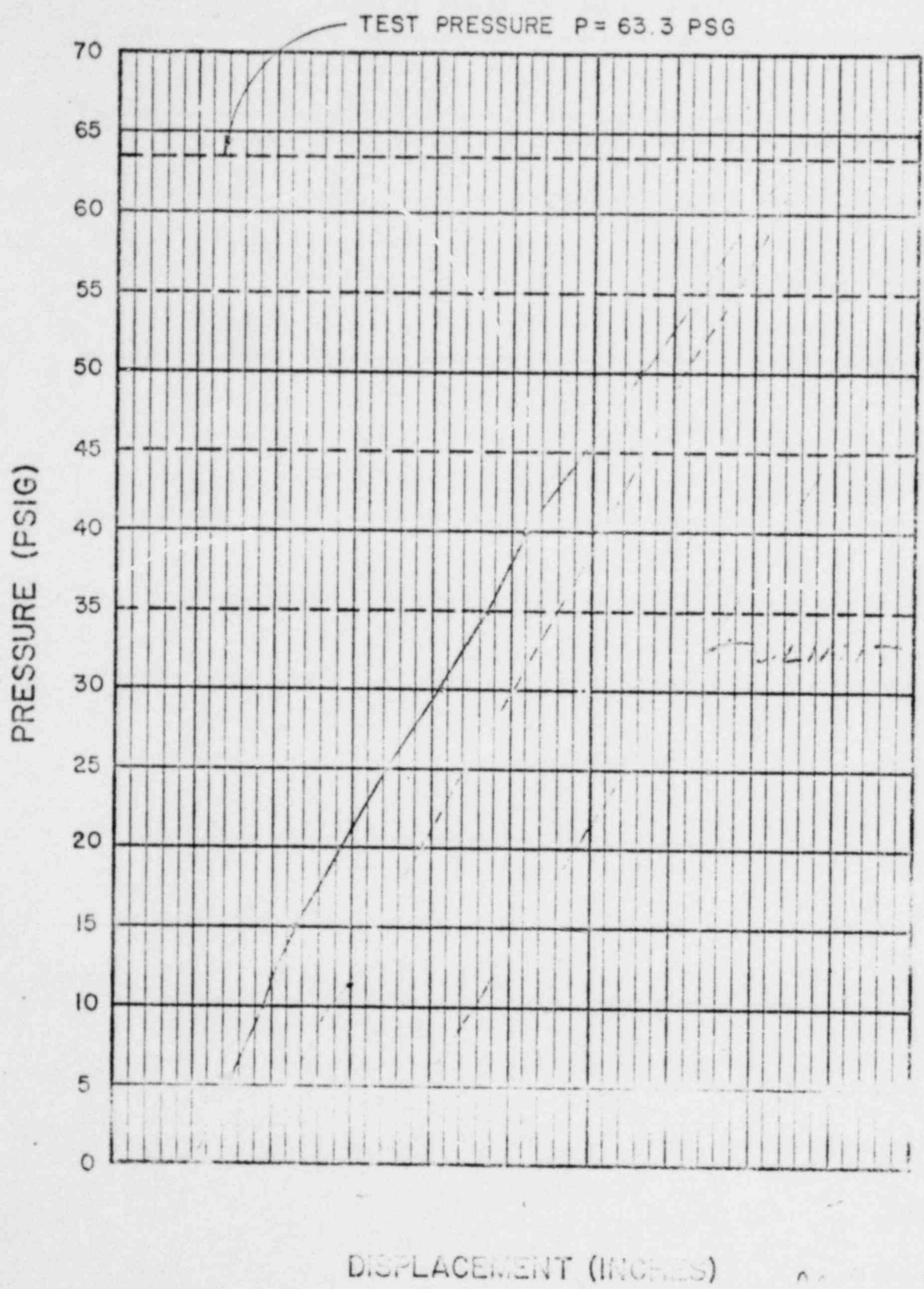
- - - DEPRESSURIZATION

T. S. SIGNOFF W. B. Black 11-3-76

REACTOR BLDG. LOCATION V-100

LOCATION No. 164 CHANNEL 403 INSTRUMENT No. _____

AZIMUTH 90° ELEVATION _____



LEGEND:

————— PRESSURIZATION

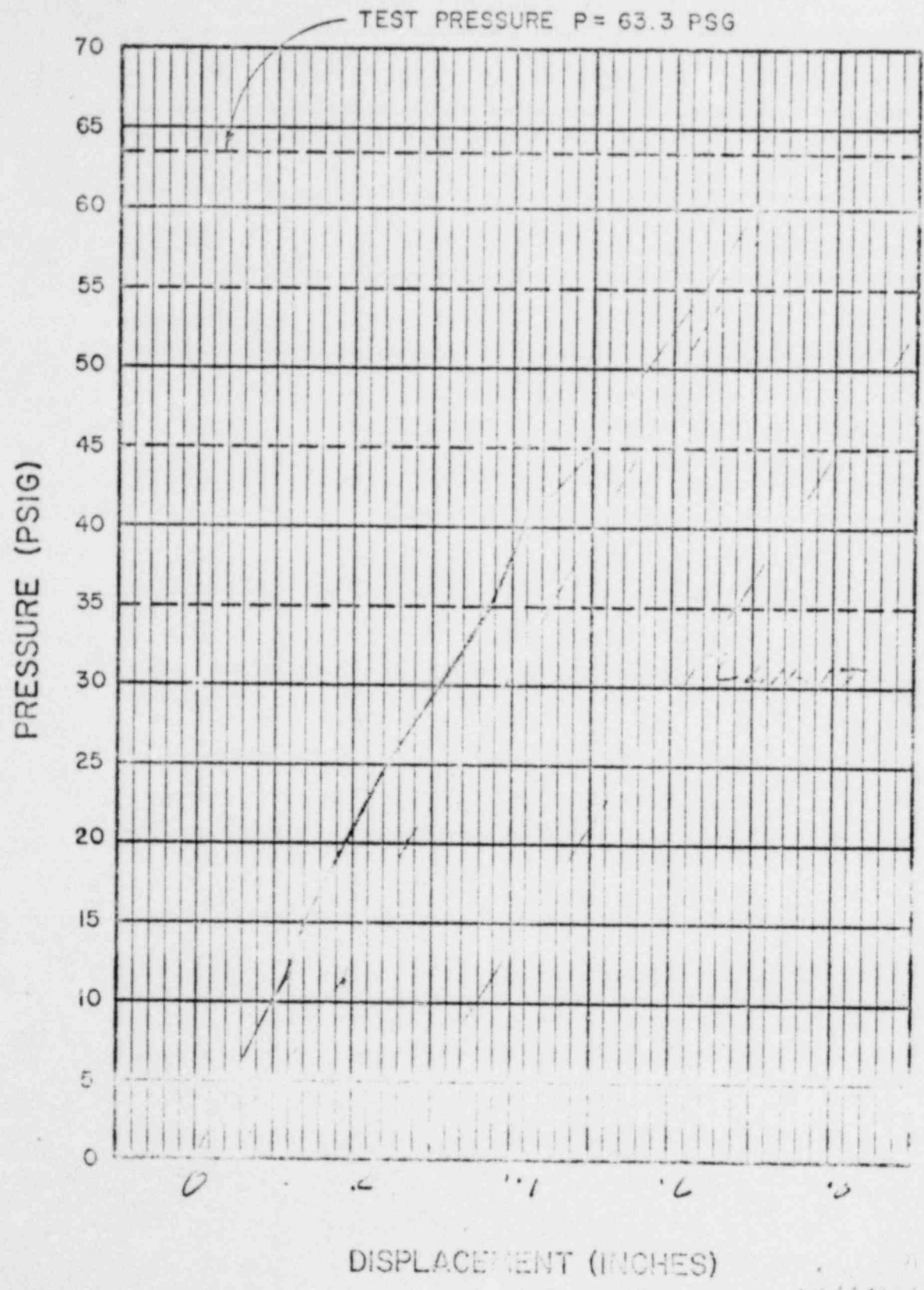
- - - - - DEPRESSURIZATION

T.S. SIGNOFF WSDach 11-3-74

REACTOR BLDG. LOCATION V-100

LOCATION No. 326 CHANNEL A-10 INSTRUMENT No.

AZIMUTH ELEVATION D



LEGEND:

— PRESSURIZATION

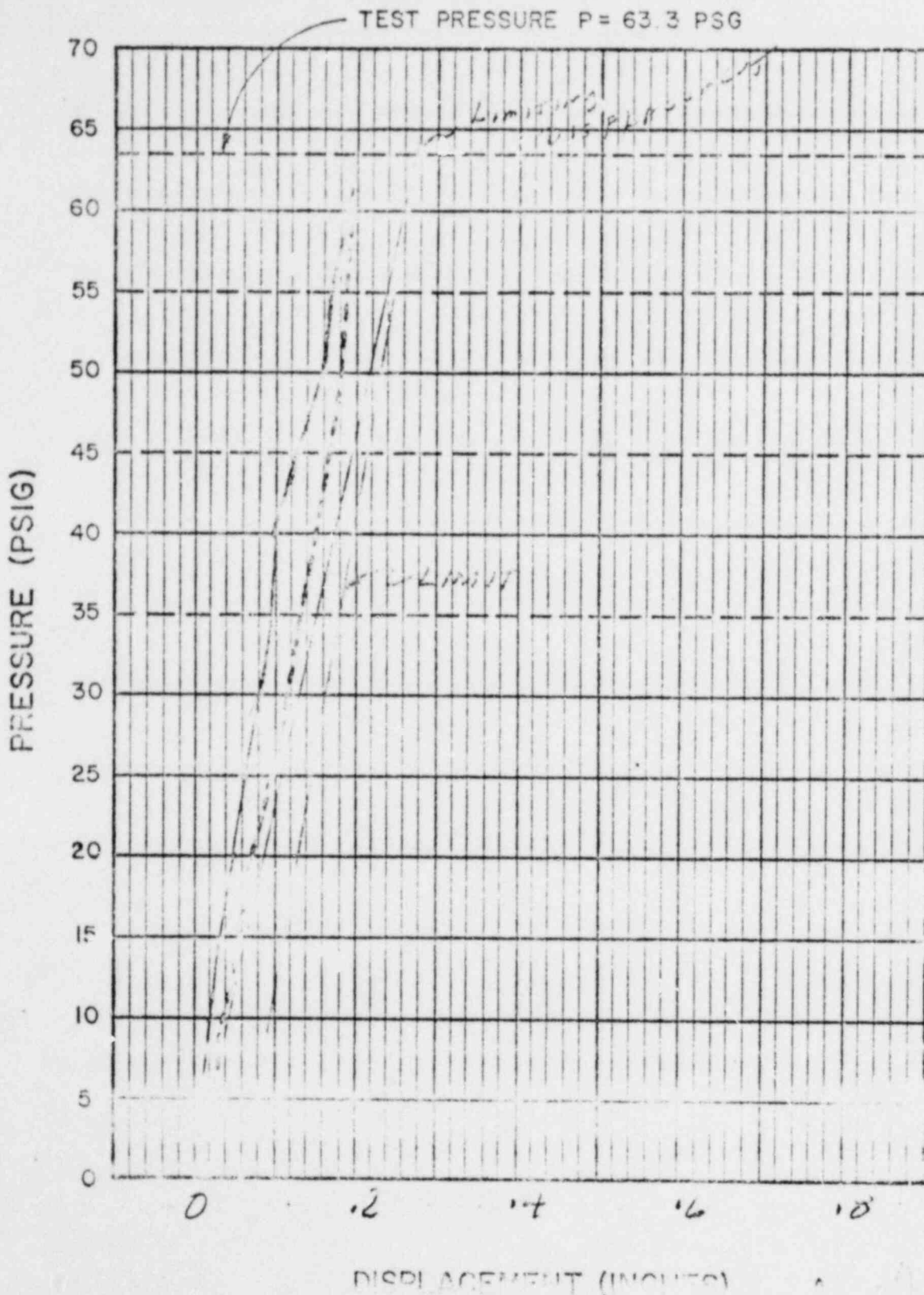
T.S. SIGNOFF W.B. Black 11-3-76

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL 407 INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF W. Black

LEGEND:

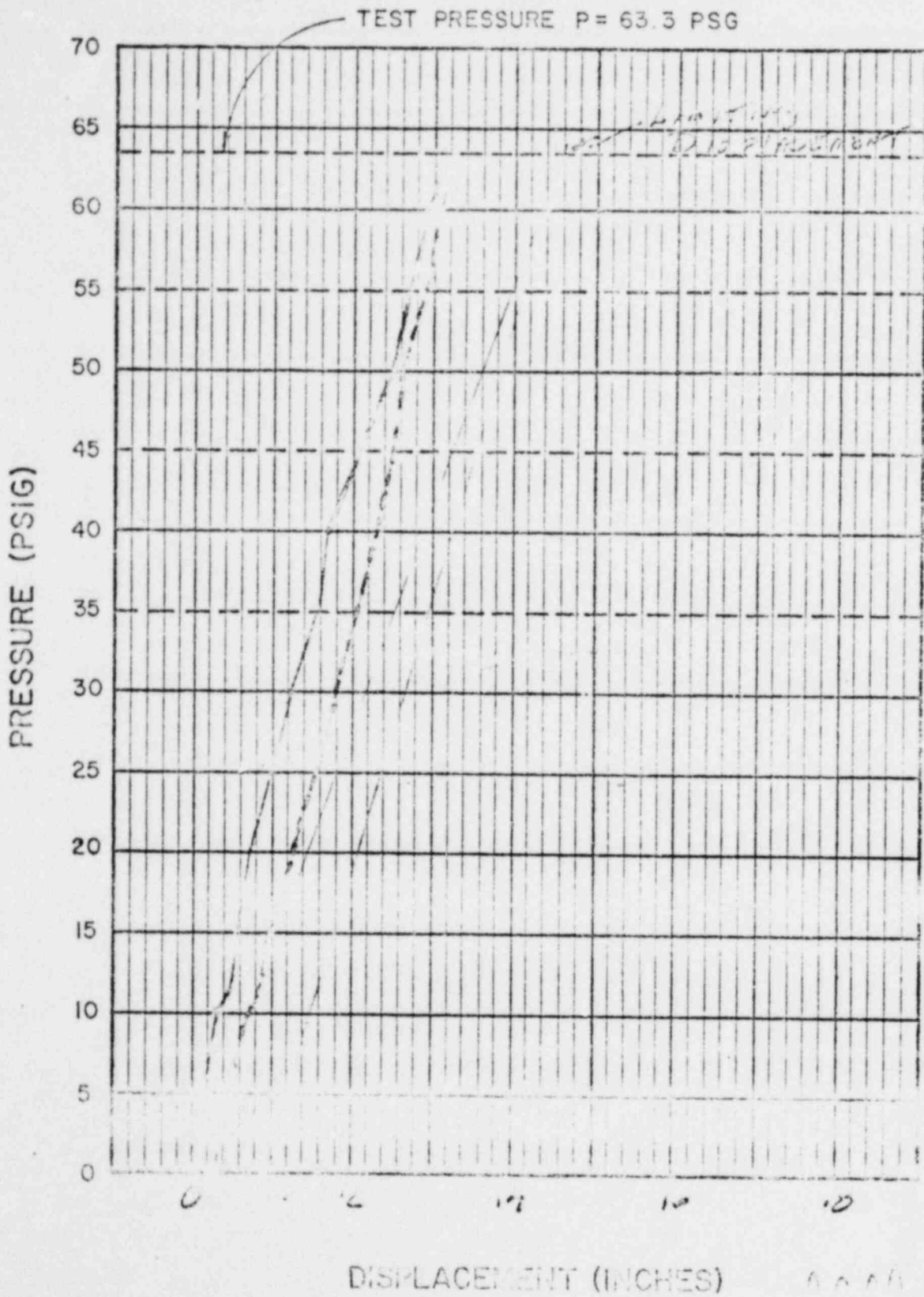
————— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. 1 CHANNEL _____ INSTRUMENT No. _____

AZIMUTH 000° ELEVATION 107'-0"



LEGEND:

———— PRECURRIZATION

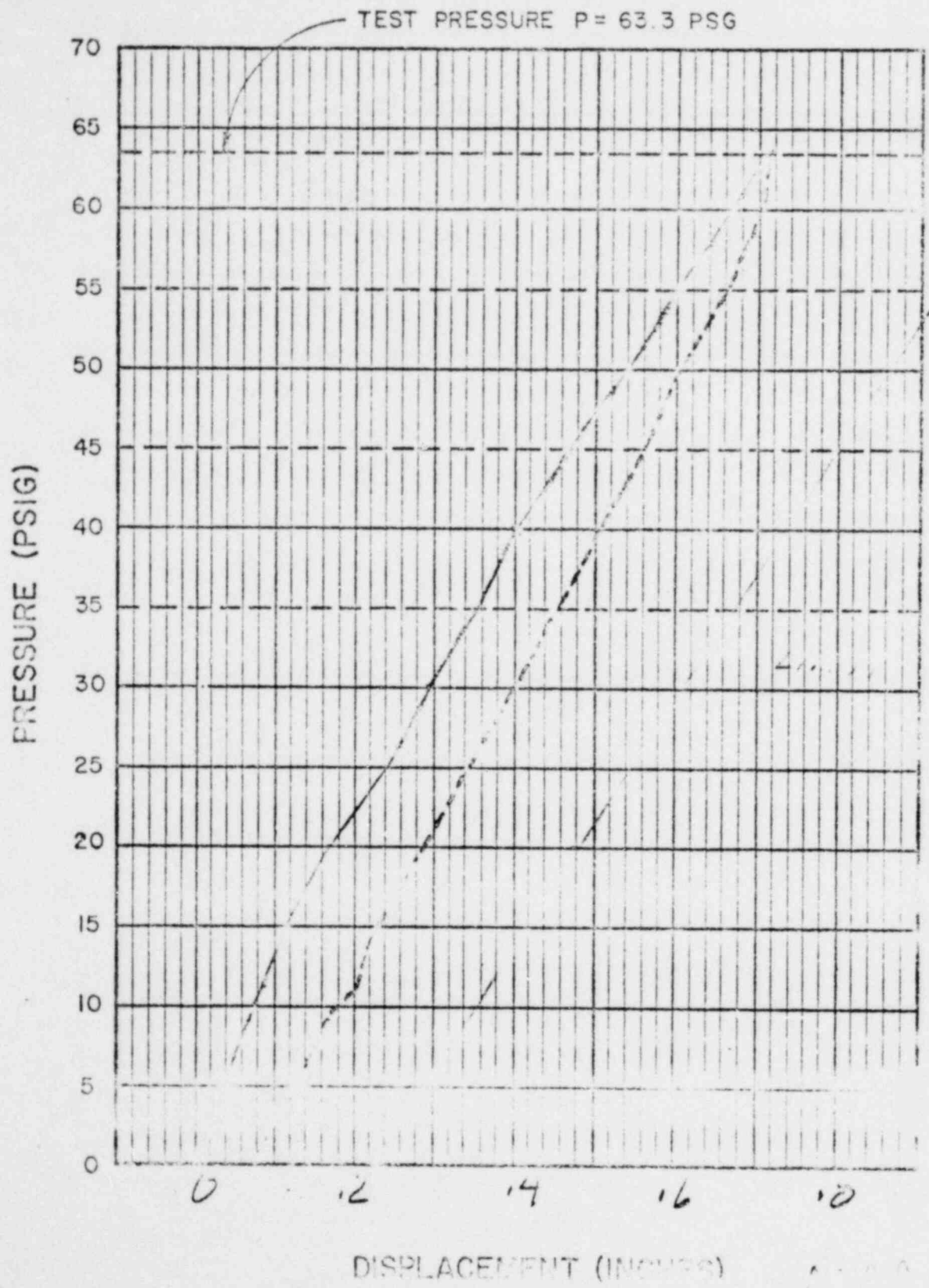
----- DEPRESSURIZATION

T.S. SIGNOFF W. Dack

REACTOR BLDG. LOCATION V501

LOCATION No. 155 CHANNEL 409 INSTRUMENT No. _____

AZIMUTH 200 ELEVATION 11



T. S. SIGNOFF WBD/ack

LEGEND:

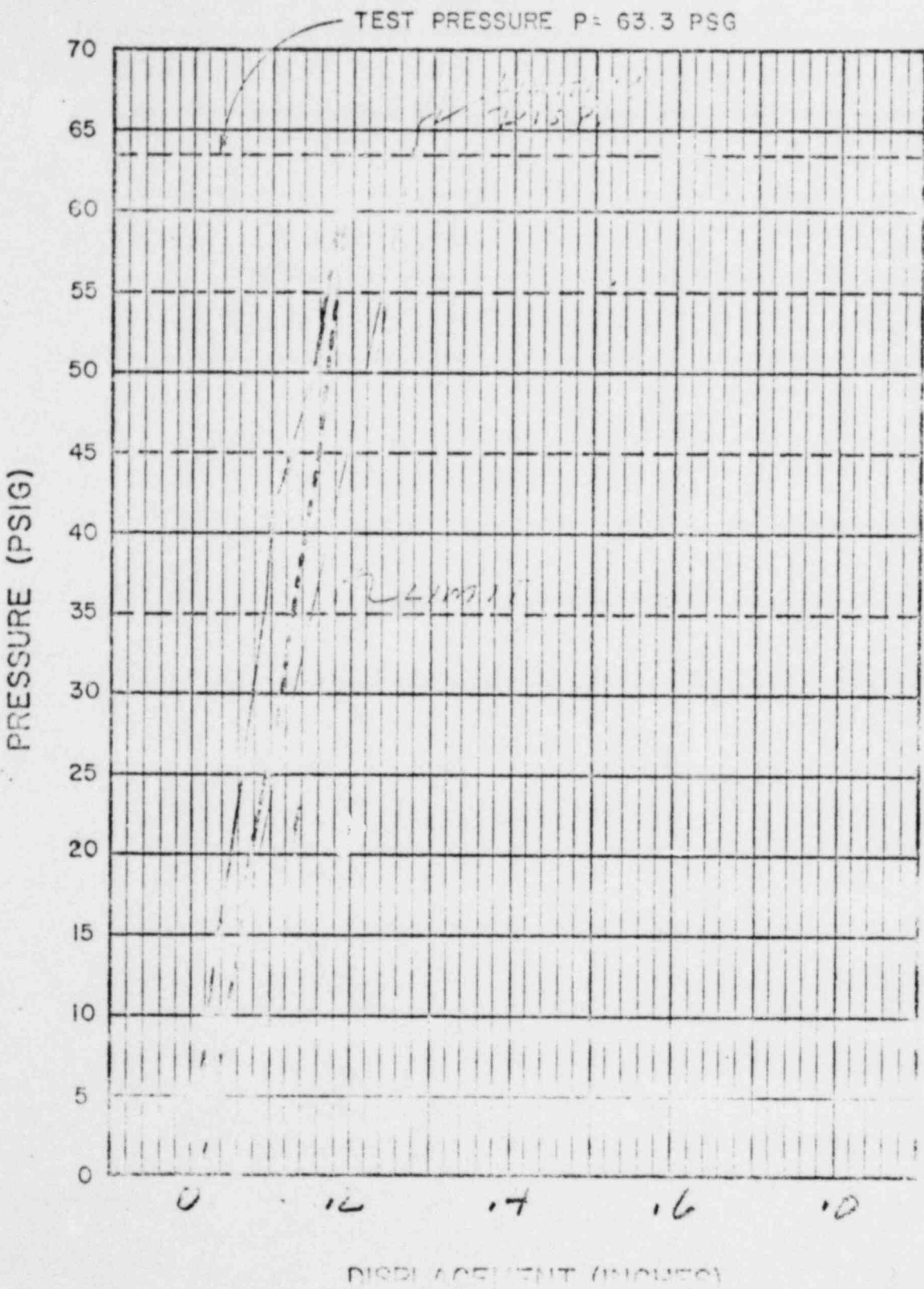
————— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL 412 INSTRUMENT No. _____

AZIMUTH 90-55 ELEVATION _____



LEGEND:

————— PRESSURIZATION

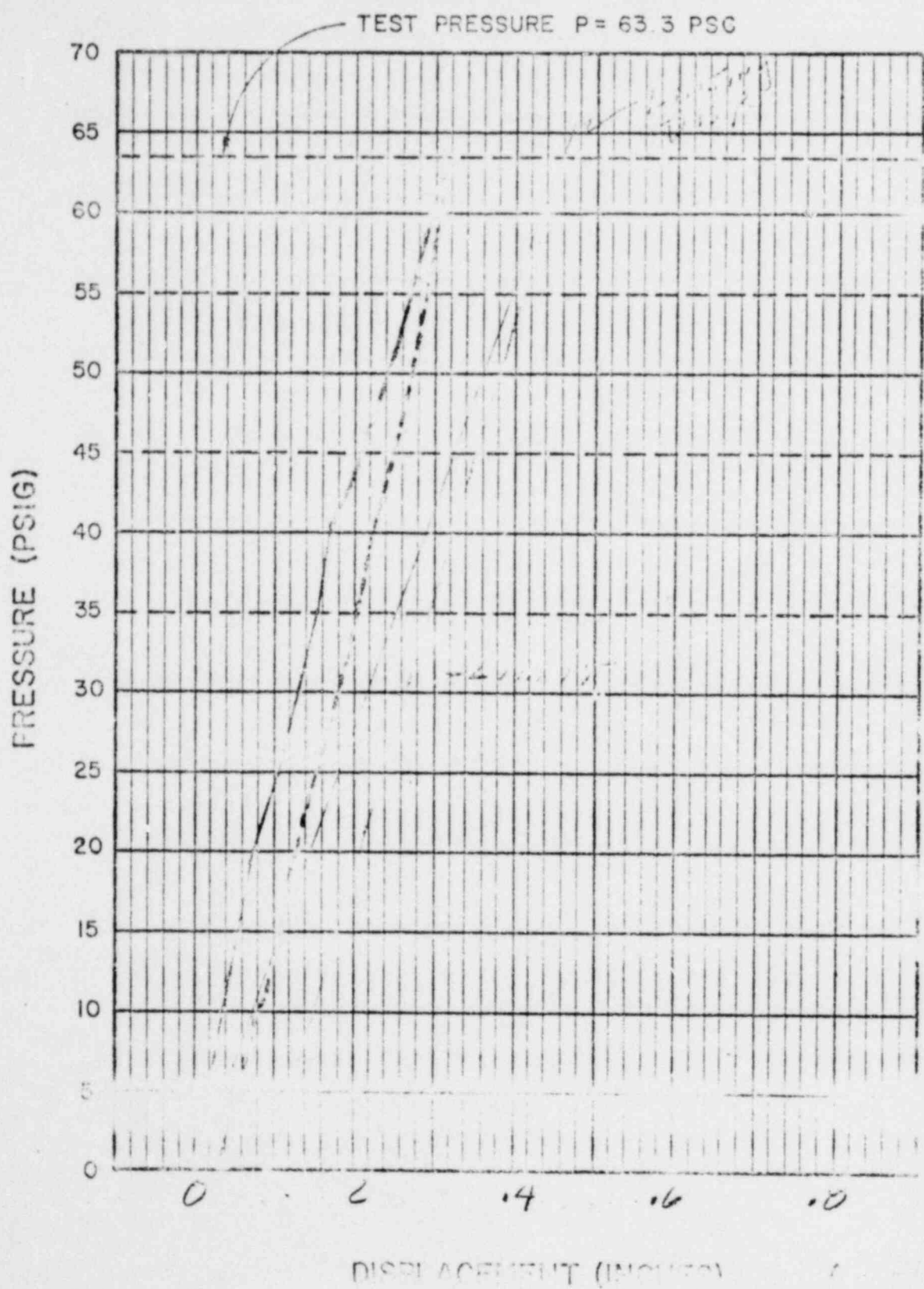
----- DEPRESSURIZATION

T.S. SIGNOFF W.B. Black

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL 113 INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF W.D. Beck

LEGEND:

