

BACA PROJECT  
DATA AND REPORTS

WELLS

<u>No.</u>	<u>Transfer Date</u>	<u>Release Date</u>	<u>Title</u>
1.	A	A	Summary sheet for Baca Wells No's 1-3.
2.	A	A	Baca Wells No's 4-16 summary sheet.
3.	A	A	Well summary reports and Drilling Histories-- Baca Wells No's 4-16.
4.	B	B	Lithology logs--Baca Wells No's 4-16.
5.	A	A	Temperature and Pressure Surveys--Baca Wells No's 4-8 and 10-16.
	B	B	Electric logs for Baca Wells No's 10-14.

76

# UNION GEO THERMAL DIVISION

JUL 1976

## SUBSURFACE SURVEY Field Work Sheet

B16 546 P1T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BALA #16  
 CASING 9 5/8" AT 2905 ELEV. 96.22' DATE: 6/22/76  
 LINER DESCRIPTION: ZERO POINT GL + 10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-2950 PSI SN 9235 CL 12HR 15 TURN  
 ELEMENT - 80-646 °F SERIAL NO. 10052 CLOCK 12HR 15 TURN STABILIZATION PERIOD  
 ENGAGE SYLUS P 1522 T 1520 DISENGAGE SYLUS P 1835 T 1835  
 WELL HEAD 168 PSIG  
 PICKUP @ 6746' TIME ON BOTTOM 1721-1741 MAX. # 571  
 WELL STATUS  
 SHUT IN: ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1610	100	.104	176	-014		1610	100	.002	80								
1622	1600	.109	185	-013		1622	1600	.236	154								
1634	2600	.115	195	-007		1634	2600	.725	303								
1646	3600	.293	461	0		1646	3600	1.140	423								
1658	4600	.534	821	+002		1658	4600	1.335	470								
1710	5000	.765	1163	+002		1710	5000	1.460	510								
1722	6000	.989	1491	+004		1722	6000	1.548	533								
1741	6746	1.148	1723	+002		1741	6746	1.700	571								

COMMENTS:

76

UNION

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B16-546-DT

OWNER \_\_\_\_\_ FIELD Valle Grande WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV 96.22' DATE 6/22/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PAHP  
 \_\_\_\_\_ SERIAL NO 10052

PURPOSE \_\_\_\_\_ MAX TEMP 5.71 °F @ 6746'  
 REMARKS: \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES	GAUGE	BOYS	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100	80		
1000	154		
2000	303		
3000	423		
4000	476		
5000	510		
6000	533		
6746	571		

BY: \_\_\_\_\_

76

UNION

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B16-S46-PT

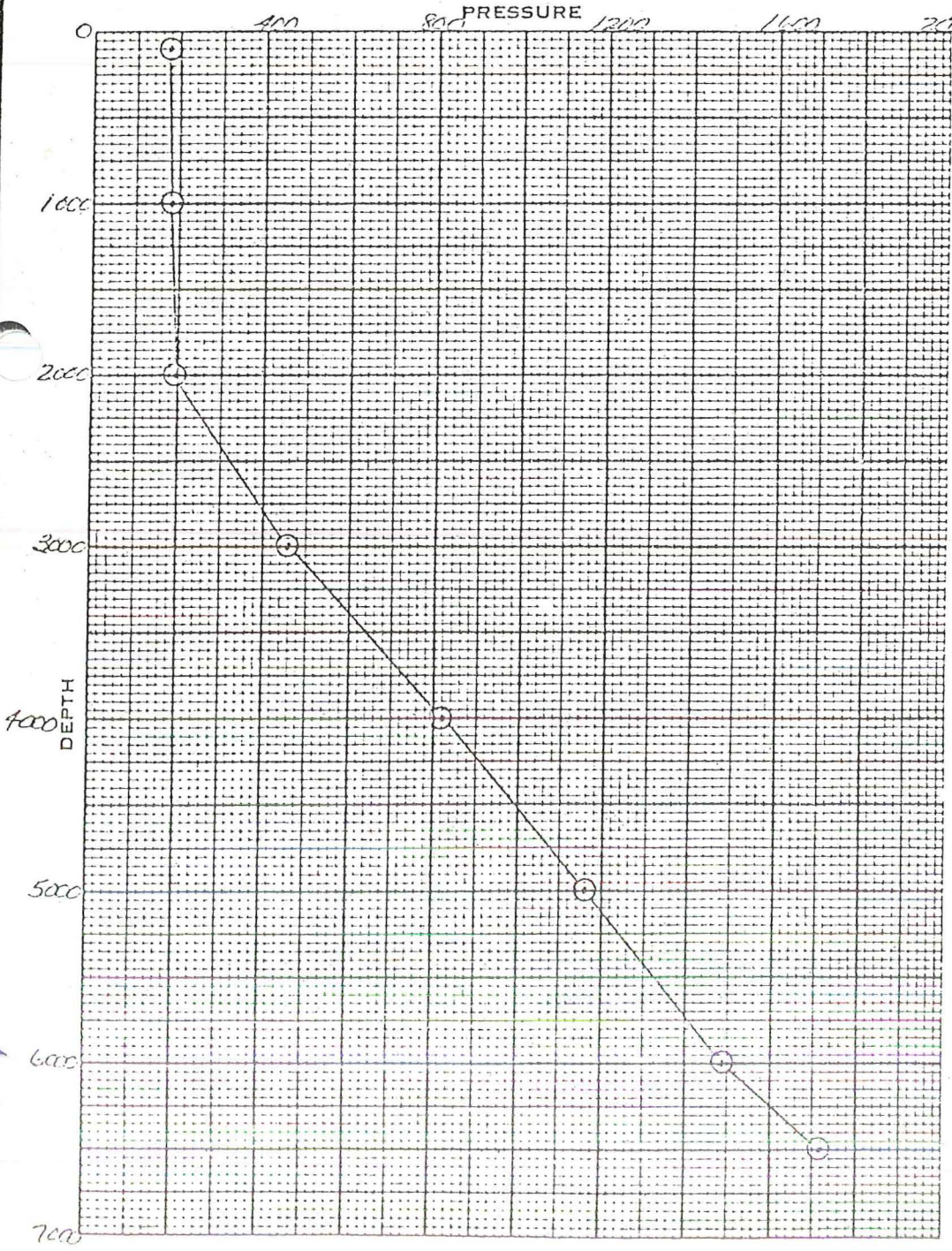
OWNER \_\_\_\_\_ FIELD Valle Grande WELL NAME BPCA #16  
 CASING \_\_\_\_\_ ELEV 9622' DATE 6/23/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PSIG  
 \_\_\_\_\_ SERIAL NO 9235

PURPOSE \_\_\_\_\_ MAX TEMP 571 °F @ 6746'

REMARKS:

STABILIZATION PERIOD



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	176	
1000	185	
2000	195	
3000	461	
4000	821	
5000	1163	
6000	1491	
6746	1723	

BY:

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY  
Field Work Sheet

B16 549 P/P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACK #16  
 CASING 7/8 AT 2905' ELEV. 9622' DATE: 7/9/76  
 LINER DESCRIPTION: ZERO POINT CL + 10'  
 DEPTH 6746

TUBING DETAIL:

PURPOSE  
 REMARKS:  
 ELEMENT- P<sub>1</sub> 0-4700 PSI SN 13012 CL- 12 1/2 15 TURN  
 ELEMENT- P<sub>2</sub> 0-2950 SERIAL NO. 9255 CLOCK- 12 1/2 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P<sub>1</sub> 1100; P<sub>2</sub> 1445 1102 DISENGAGE STYLUS P<sub>1</sub>- 1442; P<sub>2</sub> 1445  
 WELL HEAD 179 PSIG  
 PICKUP @ 6746 TIME ON BOTTOM 1342 - 1412 MAX. 'F 571  
 WELL STATUS  
 SHUT IN: ON PRODUCTION:  
 RATE

P<sub>1</sub> 0-4700 PSI P<sub>2</sub> 0-2950 PSI

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1218	100	.073	192		0	1218	100	.110	186		-013						
1236	150	.068	179		-007	1236	100	.113	192		-013						
1252	200	.072	189		-003	1252	200	.119	202		-007						
1304	300	.176	436		-001	1304	300	.292	460		0						
1316	400	.326	791		0	1316	400	.537	825		+002						
1328	500	.470	1131		+001	1328	500	.770	1170		+003						
1340	600	.609	1458		+001	1340	600	.995	1500		+005						
1342	6746	.708	1690		+001	1342	6746	1.152	1732		+002						
1412	6746	.708	1690		+001	1412	6746	1.152	1732		+002						

2500 CALIBRATION CHECK WITH DWI  
 ΔL = 1.042  
 PSI = 2474

2500 CALIBRATION CHECK WITH DWI  
 ΔL = 1.691  
 PSI = 2527

COMMENTS: TEMPERATURE CORRECTIONS FROM B16 546

## GEOHERMAL DIVISION

### SUBSURFACE PRESSURE SURVEY

B16 549 P/P

# 76

OWNER \_\_\_\_\_ FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV 9622' DATE 7-9-76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT G.L. + 10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PSIG  
 \_\_\_\_\_ SERIAL NO \_\_\_\_\_

PURPOSE \_\_\_\_\_ MAX TEMP \_\_\_\_\_ °F @ \_\_\_\_\_

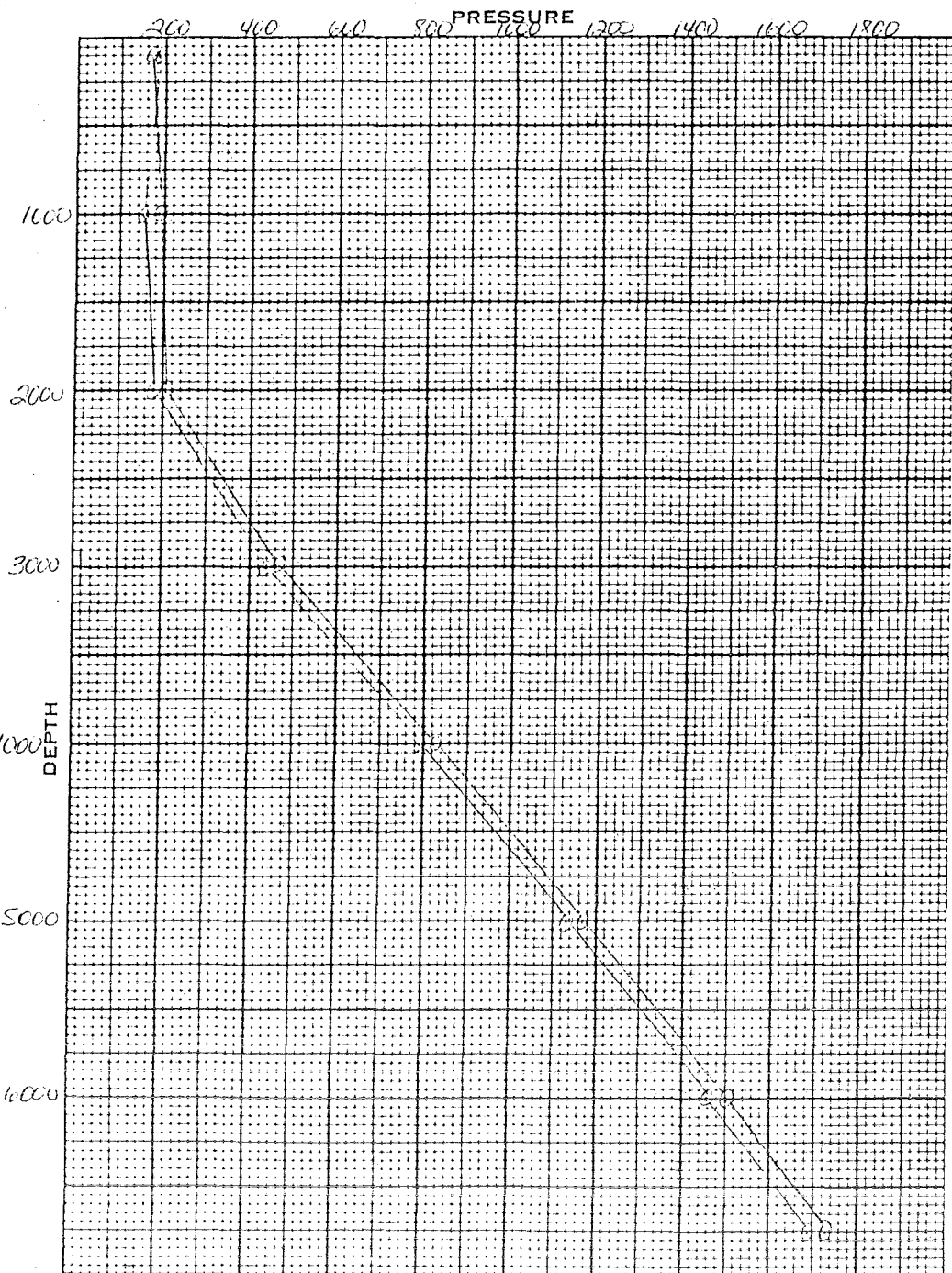
REMARKS: \_\_\_\_\_

#### STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	192	
1000	179	
2000	189	
3000	436	
4000	791	
5000	1131	
6000	1458	
6746	1690	

DEPTH	PRESSURE
100	186
1000	192
2000	202
3000	460
4000	825
5000	1170
6000	1500
6746	1732



BY: \_\_\_\_\_

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B16 548 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8 AT 2905' ELEV. 9622' DATE: 7/2/76  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT 3 L 7 10'  
 DEPTH 6746

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT- 0-4700 PSI SN 13012 CL-12 HR 15 T  
 ELEMENT 80-646 SERIAL NO. 10052 CLOCK 12 HR 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P1430 ; T1430 DISENGAGE STYLUS P1640 ; T1640  
 WELL HEAD 377  
 PICKUP @ 6746 TIME ON BOTTOM 1525-1555 MAX. °F 506  
 WELL STATUS SHUT IN  
 SHUT IN: ON PRODUCTION:  
 RATE

PSI					TEMP					
TIME	DEPTH	DEFL.	P	GRAD.	TIME	DEPTH	DEFL.	P	GRAD.	/D
1512	100	.001	80							
1525	6746	1.700	571							

COMMENTS:

RY:

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BH16-SH7-P/T

OWNER UNION OIL CO CALIF FIELD VALLE GRANDE WELL NAME BACH 16.  
 CASING 7 7/8" @ 2905' ELEV. 96.92' DATE: 6-30-76.  
 LINER DESCRIPTION: OPEN HOLE 2905' - T.D. ZERO POINT 66.410'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

P-C-2950, P.S.C. (5/12) 9235 12HR 15  
 ELEMENT T-30-440 SERIAL NO. 5/12 10052 CLOCK 12HR 15TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1054 T-1056 DISENGAGE STYLUS P-1456 T-1456  
 WELL HEAD 174  
 PICKUP @ 6746' TIME ON BOTTOM 1212-1347 MAX. F 563  
 WELL STATUS SHUT IN  
 SHUT IN: 8-21-75 ON PRODUCTION:  
 RATE

PSIC

TEMP

DEPTH	DEFL.	P-O	GRAD.	CLIP	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
100	108	183		-0.014	1201	100	1001	80								
6746	156	17375		+0.003	1347	6746	1681	563								

COMMENTS:



76

UNION  
GEO THERMAL DIVISION JUN 3 1975

SUBSURFACE SURVEY  
Field Work Sheet

616 5 15 PIT

OWNER: UNION OIL COMPANY FIELD: VALLE GRANDE WELL NAME: BACA #116  
 CASING: 9 5/8" AT 2905 ELEV.: 9622' DATE: 5/21/75  
 LINER DESCRIPTION: ZERO POINT: C.L. + 10'  
 DEPTH: 6746'

TUBING DETAIL:

PURPOSE:

REMARKS:

ELEMENT: 0-2000 PSI SN-7198 CLOCK-12 HR 15 TURN  
 ELEMENT: 80° 6' 46" SERIAL NO. 10052 CLOCK-12 HR 15 TURN STABILIZATION PERIOD  
 ENGAGE SYLUS P-0911; T-0913 DISENGAGE SYLUS P-1305; T-1307  
 WELL HEAD: 142 PSIG  
 PICKUP @ 6746 TIME ON BOTTOM 1145-1215 MAX. F 570.5  
 WELL STATUS: SHUT IN  
 SHUT IN: ON PRODUCTION:  
 RATE:

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
10	100	.065	148		0	1027	110	0	0								
1042	1600	.067	152		0	1042	1600	.268	163.8								
1054	2000	.068	155		0	1054	2000	.728	508.8								
1110	3000	.195	444		-002	1110	3000	1.152	420.6								
1121	4000	.369	815		-001	1121	4000	1.325	413.7								
1132	5000	.529	1153		+001	1132	5000	1.448	506.5								
1143	6000	.684	1478		+003	1143	6000	1.539	550.1								
1145	6746	.792	1704		+001	1145	6746	1.698	570.5								
1215	6746	.792	1704		+001	1215	6746	1.698	570.5								

COMMENTS:

76

# UNION GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

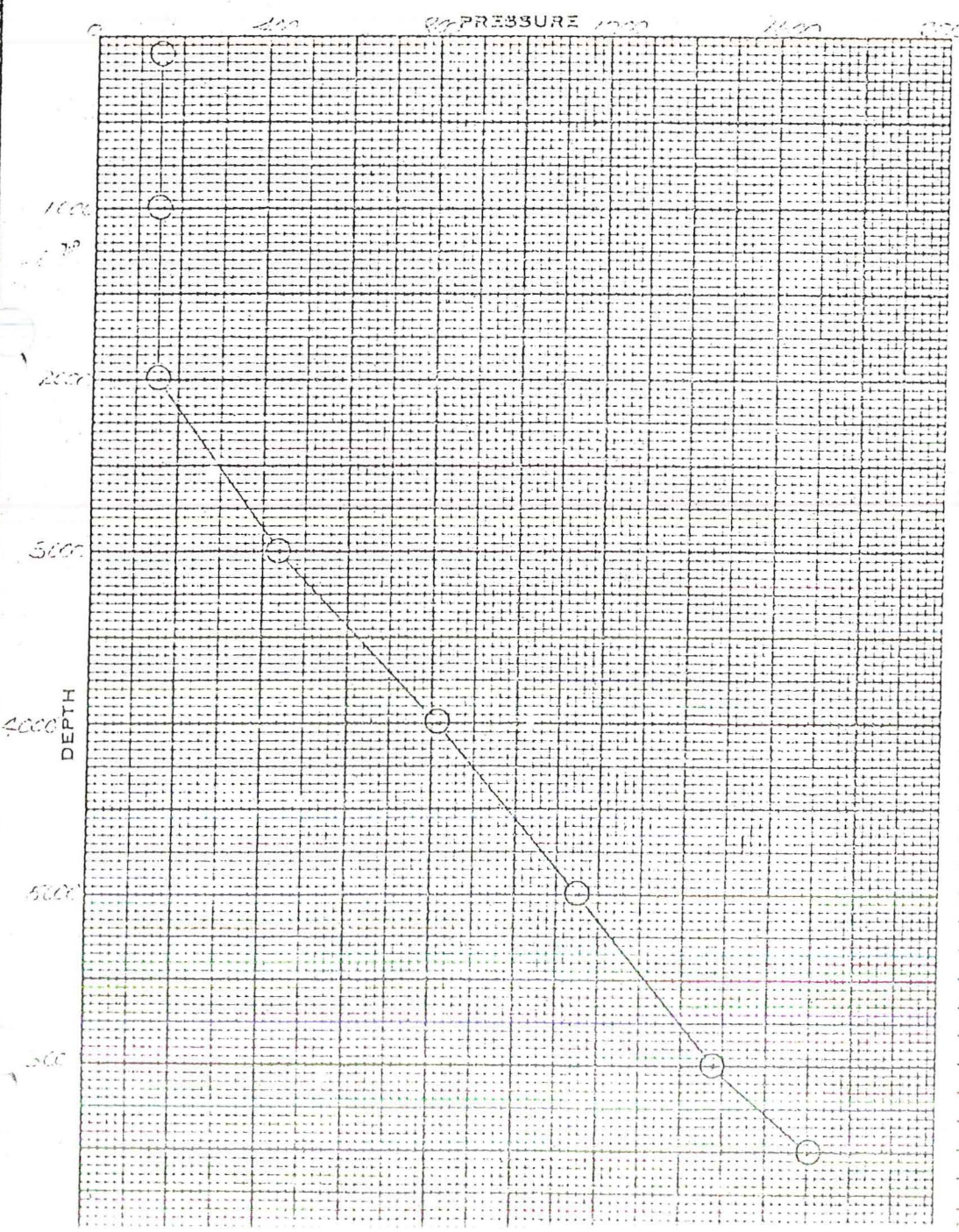
B15-545-PT

OWNER \_\_\_\_\_ FIELD Union Geothermal WELL NAME PRC #15  
 CASING \_\_\_\_\_ ELEV 4623' DATE 5/24/75  
 LINE DESCRIPTION \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PSI  
 \_\_\_\_\_ SERIAL NO 2198

PURPOSE \_\_\_\_\_ MAX TEMP 570.5 F @ 6746'  
 REMARKS \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



DEPTH	PRESSURE	GRADIENT
100	147	
1000	152	
2000	155	
3000	161	
4000	165	
5000	172	
6000	177	
6746	1764	

76

# UNION GEO THERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

B16-245-DT

OWNER \_\_\_\_\_ FIELD Little Grande WELL NAME BPPA #16  
 CASING \_\_\_\_\_ ELEV 94.22 DATE 3/21/76  
 LINER DESCRIPTION \_\_\_\_\_ ZERO POINT SL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ FAHR  
 \_\_\_\_\_ SERIAL NO 10053

PURPOSE \_\_\_\_\_ MAX TEMP 570.5 F @ 6746'  
 REMARKS: \_\_\_\_\_

100 200 300 TEMPERATURE 400 500 600

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES	GAUGE	DEPTH	TEMP
CASING PSI			
		DEPTH	TEMP
		100	0
		1000	163.8
		2000	213.8
		3000	263.6
		4000	313.7
		5000	363.5
		6000	413.1
		6746	462.5

BY: \_\_\_\_\_

76

UNION

GEO THERMAL DIVISION

DELIVER  
MAY 23 1976

SUBSURFACE SURVEY

Field Work Sheet

B16-S44-P/T

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BACA 16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 5/14/76  
 LINER DESCRIPTION: 2905' TO T.D. OPEN HOLE ZERO POINT 6410'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-11000 PSIG - S/N 7198 12 1/2" 15  
 ELEMENT T-809F-6446°F SERIAL NO. 10052 CLOCK 12 1/2" 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1004 T-1005 DISENGAGE STYLUS P-1338 T-1212  
 WELL HEAD 139  
 PICKUP @ 6746' TIME ON BOTTOM 1157-1227 MAX. °F 571  
 WELL STATUS SHUT IN  
 SHUT IN: ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-Ø	GRAD.	CORR.	TIME	DEPTH	DEFL.	Ø-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1131	100	1024	115.5		-	1131	100	-	-	-	-						
1155	610	1634	1478		7.003	1155	610	1540	530								
1227	6746	1792	1704		7.001	1227	6746	1700	571								

COMMENTS:

BY: J.M. J.R.

76

UNION

GEO THERMAL DIVISION

DEL PYLE  
MAY 17 1976

SUBSURFACE SURVEY  
Field Work Sheet

#16 5-13 1/2

OWNER Union Cal Co. of Calif. FIELD Valle Grande WELL NAME Fica #16  
 CASING 9 5/8" @ 2905' ELEV. 96.22' DATE: 5/7/76  
 LINER DESCRIPTION: 2905' - T.D. open hole ZERO POINT Q.L. #16'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

Element - 0-4000 Rig SN. - 7198 Clock 12 hr 15 Turn

ELEMENT - 50° - 196°F SERIAL NO. 10050 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE SYLUS P-0932; T-0930 DISENGAGE SYLUS P-1341; T-1341

WELL HEAD 150

PICKUP @ 6746' TIME ON BOTTOM 1117-1147 MAX. F 570.7°F

WELL STATUS shot-in

SHUT IN:

ON PRODUCTION:

RATE

PS 16.

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	WTD	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	1.61	198.4		-0-	1058	100	-	-								
	1100	1.84	178		7.002	1115	1000	1.542	534.9								
	7-1147	1.74	169.6		7.001	1147	6746	11.99	570.7								

COMMENTS:

76

UNION

GEO THERMAL DIVISION

DEE PYLE

MAY 10 1976

SUBSURFACE SURVEY

Field Work Sheet

B#16 S-42 P/T

OWNER: Union Oil Co. of Cal FIELD: Valle Grande WELL NAME: B#16  
 CASING: 9 3/8" @ 2905' ELEV.: 9622 DATE: 4-28-76  
 LINER DESCRIPTION: 2905' TOTD Open hole ZERO POINT: GLT 10  
 DEPTH: 6746

TUBING DETAIL:

PURPOSE

REMARKS:

Element 0-4000 PSI 7198 Clock 12hr 15T  
 ELEMENT 80'-646°F SERIAL NO. 10052 CLOCK 12hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P 0944-T0945 DISENGAGE STYLUS P1345-T1345  
 WELL HEAD 128  
 PICKUP @ 6746 TIME ON BOTTOM 1234-1304 MAX. °F  
 WELL STATUS SHUT IN

SHUT IN:

ON PRODUCTION:

RATE

Pressure

Temperature

Pressure					Temperature												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.058	131.8		0	1057	100	-	-								
1112	1000	.059	134.0		0	1112	1000	.256	159.9								
1123	2000	.060	136.1		0	1123	2000	.725	302.9								
1135	3000	.148	448.1		-002	1135	3000	1.129	419.8								
1147	4000	.1369	814.9		-001	1147	4000	1.325	473.7								
1159	5000	.528	1150.9		+001	1159	5000	1.448	506.5								
1232	6000	1.683	1475.9		+002	1232	6000	1.540	530.4								
1304	6746	.788	1696.0		+001	1304	6746	1.697	570.2								

COMMENTS:

BY: [Signature]

GEOHERMAL DIVISION  
SUBSURFACE TEMPERATURE SURVEY

NOV 10 1976

B16-S42-PT

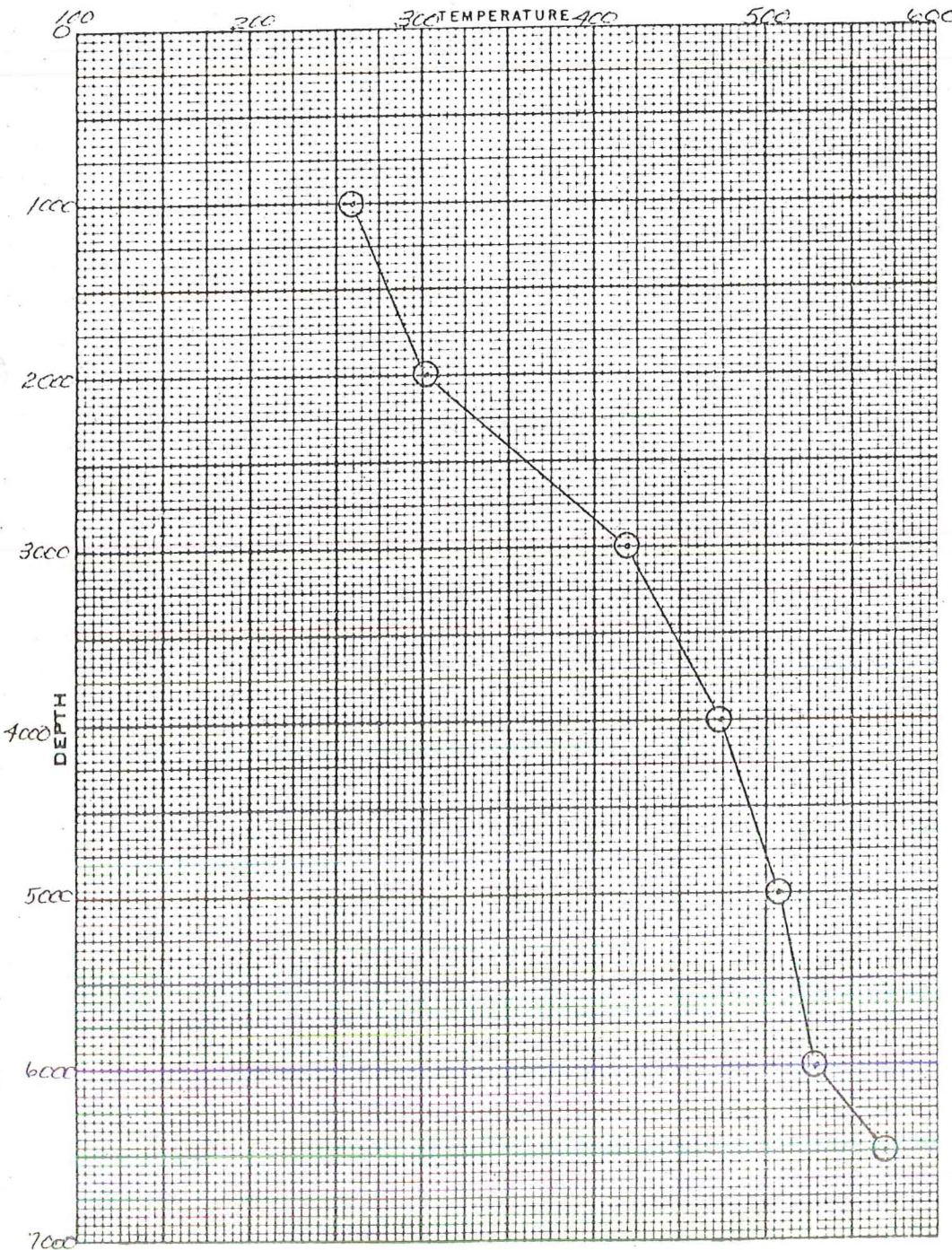
76

OWNER \_\_\_\_\_ FIELD Valle Grande WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV 9622' DATE 4/28/76  
 LINER DESCRIPTION \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 80°-646° FAH  
 \_\_\_\_\_ SERIAL NO 10052

PURPOSE \_\_\_\_\_ MAX TEMP 570.2 °F @ 6746'  
 REMARKS \_\_\_\_\_

STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100	-		
1000	159.9		
2000	302.9		
3000	419.8		
4000	473.7		
5000	506.5		
6000	530.4		
6746	570.2		

BY:

# 76

# UNION

## GEOHERMAL DIVISION

### SUBSURFACE PRESSURE SURVEY

DEL PYLE

1 MAY 1976

B16-S42-DT

OWNER \_\_\_\_\_ FIELD Valle Grande WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV 9622' DATE 4/28/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ INSTRUMENT 0-4000 PSI  
 SERIAL NO 7198

PURPOSE \_\_\_\_\_ MAX TEMP 570.2 °F @ 6746'  
 REMARKS \_\_\_\_\_



STABILIZATION PERIOD \_\_\_\_\_  
 \_\_\_\_\_

PRESSURES	GAUGE	BOM
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	131.8	
1000	134.0	
2000	136.1	
3000	448.1	
4000	814.9	
5000	1150.9	
6000	1475.9	
6746	1696.0	

BY: \_\_\_\_\_



76

UNION

GEO THERMAL DIVISION

DEL PYLE  
MAY 5 1975

SUBSURFACE SURVEY  
Field Work Sheet

BIG-S41-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME B-416  
 CASING 9 7/8" @ 2905' ELEV. 9622' DATE: 4/22/74  
 LINER DESCRIPTION: 2905' - T.D. OPEN HOLE ZERO POINT GL 716'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

0-1060 B516 7193.  
 ELEMENT 50'-616 SERIAL NO. 10655 CLOCK \_\_\_\_\_ TURN \_\_\_\_\_ STABILIZATION PERIOD \_\_\_\_\_  
 ENGAGE STYLUS P-0930 70934 DISENGAGE STYLUS D-1335T-1337  
 WELL HEAD 120  
 PICKUP @ 6746 TIME ON BOTTOM 1120-1205 MAX. F 570.2  
 WELL STATUS SHUT IN.  
 SHUT IN: \_\_\_\_\_ ON PRODUCTION: \_\_\_\_\_  
 RATE \_\_\_\_\_

R516

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	IP	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	16.1	139		0	1250	100	-									
	1115	16.87	1434		7.003	1115	6600	1.539	530								
	1205	17.46	1708.6		7.001	1205	6746	1.697	570.2								

COMMENTS:

BY: CP. P. R. V.E.

