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GL03878

Open-File Report # NM/Baca- 19 h

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	<del>A</del>	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.

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY  
Field Work Sheet

B12 530 P11

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #12  
 CASING 20" AT 247'; 13 3/8" AT 1453' ELEV. 8430' DATE: 9/7/76  
 LINER DESCRIPTION: 9 5/8" AT 3540' ZERO POINT GLT 8'  
7" AT 3345' DEPTH 9211'

TUBING DETAIL:

PURPOSE

REMARKS:  
ELEMENT - 0-7700 PSI SN 13012 CLOCK 12 hr 15 TURN

ELEMENT 80-646 of SERIAL NO. 10052 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1100 T-1106 DISENGAGE STYLUS P-1430 T-1430

WELL HEAD 575 PSIG BARTON RECORDER

PICKUP 0 8:00 TIME ON BOTTOM 13:55-13:15 MAX. °F 550

WELL STATUS

SHUT IN: ON PRODUCTION:

RATE

PSI					TEMP												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1	100	.234	574			1155	100	.000	80								
2	000	.234	574			1208	1000	.495	234								
2	000	.238	584			1221	2000	.920	360								
2	3000	.310	754			1233	3000	.989	380								
2	4000	.471	1134			1245	4000	.820	331								
2	5000	.633	1514			1258	5000	.859	342								
3	6000	.801	1908			1310	6000	.863	343								
3	7000	.965	2293			1321	7000	.981	376								
3	8000	1.132	2685			1334	8000	1.079	406								
3	8400	1.201	2847			1345	8400	1.755	580								

COMMENTS:

RV: 1610

## GEOHERMAL DIVISION

### SUBSURFACE TEMPERATURE SURVEY

B-12-S-22 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #12  
 CASING \_\_\_\_\_ ELEV 8604' DATE 10-17-74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT CLT 14  
 \_\_\_\_\_ DEPTH 9211'

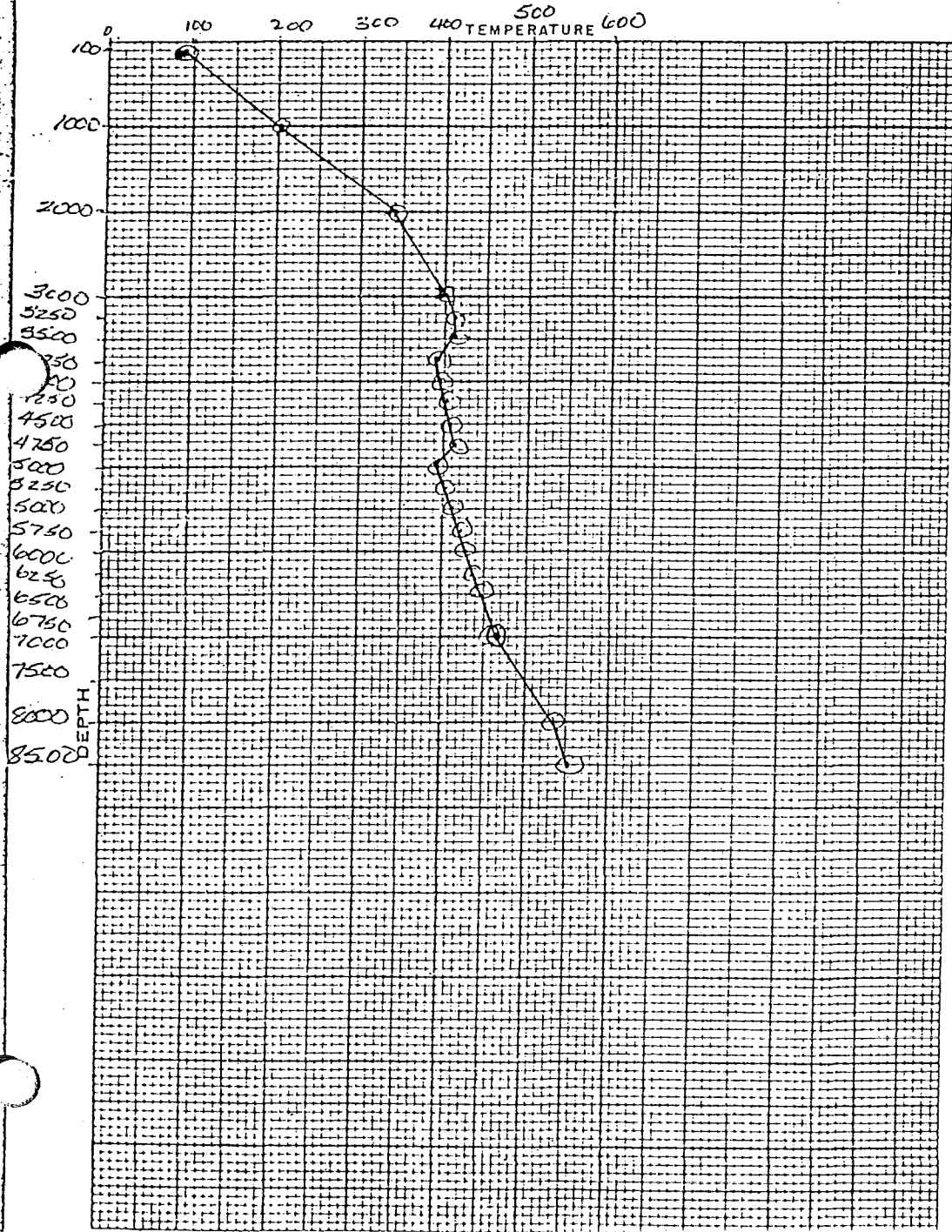
HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT \_\_\_\_\_ FAH  
 \_\_\_\_\_ SERIAL NO \_\_\_\_\_

PURPOSE GRADIENT MAX TEMP 557.0 °F @ 8500'  
 REMARKS: \_\_\_\_\_

**STABILIZATION PERIOD**

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	92.2		
1000	204.2		
2000	341.5		
3000	404.2		
3250	414.4		
3500	414.1		
3750	396.8		
4000	398.6		
4250	403.9		
4500	409.5		
4750	416.9		
5000	396.8		
5250	403.9		
5500	413.8		
5750	423.8		
6000	429.0		
6250	437.5		
6500	445.3		
7000	465.6		
8000	538.0		
8500	557.0		



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# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

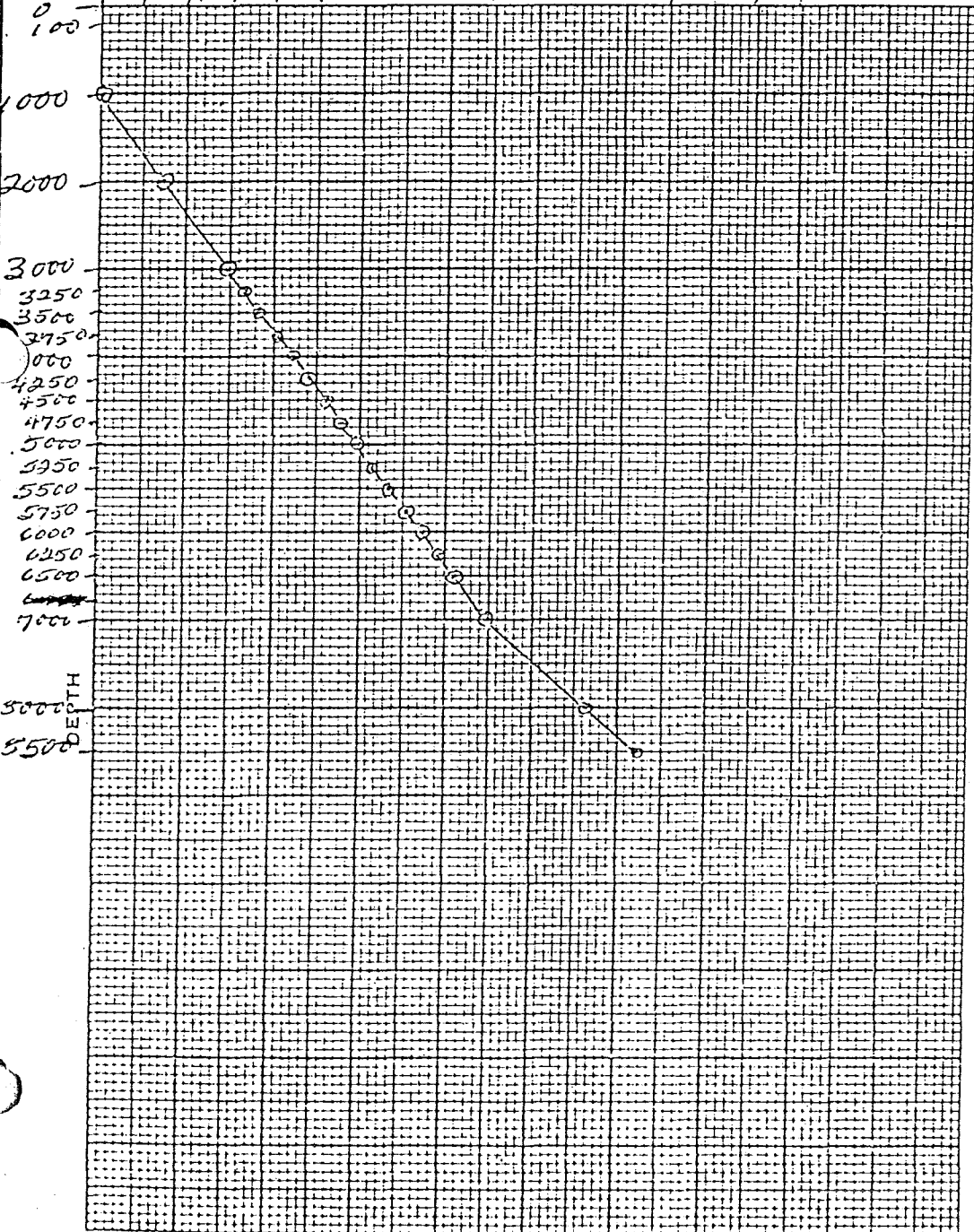
B12-522-P

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BACH #12  
 CASING \_\_\_\_\_ ELEV 8604 DATE 10/17/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14' + 62  
 \_\_\_\_\_ DEPTH 9211'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0-4800 PS  
 \_\_\_\_\_ SERIAL NO 7784

PURPOSE \_\_\_\_\_ MAX TEMP 557.6 °F @ 8500'

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



PRESSURES	GAUGE	BOMB
CASING. PSI	2	0

DEPTH	PRESSURE	GRADIENT
100	0	0
1000	2142	0
2000	3651.6	
3000	7481.0	
3250	8421.6	
3500	9341.6	
3750	10261.8	
4000	11121.9	
4250	12141.6	
4500	13121.2	
4750	14041.9	
5000	14971.6	
5250	15871.8	
5500	16821.9	
5750	17781.0	
6000	18701.7	
6250	19631.4	
6500	20561.4	
7000	22451.1	
8000	28381.2	
8500	31101.8	

BY: A-PM

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY  
Field Work Sheet

B12 551 P11

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #12  
 CASING 20" AT 247; 13 3/4" AT 1453 ELEV. 8430' DATE: 9/11/76  
 LINER DESCRIPTION: 9 3/8" AT 3540 ZERO POINT CL+15'  
7" AT 3545 DEPTH

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4700 PSI SN 13012 CL 12 hr 15 TURN  
 ELEMENT 80°-646° SERIAL NO. 10052 CLOCK 12 hr 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P 1035 T 1040 DISENGAGE STYLUS P-1353 T 1353

WELL HEAD

PICKUP @ 8400 TIME ON BOTTOM 1250-1320 MAX. °F 581 °F

WELL STATUS

SHUT IN: 9/11/76 AT 1050 hrs ON PRODUCTION:

RATE

R51

TEMP

ID	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	100	.004	10.5		0	1105	100	.530	245								
0	100	.004	10.6		0	1117	1000	.645	250								
-004	200	.053	216	.215	-004	1129	2000	.550	251								
-001	300	.252	616	.400	-001	1143	3000	.850	339								
+002	400	.420	1014	.398	+002	1156	4000	.826	353								
+005	500	.591	1416	.402	+005	1209	5000	.802	326								
+006	600	.757	1805	.339	+006	1222	6000	.857	342								
+007	700	.922	2193	.323	+007	1235	7000	.984	378								
+012	800	1.090	2587	.394	+012	1247	8000	1.073	405								
+004	8400	1.134	2761	.435	+004	1320	8400	1.741	581								

COMMENTS:

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# GEO THERMAL DIVISION

## SUBSURFACE SURVEY Field Work Sheet

817, 529 P11

OWNER: W. S. OIL COMPANY FIELD: WILLE GRANDE WELL NAME: W-12  
 CASE NO: 2041247; 13 1/2" AT 1455' ELEV. 9450' DATE: 8/24/76  
 DESCRIPTION: 4 1/2" AT 3540' ZERO POINT: 6.2 F 9'  
7" AT 3343' DEPTH: 921'

**TUBING DETAIL:**

**PURPOSE:**

**REMARKS:**

Element - 2-4700 PSI SN 13012 Clock 12 hr 15 T

ELEMENT AT 30" - 6.46 CF SERIAL NO. 10052 CLOCK 12 hr 15 T TURN STABILIZATION PERIOD

RANGE STYLE: P 0944 T - 0938 DISENGAGE STYLUS P 1310 T - 1330

WELL HEAD: 0

TEMP. ON SURFACE: 9400 TIME ON BOTTOM 1223-1238 MAX. T 579 F

WELL STATUS: RIC moved off 8/10/76

ON PRODUCTION:

DATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE						
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	0	0	0		0	0	0	0			
00	100	0	0		0	100	005	31			
01	200	0	0		0	200	350	190			
03	300	116	315		-001	300	595	353			
05	400	319	751		+001	400	943	372			
07	500	471	1174		+002	500	940	373			
09	600	636	1521		+004	600	932	354			
11	700	802	1911		+006	700	836	335			
13	800	965	2293		+008	800	958	371			
15	900	1195	2658		+013	900	1058	400			
17	921	1201	2847		+003	840	1730	579			

COMMENTS:





516

1  
 GEOTHERMAL DIVISION  
 SUBSURFACE TEMPERATURE SURVEY

BIR 529 T

CLIENT: MINION PILE COMPANY

FIELD WELL NAME: WELLS CASHMERE

DATE: 8/22/76

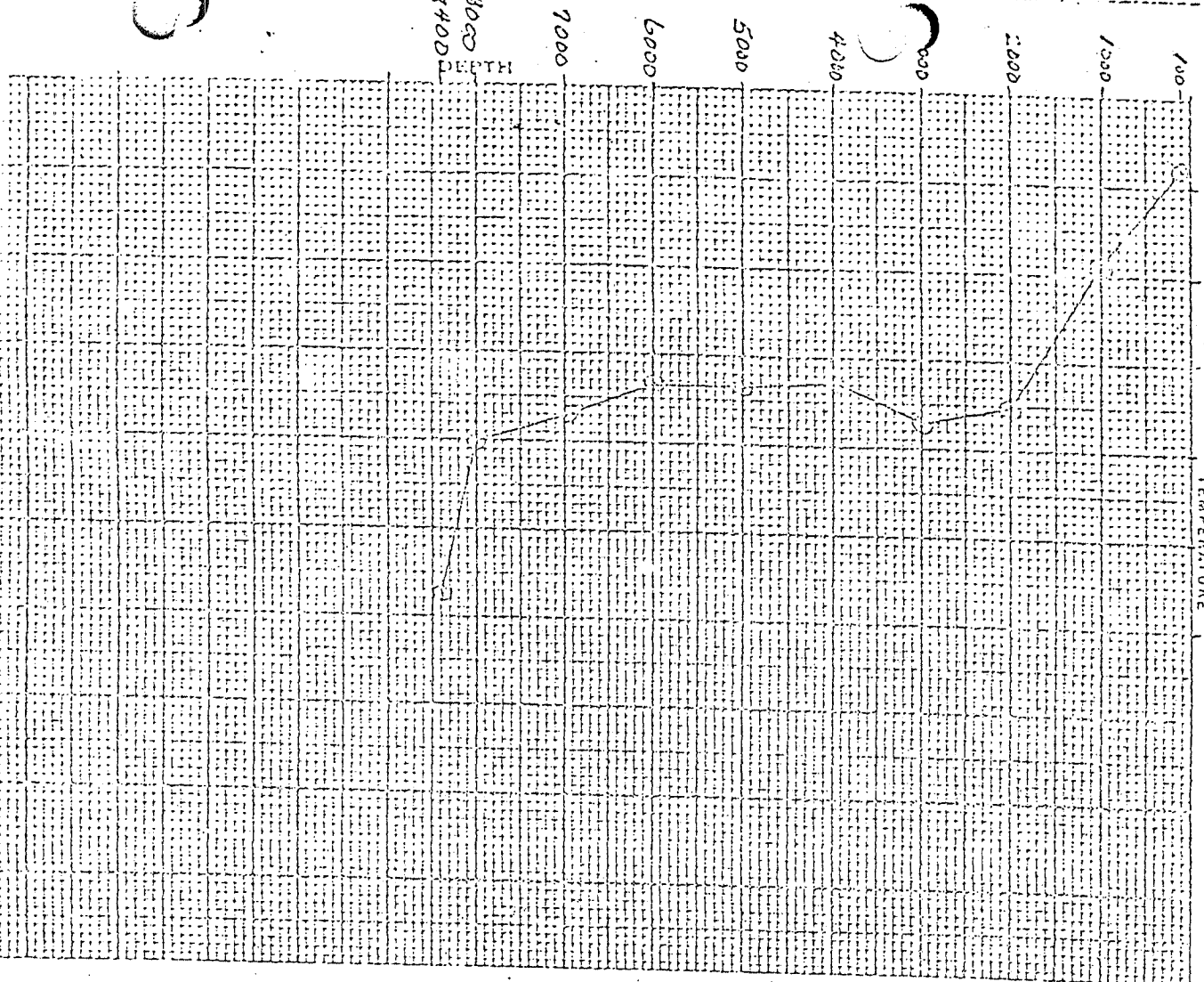
DEPTH: 7211

WELL DESCRIPTION:

INSTRUMENT: 80104L

SERIAL NO: 10052

MAX TEMP: 579 @ 8400



DEPTH	TEMP.	CORR.	DEPTH	TEMP.	CORR.
100	100	0	7000	371	0
1000	150	0	7200	371	0
2000	250	0	7400	371	0
3000	250	0	7600	371	0
4000	250	0	7800	371	0
5000	250	0	8000	371	0
6000	250	0	8200	371	0
7000	250	0	8400	579	0





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# UNION GEO THERMAL DIVISION

## SUBSURFACE SURVEY Field Work Sheet

B10-596-T

OWNER WELLS OIL CO. CALIF. FIELD VALLE GRANDE WELL NAME FOGA 112  
 CASING 20" @ 247' 13 1/2" @ 453' ELEV. 8430' DATE: 7/14/76  
 LINER DESCRIPTION: 9 5/8" @ 2540' ZERO POINT RIG FLOOR  
7" @ 3343' DEPTH 3678'

TUBING DETAIL:

PURPOSE:

REMARKS:

ELEMENT 2005-1469 SERIAL NO. 10052 CLOCK 12/10 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS T-1357 DISENGAGE STYLUS T-1610  
 WELL HEAD ( )  
 PICKUP @ 3675' TIME ON BOTTOM 1552-1552 MAX. F 218'  
 WELL STATUS SHUT IN  
 SHUT IN: ON PRODUCTION:

RATE

TEMPERATURE

DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	0	0														
100	0	0														
100	0.013	103														
100	0.035	107														
105	0.110	107														
105	0.165	131														
100	0.170	199														
100	0.397	214														
112	0.473	213														
112	0.478	218														

COMMENTS: START INS - 1030 hrs TOTAL BBLs INS - 550  
STOP INS - 1440 hrs

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# GEO THERMAL DIVISION

SUBSURFACE SURVEY  
Field Work Sheet

BS#19 525-7/T

OWNER: UNION OIL CO. CALIF. FIELD: VALLE GRANDE WELL NAME: BS#19 525-7/T  
 CASING: 20" - 247' 13 1/2" 15 1/2" 2153' ELEV.: 8430' DATE: 7/13/76  
 LINER DESCRIPTION: 9 1/2" - 3540' ZERO POINT: ROTARY TABLE  
 7" - 3313' DEPTH: 3650'

TUBING DETAIL:

PURPOSE:

REMARKS:

P - 0 - 4700 PSI 13012 7/12 12:07 15  
 ELEMENT: 92F-652F SERIAL NO. 10052 CLOCK 12:07 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1659, T-1700 DISENGAGE STYLUS P-1659 T-1900  
 WELL HEAD 0  
 PICKUP @ 3650' TIME ON BOTTOM 1:03 1:33 MAX. F 371 @ 3600'  
 WELL STATUS SHUT IN.  
 SHUT IN: 4/4/75 ON PRODUCTION:  
 RATE:

PRESSURE

TEMPERATURE

DEPTH	DEFL.	P-T	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	TIME
100	0	0		1725	100	0	0							
124	0	0		1737	1260	337	15.2							
148	240	114	7.61	1749	2020	596	3.55							
172	360	135	7.42	1751	3200	907	3.71							
207	3650	147	11.07	1823	3650	920	3.54							

CALIBRATION CHK WITH 2500 LB AT 70 °F

C/G = 1.042  
 I/SI = 2474

NO CORRECTION

COMMENTS:

RAN SINKER BAR PRIOR TO SURVEY

4 11 21 80 - 400 - 0 Feet

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# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

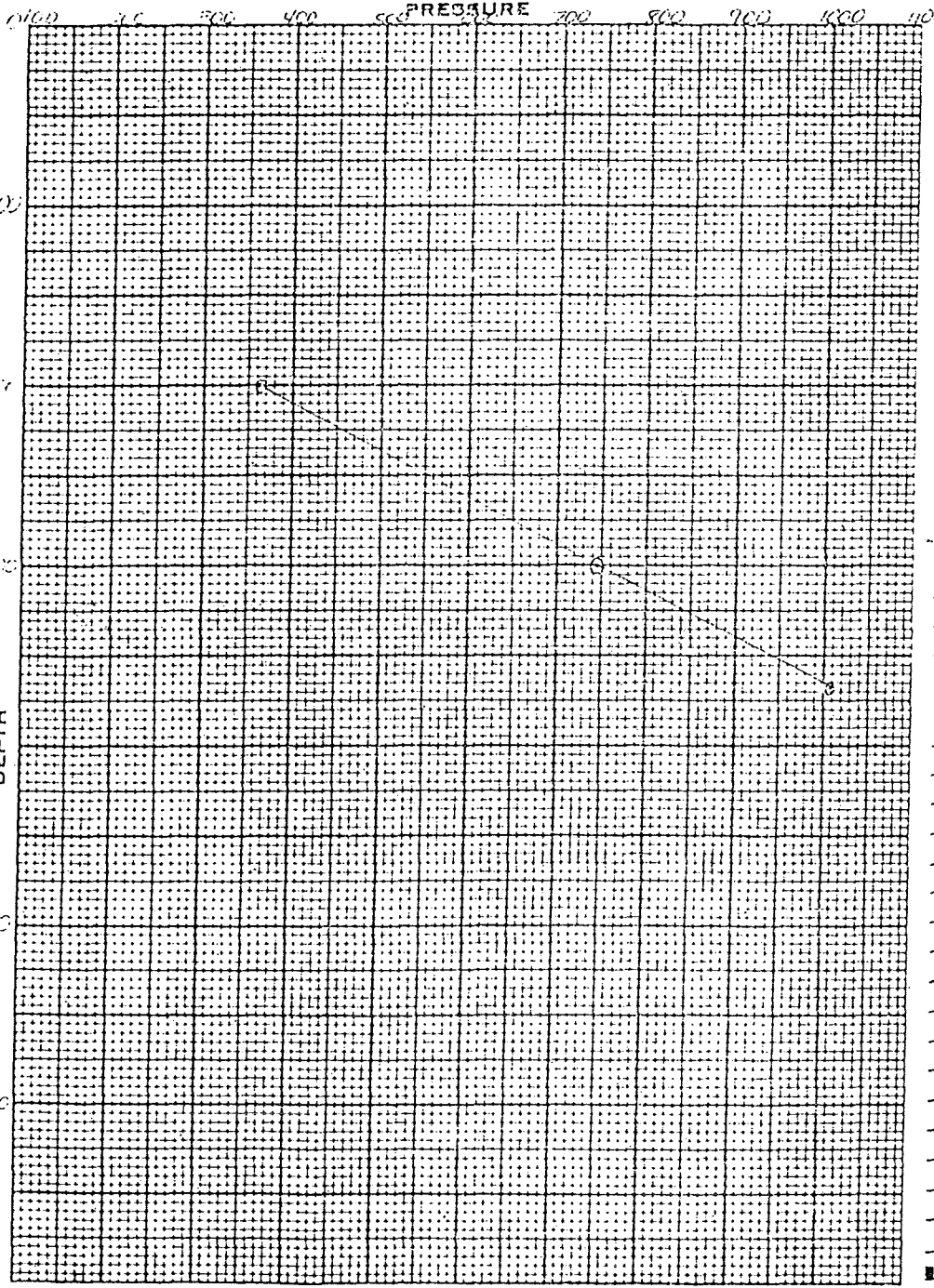
B12-SDS-417

OWNER \_\_\_\_\_ FIELD VALLE GRANDE WELL NAME BACA #12  
 CABING \_\_\_\_\_ ELEV 8430' DATE 7-13-76  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT ROTARY TABLE  
 \_\_\_\_\_ DEPTH 3680'

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

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

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



PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	PRESSURE	GRADIENT
2000	361	
3000	742	
3680	1007	

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

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# GEO THERMAL DIVISION

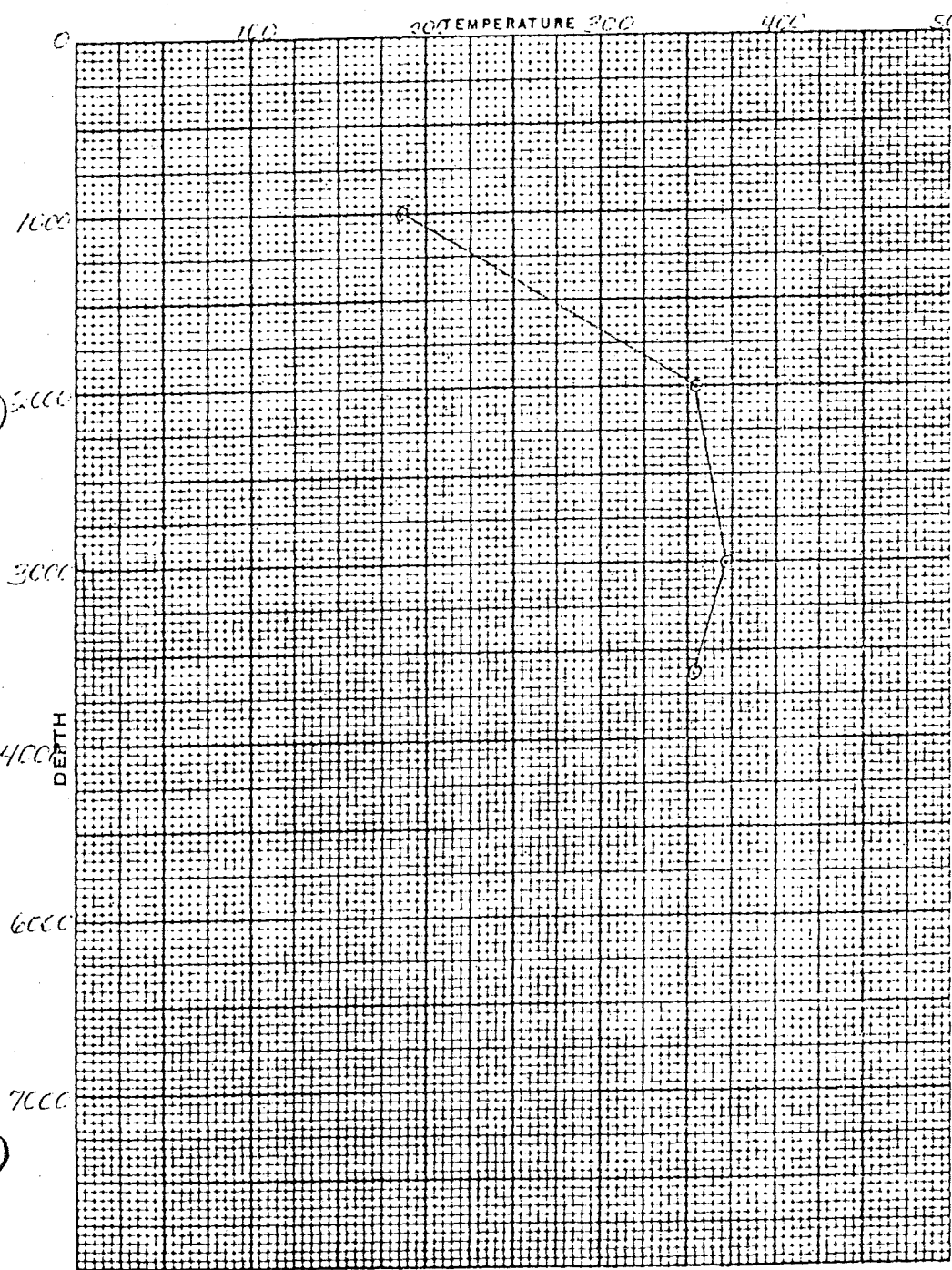
## SUBSURFACE TEMPERATURE SURVEY B 12-505-P/T

OWNER \_\_\_\_\_ FIELD VALLE GRANDE WELL NAME BACA #12  
 CABING \_\_\_\_\_ ELEV 8430' DATE 7-13-76  
 LINER DESCRIPTION \_\_\_\_\_ ZERO POINT ROTARY TABLE  
 \_\_\_\_\_ DEPTH 3680'

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

PURPOSE \_\_\_\_\_ MAX TEMP 371 °F @ 3000'  
 REMARKS \_\_\_\_\_

STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
1000	186		
2000	353		
3000	371		
3680	354		

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

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-12 5-24 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAVA #12  
 CASING 20" - 247' ; 13 3/8" - 1453' ELEV. 8430' DATE: 5/1/75  
 LINER DESCRIPTION: 9 5/8" - 3540' ZERO POINT CL + 7'  
7" - 3343' DEPTH 9211'

TUBING DETAIL:

PURPOSE GRADIENT

REMARKS:

0-4250 PSIG SN - 7198 CLOCK 13375-L 15 TURN  
 ELEMENT 82-686°F SERIAL NO. 10055 CLOCK 13374-L 15 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS P-1003 ; T-1006 DISENGAGE STYLUS P-1232 ; T-1232  
 WELL HEAD 0  
 PICKUP @ 5580' TIME ON BOTTOM MAX. °F 388.4  
 WELL STATUS STATIC  
 SHUT IN: \* 4/6/75 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
2-1638	110	0	0	0	0	"	110	0	0	0							
	160	0	0	0	0	"	160	.380	306.4								
	200	.173	389.6	0	0	"	200	.884	367.9								
-111	300	.352	775.4	.386	-0.001	"	300	.948	388.4								
-112	400	.532	1155.5	.380	0	"	400	.856	358.9								
-113	500	.712	1531.0	.379	+0.002	"	500	.772	332.2								
-1150	5580	.818	1758.5	.380	+0.006	"	5580	.860	360.2								

COMMENTS: \* LAST INJECTION 1330 HRS 4/6/75; 494844 GALLONS  
 \*\* COULD NOT GET PAST 5580'

BY: JH/LB



# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

B-12 S-24 P/T

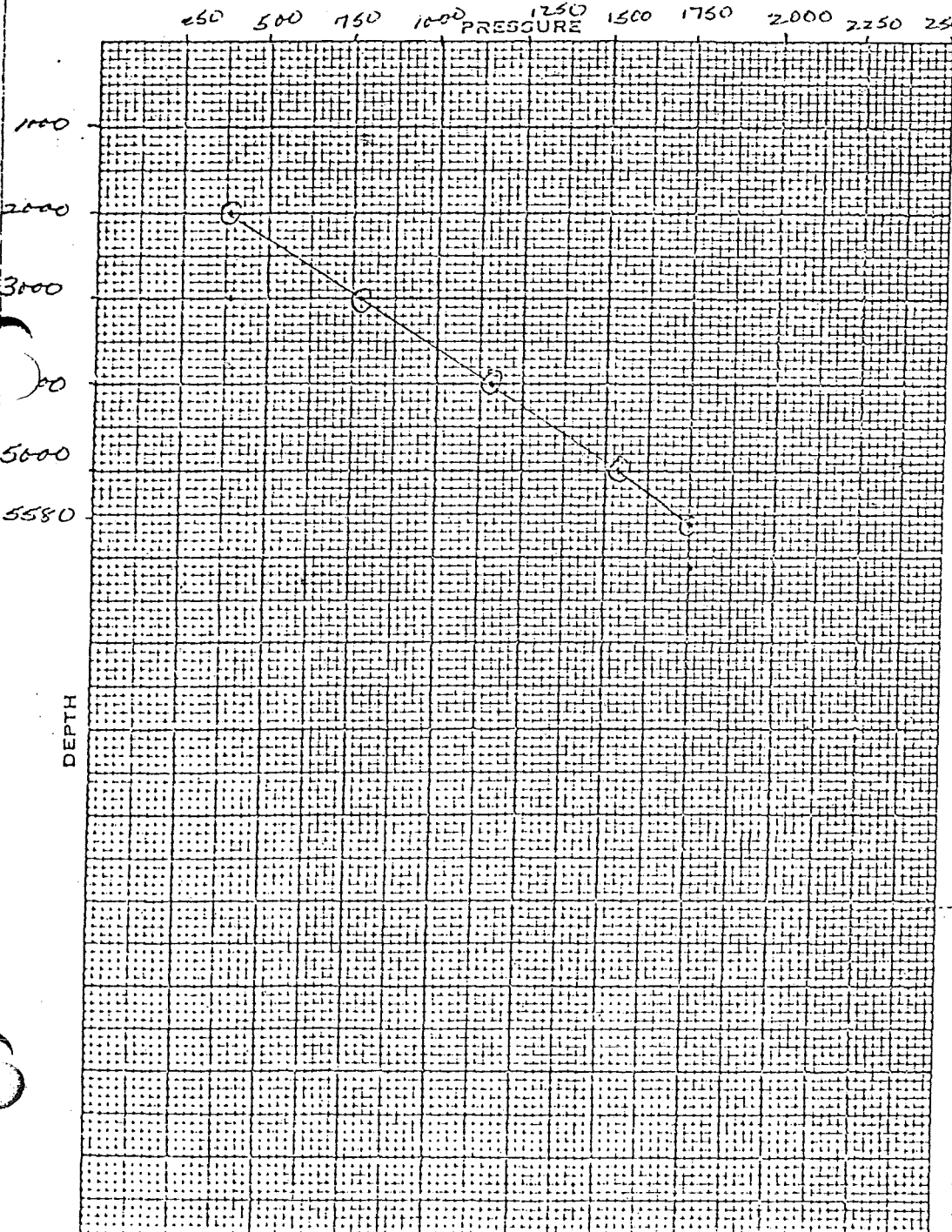
76

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #12  
 CASING 20"-247'; 13 3/8"-1453 ELEV. 8430' DATE 5/1/75  
 LINER DESCRIPTION: 9 5/8"-3340' ZERO POINT 6.4 ± 7'  
7"-3343 DEPTH 9211'

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

PURPOSE GRADIENT MAX TEMP 388.4 °F @ 3000

REMARKS:



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

PRESSURES	GAUGE	BOJIS
CASING, PSI	0	0

DEPTH	PRESSURE	GRADIENT
1100	0	0
2000	0	0
3000	775.4	.386
4000	1155.5	.380
5000	1534.0	.379
5580	1758.5	.380

BY: J/S/1/75

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# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

FORM 504 (REV. 11-60)

OWNER UNITED CO. OF CALIF. FIELD VALLE CASTILLON  
CASING 2 1/2" DIA. 10' GALV. PIPE ELEV. 5450' DATE: 5/1/71  
LINER DESCRIPTION: 9 3/8" DIA. 555' GALV. PIPE ZERO POINT 6' + 71