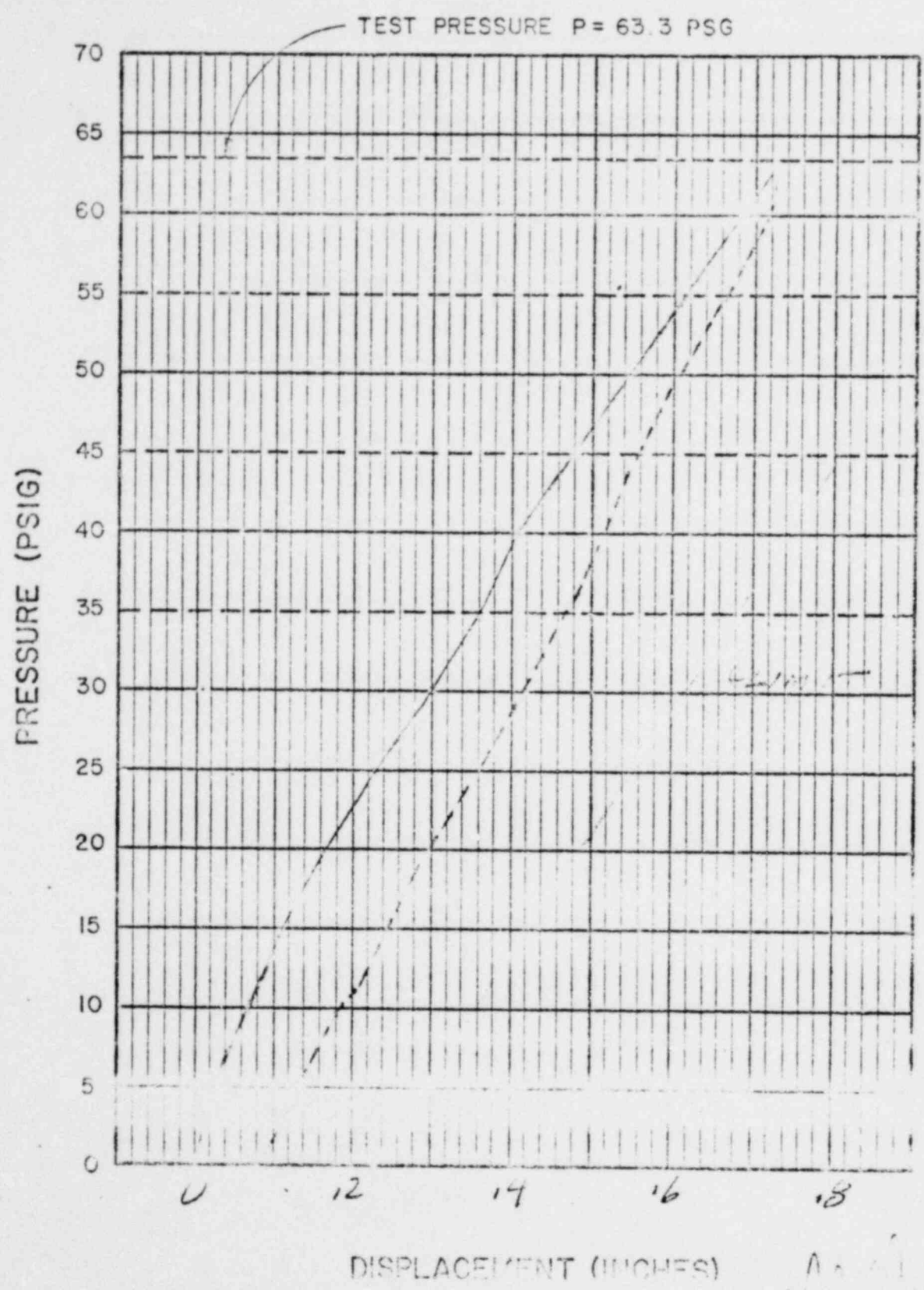
— PRESSURIZATION

- - - DEPRESSURIZATION

REACTOR BLDG. LOCATION 20

LOCATION No. 166 CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



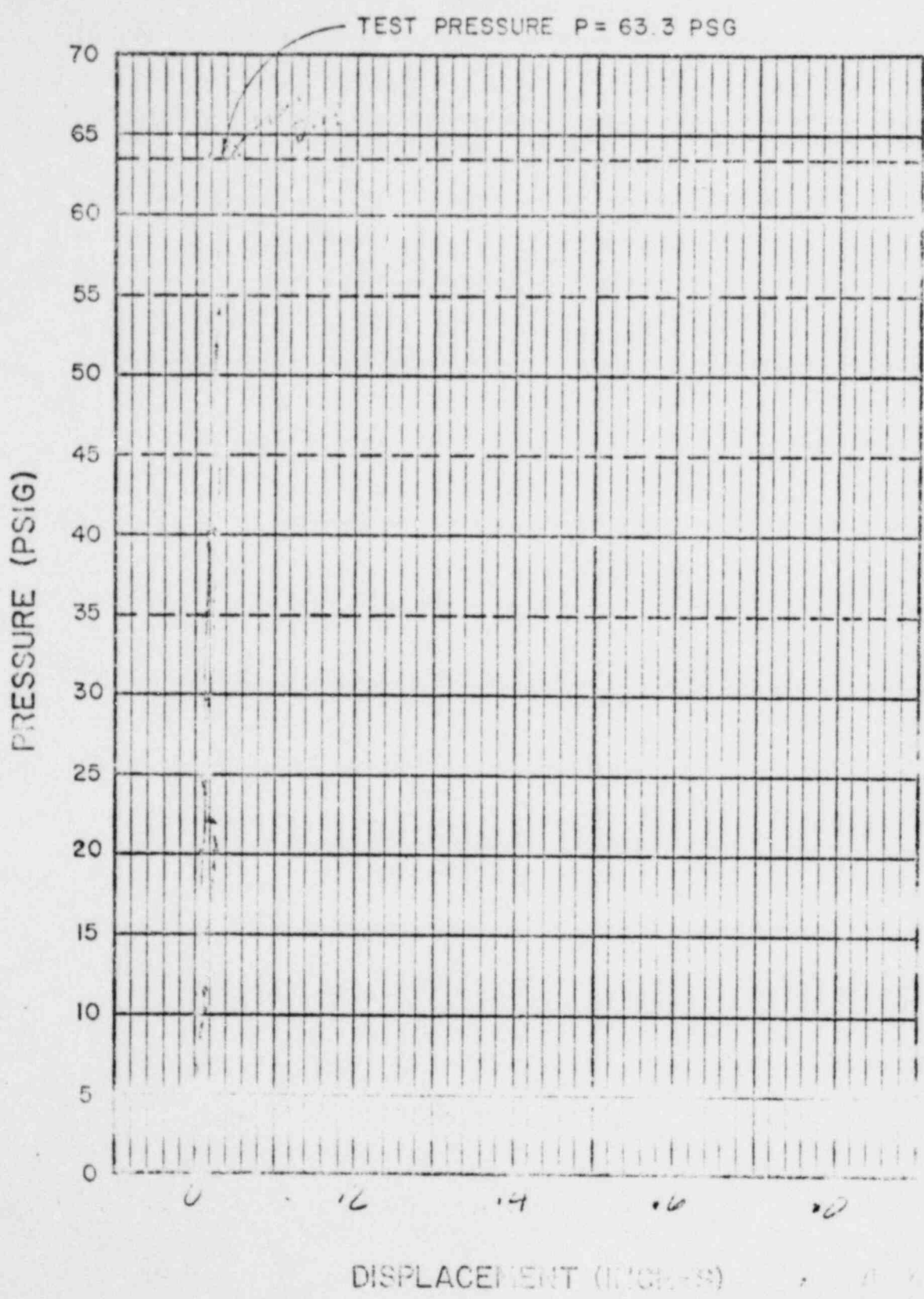
DISPLACEMENT (INCHES) 18
T.S. SIGNOFF W.D. Dack

LEGEND: _____ PRESSURE INCH _____ DEFLUZZING

REACTOR BLDG. LOCATION R1-10

LOCATION No. 1 CHANNEL 417 INSTRUMENT No.

AZIMUTH ELEVATION



T.S. SIGNOFF W. B. Shick

LEGEND:

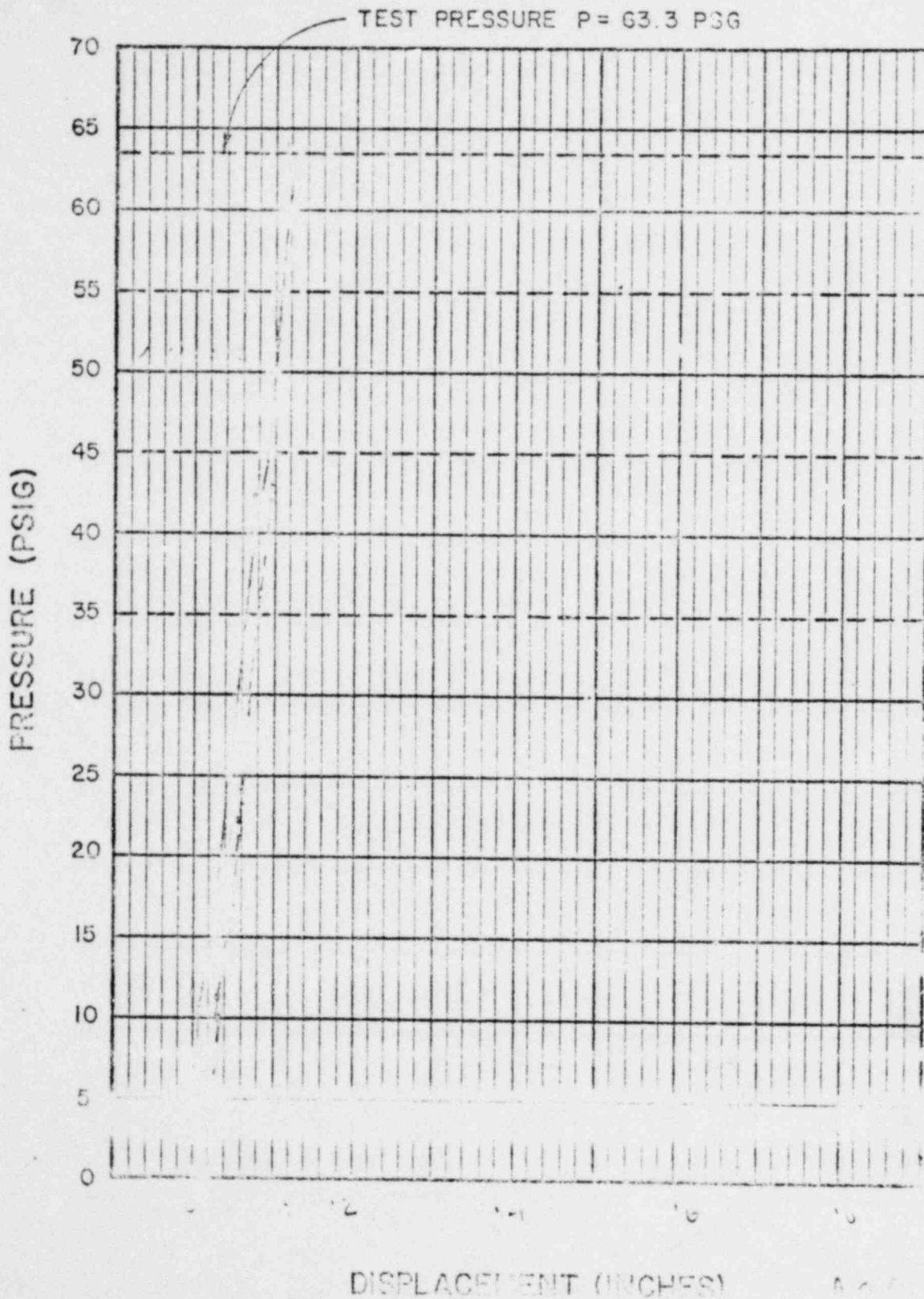
— PRESSURE

- - - - - DISPLACEMENT

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



DISPLACEMENT (INCHES)

T.S. SIGNOFF LDD/ckk

LEGEND:

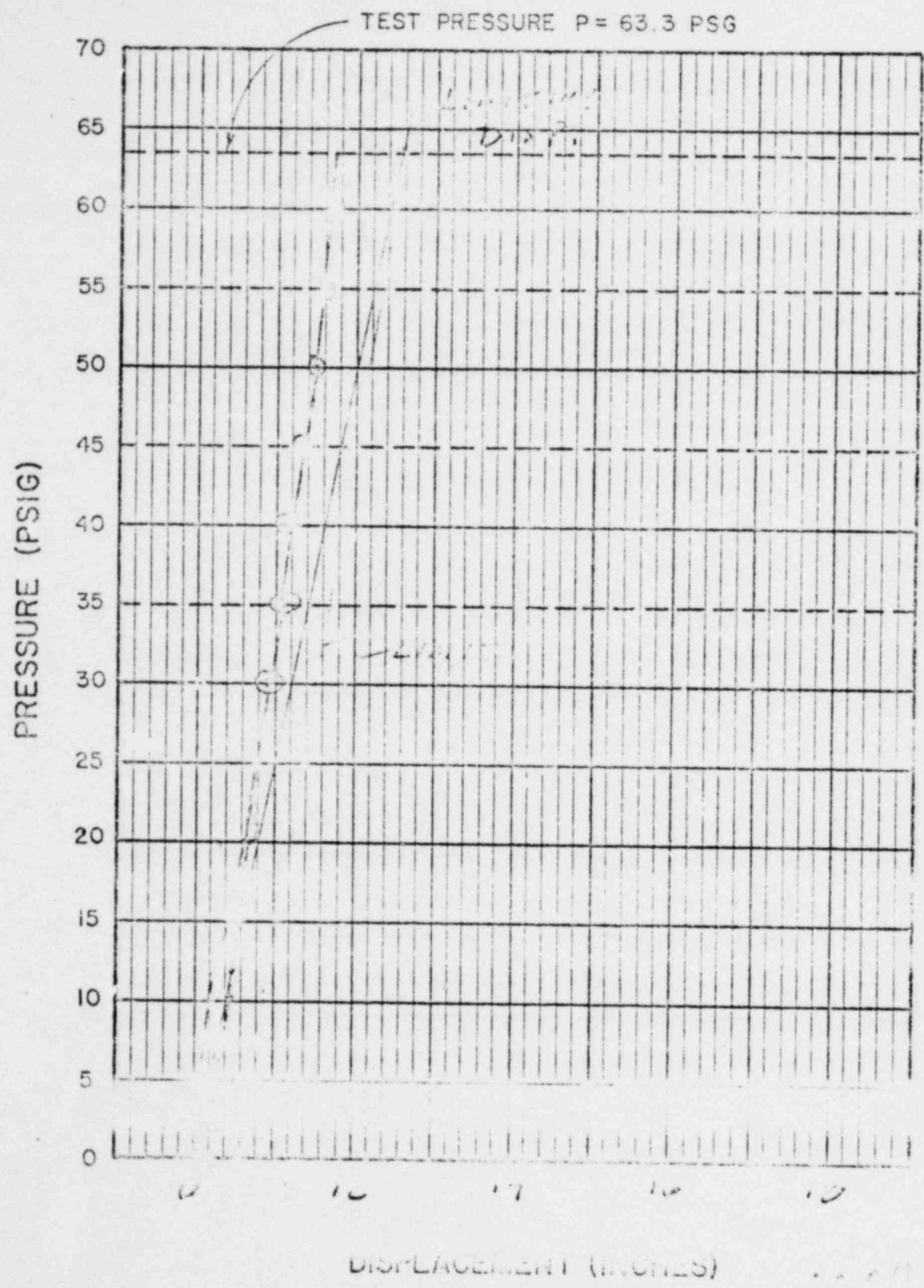
— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION PP-100

LOCATION No. 1 CHANNEL 1 INSTRUMENT No. 1

AZIMUTH 0° ELEVATION 1.5°



LEGEND:

————— PRESSURIZATION

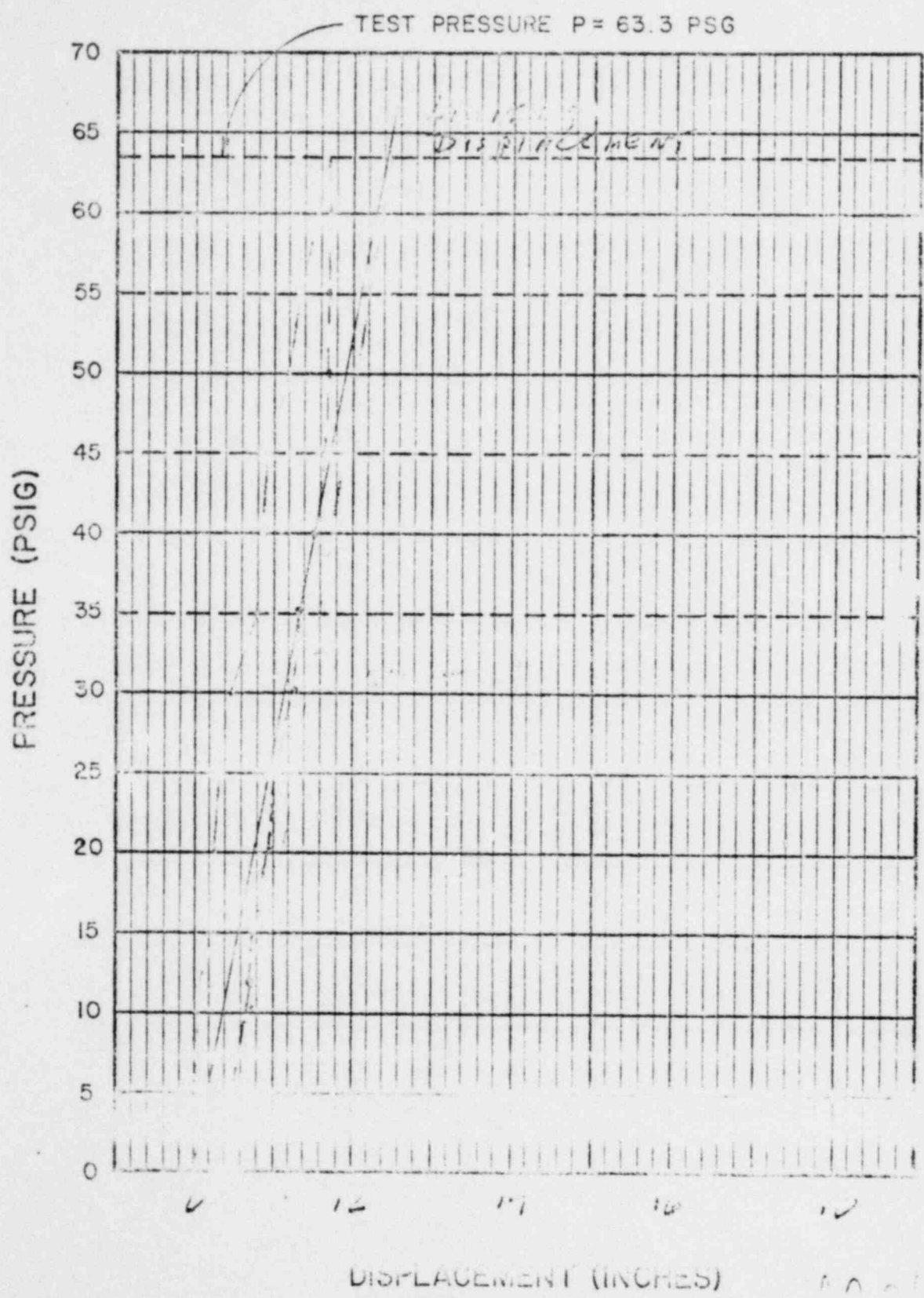
T.S. SIGNOFF LVD/ack

----- DEPRESSURIZATION

REACTOR BLDG. LOCATION R-100

LOCATION No. 10 CHANNEL 1000 INSTRUMENT No.

AZIMUTH 90° ELEVATION 170°



LEGEND:

————— PRESSURIZATION

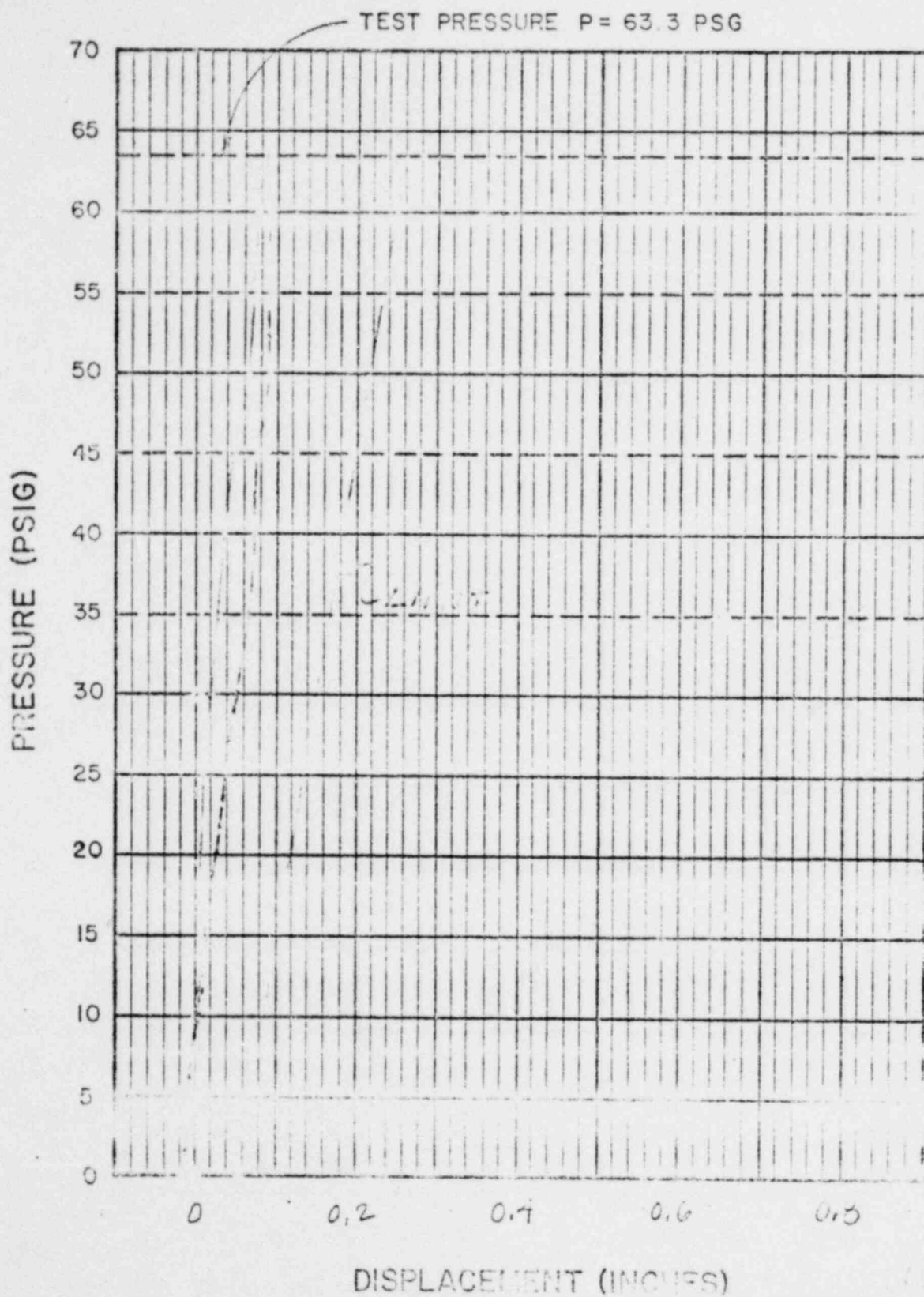
T.S. SIGNOFF L.B. Dack

----- DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF L.H. [Signature]

LEGEND:

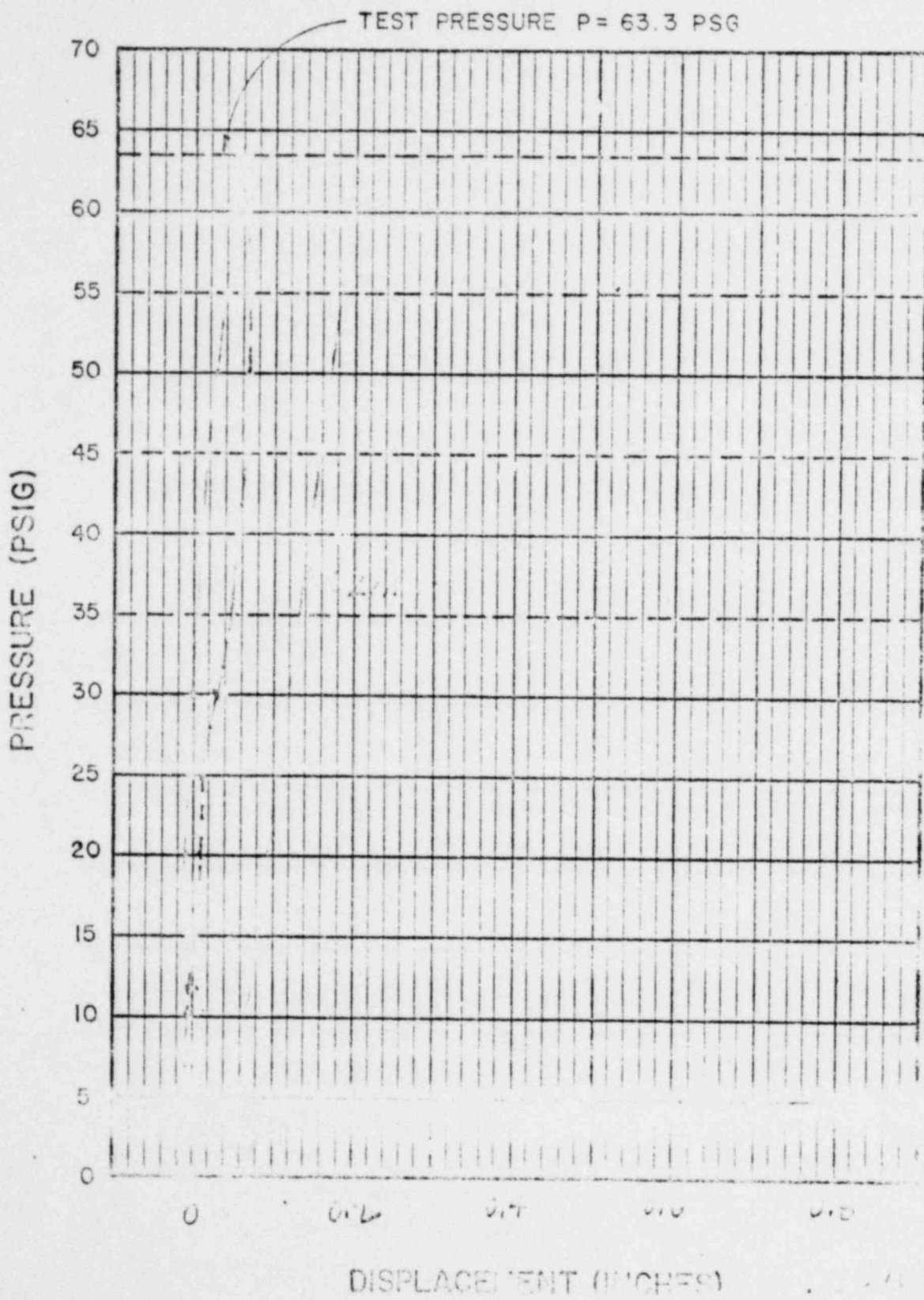
————— PRESSURIZATION

----- DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF W.B. [Signature]

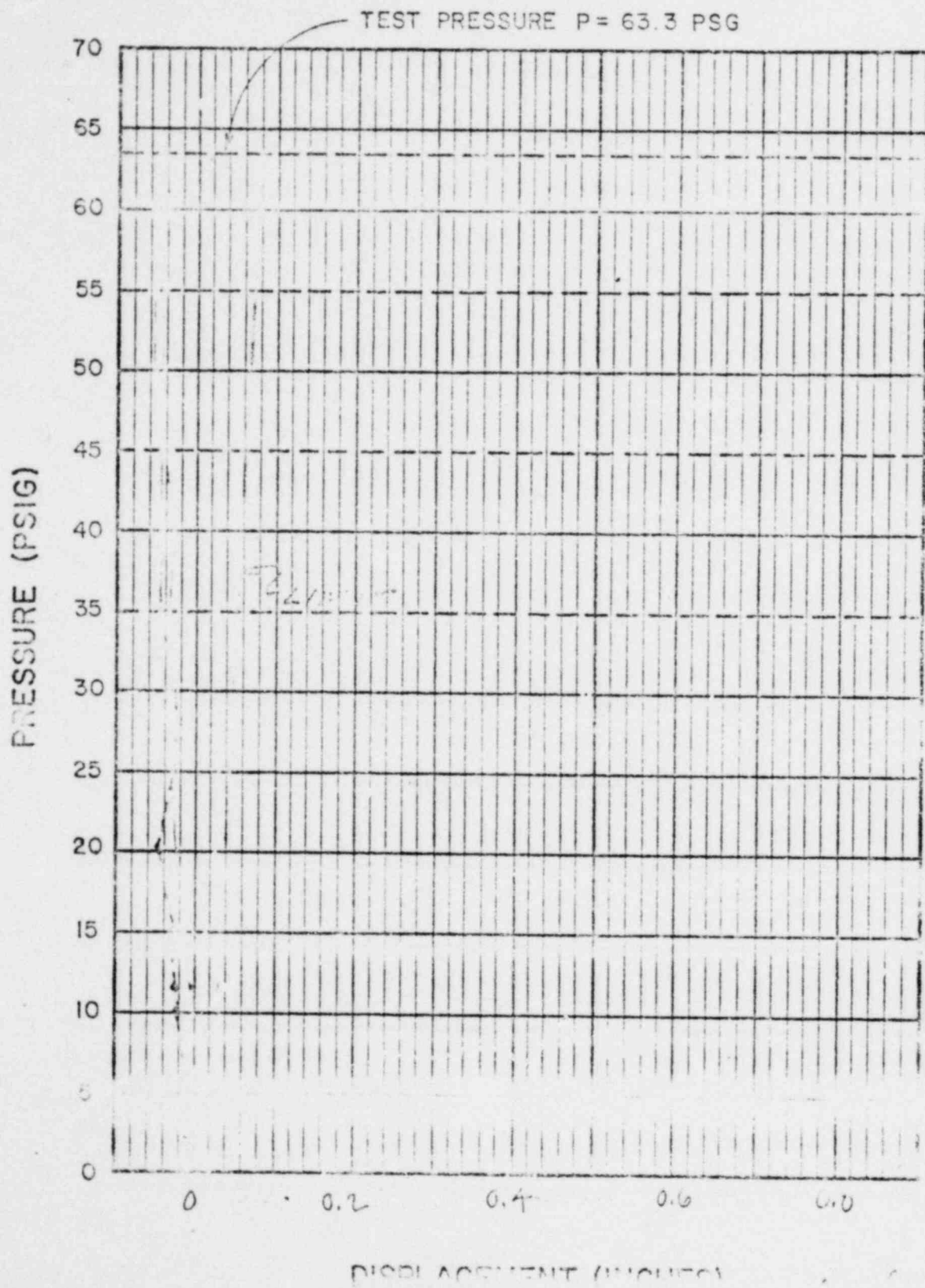
LEGEND:

————— PRESSURE
----- DISPLACEMENT

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF W. Back

LEGEND:

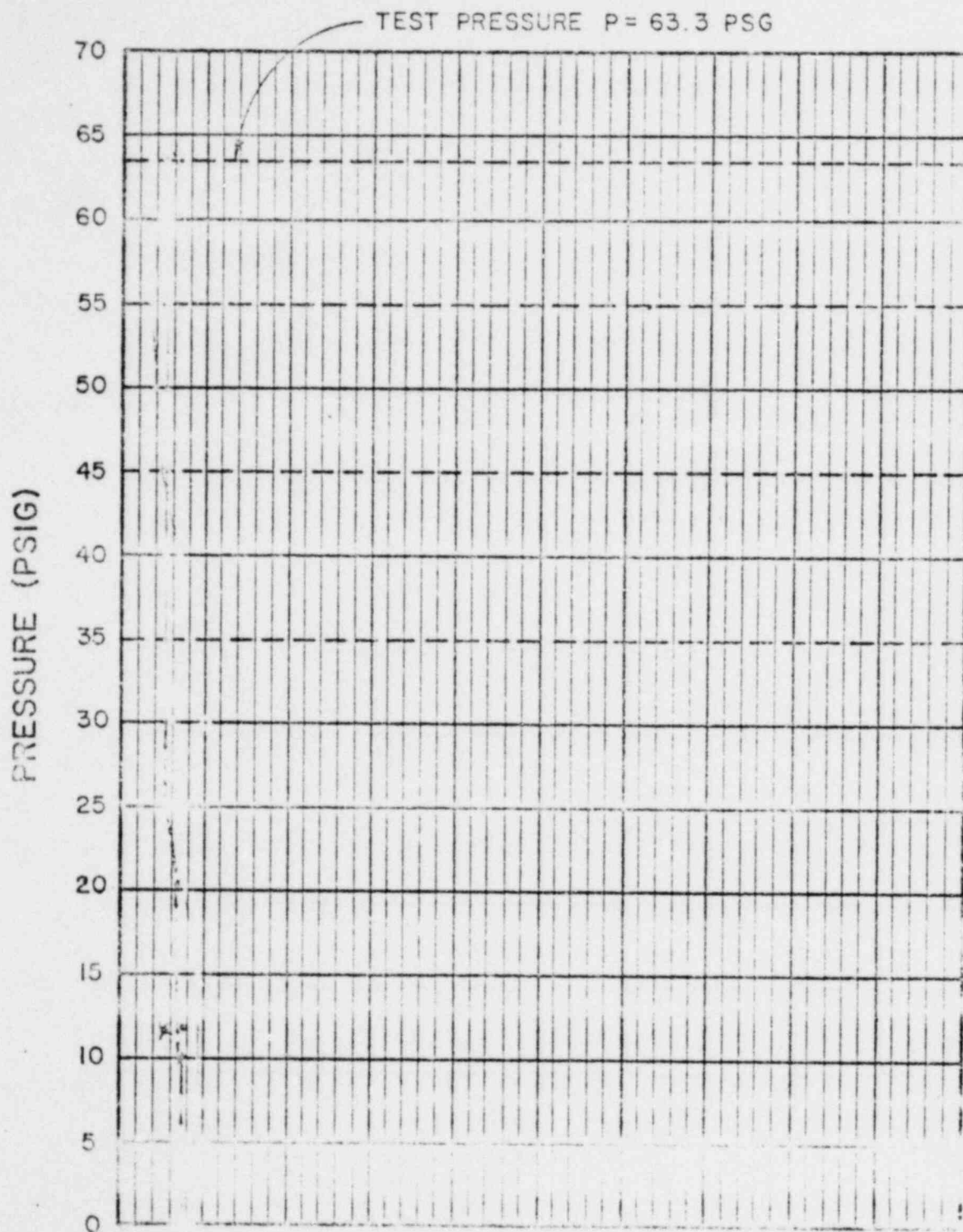
————— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



DISPLACEMENT (INCHES)

T.S. SIGNOFF

NDD/ack

LEGEND:

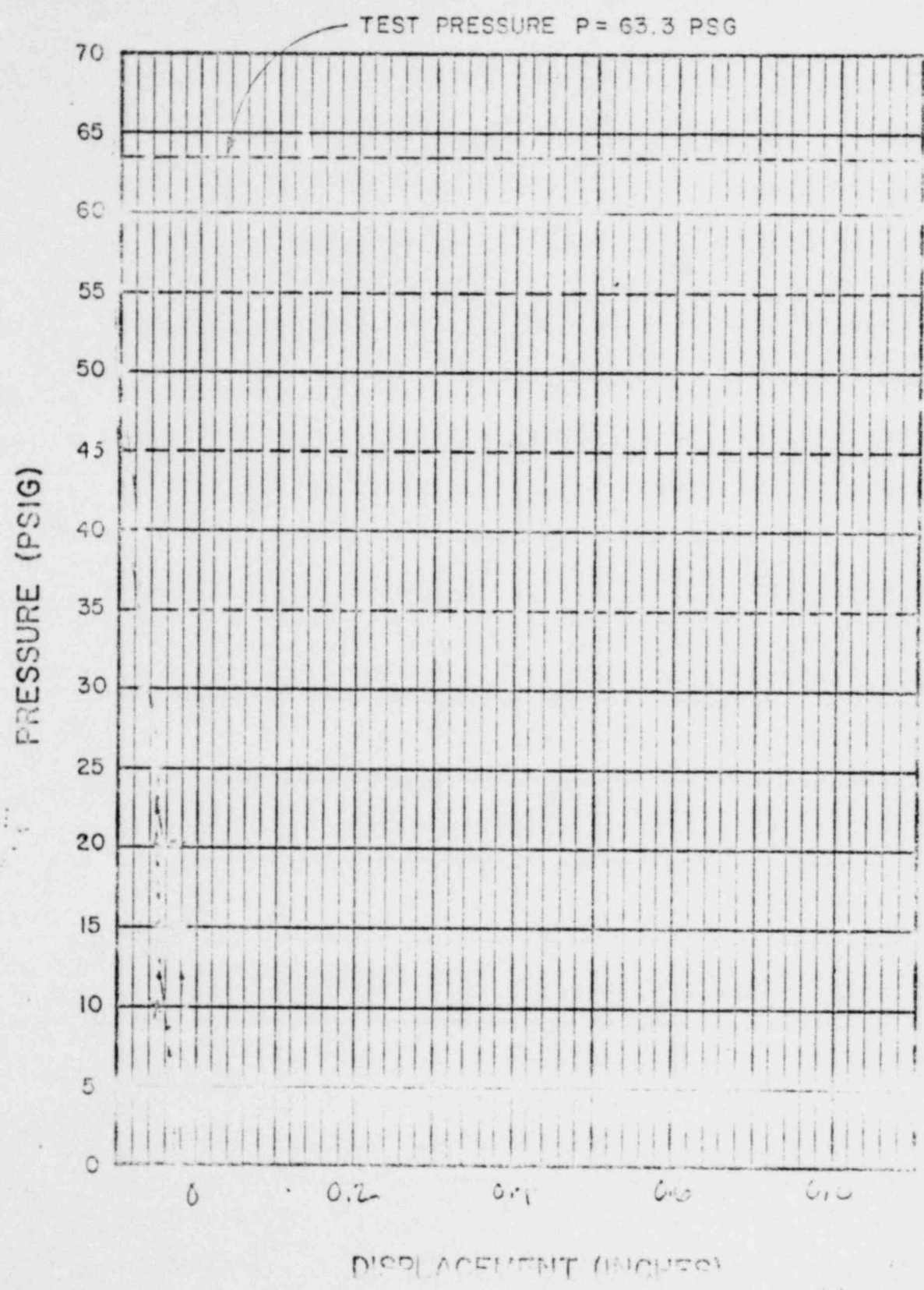
_____ PRESSURIZATION

_____ DISPLACEMENT

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF *A. B. Black*

LEGEND:

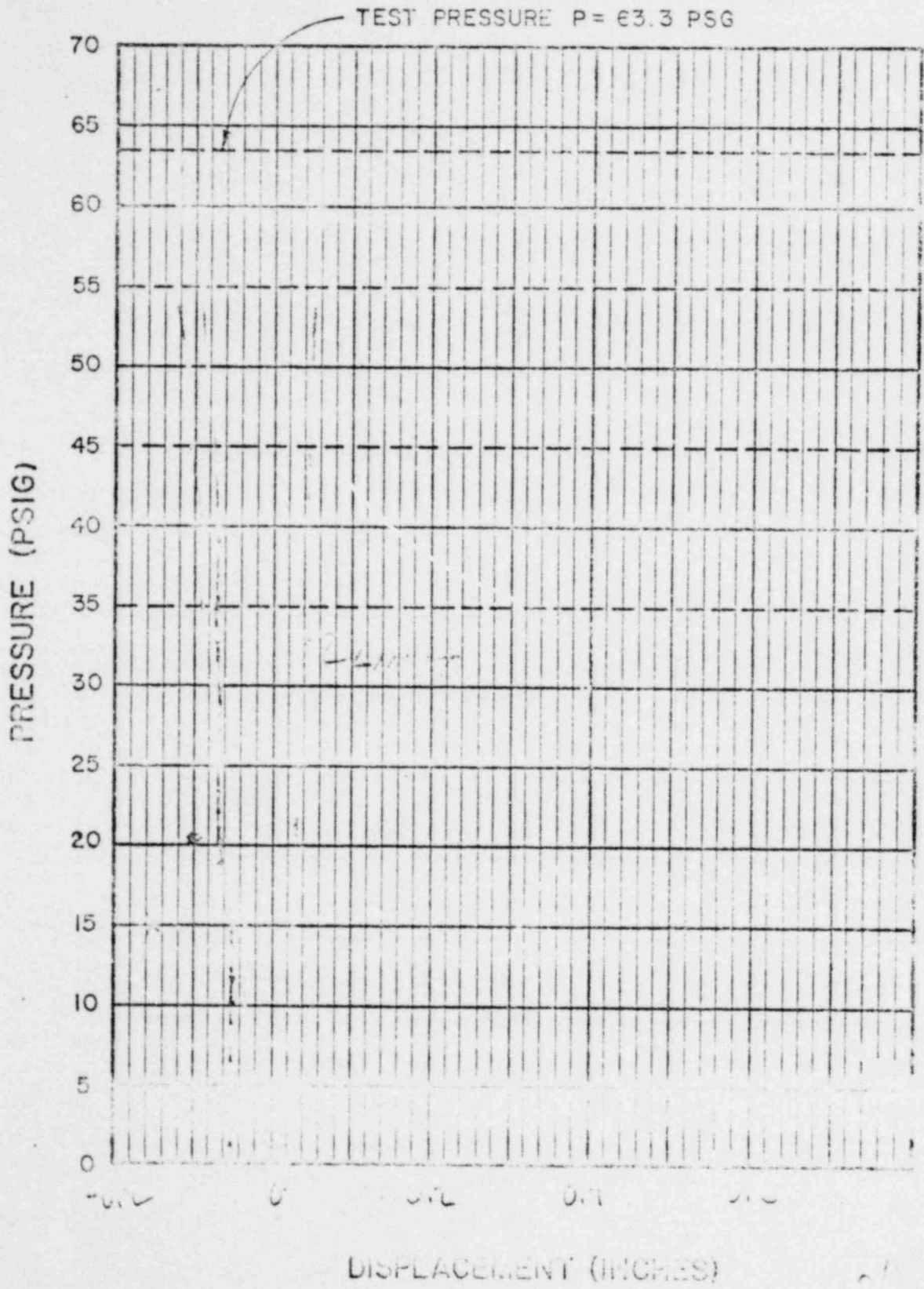
————— PRESSURE

————— DISPLACEMENT

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



LEGEND:

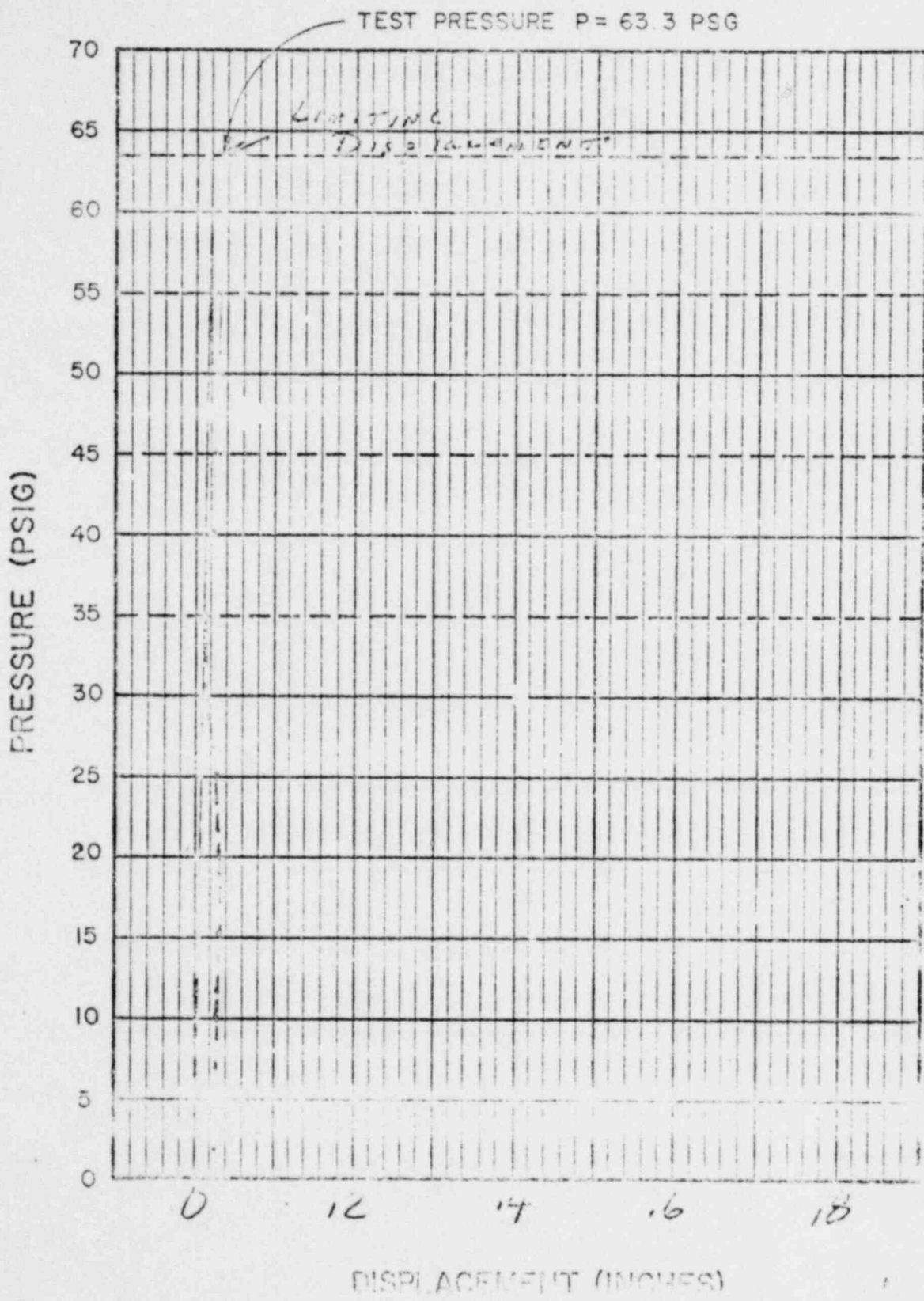
T. S. SIGNOFF L. B. Black

PREPARED BY _____ DATE _____

REACTOR BLDG. LOCATION 1-2-4-1

LOCATION No. 2 CHANNEL 1 INSTRUMENT No.

AZIMUTH ELEVATION



T.S. SIGNOFF 1/BB/ack

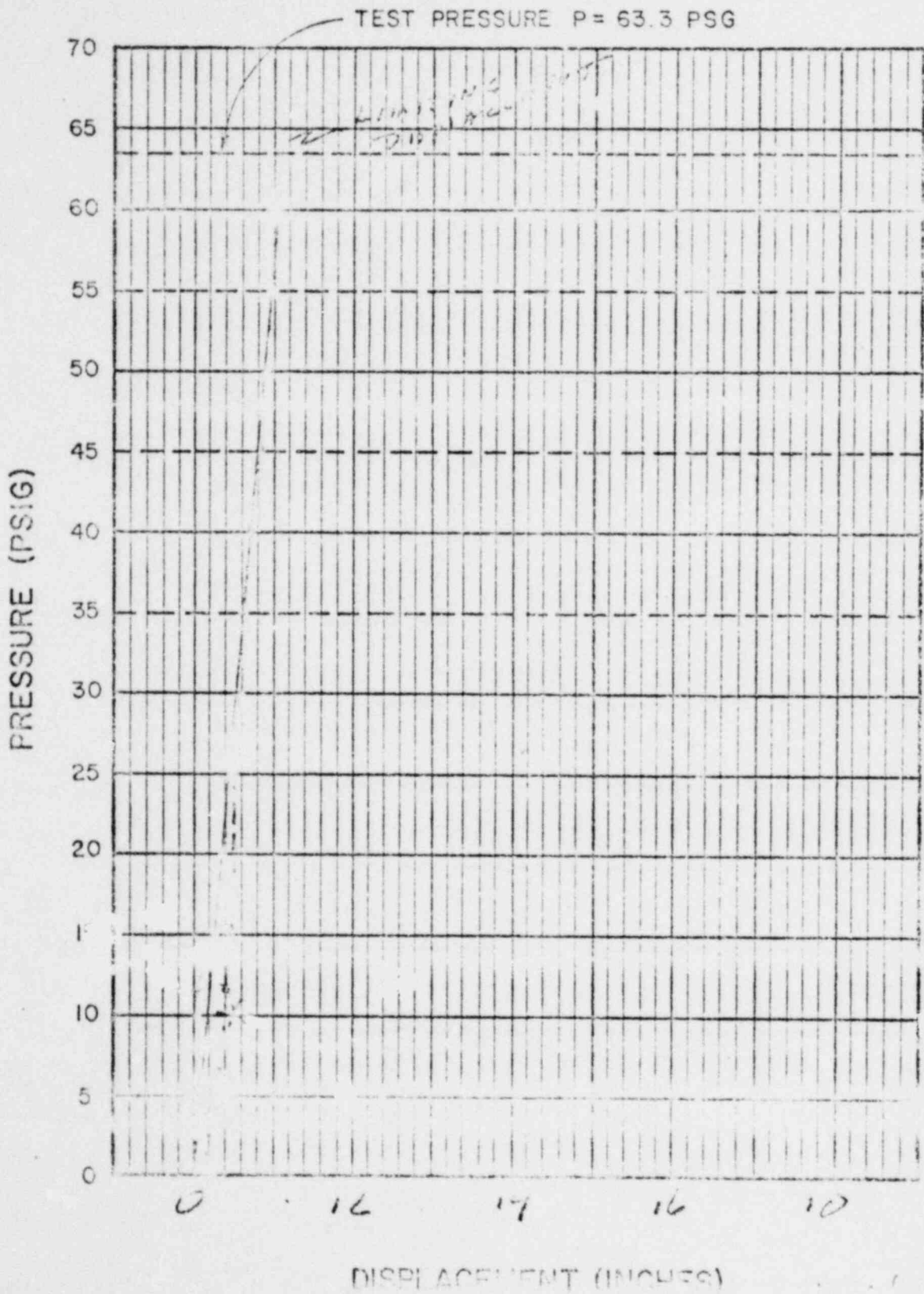
LEGEND:

----- DISPLACEMENT
----- DISPLACEMENT

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF W.B. Black

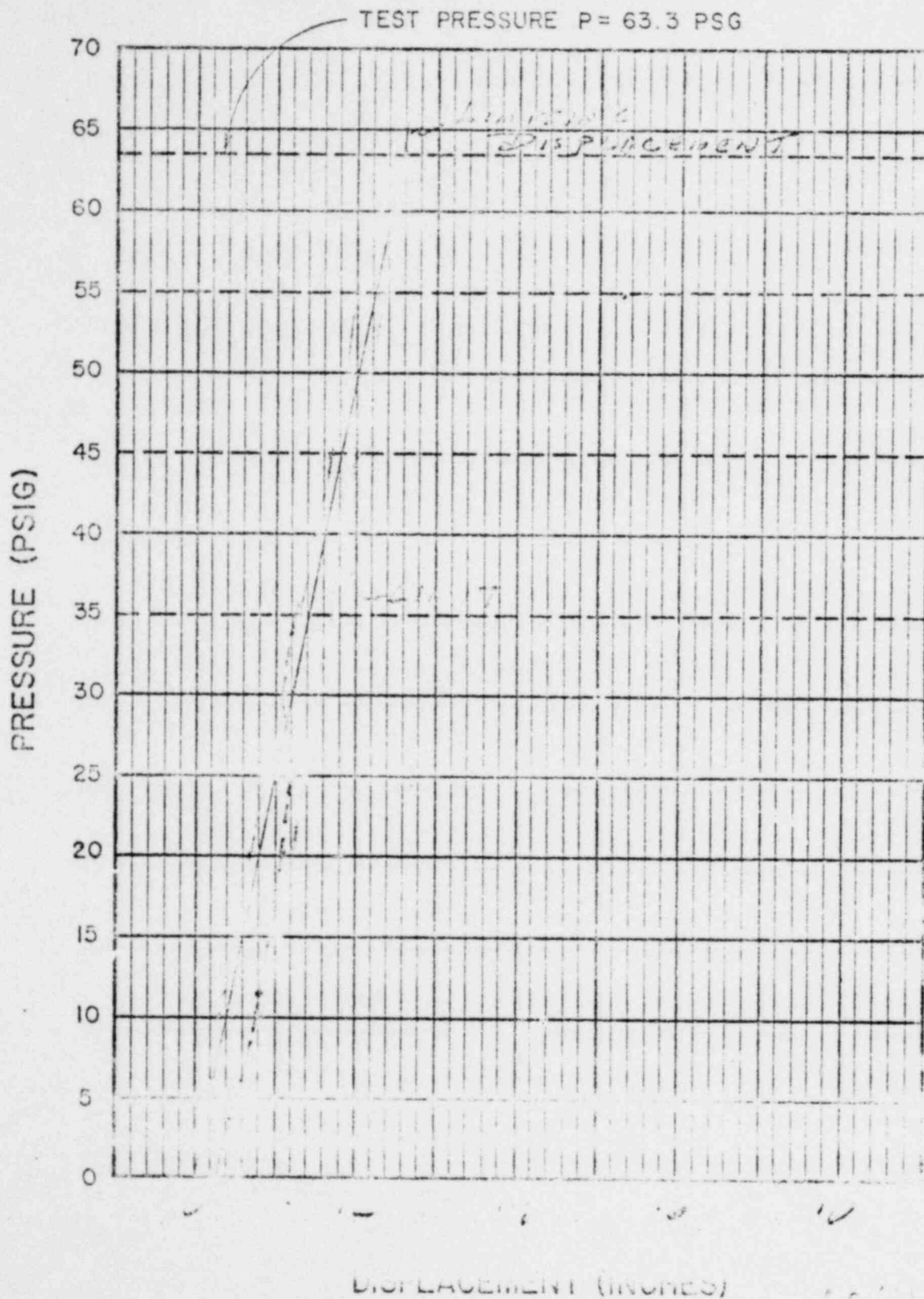
LEGEND:

_____ PRESSURE _____ DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION 140°



T. S. SIGNOFF W. D. Black

LEGEND:

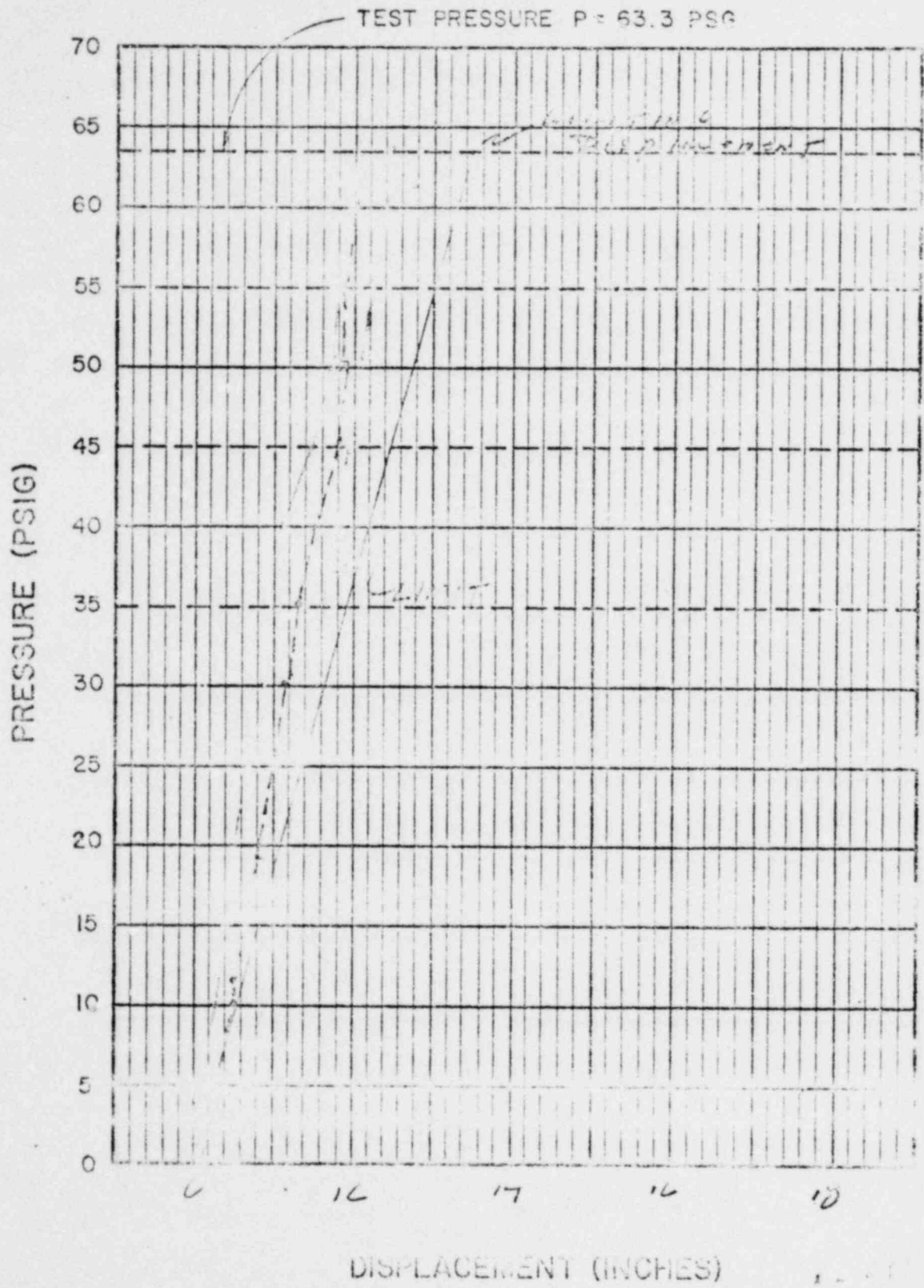
— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. 11 CHANNEL 200 INSTRUMENT No. _____