# 76

# UNION

DEL PYLE

APR 21 1976

## GEOHERMAL DIVISION

### SUBSURFACE SURVEY

#### Field Work Sheet

B16 539 P11

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" AT 2905' ELEV. 9622' DATE: 4/8/76  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT CL+10'  
 DEPTH 6746

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - P<sub>1</sub> 0-4000 PSI; SN 7198; CLOCK 12 HR 15 TURN  
ELEMENT P<sub>2</sub> 0-4750 SERIAL NO. 13012 CLOCK 12 HR 15 TURN STABILIZATION PERIOD  
ENGAGE STYLUS P<sub>1</sub> 0918 P<sub>2</sub> 0921 DISENGAGE STYLUS P<sub>1</sub> -1316 P<sub>2</sub> 1317  
 WELL HEAD 110 PSI  
 PICKUP @ 6746 TIME ON BOTTOM 114 - 149 MAX. \*F  
 WELL STATUS SHUT IN  
 SHUT IN: 8/21/76 ON PRODUCTION:  
 RATE

P<sub>1</sub> 0-4000 PSI      P<sub>2</sub> 0-4750 PSI

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.051	116.0		0	1005	100	.046	137.3		0						
	1500	.051	116.0		0	1017	1500	.047	140.3		0						
1029	2000	.052	115.2		0	1029	2000	.048	143.3		0						
1041	3000	.199	950.4		-0.002	1041	3000	.176	163.9		-0.001						
1053	4000	.368	812.8		+0.001	1053	4000	.326	826.9		+0.001						
1105	5000	.529	1153.0		+0.001	1105	5000	.471	1174.2		+0.003						
1117	6000	.682	1473.8		+0.002	1117	6000	.605	1494.0		+0.003						
1149	6746	.792	1704.4		+0.001	1149	6746	.659	1718.4		+0.001						

COMMENTS: NOTE! B16-538 #10052 USED IN CORRECTIONS

BY: APAD-10

UNION

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

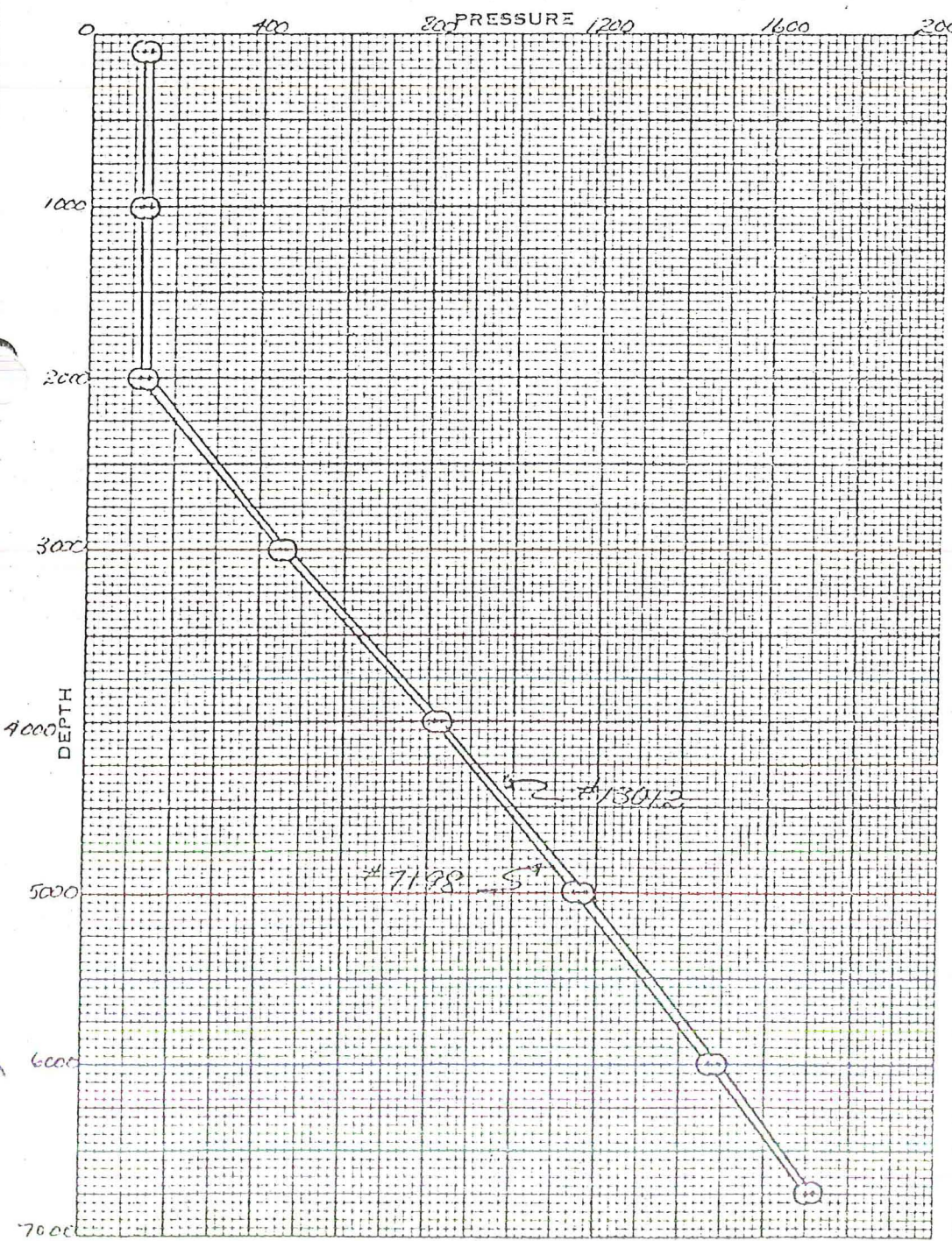
B16-S39-PP

# 76

OWNER \_\_\_\_\_ FIELD Valle Grande WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV 9622' DATE 7/8/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL + 10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PSI  
 \_\_\_\_\_ SERIAL NO 7198 & 13012

PURPOSE \_\_\_\_\_ MAX TEMP \_\_\_\_\_ °F @ \_\_\_\_\_  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD \_\_\_\_\_

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
#7198		
100	116.0	
1000	116.0	
2000	118.2	
3000	450.4	
4000	812.8	
5000	1153.0	
6000	1473.8	
6746	1704.4	

DEPTH	PRESSURE	GRADIENT
#13012		
100	137.3	
1000	140.3	
2000	143.3	
3000	435.9	
4000	826.9	
5000	1174.2	
6000	1494.0	
6746	1718.4	

BY: \_\_\_\_\_

76

UNION

REC FILE

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#16 S-38 T#

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Boco #16  
 CASING 9-5/8" @ 2905' ELEV. 9622' DATE: 4/7/76  
 LINER DESCRIPTION: Open hole - 2905' - T.D. ZERO POINT C.L. +10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

T<sub>1</sub> - 50° - 641.0°E SN-10052 13790-L 12hr 15T  
 T<sub>2</sub> ELEMENT 100° - 792°E SERIAL NO. 10098 CLOCK 12590-L 12hr 15TURN STABILIZATION PERIOD  
 ENGAGE STYLUS T<sub>1</sub>-0914; T<sub>2</sub>-0917 DISENGAGE STYLUS T<sub>1</sub>-1309; T<sub>2</sub>-1310  
 WELL HEAD 110 Psig  
 PICKUP @ 6746' TIME ON BOTTOM 1144-1214 MAX. °F 582.2°F  
 WELL STATUS Shut-in  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

T<sub>1</sub> 10052

10098

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
100	100	-	-			1030	100	-	-								
2-1052	1000	.257	153.5			1042	1000	.166	167.7								
4-1052	2000	.752	309.9			1054	2000	.564	511.7								
6-1106	3000	1.132	420.6			1106	3000	.837	429.4								
8-1118	4000	1.327	474.3			1118	4000	1.099	481.7								
10-1130	5000	1.448	506.5			1130	5000	1.150	514.5								
12-1142	6000	1.540	530.9			1142	6000	1.229	540.6								
2-1214	6746	1.699	571			1214	6746	1.357	582.2								

COMMENTS:

76

UNION

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B16-S38-77

OWNER \_\_\_\_\_ FIELD Valle Grande WELL NAME BAGN #16

CASING \_\_\_\_\_ ELEV 9633' DATE 4/7/76

LINER DESCRIPTION \_\_\_\_\_ ZERO POINT 67+10'

DEPTH 6746'

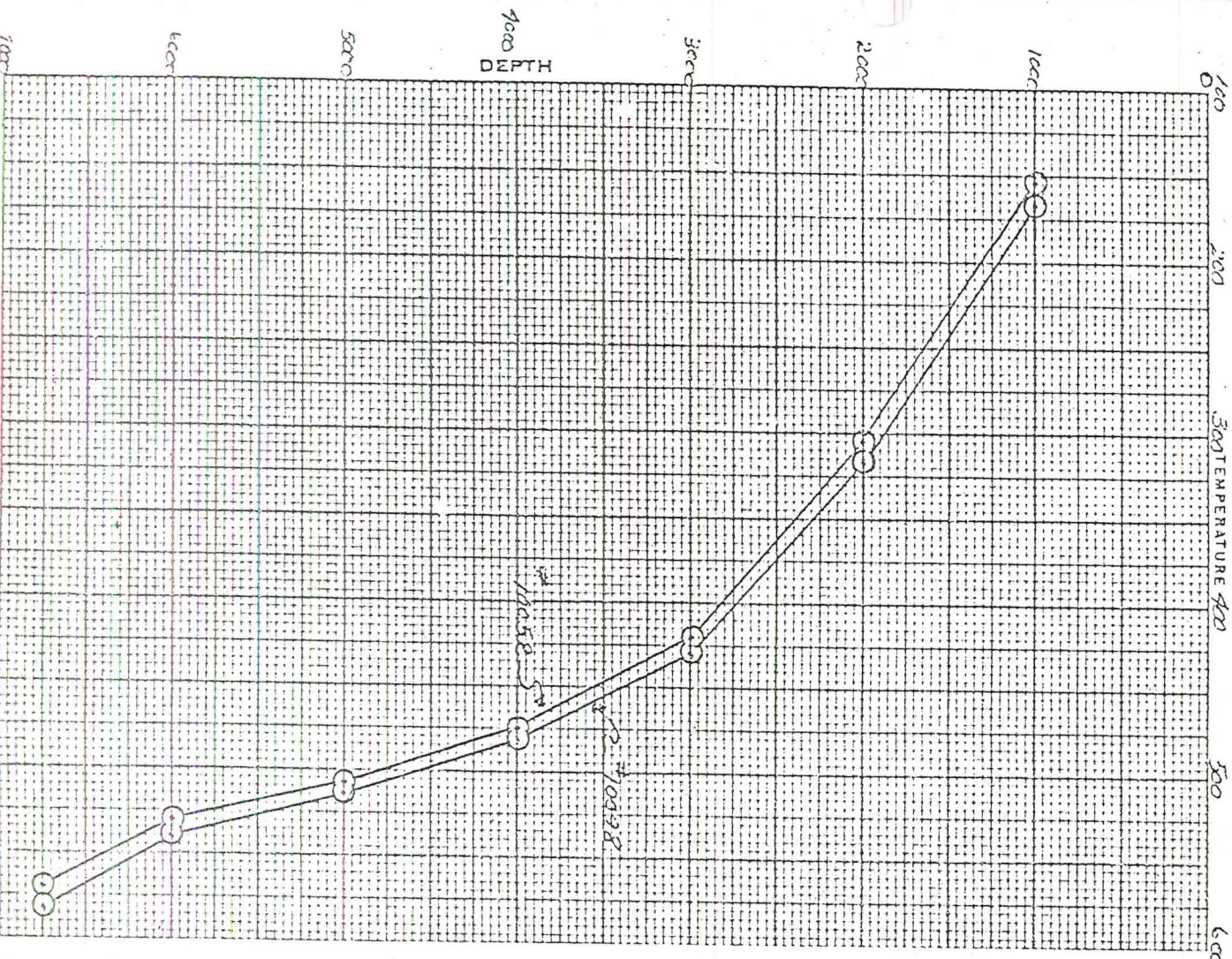
HOLE DESCRIPTION: \_\_\_\_\_

INSTRUMENT \_\_\_\_\_ SERIAL NO 10052 & 10098 FAH

PURPOSE \_\_\_\_\_ MAX TEMP \_\_\_\_\_ °F @ \_\_\_\_\_

REMARKS \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES	GAUGE	BOHB
CASING PSI		

DEPTH	TEMP.	DEPTH	TEMP.
<u>10052</u>			

100	--		
1000	153.8		
2000	304.9		
3000	420.6		
4000	474.3		
5000	506.5		
6000	530.9		
6746	571		
<u>10098</u>			
100	--		
1000	167.7		
2000	316.7		
3000	422.4		
4000	481.7		
5000	514.5		
6000	570.6		
6746	582.2		

BY: \_\_\_\_\_



UNION 76

GEO THERMAL DIVISION

DEL PYLE  
APR 2 1975

SUBSURFACE SURVEY  
Field Work Sheet

B#16-537-P/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 3/31/76  
 LINER DESCRIPTION: 2905' - 6746' - OPEN HOLE ZERO POINT GLT 10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4000 2516 7198 12412-13374-L  
 ELEMENT T-80°F-640°F SERIAL NO. 10052 CLOCK 12412-12838-L TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-0955 T-0955 DISENGAGE STYLUS P-1320 T-1319  
 WELL HEAD 10.5  
 PICKUP @ 6746' TIME ON BOTTOM 1154-1224 MAX. °F 571  
 WELL STATUS SHUT IN  
 SHUT IN: 8/31/75 ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	PRESSURE			TEMPERATURE					ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
			P-R	GRAD.	TEMP.	P-T	GRAD.	TEMP.	GRAD.	TEMP.								
110	1050	114			0	1110	100	1.005	81									
1130	6100	167.5	1459		1.002	1130	600	1.543	531									
1224	6746	178.5	1690		1.002	1224	6746	1.699	571									

COMMENTS:

BY: CD CD JMI

76

UNION

GEOHERMAL DIVISION NEL PYLE

SUBSURFACE SURVEY  
Field Work Sheet

APR 5 1975

BACA #16-S36-P1T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 3/19/76  
 LINER DESCRIPTION: OPEN HOLE 2905' - T.O. ZERO POINT GL+10'  
 DEPTH 6746'

TUBING DETAILS:

PURPOSE

REMARKS:

P-Q-1100 PSIG. 7198 12889-L 15  
 ELEMENT T-809F-6469F SERIAL NO. 10052 CLOCK 13374-L 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-0920, T-0930 DISENGAGE STYLUS P-1310, T-1301  
 WELL HEAD 95  
 PICKUP @ 6746' TIME ON BOTTOM 1212-1242 MAX. °F 570  
 WELL STATUS SHUT IN  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

PSIG						TEMP											
TIME	DEPTH	DEFL.	P-T	GRAD.	LOG CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1050	100	.045	102		0	1050	100	.100	83								
1105	1000	.046	105		0	1105	1000	.239	155								
1117	2000	.047	107		0	1117	2000	.733	305								
1130	3000	.198	448		-0.02	1130	3000	1.132	421								
1142	4000	.367	811		-0.01	1142	4000	1.325	474								
1157	5000	.528	1151		+0.01	1157	5000	1.450	507								
1209	6000	.631	1472		+0.02	1209	6000	1.542	531								
1242	6746	.793	1706		+0.01	1242	6746	1.697	570								

COMMENTS:

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

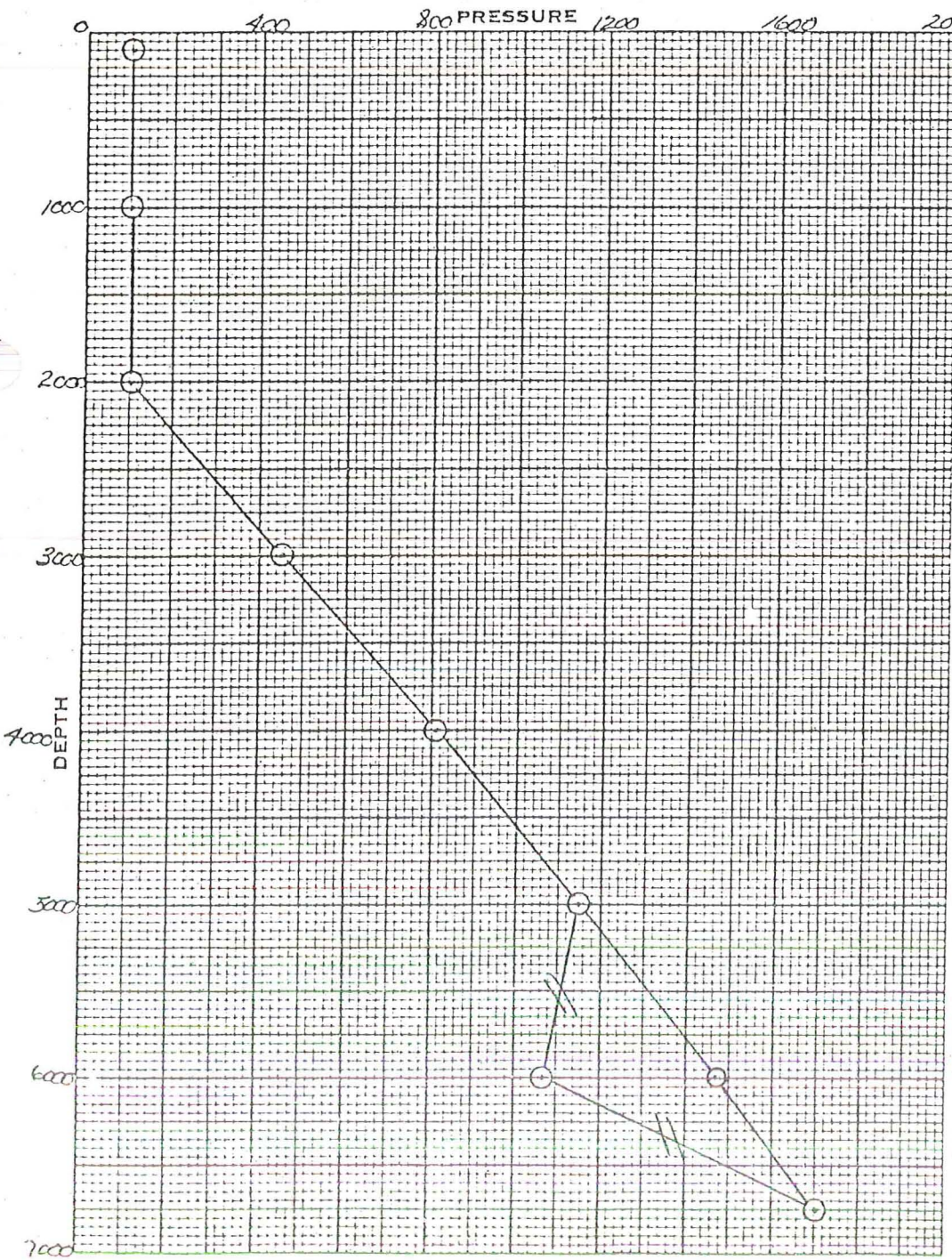
B14-536-PT

OWNER \_\_\_\_\_ FIELD \_\_\_\_\_ WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 3/19/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PSI  
 \_\_\_\_\_ SERIAL NO 7198

PURPOSE \_\_\_\_\_ MAX. TEMP 570 °F @ 6746  
 REMARKS: \_\_\_\_\_

STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	102	
1000	105	
2000	107	
3000	448	
4000	811	
5000	1151	
6000	1472	
6746	1706	

BY: \_\_\_\_\_



## GEOTHERMAL DIVISION

### SUBSURFACE TEMPERATURE SURVEY

B16-536-PT

76

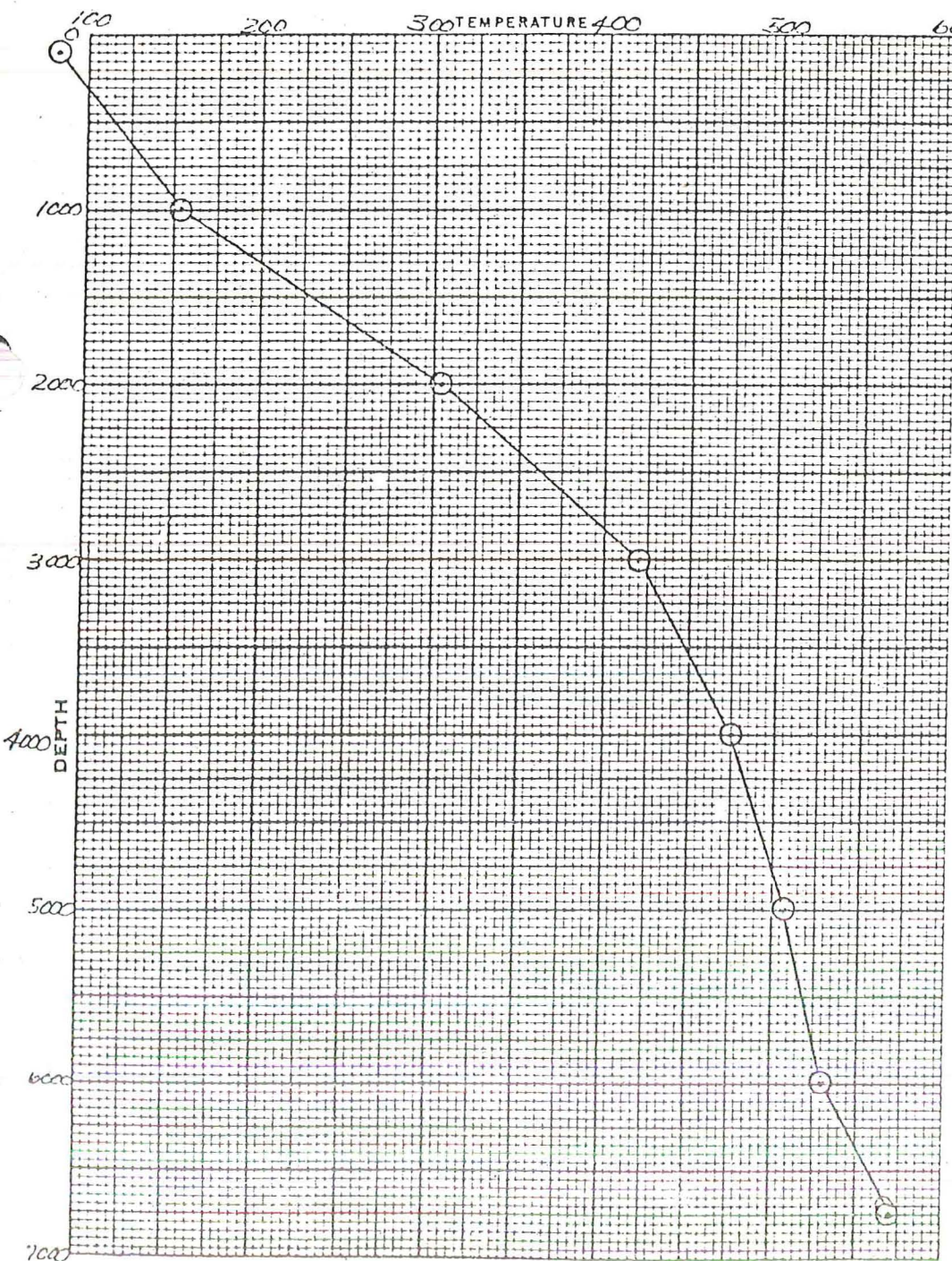
OWNER \_\_\_\_\_ FIELD \_\_\_\_\_ WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 3/19/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ FAH  
 SERIAL NO 10052

PURPOSE \_\_\_\_\_ MAX TEMP 510 °F @ 6746'

REMARKS: \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	83		
1000	155		
2000	305		
3000	421		
4000	474		
5000	507		
6000	531		
6746	570		

BY: \_\_\_\_\_

76



GEO THERMAL DIVISION

DEL PYLE

MAR 24 1976

SUBSURFACE SURVEY

Field Work Sheet

B16 535 P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME B16A-446  
 CASING 9 5/8" AT 2905' ELEV. 9622 DATE: 3/11/76  
 LINER DESCRIPTION: 2905' - TD = OPEN HOLE ZERO POINT CL +10'  
 DEPTH 6746

LOGGING DETAIL:

PURPOSE

REMARKS:

ELEMENT 0-4000 PSI SN 7198 CLOCK 12 HR 15 TURN  
 ELEMENT 82"-686" SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD  
 ENGAGE SYLUS P-0936 T-0942 DISENGAGE SYLUS P-1339 T-1339  
 WELL HEAD 89 0-100 T/G  
 PICKUP @ 6746 TIME ON BOTTOM 1133-1233 MAX. T

WELL STATUS

SHUT IN: 8/21/76

ON PRODUCTION:

RATE

PRESSURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
11:00	110	.042	96.0		0												
11:03	6500	.680	1472		7.000												
11:03	6746	.788	1696		7.001												

COMMENTS: TEMPERATURE ELEMENT DEFECTIVE (NO READINGS)

BY: [Signature]

76



UNION  
GEO THERMAL DIVISION DEL PYLE

SUBSURFACE SURVEY  
Field Work Sheet

MAR 17 1976

B16-534-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACH #16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 3/5/76  
 LINER DESCRIPTION: 2905' - T.D. = OPEN HOLE ZERO POINT 66+10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - O - 4000 PSIG - 7198 12839 - 15  
 ELEMENT - 80°F - 686°F SERIAL NO. 10055 CLOCK 13374 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P - 0950 T - 0955 DISENGAGE STYLUS P - 1400 T - 1400  
 WELL HEAD 84  
 PICKUP @ 6746' TIME ON BOTTOM 1220 - 1350 MAX. °F 577.4  
 WELL STATUS SHUT IN.  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE					
TIME	DEPTH	DEFL.	P-T	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1138	100	040	91		1138	100	-	-	-	
1216	6050	677	146.3	7.002	1216	6050	1.447	538.4		
1250	6746	783	168.5	7.021	1250	6746	1.584	577.4		

COMMENTS:

BY: J.B. CD

76



GEO THERMAL DIVISION

SUBSURFACE SURVEY  
Field Work Sheet

B16-533-P1P

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE  
 CASING 95/8" @ 2905' ELEV. 9622'  
 LINER DESCRIPTION: 2905' - 6746' OPEN HUE  
 WELL NAME BACA#16  
 DATE: 2/24/76  
 ZERO POINT C.L. +10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

P<sub>1</sub> - 0 - 4000 PSIG 7198 12889L - 15  
 ELEMENT P<sub>2</sub> - 0 - 2950 SERIAL NO. 9235 CLOCK 13374 - 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P<sub>1</sub> - 0945 P<sub>2</sub> 0950 DISENGAGE STYLUS P<sub>1</sub> - 1500, P<sub>2</sub> 1505  
 WELL HEAD 79 PSIG  
 PICKUP @ 6746' TIME ON BOTTOM 1300 - 1330 MAX. °F  
 WELL STATUS SHUT IN  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

7198 PRESSURE 9235 PRESSURE

TIME	DEPTH	DEFL.	P-#	GRAD.	TEMP.	TIME	DEPTH	DEFL.	P-#	GRAD.	TEMP.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.039	89		-	1140	100	.048	81		-						
1221	1000	.040	91		-	1151	1000	.049	83		-						
1203	2000	.040	91		-	1203	2000	.049	83		-						
1220	3000	.195	441		-0.003	1220	3000	.280	442		+0.001						
1232	4000	.364	804		-0.001	1232	4000	.570	800		+0.002						
1244	5000	.528	1151		+0.001	1244	5000	.750	1141		+0.003						
1258	6000	.679	1468		+0.002	1258	6000	.970	1463		+0.005						
1315	6746	.785	1690		+0.002	1315	6746	1.129	1698		+0.002						
1330	6746	.785	1690		+0.002	1330	6746	1.129	1698		+0.002						

COMMENTS:

NOTE: USED TEMP GRADIENT B#16-531-P1T FOR CORRECTIONS.

76

UNION

GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

D16-533-PP

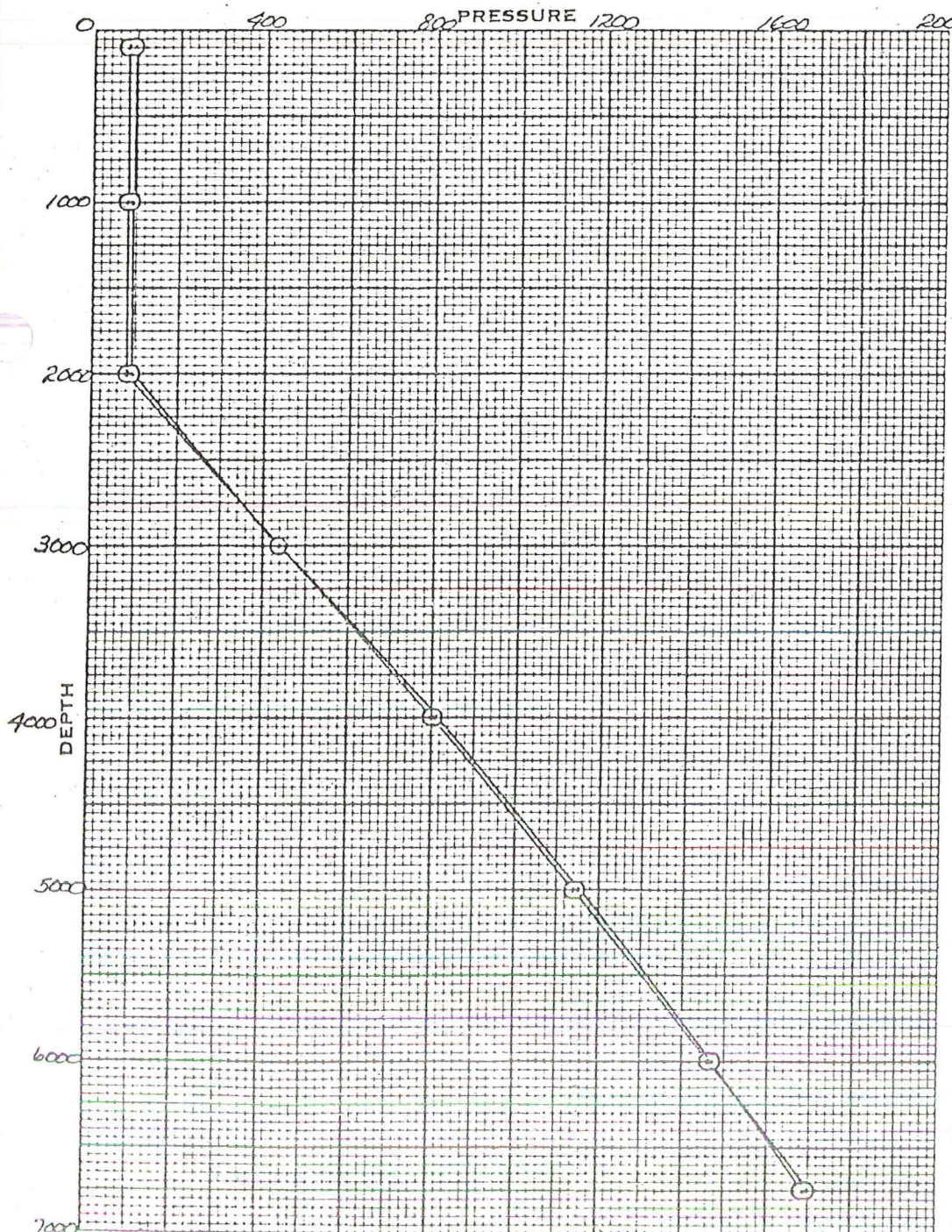
OWNER \_\_\_\_\_ FIELD \_\_\_\_\_ WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 2/24/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PSIC  
 \_\_\_\_\_ SERIAL NO 9235

PURPOSE \_\_\_\_\_ MAX TEMP \_\_\_\_\_ °F @ \_\_\_\_\_

REMARKS: \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	81	
1000	83	
2000	83	
3000	442	
4000	800	
5000	1141	
6000	1463	
6746	1698	

DEPTH	PRESSURE	GRADIENT
100	89	
1000	91	
2000	91	
3000	441	
4000	804	
5000	1151	
6000	1468	
6746	1690	

BY: \_\_\_\_\_

76



GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACA #16 - 532 P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #16.  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 2/13/76.  
 LINER DESCRIPTION: ZERO POINT GLT+10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4000 PSIG 7198 13374-L 15  
 ELEMENT - 820F-680F SERIAL NO. 10055 CLOCK 12889-L 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-0906 T-0909 DISENGAGE STYLUS P-1147 T-1145  
 WELL HEAD 75.5  
 PICKUP @ 6746' TIME ON BOTTOM 1017-1032 MAX. F 576.9  
 WELL STATUS SHUT IN.  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

PSIG					TEMP											
TIME	DEPTH	DEFL.	P-T	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0950	100	1.035	74.5		0	0950	100	-	-							
1015	6600	1.682	1473.5		+002	1015	6600	1.442	537.0							
1032	6746	1.788	1696.0		+003	1032	6746	1.582	576.9							

COMMENTS:

BY: [Signature]



# GEO THERMAL DIVISION

## SUBSURFACE SURVEY

Field Work Sheet

R#16 S-31 P/T

OWNER Union Oil CO. FIELD UAlle Grande WELL NAME BACA#16  
 CASING 9 7/8 @ 2905' ELEV. 9622' DATE: 2-2-76  
 LINER DESCRIPTION: 2905' - TD = Open Hole ZERO POINT GL + 10  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE Interference Test

REMARKS:

Element 0.4000 PSTG SN 7198 Clock 12hr 15 T

ELEMENT 82°F - 686°F SERIAL NO. 10055 CLOCK 12hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P 0908 T 0910 DISENGAGE STYLUS P 1620 T 1620

WELL HEAD 71.5

PICKUP @ 6746 TIME ON BOTTOM 1143 - 1243 MAX. °F 575.4

WELL STATUS

SHUT IN: 8-21-75 ON PRODUCTION:

RATE

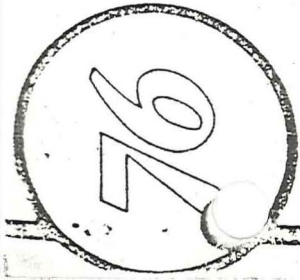
Pressure

Temperature

TIME	DEPTH	DEFL.	P-T	GRAD.	GRAD.	TIME	DEPTH	DEFL.	R-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1022	100	.032	72.7		0	1023	100	0	0								
1035	1000	.033	75.0		0	1035	1000	.270	169.8								
1048	2000	.034	77.3		0	1048	2000	.696	308.2								
1100	3000	.112	441.4		-.002	1100	3000	1.058	422.4								
1114	4000	.136	808.5		-.001	1114	4000	1.237	476.9								
1127	5000	.528	1160.9		+.002	1127	5000	1.354	511.4								
1140	6000	.681	1471.7		+.002	1140	6000	1.437	536.1								
1143	6746	.788	1696.0		+.002	1143	6746	1.577	575.4								
1213	6746	.788	1696.0		+.002	1213	6746	1.577	575.4								
1243	6746	.788	1696.0		+.002	1243	6746	1.577	575.4								

COMMENTS:

BY: B. [Signature]