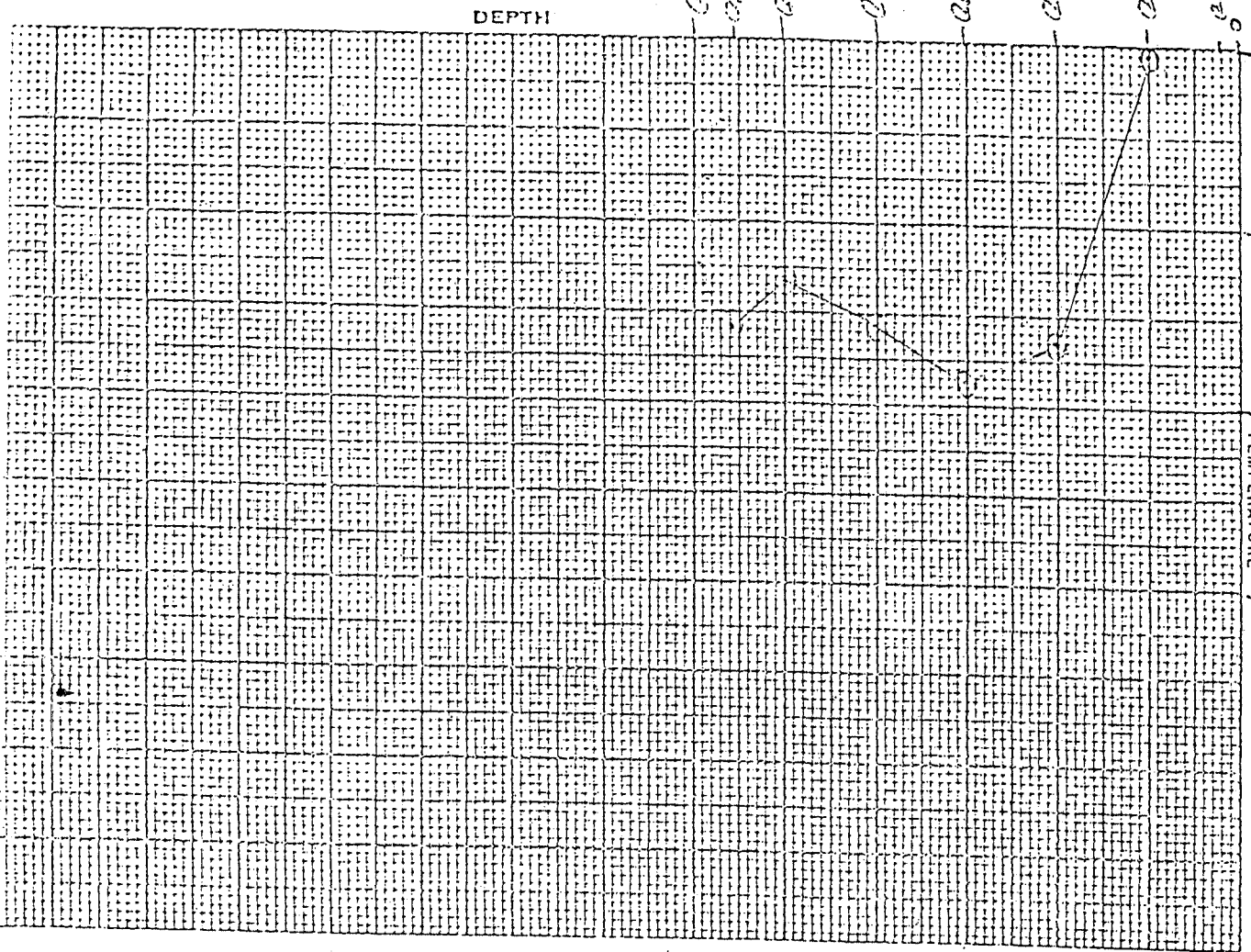
DEPTH 9019'  
Survey to 9279'

INSTRUMENT 530 - 1500' FAH  
SERIAL NO. 11153

MAX TEMP. 353.4° @ 3000'

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

PURPOSE \_\_\_\_\_  
REMARKS: 200 300 400 500 600 700  
HOE TEMPERATURE 5.6°



PRESSURES	GAUGE	COHD
CASING, PSI	0	0

DEPTH	TEMP.	DEPTH	TEMP.
100	0		
200	206.4		
300	214.9		
400	223.4		
500	231.9		
600	239.9		
700	248.0		
800	256.0		

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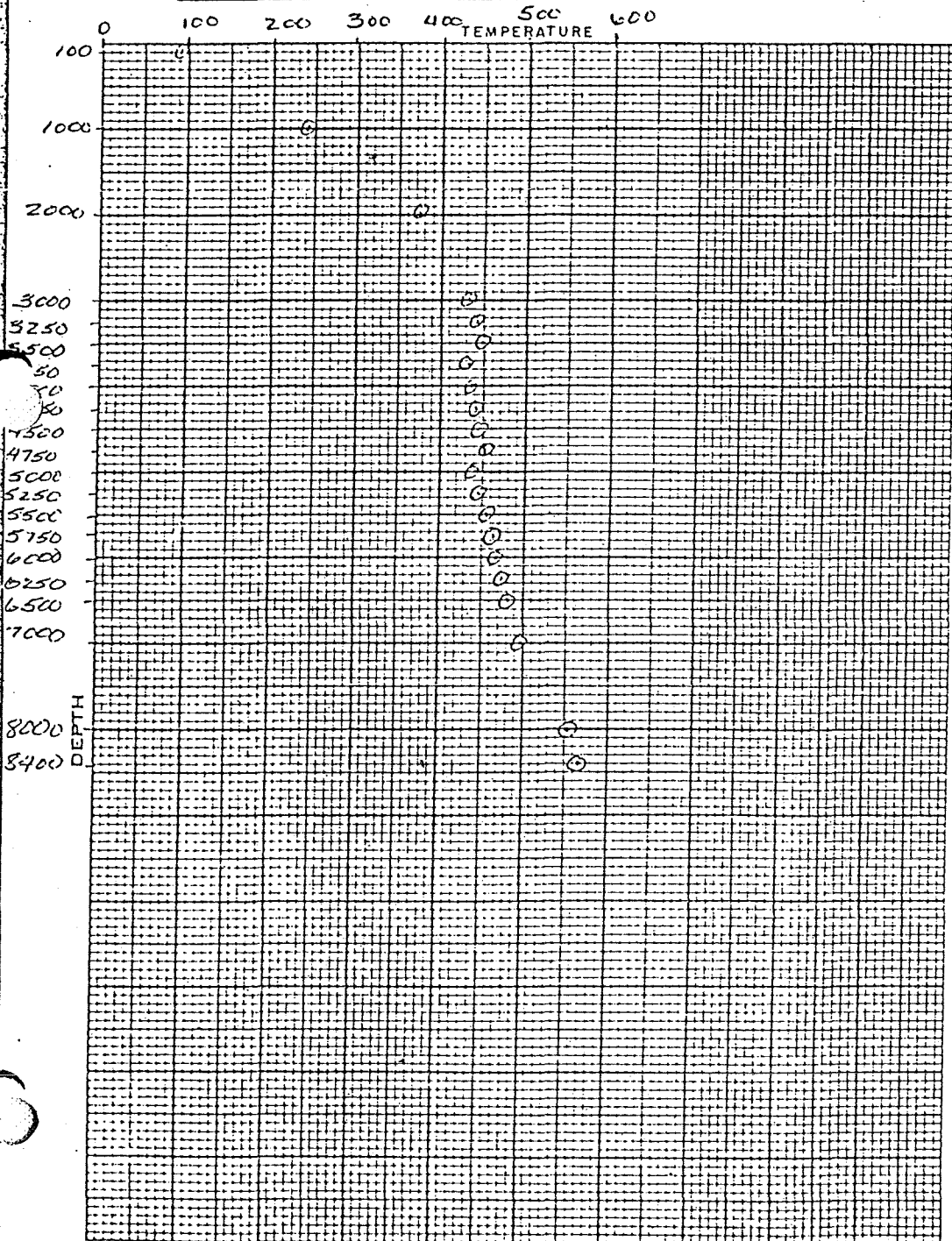
# GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY B #12. 523 1/2

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #12  
 CASING \_\_\_\_\_ ELEV 8604 DATE 10/21/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL. L 14'  
 DEPTH 9211

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 588-698° FAHR  
 SERIAL NO KTB-10055

PURPOSE \_\_\_\_\_ MAX TEMP 566 °F @ 8400  
 REMARKS: \_\_\_\_\_



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

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	92.2		
1000	246.8		
2000	372.6		
3000	434.0		
3250	443.8		
3500	449.1		
3750	434.3		
4000	437.2		
4250	441.5		
4500	445.9		
4750	451.4		
5000	442.7		
5250	447.9		
5500	454.3		
5750	463.3		
6000	467.3		
6250	474.3		
6500	480.6		
7000	499.9		
8000	555.1		
8400	566.0		

BY: *[Signature]*

## GEOTHERMAL DIVISION

10/21/79

### SUBSURFACE PRESSURE SURVEY

B10-523-P/T

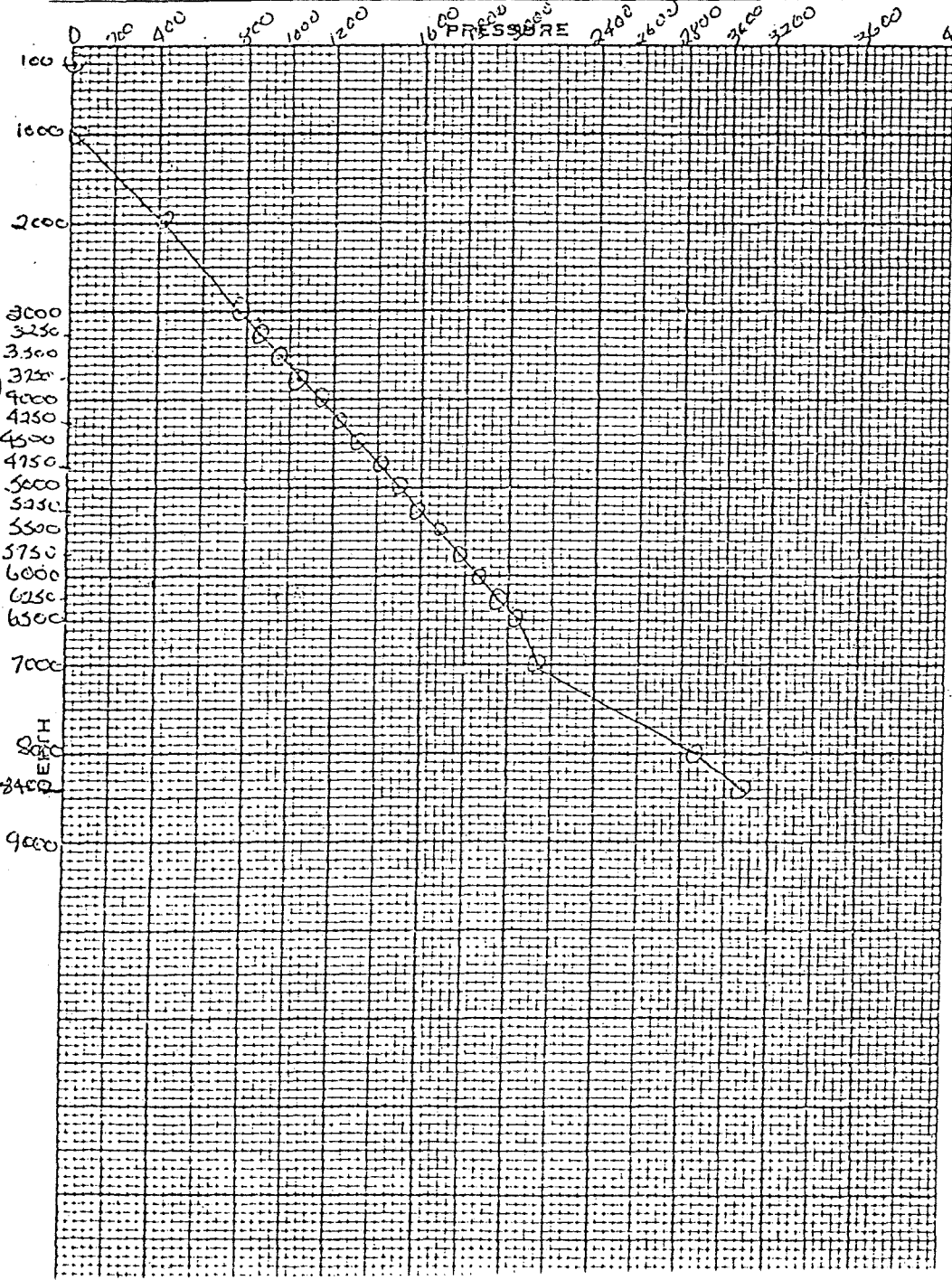
# 76

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca # 12  
 CASING \_\_\_\_\_ ELEV 8604 DATE 10.15.1/79  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL + 14'  
 \_\_\_\_\_ DEPTH 9211

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0-4800 FS  
 SERIAL NO KPC-7789  
CLOCK 12hr SN. A139 7 1/2"  
 MAX TEMP 566 °F @ 8400

**PURPOSE**

**REMARKS:**

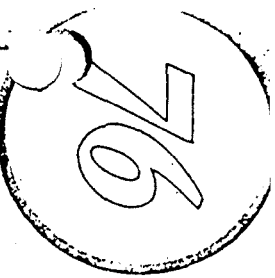


**STABILIZATION PERIOD**

PRESSURES.	GAUGE	BOHB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	0	0
1000	14.5	0
2000	406.8	.395
3000	767.6	.361
3250	862.0	.375
3500	954.0	.368
3750	1043.9	.361
4000	1134.2	.361
4250	1224.4	.361
4500	1314.6	.361
4750	1404.8	.361
5000	1497.6	.351
5250	1587.8	.361
5500	1680.5	.371
5750	1770.7	.361
6000	1865.9	.381
6250	1953.7	.351
6500	2044.1	.363
7000	2225.5	.361
8000	2877.5	.655
8900	3071.4	.485

A/T



7611

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B12-S21-7

OWNER Union Oil of Calif FIELD Valle Grande WELL NAME BARNH12

CASING \_\_\_\_\_ ELEV 8600' DATE 10/15/74

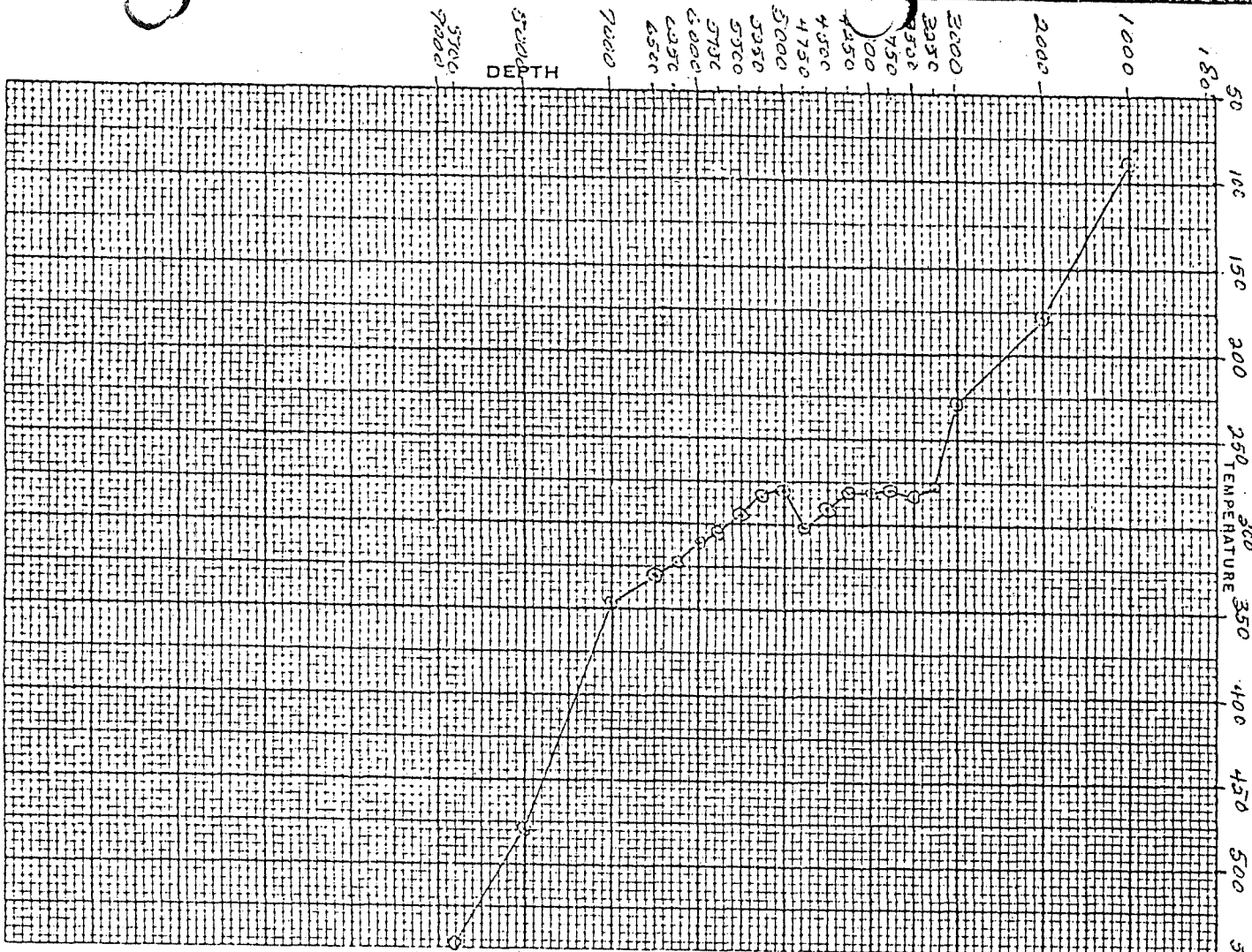
LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14' + 0L

HOLE DESCRIPTION: \_\_\_\_\_ DEPTH 9211'

INSTRUMENT 850-6950 FAHR  
SERIAL NO 100535

PURPOSE \_\_\_\_\_ MAX TEMP 547.9 °F @ 5500

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



PRESSURES	GAUGE	ROCK
CASING, PSI	<u>WAC</u>	<u>WAC</u>

DEPTH	TEMP.	DEPTH	TEMP
100	0		
1000	89.7		
2000	175.7		
3000	229.5		
3250	278.8		
3500	254.6		
3750	282.7		
4000	282.3		
4250	286.5		
4500	292.2		
4750	302.5		
5000	350.1		
5250	254.6		
5500	295.1		
5750	305.4		
6000	316.1		
6250	323.3		
6500	330.3		
7000	347.9		
5500	479.7		
5500	547.9		

BY: D.M.