AZIMUTH 200° ELEVATION 170°



T.S. SIGNOFF UDDade

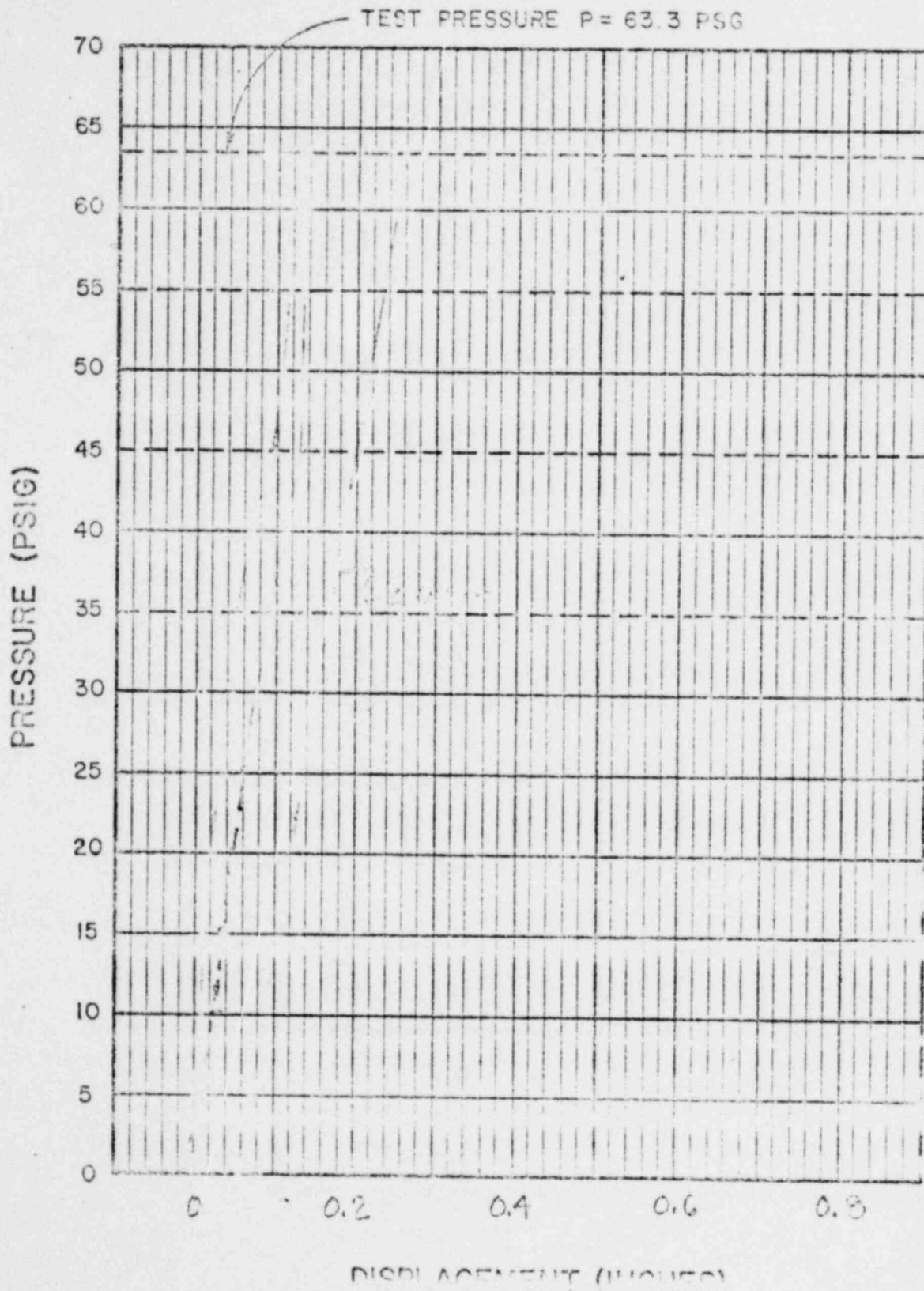
LEGEND

_____ DISPLACEMENT _____ PRESSURE DISPLACEMENT

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF UBA. B

LEGEND:

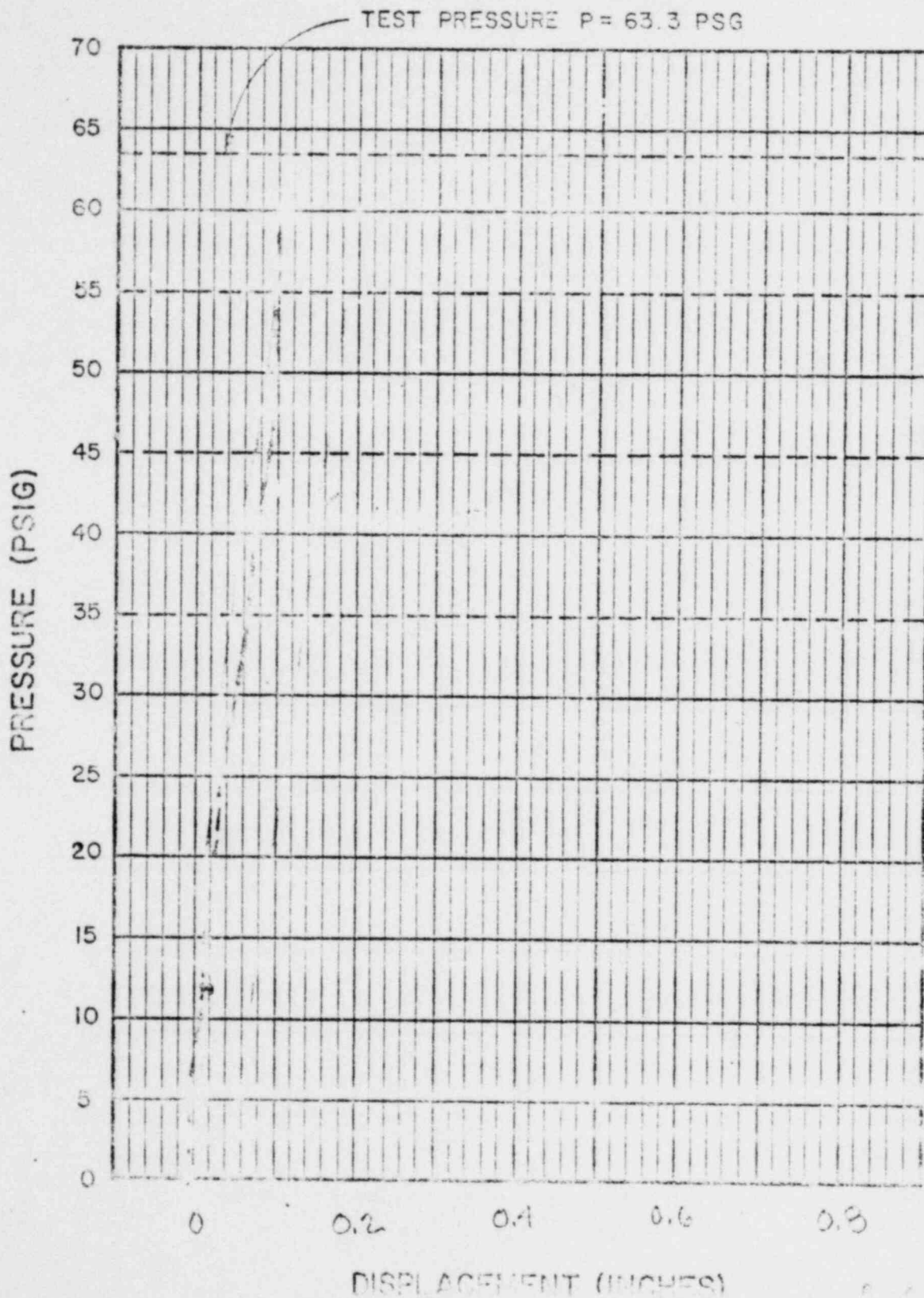
———— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF WBA

LEGEND:

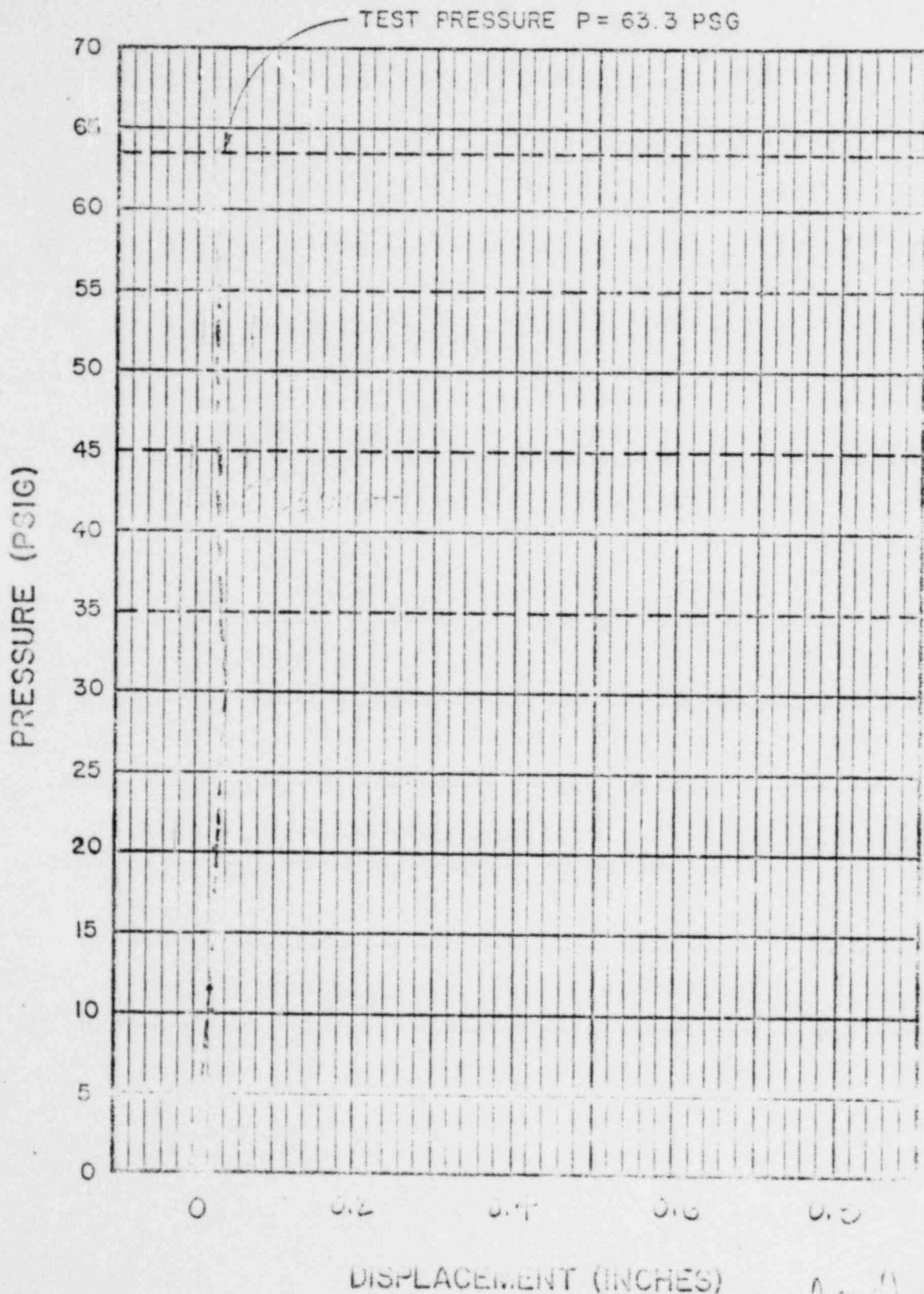
— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



LEGEND:

_____ PRESSURIZATION

T. S. SIGNOFF

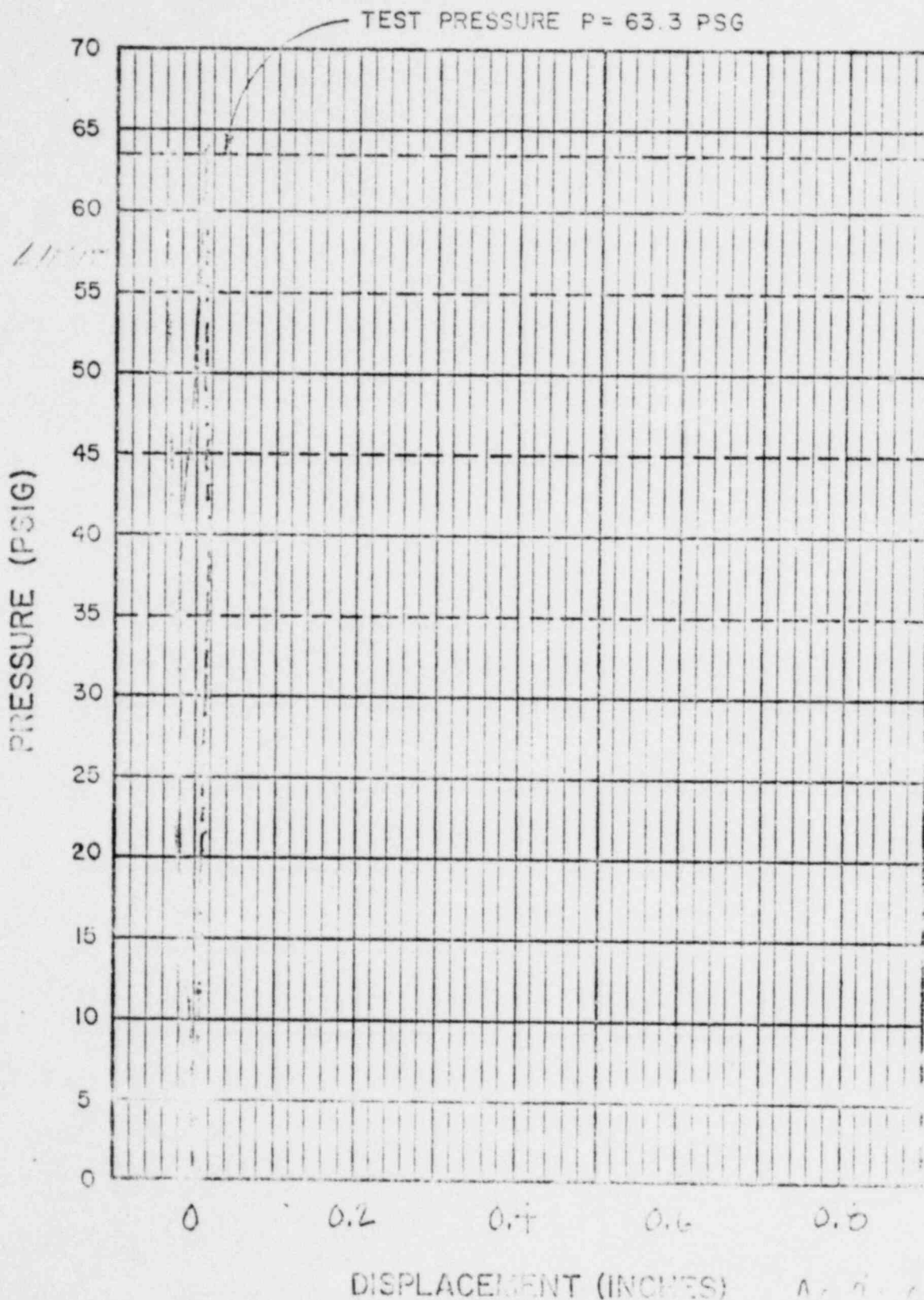
W. B. [Signature]

_____ DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T.S. SIGNOFF W.D. Drake

LEGEND:

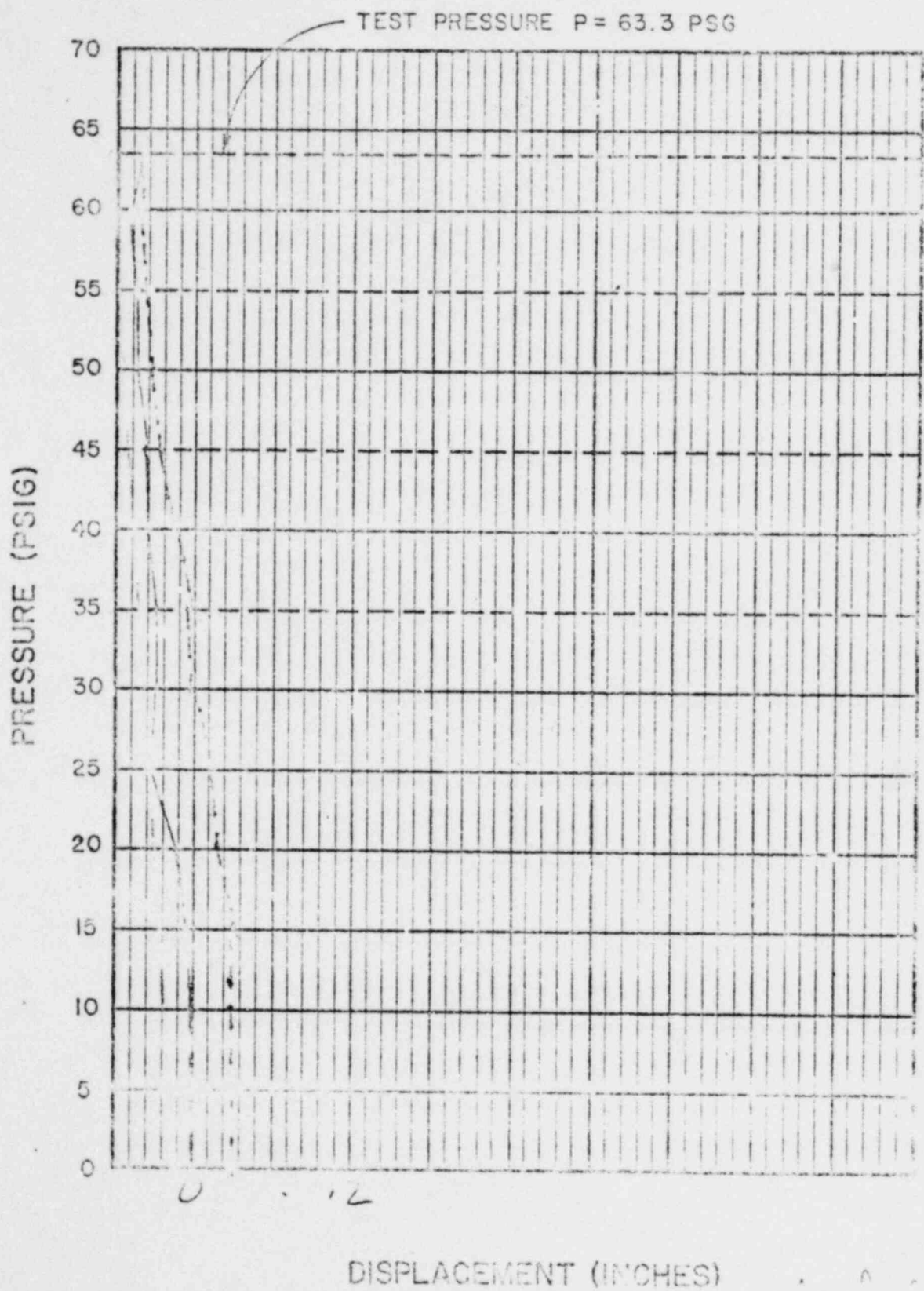
----- PRESSURIZATION

----- DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T. S. SIGNOFF W. B. D. B.

LEGEND:

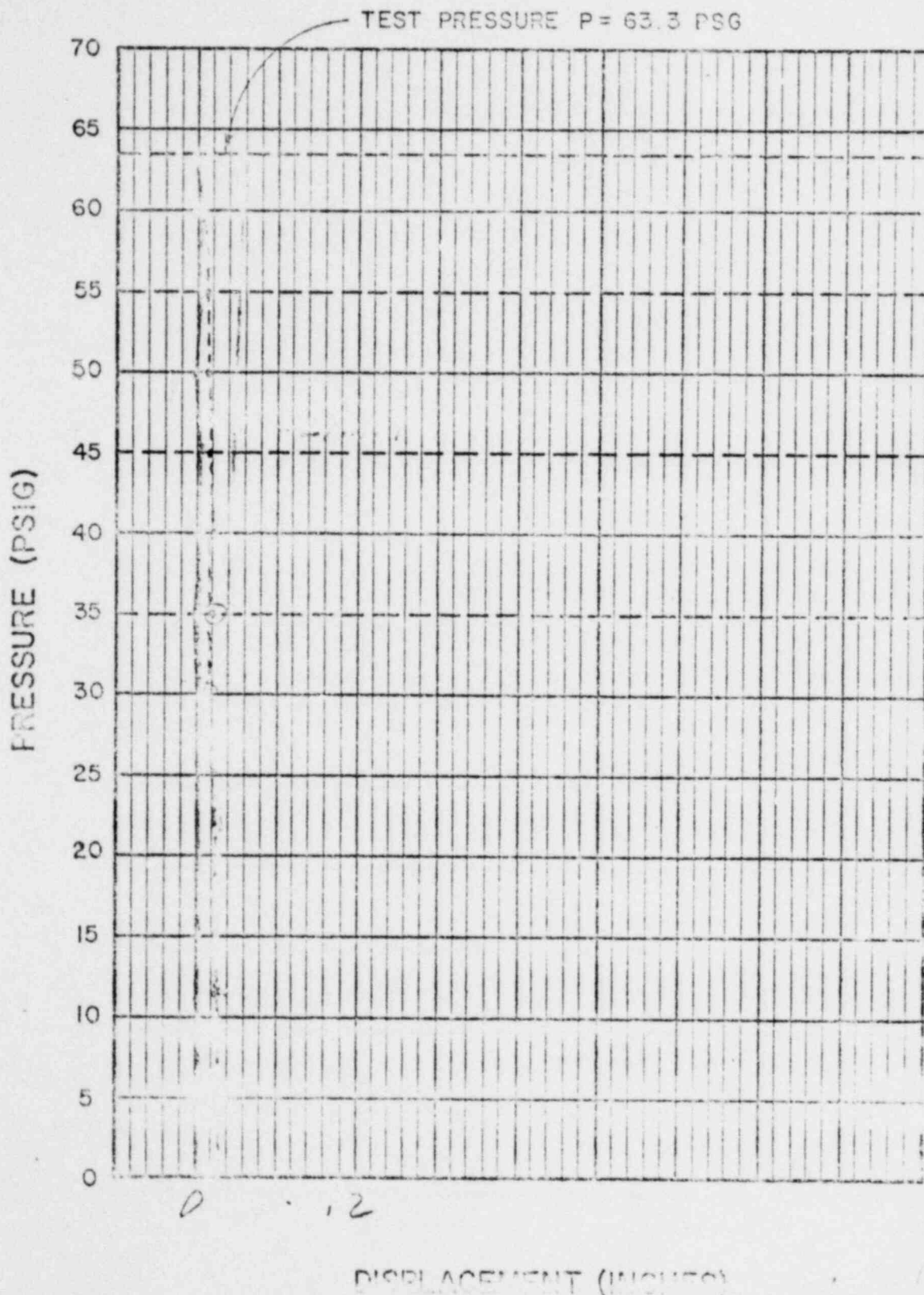
— PRESSURE

--- DISPLACEMENT

REACTOR BLDG. LOCATION _____

LOCATION No. 2 CHANNEL 730 INSTRUMENT No. _____

AZIMUTH _____ ELEVATION 475



T.S. SIGNOFF W.B. Clark

LEGEND:

————— PRESSURIZATION

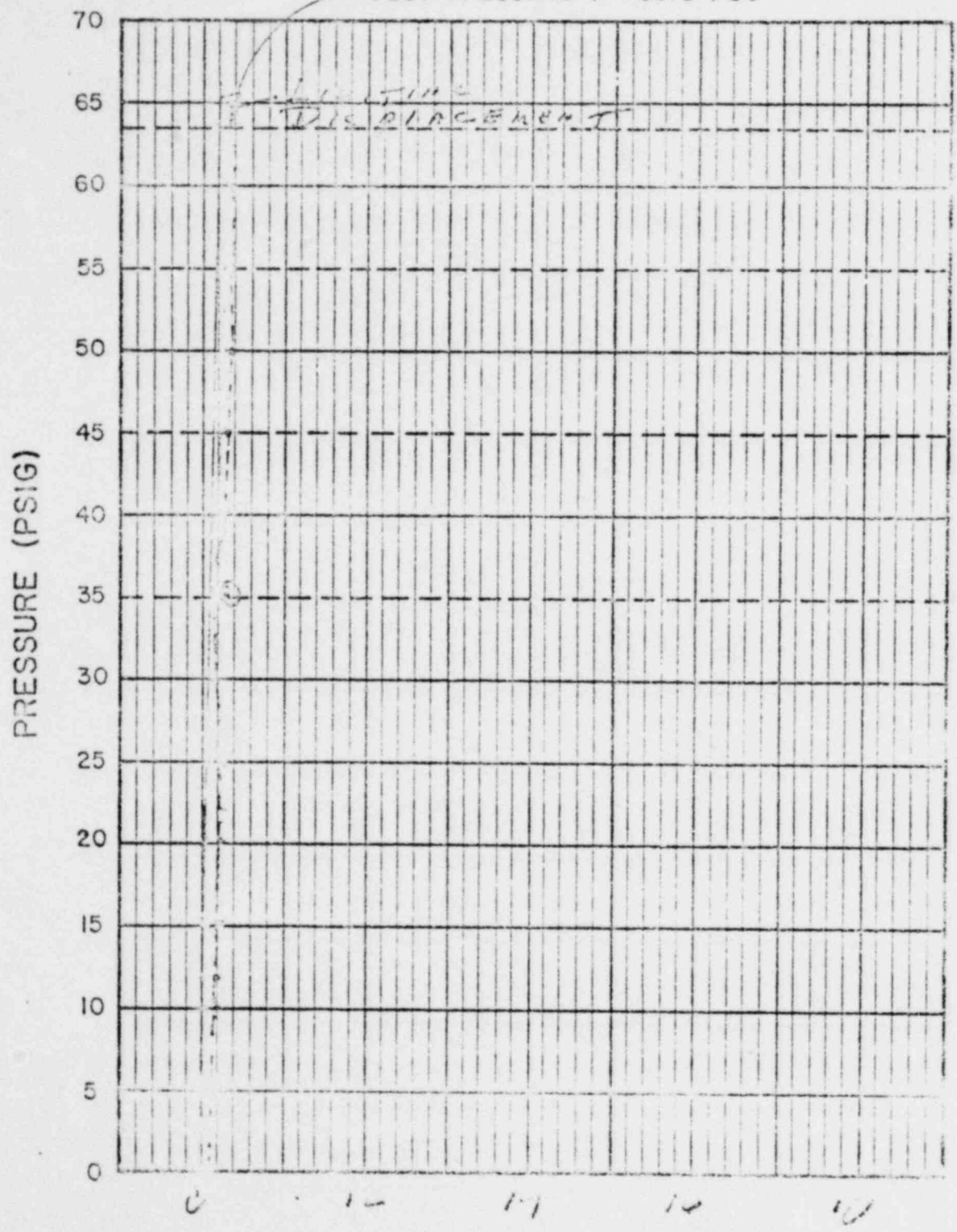
- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. 3 CHANNEL 2 INSTRUMENT No. _____

AZIMUTH 290-55 ELEVATION 98-10

TEST PRESSURE P = 63.3 PSIG



DISPLACEMENT (INCHES)

T.S. SIGNOFF [Signature]

LEGEND:

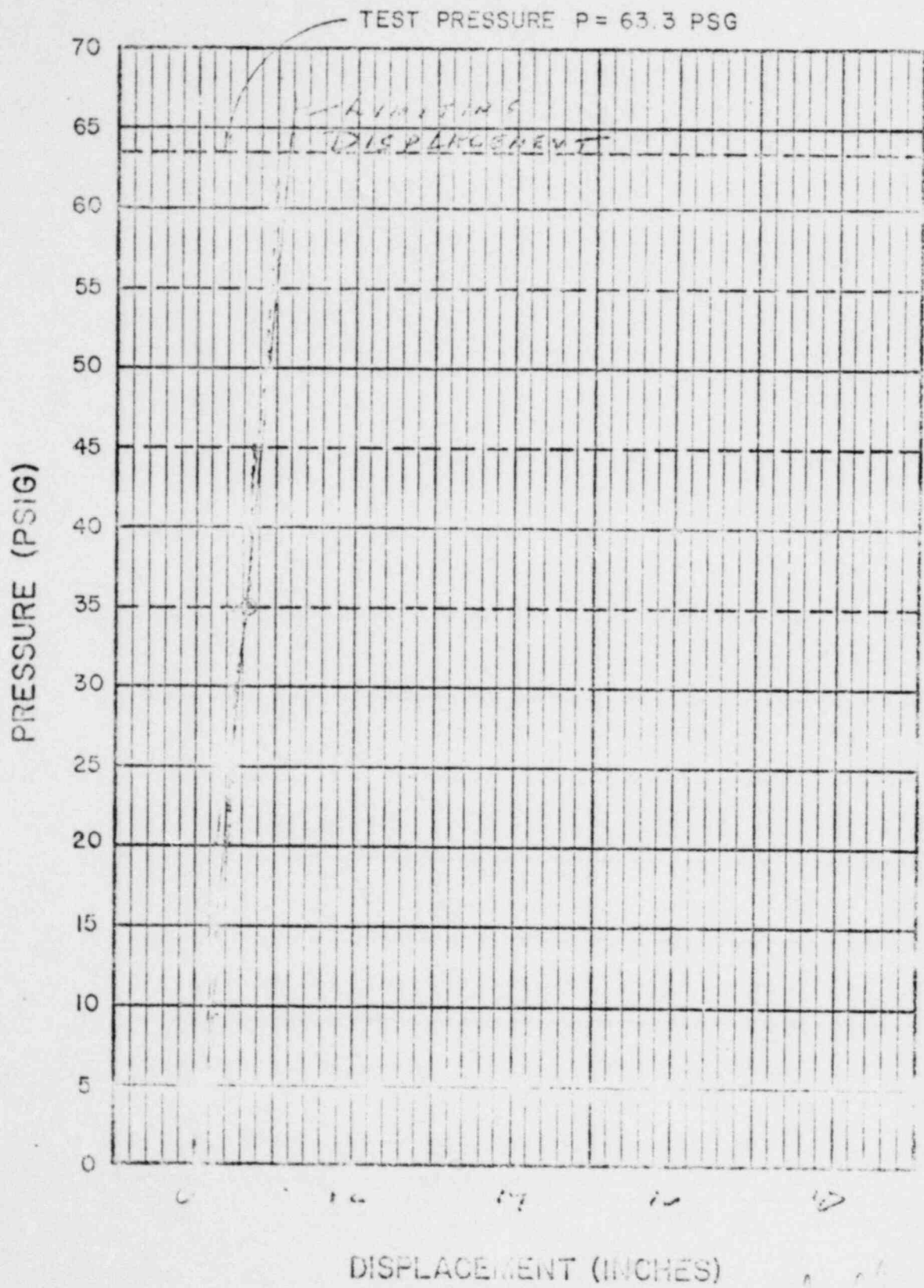
_____ PRECOMPENSATION

----- DEPRECOMPENSATION

REACTOR BLDG. LOCATION _____

LOCATION No. 6 CHANNEL 100 INSTRUMENT No. _____

AZIMUTH 200-55 ELEVATION 109.5



T.S. SIGNOFF LB Drake

LEGEND:

— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____

CHANNEL _____

INSTRUMENT No. _____

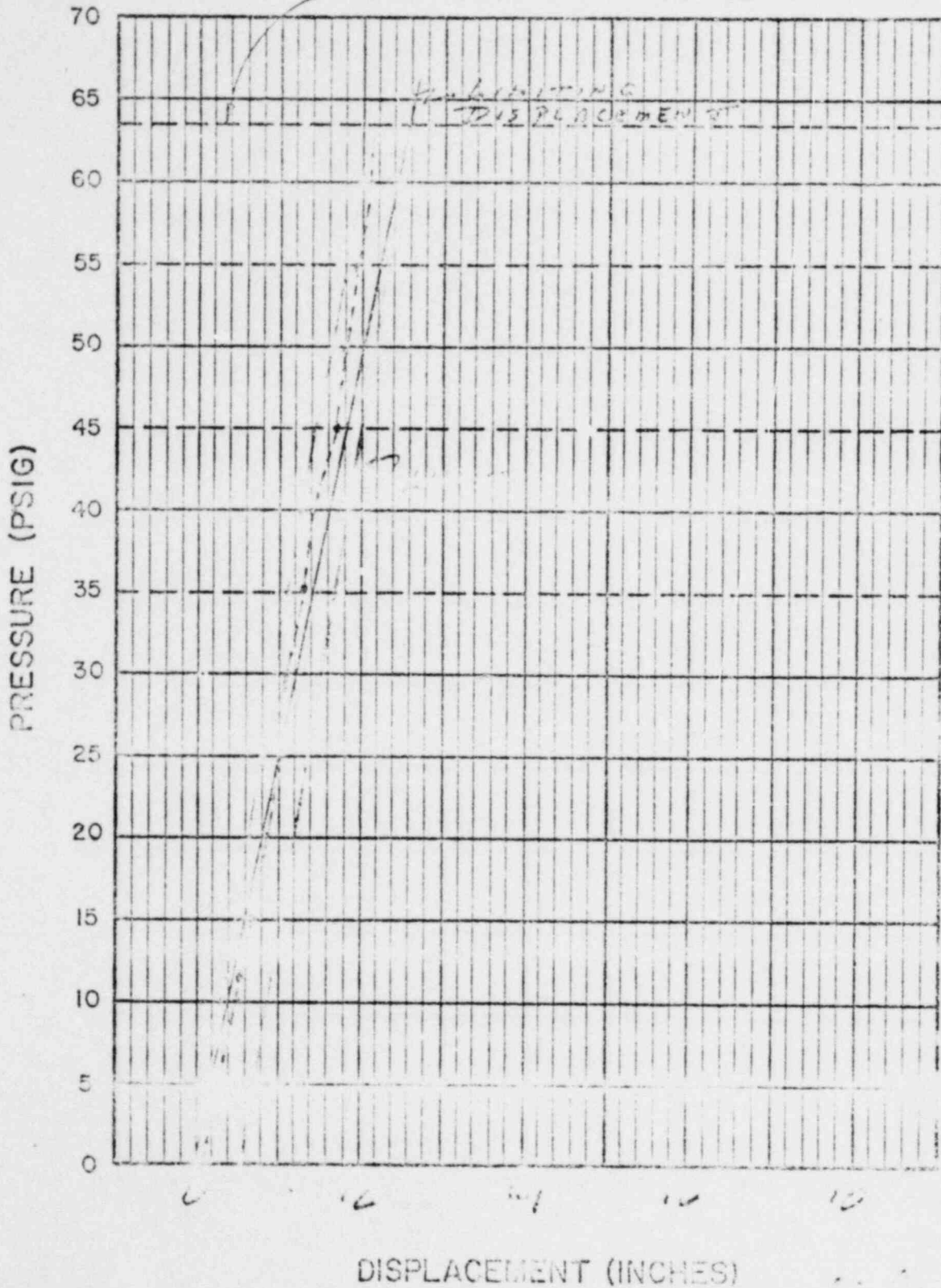
AZIMUTH _____

233-55

ELEVATION _____

14.5

TEST PRESSURE P = 63.3 PSIG



T.S. SIGNOFF _____

[Handwritten Signature]

LEGEND:

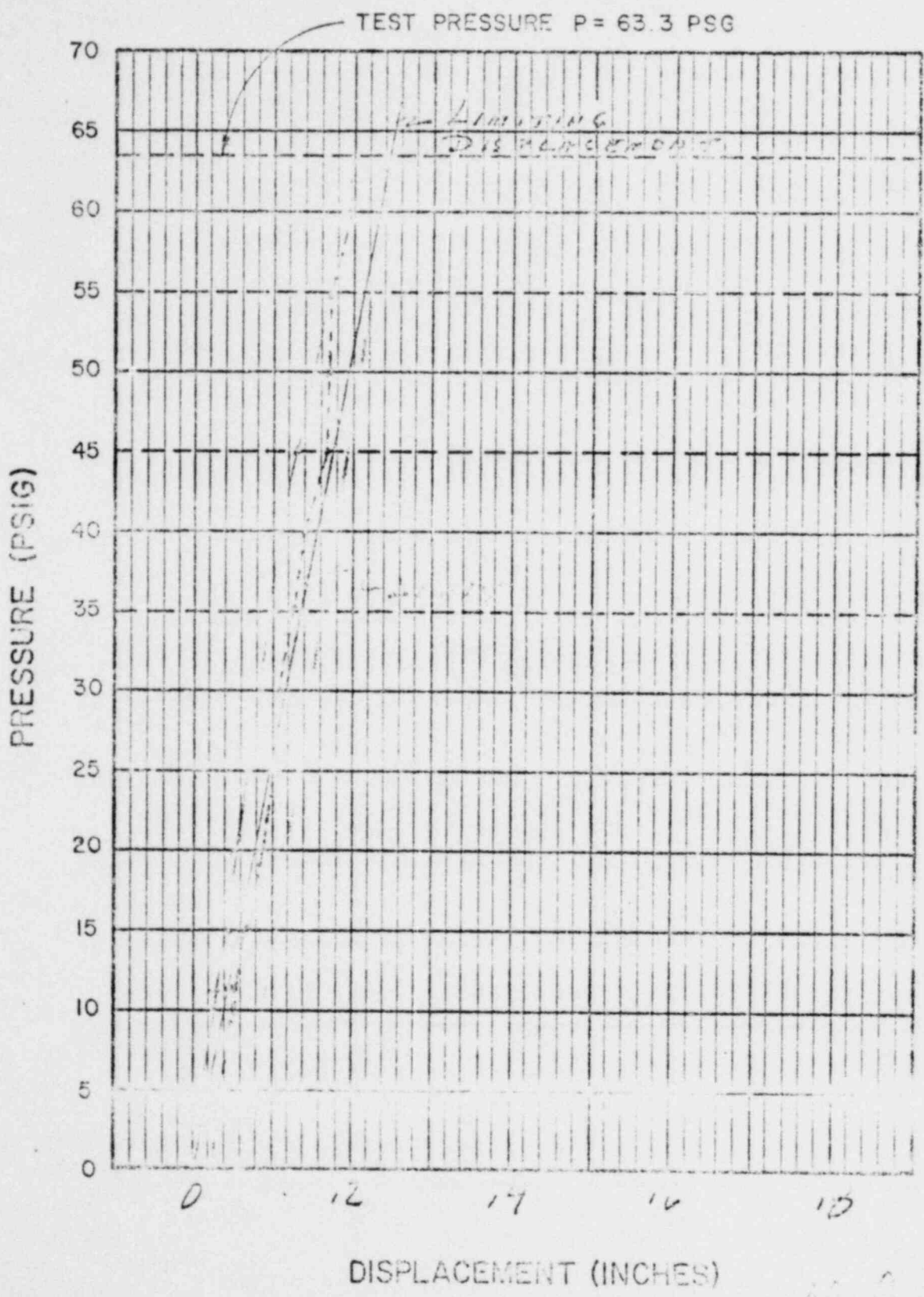
— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION RR-10-2

LOCATION No. 15 CHANNEL 1002 INSTRUMENT No.

AZIMUTH 200-50 ELEVATION 170-0



LEGEND:

———— PRECURRIZATION

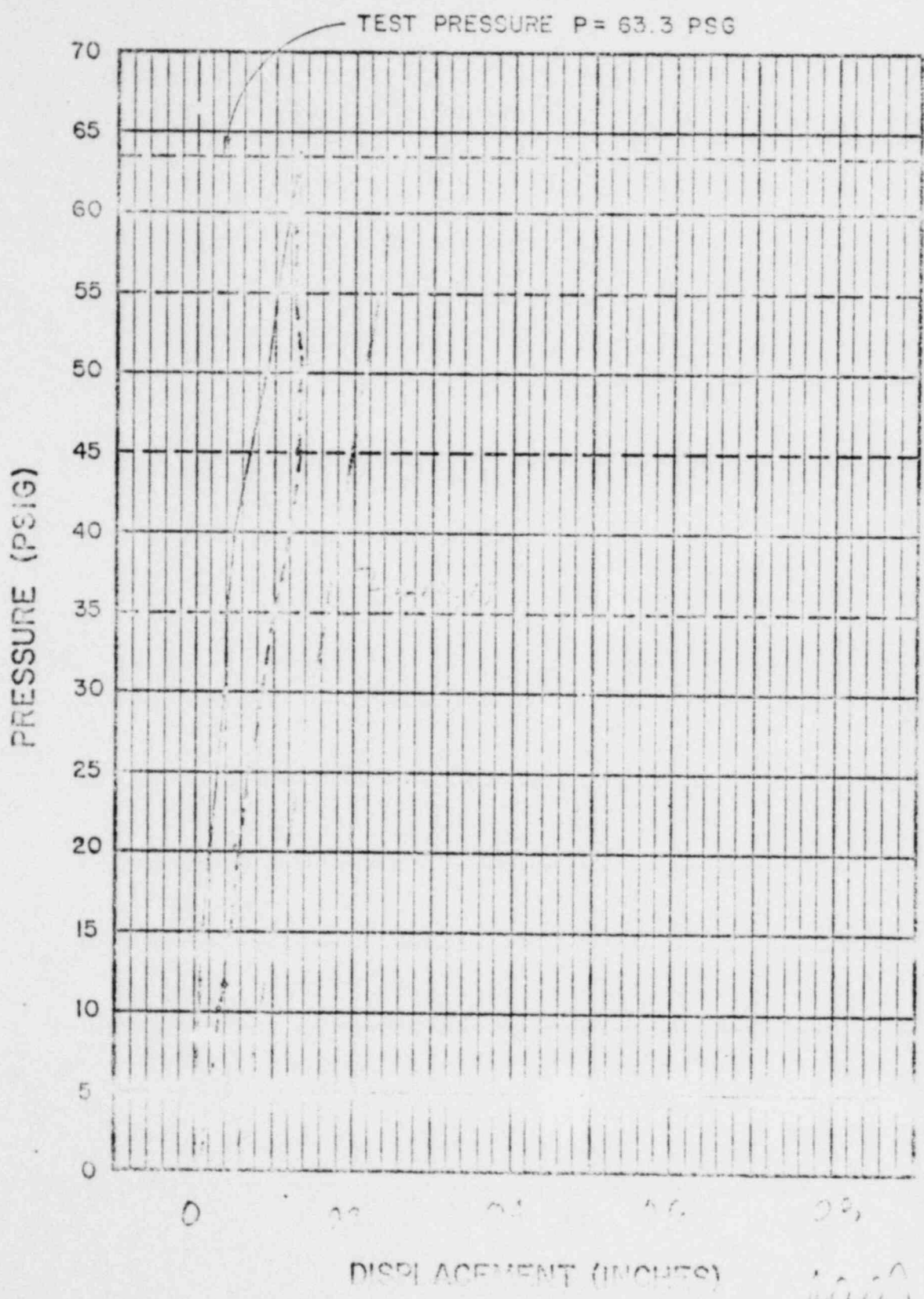
- - - - - DEPRECURRIZATION

T. S. SIGNOFF AK Back

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



T. S. SIGNOFF W. B. Beck

LEGEND:

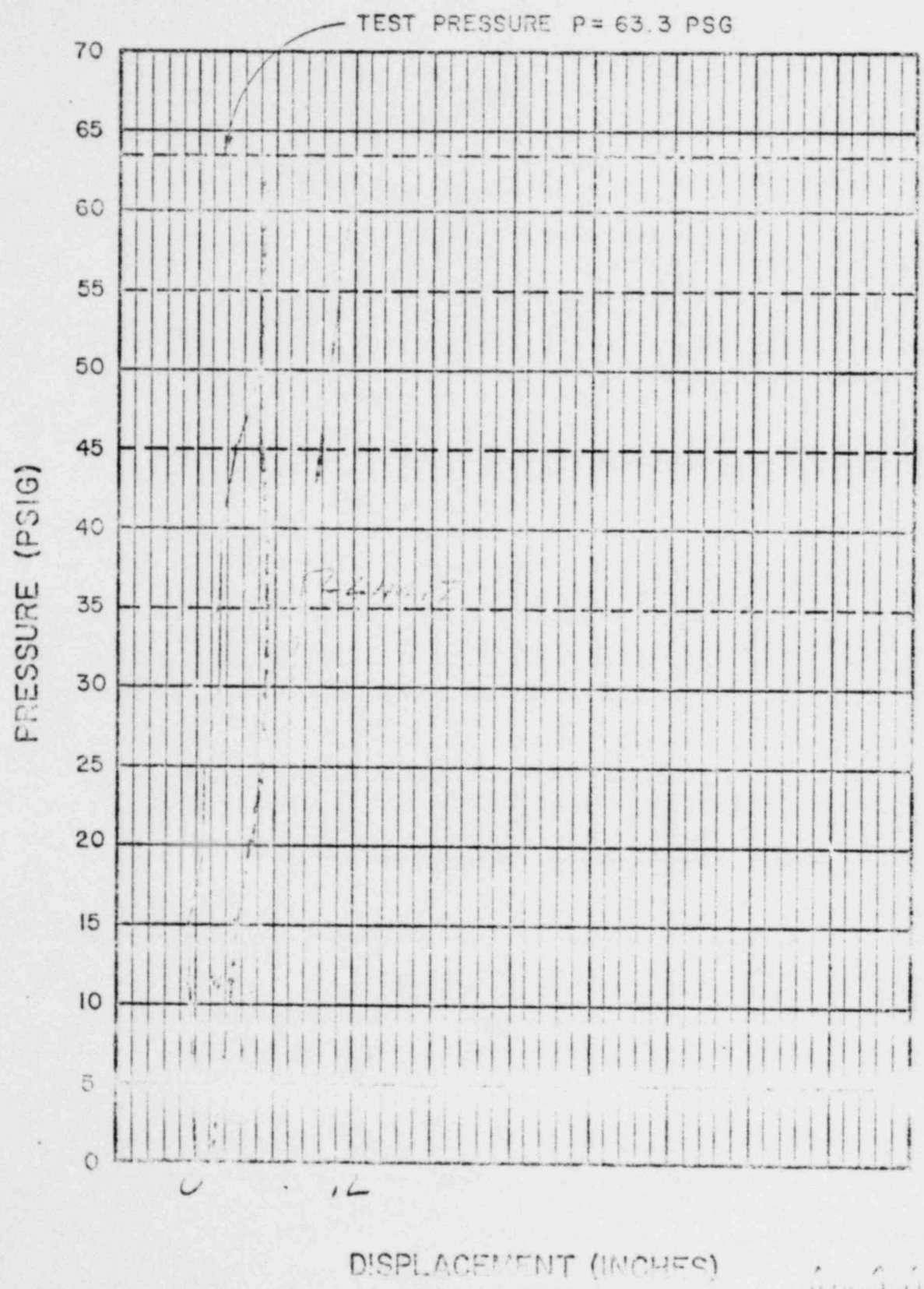
————— PRESSURIZATION

- - - - - DEPRESSURIZATION

REACTOR BLDG. LOCATION _____

LOCATION No. _____ CHANNEL _____ INSTRUMENT No. _____

AZIMUTH _____ ELEVATION _____



LEGEND:

————— PRESSURIZATION

T.S. SIGNOFF _____

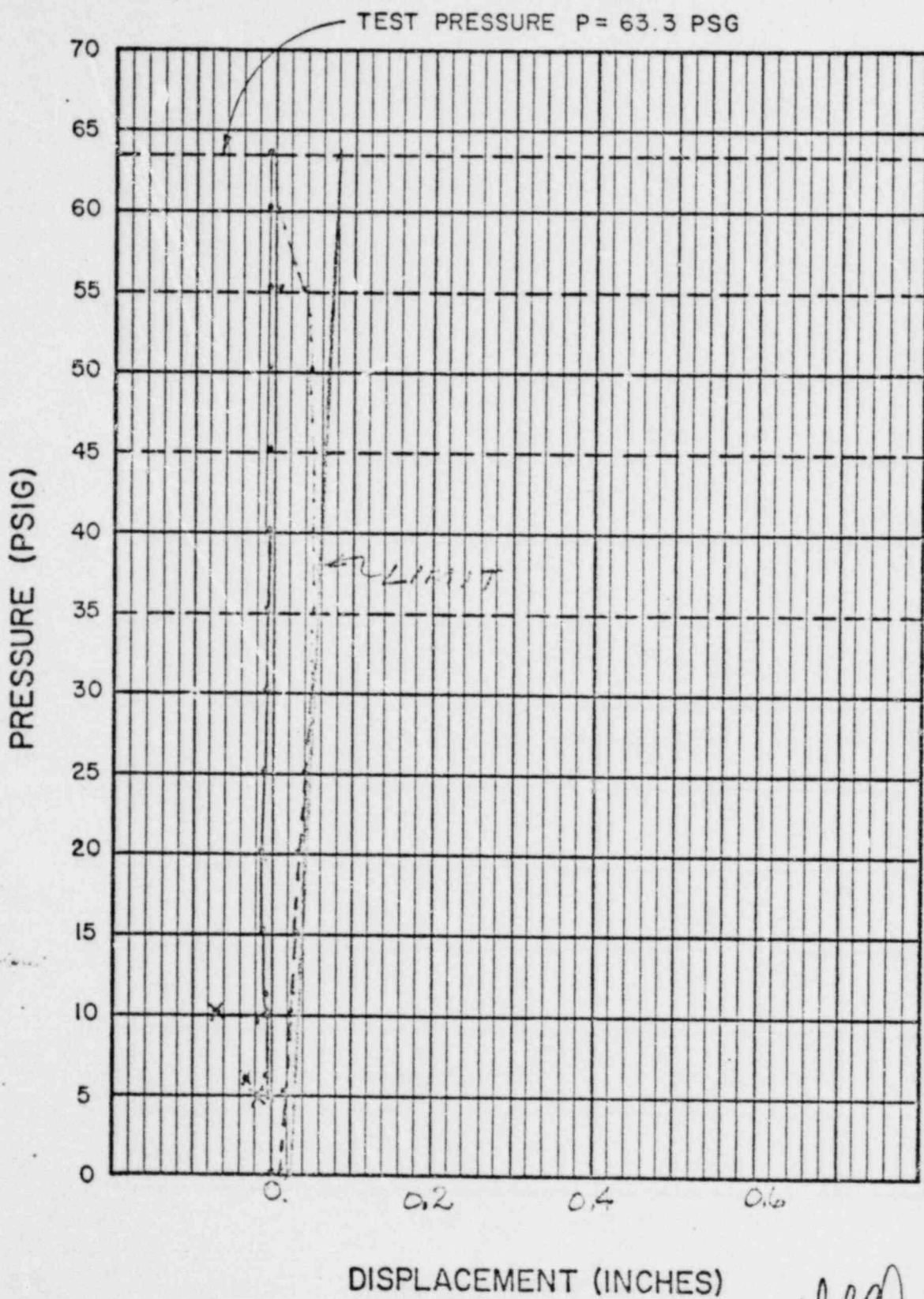
----- DEPRESSURIZATION

11-2-70

REACTOR BLDG. LOCATION RADIAL

LOCATION No. 21 CHANNEL 443 INSTRUMENT No. _____

AZIMUTH 333-55 ELEVATION 246'-0"



LEGEND:

————— PRESSURIZATION

- - - - - DEPRESSURIZATION

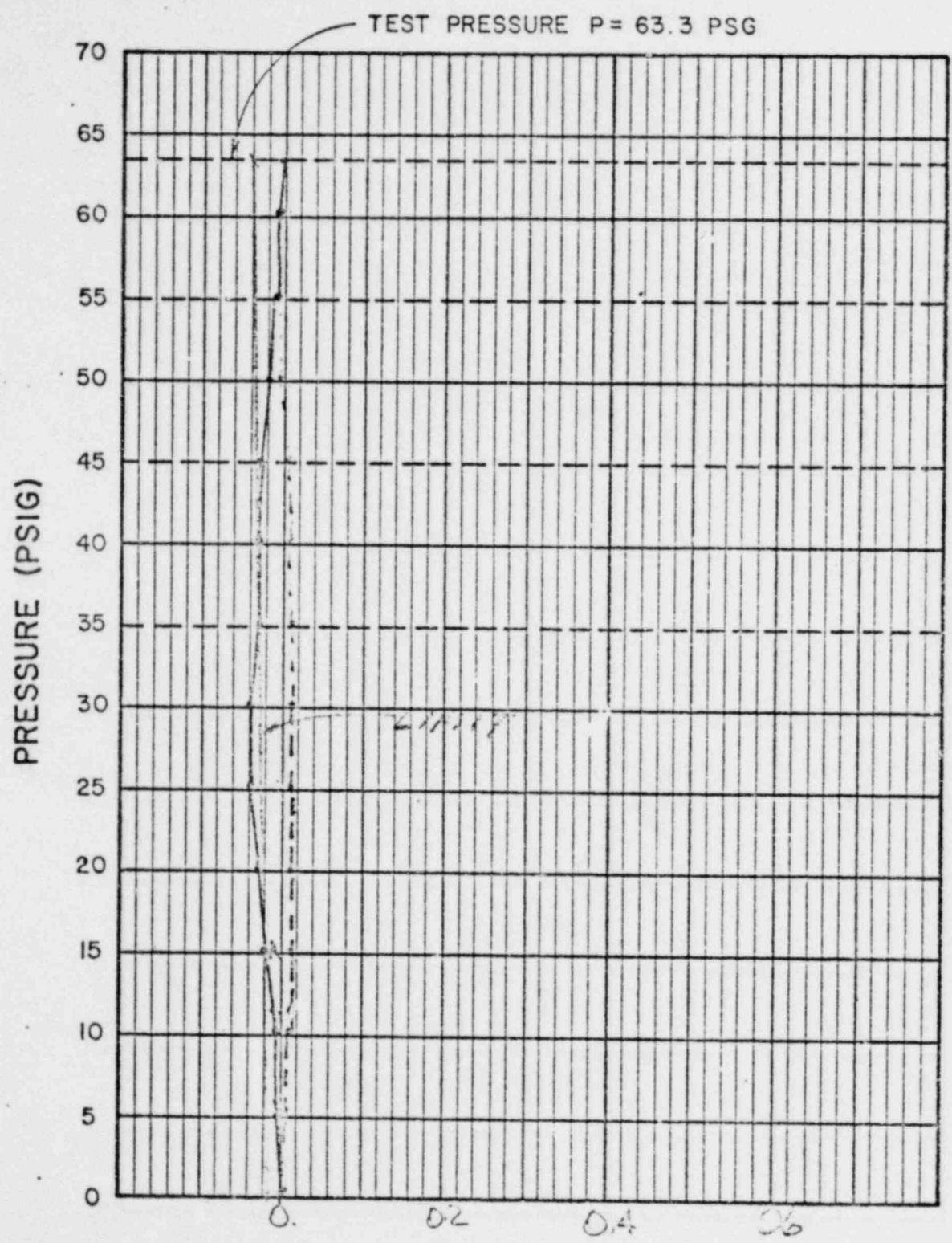
T.S. SIGNOFF [Signature]

11-3-76

REACTOR BLDG. LOCATION RADIAL

LOCATION No. 24 CHANNEL 444 INSTRUMENT No. _____

AZIMUTH 333-55 ELEVATION 253'-0"



DISPLACEMENT (INCHES)

LEGEND:

————— PRESSURIZATION

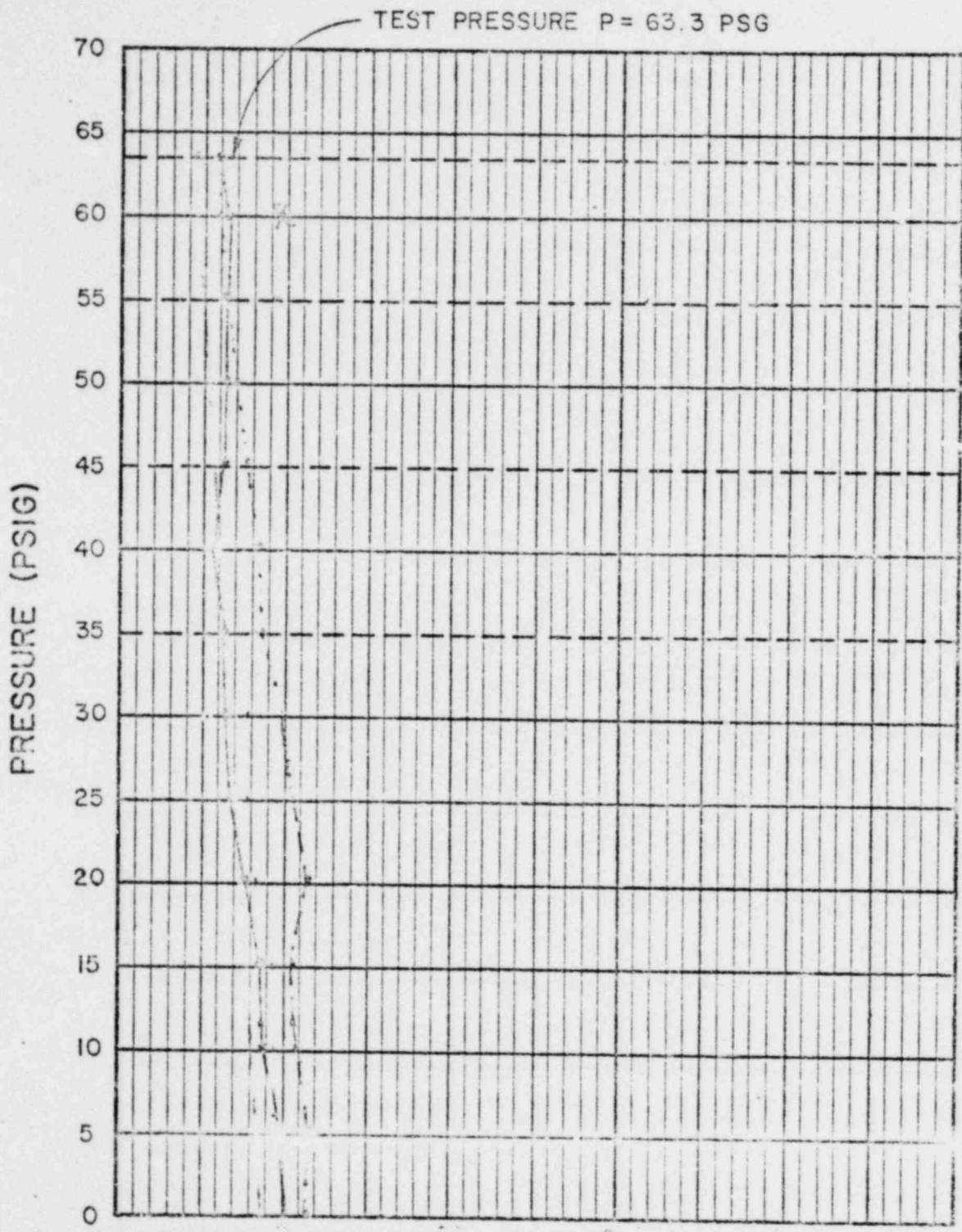
- - - - - DEPRESSURIZATION

T.S. SIGNOFF HBB
11-3-76

REACTOR BLDG. LOCATION 57-11

LOCATION No. 21 CHANNEL 7-11 INSTRUMENT No. _____

AZIMUTH 220-11 ELEVATION 30-12-0"