UNION

# GEOHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

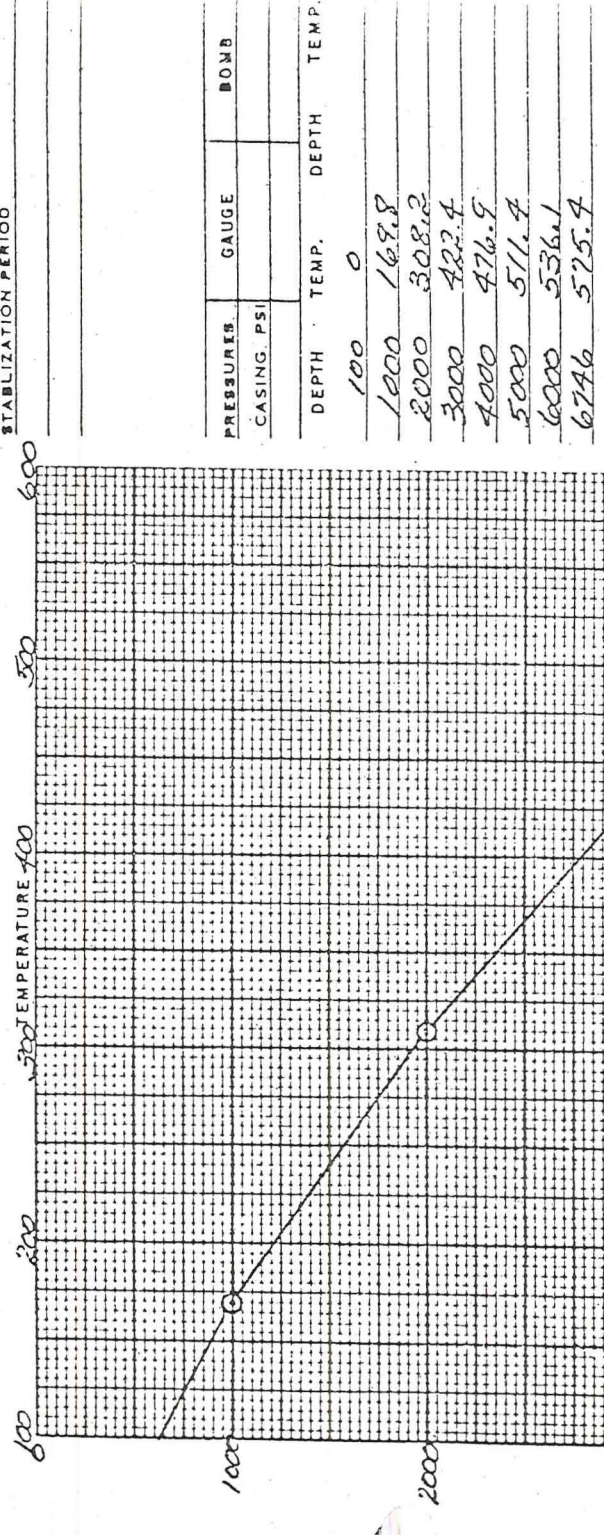
B16-S31-PT

OWNER \_\_\_\_\_ FIELD \_\_\_\_\_ WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 2/2/76  
 LINER DESCRIPTION \_\_\_\_\_ ZERO POINT GL +10'  
 DEPTH \_\_\_\_\_ 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ FAHP \_\_\_\_\_  
 SERIAL NO 10055

PURPOSE \_\_\_\_\_ MAX TEMP 575.4 °F @ 6746'

REMARKS: \_\_\_\_\_



PRESSURES	GAUGE	BOND
CASING, PSI		
DEPTH	TEMP.	DEPTH
100	0	
1000	169.8	
2000	308.2	
3000	422.4	
4000	476.9	
5000	511.4	
6000	536.1	
6746	575.4	

BY:



# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B16-531-PT

76

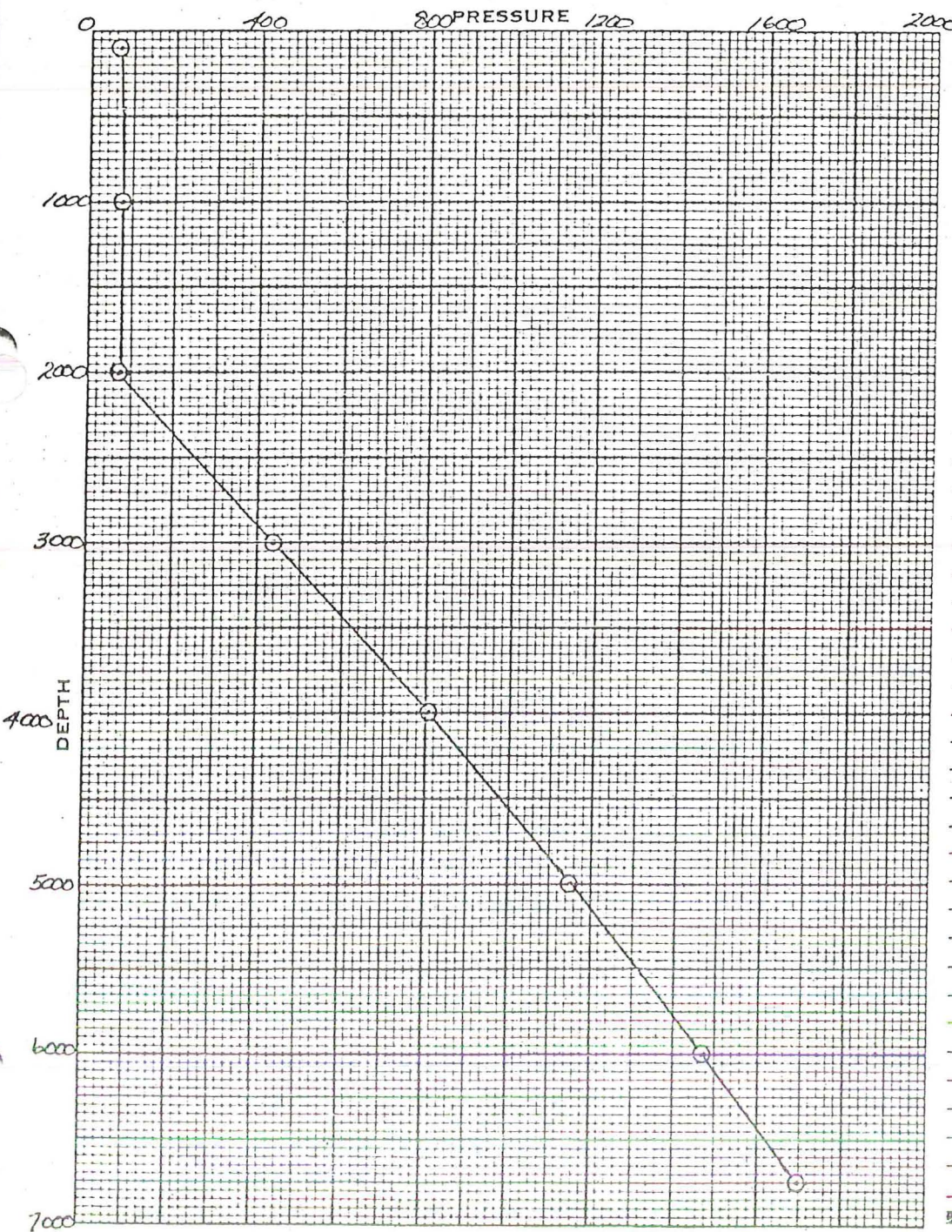
OWNER \_\_\_\_\_ FIELD \_\_\_\_\_ WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 2/2/76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PSI  
 \_\_\_\_\_ SERIAL NO 7198

PURPOSE \_\_\_\_\_ MAX TEMP 575.4 °F @ 6746'

REMARKS: \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	72.7	
1000	75.0	
2000	77.3	
3000	941.4	
4000	808.5	
5000	1150.9	
6000	1471.7	
6746	1696.0	

BY: \_\_\_\_\_

76

# UNION GEO THERMAL DIVISION

## SUBSURFACE SURVEY Field Work Sheet

W16-S30-P/T

OWNER: UNION OIL CO. OF CALIF. FIELD: VALLE GRANDE WELL: THE BULL #16  
 CASING: 9 5/8" @ 2905' ELEV.: 9627' DATE: 1/25/76  
 LINER DESCRIPTION: 2905' TO T.D. - OPEN HOLE ZERO POINT: 64+10'  
 DEPTH: 6746'

**TUBING DETAIL:**

**PURPOSE:**

**REMARKS:**

P-C-41000 P510 - 7198 12/12 - 13375 - 4 15

ELEMENT T-5551-6369 SERIAL NO. 10055 CLOCK 12/12/12559 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0936, T-0934 DISENGAGE STYLUS P-1316, T-1314

WELL HEAD 6-5.5 P510

PICKUP @ 6746 TIME ON BOTTOM 1140-1240 MAX. # 574

**WELL STATUS**

SHUT IN: ON PRODUCTION:

**RATE**

P510					TEMP												
TIME	DEPTH	DEFL.	P-T	GRAD.	CC/HR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	D.	P-T	GRAD.	ID
10:00	100	.054	77		0	10:30	100	0	0								
11:00	600	.153	1476		1.662	11:35	600	1.438	536								
12:40	6746	.738	1696		1.662	12:40	6746	1.523	574								

COMMENTS:

BY: J.M.

76

UNION

GEOHERMAL DIVISION

DEL PYLE  
JAN 20 1976

SUBSURFACE SURVEY

Field Work Sheet

B16 28 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" AT 2905 ELEV. 9622' DATE: 12/30/75  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT CL + 10'  
 DEPTH 746'

TUBING DETAIL:

PURPOSE INTERFERENCE TEST

REMARKS:

ELEMENT 0-4000 PSIG SN 7198 CLOCK 12HR 15 TURN  
ELEMENT 82'-6.86' SERIAL NO. 10055 CLOCK 12HR 15 TURN STABILIZATION PERIOD  
ENGAGE STYLUS P-0936 T-0942 DISENGAGE STYLUS P-1350 T-1350  
 WELL HEAD 52 PSIG 0-100 T/B  
 PICKUP @ 6746 TIME ON BOTTOM 1216-1316 MAX. °F 572.9  
 WELL STATUS  
 SHUT IN: 5/21/76 ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
10	110	.025	56.8	-	0	1048	110	0	0								
111	6000	.682	1473.8	-	+ .002	1115	6000	1.435	535.0								
1145	6000	.682	1473.8	-	+ .002	1145	6000	1.435	535.0								
1215	6000	.682	1473.8	-	+ .002	1215	6000	1.435	535.0								
1216	6746	.787	1693.9	.295	+ .002	1216	6746	1.568	572.9								
1246	6746	.787	1693.9	-	+ .002	1246	6746	1.568	572.9								
1316	6746	.787	1693.9	-	+ .002	1316	6746	1.568	572.9								

COMMENTS:

BY: IR DA

76

UNION

GEO THERMAL DIVISION

DEL PYLE  
JAN 21 1976

SUBSURFACE SURVEY  
Field Work Sheet

B# 529 P/T

OWNER: Union Oil Co. of Cal. FIELD: UAlto Grande WELL: WME B# 16  
 CASING: 9 7/8" @ 2905' ELEV.: 9622 DATE: 1-10-76  
 LINER DESCRIPTION: 2905' To TD = Open Hole ZERO POINT: GL + 10  
 DEPTH: 6' 46"

TUBING DETAIL:

PURPOSE: Interference Test

REMARKS:

Element 0-4000 PSC SN 7198 clock 12hr 15T  
 ELEMENT 82° - 686°F SERIAL NO. 10055 CLOCK 12hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P1050 T1052 DISENGAGE STYLUS P1454 T1454  
 WELL HEAD 57.5  
 PICKUP @ 6746 TIME ON BOTTOM 1326 - 1426 MAX. °F 573.2  
 WELL STATUS  
 SHUT IN: 8-21-76 ON PRODUCTION:  
 RATE

Pressure

Temp.

TIME	DEPTH	DEFL.	P-T	GRAD.	CORP	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DE	P-T	GRAD.	ID
	100	.028	63.6		0	1217	106										
1217	6000	.683	1476		+002	1226	6000	1.436	535.3								
1256	6000	.683	1476		+002	1256	6000	1.436	535.3								
1326	6746	.789	1687		+002	1326	6746	1.569	573.2								
1356	6746	.789	1687		+002	1356	6746	1.569	573.2								
1426	6746	.789	1687		+002	1426	6746	1.569	573.2								

COMMENTS:

BY: [Signature]

76

UNION

DEL PYLE

GEOHERMAL DIVISION JAN 6 1976

SUBSURFACE SURVEY

Field Work Sheet

316 527 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BARR 7 1/2  
 CASING 9 5/8" AT 2965' ELEV. 9622 DATE: 12/20/75  
 LINER DESCRIPTION: ZERO POINT CL+10  
 DEPTH 6746

TUBING DETAIL:

PURPOSE INTER-FERENCE TEST

REMARKS:

ELEMENT 0-4000 PSI SN-7198 CLOCK-12 hr 15 TURN

ELEMENT 82"-6.80" SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P T DISENGAGE STYLUS P T

WELL HEAD

PICKUP @ 6746 TIME ON BOTTOM 1327-1427 MAX. °F 571.5

WELL STATUS

SHUT IN: 3/21/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1239	110	.021	47.7		1.000	1239	110	0	0								
21.9	1100	.122	50.0		1.000	1254	1100	.275	171.5								
30.7	2000	.123	52.3		1.000	1307	2000	.657	296.0								
31.9	3000	.142	454.6		1.002	1319	3000	1.050	420.3								
33.1	4000	.362	800.0		1.001	1331	4000	1.228	474.3								
34.4	5000	.521	1136.3		1.002	1344	5000	1.350	510.2								
35.6	6000	.680	1469.6		1.002	1356	6000	1.432	534.1								
36.7	6746	.787	1693.9		1.002	1357	6746	1.563	571.5								
37.7	6746	.787	1693.9		1.002	1427	6746	1.563	571.5								
45.7	6746	.787	1693.9		1.002	1457	6746	1.563	571.5								

COMMENTS:

## GEOTHERMAL DIVISION

### SUBSURFACE PRESSURE SURVEY

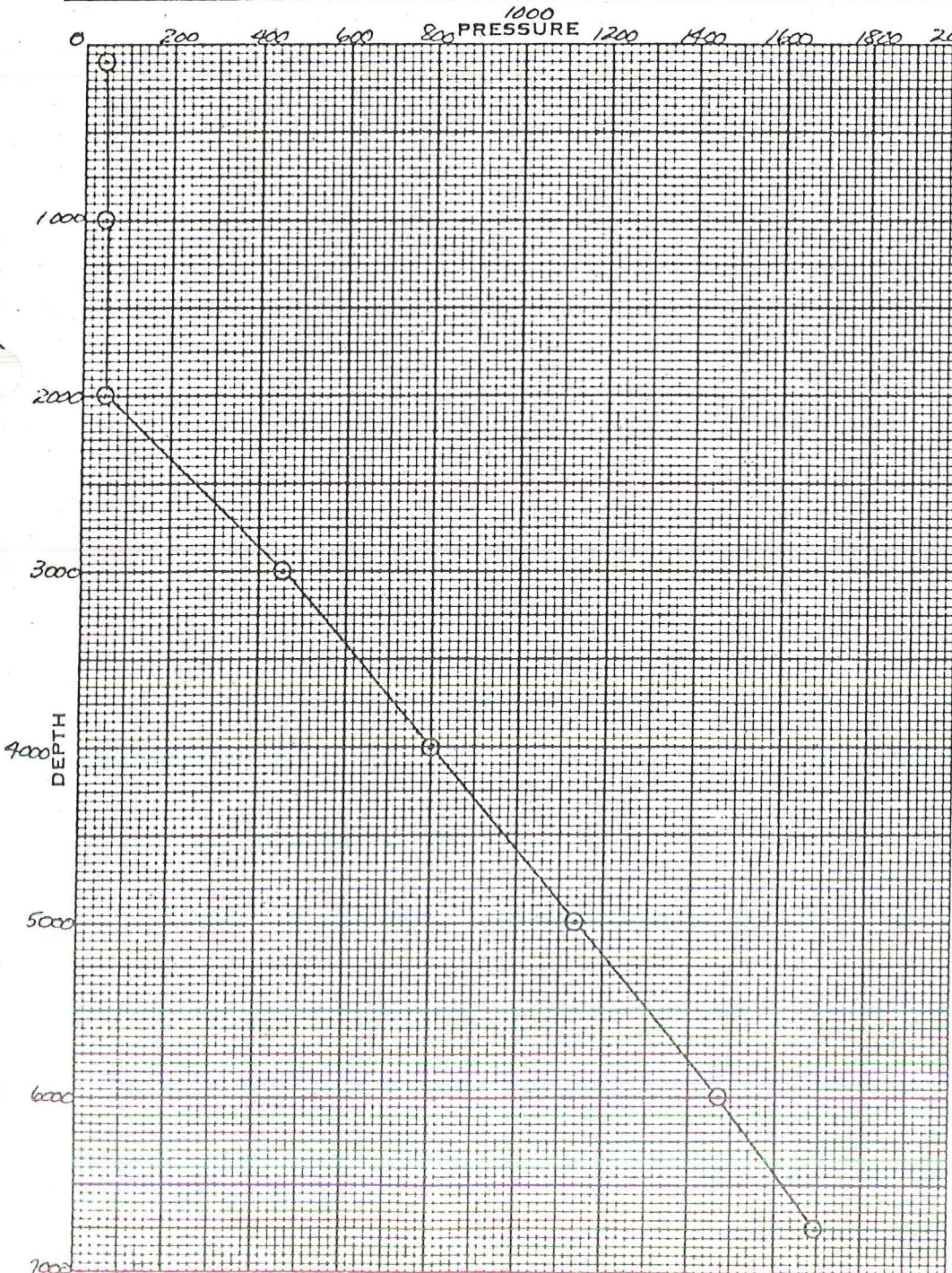
76

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #16  
 CABING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 12/20/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT G.L. + 10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0 - 4000 PSIG  
 \_\_\_\_\_ SERIAL NO 7198

PURPOSE Interference Test MAX TEMP 571.5 °F @ 6746'

REMARKS: \_\_\_\_\_ STABILIZATION PERIOD \_\_\_\_\_



PRESURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	47.7	
1000	50.0	
2000	52.3	
3000	434.6	
4000	800.0	
5000	1136.3	
6000	1469.6	
6746	1693.9	

BY: \_\_\_\_\_

# 76

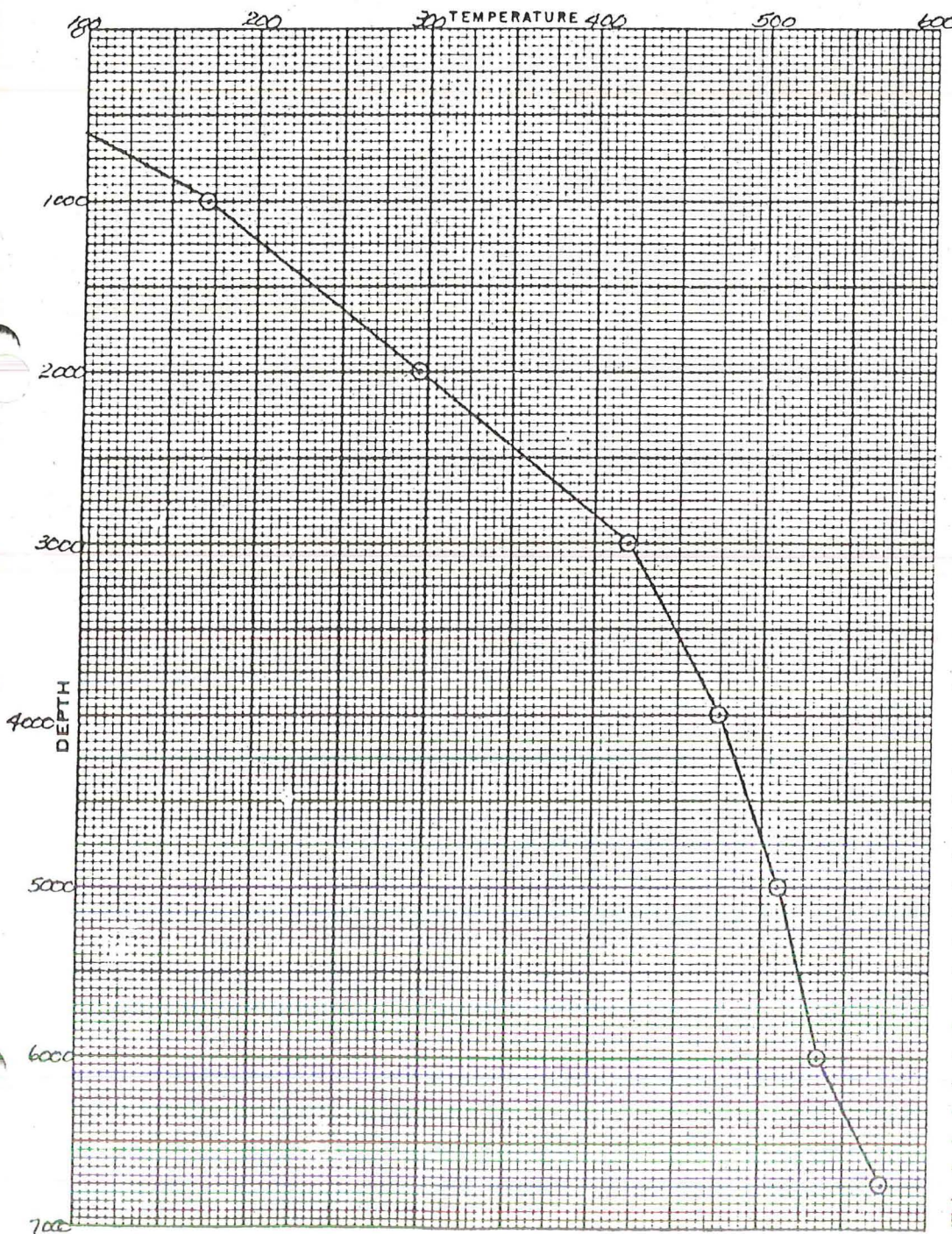
## GEOHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Company      FIELD Valle Grande      WELL NAME Baca #16  
 CASING \_\_\_\_\_      ELEV \_\_\_\_\_      DATE 12/20/75  
 LINER DESCRIPTION: \_\_\_\_\_      ZERO POINT G.L. + 10'  
 \_\_\_\_\_      DEPTH 6746'  
  
 HOLE DESCRIPTION: \_\_\_\_\_      INSTRUMENT 82° - 686° FAHR  
 \_\_\_\_\_      SERIAL NO 10055  
  
 PURPOSE Interference Test      MAX TEMP 571.5 °F @ 6746'  
 REMARKS \_\_\_\_\_

STABILIZATION PERIOD

\_\_\_\_\_

\_\_\_\_\_



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	0		
1000	171.5		
2000	296.0		
3000	420.3		
4000	474.3		
5000	510.2		
6000	534.1		
6746	571.5		

BY: \_\_\_\_\_

76

UNION

DEL PYLE

GEO THERMAL DIVISION

JAN 6 1975

SUBSURFACE SURVEY

Field Work Sheet

B16 526 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" AT 2905' ELEV. 9622' DATE: 12/16/75  
 LINER DESCRIPTION: ZERO POINT GL+10  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE INTERFERENCE TEST

REMARKS:  
 ELEMENT- 0-4000 PSI SN 7198 CLOCK-12 hr 15 TURN  
 ELEMENT 87°-686° SERIAL NO. 10055 CLOCK-12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1027 T-1025 DISENGAGE STYLUS P-1532 T-1528  
 WELL HEAD 50 PSIG  
 PICKUP @ 6740 TIME ON BOTTOM 1253-1353 MAX. 'F 571.5  
 WELL STATUS  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE:

PRESSURE

TEMPERATURE

	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
11	6000	.680	1469.6		+ .002	1140	6000	1.429	533.3								
12	6000	.680	1469.6		+ .002	1210	6000	1.429	533.3								
1240	6000	.680	1469.6		+ .002	1240	6000	1.429	533.3								
1253	6746	.788	1696.0		+ .001	1253	6746	1.563	571.5								
1323	6746	.788	1696.0		+ .001	1323	6746	1.563	571.5								
1353	6746	.788	1696.0		+ .001	1353	6746	1.563	571.5								

COMMENTS: CALIBRATION CHECK W/ DWI DEF = .923  
 AT 75 °F  
 COR = +011  
 COR DEF = .934  
 COR PSI = 2002.1 PSIG



76

UNION

DEE PYLE

GEOHERMAL DIVISION DEC 18 1975

SUBSURFACE SURVEY

Field Work Sheet

B#16 S25 OT

OWNER Union Oil Company FIELD Challe Grande WELL NAME BACA #16  
 CASING 7 7/8 @ 2905' ELEV. 9622' DATE: 12-9-75  
 LINER DESCRIPTION: ZERO POINT GL + 10  
 DEPTH 6748

TUBING DETAIL:

PURPOSE Interference Test

REMARKS:

Element 0-4000 PSIG SN7198 clock 12 hr 15T

ELEMENT 22°-686°F SERIAL NO. 10055 CLOCK 12hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P0938 T0936 DISENGAGE STYLUS P1416 T1418

WELL HEAD 48

PICKUP @ 6748 TIME ON BOTTOM 1146 - 1256 MAX. °F 571.5

WELL STATUS

SHUT IN: 8/21/75 ON PRODUCTION:

RATE

PSI					Temp.											
TIME	DEPTH	DEFL.	P-T	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1015	100				1015	100										
	6000	680	1469.6		1040	6000	1.432	534.0								
	6000	670	1469.6		1110	6000	1.432	534.0								
1055	6000	680	1469.6		1140	6000	1.432	534.0								
655	6748	785	1689.7		1146	6748	1.563	571.5								
1216	6748	785	1689.7		1216	6748	1.563	571.5								
1256	6748	785	1689.7		1256	6748	1.563	571.5								

COMMENTS:

BY: *[Signature]*

76



GEOTHERMAL DIVISION

DEL PYLE

DEC 16 1975

SUBSURFACE SURVEY

Field Work Sheet

616 534 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" AT 2905' ELEV. 9622' DATE: 12/13/75  
 LINER DESCRIPTION: ZERO POINT CL+10'  
 DEPTH 6748'

TUBING DETAIL:

PURPOSE INTERFERENCE TEST

REMARKS:

ELEMENT - 0-4000 PSIG SN 7192 CLOCK-12 HR 15 TURN  
 ELEMENT 83°-686 °F SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-0939 T-0939 DISENGAGE STYLUS P-1348 T-1348  
 WELL HEAD 76.5 PSIG 0-100 T/L  
 PICKUP @ 6748' TIME ON BOTTOM 1153-1253 MAX. °F  
 WELL STATUS  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	150	.018	41.0		0	1059	150	.005	83.3								
1059	150	.019	43.0		0	1059	150	.005	83.3								
1059	250	.020	45.5		0	1059	250	.656	296.0								
1110	350	.191	452.0		- .002	1110	350	1.050	420.0								
1123	450	.360	796.0		- .001	1123	450	1.228	474.0								
1137	550	.519	1132.0		+ .001	1137	550	1.349	510.0								
1150	600	.673	1455.0		+ .002	1150	600	1.432	534.0								
1153	6748	.785	1690.0		+ .002	1153	6748	1.560	570.6								
1223	6748	.785	1690.0		+ .002	1223	6748	1.560	570.6								
1253	6748	.786	1690.0		+ .002	1253	6748	1.560	570.6								

COMMENTS:

BY: AM per

# GEO THERMAL DIVISION

## SUSSURFACE TEMPERATURE SURVEY

716

BIL 524 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BADA #16

CASING 9 5/8" AT 2905' ELEV. 9632' DATE: 12/3/75

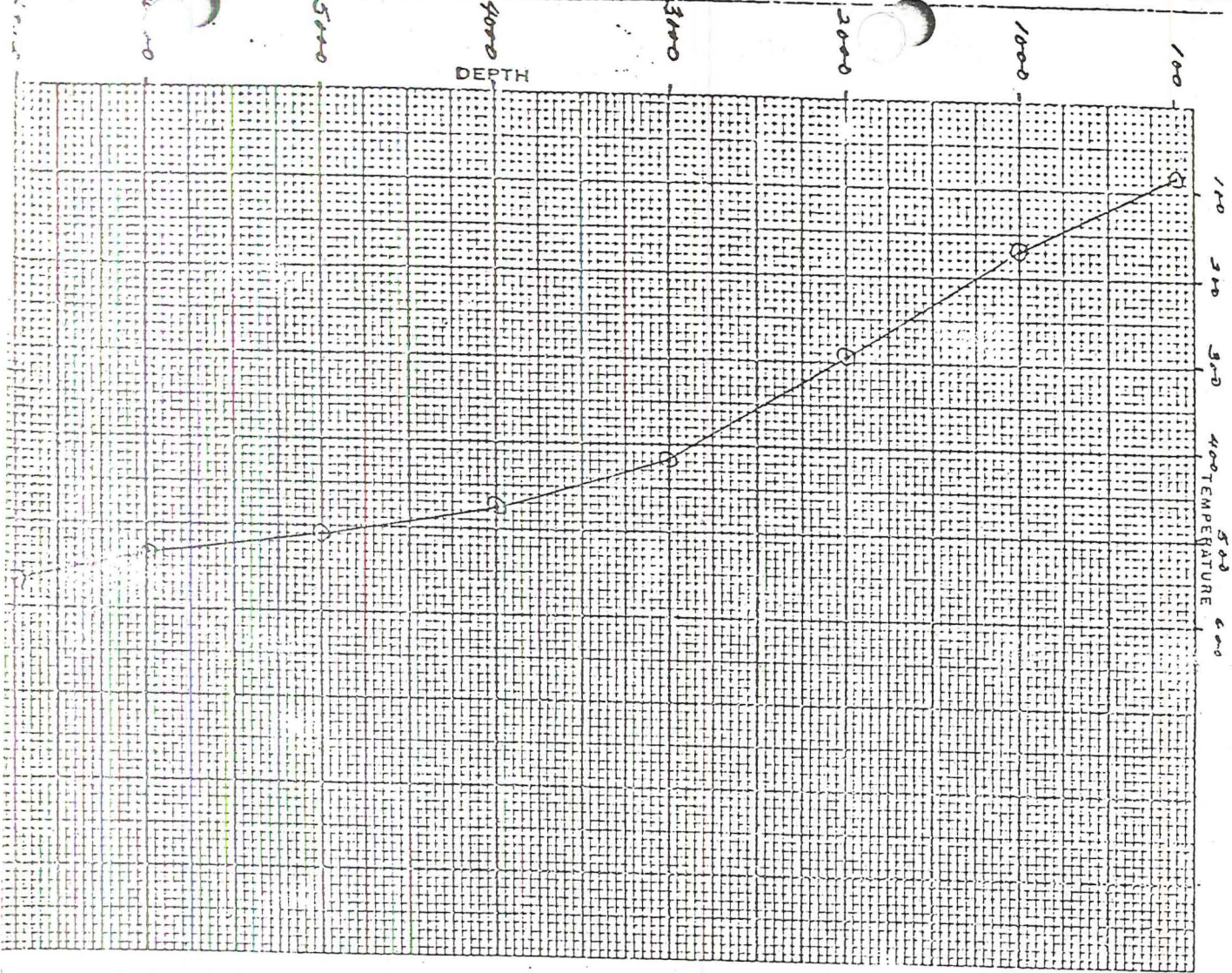
LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 66±10'

HOLE DESCRIPTION: 2905 - TTD = OPEN HOLE DEPTH 6748'

INSTRUMENT 83°-686° SERIAL NO 10055

PURPOSE INTERFERENCE TEST MAX TEMP 570.6 °F @ 6748'

REMARKS: \_\_\_\_\_ STABILIZATION PERIOD \_\_\_\_\_



PRESSURE	GAUGE	NOTE
CASING PSI		

DEPTH	TEMP.	DEPTH	TEMP.
170	83.3		
296	83.3		
420	83.3		
510	83.3		
534	83.3		
570.1	83.3		
570.6	83.3		

JA

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B16 524 P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAC #16  
 CASING 9 5/8" AT 2905 ELEV. 9622' DATE: 12/3/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL +10'  
 \_\_\_\_\_ DEPTH 6748'

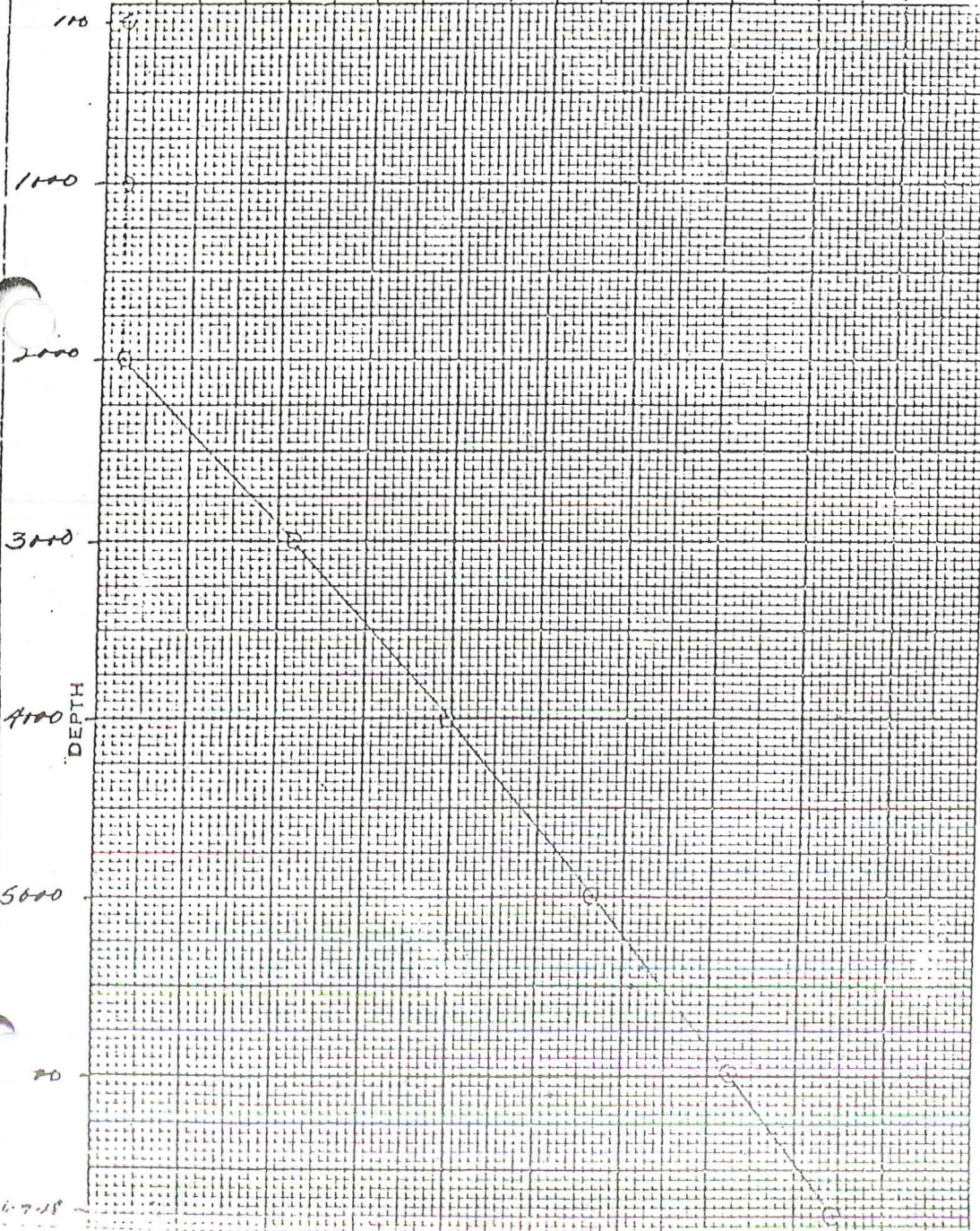
HOLE DESCRIPTION: 2905' - TD = OPEN HOLE  
 INSTRUMENT 0-4000 PSIG  
 SERIAL NO 7198