## GEO THERMAL DIVISION

### SUBSURFACE PRESSURE SURVEY

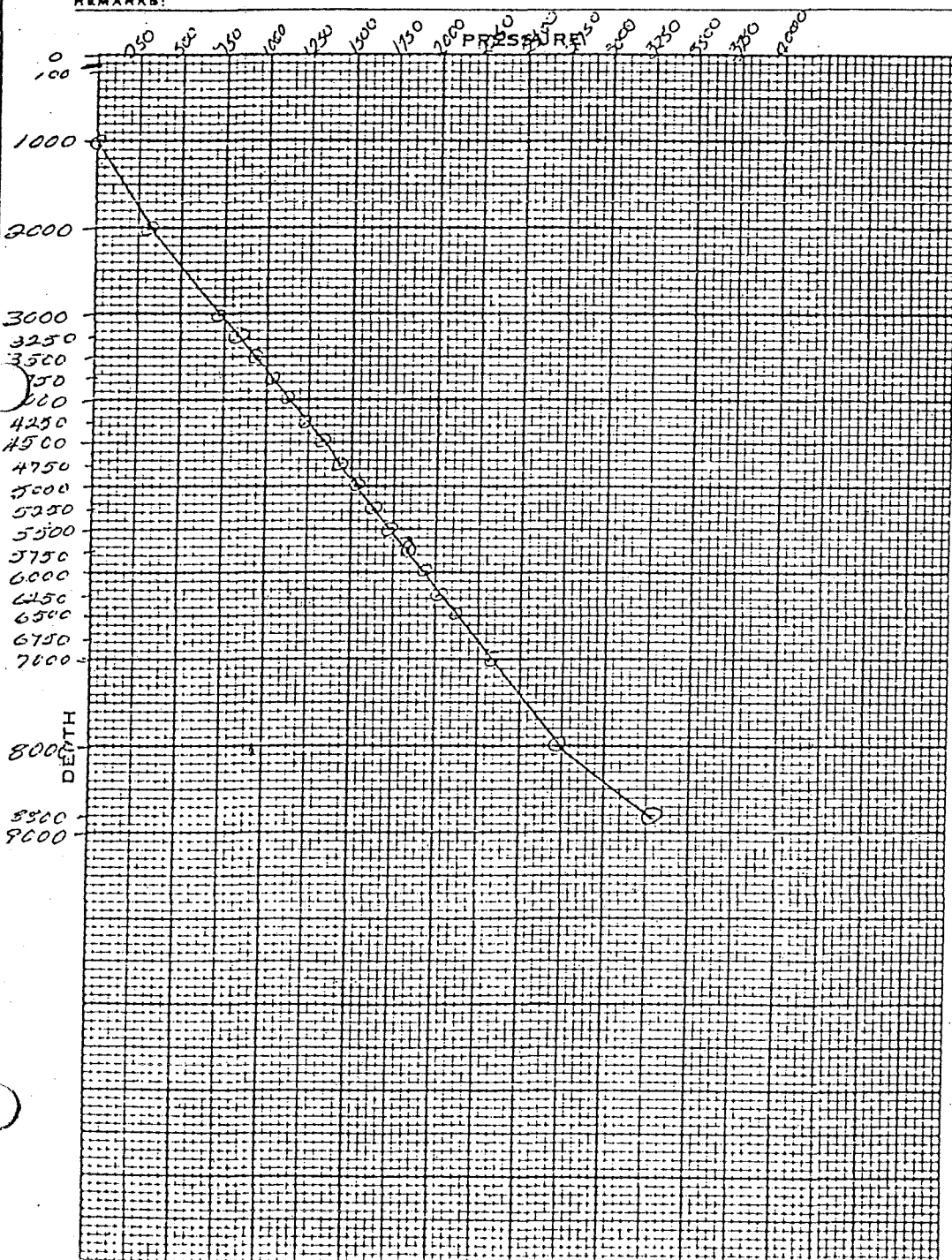
B12-521-P

76

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BACA#12  
 CASING \_\_\_\_\_ ELEV 8604' DATE 10/15/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14' + CL  
 \_\_\_\_\_ DEPTH 9211

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_  
 INSTRUMENT 0-4800 PSI  
 SERIAL NO 7784

PURPOSE \_\_\_\_\_ MAX. TEMP 547.9 °F @ 8800'  
 REMARKS: \_\_\_\_\_



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

PRESSURES	GAUGE	BOMB
CASING. PSI	VAC	VAC.

DEPTH	PRESSURE	GRADIENT
100	0	0
1000	2.42	.0003
2000	317.19	.315
3000	726.39	.695
3250	830.51	.104
3500	932.20	.102
3750	1034.13	.102
4000	1134.15	.100
4250	1236.34	.102
4500	1336.39	.100
4750	1436.39	.100
5000	1536.39	.100
5250	1636.39	.100
5500	1739.02	.102
5750	1834.13	.095
6000	1934.13	.100
6250	2026.96	.093
6500	2123.00	.098
7000	2313.73	.189
8000	2713.23	.400
8800	3270.94	.558

BY: *MR*

# 76

## GLOUTHERMAL DIVISION

### SUBSURFACE PRESSURE SURVEY

B12-520-P

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BACR #12  
 CASING \_\_\_\_\_ ELEV 8604 DATE 10/14/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14' + BL  
 \_\_\_\_\_ DEPTH 9211

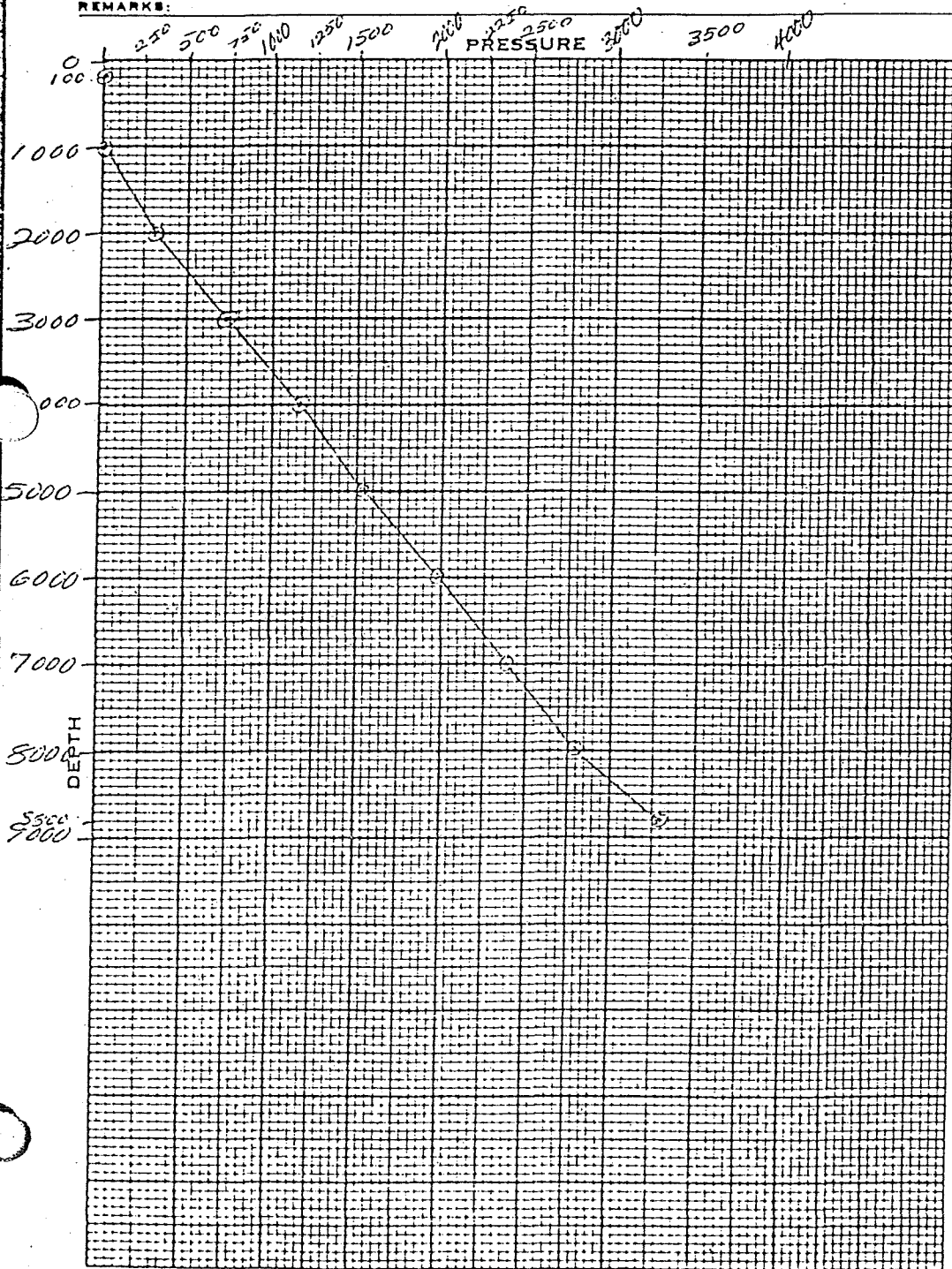
HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0-4800 PSI  
 \_\_\_\_\_ SERIAL NO 7784

PURPOSE GRADIENT (POST INJECTION) MAX TEMP 537.7F @ 8800

REMARKS:

STABILIZATION PERIOD

1230 hrs -> 1745 hrs  
10/14/74



PRESSURES.	GAUGE	BOMB
CASING, PSI	VAC	VAC

DEPTH	PRESSURE	GRADIENT
100	0	0
1000	4.84	0.001
2000	322.03	0.317
3000	743.34	0.279
4000	1128.54	0.415
5000	1573.17	0.415
6000	1985.37	0.412
7000	2392.16	0.407
8000	2781.56	0.390
8800	3295.57	0.514

BY: J.M.

76

# GEO THERMAL DIVISION

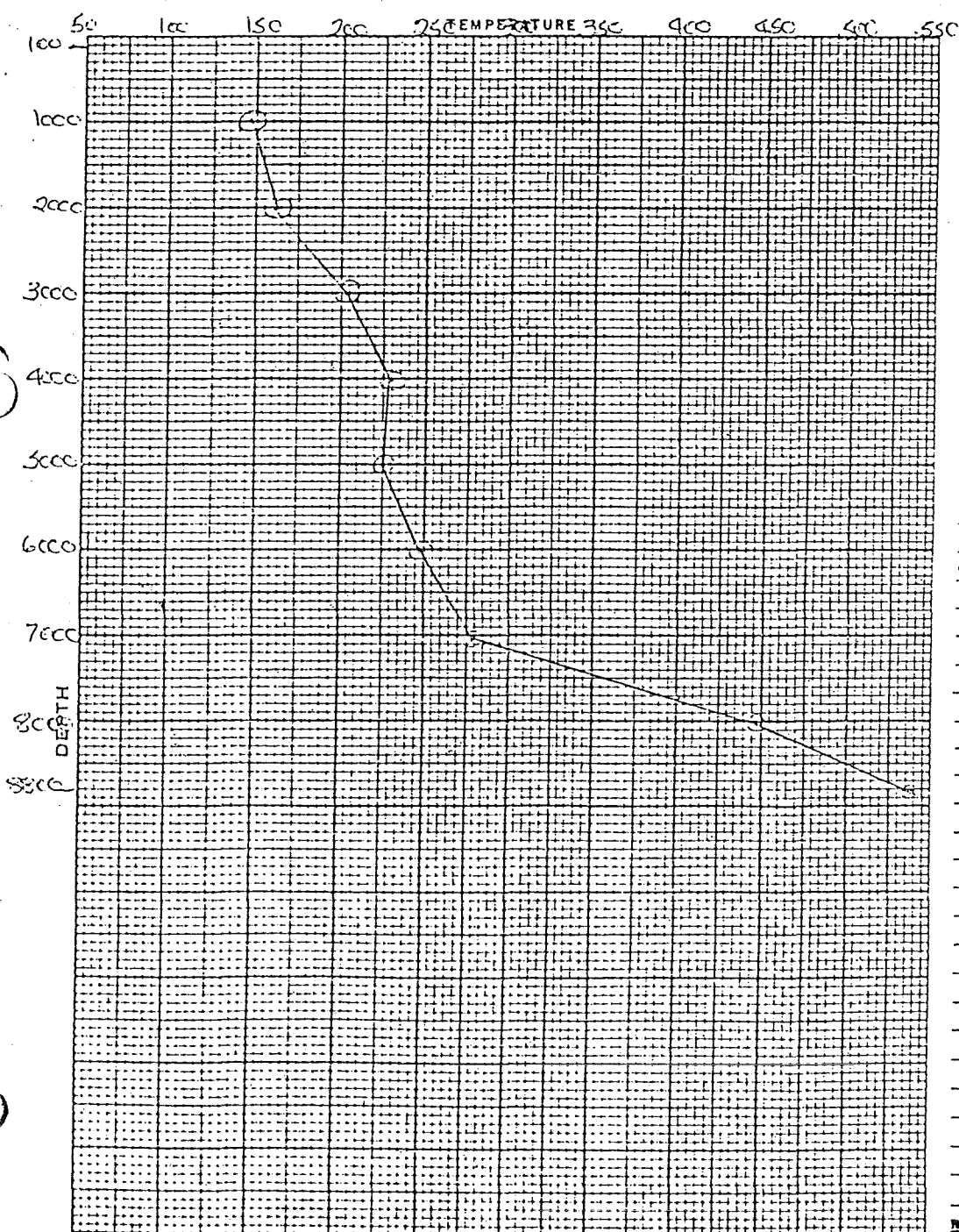
## SUBSURFACE TEMPERATURE SURVEY

B12-520-T

OWNER Union Oil Company FIELD Valle Grande WELL NAME BACA # 12  
 CASING \_\_\_\_\_ ELEV 2609 DATE 10/19/79  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL + 14'  
 \_\_\_\_\_ DEPTH ~~211'~~

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT KTB-58-698  
 \_\_\_\_\_ SERIAL NO 10055

PURPOSE Gradient after injection MAX TEMP 537.7 °F @ 8200'  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD  
1230 - 1745

PRESSURE	GAUGE	BOMB
CASING, PSI	<u>VAC</u>	<u>VAC</u>

DEPTH	TEMP.	DEPTH	TEMP.
100	0		
1000	156.4		
2000	162.1		
3000	202.9		
4000	229.8		
5000	225.3		
6000	248.1		
7000	279.8		
8000	448.8		
8200	537.7		

BY: (Signature)



INJECTIVITY TEST

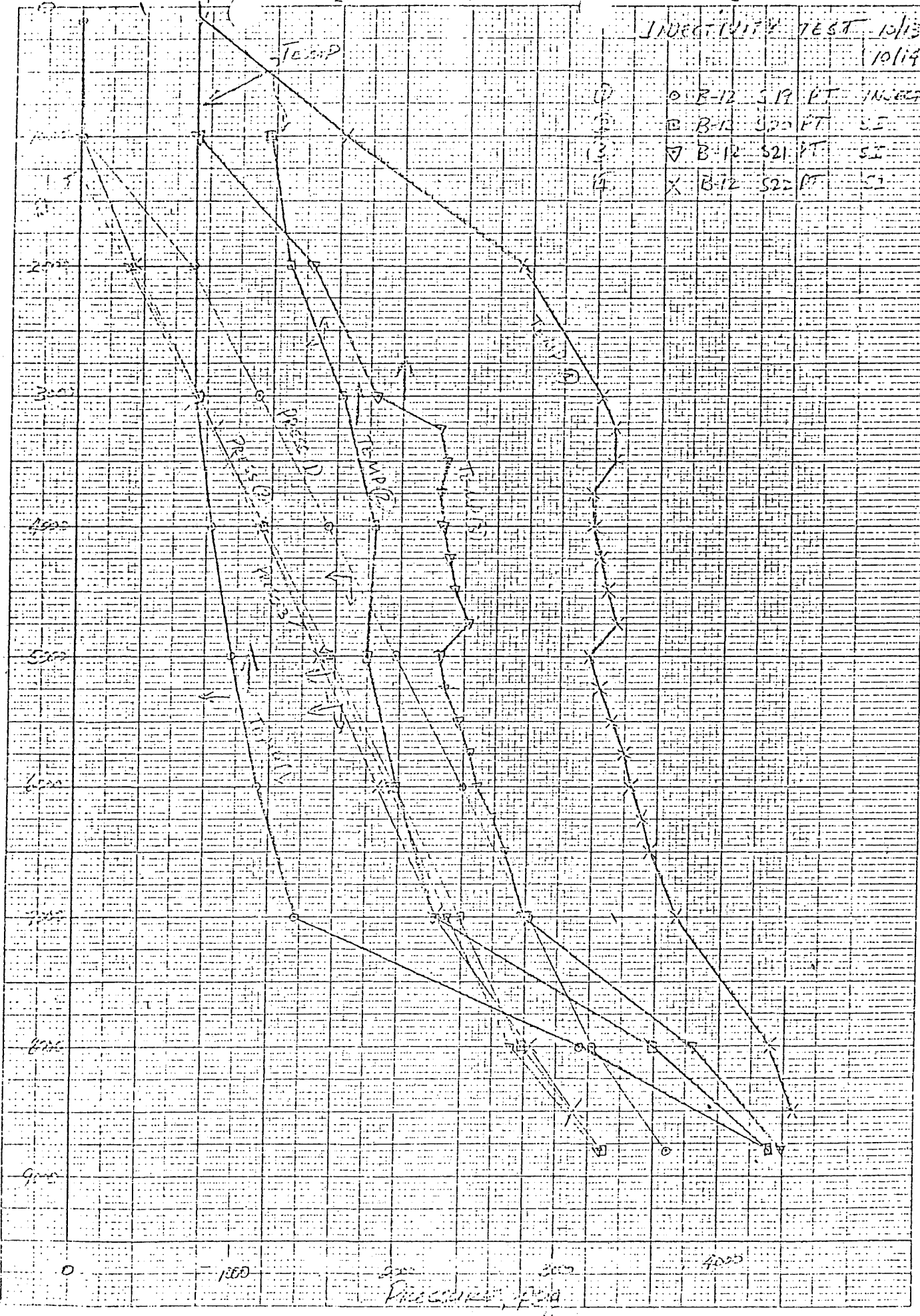
B-12 & SUBSEQUENT  
SURVEYS.