DISPLACEMENT (INCHES)

LEGEND:

—————

PRESSURIZATION

- - - - -

T.S. SIGNOFF

W. Black

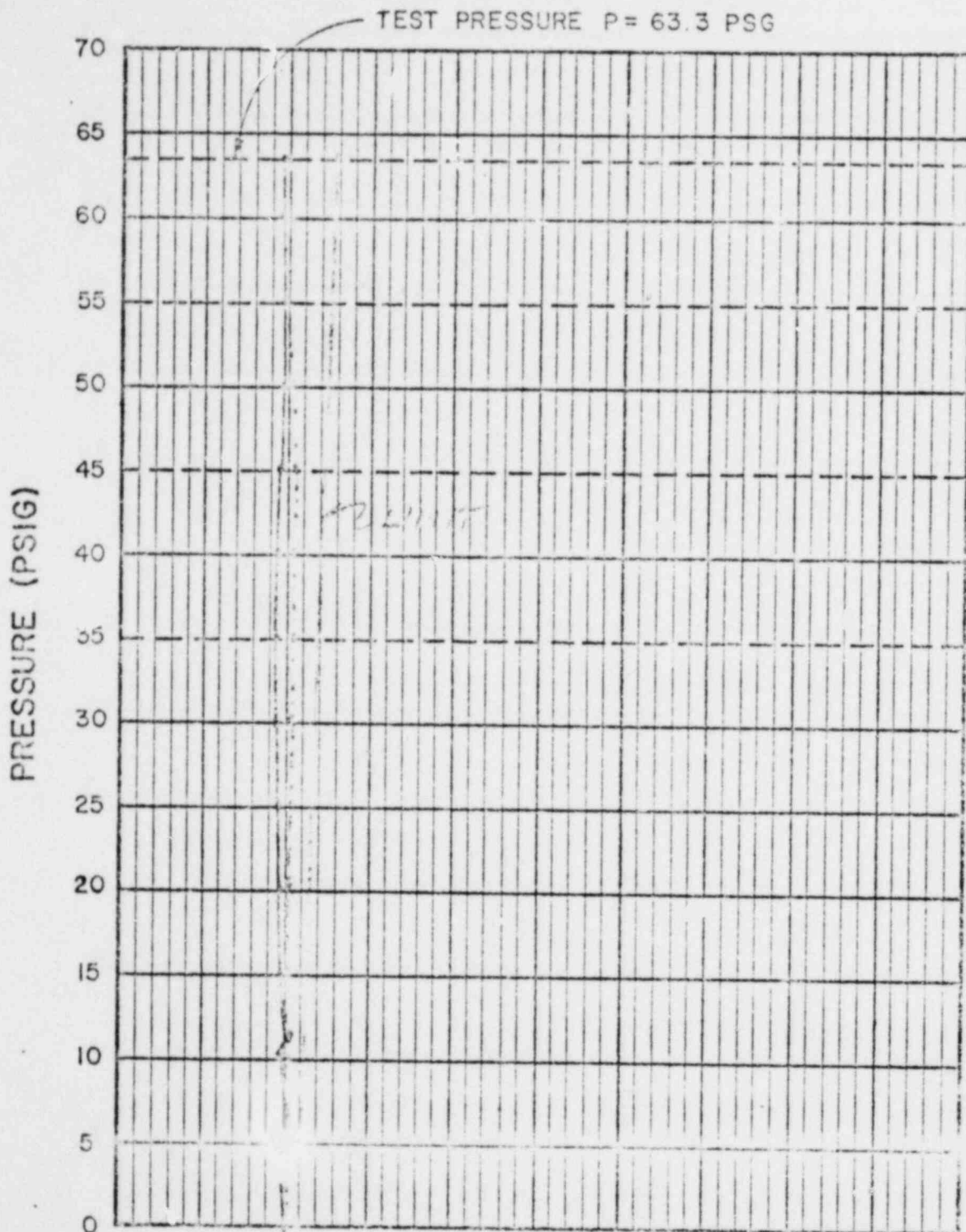
11-3-72

DEPRESSURIZATION

REACTOR BLDG. LOCATION RAE

LOCATION No. 170 CHANNEL 443 INSTRUMENT No. _____

AZIMUTH 320-100 ELEVATION 270'-0"



LEGEND:

————— PRESSURIZATION

- - - - - DEPRESSURIZATION

T. S. SIGNOFF

WBB

11-3-76

ATTACHMENT 2

DOMESTRAIN DATA

TEST PRESSURE 63.3 PSIG

FINAL ZERO 0.00 PSIG

DATA EVALUATION

DATA SHEET 4 PG. 8 OF 16

DATE : 11 / 2 / 76

DOME STRAINS MERIDIONAL

RADIUS 45 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL	GAGE	STRAIN
790	131M	-2.9230E+02
791	131M*	-1.9999E+02
792	132M	2.7499E+03
793	132M*	7.4356E+01
875	133M	4.5000E+04
895	134M	3.6663E+01
794	139M	4.8716E+02
795	139M*	2.5512E+02
796	140M	3.5768E+02
797	140M*	2.3589E+02
876	141M	1.0599E+03
898	142M	3.9996E+01
798	135M	1.3717E+02
799	135M*	1.4358E+02
800	136M	1.3589E+02
801	136M*	1.3589E+02
877	137M	1.6532E+03
901	138M	1.6665E+02
802	143M	1.5769E+02
803	143M*	-5.6152E+02
804	144M	-4.1409E+02
805	144M*	1.6153E+02
878	145M	2.3993E+03
904	146M	1.6665E+02

SIGNED SGP

DATA SHEET 4 PG. 8 OF 16

DATE : 11 / 3 / 76

DOME STRAINS MERIDIONAL

RADIUS 45 FEET

PRESSURE 0.00 PSIG

TIME : 12.00

CHANNEL	GAGE	STRAIN
790	131M	2.5255E+02
791	131M*	7.6920E+00
792	132M	1.7000E+03
793	132M*	0.0000E+00
875	132M	3.1000E+04
895	134M	3.3330E+00
794	139M	3.4614E+01
795	139M*	2.8204E+01
796	140M	4.8716E+01
797	140M*	3.5896E+01
876	141M	1.2720E+04
898	142M	.9990E+00
798	135M	-2.9486E+01
799	135M*	-2.6922E+01
800	136M	-2.3076E+01
801	136M*	-1.7948E+01
877	137M	1.0720E+04
901	138M	2.1331E+02
802	143M	-3.7178E+01
803	143M*	-6.6664E+01
804	144M	-5.3844E+01
805	144M*	-1.7948E+01
878	145M	1.0720E+04
904	146M	4.9990E+01

DATA EVALUATION

DATA SHEET 4 PG. 8 OF 16

DATE: 11 / 4 / 76

DOME STRAINS MERIDIONAL

RADIUS 45 FEET

GAGE	PREDICTED	ACTUAL	AVERAGE
131M	220	545	
131M*	220	207	376
132M			
132M*	199	74	74
133M			
134M	48	33	33
139M	220	452	
139M*	220	227	227
140M	199	309	
140M*	199	200	254
141M			
142M	48	30	30
135M	220	166	
135M*	220	170	168
136M	199	159	
136M*	199	154	157
137M			
138M	48	183	183
143M	220	195	
143M*	220	495	345
144M	199	360	
144M*	199	180	270
145M			
146M	48	117	117

DATA SHEET 4 PG. 9 OF 16

DATE : 11 / 2 / 76

DOME STRAINS MERIDIONAL

RADIUS 30 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL	GAGE	STRAIN
806	148M	7.9356E+02
807	148M*	5.3331E+02
808	149M	-4.8331E+02
809	149M*	4.4229E+02
879	150M	3.8438E+02
907	151M	2.1665E+02

810	152M	-6.1664E+02
811	152M*	-1.0487E+03
812	153M	3.9278E+02
813	153M*	3.6409E+02
880	154M	1.3332E+01
910	155M	1.9331E+02

SIGNED

SC. P. ...

DATA SHEET 4 PG. 9 OF 16

DATE : 11 / 3 / 76

DOME STRAINS MERIDIONAL

RADIUS 30 FEET

PRESSURE 0.00 PSIG

TIME : 12.08

CHANNEL	GAGE	STRAIN
---------	------	--------

806	148M	-8.9740E+00
807	148M*	-2.5127E+02
808	149M	-3.4614E+01
809	149M*	7.9484E+01
875	150M	1.2279E+04
907	151M	1.1999E+02

810	152M	1.7948E+01
811	152M*	-4.4870E+01
812	153M	4.0331E+02
813	153M*	6.6664E+01
880	154M	-6.9993E+01
910	155M	5.0328E+01

SE, P. 11

DATA EVALUATION

DATA SHEET 4 PG. 9 OF 16

DATE: 11 / 4 / 76

DOMES STRAINS MERIDIONAL

RADIUS 30 FEET

GAGE	PREDICTED	ACTUAL	AVERAGE
148M	354	803	
148M*	354	784	794
149M	348	448	
149M*	348	363	406
150M			
151M	298	97	97
152M	354	635	
152M*	354	1004	820
153M			
153M*	348	297	297
154M	343	83	83
155M	298	140	140

DATA SHEET 4 PG. 10 OF 16

DATE : 11 / 2 / 76

DOME STRAINS MERIDIONAL

RADIUS 15 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL GAGE

STRAIN

814	156M	1.1794E+02
815	156M*	1.8204E+02
816	157M	2.5768E+02
817	157M*	-2.9358E+02
881	158M	1.3665E+02
913	159M	2.5331E+02
818	160M	-2.0512E+02
819	160M*	-5.3331E+02
820	161M	-2.3717E+02
821	161M*	-5.2049E+02
882	162M	0.0000E+00
916	163M	-8.2325E+02

RECORDED *SCB*

DATA SHEET 4 PG. 10 OF 16

DATE : 11 / 3 / 76

DOME STRAINS MERIDIONAL

RADIUS 15 FEET

PRESSURE 0.00 PSIG

TIME : 12.08

CHANNEL GAGE

STRAIN

814	156M	-3.0768E+01
815	156M*	5.6408E+01
816	157M	2.6922E+01
817	157M*	-4.7434E+01
881	158M	-4.9995E+01
913	159M	2.9997E+01
818	160M	1.5384E+01
819	160M*	-1.4102E+01
820	161M	-3.5896E+01
821	161M*	-2.0513E+01
882	162M	-2.0031E+01
916	163M	-9.9990E+02

W. J. B. & S. J. B.

DATA EVALUATION

DATA SHEET 4 PG. 10 of 16

DATE: 11 / 4 / 76

DOME STRAINS MERIDIONAL

RADIUS 15 FEET

GAGE	PREDICTED	ACTUAL	AVERAGE
156M	313	148	
156M*	313	126	137
157M	317	231	
157M*	317	247	239
158M	320	187	187
159M	343	223	223
160M	313	190	
160M*	313	519	354
161M	317	201	
161M*	317	499	350
162M			
163M	343	176	176

DATA SHEET 4 PG. 11 OF 16

DATE : 11 / 2 / 76

DOME STRAINS HOOP

RADIUS 45 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL	GAGE	STRAIN
822	131H	-1.0769E+02
823	131H*	7.9484E+01
824	132H	-1.8461E+02
825	132H*	-1.9871E+02
883	133H	3.3330E+00
897	134H	1.6332E+02
826	139H	2.4230E+02
827	139H*	9.3586E+01
828	140H	2.1538E+02
829	140H*	5.2562E+01
884	141H	9.9990E+00
900	142H	2.2998E+02
830	135H	3.4614E+02
831	135H*	3.0512E+02
832	136H	2.9742E+02
833	136H*	2.5896E+02
885	137H	1.0332E+02
903	138H	2.7997E+02
834	143H	-5.8972E+01
835	143H*	4.5255E+02
836	144H	-1.0384E+02
837	144H*	4.2691E+02
886	145H	8.3325E+01
906	146H	2.4331E+02

SIGNED *SC Pignatelli*

DATA SHEET 4 PG. 11 OF 16

DATE : 11 / 3 / 76

DOME STRAINS HOOP

RADIUS 45 FEET

PRESSURE 0.00 PSIG

TIME : 12.00

CHANNEL	GAGE	STRAIN
822	131H	2.3076E+01
823	131H*	-1.5384E+01
824	132H	5.1280E+00
825	132H*	1.9230E+01
883	133H	-3.3330E+01
897	134H	-1.9998E+01
826	139H	1.4102E+01
827	139H*	-1.2820E+01
828	140H	1.6666E+01
829	140H*	-1.9230E+01
884	141H	-1.1332E+02
900	142H	-3.6663E+01
830	135H	-1.1538E+01
831	135H*	4.3588E+01
832	136H	3.5742E+01
833	136H*	3.5896E+01
885	137H	-6.6660E+01
903	138H	4.3329E+01
834	143H	2.5640E+00
835	143H*	5.7690E+01
836	144H	1.2820E+00
837	144H*	6.4100E+01
886	145H	-5.3330E+01
904	146H	-4.9998E+01

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DATA EVALUATION

DATA SHEET 4 PG. 11 OF 16

DATE: 11 / 4 / 76

DOME STRAINS HOOP

RADIUS 45 FEET

GAGE	PREDICTED	ACTUAL	AVERAGE
131H	497	131	
131H*	497	94	113
132H	465	189	
132H*	465	218	204
133H		30	30
134H	241	183	183
139H	497	228	
139H*	497	106	167
140H	465	198	
140H*	465	71	135
141H	433	123	123
142H	241	267	267
135H	497	358	
135H*	497	261	310
136H	465	257	
136H*	465	222	240
137H	433	170	170
138H	241	237	237
143H	497	62	
143H*	497	395	228
144H	465	106	
144H*	465	363	234
145H	433	136	136
146H	241	293	293

DATA SHEET 4 PG. 12 OF 16

DATE : 11 / 2 / 76

DOME STRAINS HOOP

RADIUS 30 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL	GAGE	STRAIN
838	148H	-3.5127E+02
839	148H*	-4.3875E+02
840	149H	-6.0510E+02
841	149H*	2.6537E+02
887	150H	1.0332E+01
909	151H	2.2664E+02

842	152H	6.1151E+02
843	152H*	-4.2050E+02
844	153H	6.0639E+02
845	153H*	6.3203E+02
888	154H	7.6659E+01
912	155H	1.6998E+02

SIGNED SC. Raju

DATA SHEET 4 PG. 12 OF 16

DATE : 11 / 3 / 76

DOME STRAINS HOOP

RADIUS 30 FEET

PRESSURE 0.00 PSIG

TIME : 12.08

CHANNEL

GAGE

STRAIN

838	148H	-1.1538E+01
839	148H*	4.4870E+01
840	149H	-4.7434E+01
841	149H*	4.6152E+01
887	150H	7.6659E+01
909	151H	8.9991E+01

842	152H	6.4100E+00
843	152H*	1.5384E+01
844	153H	3.6793E+02
845	153H*	5.5136E+01
888	154H	-3.9996E+01
912	155H	9.9990E+00

DATA EVALUATION

DATA SHEET 4 PG. 12 OF 16

DATE: 11 / 4 / 76

DOMES STRAINS HOOP

RADIUS 30 FEET

GAGE	PREDICTED	ACTUAL	AVERAGE
148H	492	339	
148H*	492	476	408
149H	461	558	
149H*	461	219	388
150H			
151H	231	218	218
152H	492	606	
152H*	492	436	521
153H	461	238	
153H*	461	577	408
154H	431	117	117
155H	231	160	160

DOME STRAINS HOOP

RADIUS 15 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL	GAGE	STRAIN
846	156H	-3.2050E+02
847	156H*	-1.6410E+02
848	157H	-7.9484E+01
849	157H*	1.9358E+02
889	158H	1.6665E+01
915	159H	2.3998E+02
850	160H	-2.0512E+02
851	160H*	-2.1025E+02
852	161H	-3.9998E+02
853	161H*	-2.3717E+02
898	162H	1.0998E+01
910	163H	2.7937E+02

SIGNED SO [Signature]

DATA SHEET 4 PG. 13 OF 16

DATE : 11 / 3 / 76

DOME STRAINS HOOP

RADIUS 15 FEET

PRESSURE 0.00 PSIG

TIME : 12.08

CHANNEL	GAGE	STRAIN
846	156H	-2.5640E+00
847	156H*	-3.8460E+00
848	157H	5.5126E+01
849	157H*	4.4870E+01
889	158H	-5.9994E+01
915	159H	5.6661E+01
850	160H	-3.8460E+00
851	160H*	6.4100E+00
852	161H	-4.3588E+01
853	161H*	-2.9486E+01
898	162H	6.9993E+01
918	163H	4.6662E+00

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DATA EVALUATION

DATA SHEET 4 PG. 13 OF 16

DATE: 11 / 4 / 76

DOMESTRAINS HOOP

RADIUS 15 FEET

GAGE	PREDICTED	ACTUAL	AVERAGE
156H	324	318	
156H*	324	160	239
157H	324	135	
157H*	324	149	142
158H	324	77	77
159H	324	183	183
160H	324	201	
160H*	324	216	208
161H	324	356	
161H*	324	208	282
162H			
163H			

DATA SHEET 4 PG. 14 OF 16

DATE : 11 / 2 / 76

DOME STRAINS RADIAL

RADIUS 45 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL	GAGE	STRAIN
855	167R	2.8339E+01
856	167R*	1.0002E+01
857	168R	-5.0010E+00
858	168R*	1.3336E+01
859	169R	-4.3342E+01
860	169R*	-1.1669E+01
861	170R	-2.1671E+01
862	170R*	6.1679E+01

SIGNED SCB

DATA SHEET 4 PG. 14 OF 16

DATE : 11 / 3 / 76

DOME STRAINS RADIAL

RADIUS 45 FEET

PRESSURE 0.00 PSIG

TIME : 12.00

CHANNEL GAGE STRAIN

855	167R	3.5007E+01
856	167R*	-1.5170E+02
857	168R	2.6672E+01
858	168R*	1.0502E+02
859	169R	-1.0570E+00
860	169R*	-1.6670E+00
861	170R	3.1673E+01
862	170R*	8.1683E+01

502

DOME STRAIN RADIAL

RADIUS 30 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL

GAGE

STRAIN

863
864

171R
171R*

-2.0004E+01
-3.1673E+01

865
866

172R
172R*

-3.3340E+00
5.6678E+01

SIGNED

[Handwritten Signature]

DATA SHEET 4 PG. 15 OF 16

DATE : 11 / 3 / 76

DOME STRAIN RADIAL

RADIUS 30 FEET

PRESSURE 0.00 PSIG

TIME : 12.00

CHANNEL GAGE

STRAIN

863
864

171R
171R*

4.1675E+01
1.1669E+01

865
866

172R
172R*

1.8337E+01
1.1336E+02

800-1

DOME STRAIN RADIAL

RADIUS 15 FEET

PRESSURE 63.30 PSIG

TIME : 2.41

CHANNEL

GAGE

STRAIN

867

173R

3.6674E+01

868

173R*

-3.5007E+01

~~869~~

~~174R~~

~~6.6010E+02~~

870

174R*

-2.3338E+01

SIGNED

SGP

DATA SHEET 4 PG. 16 OF 16

DATE : 11 / 3 / 76

DOME STRAIN RADIAL

RADIUS 15 FEET

PRESSURE 0.00 PSIG

TIME : 12.00

CHANNEL	GAGE	STRAIN
867	173R	4.8343E+01
868	173R*	-1.3336E+01
869	174R	7.6014E+02
870	174R*	2.6672E+01

SCD

ATTACHMENT 3

CRACK PATTERNS

TEST PRESSURE	63.3 PSIG
FINAL ZERO	0.00 PSIG

ELEV. 253'-10 1/2"

9

8

7

6

5

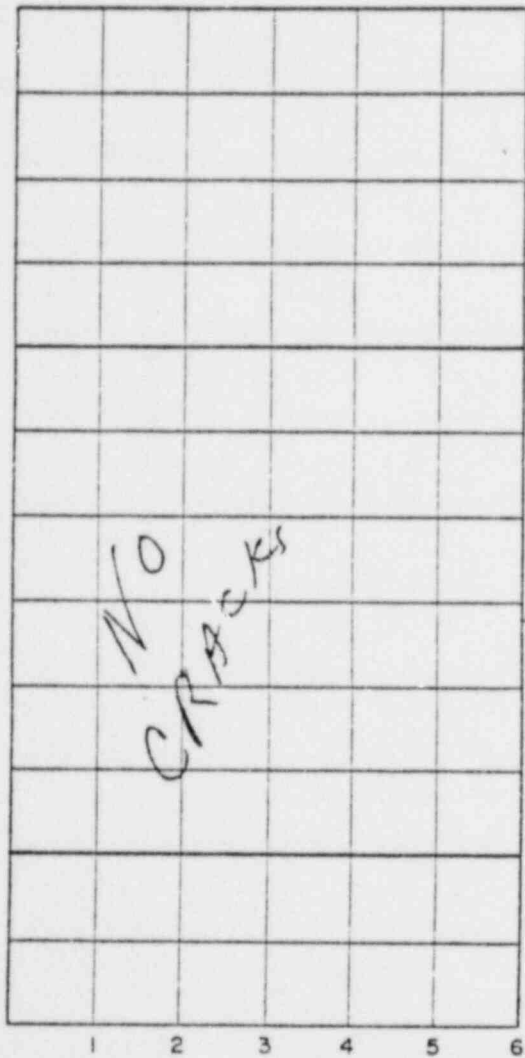
4

3

2

1

ELEV. 244'-0"



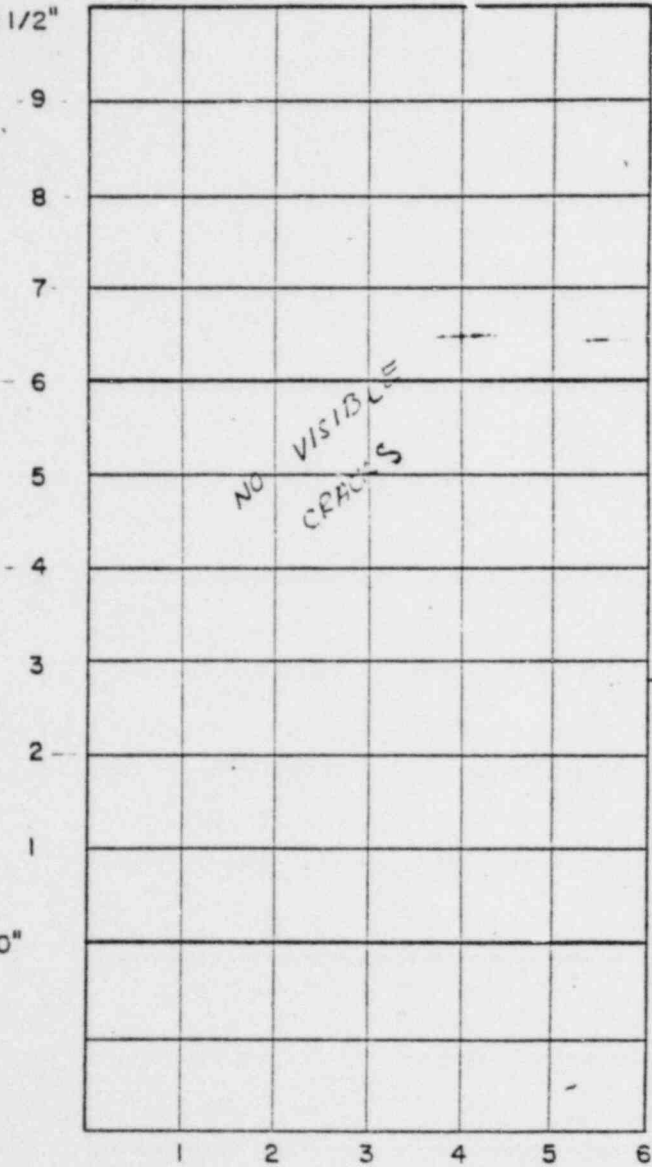
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 135°

DATE 11-2-76
PRESSURE 63.3
WJE No. 71465

TIME 0325
SURVEYED BY R. Kance

ELEV. 253'-10 1/2"



NO VISIBLE
CRACKS

ELEV. 244'-0"

CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/3/76

TIME 1315

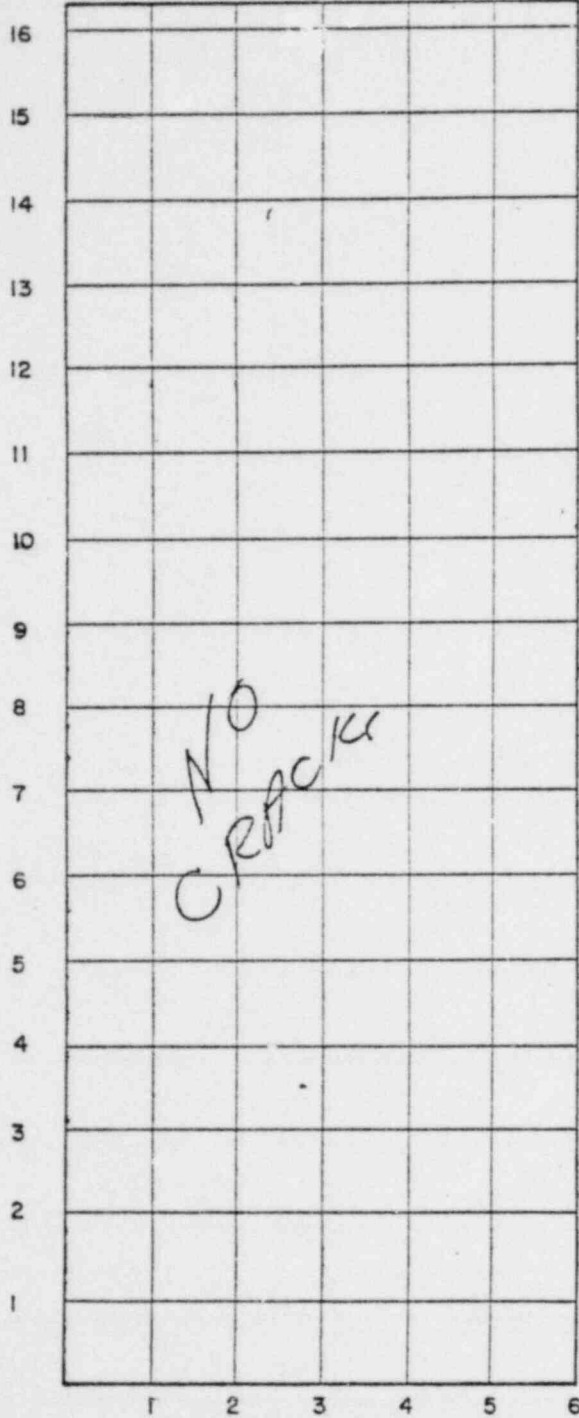
PRESSURE 0.0 psia

SURVEYED BY B.N.