PURPOSE \_\_\_\_\_ MAX. TEMP 570.1 °F @ 6748'

REMARKS:

STABILIZATION PERIOD \_\_\_\_\_

1" 3" 5" 7" 9" 11" 13" 15" 17" 19" 21" 23" 25" 27" 29" 31" 33" 35" 37" 39" 41" 43" 45" 47" 49" 51" 53" 55" 57" 59" 61" 63" 65" 67" 69" 71" 73" 75" 77" 79" 81" 83" 85" 87" 89" 91" 93" 95" 97" 99" 101" 103" 105" 107" 109" 111" 113" 115" 117" 119" 121" 123" 125" 127" 129" 131" 133" 135" 137" 139" 141" 143" 145" 147" 149" 151" 153" 155" 157" 159" 161" 163" 165" 167" 169" 171" 173" 175" 177" 179" 181" 183" 185" 187" 189" 191" 193" 195" 197" 199" 201" 203" 205" 207" 209" 211" 213" 215" 217" 219" 221" 223" 225" 227" 229" 231" 233" 235" 237" 239" 241" 243" 245" 247" 249" 251" 253" 255" 257" 259" 261" 263" 265" 267" 269" 271" 273" 275" 277" 279" 281" 283" 285" 287" 289" 291" 293" 295" 297" 299" 301" 303" 305" 307" 309" 311" 313" 315" 317" 319" 321" 323" 325" 327" 329" 331" 333" 335" 337" 339" 341" 343" 345" 347" 349" 351" 353" 355" 357" 359" 361" 363" 365" 367" 369" 371" 373" 375" 377" 379" 381" 383" 385" 387" 389" 391" 393" 395" 397" 399" 401" 403" 405" 407" 409" 411" 413" 415" 417" 419" 421" 423" 425" 427" 429" 431" 433" 435" 437" 439" 441" 443" 445" 447" 449" 451" 453" 455" 457" 459" 461" 463" 465" 467" 469" 471" 473" 475" 477" 479" 481" 483" 485" 487" 489" 491" 493" 495" 497" 499" 501" 503" 505" 507" 509" 511" 513" 515" 517" 519" 521" 523" 525" 527" 529" 531" 533" 535" 537" 539" 541" 543" 545" 547" 549" 551" 553" 555" 557" 559" 561" 563" 565" 567" 569" 571" 573" 575" 577" 579" 581" 583" 585" 587" 589" 591" 593" 595" 597" 599" 601" 603" 605" 607" 609" 611" 613" 615" 617" 619" 621" 623" 625" 627" 629" 631" 633" 635" 637" 639" 641" 643" 645" 647" 649" 651" 653" 655" 657" 659" 661" 663" 665" 667" 669" 671" 673" 675" 677" 679" 681" 683" 685" 687" 689" 691" 693" 695" 697" 699" 701" 703" 705" 707" 709" 711" 713" 715" 717" 719" 721" 723" 725" 727" 729" 731" 733" 735" 737" 739" 741" 743" 745" 747" 749" 751" 753" 755" 757" 759" 761" 763" 765" 767" 769" 771" 773" 775" 777" 779" 781" 783" 785" 787" 789" 791" 793" 795" 797" 799" 801" 803" 805" 807" 809" 811" 813" 815" 817" 819" 821" 823" 825" 827" 829" 831" 833" 835" 837" 839" 841" 843" 845" 847" 849" 851" 853" 855" 857" 859" 861" 863" 865" 867" 869" 871" 873" 875" 877" 879" 881" 883" 885" 887" 889" 891" 893" 895" 897" 899" 901" 903" 905" 907" 909" 911" 913" 915" 917" 919" 921" 923" 925" 927" 929" 931" 933" 935" 937" 939" 941" 943" 945" 947" 949" 951" 953" 955" 957" 959" 961" 963" 965" 967" 969" 971" 973" 975" 977" 979" 981" 983" 985" 987" 989" 991" 993" 995" 997" 999



PRESSURES.	GAUGE	BOHRS
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	41	
1000	45	
2000	45.5	
3140	45.2	
4000	79.6	
5000	113.2	
6000	145.5	
6748	169.0	
6748	169.0	
6748	169.0	

JLB

76

UNION

DEE PYLE  
GEO THERMAL DIVISION DEC 5 1975

SUBSURFACE SURVEY  
Field Work Sheet

8#16 S-23 PT

OWNER Union Oil Company FIELD UHlle Grade WELL NAME B#16  
CASING 9 7/8 C. 2905 ELEV. 9622' DATE: 11-24-75  
LINER DESCRIPTION: 2905 To TD = Open Hole ZERO POINT CL # 10'  
DEPTH 6748'

TUBING DETAIL:

PURPOSE Interference Test

REMARKS:  
Element - 0-4000 PSI SN 7198 Clock 12 hr 15 T  
ELEMENT 8 1/2" - 686' SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
ENGAGE STYLUS P-0930 T-0936 DISENGAGE STYLUS P-1415 T-1415  
WELL HEAD 44.25 PSTG 0-100 T/C  
PICKUP @ 6748 TIME ON BOTTOM 1056 - 1306 MAX. F 567.7  
WELL STATUS  
SHUT IN: 8-21-75 ON PRODUCTION:  
RATE

Pressure

T	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	R-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.20	45.5			1056	100										
1124	6000	.673	1454.9			1134	6000	1.245	479.3								
131	6000	.673	1454.9			1134	6000	1.245	479.3								
201	6000	.673	1454.9			1204	6000	1.245	479.3								
206	6748	.785	1687.7			1206	6748	1.550	567.7								
236	6748	.785	1687.7			1236	6748	1.550	567.7								
306	6748	.785	1687.7			1306	6748	1.550	567.7								

COMMENTS: New Depth - 6748' - From 6746'

76

UNION

DEL PYLE

GEO THERMAL DIVISION

DEC 5 1975

SUBSURFACE SURVEY

Field Work Sheet

B16 S-22 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #16  
 CASING 9 5/8" AT 2905 ELEV. 9622' DATE: 11/17/75  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT: GL+10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE INTERFERENCE TEST

REMARKS:

ELEMENT 2-9000 PSI SN 7198 CLOCK 12 hr 15 TURN  
 ELEMENT 82°-6.86° SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-0941 T-0938 DISENGAGE STYLUS P-1438 T-1438  
 WELL HEAD 42.5 PSIG 0-100 T/C  
 PICKUP @ 6746' TIME ON BOTTOM 1217-1317 MAX. 567.7  
 WELL STATUS  
 SHUT IN: 5/21/75 ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE											
DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
11	6.000	.672	1452.8		4.003	1115	6.000	1.425	532.1							
11	6.000	.672	1452.8		4.003	1245	6.000	1.425	532.1							
1215	6.000	.672	1452.8		4.003	1215	6.000	1.425	532.1							
1217	6.746	.785	1689.7		4.002	1217	6.746	1.550	567.7							
1247	6.746	.785	1689.7		4.002	1247	6.746	1.550	567.7							
1317	6.146	.785	1689.7		4.002	1317	6.746	1.550	567.7							

COMMENTS: FIELD CALIB. CORR. +.011  
DWIT 1900# DEFL. 0.870 CORR. 352.881 P-1000 = 1891  
AT 6746'

S.A.C.A



# GEO THERMAL DIVISION

NOV 19 1975  
DEL PYLE

## SUBSURFACE SURVEY Field Work Sheet

B#16 - S-21 PIT



OWNER Union Oil Company FIELD Valle Grande WELL NAME B#16  
 CASING 9 7/8 @ 2905 ELEV. 9622' DATE: 11-11-75  
 LINER DESCRIPTION: 2905' - TD = Open Hole ZERO POINT CL + 10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE Gradient Survey

REMARKS:

Element 0-4000 PSI SN 7198 clock 12 hr 15T

ELEMENT 82° - 686°F SERIAL NO. 10055 CLOCK 12 hr 15T TURN STABILIZATION PERIOD

ENGAGE STYLUS P0911 T 0909 DISENGAGE STYLUS P-1350 T 1350

WELL HEAD 43 PSI

PICKUP @ 6746 TIME ON BOTTOM 1138-1248 MAX. 584.6

WELL STATUS

SHUT IN: 8-21-75

ON PRODUCTION:

RATE

Pressure

Temperature

Pressure					Temperature													
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	R-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
07	100				0	1021	100											
08	200	.020	45.5		0	1033	1000	.276	171.8									
09	300	.027	61.4		0	1045	2000	.642	291.2									
10	400	.030	77.0		0	1057	3000	1.036	416.0									
11	500	.038	812.8		-0.001	1109	4000	1.215	470.1									
12	600	.027	1148.8		+0.001	1122	5000	1.340	507.3									
13	700	.026	1461.2		+0.003	1135	6000	1.422	531.3									
14	800	.029	1698.1		+0.002	1205	6746	1.539	584.6									
15	8746	.789	1698.1		+0.002	1235	6746	1.539	584.6									
16	8746	.789	1698.1		+0.002	1248	6746	1.539	584.6									

COMMENTS:

BY: [Signature]

76

# GEO THERMAL DIVISION

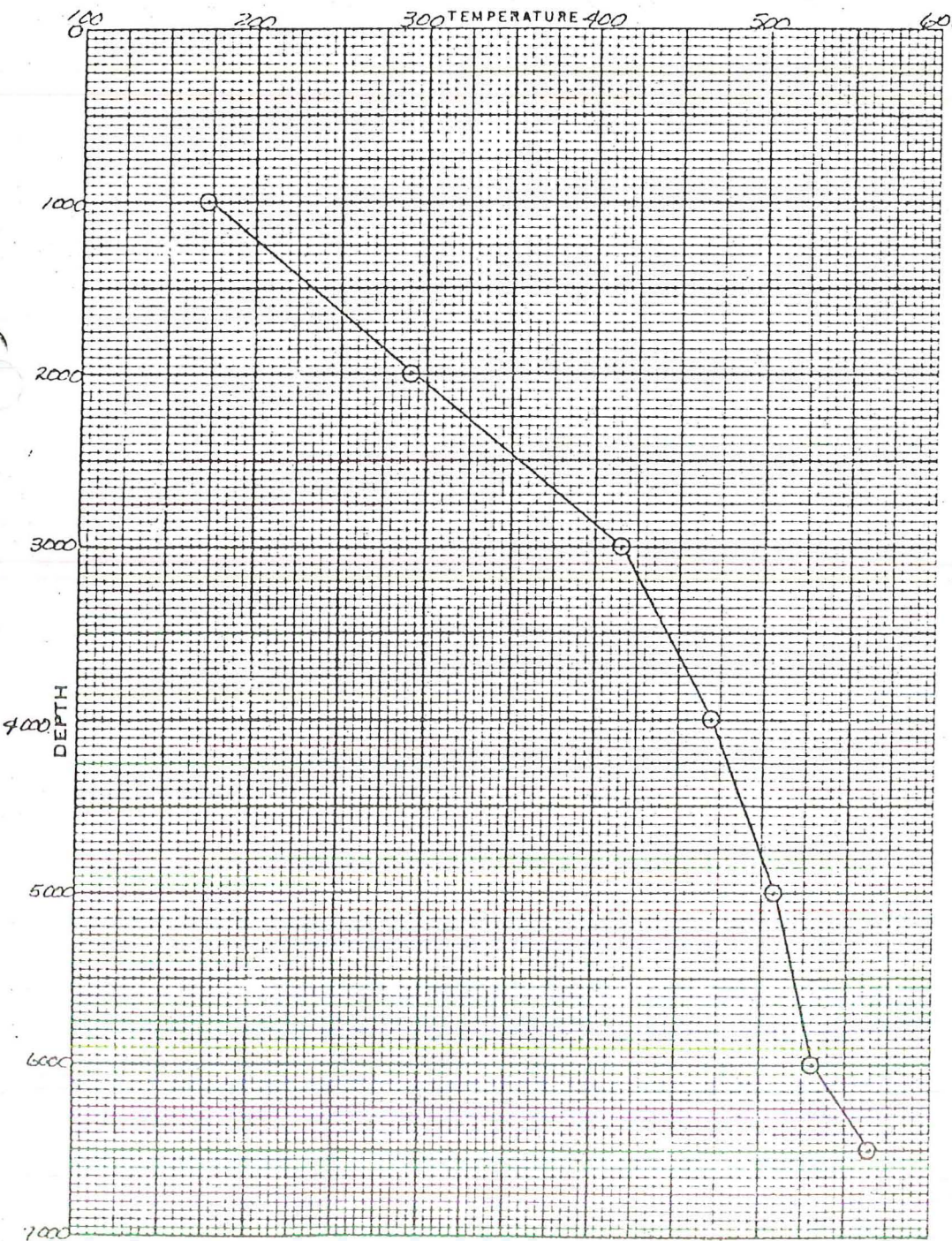
## SUBSURFACE TEMPERATURE SURVEY B/6-S21-PT

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #16  
 CASING \_\_\_\_\_ ELEV 9622' DATE 11/11/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT G.L. +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 82 - 686° FAHF  
 \_\_\_\_\_ SERIAL NO 10055

PURPOSE \_\_\_\_\_ MAX TEMP 564.6 °F @ 6746'  
 REMARKS \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES	GAUGE	BOMB	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100			
1000	171.8		
2000	291.2		
3000	416.0		
4000	470.1		
5000	507.3		
6000	531.3		
6746	564.6		

BY: \_\_\_\_\_



## GEO THERMAL DIVISION

### SUBSURFACE PRESSURE SURVEY B16-S21-PT

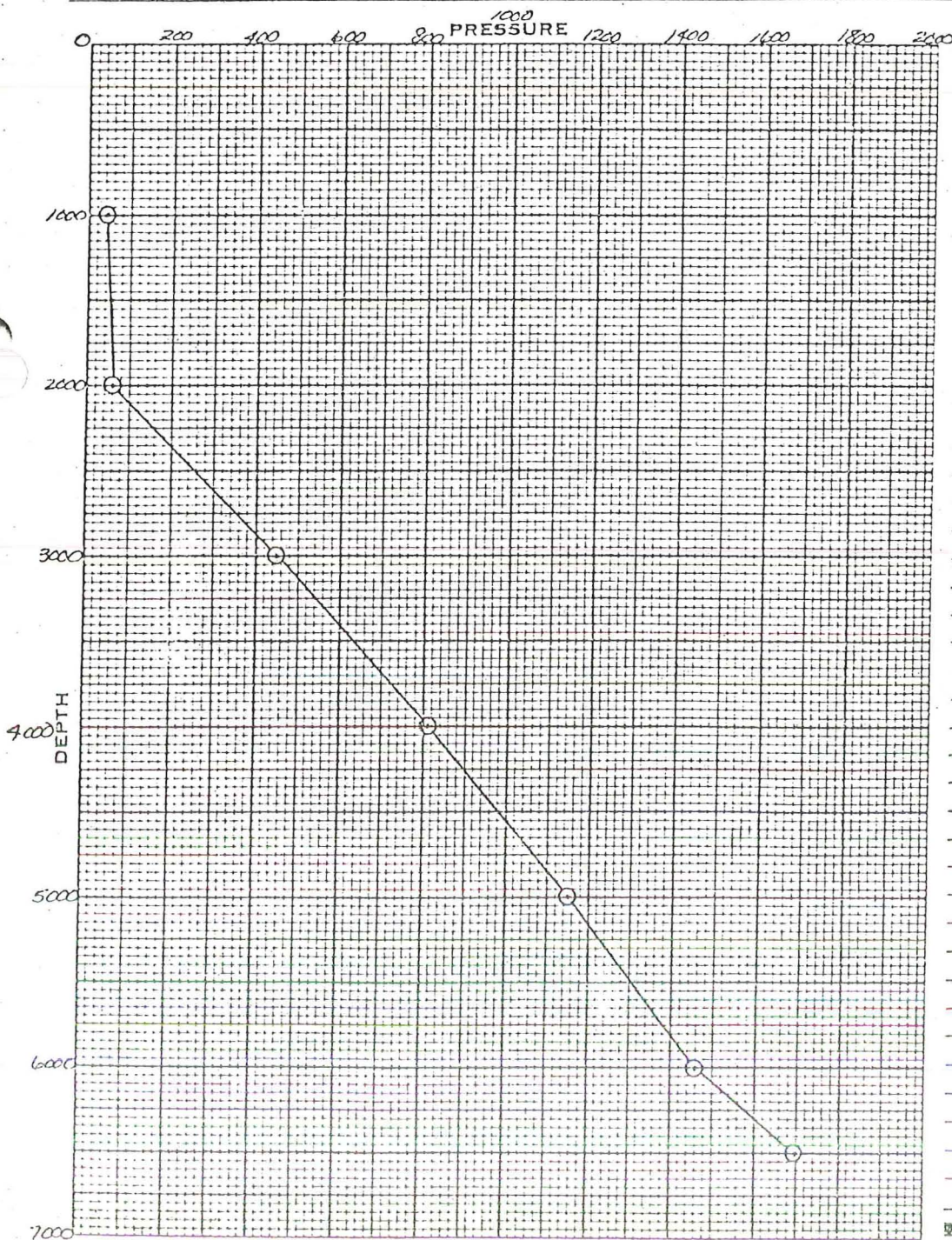
# 76

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #16  
 CASING \_\_\_\_\_ ELEV 9622' DATE 11/11/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT G.L. +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0 - 4000 PSIG  
 \_\_\_\_\_ SERIAL NO 7198

PURPOSE \_\_\_\_\_ MAX TEMP 564.6°F @ 6746'

REMARKS: \_\_\_\_\_



STABILIZATION PERIOD \_\_\_\_\_

PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	PRESSURE	GRADIENT
1000		
1000	45.5	
2000	61.4	
3000	452.6	
4000	812.8	
5000	1148.8	
6000	1461.2	
6746	1698.1	

BY: \_\_\_\_\_

76

UNION

GEO THERMAL DIVISION

JOHN D. HARTZ

NOV 06 1975

SUBSURFACE SURVEY

Field Work Sheet

B16 S19 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" AT 2905' ELEV. 9622 DATE: 10/31/75  
 LINER DESCRIPTION: 2905' - TD = OPEN HOLE ZERO POINT 66+10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-9000 PSI SN 7199 CLOCK - 12 hr 15 T  
 ELEMENT 87° - 6.86°F SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P1250 T 1255 DISENGAGE STYLUS P1650 T 1650  
 WELL HEAD 39 PSI  
 PICKUP @ 6746 TIME ON BOTTOM 1450-1550 MAX. °F 565  
 WELL STATUS STATK.  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID CORR.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
13	100	0.20	45.5	-	0	1335	100	0	0								
14	6000	1.80	1470	-	+1002	1444	6000	1.470	531.3								
15	6746	2.790	1700.2	-	+1002	1550	6746	1.540	565								

COMMENTS:

BY: A.M.

JOHN D. HARTZ



# GEO THERMAL DIVISION

## SUBSURFACE SURVEY

### Field Work Sheet

B#16 5-20 PH

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME BACA#16  
 CASING 9 5/8 @ 2905' ELEV. 9622' DATE: 11/6/75  
 LINER DESCRIPTION: 2905' - T.W. - open hole ZERO POINT GL + 10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE

REMARKS:

Element 0-4000 Rig SN-7198 Clock 12 hr 25 T  
 ELEMENT 82°-686°F SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-0853 T-0857 DISENGAGE STYLUS P-1425 T-1426  
 WELL HEAD 41.5 Rig  
 PICKUP @ 6746' TIME ON BOTTOM 1135-1245 MAX. °F 365°F  
 WELL STATUS Static  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

Pressure

Temperature

Pressure					Temperature												
TIME	DEPTH	DEFL.	P-T	GRAD.	CO. 2%	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
-	100	.022	50	-	0	10:19	100	0	0	-							
-	6000	.682	1474	-	+1.002	11:30	6000	1.416	509.6	-							
-	6746	.787	11694	-	+1.002	12:45	6746	1.540	564.9	-							

COMMENTS:

BY: AD AD

U11112911

76

# GEOTHERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B16-S18-PT

OWNER Union Oil Company

FIELD Valle Grande

WELL NAME Baca #16

CASING

ELEV

DATE 10/25/75

LINEAR DESCRIPTION ZERO POINT G.L. +10'

DEPTH 6746'

HOLE DESCRIPTION:

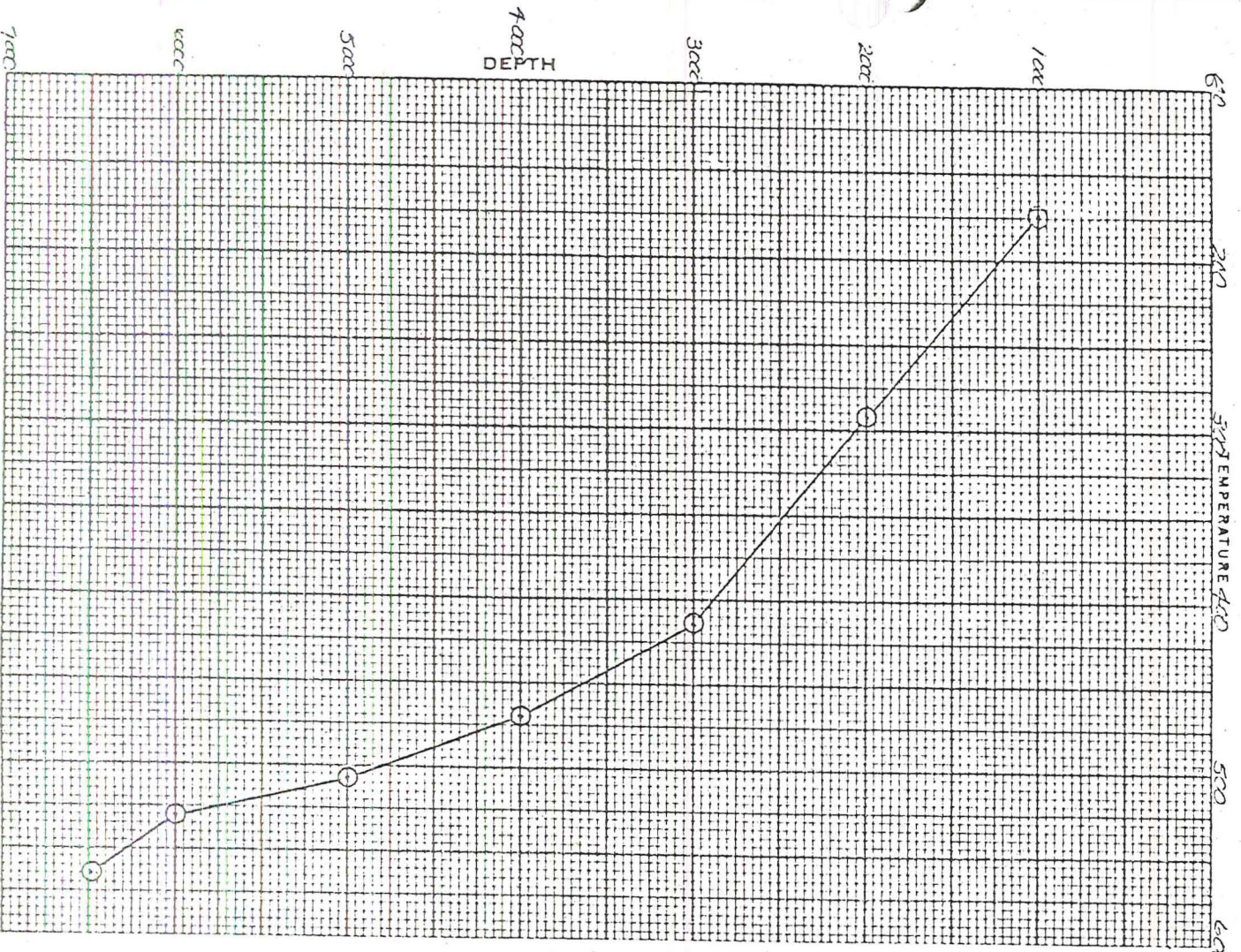
INSTRUMENT SERIAL NO 10055 FAH

PURPOSE

MAX TEMP 564.9 °F @ 6746'

REMARKS

STABILIZATION PERIOD



DEPTH	TEMP.	DEPTH	TEMP
100	0		
1000	173.5		
2000	292.0		
3000	415.1		
4000	470.1		
5000	507.6		
6000	531.0		
6746	564.9		

PRESSURE GAUGE BOND  
 CASING PSI  
 MR. J.M. & J.B.

76

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B16-S18-PT

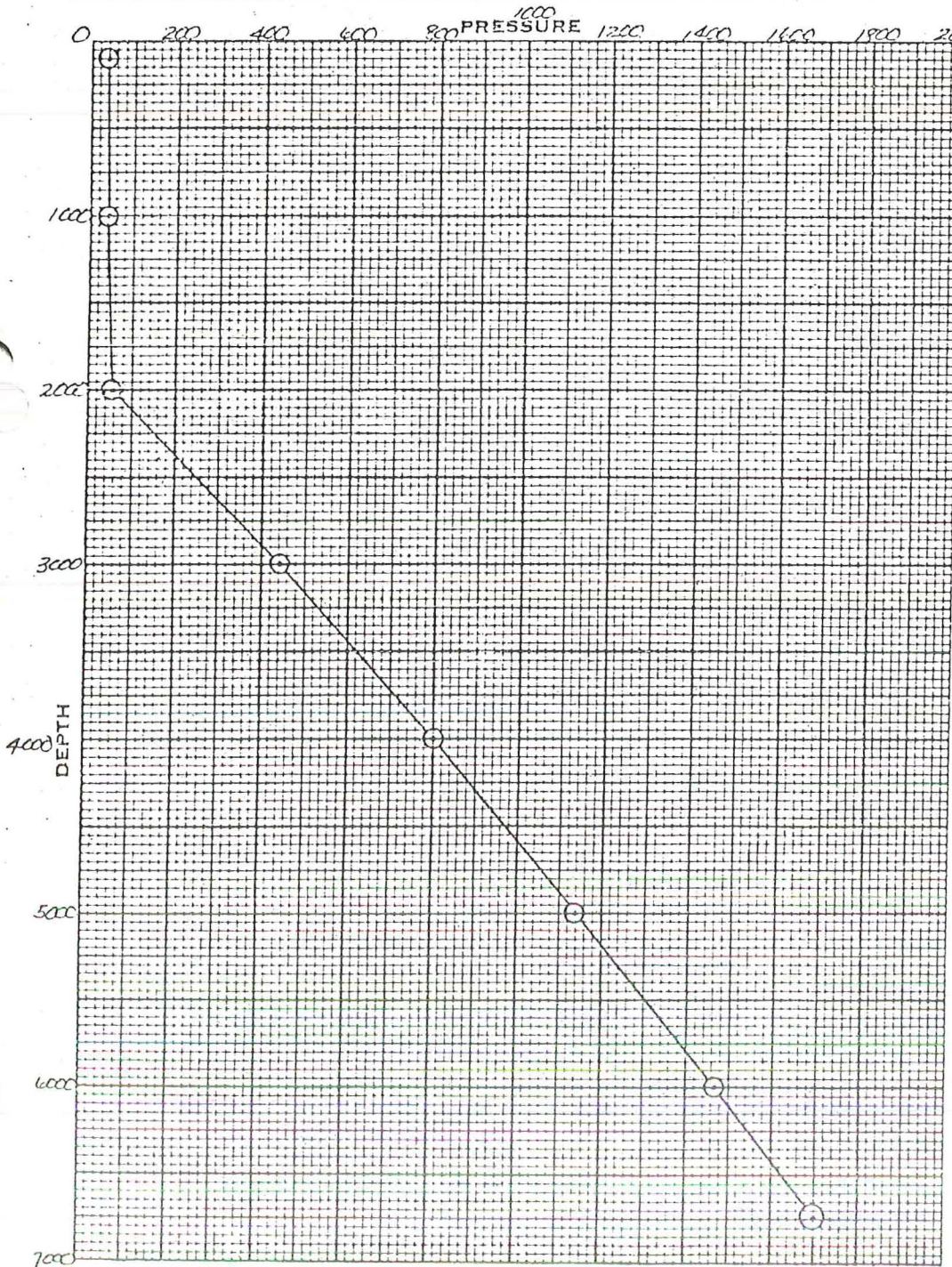
OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #16  
 CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 10/25/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT G.L. +10'  
 \_\_\_\_\_ DEPTH 6746'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0 - 4000 PSI  
 \_\_\_\_\_ SERIAL NO 7198

PURPOSE Gradient Survey MAX TEMP 564.9 °F @ 6746'

REMARKS:

STABILIZATION PERIOD



PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	40.9	
1000	43.2	
2000	56.8	
3000	441.4	
4000	800.0	
5000	1140.5	
6000	1472.0	
6746	1700.2	

BY: J.M. and J.B.

76

UNION

DEL PYLE

NOV 7 1975

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B16 S18 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8 AT 2905 ELEV. 9622' DATE: 10/25/75  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT GLT 10'  
 DEPTH 6746'

TUBING DETAIL:

PURPOSE GRADIENT SURVEY

REMARKS:

ELEMENT - 0-4000 PSI SN 7198 CLOCK 12 hr 15 T  
 ELEMENT 82° - 686° SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1002 T 1002 DISENGAGE STYLUS P-1358 T 1402  
 WELL HEAD 37.5 PSI  
 PICKUP @ 6746 TIME ON BOTTOM 1213 - 1313 MAX. 'F 564.9  
 WELL STATUS  
 SHUT IN: 8/21/75 ON PRODUCTION:  
 RATE

PRESSURE TEMPERATURE

PRESSURE						TEMPERATURE										
DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
100	.018	40.9		0	1058	100	0	0								
110	.019	43.2		0	1110	1000	1.281	175.5								
1122	.025	56.8		0	1122	2000	.643	292.0								
1134	.195	441.4		-002	1134	3000	1.033	415.1								
1147	.362	800.0		-001	1147	4000	1.214	470.1								
1159	.523	1140.5		+001	1159	5000	1.341	507.6								
1210	.481	1472.0		+003	1210	6000	1.421	531.0								
1213	.790	1700.2		+002	1213	6746	1.540	564.9								
1243	.790	1700.2		+002	1243	6746	1.540	564.9								
1313	.790	1700.2		+002	1313	6746	1.540	564.9								

COMMENTS:

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

DEL PYLE

Field Work Sheet

OCT 22 1975 316 517 P/T

OWNER: UNION OIL COMPANY FIELD: VALLE GRANDE WELL NAME: BACA #76  
 CASING: 7 5/8" AT 2905' ELEV.: \_\_\_\_\_ DATE: 10/17/75  
 LINER DESCRIPTION: 2905 - TD OPEN HOLE ZERO POINT: CL +10  
 DEPTH: 6746

TUBING DETAIL:

PURPOSE:

REMARKS:

ELEMENT - 0-4250 PSIG SN 7198 CLOCK - 12 hr 15 T  
 ELEMENT 0-0 - 686° SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-0949 T-0946 DISENGAGE STYLUS P-1421 T-1421  
 WELL HEAD 28 PSIG 0-100 T/G  
 PICKUP @ 6746' TIME ON BOTTOM 1110 - 1340 MAX. 'F 559.2  
 WELL STATUS \_\_\_\_\_  
 SHUT IN: 3/21/75 AT 1700 hrs ON PRODUCTION: \_\_\_\_\_  
 RATE \_\_\_\_\_

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE						
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	6746	.797	1715.9		+.003	1110	6746	1.505	555.0		
	6746	.797	1715.9		+.003	1140	6746	1.514	558.0		
	6746	.797	1715.9		+.003	1210	6746	1.514	555.0		
1240	6746	.797	1715.9		+.003	1240	6746	1.516	558.2		
1310	6746	.797	1715.9		+.003	1310	6746	1.518	558.3		
1340	6746	.797	1715.9		+.003	1340	6746	1.520	559.2		

COMMENTS:

BY: JBS + RB

76

UNION

DEI DME

GEOHERMAL DIVISION 8 1975

SUBSURFACE SURVEY

Field Work Sheet

B#16-516-T/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BPP#16  
 CASING 9 5/8" @ 3205' ELEV. 9199' DATE: 9/25/75  
 LINER DESCRIPTION: 2905 - 6746' - OPEN HOLE ZERO POINT 644-10'  
 DEPTH 6850'

TUBING DETAIL:

PURPOSE

REMARKS:

T<sub>1</sub> - 10655 - 822°F - 686°F 12hr - 13375-L 19  
 ELEMENT T<sub>2</sub> - 11059 SERIAL NO. 90°F - 1169°CLOCK 12hr 1169/4 TURN 15 STABILIZATION PERIOD  
 ENGAGE STYLUS T<sub>1</sub> - 0853, T<sub>2</sub> - 0902 DISENGAGE STYLUS T<sub>1</sub> - 1153, T<sub>2</sub> - 1159  
 WELL HEAD 20 FSL  
 PICKUP @ 6746' TIME ON BOTTOM 1104-1119 MAX. °F T<sub>1</sub> - 551  
T<sub>2</sub> - 572.6  
 WELL STATUS SHUT IN  
 SHUT IN: 8/21/75 @ 1760hr ON PRODUCTION:  
 RATE

T<sub>1</sub> 10655

T<sub>2</sub> 11059

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1000	233	181	0	-	-	1036	1020	282	1082	0	-						
1000	1136	521	0690	-	-	1056	600	1.471	513	0690	-						
1000	1182	531	0640	-	-	1119	6746	1.587	542.1	0376	-						
												NOTE, THIS TOOL WAS BOTTOM TOOL ON STRING.					