INJECTIVITY Calculation  
is included

INTEGRITY TEST 10/13/74 -  
10/14/74

1	O	B-12	519	PT	INJECTING
2	□	B-12	520	PT	SI
3	▽	B-12	521	PT	SI
4	X	B-12	522	PT	SI

DEPTH



WILLIAMS BROS. CO.

no label

OCT 14 1974

Page 12 INJECTION

B-12-S19-PT - INJ. SURVEY

DEPTH GPM P T

1000		0	89.4
1000	.012	12.11	89.7
2000	.676	637.7	90.1
3000	.427	1114.6	90.4
4000	.429	1543.9	104.7
5000	.429	1970.7	120.8
6000	.426	2377.1	141.2
7000	.424	2821.1	171.6
8000	.393	3219.2	392.7
9000	.53	3633.65	523.8

P = 53.981 = .375

P = 46.62 = .324 psi/l

BEGAN Pumping 08:30 10/13/74

STOPPED 12:30 10/14/74

TOTAL HRS 28

AV. CHART RDG. 31, GPM 157

TOT. INJ. = 263,760 GAL.

26,132 2.95 0.015 4" line

(2)

B-12-520-PT

12/15/24

DEPTH	P	T
100	0	0
1200	480	146.4
2	322.0	162.1
3	743.3	202.9
4	1133.5	229.8
5	1573.2	255.3
6	1955.4	243.1
7	2392.2	279.8
8	2781.9	418.8
8800	3295.6	537.7

B-12-521-PT

12/15/24

DEPTH	P	T
01:28 100	0	0
1000	242	89.7
2000	317.2	173.7
3000	726.4	229.5
3250	830.5	273.8
3500	932.2	284.6
3750	1034.2	290.7
4000	1134.2	292.3
4250	1236.6	266.9
4500	1336.6	292.2
4750	1436.6	302.8
5000	1536.6	280.1
5250	1636.6	294.6
5500	1739.0	295.1
5750	1834.2	305.4
6000	1934.2	311.1
6250	2026.9	323.3
6500	2125.0	330.3
7000	2313.7	347.9
8000	2713.2	479.7
02:52 8800	3270.9	547.9

INJECTIVITY - B-12

$$I = \frac{q_{sc}}{p_w - p_c}$$

$p_c = 2250 \text{ psig @ } 7000'$   
 $p_w = 2821 \text{ psig @ } 7000'$   
 $q_{sc} = 157$

$$I = \frac{157 \text{ GPM}}{2821 - 2250} = .261 \text{ GPM/psi}$$

$q_{sc}$  @ Max hyd. head

$$p_w = 7000(.433) = 3031.0$$

Maximum injection rate @ zero w.h. pressure

$$q_{sc} = I(p_w - p_c) = .261(3031 - 2250) = 204 \text{ GPM}$$

@  $p_w = 0$

$$q_{sc} = 204 \text{ GPM} \left( \frac{8.33 \text{ lb/gal}}{60 \text{ min}} \right) \left( \frac{60 \text{ min}}{\text{hr}} \right) = 101,880 \text{ #/hr}$$

At 5250' "MID PT"

$p_w = 2080'$

$p_c = 1580'$

$q_{sc} = 157$

$$I = \frac{q_{sc}}{p_w - p_c} = \frac{157}{2080 - 1580} = \frac{157}{500} = .314 \text{ GPM/psi}$$

MAX RATE @ 5250

$$p_w = (.433)(5250) = 2273 \text{ psi}$$

$$q_{sc} = .314(2273 - 1580) = 213 \text{ GPM @ zero w.h. press.}$$

B-12

B-12-572 - PT 10/17/74 p.m.  
Depth S.M. P

Depth	S.M.	P	
100		0	92.2
1000		2,42.	204.2
2000	.363	365.6	341.5
3000	.382	743.2	404.2
3250	.373	842.6	414.4
3500	.368	934.6	414.1
3750	.369	1026.8	396.8
4000	.384	1122.9	393.6
4250	.367	1214.6	403.9
4500	.380	1312.2	409.5
4750	.371	1404.9	416.9
5000	.371	1497.6	396.8
5250	.361	1587.8	403.9
5500	.383	1682.9	413.8
5750	.360	1773.	423.8
6000	.371	1870.7	429.0
6250	.371	1963.4	437.5
6500	.376	2056.4	445.3
7000	.377	2245.1	466.6
8000	.372	2838.2	538.0
17.43 8500	.345	3110.8	557.6

76

# GEO THERMAL DIVISION

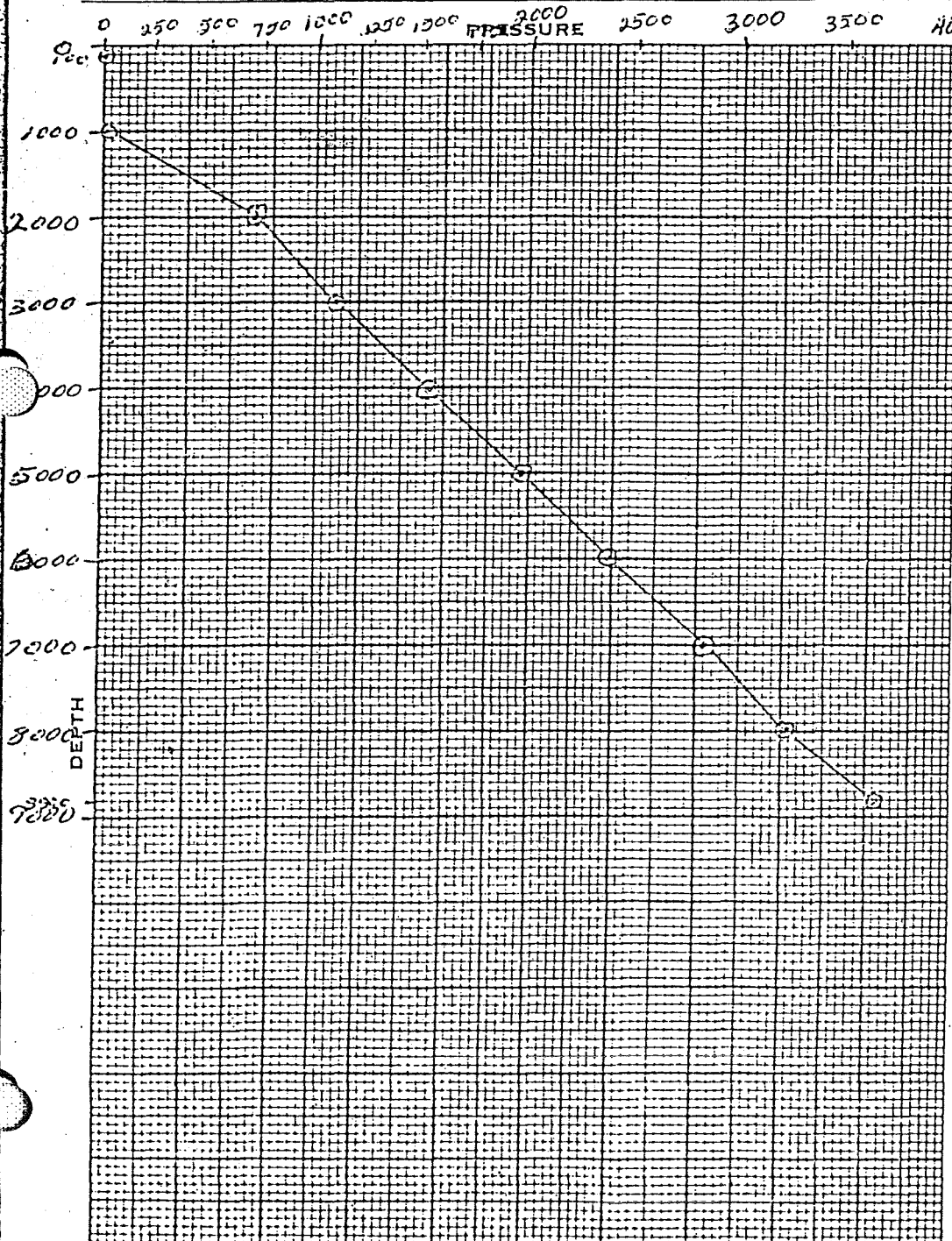
## SUBSURFACE PRESSURE SURVEY

B12-S-19-P

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BACA#12  
 CASING \_\_\_\_\_ ELEV 8604 DATE 10/14/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14' + G.L.  
 \_\_\_\_\_ DEPTH 9211

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 0-4500 PSI  
 \_\_\_\_\_ SERIAL NO 7784

PURPOSE INJECTIVITY SURVEY MAX TEMP 538.8 °F @ 8500  
 REMARKS: \_\_\_\_\_



PRESSURES	GAUGE	BOMB
CASING, PSI	VAC	VAC

DEPTH	PRESSURE	GRADIENT
100	0	0
1200	12.11	.013
2000	657.7	.676
3000	1114.6	.427
4000	1543.8	.429
5000	1970.7	.427
6000	2397.1	.426
7000	2821.1	.424
8000	3219.2	.398
8800	3659.65	.470

BY: J.M.

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

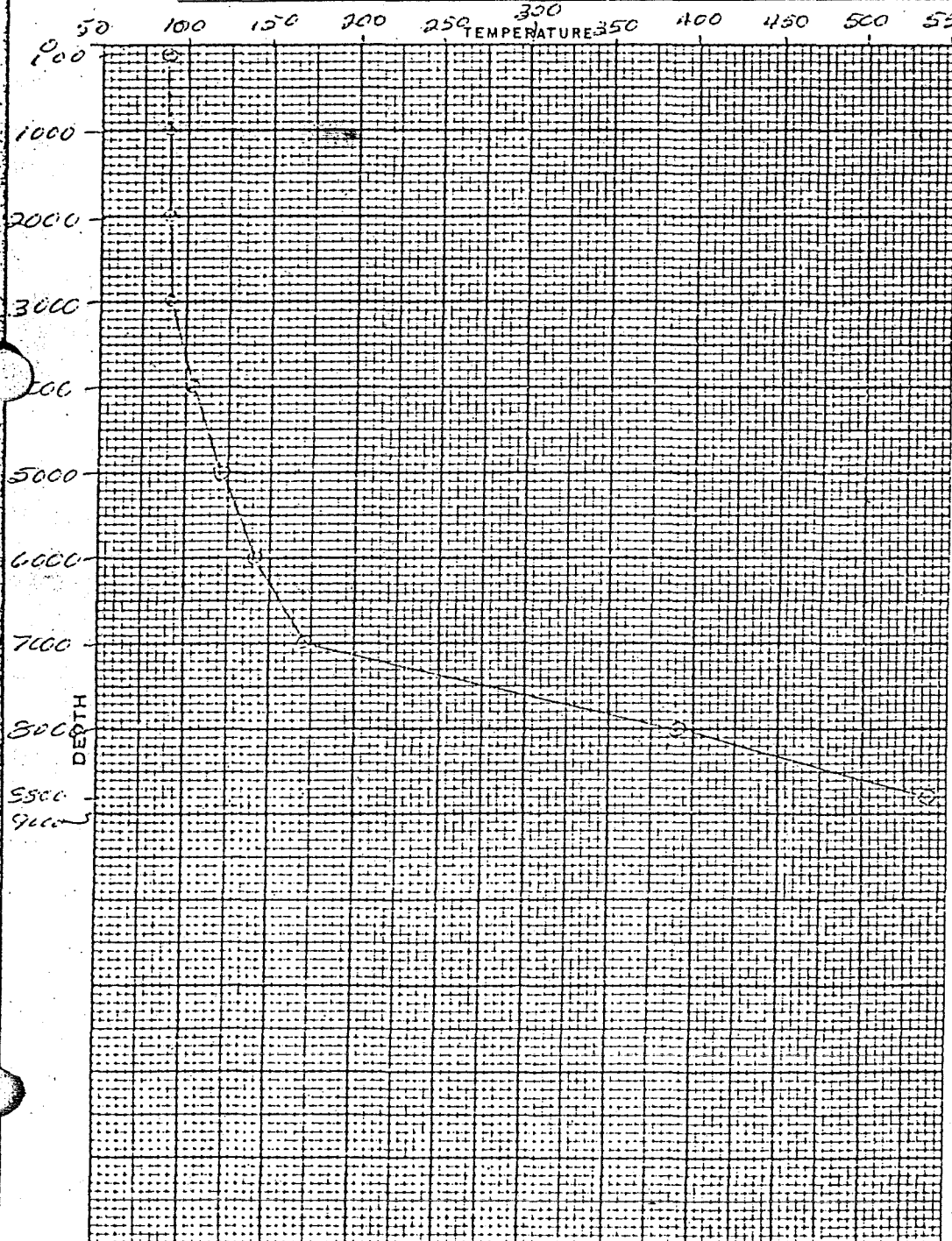
B#12-519-T

# 76

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BARR#12  
 CASING \_\_\_\_\_ ELEV 5604 DATE 10/14/71  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14' ABOVE G.L.  
 \_\_\_\_\_ DEPTH 9211

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 859F-6950  
 \_\_\_\_\_ SERIAL NO 10055

PURPOSE INJECTIVITY SURVEY MAX TEMP 538.8 °F @ 8500  
 REMARKS: \_\_\_\_\_



PRESSURES	GAUGE	90MB
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	89.4		
1000	89.7		
2000	90.1		
3000	90.4		
4000	104.7		
5000	120.8		
6000	141.2		
7000	171.6		
8000	392.7		
8500	538.8		

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



## GEOHERMAL DIVISION

### SUBSURFACE TEMPERATURE SURVEY

B#12-518-T

76

OWNER UNION OIL COMPANY OF CALIF. FIELD VALLE GRANDE WELL NAME BACA #12

CASING \_\_\_\_\_ ELEV \_\_\_\_\_ DATE: 10-9-74

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT CL +14

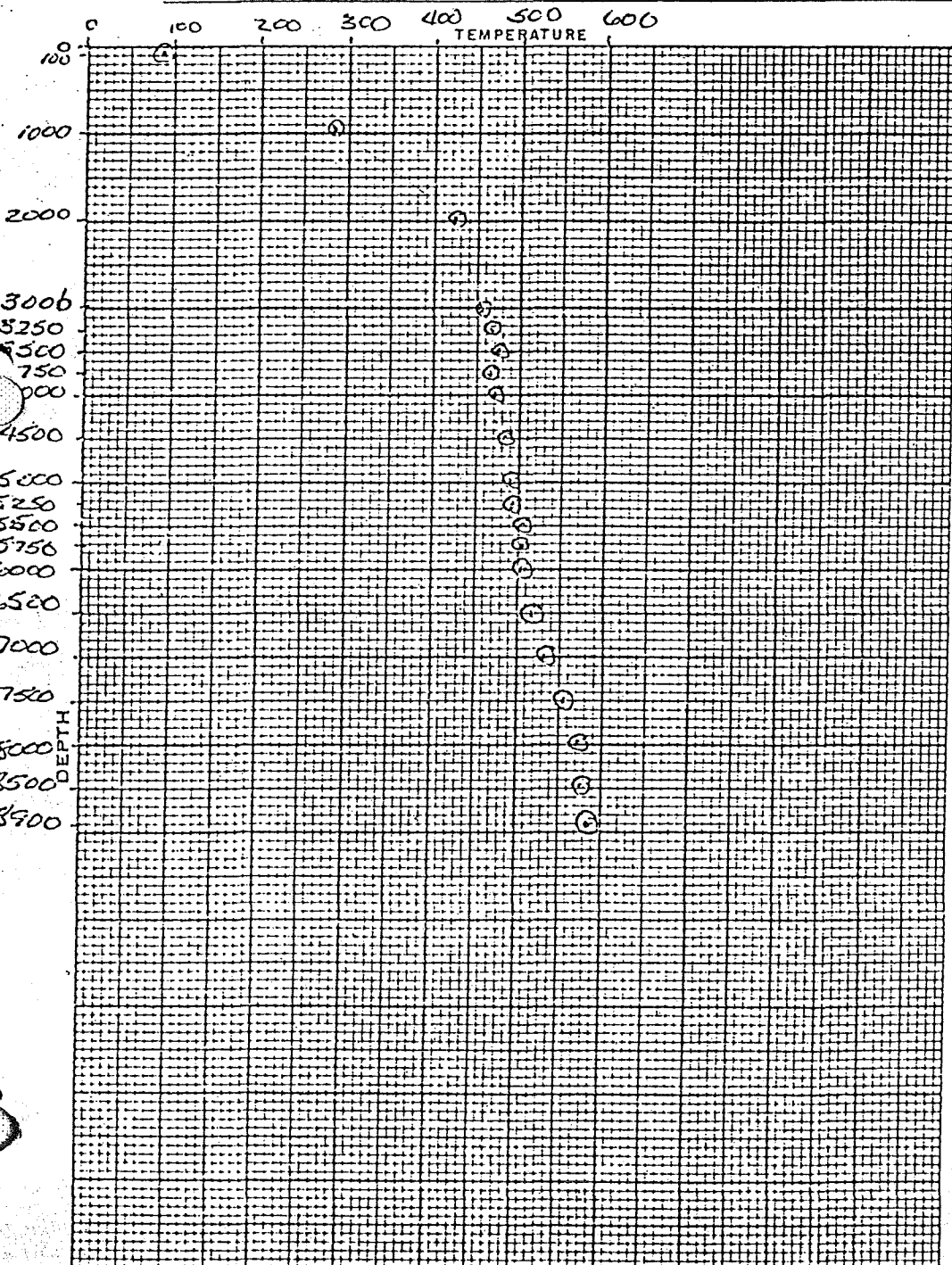
DEPTH 9177

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT KTB 88-698<sup>u</sup> FAH.