WJE No. 71465

ELEV. 267'-6"

TOP OF RING BEAM



CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

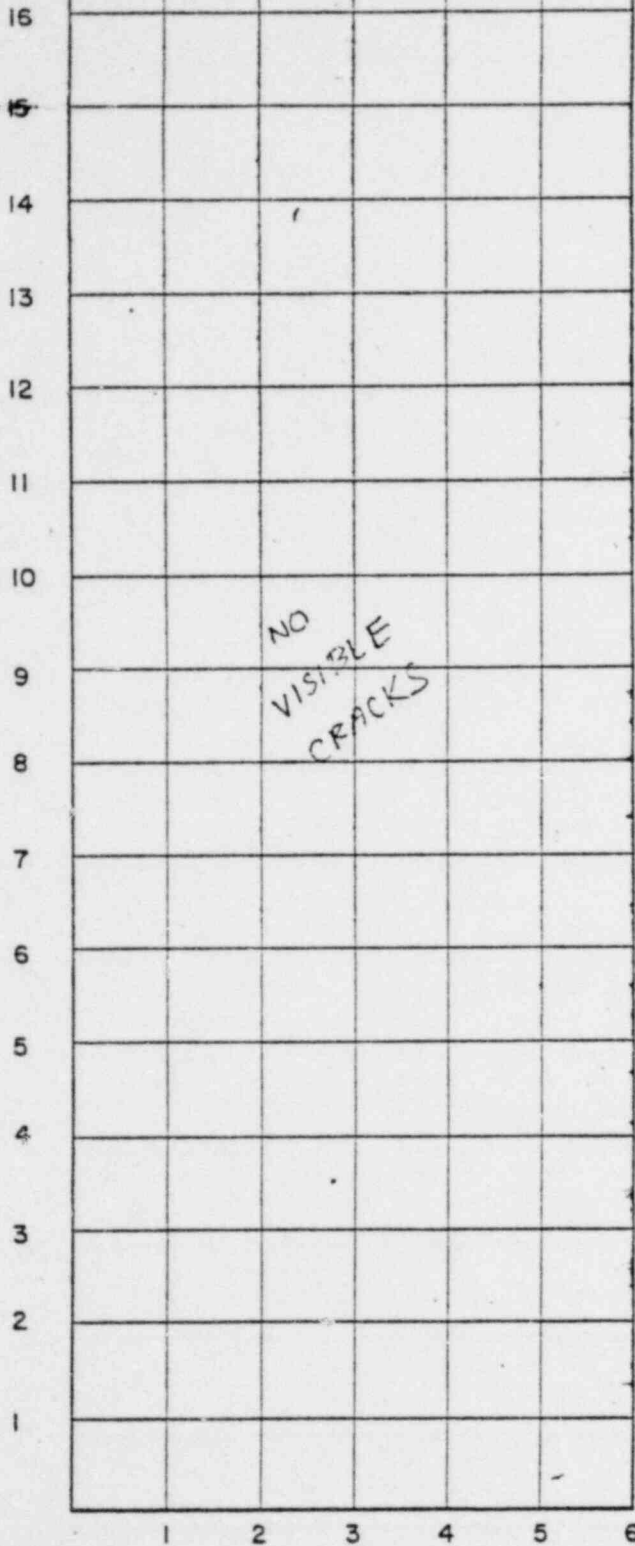
CRACK SURVEY - AZIMUTH 195°

DATE 11-2-76
PRESSURE 63.3
WJE No. 71465

TIME 0330
SURVEYED BY R. Krauer

ELEV. 267'-6"

TOP OF RING BEAM



NO
VISIBLE
CRACKS

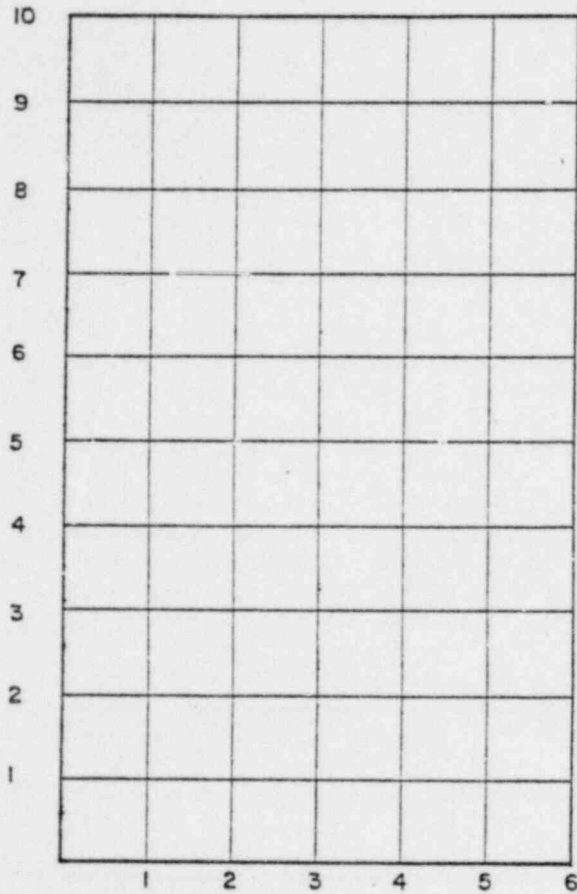
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/3/76
PRESSURE 2.0 psig
WJE No. 71265

TIME 1315
SURVEYED BY B.N.

TOP SURFACE OF RING BEAM



CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 135°

DATE 11-2-76

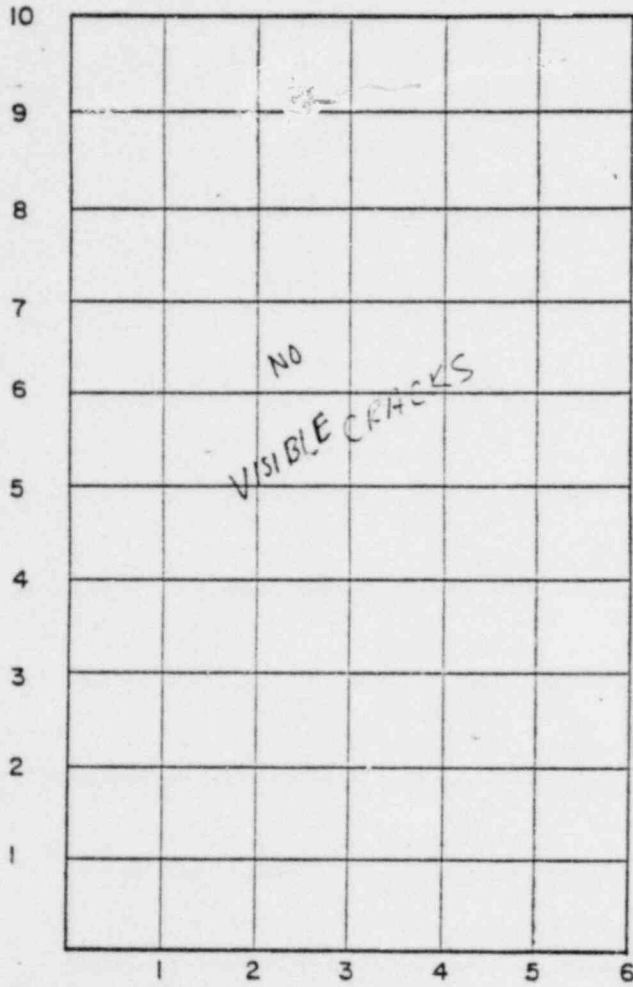
PRESSURE 63.3

WJE No. 71465

TIME 0330

SURVEYED BY R. Krause

TOP SURFACE OF RING BEAM



CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 125°

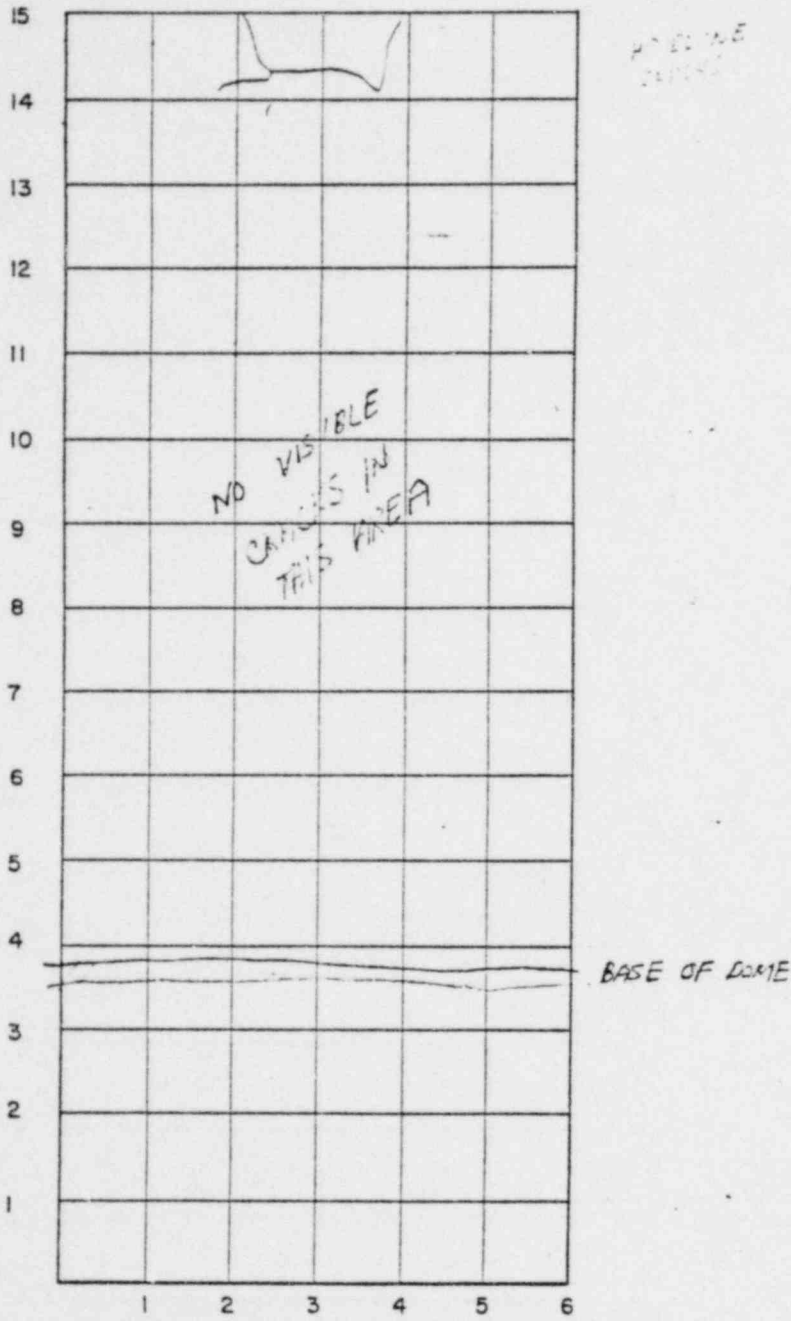
DATE 11/3/76

TIME 1310

PRESSURE 0.0 psia

SURVEYED BY B.N.

WJE No. 71465



CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

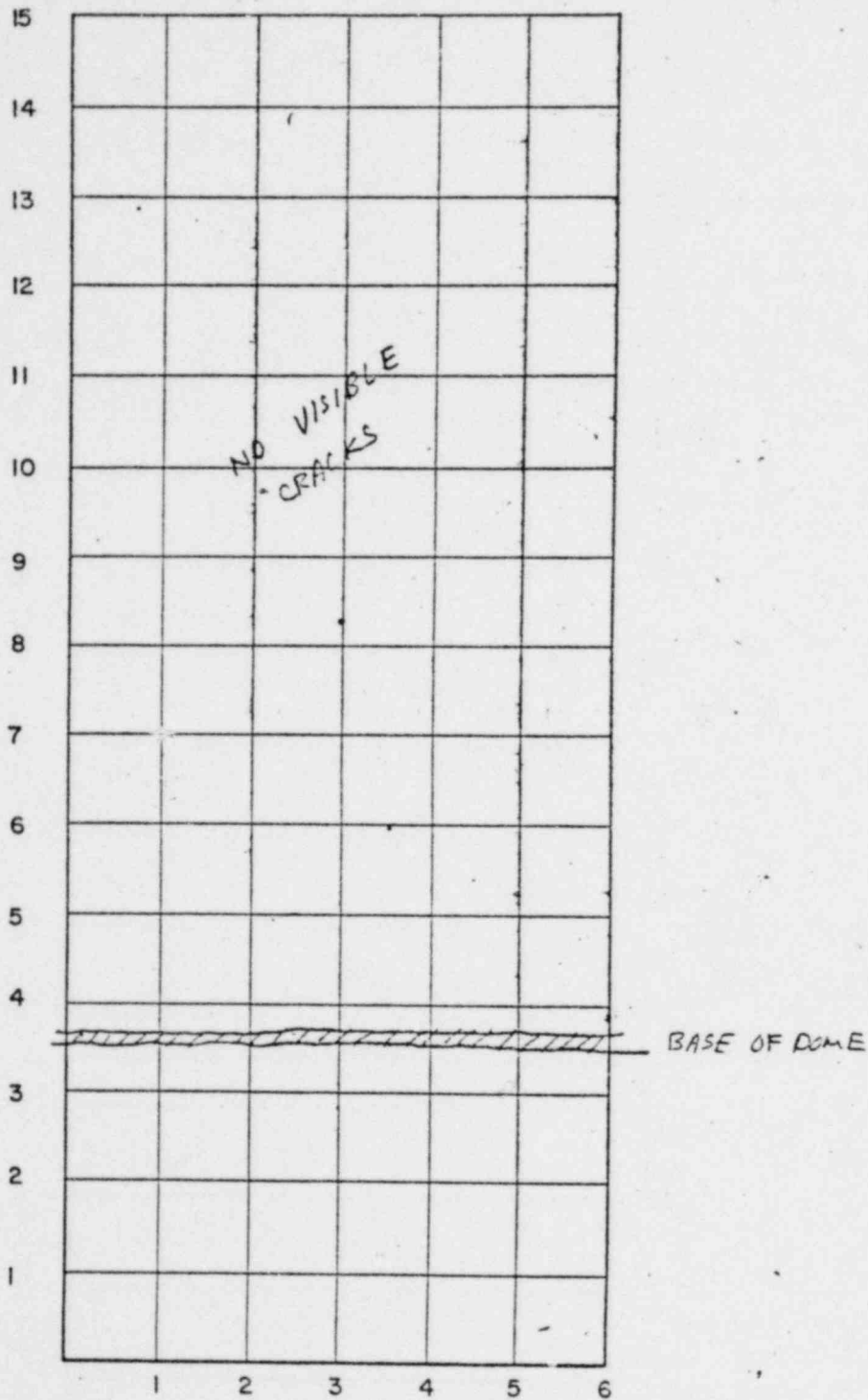
DATE 11/2/76

PRESSURE 63.3

WJE No. 71405

TIME 0245 - 0345

SURVEYED BY E.N.



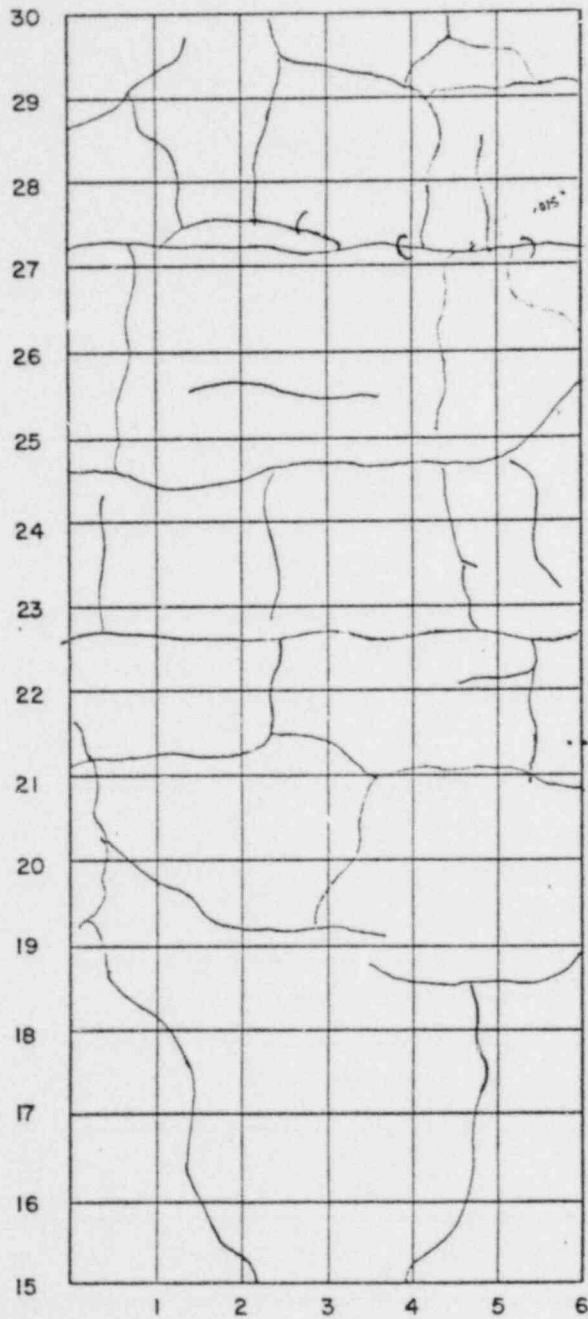
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/3/76
PRESSURE 0.0 PSI
WJE No. 71465

TIME 1215-1245
SURVEYED BY B.N.

ALL HAIRLINE
CRACKS EXCEPT
AS NOTED



CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

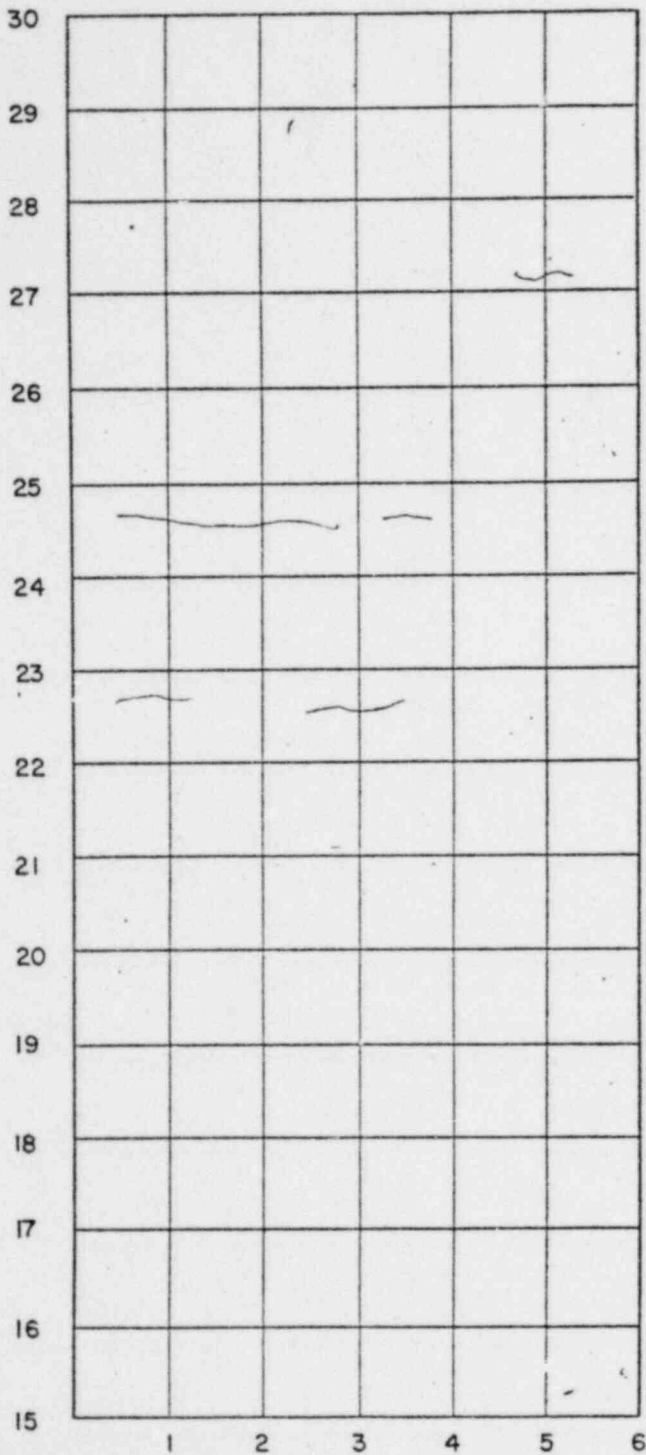
DATE 11/2/76

PRESSURE 63.3

WJE No. 71465

TIME 0245 - 0245

SURVEYED BY B.N.



MINOR
HAIRLINE
CRACKS
AS SHOWN

CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/3/76

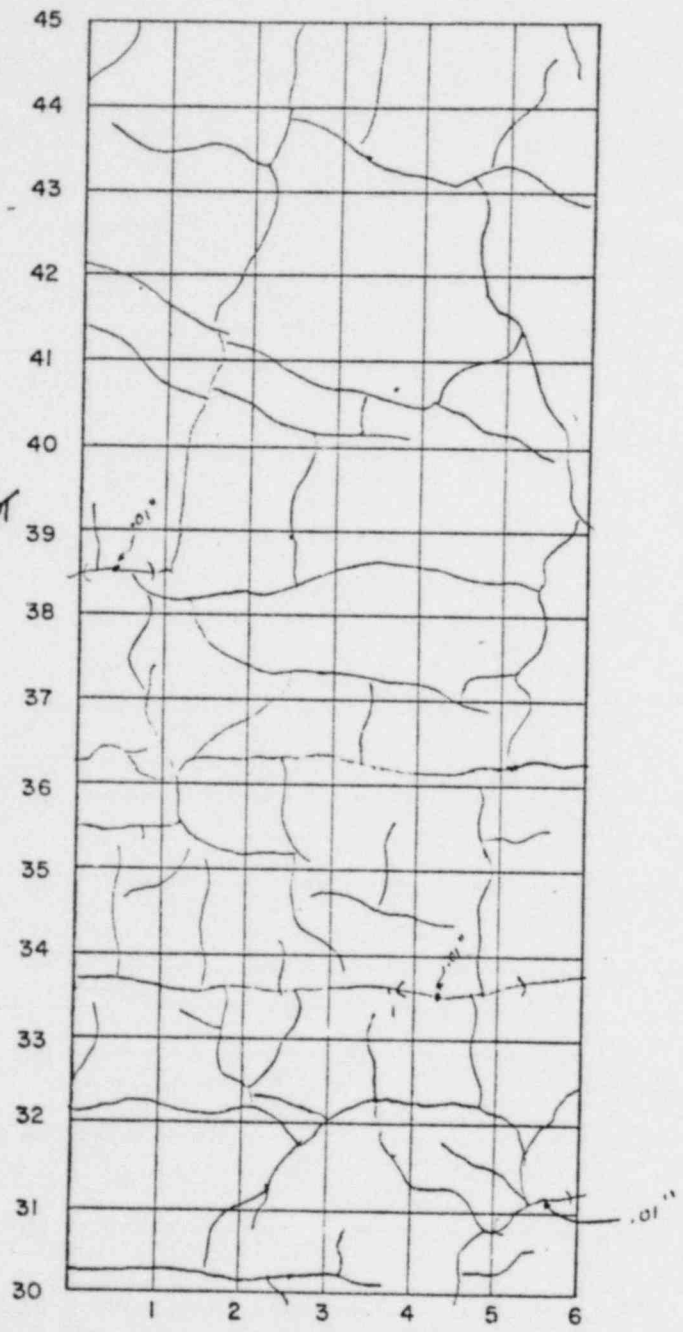
TIME 1215-1245

PRESSURE 0.0 PSI

SURVEYED BY B.N.

WJE No. 71465

ALL HAIRLINE
CRACKS EXCEPT
AS NOTED

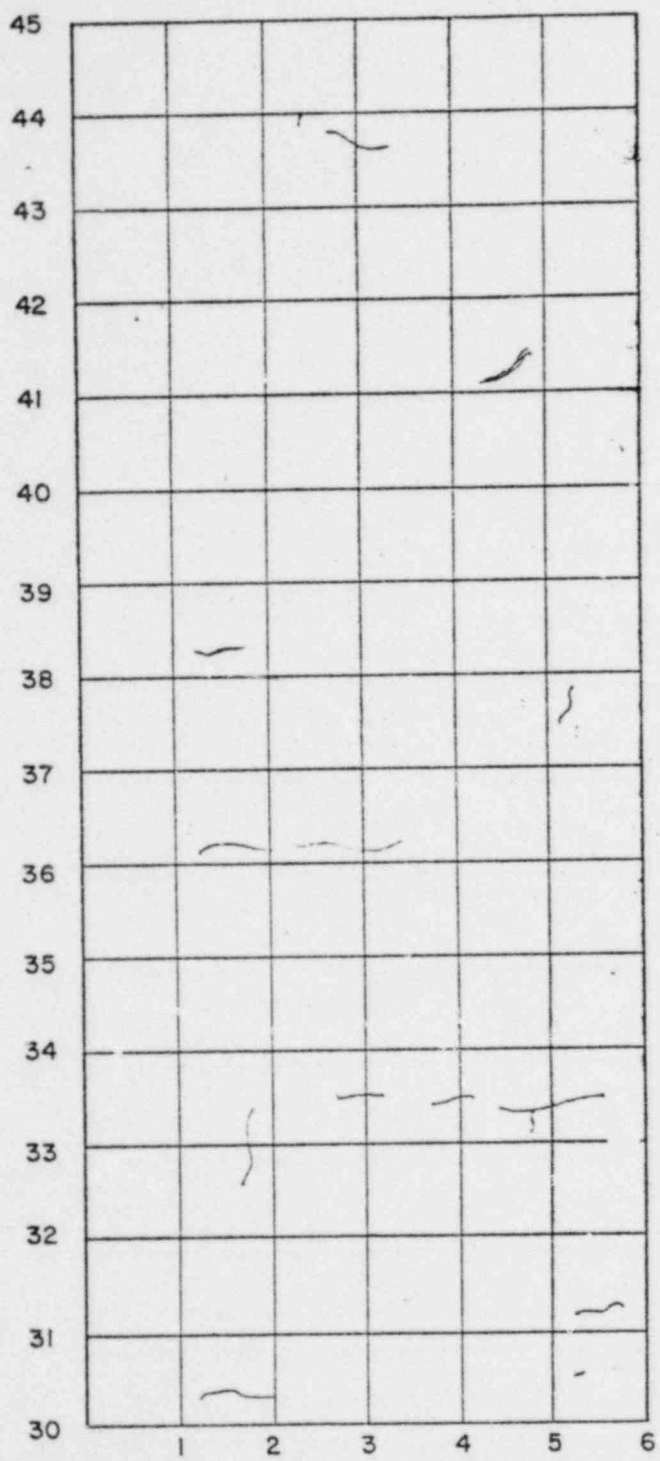


CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/2/76
PRESSURE 67.3
WJE No. 71465

TIME 0245-0245
SURVEYED BY P.M.



MINOR
HAIRLINE
CRACKS AS
SHOWN

CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

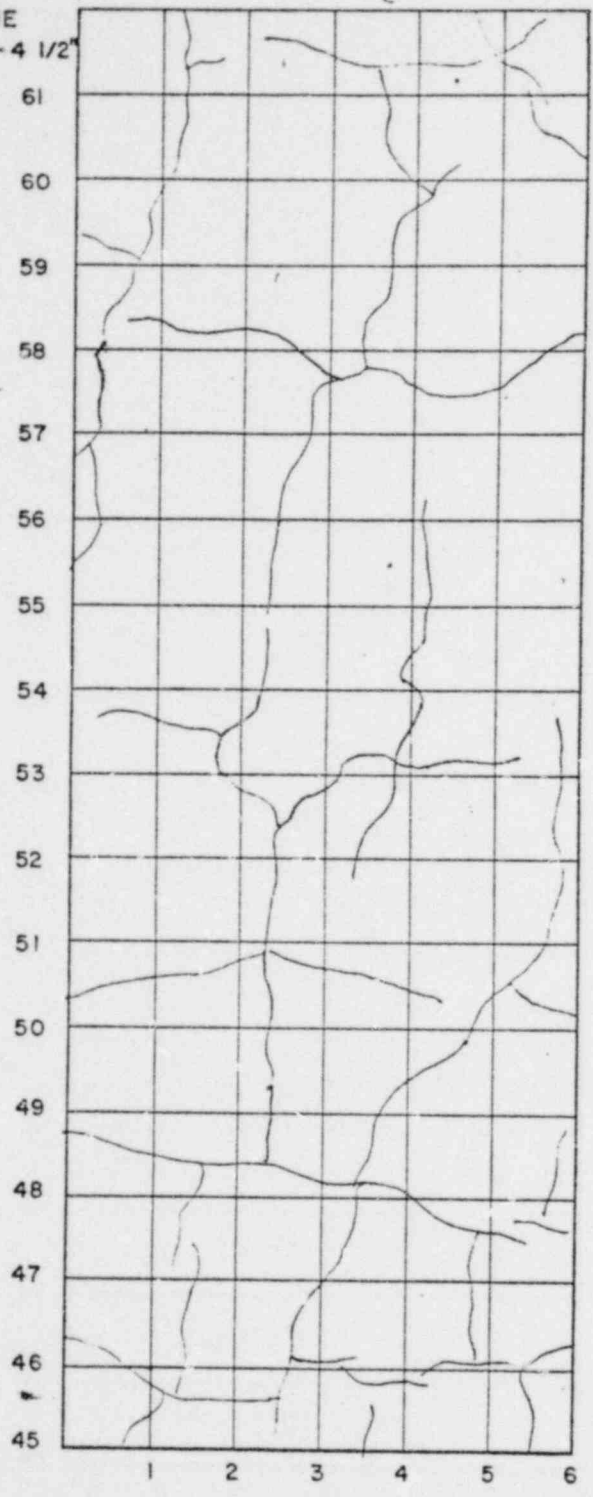
CRACK SURVEY - AZIMUTH 195°

DATE 11/3/76
PRESSURE 0.0 psig
WJE No. 71465

TIME 1215-1245
SURVEYED BY D.N.