COMMENTS:

BY: O.M. Lee



76

union

*Frank*

GEO THERMAL DIVISION

SUBSURFACE SURVEY  
Field Work Sheet

DEC PYLE  
OCT 8 1975 <sup>FILE</sup> S15 P/P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 935' AT 2905' ELEV. DATE: 9/24/75  
 LINER DESCRIPTION: 2905' - TD = OPEN HOLE ZERO POINT 6.410'  
 DEPTH 6950'

TUBING DETAIL:

PURPOSE

REMARKS:

P  
ELEMENT P-4250 PSIG SN 7.98 CLOCK 12 hr 15 TURN

ELEMENT P-2950 PSISERIAL NO. 9235 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1133 P-1145 DISENGAGE STYLUS P-1620 P-1620

WELL HEAD 20 PSIG

PICKUP @ 6746' TIME ON BOTTOM 1445 - 1500 MAX. °F

WELL STATUS SHUT IN

SHUT IN: 1700 hrs 8/21/75 ON PRODUCTION:

RATE

P<sub>1</sub> # 7198

P<sub>2</sub> 9235

TIME	DEPTH	DEFL.	P-#	GRAD.	ID	TIME	DEPTH	DEFL.	P-#	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	110	.009	20.3		0	1213	100	.012	19.0	0							
	1000	.010	22.5		0	1235	1000	.015	23.3	0							
	2000	.016	36.0		0	1237	2000	.020	31.2	0							
	1250	3000	.188	423.4	0	1250	3000	.028	436.1	0							
	1303	4100	.354	779.7	0	1303	4000	.521	797.6	+ .001							
	1315	5000	.518	1126.1	+ .002	1315	5000	.758	1144.6	+ .003							
	1327	6000	.674	1453.8	+ .004	1327	6000	.973	1466.1	+ .004							
	1338	6100	.696	1479.0	+ .004	1338	6100	.992	1494.1	+ .004							
	1349	6200	.704	1517.0	+ .004	1349	6200	1.017	1531.1	+ .004							
	1359	6300	.722	1555.1	+ .004	1359	6300	1.034	1556.2	+ .004							
	1409	6400	.736	1584.7	+ .004	1409	6400	1.058	1591.7	+ .004							
	1419	6500	.748	1610.2	+ .003	1419	6500	1.077	1619.8	+ .004							
	1434	6600	.764	1644.1	+ .003	1434	6600	1.099	1652.4	+ .003							
	1445	6700	.779	1676.8	+ .003	1445	6700	1.125	1690.8	+ .003							
	1500	6746	.786	1690.7	+ .003	1500	6746	1.132	1701.2	+ .003							

COMMENTS:

BY:

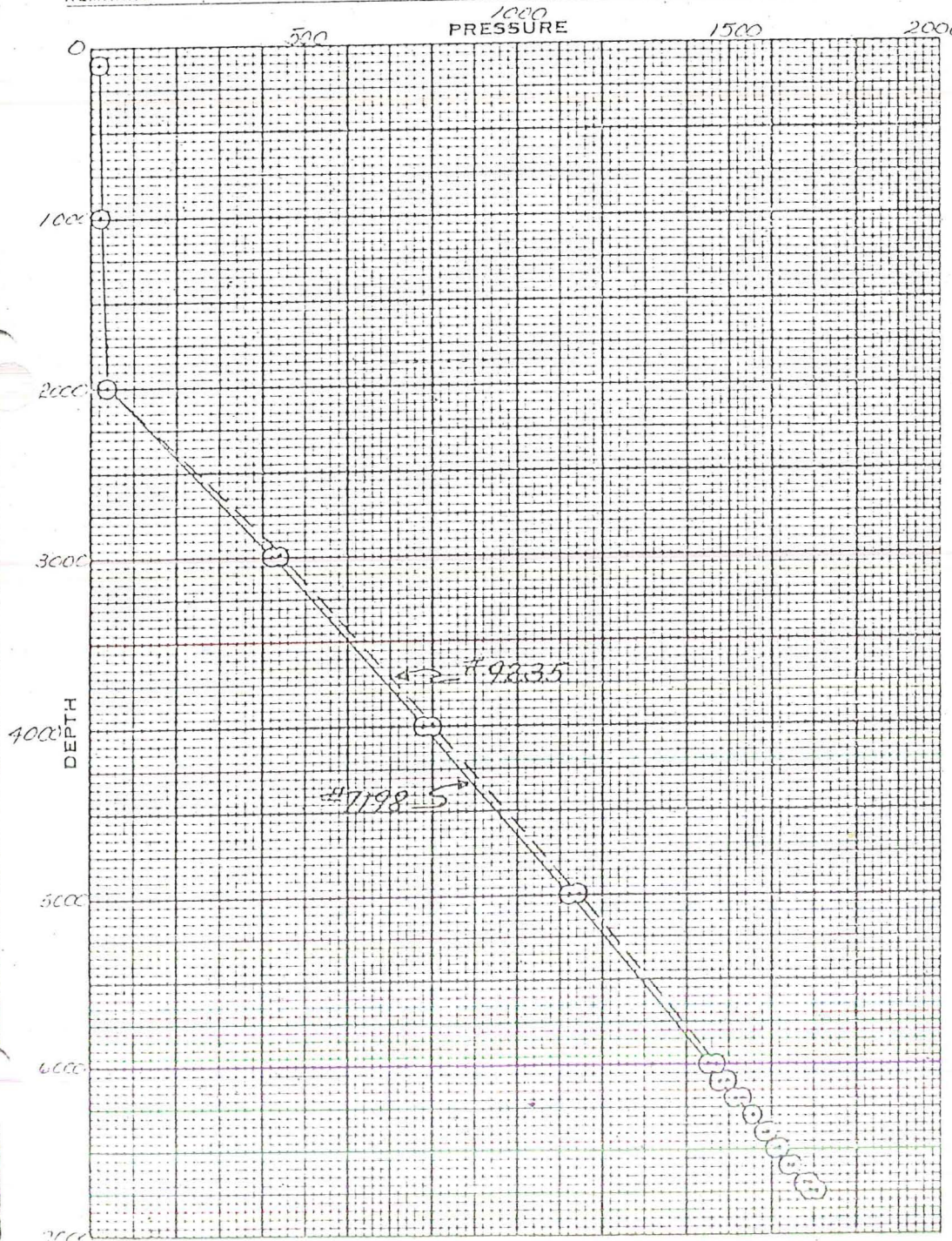
76

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B16-S15-PP

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #16  
 CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE 9/24/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT G.L. + 10'  
 \_\_\_\_\_ DEPTH 6950'  
 HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ PS  
 \_\_\_\_\_ SERIAL NO 7198 & 9235  
 \_\_\_\_\_ MAX TEMP \_\_\_\_\_ °F @ \_\_\_\_\_  
 PURPOSE \_\_\_\_\_  
 REMARKS \_\_\_\_\_



STABILIZATION PERIOD \_\_\_\_\_

PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	PRESSURE	GRADIENT
S.N. #7198		
100	20.3	0
1000	22.5	0
2000	36.0	0
3000	423.4	0
4000	779.7	0
5000	1126.1	.002
6000	1453.8	.004
6100	1479.0	.004
6200	1517.0	.004
6300	1555.1	.004
6400	1584.7	.004
6500	1610.2	.003
6600	1644.1	.003
6700	1675.8	.003
6746	1690.7	.003

DEPTH	PRESSURE	GRADIENT
S.N. #9235		
100	19.3	0
1000	23.3	0
2000	31.2	0
3000	436.1	0
4000	797.6	.001
5000	1144.6	.003
6000	1466.1	.004
6100	1494.1	.004
6200	1531.1	.004
6300	1556.2	.004
6400	1591.7	.004
6500	1619.8	.004
6600	1652.4	.003
6700	1690.8	.003
6746	1701.2	.003

BY

76

Union

OCT 8 1975

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACA #16-514-T/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 9/21/75  
 LINER DESCRIPTION: 2905' - T.D. - OPEN HOLE ZERO POINT 61 + 10'  
 DEPTH 6950'

TUBING DETAIL:

PURPOSE

REMARKS:

T<sub>1</sub> - 820F - 686°F 10055 12HR 13375-L 15  
 ELEMENT T<sub>2</sub> - 800F - 684°F SERIAL NO. 100552 CLOCK 12HR 14191-L TURN/5 STABILIZATION PERIOD  
 ENGAGE STYLUS T<sub>1</sub> - 0720 T<sub>2</sub> 0718 DISENGAGE STYLUS T<sub>1</sub> - 1304 T<sub>2</sub> 1316  
 WELL HEAD 21  
 PICKUP @ 6950 TIME ON BOTTOM 1109-1122 MAX. \*T<sub>1</sub> 553, T<sub>2</sub> - 560  
 WELL STATUS SHUT IN  
 SHUT IN: 1700 HRS ON 8/21/75 ON PRODUCTION:  
 RATE

T<sub>1</sub> - 10055 T<sub>2</sub> - 10052

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0820	100	.005	81	0		0820	100	.005	81	0							
0834	100	.280	168	.097		0834	100	.280	168	.097							
0848	200	.616	271	.103		0848	200	.616	271	.103							
0900	300	1.052	398	.127		0900	300	1.052	398	.127							
0912	400	1.253	454	.056		0912	400	1.253	454	.056							
0924	500	1.400	494	.04		0924	500	1.400	494	.04							
0936	600	1.480	515	.021		0936	600	1.480	515	.021							
0947	700	1.471	513	0		0947	700	1.471	513	0							
0957	800	1.490	517	.04		0957	800	1.490	517	.04							
1009	900	1.510	523	.06		1009	900	1.510	523	.06							
1020	1000	1.533	529	.06		1020	1000	1.533	529	.06							
1035	1100	1.556	535	.06		1035	1100	1.556	535	.06							
1047	1200	1.571	540	.05		1047	1200	1.571	540	.05							
1058	1300	1.597	545	.05		1058	1300	1.597	545	.05							
1108	1400	1.605	547	.02		1108	1400	1.605	547	.02							
1122	1500	1.657	560	.087		1122	1500	1.657	560	.087							

\* NOTE: THIS TEMP. ELEMENT WAS ON TOP OF TOOL STRING.

COMMENTS:

BY: J.M.

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

*gwk*

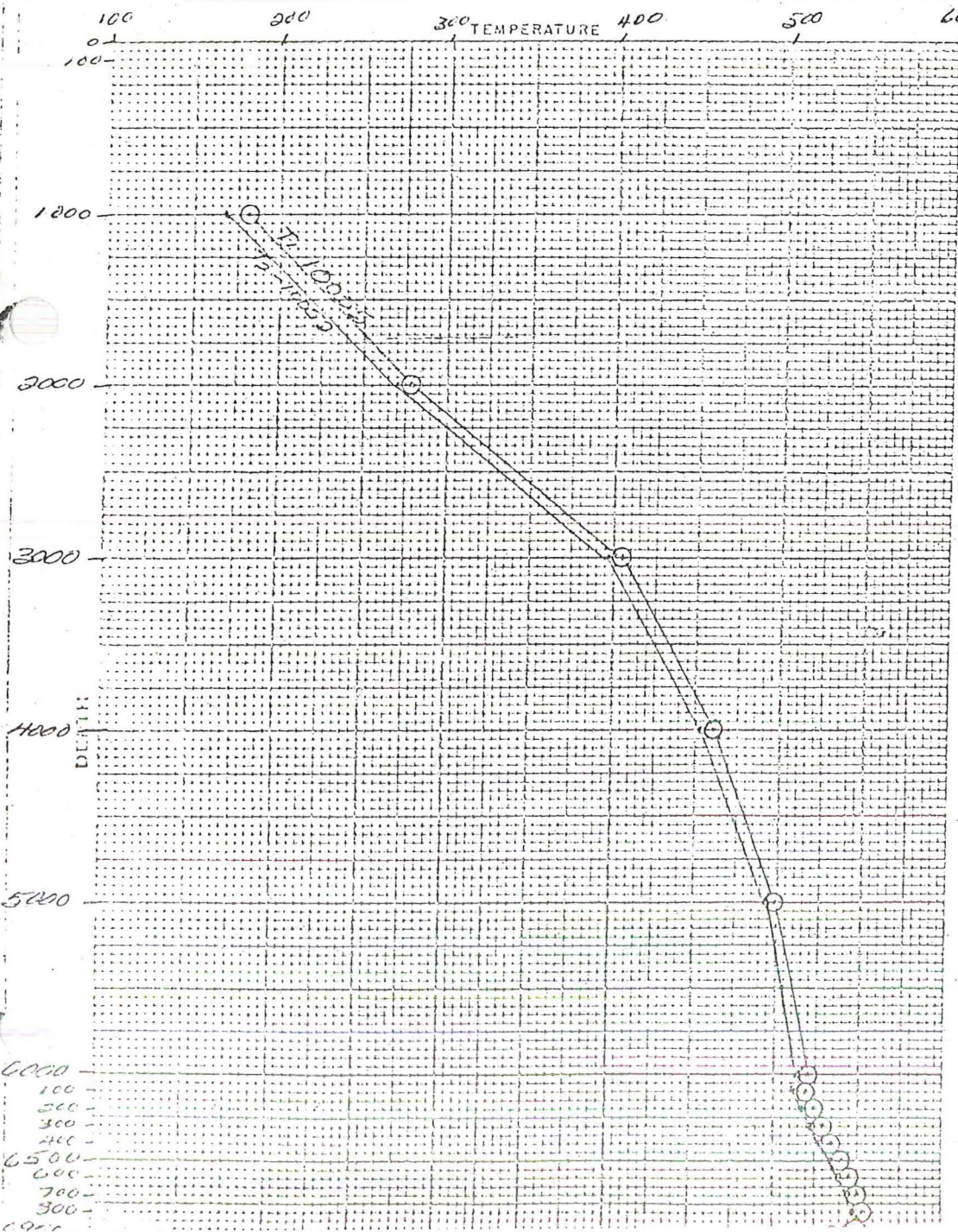
16

BTHL-575 <sup>14</sup>T<sub>1</sub>, T<sub>2</sub>

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACH #16  
 CASING 9 5/8" @ 2905' ELEV. 96.22' DATE: 9/24/75  
 LINER DESCRIPTION: 2905' - T.D. OPEN HOLE ZERO POINT CL + 10'  
 DEPTH 6950'

HOLE DESCRIPTION: \_\_\_\_\_ T<sub>1</sub> - 1005.5  
 INSTRUMENT T<sub>2</sub> - 10052  
 SERIAL NO \_\_\_\_\_  
 MAX TEMP. T<sub>1</sub> - 553 °F @ 6800  
T<sub>2</sub> - 560 @ 6950

PURPOSE \_\_\_\_\_  
 REMARKS \_\_\_\_\_



PRESSURE	GAUGE	NO.
CASING PSI		

DEPTH	TEMP.	DEPTH	TEMP.
T <sub>1</sub> 10051		T <sub>2</sub> 10052	
100	83	100	81
1000	181	1000	165
2000	278	2000	271
3000	405	3000	398
4000	461	4000	454
5000	499	5000	494
6000	521	6000	515
6100	519	6100	513
6200	524	6200	517
6300	530	6300	523
6400	535	6400	529
6500	541	6500	535
6600	546	6600	540
6700	550	6700	545
6800	553	6800	547
6950	556	6950	560

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#16-S13-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#16.  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 9/16/73  
 LINER DESCRIPTION: 2905' - T.D. OPEN HOLE ZERO POINT CL+10'  
 DEPTH 6950'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4250PSIG 7198 CLOCK-12HR 13375-L 15  
 ELEMENT T-82°F-686°F SERIAL NO. 100555 CLOCK 12HR 14091-L 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1035 T-1033 DISENGAGE STYLUS P-1520 T-1522 28 DAYS  
 WELL HEAD 14PSIG  
 PICKUP @ 6950' TIME ON BOTTOM 1235-1335 MAX. °F 536°F  
 WELL STATUS SHUT IN.  
 SHUT IN: 0900 8/10/75 ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-W	GRAD.	CDR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1200	100	1166	136	0	-	"	100	1008	84.3	0							
1205	1000	1167	138	1000	-	"	1000	1290	177	103							
1210	3000	1169	140	1004	-	"	3000	1563	266	1089							
1220	3000	1182	140	1099	390	-	"	3000	1965	394	128						
1211	4000	1319	169	1359	-	"	4000	1148	450	1056							
1223	5000	1513	115	1346	1003	"	5000	1290	493	1043							
1234	6000	1669	144	1328	1004	"	6000	1360	514	1021							
1235	6950	1507	173	1352	1004	"	6950	1440	536	-							
1305	6950	1511	174	1356	1006	"	6950	1313	499	-							
1335	6950	1511	174	1356	1006	"	6950	1303	496	-							

Temperature showed a distinct cooling trend during the 1 hour stop on T.D. since the temp. did not rise until 1:00 PM. 7/11/75; when temp. below 2000' was 2 hrs on bottom. T.P.S.

COMMENTS:

BY: J.M. I.B.

476

# GEO THERMAL DIVISION

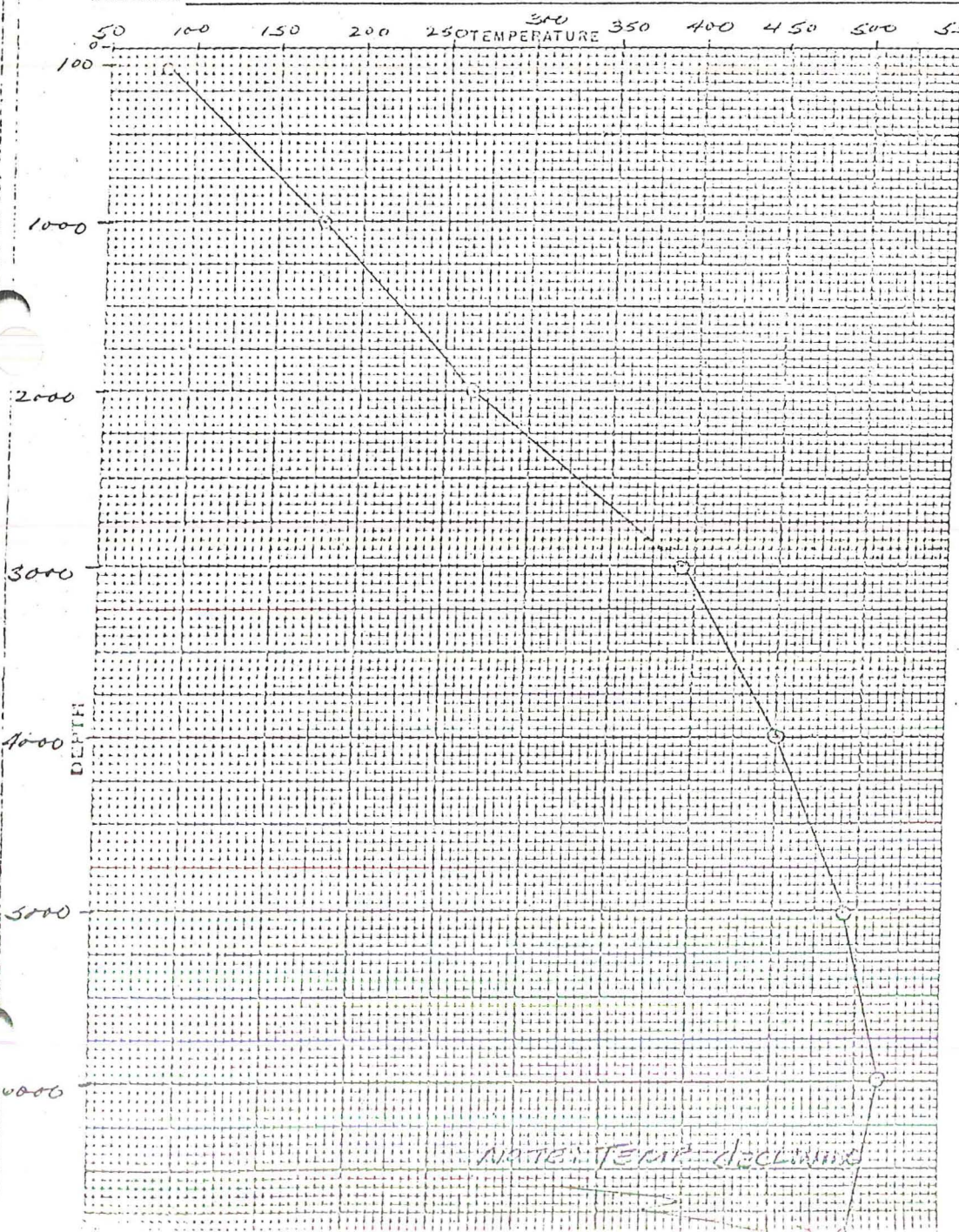
## SUBSURFACE TEMPERATURE SURVEY

B-16 S-13 T

OWNER AMERICAN OIL COMPANY FIELD VALLE GRANDE WELL NAME FRCA #16  
 CASING 45/8 2905' ELEV. 9622 DATE: 7/16/73  
 LINER DESCRIPTION: 2905' - TD = OPEN HOLE ZERO POINT GL +10  
 DEPTH 6950

HOLE DESCRIPTION: \_\_\_\_\_  
 INSTRUMENT 800 - 686°  
 SERIAL NO 10055

PURPOSE \_\_\_\_\_ MAX TEMP. 5 °F  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD \_\_\_\_\_

PRESSURES: \_\_\_\_\_ GAUGE \_\_\_\_\_  
 CASING, PSI: \_\_\_\_\_

DEPTH	TEMP.	DEPTH	TEMP.
100	71.3		
1000	176.6		
2000	266.2		
5000	393.8		
4000	450.1		
5000	492.6		
6000	513.5		
6950	536.0		
6950	499.5		
6950	496.4		

*JM JB*

NOTE: TEMP. DECLINE

*716*

# GEO THERMAL DIVISION

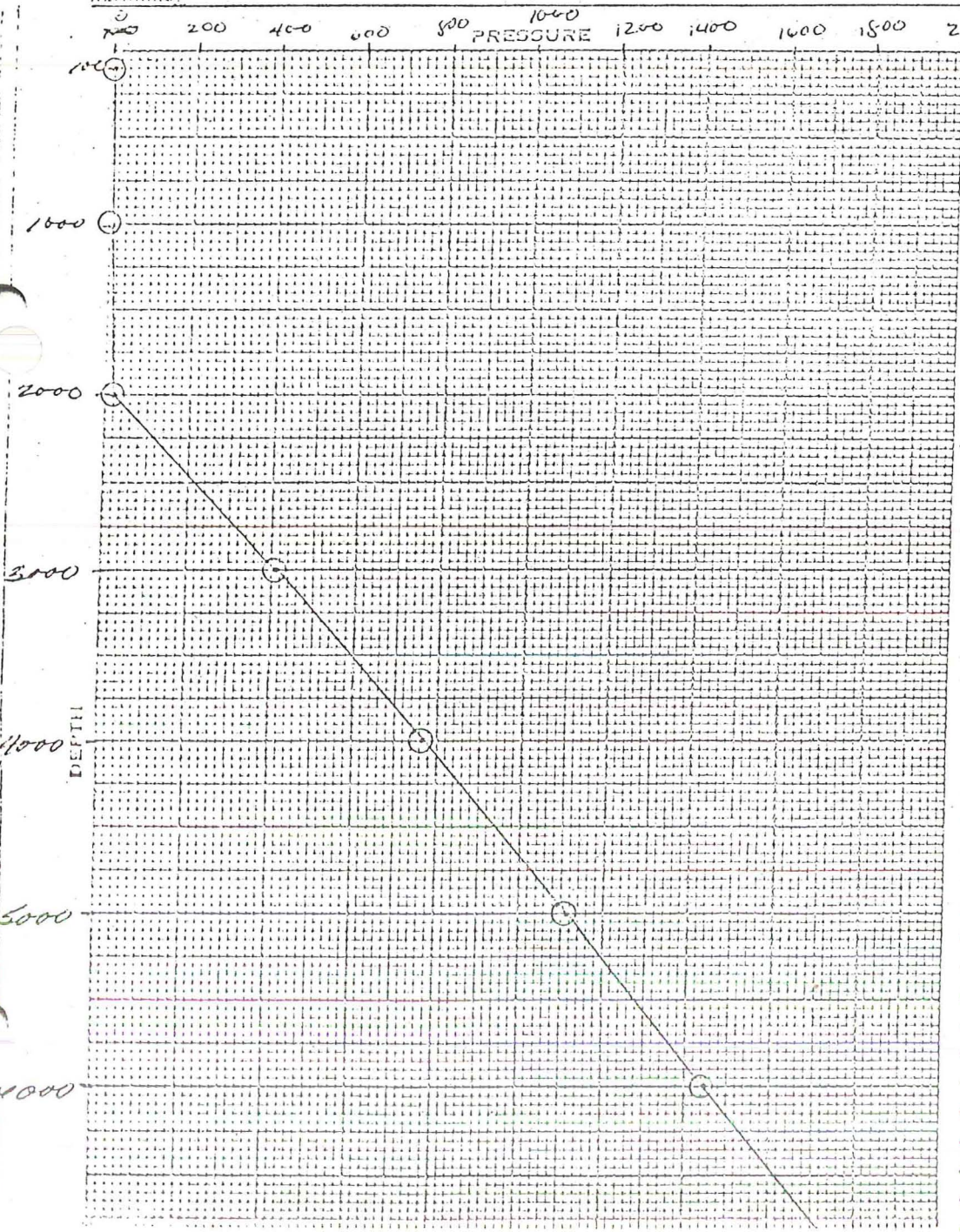
## SUBSURFACE PRESSURE SURVEY

*B-16 S13 P*

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACT #16  
 CASING 9 5/8 AT 2905' ELEV. 967.2' DATE: 9/16/75  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT C.L. + 10'  
 DEPTH 6950'

HOLE DESCRIPTION:  
 INSTRUMENT 0-4250  
 SERIAL NO. 7198  
 MAX TEMP 7 °F @

PURPOSE: \_\_\_\_\_  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIODS \_\_\_\_\_

PRESSURE, PSI	Gauge	CASING, PSI	DEPTH	PRESSURE	GRADIENT
			150	13.6	
			1000	15.8	
			2000	20.2	
			3000	409.9	
			4000	769.1	
			5000	1115.5	
			6000	1445.3	
			6950	1735.2	
			6950	1743.6	
			6950	1743.6	

*J.M. S13*



# GEO THERMAL DIVISION DEL PYLE

SUBSURFACE SURVEY  
Field Work Sheet

SEP 22 1975  
B# 12-513-177

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#16.  
 CASING 9 5/8" @ 2905' ELEV. 96.22' DATE: 9/16/75  
 LINER DESCRIPTION: 2905' - T.D. OPEN HOLE ZERO POINT CL+10'  
 DEPTH 6950'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4250 PSI @ 7198 CLOCK 12HR 13375-L 15

ELEMENT T-820F-686F SERIAL NO. 10055 CLOCK 12HR 14091-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1035 T-1033 DISENGAGE STYLUS P-1520 T-1022

WELL HEAD 14 PSI @

PICKUP @ 6950' TIME ON BOTTOM 1235-1335 MAX. F 536°F

WELL STATUS SHUT IN.

SHUT IN:

ON PRODUCTION:

RATE

### PRESSURE

### TEMPERATURE

TIME	DEPTH	DEFL.	P-F	GRAD.	CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1124	100	1066	13.6	0	-	"	100	1008	84.3	0							
1125	1000	1007	15.8	1.002	-	"	1000	1290	177	1.03							
1126	2000	1009	20.2	1.004	-	"	2000	1563	266	1.089							
1200	3000	182	4099	390	-	"	3000	1965	394	1.28							
1211	4000	349	769.1	359	-	"	4000	1148	450	1.056							
1223	5000	513	1115.5	346	+0.03	"	5000	1290	493	1.043							
1234	6000	669	1443.3	328	+0.04	"	6000	1360	514	1.021							
1235	6950	807	1735.2	-	+0.04	"	6950	1440	536	-							
1305	6950	811	1743.6	-	+0.06	"	6950	1313	499	-							
1335	6950	811	1743.6	316	+0.06	"	6950	1303	496	-							

Temperature showed a distinct cooling trend during the 1 hour stop on T.D.

COMMENTS:

BY: J.M. / J.B.