SERIAL NO 10055

PURPOSE \_\_\_\_\_ MAX TEMP. 589.7°F @ 8900

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

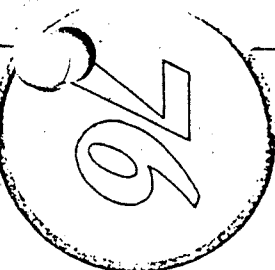


STABILIZATION PERIOD \_\_\_\_\_

PRESSURES.	GAUGE	BORE
CASING, PSI	17	

DEPTH	TEMP.	DEPTH	TEMP.
100	94.2		
1000	284.7		- suspect
2000	423.5		
3000	457.5		- overshoot
3250	469.4		
3500	474.6		
3750	467.3		
4000	470.5		
4300	482.8		
5000	491.1		
5250	494.8		
5500	500.5		
5750	504.5		
6000	509.3		
6500	519.0		
7000	533.2		
7500	556.8		
8000	571.9		
8500	579.0		
8900	589.7		

BY: J.B.



UNION

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B/a - 517-T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BGAH 412

CASING \_\_\_\_\_ DATE 10-4-74

LINER DESCRIPTION \_\_\_\_\_ ZERO POINT GL 114

DEPTH \_\_\_\_\_ DEPTH 9211'

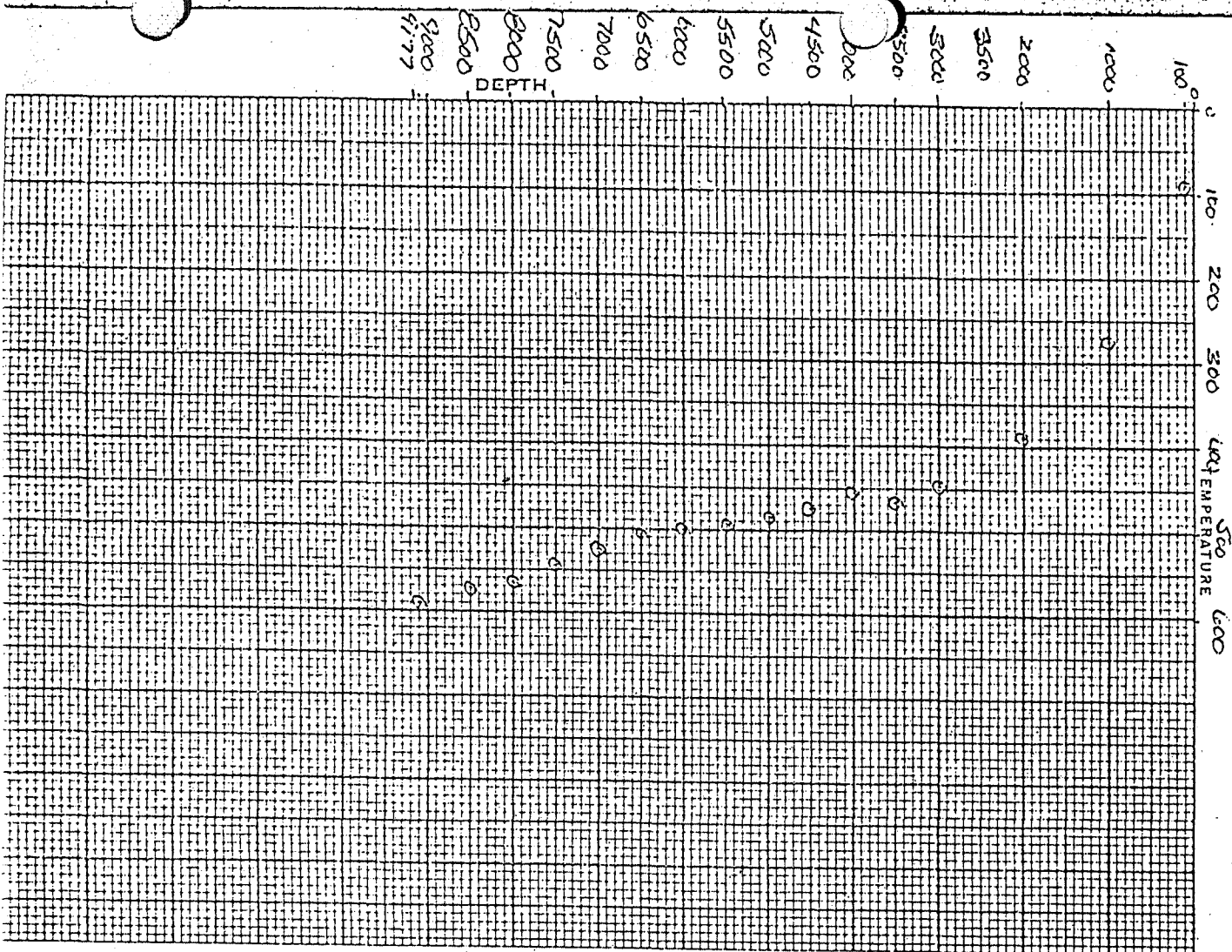
HOLE DESCRIPTION:

INSTRUMENT H15 88-6920° FAH°  
SERIAL NO 10055

MAX TEMP 590.2° F @ 9211'

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

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



PRESSURE	Gauge	BOM
CASING, PSI		
DEPTH	TEMP.	DEPTH
100	90.4	
1000	215.0	
2000	359.3	
3000	449.6	
4000	467.3	
4500	459.2	
4800	472.8	
5000	484.0	
5500	491.7	
6000	500.2	
6500	509.3	
7000	523.9	
7500	545.3	
8000	564.0	
8500	571.9	
9177	590.2	

NY:

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UNION

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

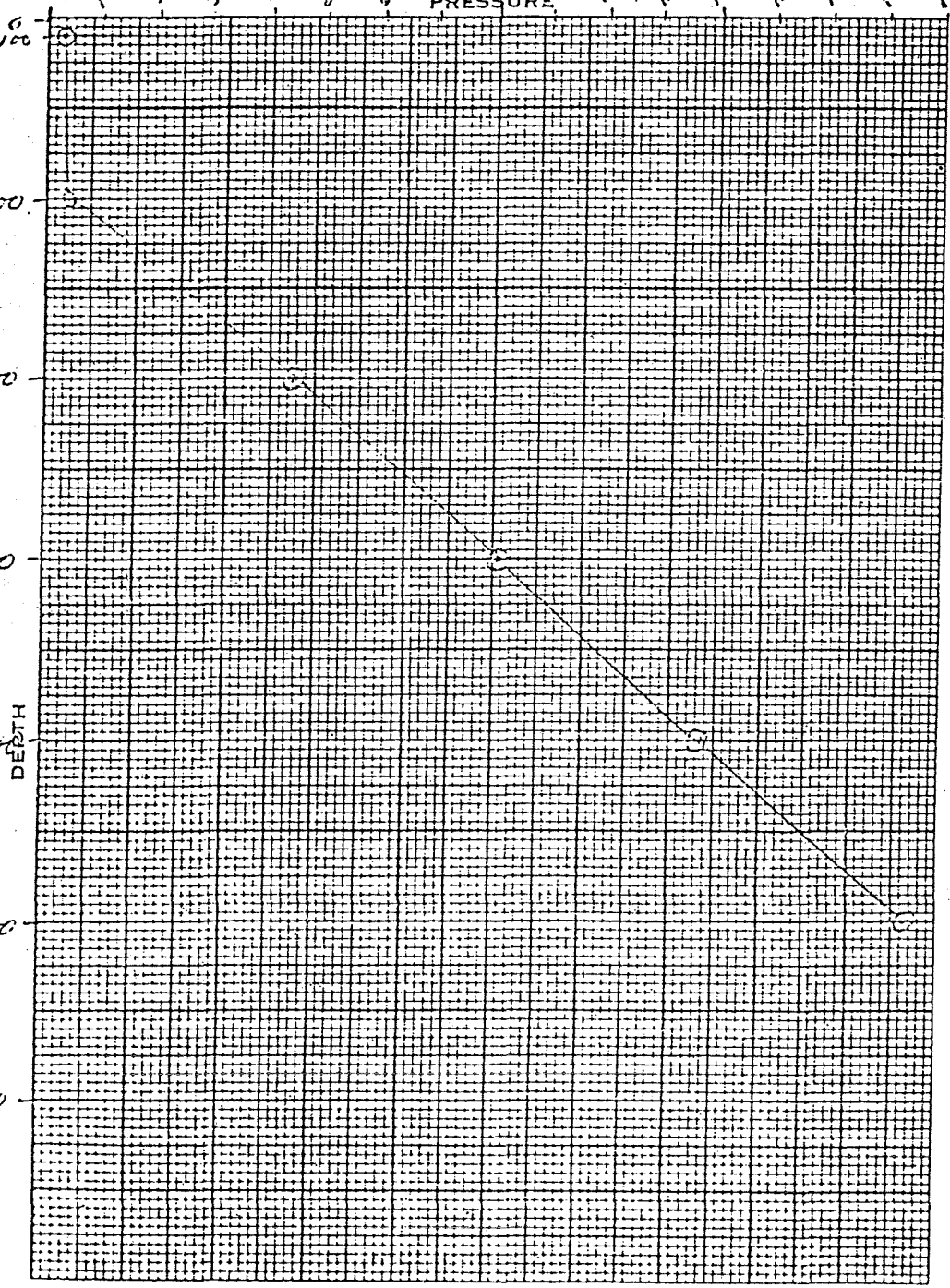
812-516-7

OWNER UNION OIL OF CALIF FIELD VILLE GRANDE WELL NAME BACA #12  
 CASING \_\_\_\_\_ ELEV 5406' DATE 10/3/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14' Above GL  
 \_\_\_\_\_ DEPTH 9177

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_  
 INSTRUMENT 0-2950 PSI  
 SERIAL NO 9235

PURPOSE \_\_\_\_\_ MAX TEMP 478.5 °F @ 5000

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



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	34.3	0
1000	43.6	.010
2000	442.4	.399
3000	512.5	.370
4000	1179.9	.367
5000	1541.4	.362

BY: J.M.

576

# GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY <sup>15</sup> BH# 12-50-T

OWNER UNION OIL COMPANY OF CALIF. FIELD VALLE GRANDE WELL NAME FRAC #12

CASING \_\_\_\_\_ ELEV. 8430' DATE: 10-2-74

LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GL-14

DEPTH 9177

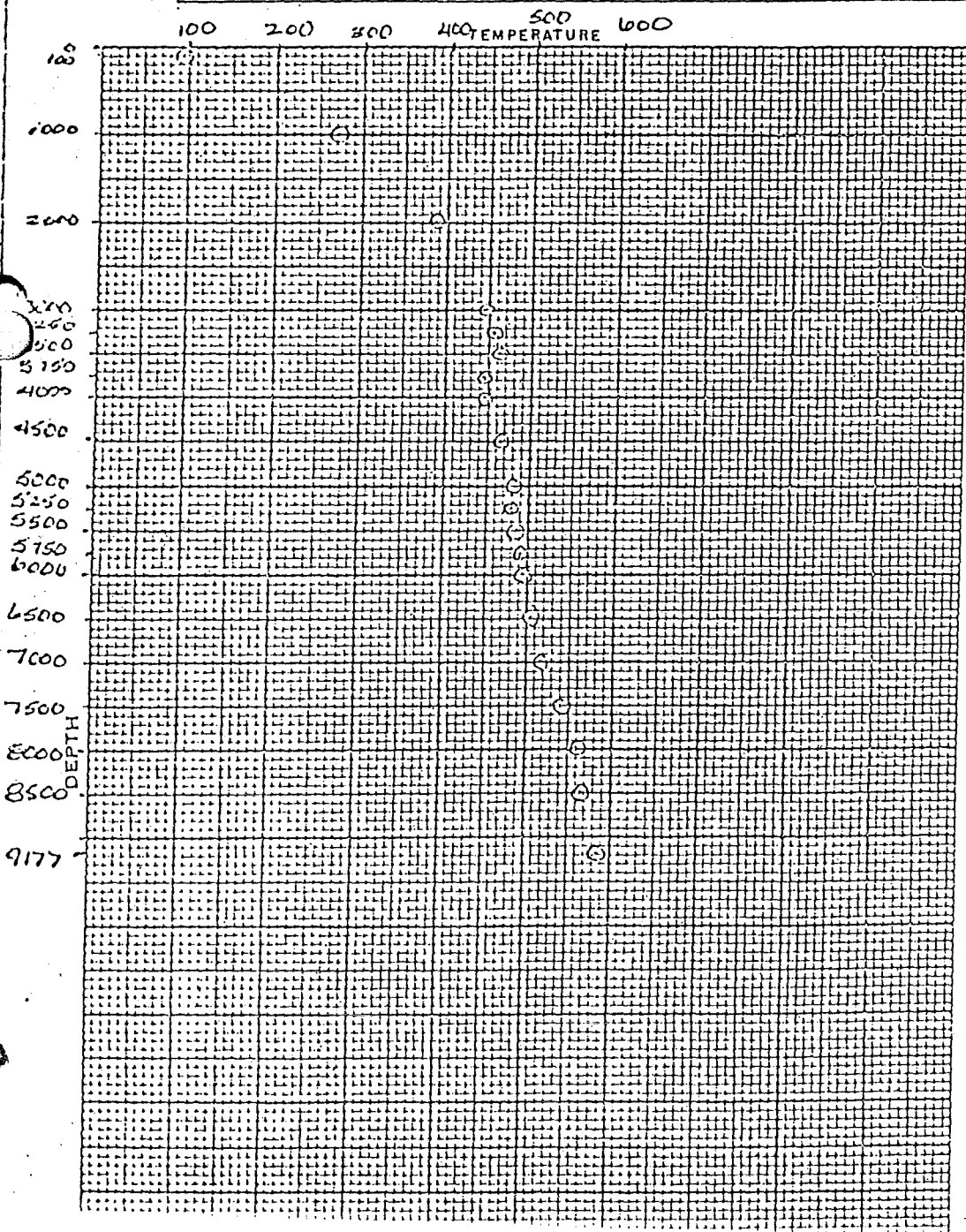
HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT RTB 88°-698° FAR.

SERIAL NO 10055

PURPOSE \_\_\_\_\_ MAX TEMP 586.2°F @ 9177'

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

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



PRESSURES,	GAUGE	COND.
CASING, PSI	24 PSI	

DEPTH	TEMP.	DEPTH	TEMP.
100	93.2		
1000	270.2		
2000	386.7		
3000	446.0		
3250	456.0		
3500	461.8		
3750	445.0		
4000	449.9		
4500	465.3		
5000	478.8		
5250	474.1		
5500	485.1		
5750	491.1		
6000	495.9		
6500	503.9		
7000	518.5		
7500	540.0		
8000	559.6		
8500	566.6		
9177	586.2		

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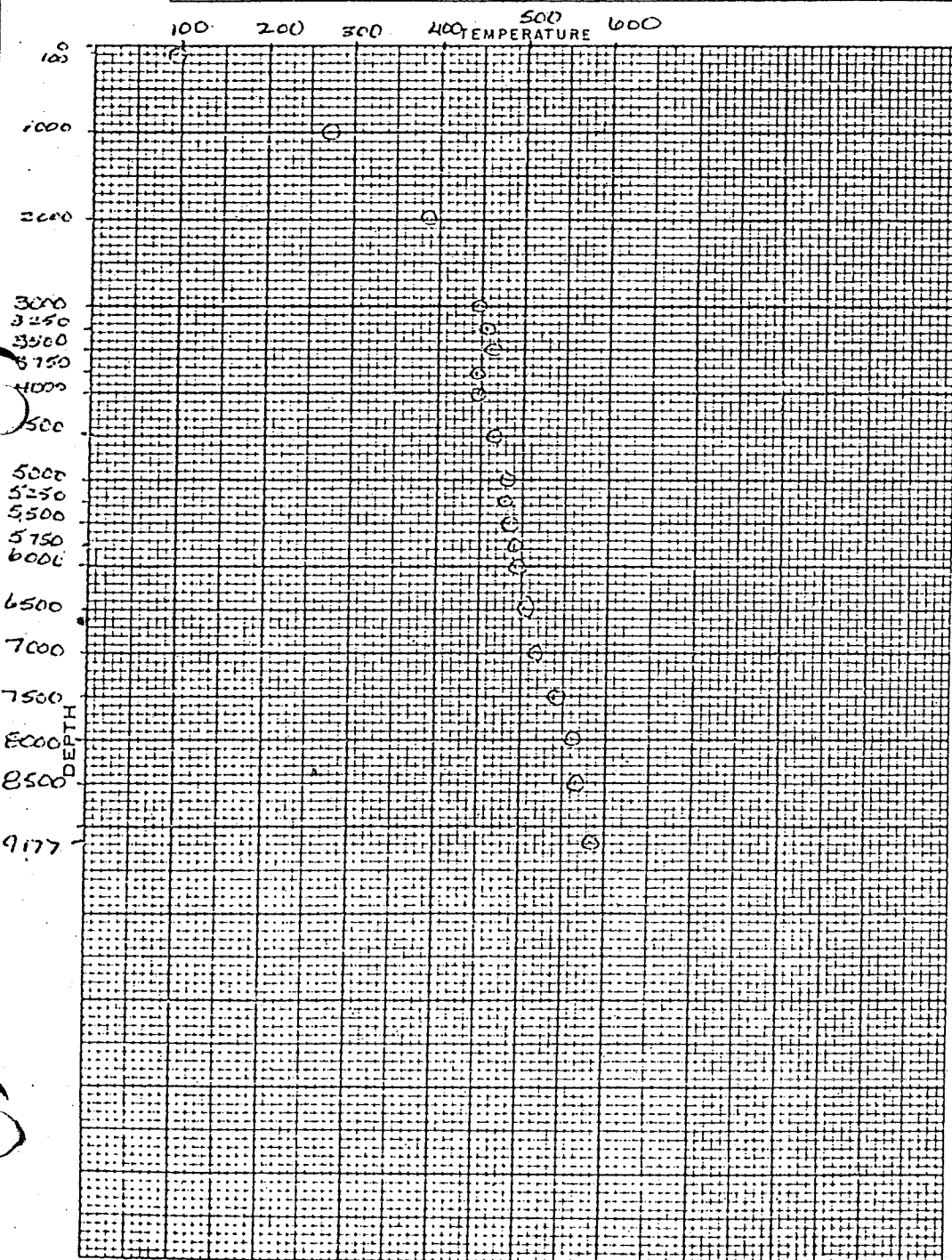
# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY B#12-514-T

OWNER UNION OIL COMPANY OF CALIF. FIELD VALLE GRANDE WELL NAME ESDA #12  
 CABING \_\_\_\_\_ ELEV 8430' DATE 10-2-74  
 LINER DESCRIPTION \_\_\_\_\_ ZERO POINT GL-14  
 \_\_\_\_\_ DEPTH 9177