Sheet 6

TOP OF DOME
ELEV. 285' - 4 1/2"



ALL HARLINE
CRACKS

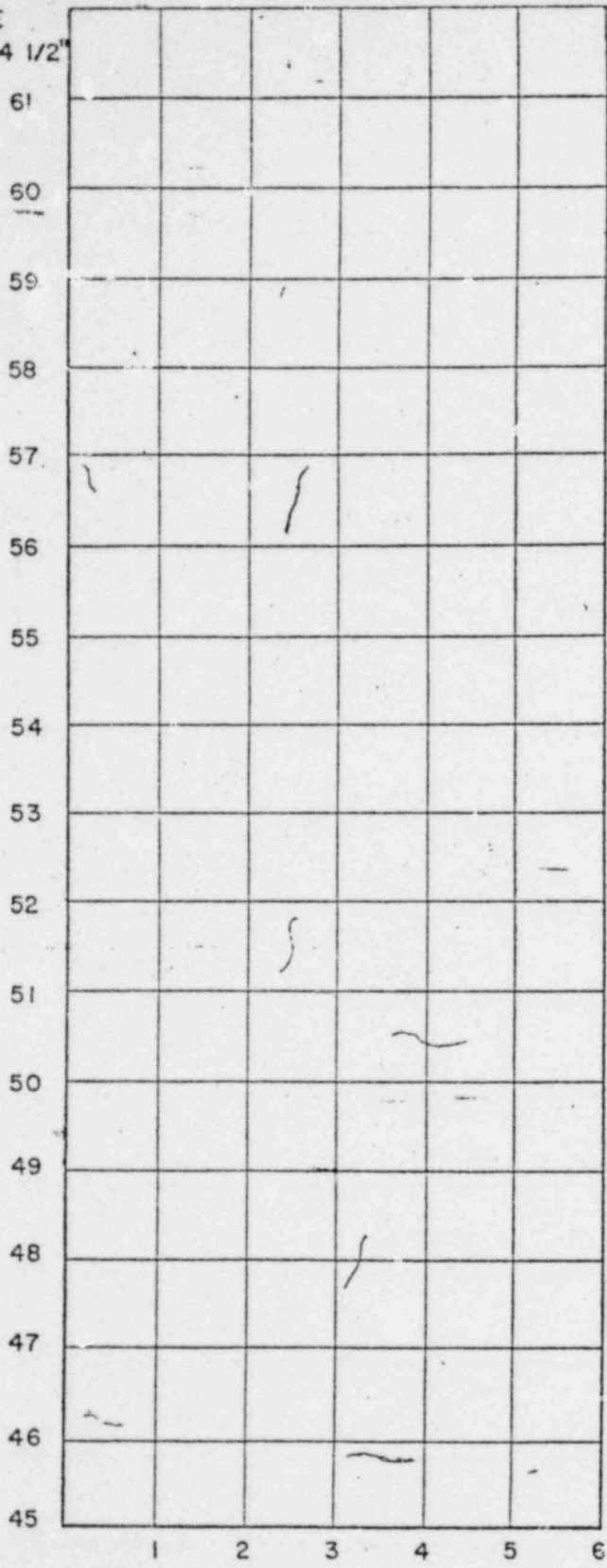
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/2/73
PRESSURE 63.3
WJE No. 71465

TIME 11:55 AM
SURVEYED BY B.N.

TOP OF DOME
ELEV. 285' - 4 1/2"



MINOR
HAIRLINE
CRACKS AS
SHOWN

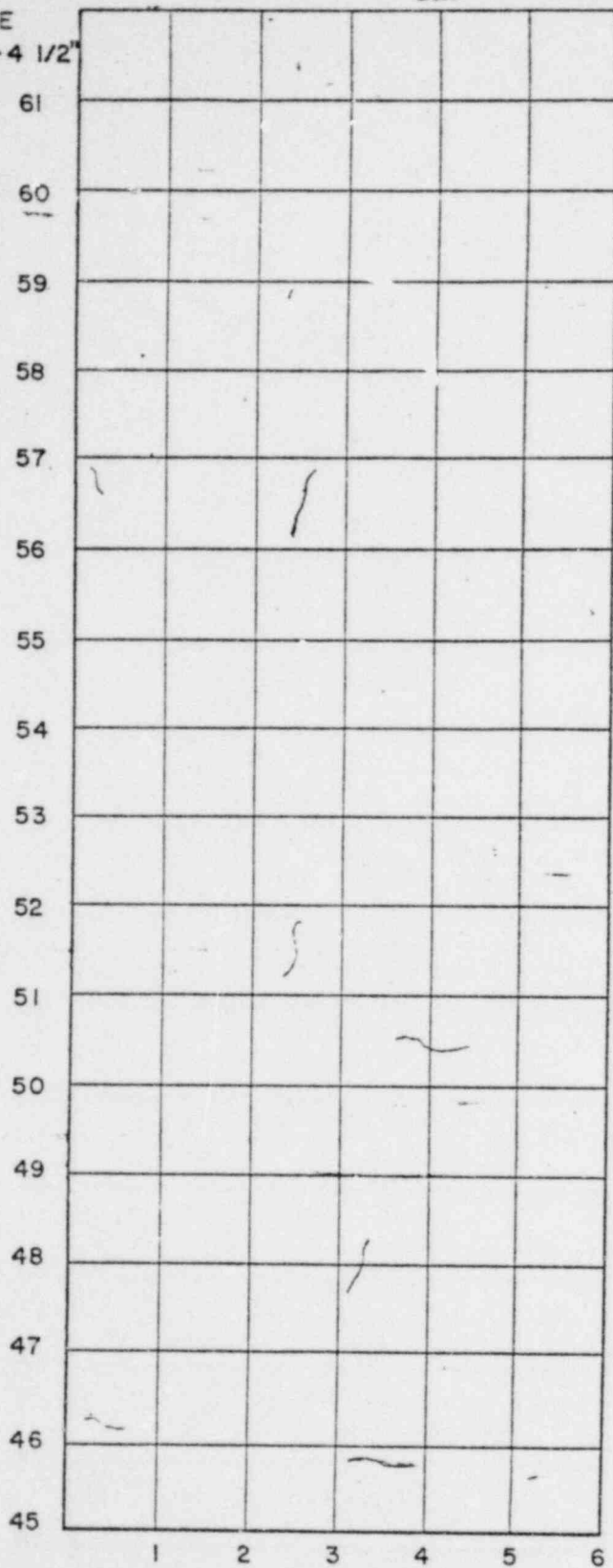
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/3/76
PRESSURE 0.0 psig
WJE No. 71465

TIME 1215-1245
SURVEYED BY B.N.

TOP OF DOME
ELEV. 285'-4 1/2"



MINOR
HAIRLINE
CRACKS AS
SHOWN

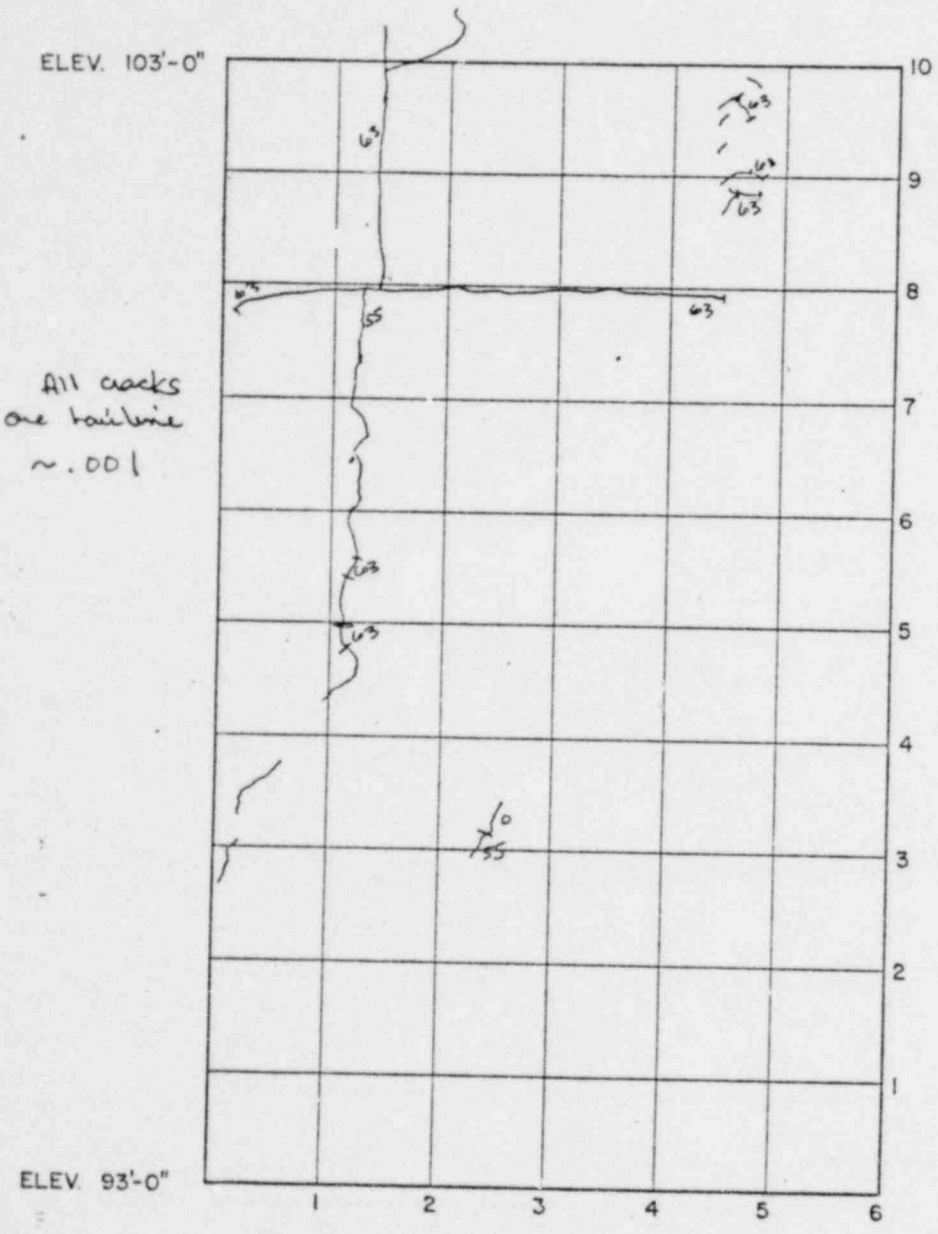
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 195°

DATE 11/3/76
PRESSURE 0.0 psig
WJE No. 71465

TIME 1215-1245
SURVEYED BY B.N.

11/2/76
11-2-76



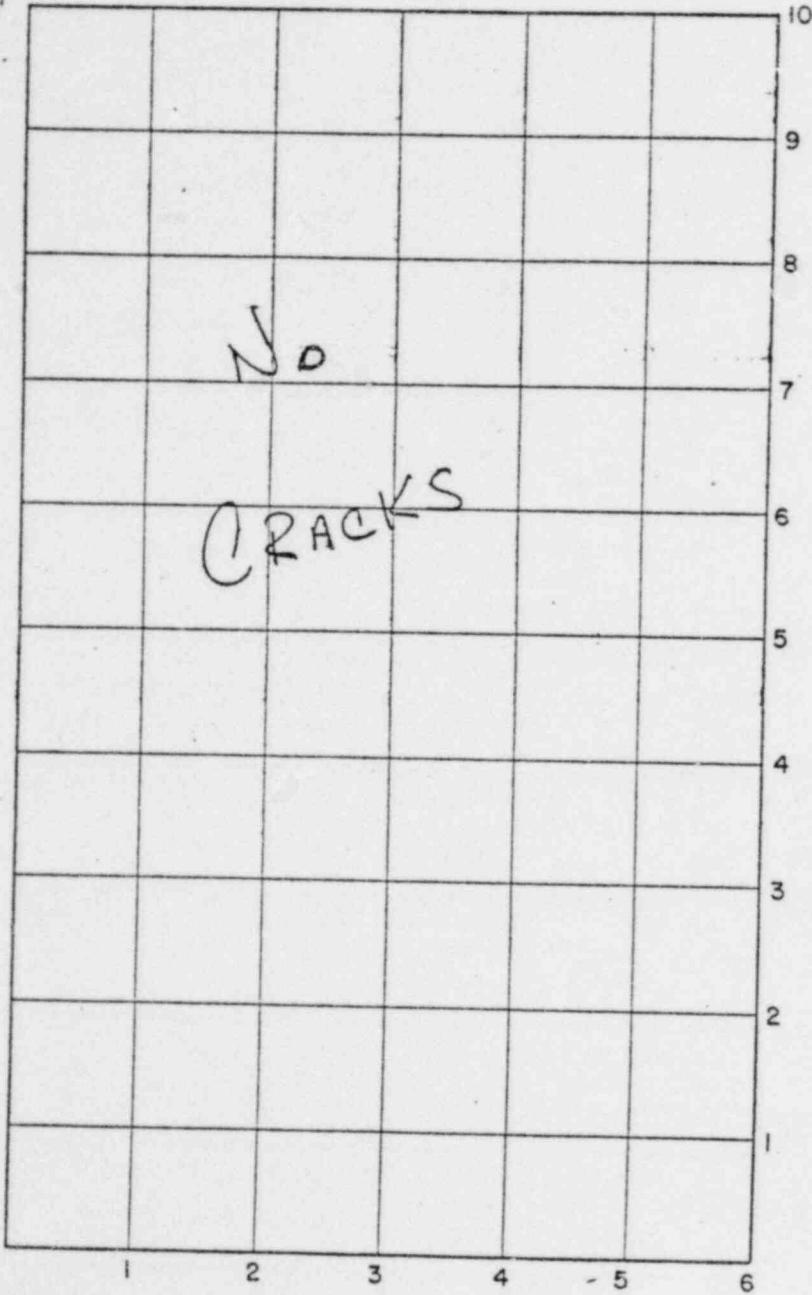
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 270°

DATE 11-2-76
PRESSURE 63.3
WJE No. 71465

TIME 0420
SURVEYED BY DWB

ELEV. 103'-0"



ELEV. 93'-0"

CRYSTAL RIVER — UNIT No. 3
FLORIDA POWER CORPORATION

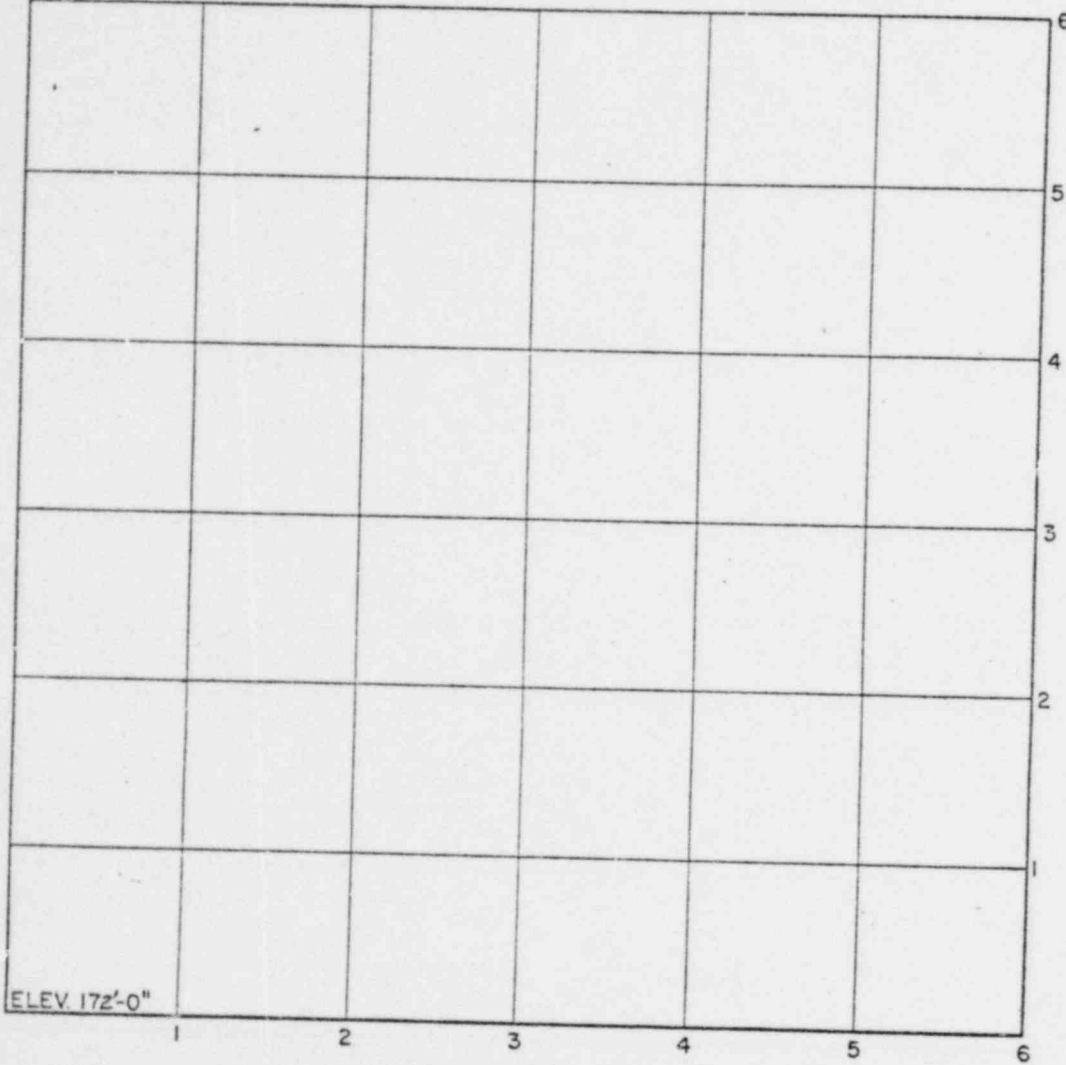
CRACK SURVEY — AZIMUTH 270°

DATE 11-3-76
PRESSURE 0
WJE No. 71465

TIME 1230
SURVEYED BY Tom Grubman

ELEV. 178'-0"

NO CRACKS



ELEV. 172'-0"

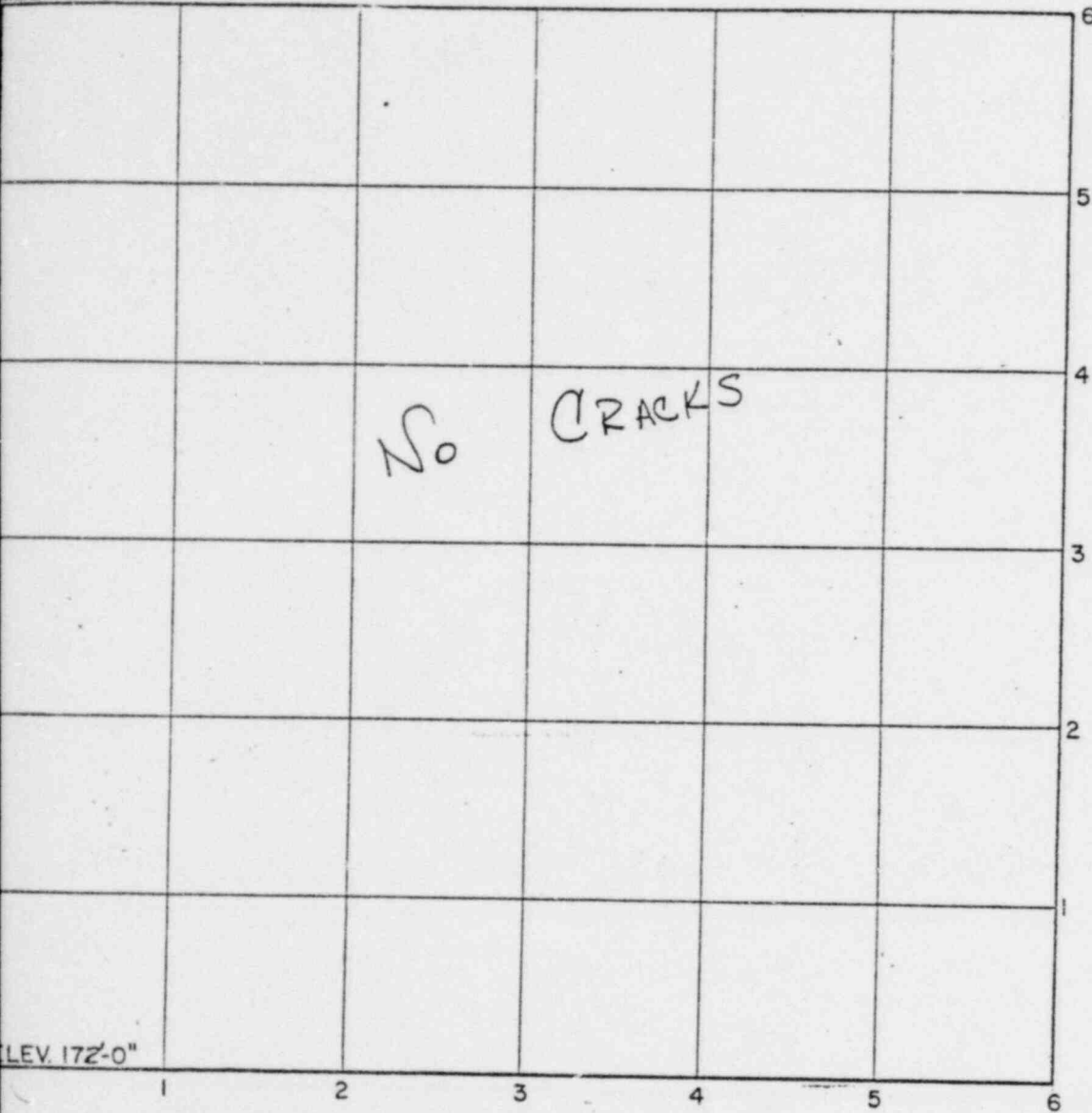
CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 270°

DATE 11-2-76
PRESSURE 63.3 psig
WJE No. 71465

TIME 3:15 AM
SURVEYED BY DWIB

ELEV. 178'-0"



ELEV. 172'-0"

CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH 270°

DATE 10-3-76

PRESSURE 0

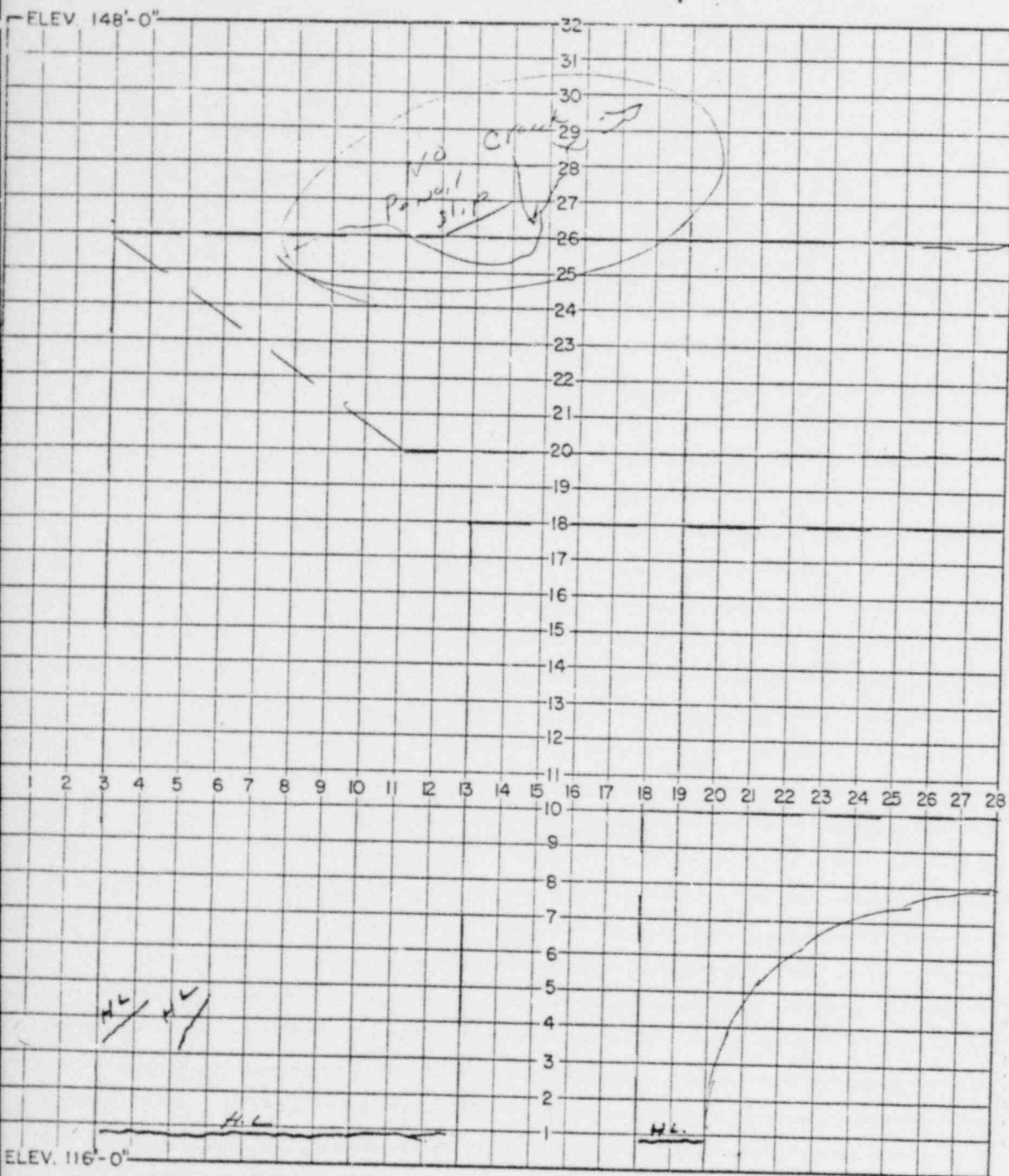
WJE No. 71465

TIME 1430

SURVEYED BY Tom Greenman

13H10F
OK

13H19F
OK



CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH — (EQUIPMENT HATCH)

DATE 11-2-76

PRESSURE 63.3

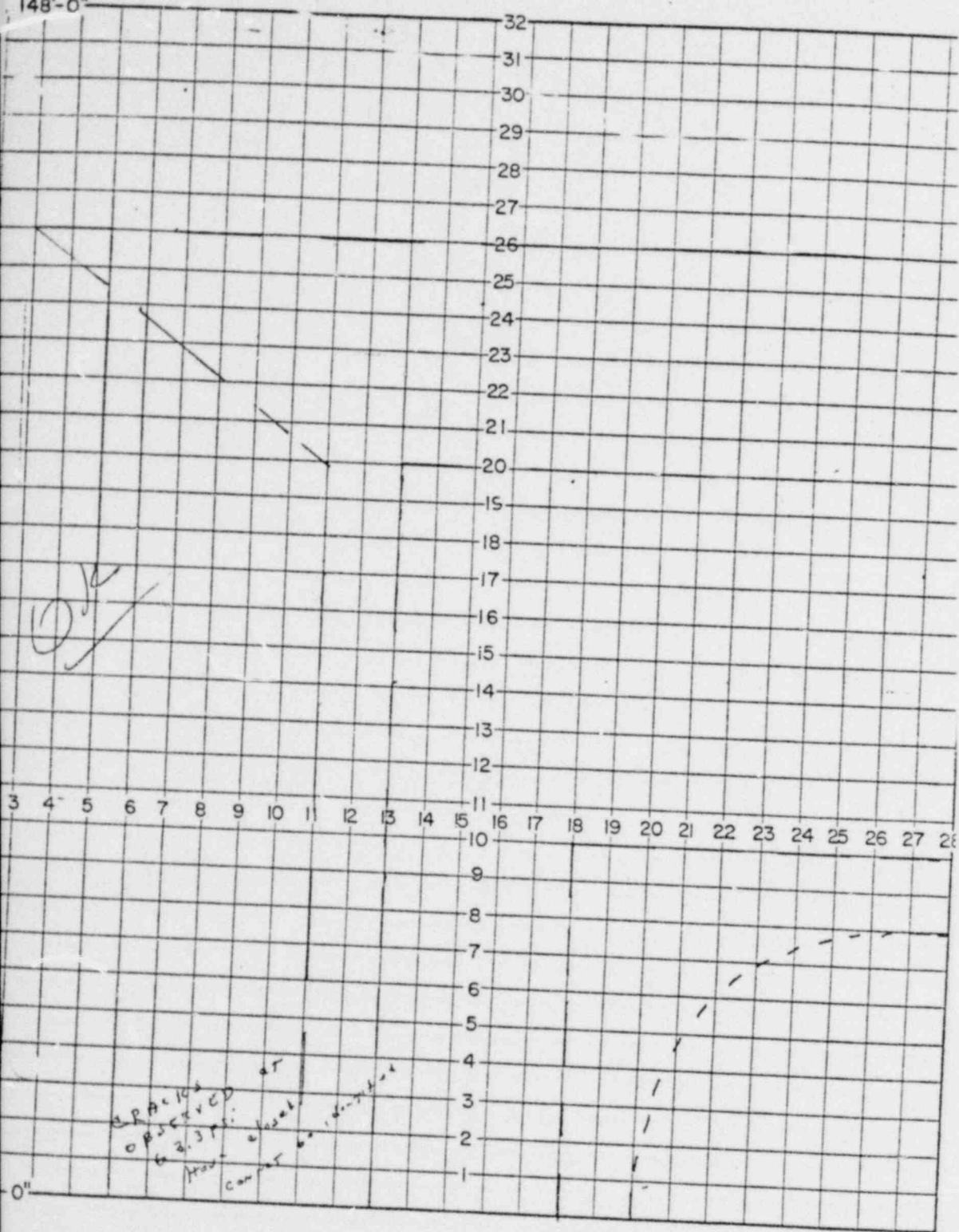
WJE No. 71465

TIME 0320

SURVEYED BY R. Krause

148'-0"

OK



OK

CRACKS
OBSERVED
to 3.3 ft.
Max -
cannot be identified

CRYSTAL RIVER - UNIT No. 3
FLORIDA POWER CORPORATION

CRACK SURVEY - AZIMUTH (EQUIPMENT HATCH)

DATE 11-3-76

PRESSURE 0

WJE No. 71465

TIME 1245

SURVEYED BY R. Krause