76

# GEOHERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B-16 S13 P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BALPA #16  
 CASING 9 5/8 AT 2905' ELEV. 962.2' DATE 9/16/75  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT CL+10'  
 DEPTH 6950'

HOLE DESCRIPTION:

INSTRUMENT 0-4250

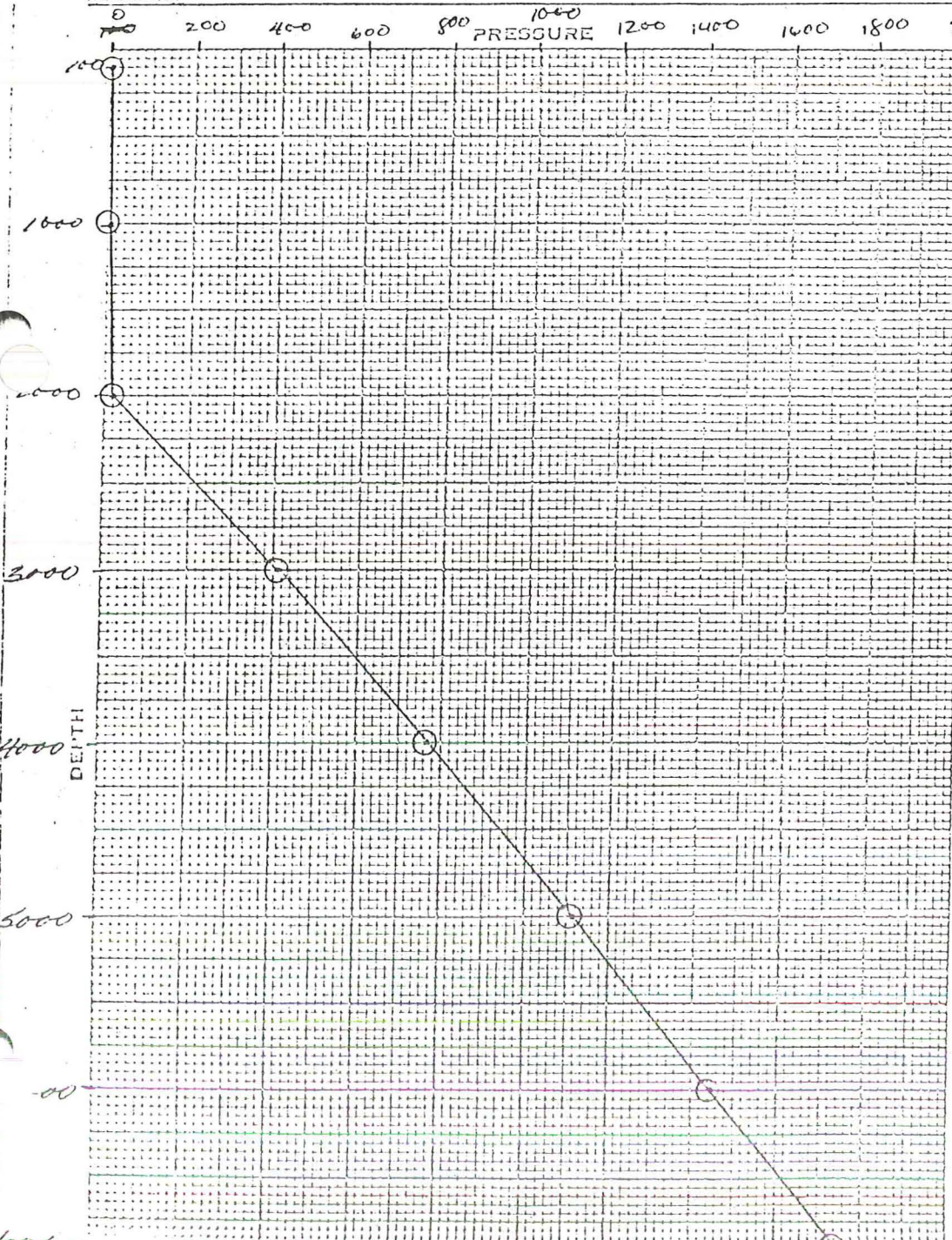
SERIAL NO 7198

MAX TEMP ? OF @

PURPOSE:

REMARKS:

STABILIZATION PERIOD



PRESSURE	GAUGE	COR.
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	13.6	
1000	16.8	
2000	20.2	
3000	409.9	
4000	769.1	
5000	1115.5	
6000	1443.3	
6950	1735.2	
6950	1743.6	
6950	1743.6	

Jim S13

6950-

716

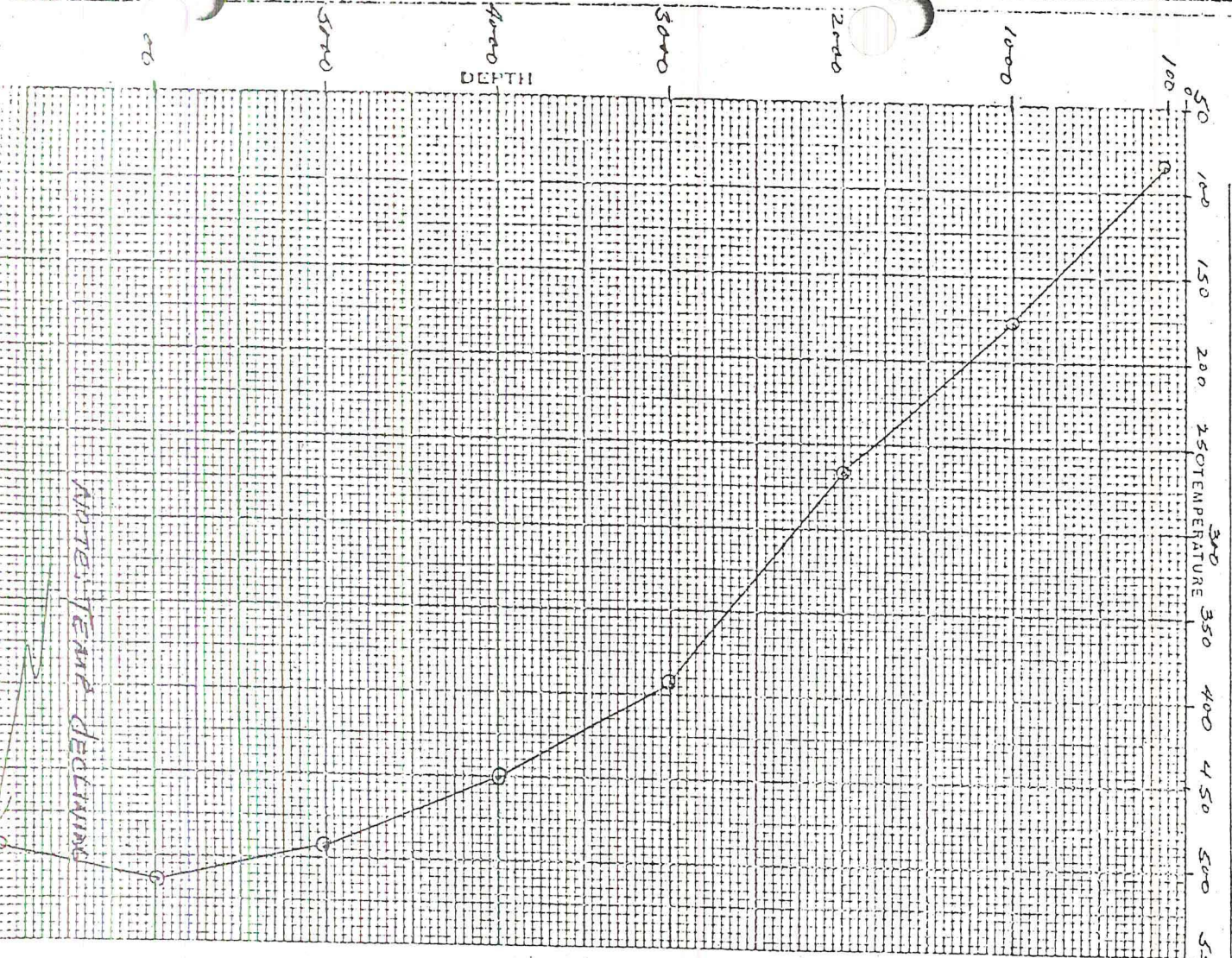
GEOTHERMAL DIVISION  
SUBSURFACE TEMPERATURE SURVEY

B-16 S-13 T

OWNER MINN OIL COMPANY FIELD WAKE BRINDE WELL NAME BRN #16  
 CASING 9 5/8 3505' ELEV. 9622 DATE: 9/16/75  
 LINER DESCRIPTION: 2905' TD = OPEN HOLE ZERO POINT GL 710

HOLE DESCRIPTION: \_\_\_\_\_  
 INSTRUMENT 882-6860  
 SERIAL NO 10055

PURPOSE: \_\_\_\_\_  
 MAX TEMP. 5 °F @ \_\_\_\_\_



NOTES: TEMPS DECLINING

PRESSURES	GAUGE	COND.
CASING, PSI		
DEPTH	TEMP.	DEPTH
1000	84.3	
2000	176.6	
5000	350.8	
6000	450.1	
6500	492.6	
7000	513.5	
7500	536.0	
8000	496.4	

Wm JTB

76



GEOHERMAL DIVISION DEL PYLE

SUBSURFACE SURVEY  
Field Work Sheet

SEP 22 1975

13-16 5-12 P/T

OWNER UNION OIL COMPANY FIELD UALLE GRANDE WELL NAME BACA #10  
 CASING 9 5/8" AT 2905 ELEV. 9622' DATE: 9/11/75  
 LINER DESCRIPTION: 2905 - TD = OPEN HOLE ZERO POINT 6L H10  
 DEPTH 6950'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4250 PSIG SN 7198 CLOCK 12 hr 15 TURN  
 ELEMENT 82°-686° SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1231 T-1228 DISENGAGE STYLUS P-1526 T-1527  
 WELL HEAD 14 PSIG  
 PICKUP @ 6950' TIME ON BOTTOM 1300-1500 MAX. °F 535.0  
 WELL STATUS  
 SHUT IN: ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
13	6950	.781	1680.1		+ .004	1300	6950	1.435	535.0								
14	"	"	"		"	1330	"	"	"								
1430	"	"	"		"	1400	"	"	"								
1430	"	"	"		"	1430	"	"	"								
1500	6950	.781	1680.1		+ .004	1500	6950	1.435	535.0								

COMMENTS:

BY: Jim JB CP

# 76

# UNION

## GEOTHERMAL DIVISION

### SUBSURFACE SURVEY

#### Field Work Sheet

BACA #16-S11-P/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 8/7/75  
 LINER DESCRIPTION: OPEN HOLE - 2905' - 6203' ZERO POINT RT + 10'  
 DEPTH 6203'

TUBING DETAIL:

PURPOSE FLOWING SURVEY.

REMARKS:

P-0-4250 PSIG. 7198 12HR-14091 L 15  
 ELEMENT T-82°F-686°F SERIAL NO. 10055 CLOCK 12HR-13375-L TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1410 T-1343 DISENGAGE STYLUS P-1752 T-1752  
 WELL HEAD 5 PSIG 0-200 T/G  
 PICKUP @ 6203' 6170 TIME ON BOTTOM 1710-1716 MAX. °F 392  
 WELL STATUS FLOWING.  
 SHUT IN: ON PRODUCTION:  
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P - T	GRAD.	CORR	TIME	DEPTH	DEFL.	° - T	GRAD.	ID	TIME	DEPTH	DEFL.	P - T	GRAD.	ID
1510	100	.002	5.0			1510	100	.375	205								
1517	1000	.003	7.0			1517	1000	.421	220								
1522	2000	.004	9.0			1522	2000	.505	248								
1528	2500	.007	16.0			1528	2500	.579	271								
1534	3000	.010	23.0			1534	3000	.637	290								
1540	3200	.013	29.0			1540	3200	.648	293								
1545	3400	.013	29.0			1545	3400	.646	293								
1551	3600	.013	29.0			1551	3600	.641	291								
1557	3800	.013	29.0			1557	3800	.636	289								
1603	4000	.013	29.0			1603	4000	.630	288								
1609	4200	.014	32.0			1609	4200	.628	287								
1615	4400	.015	34.0			1615	4400	.628	287								
1621	4600	.016	36.0			1621	4600	.630	288								
1627	4800	.017	38.0			1627	4800	.636	289								
1633	5000	.020	45.0			1633	5000	.647	293								
1639	5200	.023	52.0			1639	5200	.667	299								
1645	5400	.030	68.0			1645	5400	.708	312								
1651	5600	.038	86.0			1651	5600	.758	328								
1657	5800	.065	140.0			1657	5800	.868	363								
1703	6000	.100	225.0			1703	6000	.959	392								
1709	6100	.122	275.0			1709	6100	.917	378								
1716	6170	.154	347.0			1716	6170	.960	392								

COMMENTS: WHP @ 1510 hrs - 5 PSIG - 0-200 T/G.  
 WHP @ 1540 hrs - 12 PSIG - 0-200 T/G.  
 WHP @ 1630 hrs - 3.5 PSIG - 0-200 T/G.

BY: J.B. J.M.

476

# GEO THERMAL DIVISION

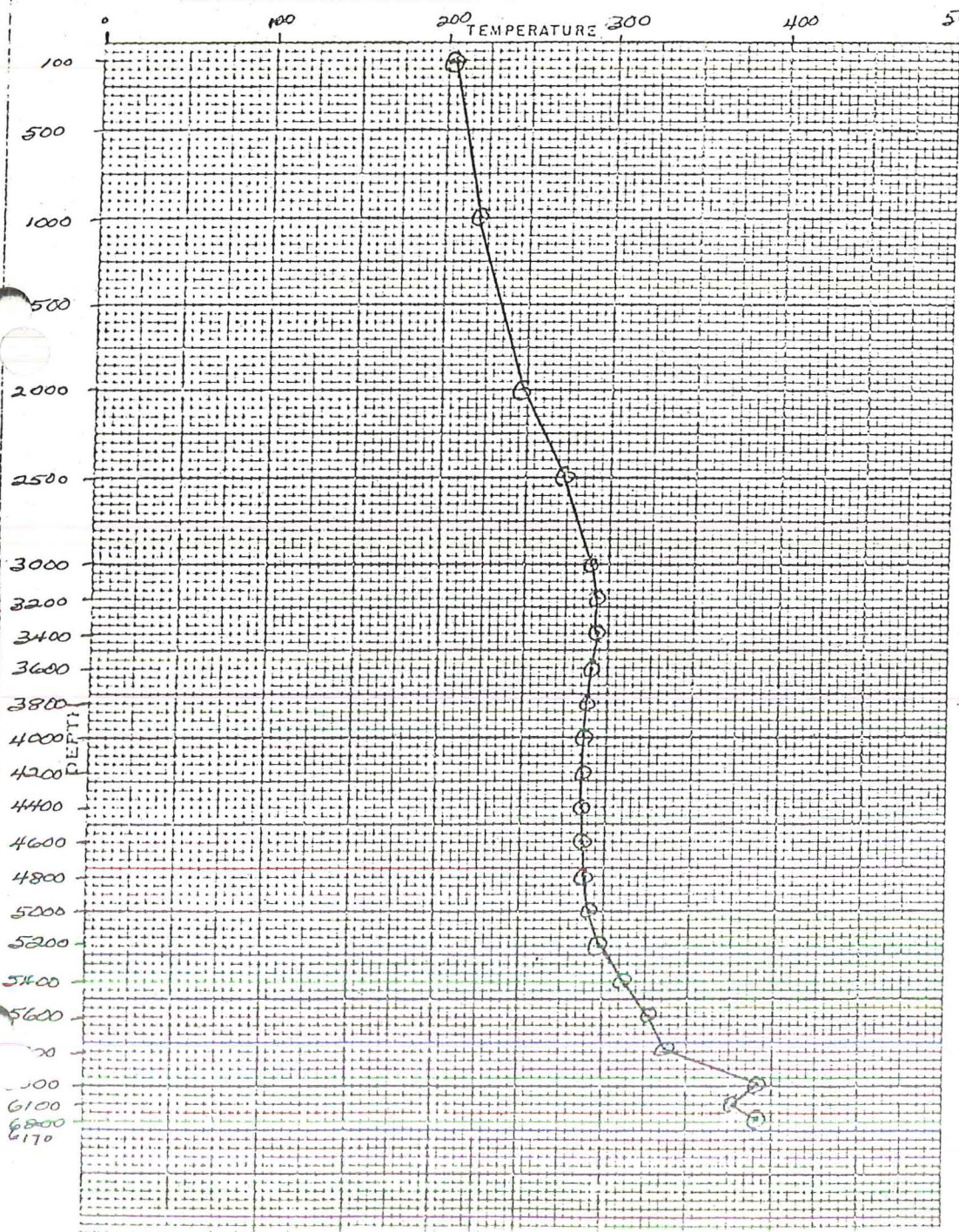
## SUBSURFACE TEMPERATURE SURVEY

BACA #16 - S11 - P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 8/17/75  
 LINER DESCRIPTION: OPEN HOLE - 2905' - 6203' ZERO POINT RT+10'  
 DEPTH 6203'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 82°F - 686 FA: \_\_\_\_\_  
 SERIAL NO 10055

PURPOSE FLOWING SURVEY MAX TEMP. 6170 °F @ 6203'  
 REMARKS: \_\_\_\_\_



PRESSURE	GAUGE	ZONE
CASING, PSI	5	@ 100'

DEPTH	TEMP.	DEPTH	TEMP.
100	205		
1000	220		
2000	248		
2500	271		
3000	290		
3200	293		
3400	293		
3600	291		
3800	289		
4000	288		
4200	287		
4400	287		
4600	288		
4800	289		
5000	293		
5200	299		
5400	312		
5600	328		
5800	363		
6000	392		
6100	378		
6170	392		

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

BACA #16-S11-1/7

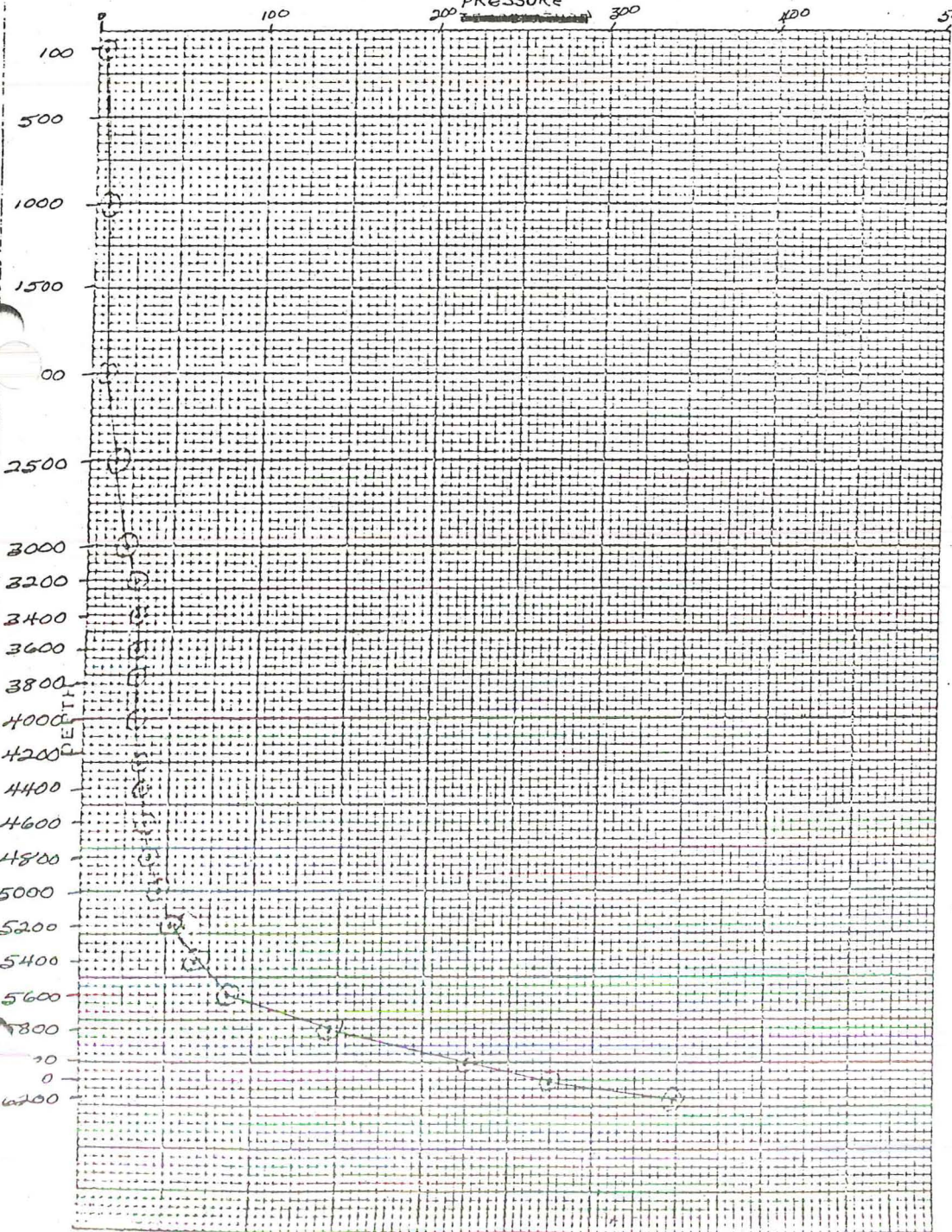
76

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #16  
 CAGING 9 5/8" @ 2905' ELEV. 9622' DATE: 8/7/75  
 LINER DESCRIPTION: OPEN HOLE - 2905' - 6203' ZERO POINT RT. +10'  
 DEPTH 6203'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0-4250-PSIG.  
 SERIAL NO 7198

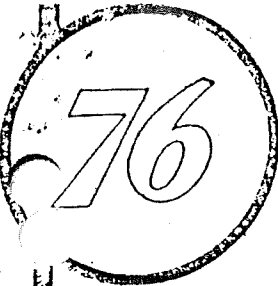
PURPOSE FLOWING SURVEY MAX TEMP 6170  
 OF @ 6203'

REMARKS: \_\_\_\_\_ STABILIZATION PERIOD \_\_\_\_\_



DEPTH	PSIG	DEPTH	PSIG
100	5		
1000	7		
2000	9		
2500	16		
3000	23		
3200	24		
3400	29		
3600	29		
3800	29		
4000	29		
4200	32		
4400	34		
4600	36		
4800	38		
5000	45		
5200	52		
5400	68		
5600	86	0.009	
5800	146	0.395	
6000	225	0.395	
6100	275	0.5	
6170	347	0.423	

BY: J.M.L.B



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#16-510-T/f

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 8/5/75  
 LINER DESCRIPTION: OPEN HOLE - 2905' - 6203' ZERO POINT RT+10'  
 DEPTH 6203'

TUBING DETAIL:

PURPOSE STATIC GRADIENT

REMARKS:

T<sub>1</sub> - 82°F - 686°F 10055 12hr - 13375 L 15  
 ELEMENT T<sub>2</sub> - 80°F - 646°F SERIAL NO. 10052 CLOCK 12hr 14091 L 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS T<sub>1</sub> - 0427 T<sub>2</sub> - 0425 DISENGAGE STYLUS T<sub>1</sub> - 0900 T<sub>2</sub> - 0900  
 WELL HEAD —  
 PICKUP @ 6200 TIME ON BOTTOM 0817 - 0826 MAX. °F —  
 WELL STATUS SHUT IN  
 SHUT IN: 1800 hrs 8/4/75 ON PRODUCTION:  
 RATE - STOPPED INJECTION -

TEMP - 10055

TEMP - 10052

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0506	100	.059	101			0506	100	.064	100								
0517	1000	.226	155			0517	1000	.211	146								
0529	2000	.351	197			0529	2000	.345	188								
0540	2500	.454	231			0540	2500	.465	225								
0551	3000	.515	251			0551	3000	.527	244								
0600	3200	.545	260			0600	3200	.569	257								
0609	3400	.540	259			0609	3400	.565	256								
0618	3600	.504	247			0618	3600	.532	246								
0628	3800	.563	266			0628	3800	.582	261								
0637	4000	.622	285			0637	4000	.645	279								
0646	4200	.634	289			0646	4200	.659	283								
0655	4400	.654	295			0655	4400	.681	290								
0704	4600	.671	300			0704	4600	.707	298								
0714	4800	.650	294			0714	4800	.690	293								
0723	5000	.630	288			0723	5000	.668	286								
0732	5200	.603	279			0732	5200	.640	278								
0741	5400	.574	270			0741	5400	.610	269								
0750	5600	.550	275			0750	5600	.619	272								
0759	5800	.675	302			0759	5800	.702	296								
0808	6000	.704	311			0808	6000	.734	306								
0817	6100	.812	345			0817	6100	.874	347								
0826	6200	1.078	419			0826	6200	1.136	422								

COMMENTS: STOPPED INJECTION AT 1800 hrs 8/4/75  
 WELL SHUT IN FOR STATIC BUILDUP AT 1800 hrs 8/4/75

BY: J.M. J.B.

716

# GEO THERMAL DIVISION

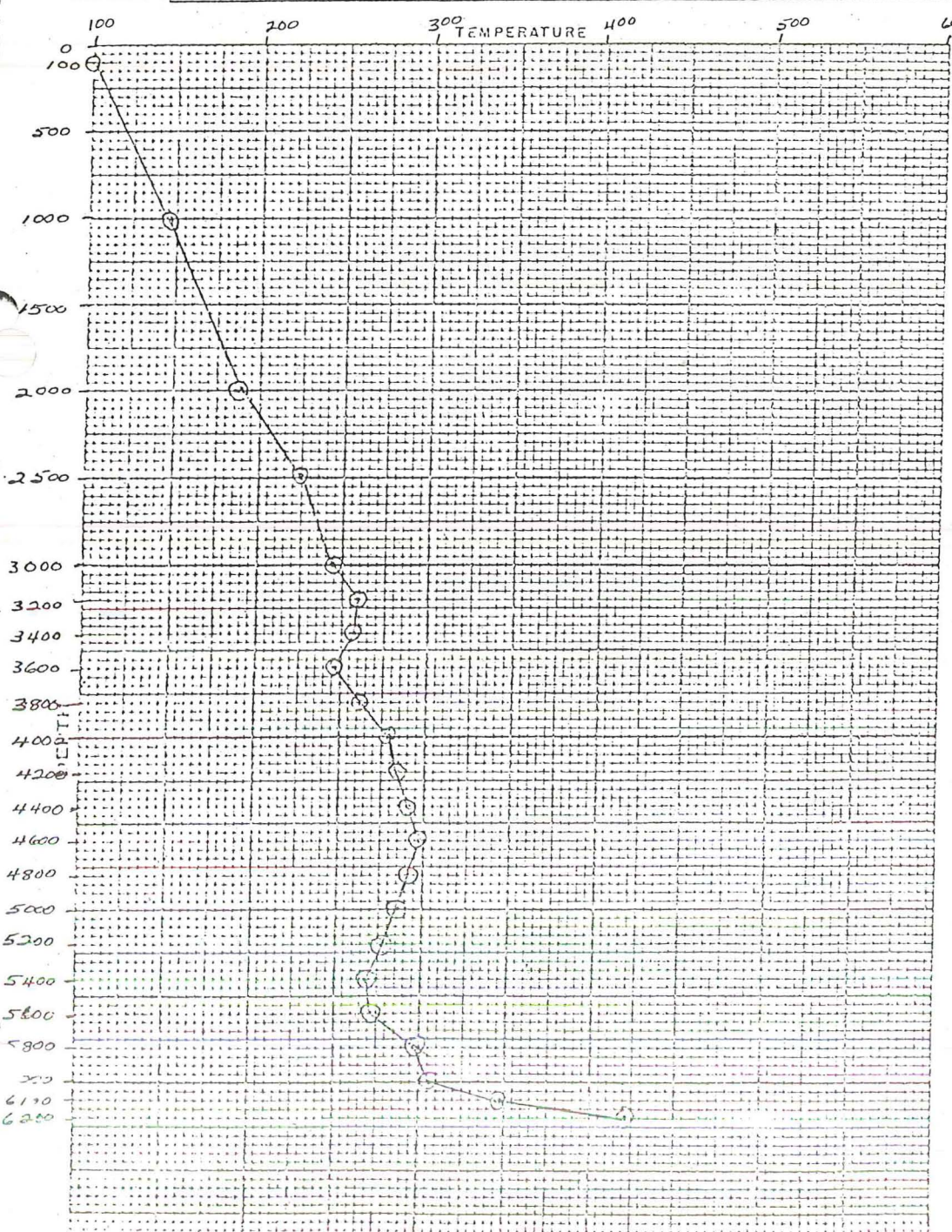
## SUBSURFACE TEMPERATURE SURVEY

BACA #16-S10-T/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" @ 2905' ELEV. 9622' DATE: 8/5/75  
 LINER DESCRIPTION: OPEN HOLE - 2905' - 6203' ZERO POINT RT+10'  
 DEPTH 6203'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 80°F - 646° FA  
 SERIAL NO 10052

PURPOSE STATIC GRADIENT MAX TEMP 422° OF @ 6200  
 REMARKS: \_\_\_\_\_



DEPTH	TEMP.	DEPTH	TEMP.
100	100		
1000	146		
2000	188		
2500	225		
3000	244		
3200	257		
3400	256		
3600	246		
3800	261		
4000	279		
4200	283		
4400	290		
4600	298		
4800	293		
5000	286		
5200	278		
5400	269		
5600	272		
5800	296		
6000	306		
6100	347		
6200	422		



716

# GEOHERMAL DIVISION

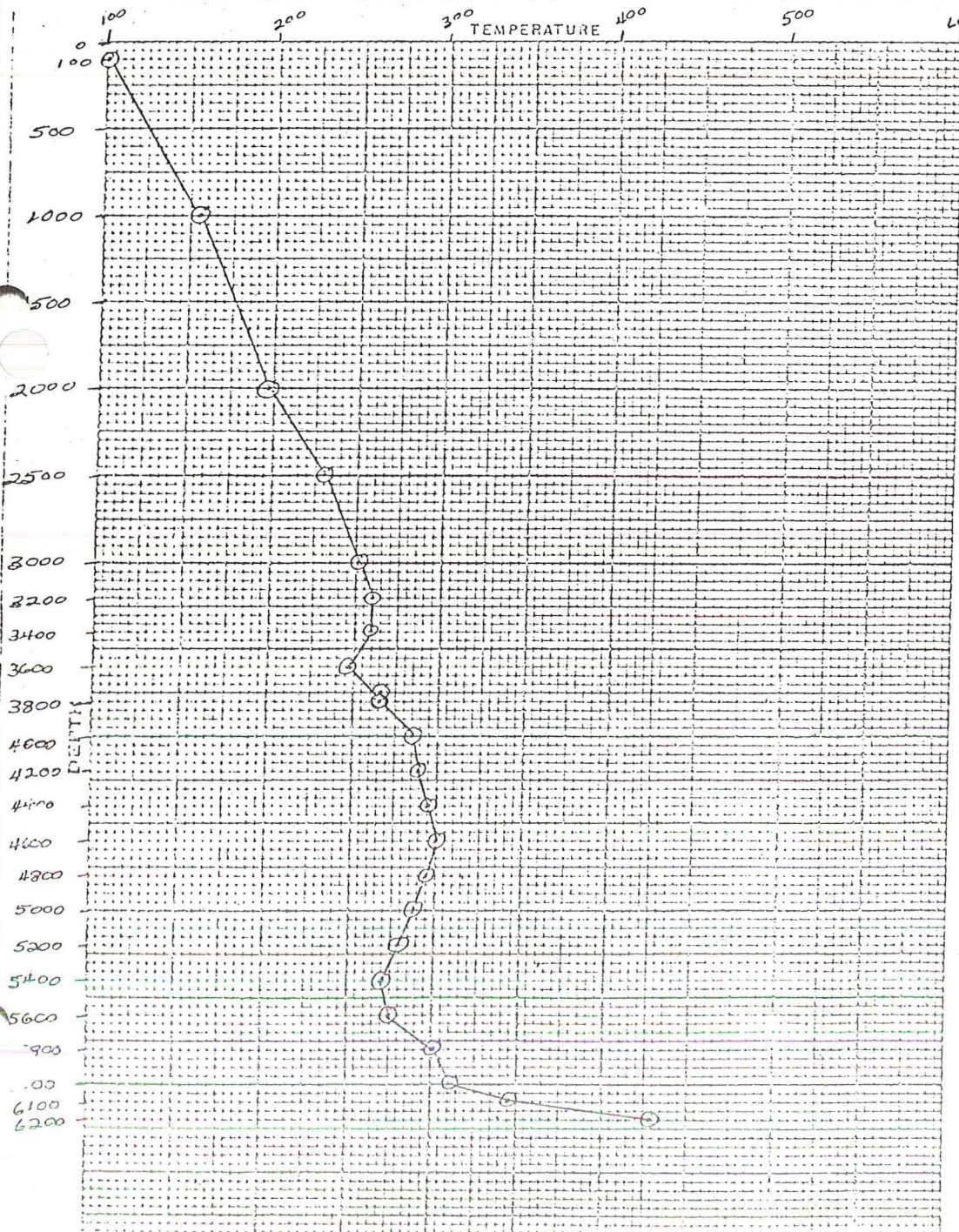
## SUBSURFACE TEMPERATURE SURVEY

B#16-S10-T17

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING 9 5/8" @ 2905' ELEV 9622 DATE: 8/5/75  
 LINER DESCRIPTION: OPEN HOLE - 2905' - 6200' ZERO POINT RT+10'  
 DEPTH 6203'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 82°F-686°F  
 SERIAL NO 10055

PURPOSE STATIC GRADIENT MAX TEMP. 429 °F @ 6200  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD	
DEPTH	TEMP.
100	101
1000	155
2000	197
2500	231
3000	251
3200	260
3400	259
3600	247
3800	266
4000	285
4200	289
4400	295
4600	300
4800	294
5000	288
5200	279
5400	270
5600	275
5800	302
6000	311
6100	345
6200	429

JACK

# GEO-THERMAL DIVISION

## SUBSURFACE SURVEY

Field Work Sheet

BAK

WELL NAME: CLIFF FIELD WELLS GRADE

WELL NAME: CLIFF

DATE: 11/17/51

DATE: 11/17/51

WELL DEPTH: OPEN HOLE - 2905' - 6203'

ZERO POINT: RTG-11

DEPTH: 6203'

WELL ID: 11052

### TEMPERATURE SURVEY

WELL ID: 11052

TEMPERATURE: 1.56°F SERIAL NO. 10055 CLOCK 12HR 1337.5-1 15

TEMPERATURE: 1.56°F SERIAL NO. 10055 CLOCK 12HR 1337.5-1 15 TURN STABILIZATION PERIOD

TEMPERATURE: 1.56°F SERIAL NO. 10055 CLOCK 12HR 1337.5-1 15 TURN STABILIZATION PERIOD

TEMPERATURE: 1.56°F

TEMPERATURE: 1.56°F TIME ON BOTTOM 12 3-15 MAX. °F

TEMPERATURE: 1.56°F TIME ON BOTTOM 12 3-15 MAX. °F

TEMPERATURE: 1.56°F TIME ON BOTTOM 12 3-15 MAX. °F

DATE: 11/17/51

DATE: 11/17/51

DEPTH	DEPTH	T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T
1	1.00	.065	83		1310	1.00	.065	83						
135	1000	.050	98		1357	1000	.050	98						
1461	2000	.063	103		1461	2000	.063	103						
1413	2500	.075	106		1413	2500	.075	106						
1424	3000	.090	111		1424	3000	.090	111						
1435	3200	.093	112		1435	3200	.093	112						
1446	3400	.098	113		1446	3400	.098	113						
1456	3600	.103	115		1456	3600	.103	115						
1506	3800	.108	117		1506	3800	.108	117						
1516	4000	.112	118		1516	4000	.112	118						
1526	4200	.117	119		1526	4200	.117	119						
1536	4400	.124	122		1536	4400	.124	122						
1546	4600	.128	123		1546	4600	.128	123						
1556	4800	.137	126		1556	4800	.137	126						
1606	5000	.144	128		1606	5000	.144	128						
1616	5200	.146	129		1616	5200	.146	129						
1626	5400	.156	132		1626	5400	.156	132						
1636	5600	.183	141		1636	5600	.183	141						
1646	5800	.223	154		1646	5800	.223	154						
1656	6000	.255	165		1656	6000	.255	165						
1706	6200	.888	369.2		1706	6200	.888	369.2						

COMMENTS: NOTE - TEMPERATURE ELEMENT # 10055 WAS USED IN SURVEY B-10-5-3

BY: SM JB

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B-16 3-4 T

416

OWNER UNION OIL COMPANY FIELD W. H. H. #1 WELL NAME W. H. H. #1  
 CASING \_\_\_\_\_ ELEV. 4100' DATE: 3-4-15  
 LINER DESCRIPTION: 1 1/2" HI PRESS. PIPE ZERO POINT Surface - Hill  
 DEPTH \_\_\_\_\_

HOLE DESCRIPTION: 2405' - TD = OPEN HOLE

PURPOSE EL INSTRUMENT W. H. H. #1  
 REMARKS: \_\_\_\_\_ SERIAL NO 100 52  
 MAX TEMP. 275° F @ 200'

	100	200	300	400	500	600	700	800	900	1000
100										
200										
300										
400										
500										
600										
700										
800										
900										
1000										
1100										
1200										
1300										
1400										
1500										
1600										
1700										
1800										
1900										
2000										
2100										
2200										
2300										
2400										
2500										
2600										
2700										
2800										
2900										
3000										
3100										
3200										
3300										
3400										
3500										
3600										
3700										
3800										
3900										
4000										
4100										
4200										
4300										
4400										
4500										
4600										
4700										
4800										
4900										
5000										
5100										
5200										
5300										
5400										
5500										
5600										
5700										
5800										
5900										
6000										
6100										
6200										

STABILIZATION PERIOD \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PRESSURE \_\_\_\_\_ GAUGE \_\_\_\_\_  
 CASING PSI \_\_\_\_\_

DEPTH	TEMP.	DEPTH	TEMP.
100	81		
1000	87		
2000	93		
2500	97		
3000	103		
3500	108		
4000	116		
4500	121		
5000	129		
5500	137		
6000	143		
6500	151		
7000	157		
7500	165		
8000	173		
8500	181		
9000	189		
9500	197		
10000	205		
10500	213		
11000	221		
11500	229		
12000	237		