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT RTB 88°-698°  
 \_\_\_\_\_ SERIAL NO 10055

PURPOSE \_\_\_\_\_ MAX TEMP 586.2°F @ 9177'  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING, PSI	24 PSIG	

DEPTH	TEMP.	DEPTH	TEMP.
100	93.2		
1000	270.2		
2000	386.2		
3000	446.0		
3250	456.0		
3500	461.8		
3750	445.0		
4000	449.9		
4500	465.3		
5000	478.8		
5250	479.1		
5500	485.1		
5750	491.1		
6000	493.9		
6500	503.9		
7000	518.5		
7500	540.0		
8000	559.6		
8500	566.6		
9177	586.2		

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



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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B12 S-11 P/T BUILDUP

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #12  
 CASING ELEV. 8430 DATE: 9-28-74  
 LINER DESCRIPTION: ZERO POINT CL +14  
 DEPTH 9177

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT 880-698° SERIAL NO. 10055 CLOCK 12HR 14091 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS 1000 hrs DISENGAGE STYLUS 1626 HK  
 WELL HEAD  
 PICKUP 0 TIME ON BOTTOM 1045-1545 MAX. T 543.9  
 WELL STATUS  
 SHUT IN: ON PRODUCTION:  
 RATE

TEMPERATURE

TEMPERATURE

TIME	DEPTH	DEFL.	Σ-T	GRAD.	ID	TIME	DEPTH	DEFL.	Σ-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
11:00	9177	1.222	480.5			1515	9177	1.435	540.8								
11:05	"	1.242	486.0			1530	"	1.440	542.2								
11:10	"	1.250	488.2			1545	"	1.466	543.9								
11:30	"	1.256	490.0														
11:35	"	1.268	493.4														
11:40	"	1.277	495.9														
11:45	"	1.281	497.1														
11:50	"	1.295	501.1														
11:55	"	1.301	502.8														
12:00	"	1.306	504.2														
12:05	"	1.315	506.8														
12:10	"	1.320	508.2														
12:15	"	1.326	509.8														
12:20	"	1.333	511.9														
12:25	"	1.338	513.8														
12:30	"	1.343	514.8														
12:35	"	1.347	515.9														
12:40	"	1.353	517.6														
12:45	"	1.356	518.5														
13:00	"	1.367	521.6														
13:15	"	1.378	524.7														
13:30	"	1.388	527.6														
13:45	"	1.396	529.9														
14:00	"	1.405	532.4														
14:15	"	1.412	534.4														
14:30	"	1.419	536.3														
14:45	"	1.425	538.0														
15:00	"	1.430	539.4														

COMMENTS:

BY: *[Signature]*

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## GEOHERMAL DIVISION

SUBSURFACE SURVEY 1312 S-11 PIT  
Field Work Sheet BUILD-UP

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACK #12  
 CASING ELEV. 8430' DATE: 9-28-74  
 LINER DESCRIPTION: ZERO POINT C.L. + 14  
 DEPTH 9177'  
 TUBING DETAIL:  
 PURPOSE BUILD UP  
 REMARKS:  
 ELEMENT 4250 PS16 SERIAL NO. 7198 CLOCK 12 HR 14089 TURN STABILIZATION PERIOD  
 ENGAGE STYLUS 0956 HRS DISENGAGE STYLUS 1625 HRS  
 WELL HEAD  
 PICKUP 0 TIME ON BOTTOM 1045 - 1545 MAX. P 545.9  
 WELL STATUS  
 SHUT IN: ON PRODUCTION:  
 RATE

PRESSURE						PRESSURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	9177	301	654.0			1515	9177	1.361	2896.2								
11	"	314	681.4			1530	"	1.376	2927.9								
1125	"	330	715.2			1545	"	1.391	2959.6								
1130	"	345	746.8														
1135	"	373	805.9														
1140	"	356	833.3														
1145	"	404	871.3														
1150	"	432	930.4														
1155	"	465	1000.0														
1200	"	514	1103.8														
1205	"	551	1182.2														
1210	"	590	1264.8														
1215	"	637	1364.4														
1220	"	676	1447.0														
1225	"	716	1531.8														
1230	"	764	1633.5														
1235	"	804	1718.2														
1240	"	840	1794.5														
1245	"	881	1881.4														
1300	"	991	2115.9														
1315	"	1057	2253.2														
1330	"	1117	2376.8														
1345	"	1170	2491.6														
1400	"	1217	2591.1														
1415	"	1258	2677.9														
	"	1292	2750.0														
14	"	1320	2807.3														
1500	"	1342	2855.9														

COMMENTS: WHP FLOWING - 15 PS16  
 WHP Shut IN - Shut well IN AT 1115 HRS; AT 1245 WHP REACHED 180 PS16  
 AND THEN STARTED DECLINING TO 40 PS16 AT 1545 HRS

B

BACA #12 SURVEY DATA #12, #13, #14

BACA #12 SURVEY #12 - 9-28-74 BOTH PRESSURE & TEMPERATURE CLOCKS STOPPED AFTER 10 MINUTES ON BOTTOM

PRESSURE ELEMENT - 4250 PSIG; SN 7198

WHP-45 - 1930 hrs

9-28-74 1930 hrs AT 9177' - 3055.56 PSIG

WHP-43 - 2400 hrs

9-28-74 2400 hrs AT 9177' - 3074.79 PSIG

TEMPERATURE ELEMENT - 88° - 698°; SN 10055

9-28-74 1930 hrs AT 9177' - 554.8°

9-28-74 2400 hrs AT 9177' - 563.2°

BACA #12 SURVEY #13 & #14 - BOTH SURVEYS WERE MISRUNS DUE TO DEFECTIVE HOUSING SEALS.



## GEO THERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

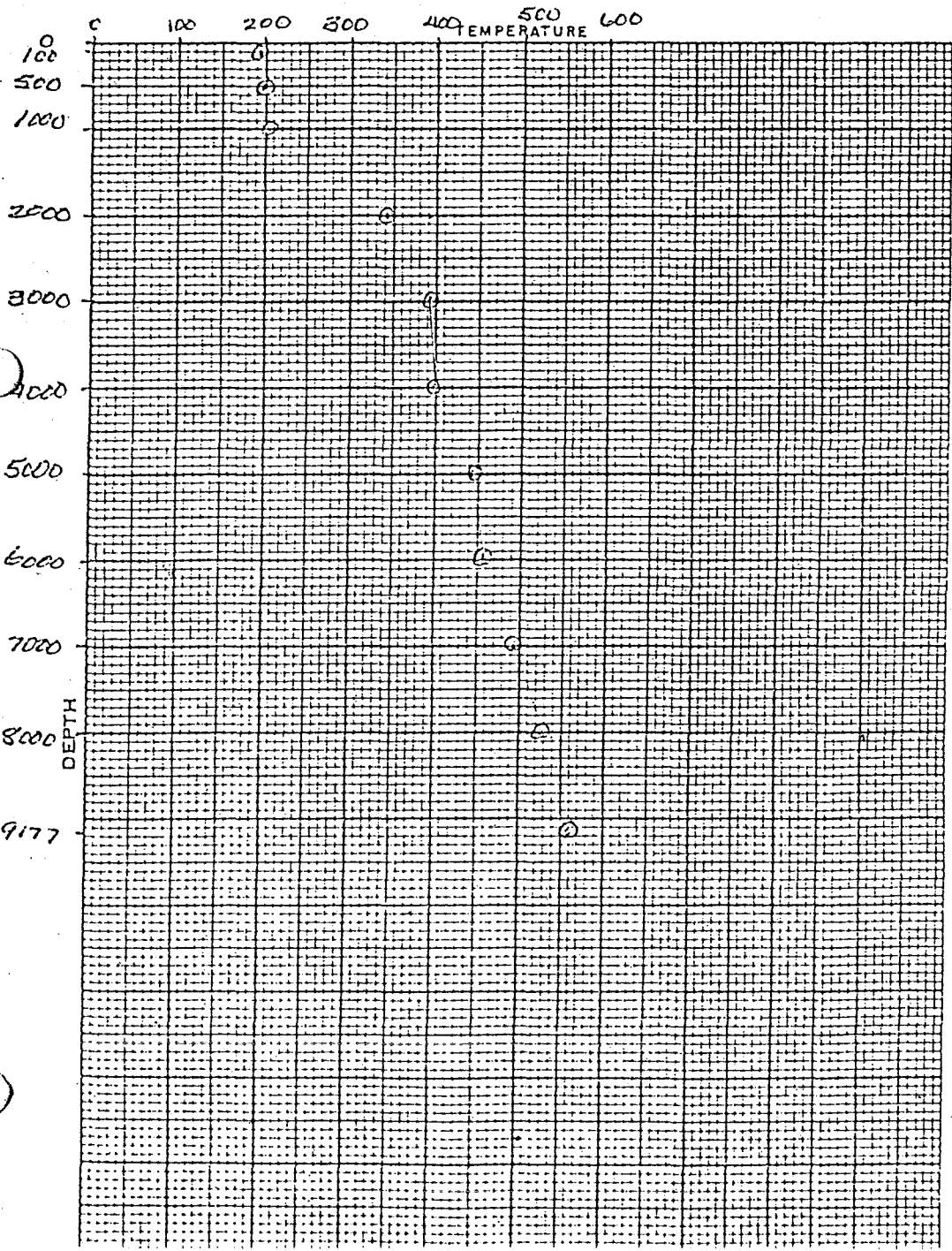
BIL-5-7 TEMP

OWNER UNION OIL COMPANY OF CALIF FIELD VALLE GRANDE WELL NAME BACA #12  
 CASING \_\_\_\_\_ ELEV 9406 DATE 9/24/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT CL + 14  
 \_\_\_\_\_ DEPTH 9211'

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

INSTRUMENT KTB 88-698<sup>D</sup>  
 SERIAL NO 10055

PURPOSE PRESSURE / TEMPERATURE SURVEY MAX TEMP 554.0 °F @ 9177  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD

PRESSURE	GAUGE	BOYS
CASING. PSI	VAC	VAC

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
100	196.4		
500	198.5		
1000	201.5		
2000	343.8		
3000	396.5		
4000	399.9		
5000	446.2		
6000	454.3		
7000	493.9		
8000	523.3		
9177	554.0		

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

## GEO THERMAL DIVISION

### SUBSURFACE PRESSURE SURVEY

B12-5-7 PRESS

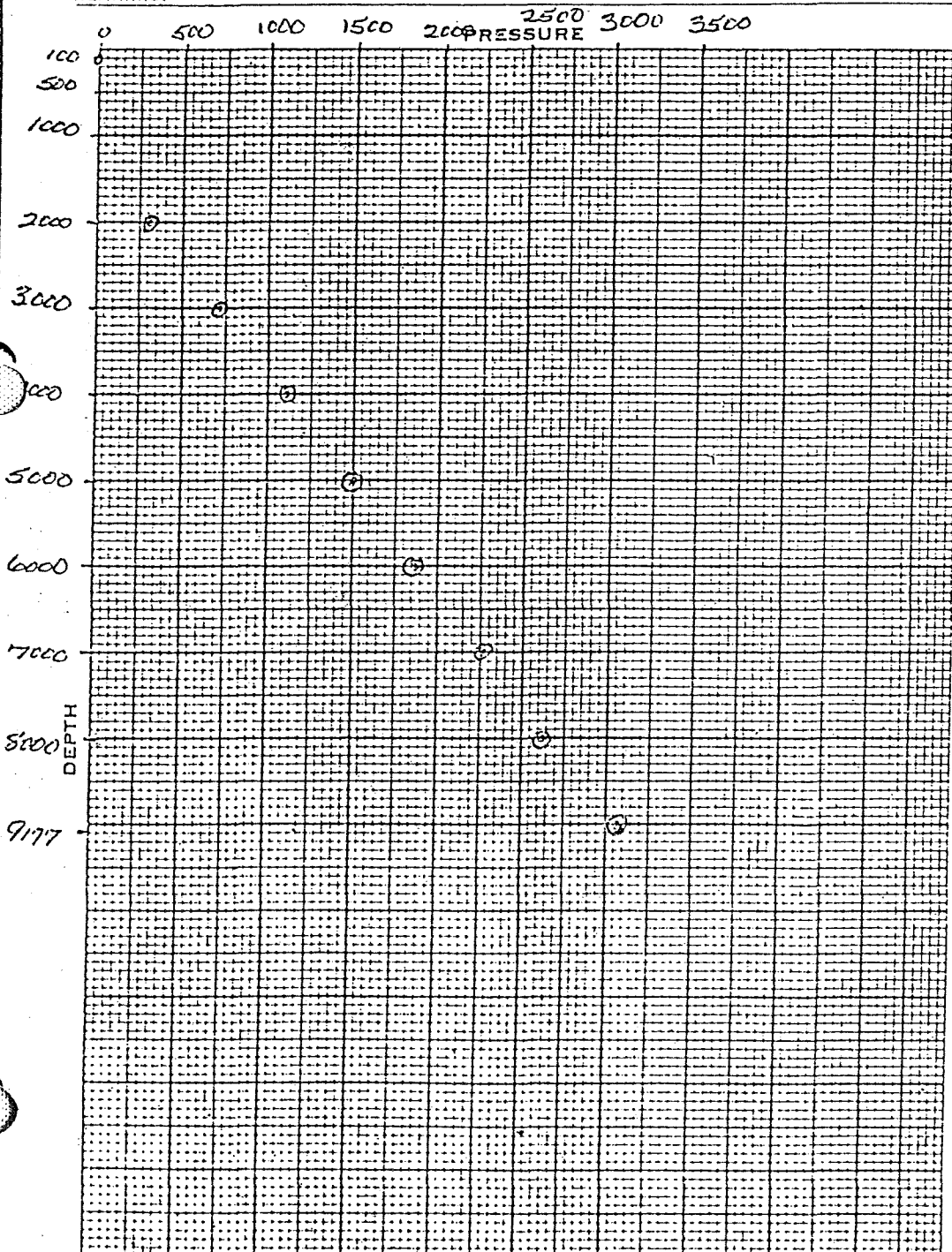
# 76

OWNER UNION OIL OF CALIFORNIA FIELD VALLE GRANDE WELL NAME BACA #12  
 CASING \_\_\_\_\_ ELEV 8406' DATE 9/24/78  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT CL + 14'  
 \_\_\_\_\_ DEPTH 9211'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT KPC 4250 PS  
 \_\_\_\_\_ SERIAL NO 7198

PURPOSE PRESSURE / TEMPERATURE SURVEY MAX TEMP 554.0°F @ 9177'

REMARKS:



STABILIZATION PERIOD

PRESSURES,	GAUGE	BONA
CASING, PSI	VAC	VAC

DEPTH	PRESSURE	GRADIENT
0	0	0
100	0	0
500	0	0
1000	0	0
2000	320.1	0
3000	719.4	.395
4000	1118.4	.395
5000	1500.0	.386
6000	1879.2	.379
7000	2257.4	.378
8000	2631.4	.374
9177	3057.7	.337

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

5

BACA #12 SURVEY DATA #8 #9 #10

BACA #12 SURVEY #8, 9 & 10 WERE ALL  
MIS RUNS.

76

# GEO THERMAL DIVISION

## SUBSURFACE PRESSURE SURVEY

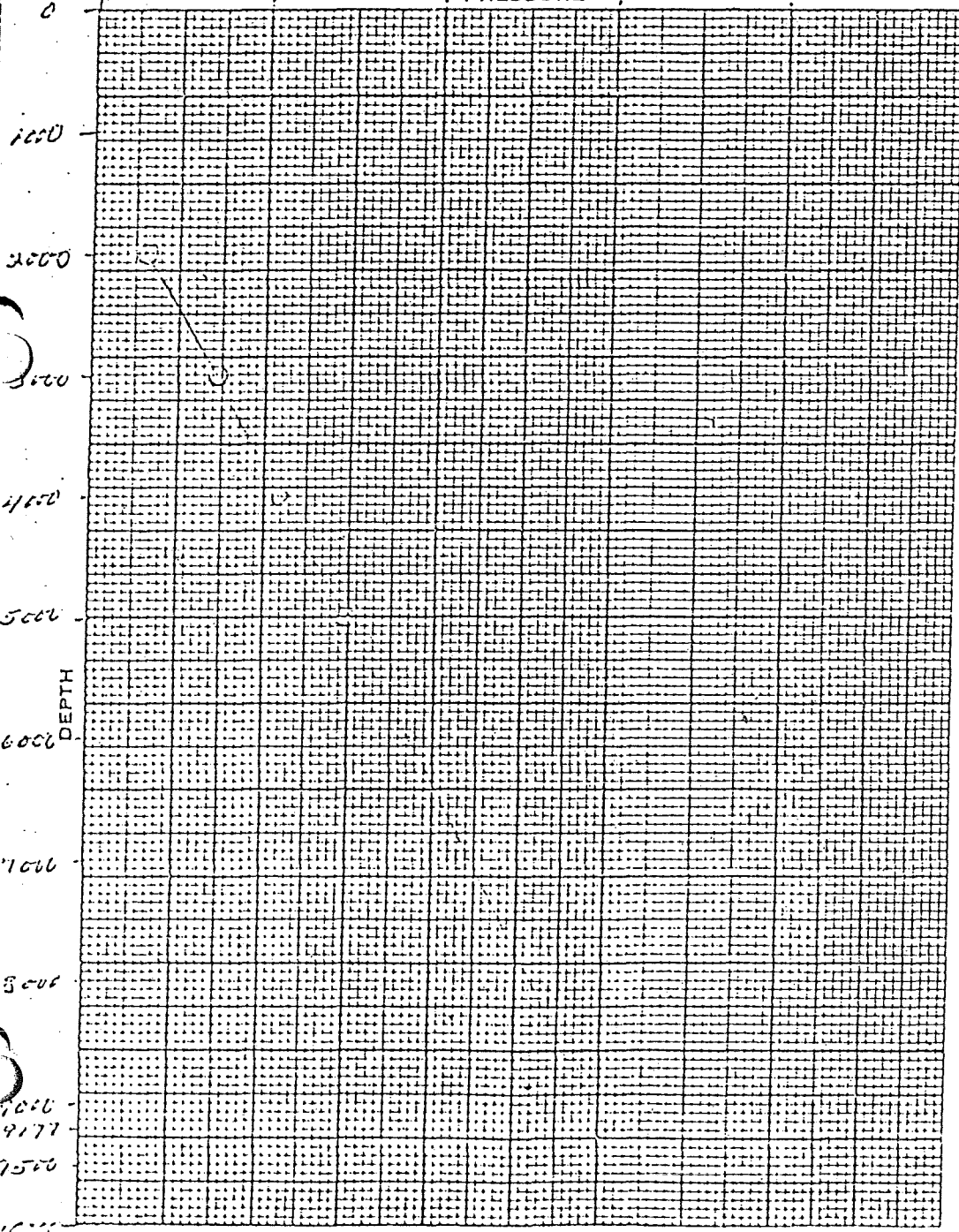
B#12-55-9

OWNER UNION OIL OF CALIF FIELD V. G WELL NAME B#12  
 CASING \_\_\_\_\_ ELEV. 8430 DATE 9/20/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT GLT 14'  
 \_\_\_\_\_ DEPTH 9211'