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

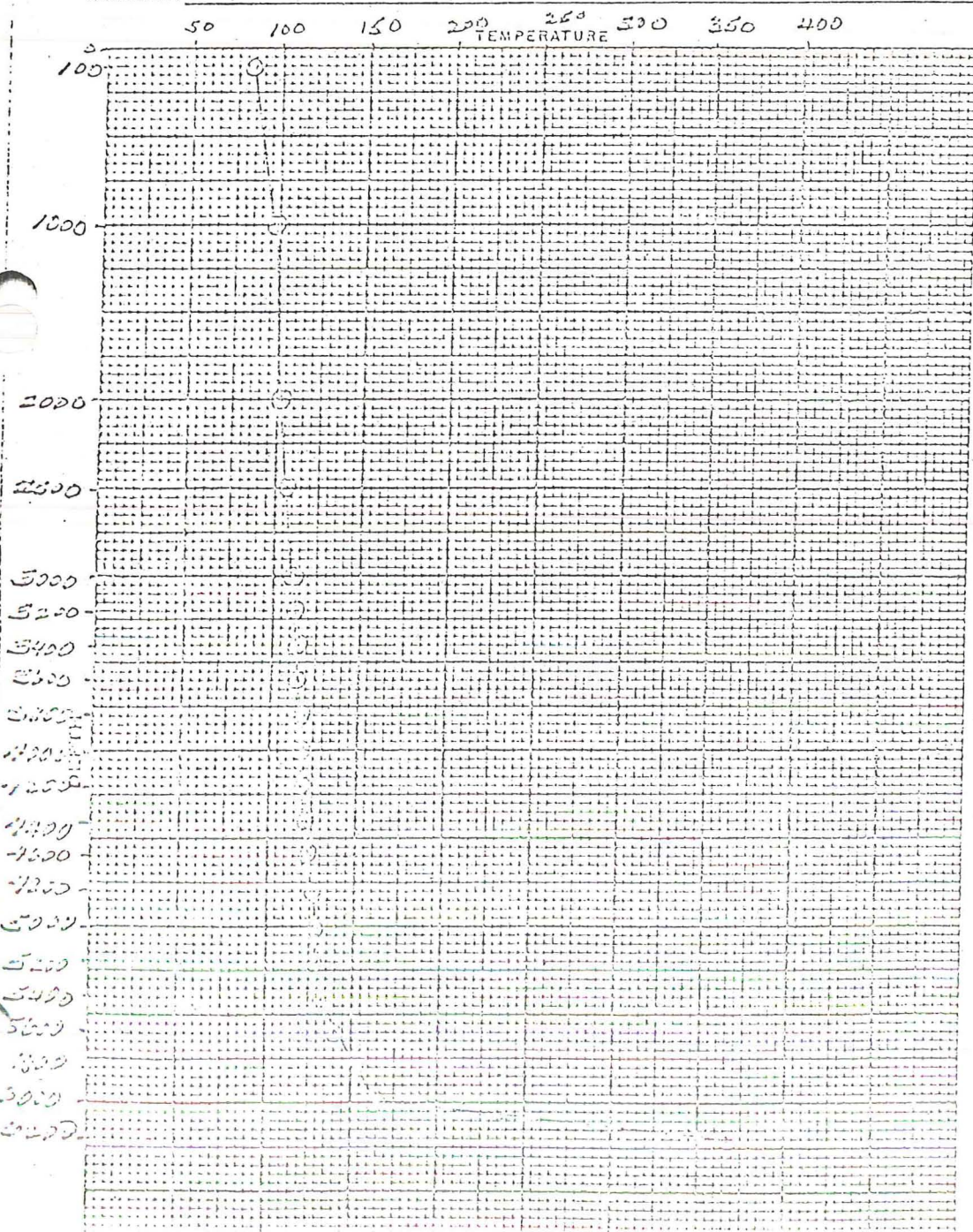
B-10-5-9 T

OWNER U.S. GOVERNMENT FIELD WALLACE CAMP WELL NAME W-10-5-9 T  
 CASING \_\_\_\_\_ ELEV. 8125 DATE: 5/1/57  
 LINER DESCRIPTION: 4 1/2" RT 450% ZERO POINT GROUND SURFACE  
 DEPTH 4500

HOLE DESCRIPTION: OPEN HOLE TO 4500' INSTRUMENT 2 1/2" - 32" FA  
 SERIAL NO 10057

PURPOSE Geothermal MAX TEMP. \_\_\_\_\_ °F @ \_\_\_\_\_

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	DEPTH
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	83		
1100	98		
1200	100		
1300	100		
1400	101		
1500	102		
1600	103		
1700	104		
1800	105		
1900	107		
2000	108		
2100	109		
2200	110		
2300	111		
2400	112		
2500	113		
2600	114		
2700	115		
2800	116		
2900	117		
3000	118		
3100	119		
3200	120		
3300	121		
3400	122		
3500	123		
3600	124		
3700	125		
3800	126		
3900	127		
4000	128		
4100	129		
4200	130		
4300	131		
4400	132		
4500	133		

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B116-38-P/T

OWNER UNION OIL OF CALIF FIELD WALLE GRANDE WELL NAME B116-38-P/T  
 CASING 2 7/8" @ 2905' ELEV. 5 DATE: 8/3/75  
 LINER DESCRIPTION: OPEN HOLE - 2905' - 6203' ZERO POINT RT + 12'  
 DEPTH 6203'

TUBING DETAIL:

PURPOSE FLOWING SURVEY

REMARKS:

P-1-1950 PSIG 7195 1247 133754 15

ELEMENT 7-594-4567 SERIAL NO. 10005 CLOCK 12/2-110911 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1216 T-1218 DISENGAGE STYLUS P-1500 T-1500

WELL HEAD 5 PSIG

PICKUP @ 3200' TIME ON BOTTOM 1417-1419 MAX. F. 353.8

WELL STATUS FLOWING

SHUT IN:

ON PRODUCTION:

RATE

PSIG

TEMP

DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D
2905	.000	13.5	01	—	—	2905	.000	249	02	—	—					
3000	.010	22.5	.011	—	—	3000	.050	263	.017	—	—					
3100	.019	27.0	.003	—	—	3100	.068	268	.021	—	—					
3200	.024	31.5	.009	—	—	3200	.082	279	.022	—	—					
3300	.027	35.2	.013	—	—	3300	.095	286	.015	—	—					
3400	.029	43	.009	—	—	3400	.107	293	.014	—	—					
3500	.030	45	.004	—	—	3500	.117	296	.006	—	—					
3600	.031	56	.033	—	—	3600	.127	304	.016	—	—					
3700	.033	74	.036	—	—	3700	.133	320	.019	—	—					
3800	.035	124	.048	—	—	3800	.140	354	.070	—	—					

COMMENTS:

76

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

U.S. GEOLOGICAL SURVEY

OWNER State of CA FIELD Willie Grande Well Bore # 16  
 CASING 2 1/2" E 2 1/2" ELEV. 6203' DATE: 8-3-75  
 LINER DESCRIPTION: Open Hole - 2905' - 6203' ZERO POINT 1374 12'  
 DEPTH: 1203

HOLE DESCRIPTION:

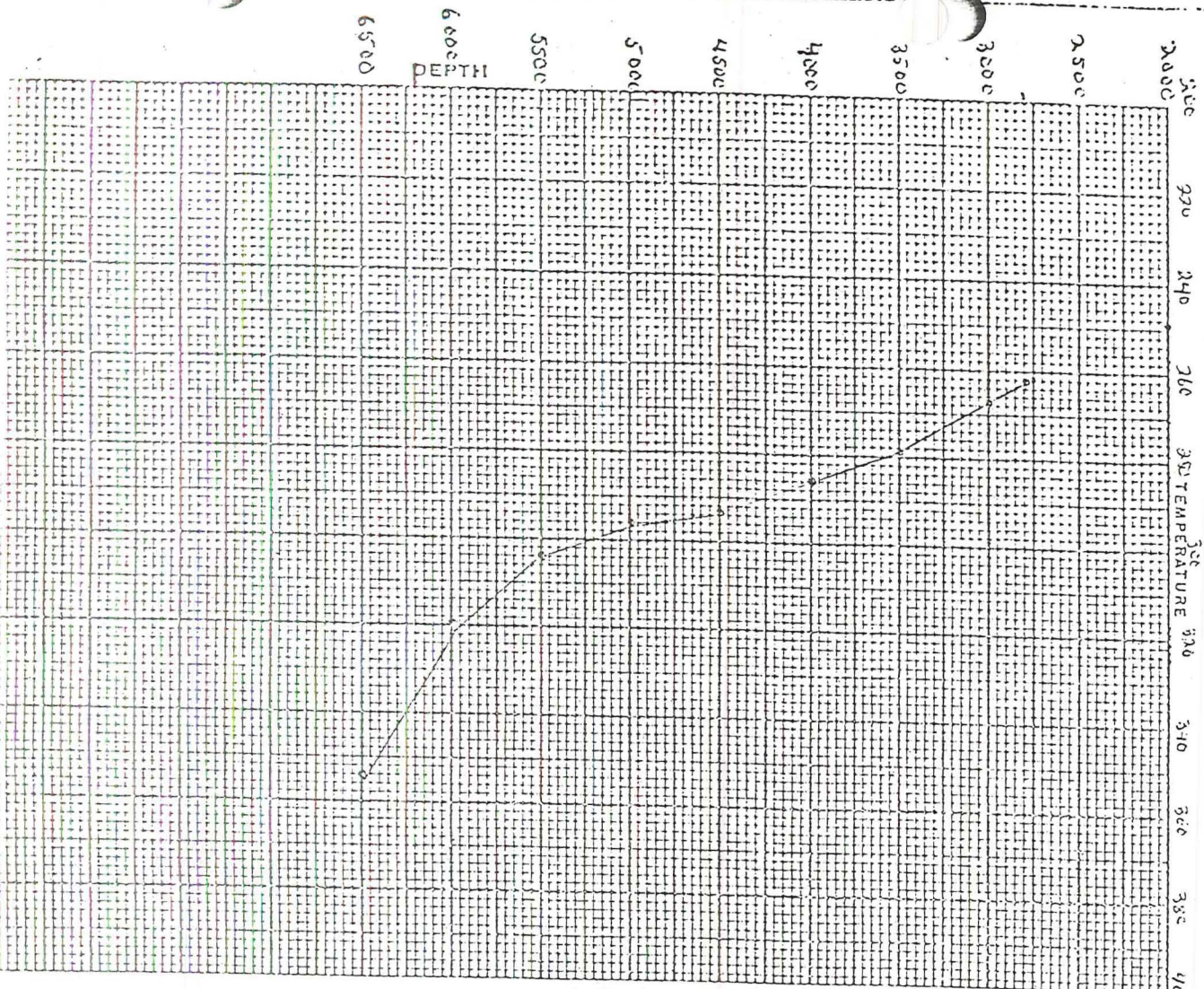
INSTRUMENT 82°F - 686°F FAN  
 SERIAL NO 100-55

MAX. TEMP. 353 °F @ 6200

PURPOSE:

REMARKS:

STABILIZATION PERIOD



PRESSURE	GAUGE	SOIL	
CASING, PSI	5 DSIC	-	
DEPTH	TEMP.	DEPTH	TEMP.
2000	299.2		
2800	292.6		
3000	297.7		
3500	298.6		
4000	295.9		
4500	292.8		
5000	295.9		
5500	293.8		
6000	319.9		
6200	353.8		

76

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL OF CALIF. FIELD Valle Grande WELL NAME BACA #16  
 CASING 4 3/8 @ 2905' ELEV. \_\_\_\_\_ DATE: 8-3-75  
 LINER DESCRIPTION: Open Hole - 2905' - 6203' ZERO POINT RT + 12'  
 DEPTH 6203

HOLE DESCRIPTION: \_\_\_\_\_

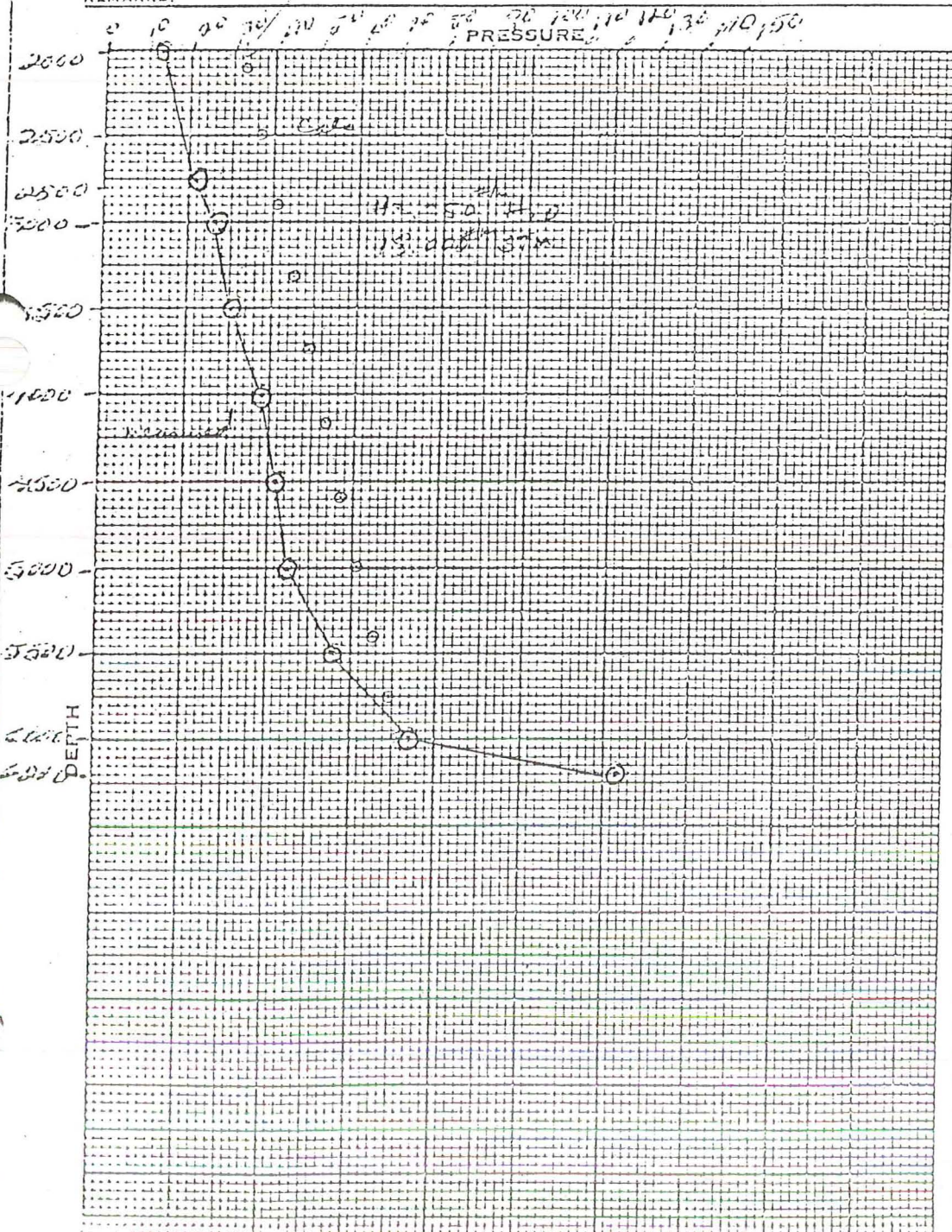
INSTRUMENT 0-4250 PS  
 SERIAL NO. 7198

PURPOSE \_\_\_\_\_

MAX. TEMP 353 °F @ 6200

REMARKS: \_\_\_\_\_

STABILIZATION PERIOD \_\_\_\_\_



PRESSURES, CASING, PSI	GAUGE	BOND
	<u>5 P816</u>	-

DEPTH	PRESSURE	GRADIENT
2000	13.5	.011
2500	22.5	.011
3000	27.0	.013
3500	31.5	.009
4000	38.2	.013
4500	42.8	.009
5000	45.0	.006
5500	56.3	.023
6000	74.3	.031
6200	123.8	.241

JH

76

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-16 S-7 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV. \_\_\_\_\_ DATE: 7/10/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROTARY TABLE  
 \_\_\_\_\_ DEPTH 2580  
 TUBING DETAIL: \_\_\_\_\_  
 \_\_\_\_\_  
 PURPOSE RIG SURVEY  
 REMARKS:  
 ELEMENT 0-A250 PSIG SN 7198 CLOCK-13375-L 15 TURN  
 ELEMENT B2-686°F SERIAL NO. 16055 CLOCK-14091-L 15 TURN STABILIZATION PERIOD \_\_\_\_\_  
 ENGAGE STYLUS P-0707; T-0706 DISENGAGE STYLUS P-0926 T-0926  
 WELL HEAD \_\_\_\_\_  
 PICKUP @ 2580 TIME ON BOTTOM 0815-0855 MAX. °F 370.4  
 WELL STATUS \_\_\_\_\_  
 SHUT IN: \_\_\_\_\_ ON PRODUCTION: \_\_\_\_\_  
 RATE \_\_\_\_\_

PRESSURE

TEMPERATURE

TIME	PRESSURE				ID	TIME	TEMPERATURE				ID
	DEPTH	DEFL.	P-T	GRAD.			DEPTH	DEFL.	P-T	GRAD.	
8-0800	1000	0	50.0	0	"	1000	.208	147.4	0		
8-0805	1500	0	0	0	"	1500	.340	193.2	.092		
8-0810	1700	.025	56.3	0	"	1700	.378	205.7	.060		
8-0820	1900	.064	144.1	.440	"	1900	.419	219.3	.070		
8-0830	2100	.104	234.2	.450	"	2100	.478	238.7	.095		
8-0840	2300	.141	317.6	.415	"	2300	.606	279.9	.210		
8-0855	2580	.190	427.9	.396	"	2580	.812	370.4	.321		

COMMENTS: STOPPED CIRCULATION 7/8/75. 0945 HRS.

BY: [Signature]





# GEOHERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

76

Borough St - 57

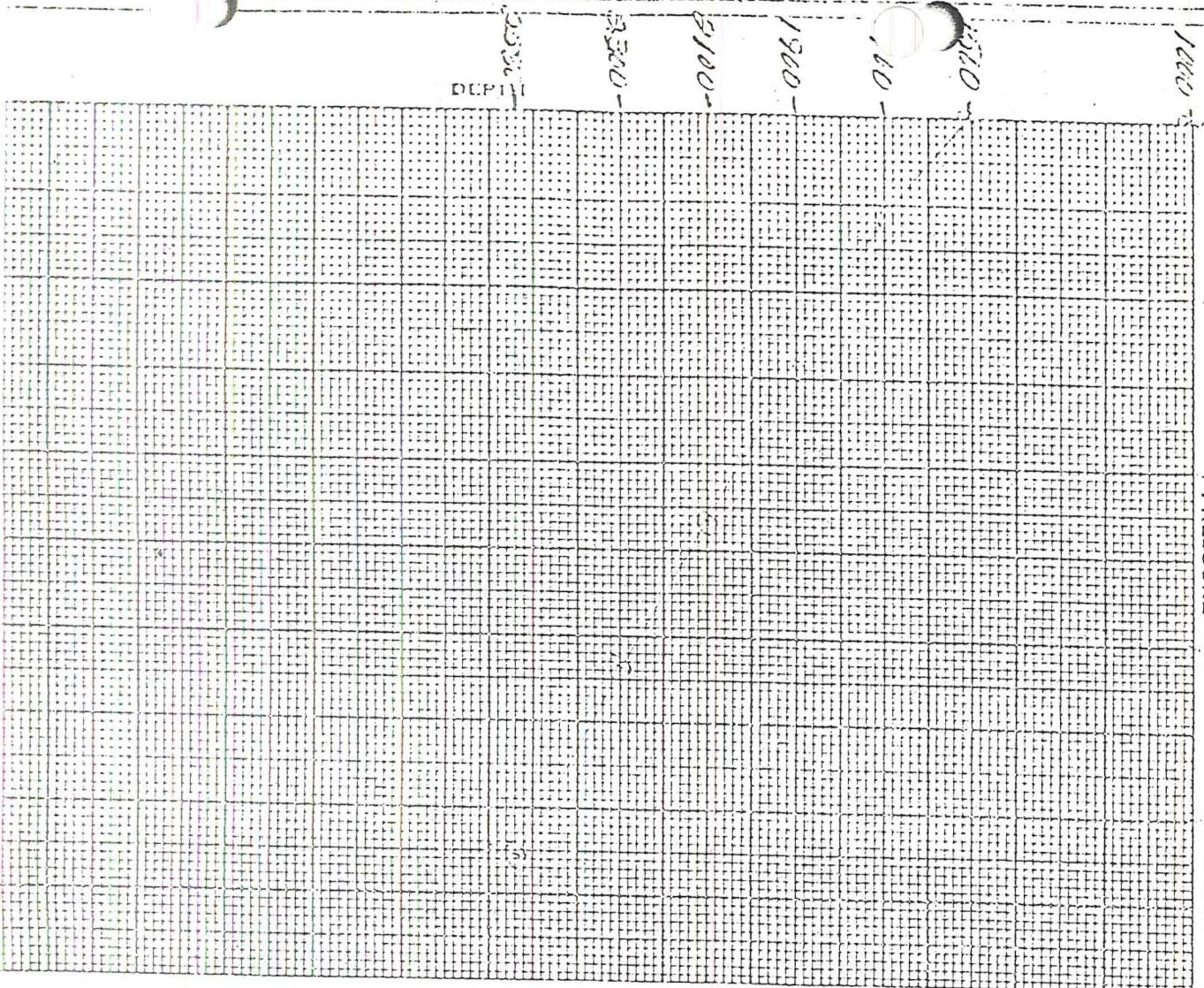
OWNER UNION FID SHOPS CHIEF FIELD OFFICE BRIDGE WELL NAME BRIDGE WEL  
 CASING 1 1/2" 40 1015' ELEV. 7110.175 DATE 7/10/75

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT P.T.  
 DEPTH 2050'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0-112982 PSI  
 SERIAL NO 7198

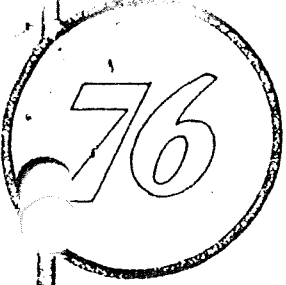
PURPOSE \_\_\_\_\_ MAX TEMP 370.4 OF @ 2750'

REMARKS: \_\_\_\_\_ STABILIZATION PERIOD \_\_\_\_\_



PRESSURE	GAUGE	DATE
CASING, PSI	---	---

DEPTH	PRESSURE	GRADIENT
1000	0	0
1500	0	0
1700	50.8	0
1900	50.1	0.11
2100	49.1	0.15
2300	47.4	0.18
2500	45.8	0.21



UNION

GEOTHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-16 S-6 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #16  
 CASING \_\_\_\_\_ ELEV. \_\_\_\_\_ DATE: 7/9/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT POTENTIAL TABLE  
 \_\_\_\_\_ DEPTH 2580'

TUBING DETAIL: \_\_\_\_\_  
 \_\_\_\_\_

PURPOSE RIG SURVEY CASING PT

REMARKS: \_\_\_\_\_

0-4250 PSIG SN 7198 CLOCK 13375-L 15 TURN

ELEMENT 82°-686° SERIAL NO. 10055 CLOCK 14091-L 15 TURN STABILIZATION PERIOD \_\_\_\_\_

ENGAGE STYLUS P- ; T DISENGAGE STYLUS P- T-

WELL HEAD \_\_\_\_\_

PICKUP @ 2580 TIME ON BOTTOM 1846-1946 MAX. °F 358.6

WELL STATUS \_\_\_\_\_

SHUT IN: \_\_\_\_\_ ON PRODUCTION: \_\_\_\_\_

RATE \_\_\_\_\_

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	1000	0	0			"	1000	.173	137.3	0							
	1500	0	0			"	1500	.291	176.9	-.198							
	1700	.032	72.1	0		"	1700	.325	188.2	.056							
1552	1900	.073	164.4	.462		"	1900	.368	202.4	.071							
1538	2100	.110	247.7	.416		"	2100	.419	219.2	-.084							
1844	2300	.150	337.8	.450		"	2300	.534	256.8	-.188							
1946	2580	.200	450.5	.403		"	2580	.855	358.6	.509							

COMMENTS: STOPPED CIRCULATION 7/8/75 0945HRS

BY: JB HRS

# GEOHERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

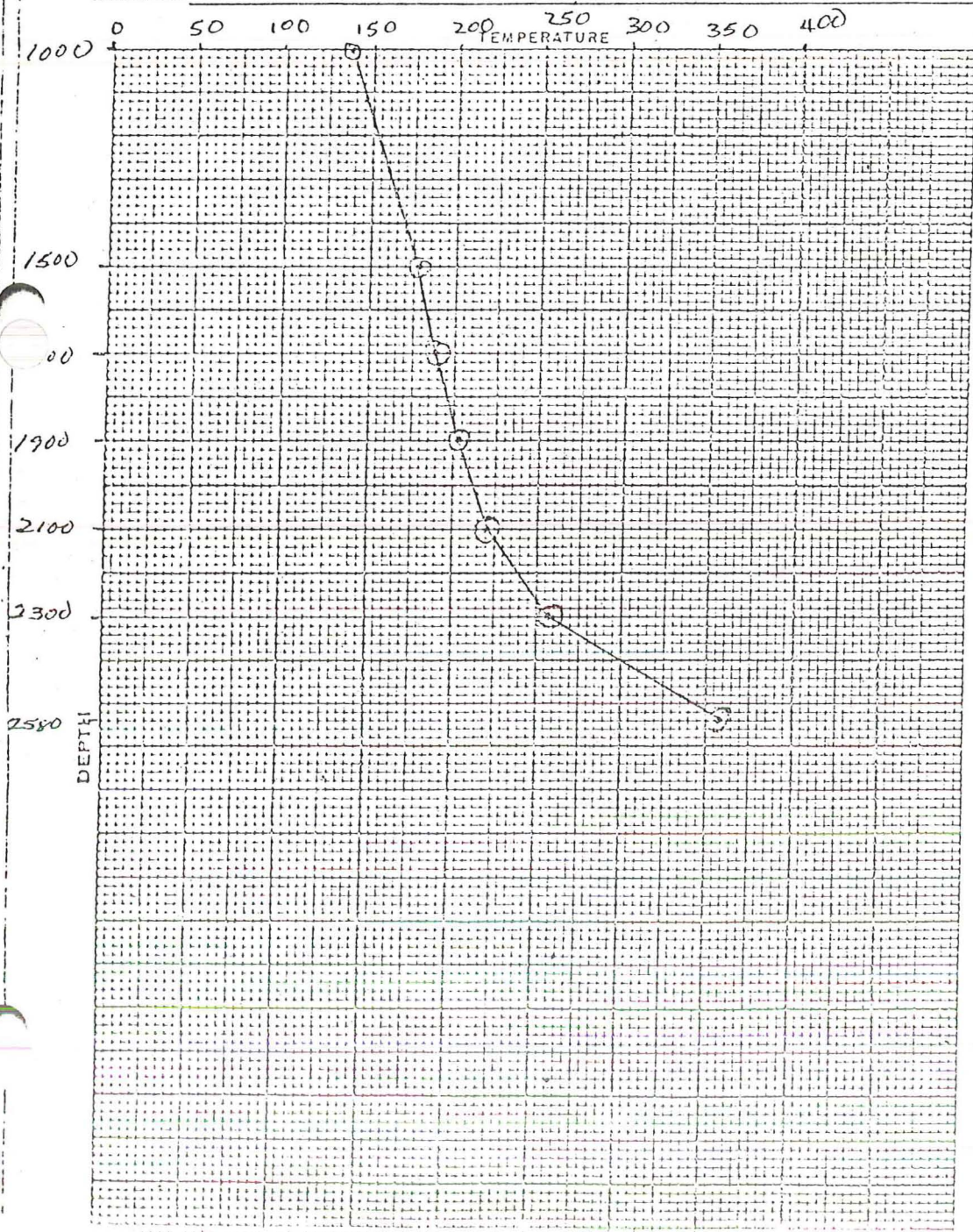
76

B-16 S-6 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV. \_\_\_\_\_ DATE: 7/9/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROTARY TABLE  
 DEPTH 2580

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 820-686° FA  
 SERIAL NO 10055

PURPOSE RIG SURVEY CASING PT MAX TEMP. 358.6 °F @ 2580  
 REMARKS: \_\_\_\_\_

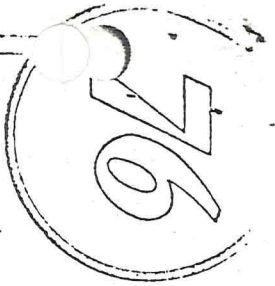


STABILIZATION PERIOD \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PRESSURES,	GAUGE	CORR.
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
1000	157.3		
1500	176.9		
1700	188.2		
1900	202.4		
2100	219.2		
2300	256.8		
2580	358.6		

JB + HBS



# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B-16 5-6 P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BGR # 416

CASING \_\_\_\_\_ DATE 7/9/75

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROTARY TABLE

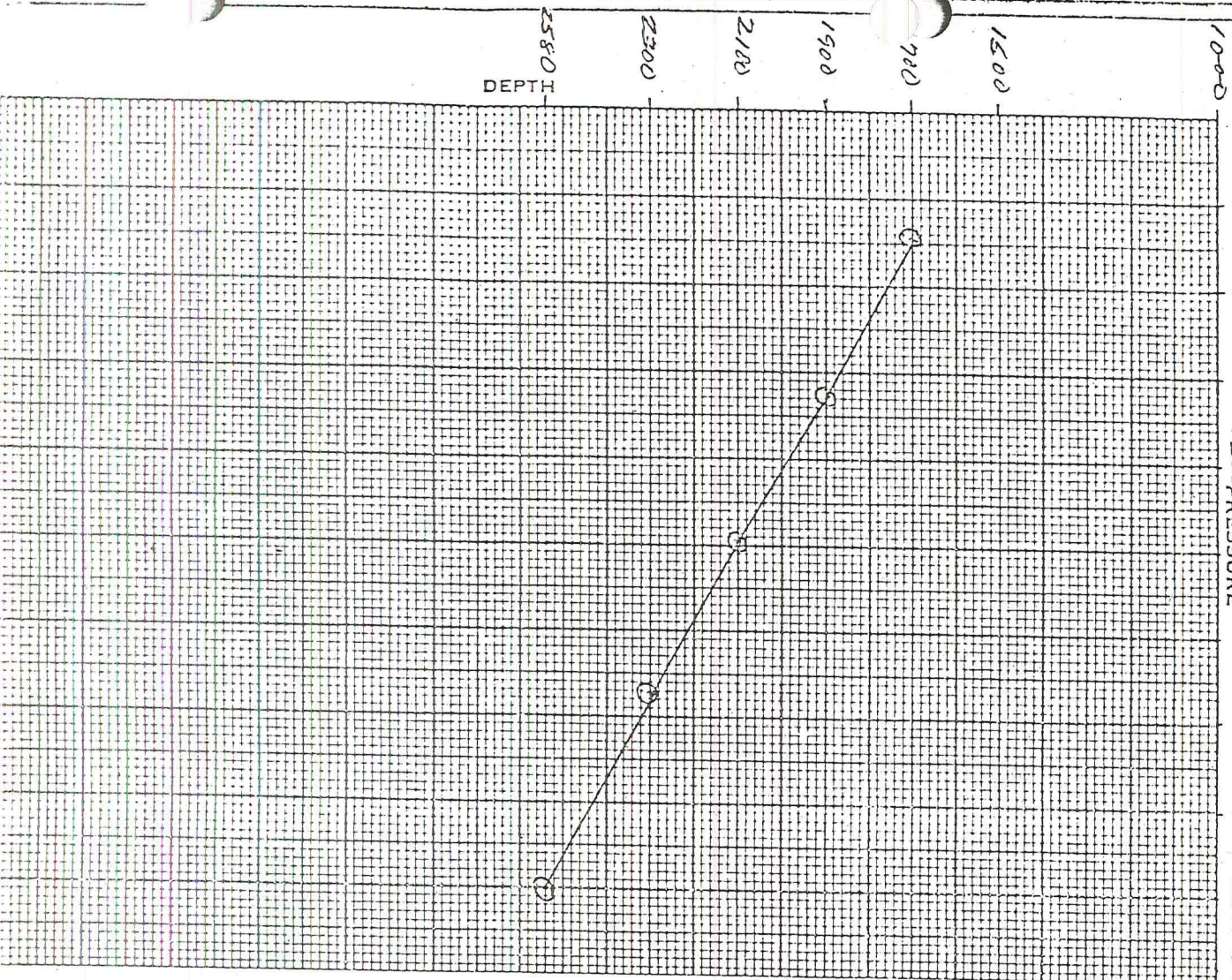
DEPTH 2580

HOLE DESCRIPTION:

INSTRUMENT 0-4250 PS  
SERIAL NO 7198

PURPOSE RIS SURVEY CASING PT MAX TEMP 358.6 °F @ 2580

REMARKS: \_\_\_\_\_  
50 100 150 200 PRESSURE 250 300 350 400 450 500 STABILIZATION PERIOD



PRESSURE	GAUGE	BOND
CASING PSI		

DEPTH	PRESSURE	GRADIENT
1000	0	0
1500	0	0
1900	72.1	0
2100	164.4	.416
2300	247.7	.416
2300	337.8	.450
2580	450.5	.403

*Handwritten notes:* O/S + H/S

BY:

76

# GEO THERMAL DIVISION

## SUBSURFACE SURVEY

### Field Work Sheet

BH16-SS-177

OWNER UNION OIL COMPANY FIELD WALLER GRANDE WELL NAME BH16-SS-177  
 CASING 13-3/8 @ 1215' ELEV. --- DATE: 7/19/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT RT  
 \_\_\_\_\_ DEPTH ---

TUBING DETAIL:

PURPOSE

REMARKS:

1-0 11450 PSIG 7198 12/12 13375 L 15

ELEMENT 7-500P-1316 SERIAL NO. 10055 CLOCK 12/12 11074 RETURN STABILIZATION PERIOD

ENGAGE STYLUS 7-1032 7-1034 DISENGAGE STYLUS 7-1316 7-1216

WELL HEAD

PICKUP @ 2530' TIME ON BOTTOM 1133-1143 MAX. °F 346

WELL STATUS STABLE

SHUT IN: 09/15/75 7/6/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1100	1000	.166	135	0	0	1100	1000	.166	135	0	0						
1108	1050	.278	173	-.08	0	1108	1050	.278	173	-.08	0						
1114	1100	.320	187	-.07	0	1114	1100	.320	187	-.07	0						
1120	1150	.355	198	-.06	0	1120	1150	.355	198	-.06	0						
1126	1200	.400	213	-.08	0	1126	1200	.400	213	-.08	0						
1132	1250	.515	251	-.19	0	1132	1250	.515	251	-.19	0						
1143	1350	.815	346	-.34	0	1143	1350	.815	346	-.34	0						

COMMENTS:

BY:

J.M. A.B.









UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B-16 S-4 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BOP #16
CASING ELEV. DATE: 7/9/75
LINER DESCRIPTION: ZERO POINT ROTARY TABLE
DEPTH 2580'

TUBING DETAIL:

PURPOSE CASING PT
REMARKS:

0-4250BSI SN 7198 CLOCK 13375-L 15 TURN

ELEMENT 82°-686°F SERIAL NO. 10055 CLOCK 14091-L 15 TURN STABILIZATION PERIOD
ENGAGE STYLUS P-0434 T-0436 DISENGAGE STYLUS P-0029 T-0626

WELL HEAD
PICKUP @ 2580' TIME ON BOTTOM 0540-0553 MAX. °F 346.4

WELL STATUS
SHUT IN: ON PRODUCTION:

RATE

PRESSURE TEMPERATURE

Table with columns for TIME, DEPTH, DEFL., P-S, GRAD., ID, and corresponding temperature readings (R-T, GRAD., ID).

COMMENTS: STOPPED CIRCULATION 7/8/75 0945 HKS

BY: J101 J13

76

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B-16 5-4 P

OWNER UNION OIL COMPANY FIELD WALLE GKANDE WELL NAME BGM #16

CASING \_\_\_\_\_ DATE 7/9/75

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROTARY TABLE

DEPTH 2550

HOLE DESCRIPTION: \_\_\_\_\_

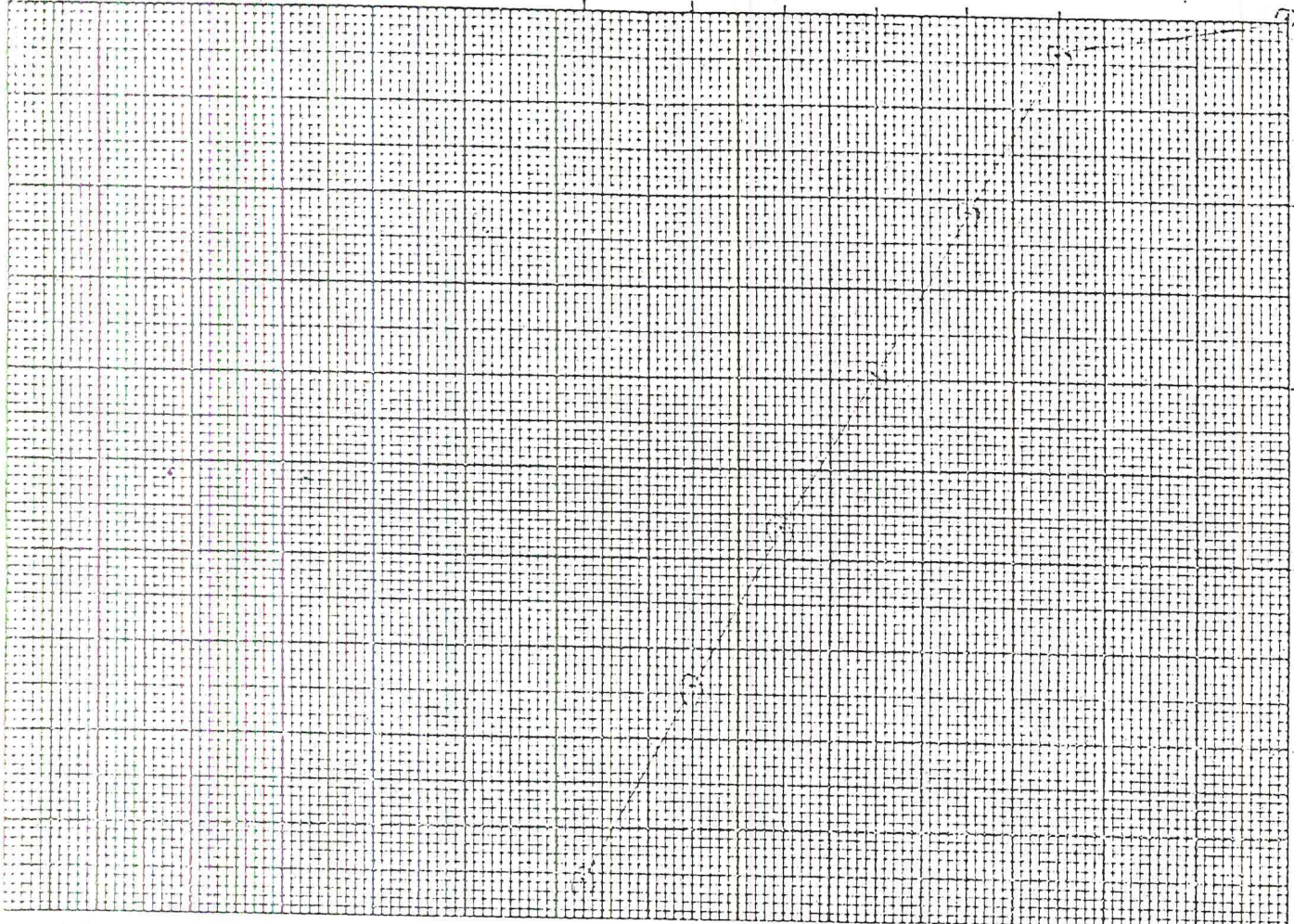
INSTRUMENT D-4250 PS

SERIAL NO 7198

PURPOSE RIG SURVEY FOR CASING PT. MAX TEMP \_\_\_\_\_ °F @ \_\_\_\_\_

REMARKS: \_\_\_\_\_

\_\_\_\_\_ 50' STABILIZATION PERIOD



PRESSURES	GAUGE	BORG
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
1006	0	0
1506	31	.021
1700	105	.055
1900	195	.060
2100	254	.063
2300	322	.060
2580	450	.060

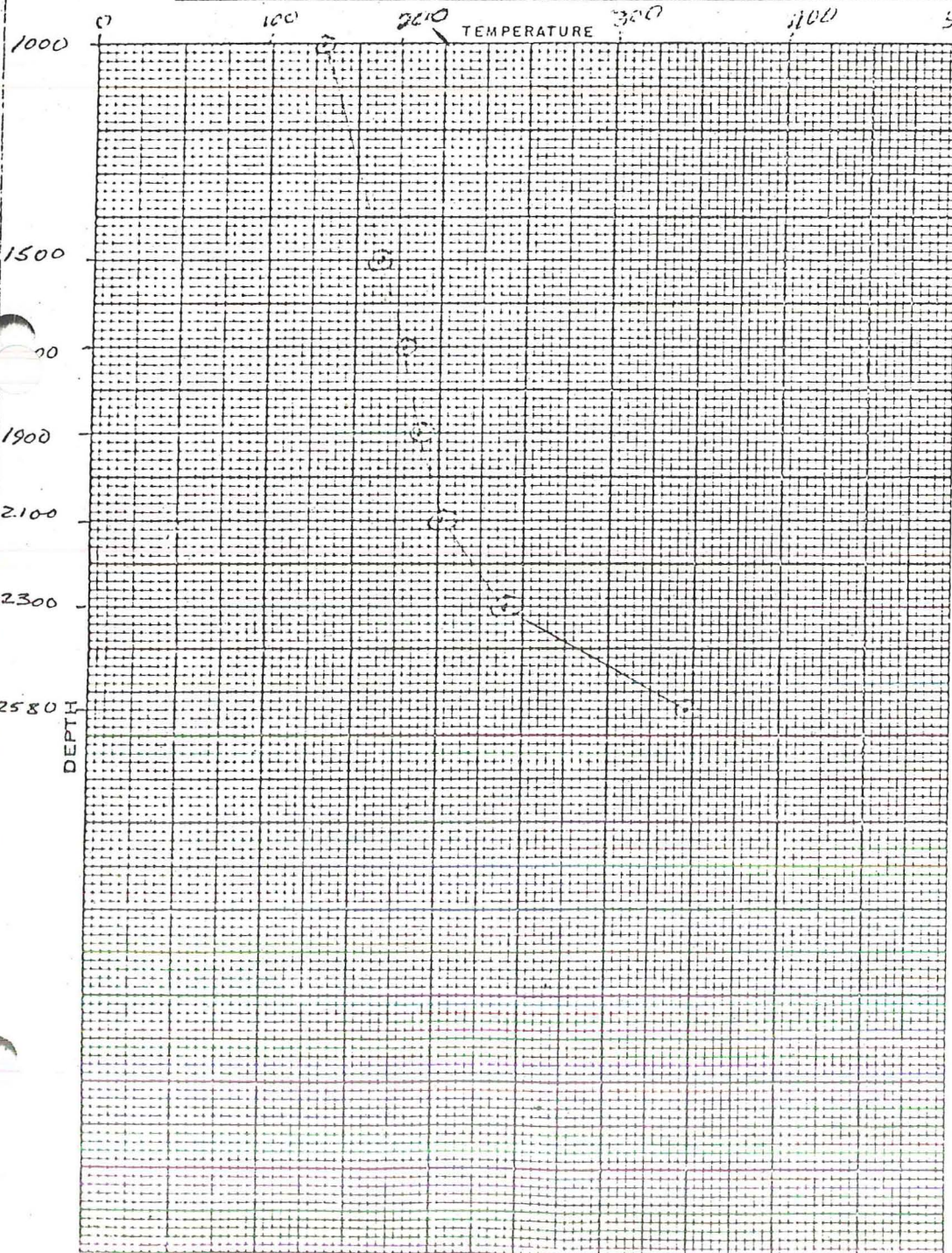
BY: DM JR

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B-16 S-4 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV. \_\_\_\_\_ DATE: 7/9/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROTARY TABLE  
 \_\_\_\_\_ DEPTH 2580  
 HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 820 - 6860 FAH.  
 \_\_\_\_\_ SERIAL NO 10055  
 PURPOSE RIC SURVEY FOR CASING PT MAX TEMP. 346.4 °F @ 2580  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD			
DEPTH	TEMP.	DEPTH	TEMP.
1000	130		
1500	165		
1700	179		
1900	189		
2100	203		
2300	240		
2580	346.4		

PRESSURES.	GAUGE	BOMB
CASING. PSI	_____	_____

*Handwritten signature*

BY: \_\_\_\_\_

76

UNION

GEOTHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-16 S-3 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA # 16  
 CASING ELEV. DATE: 6/8/75  
 LINER DESCRIPTION: ZERO POINT POT-HY TABLE  
 DEPTH 2580'

TUBING DETAIL:

PURPOSE RIG SURVEY FOR CASING P/T

REMARKS:

0-4250 PSIG SN 7198 CLOCK-133752 15 TURN

ELEMENT 82° 486' SERIAL NO. 10055 CLOCK 14091-15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0933; T-0931 DISENGAGE STYLUS P-7829 T-7330

WELL HEAD

PICKUP @ 2580 TIME ON BOTTOM 1034-1104 MAX. °F 320.0°

WELL STATUS

SHUT IN: ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	1000	0	0	0	0	"	1000	.125	122.0	0							
2	1500	.032	72.0	.144	0	"	1500	.210	149.0	.054							
8	1700	.072	162.0	.451	0	"	1700	.242	160.0	.055							
15-1121	1900	.111	250.0	.441	0	"	1900	.267	169.0	.045							
12-1027	2100	.150	338.0	.440	0	"	2100	.300	180.0	.055							
18-1033	2300	.190	427.0	.445	0	"	2300	.403	214.0	.017							
34-1104	2580	.233	523.0	.343	-.007	"	2580	.733	320.0	.378							

COMMENTS: STOPPED CIRCULATION 0945 HRS 7/8/75

BY: J.M. LIS



# GEOTHERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

BPHK-53-P11

OWNER NATIONAL RMT CO OF CALIF FIELD MADE GEOTHERMAL WELL NAME BRN4411

CASING \_\_\_\_\_ DATE 7/4/75

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT RT

HOLE DESCRIPTION: \_\_\_\_\_ DEPTH 2550

INSTRUMENT 0-4350 PSIG

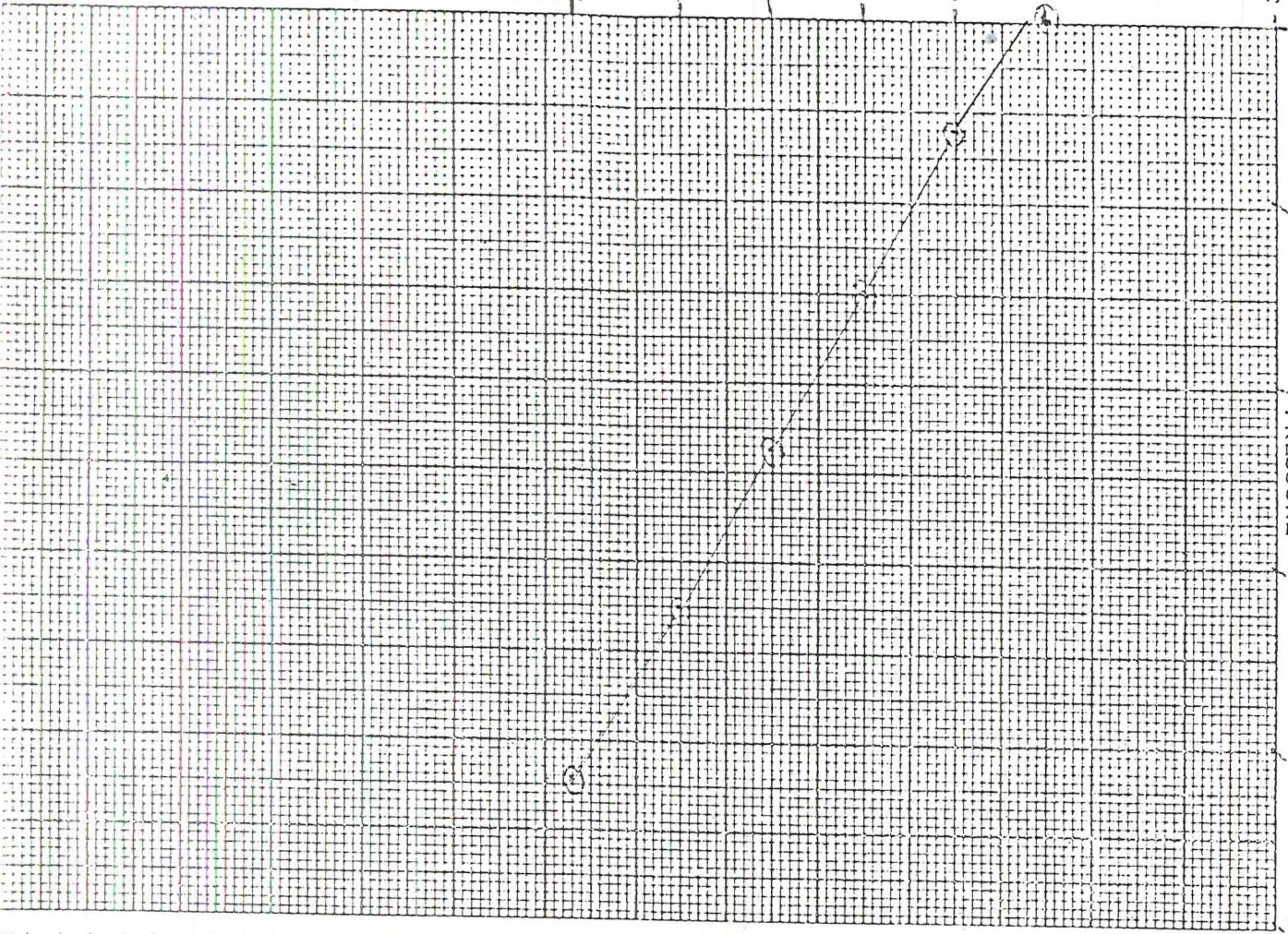
SERIAL NO 7198

MAX TEMP 370 OF @ 2550

PURPOSE \_\_\_\_\_

REMARKS: \_\_\_\_\_

120 360 PRESSURE 400 520 STABILIZATION PERIOD



PRESSURE, PSI	GAUGE	BORIS
1000	0	0
1500	72	144
1700	162	1452
1900	252	1440
2100	338	1440
2300	427	1445
2550	523	2413

DEPTH	PRESSURE	GRADIENT
1000	0	0
1500	72	144
1700	162	1452
1900	252	1440
2100	338	1440
2300	427	1445
2550	523	2413

BY PH 1/1/75

76

# GEOHERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B-16 S-3 D

OWNER LION OIL COMPANY FIELD VALLE GRANDE WELL NAME BARA #16

CASING \_\_\_\_\_ DATE: \_\_\_\_\_ ELEV. \_\_\_\_\_

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT \_\_\_\_\_

DEPTH \_\_\_\_\_

HOLE DESCRIPTION: RIG SURVEY

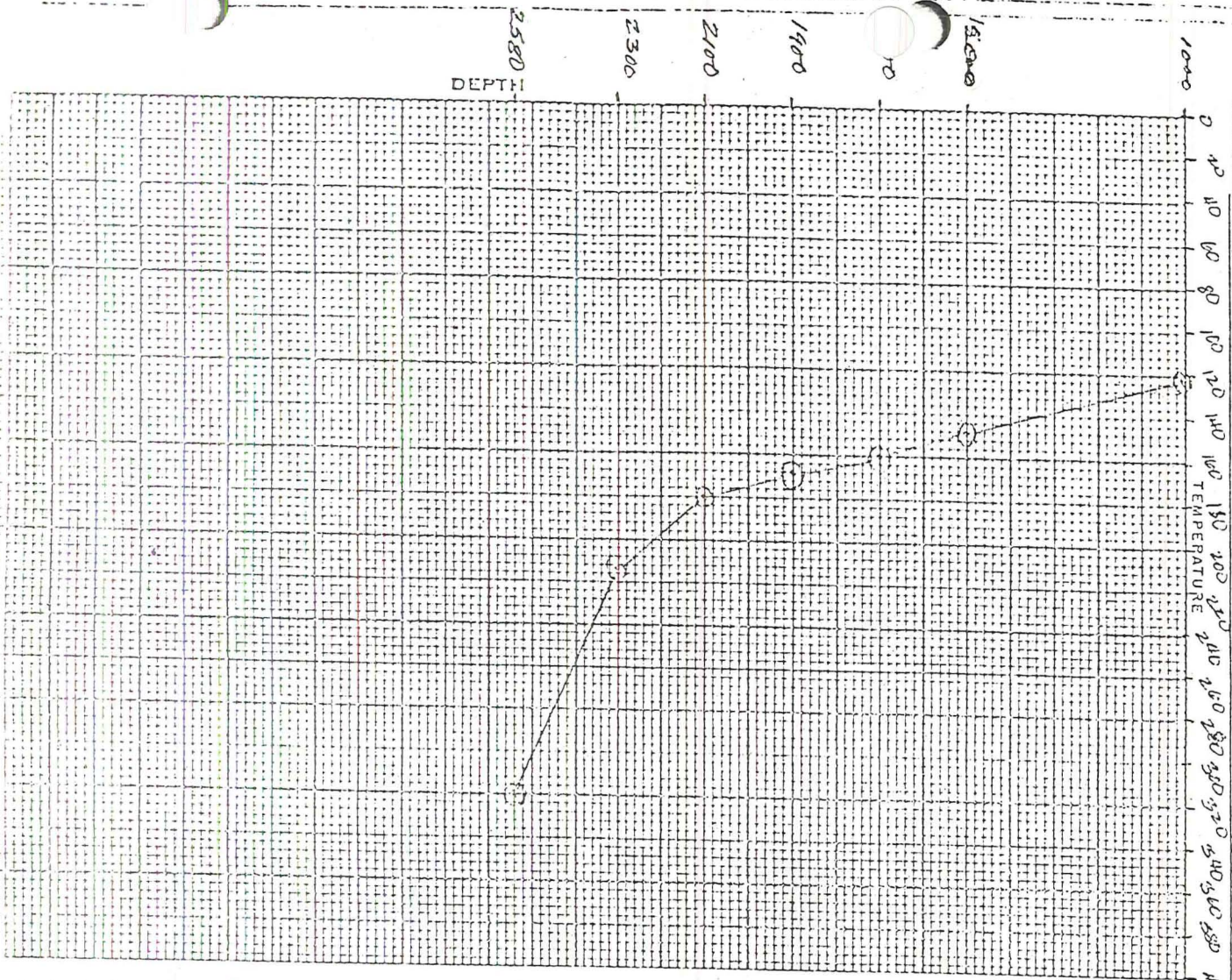
INSTRUMENT 0-4250 82-68°F

SERIAL NO 7158 10055

MAX TEMP. 320 °F @ 2550

PURPOSE \_\_\_\_\_

REMARKS:



STABILIZATION PERIOD \_\_\_\_\_

PRESSURES	GAUGE	DEPTH
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	100		
150	110		
200	120		
250	130		
300	140		
350	150		
400	160		
450	170		
500	180		
550	190		
600	200		
650	210		
700	220		
750	230		
800	240		
850	250		
900	260		
950	270		
1000	280		
1100	290		
1200	300		
1300	310		
1400	320		
1500	330		
1600	340		
1700	350		
1800	360		
1900	370		
2000	380		
2100	390		
2200	400		
2300	410		
2400	420		
2500	430		

JNL MB



union

# GEO THERMAL DIVISION

## SUBSURFACE SURVEY

Field Work Sheet

B-16 S-2 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BXN #16

CASING \_\_\_\_\_ ELEV. \_\_\_\_\_ DATE: 7/8/75

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROTPLY TABLE  
DEPTH 2580'

TUBING DETAIL: \_\_\_\_\_

PURPOSE RIG SURVEY

REMARKS: ELEMENT - 0-4250 PSIG SN 7198. CLOCK 13375-L 15 TURN

ELEMENT 82°-686' SERIAL NO. 10055 CLOCK 14091-L 15 TURN STABILIZATION PERIOD \_\_\_\_\_

ENGAGE STYLUS P-1633 T-1631 DISENGAGE STYLUS P-1815; T1817

WELL HEAD 0

PICKUP @ 2580' TIME ON BOTTOM 1732-1802 MAX. °F 263°

WELL STATUS \_\_\_\_\_

SHUT IN: \_\_\_\_\_ ON PRODUCTION: \_\_\_\_\_

RATE \_\_\_\_\_

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
56-1700	1600	0	0	0	0	"	1600	.083	109.0	0							
57-1702	1500	.075	169.0	.338	0	"	1500	.194	144.0	.070							
58-1708	1700	.113	255.0	.430	0	"	1700	.218	152.0	.040							
14-1719	1900	.150	338.0	.415	0	"	1900	.238	159.0	.040							
20-1725	2100	.187	421.0	.415	0	"	2100	.263	167.0	.040							
26-1731	2300	.215	484.0	.315	-1.009	"	2300	.343	194.0	.040							
32-1802	2580	.263	587.0	.368	-1.008	"	2580	.553	263.0	.246							

COMMENTS: STOP CIRCULATION 7/8/75 0945 HRS

BY: JM + JB

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

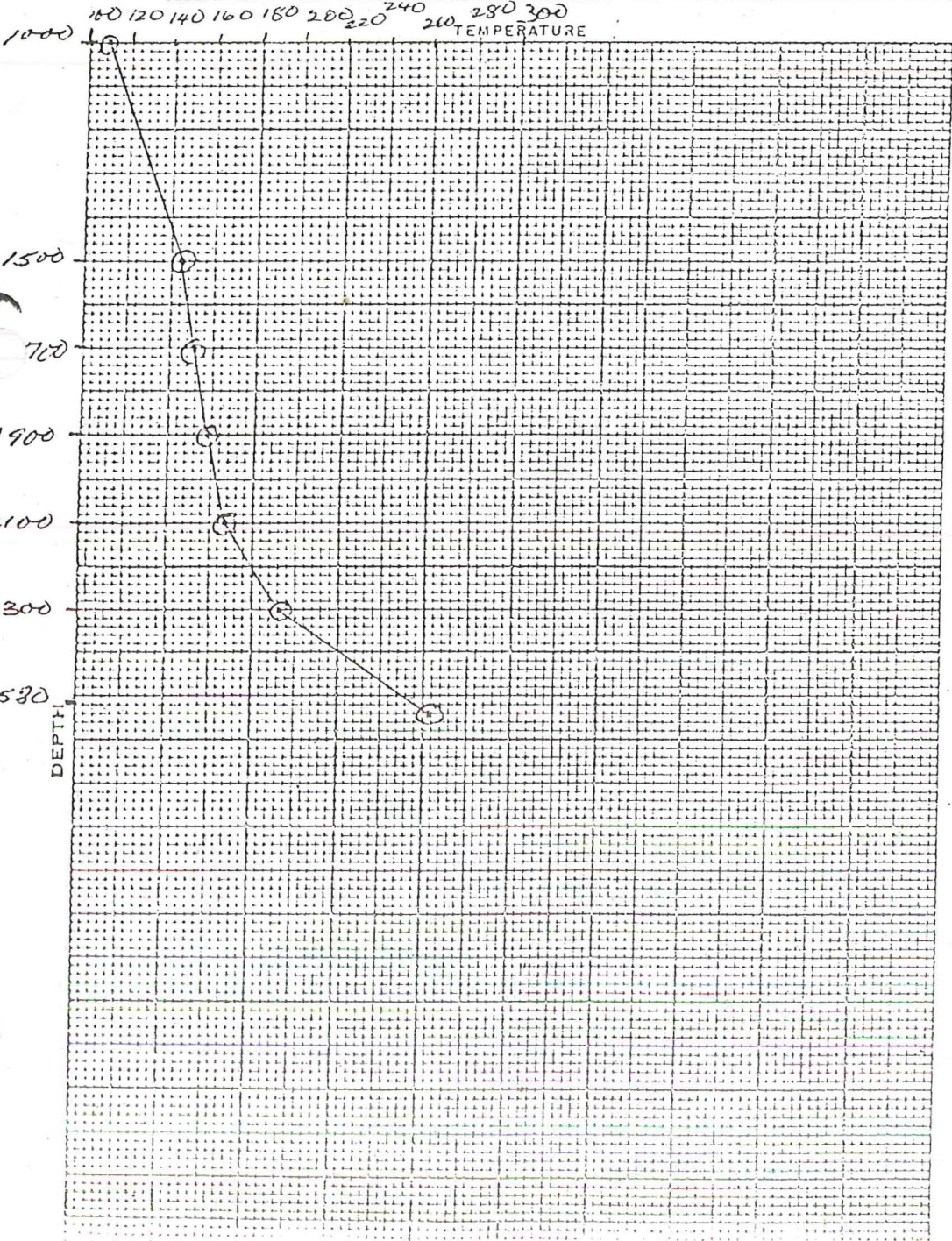
B-16 S-2 T

76

OWNER WALON OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #16  
 CASING \_\_\_\_\_ ELEV. \_\_\_\_\_ DATE: 8/7/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROYALY TMS.  
 DEPTH 2580

HOLE DESCRIPTION: RIG SURVEY  
 INSTRUMENT 82-686° FAH  
 SERIAL NO 10055

PURPOSE \_\_\_\_\_ MAX TEMP 263° F @ 2580  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PRESSURES.	GAUGE	BOHC
CASING, PSI	—	—

DEPTH	TEMP.	DEPTH	TEMP.
1000	109.0		
1500	144.0		
1700	152.0		
1900	159.0		
2100	167.0		
2300	194.0		
2580	263.0		

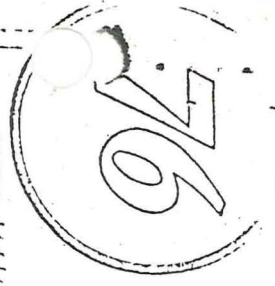
*JM1 + JB*



# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

BH16-259-FH



OWNER UNION CIT RD OF DEALE FIELD WALDE BOUNDARY WELL NAME BROOKHILL

CASING \_\_\_\_\_ DATE 7/5/75

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT RT

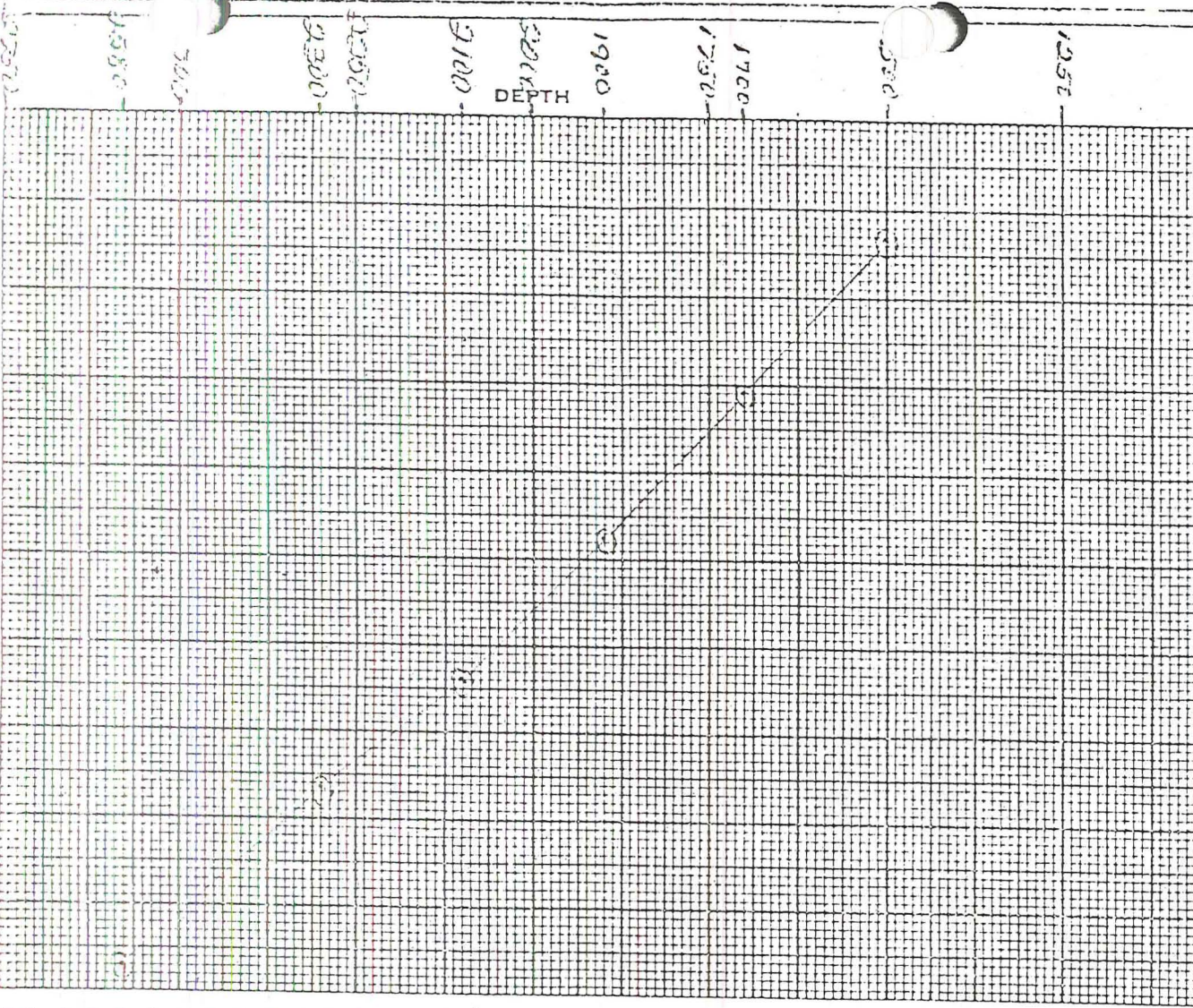
HOLE DESCRIPTION: \_\_\_\_\_ DEPTH 2050

INSTRUMENT 0-4250 PSI

SERIAL NO 7198

PURPOSE \_\_\_\_\_ MAX TEMP 26.3 OF @ 2050'

REMARKS: \_\_\_\_\_ STABILIZATION PERIOD \_\_\_\_\_



DEPTH	PRESSURE	GAUGE	BORH
1000	0		0
1500	16.9		1801
1700	25.5		1413
1900	35.5		142
2100	42.1		140
2300	48.1		132
2580	58.7		137

BY: 208, 203

76

UNION OIL

JACK

GEOTHERMAL DIVISION

SUBSURFACE SURVEY  
Field Work Sheet

B#16-SI-PIT

OWNER UNION OIL CO. CALIF FIELD VALLE GRANDE WELL NAME BACH#16  
 CASING \_\_\_\_\_ ELEV. \_\_\_\_\_ DATE: 7/5/75  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT RT  
 \_\_\_\_\_ DEPTH 2169'  
 TUBING DETAIL: OPEN HOLE  
 \_\_\_\_\_  
 PURPOSE ?  
 REMARKS: DRILL PIPE IN HOLE TO 2144'  
P-C-14250 P316 7198 13375L 15  
 ELEMENT 8.2°F-684F SERIAL NO. 10055 CLOCK 14091 L 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1421 T-1423 DISENGAGE STYLUS P-1633, T-1633  
 WELL HEAD 0  
 PICKUP @ 2144' TIME ON BOTTOM 1522-1622 MAX. 'F 260.7  
 WELL STATUS STATIC.  
 SHUT IN: \_\_\_\_\_ ON PRODUCTION: \_\_\_\_\_  
 RATE \_\_\_\_\_

PRESSURE TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
11:00	0	0	0	-	-	"	11:00	1042	95.3	-	-						
15:00	0	0	0	-	-	"	15:00	1325	181.7	-	-						
15:22	2144	0.60	135.1	-	-	"	2144	254.6	260.7	-	-						

COMMENTS:

BY: O.M. H.B.