HOLE DESCRIPTION: \_\_\_\_\_ INSTRUMENT 4250 PS  
 \_\_\_\_\_ SERIAL NO 7198

PURPOSE \_\_\_\_\_ MAX TEMP 565.2F @ 9177'

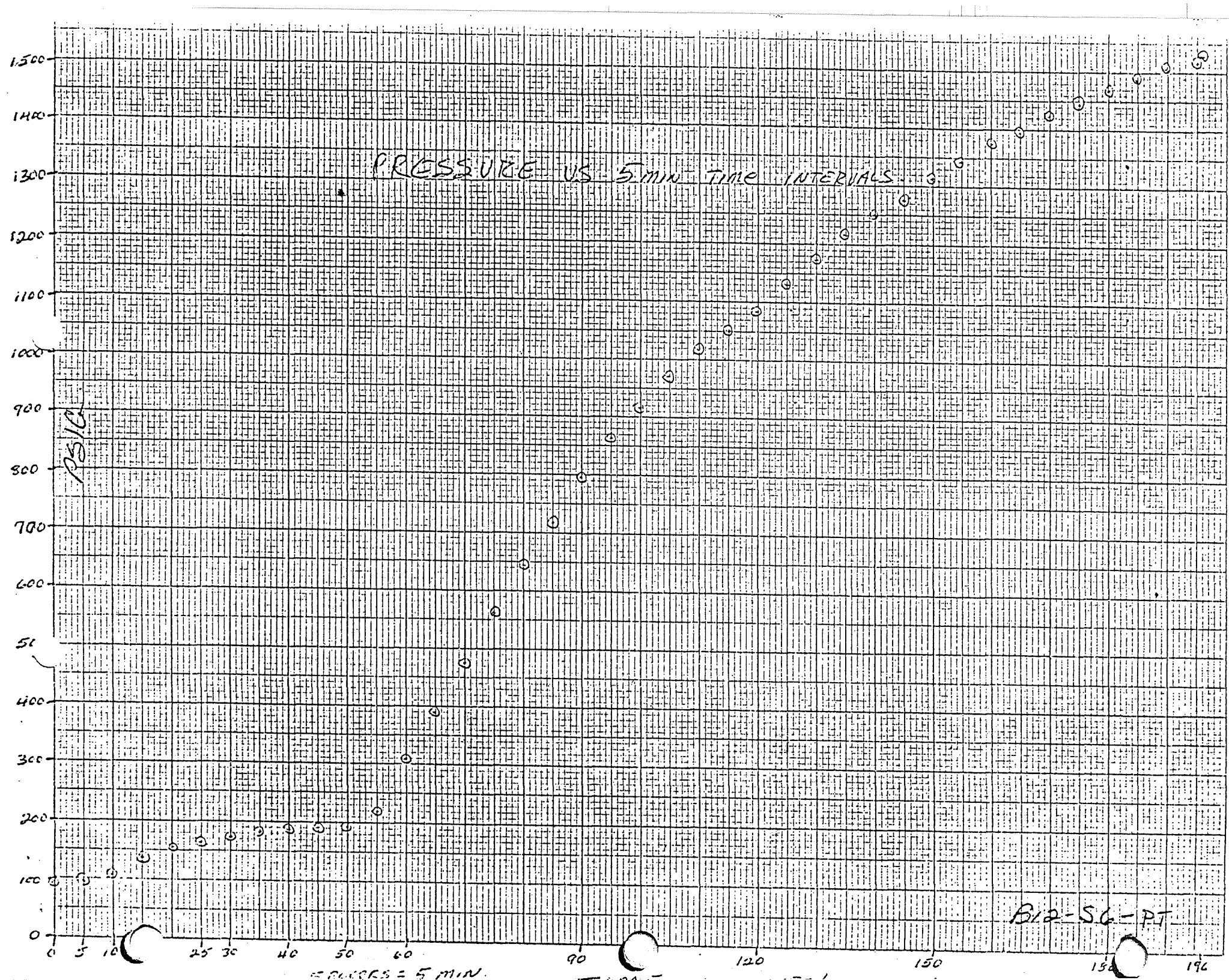
REMARKS: \_\_\_\_\_ STABILIZATION PERIOD \_\_\_\_\_



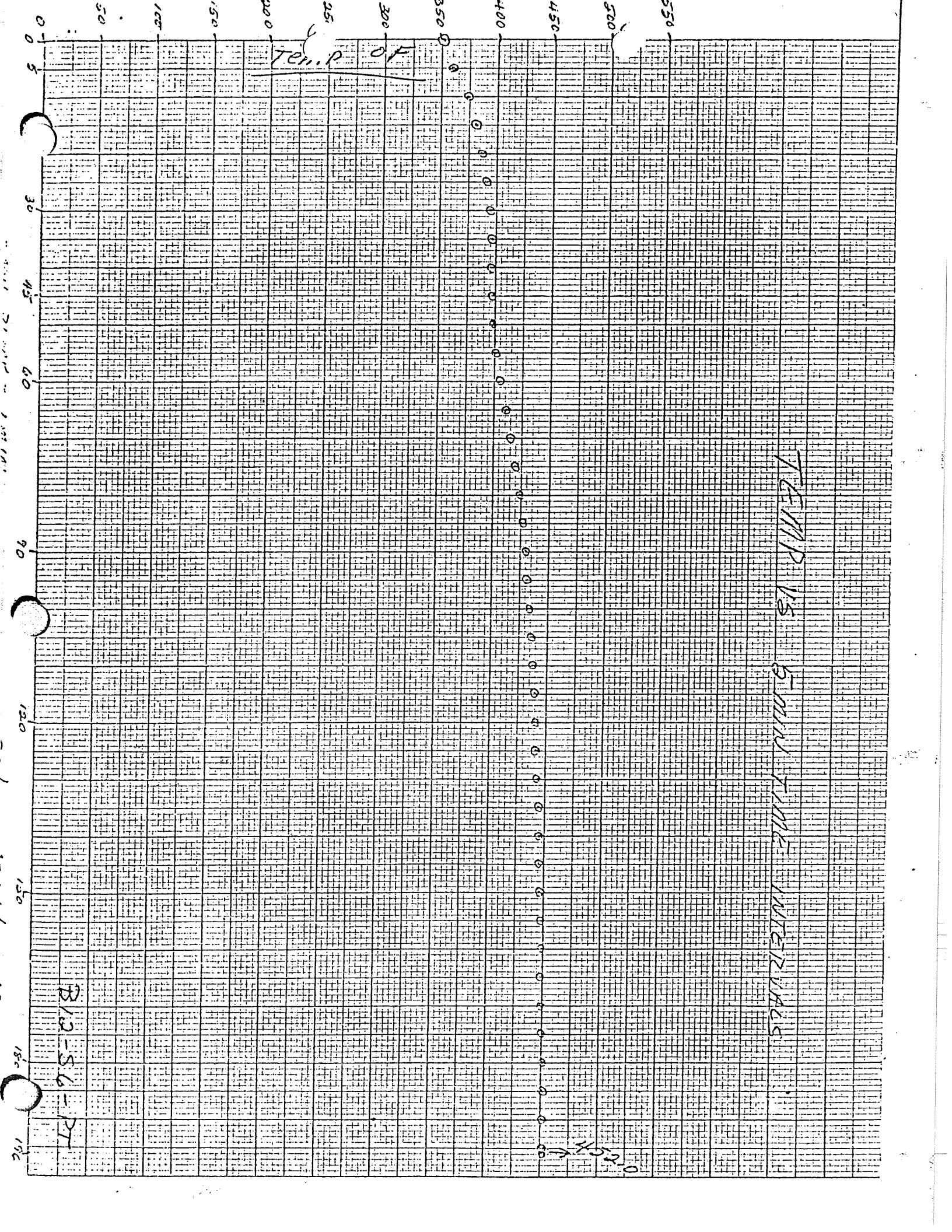
PRESSURED.	GAUGE	BO.M.D
CASING, PSI	<u>VAC</u>	<u>0</u>

DEPTH	PRESSURE	GRADIENT
0	0	0
2000	322.37	0
3000	717.3	0.395
4000	1097.6	0.382
5000	1480.9	0.351
6000	1855.9	0.375
7000	0	0
8000	0	0
9177	3051.3	0.37

BY: G.M.







TEMP OF

TEMP VS BUNNY TIME INTERVALS

B13-56-PT

10  
150

# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

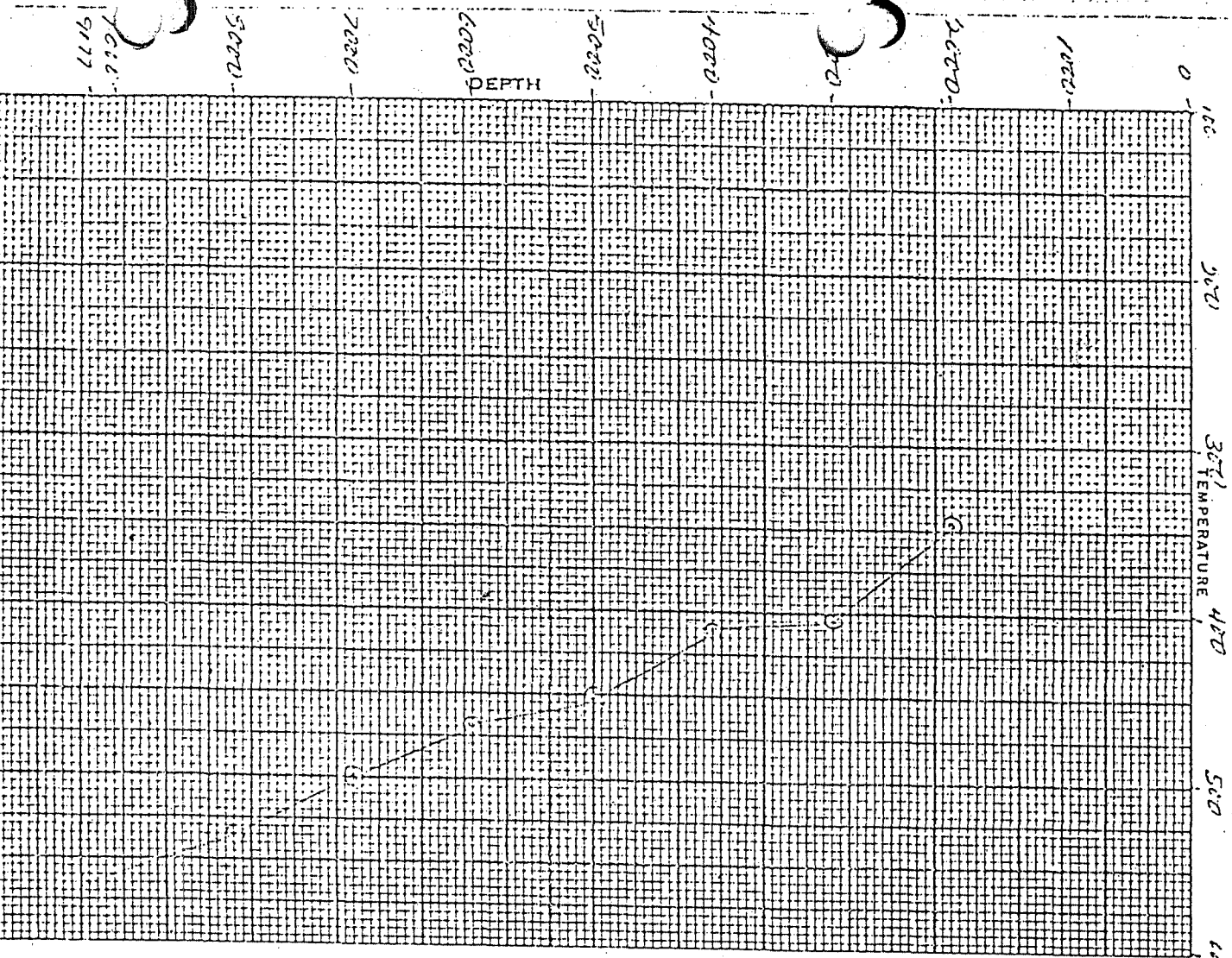
310-55-7

# 716

OWNER WINDMILL OIL OF CALIF FIELD WALLE BRIDGE WELL NAME 51411#10  
 CASING WINDMILL OIL OF CALIF ELEV. 8436' DATE: 9/26/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT 14" Above GC  
 DEPTH 991'

HOLE DESCRIPTION: \_\_\_\_\_  
 INSTRUMENT 55-695 FAH:  
 SERIAL NO 11255  
 MAX TEMP 57.52 OF @ 917'

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



DEPTH	TEMP.	DEPTH	TEMP.
0	22.2		
1000	34.79		
2000	41.9.1		
3000	41.9.6		
4000	45.4.0		
5000	44.9.4		
6000	51.2.5		
7000	53.5.7		
8000	56.5.2		
9000			

BY: S.M.



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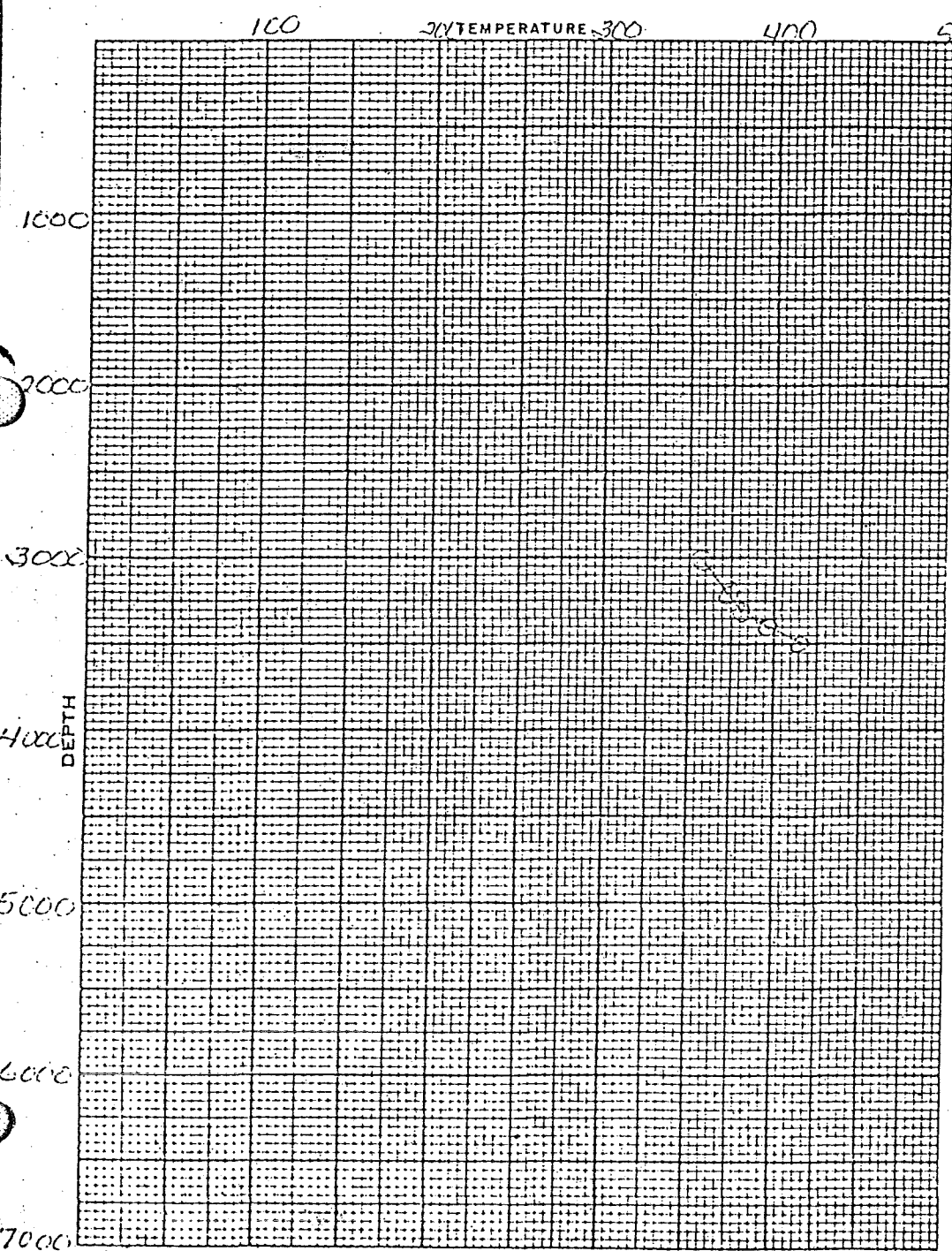
# GLOUTHERMAL DIVISION B-12-52-T

## SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co of Calif. FIELD Valle Grande WELL NAME Boca #12  
CASING 12-3/8" C @ 1457' ELEV \_\_\_\_\_ DATE: 7/7/74  
LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT Rig Floor  
DEPTH 3512

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

PURPOSE Casing Point Survey MAX TEMP 416 °F @  
REMARKS: \_\_\_\_\_



STABILIZATION PERIOD

PRESSURES	GAUGE	BOHR
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3000	358		
3200	373		
3300	382		
3400	396		
3500	416		

BY: John Neckey

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# GEO THERMAL DIVISION

## SUBSURFACE TEMPERATURE SURVEY

B/2-S1-T

OWNER Union Oil of Calif FIELD Valle Grande WELL NAME Baca-12  
 CASING 13-3/8" 1457' ELEV \_\_\_\_\_ DATE 7/7/74  
 LINER DESCRIPTION: \_\_\_\_\_ ZERO POINT SWAB GATE  
 \_\_\_\_\_ DEPTH 3512'

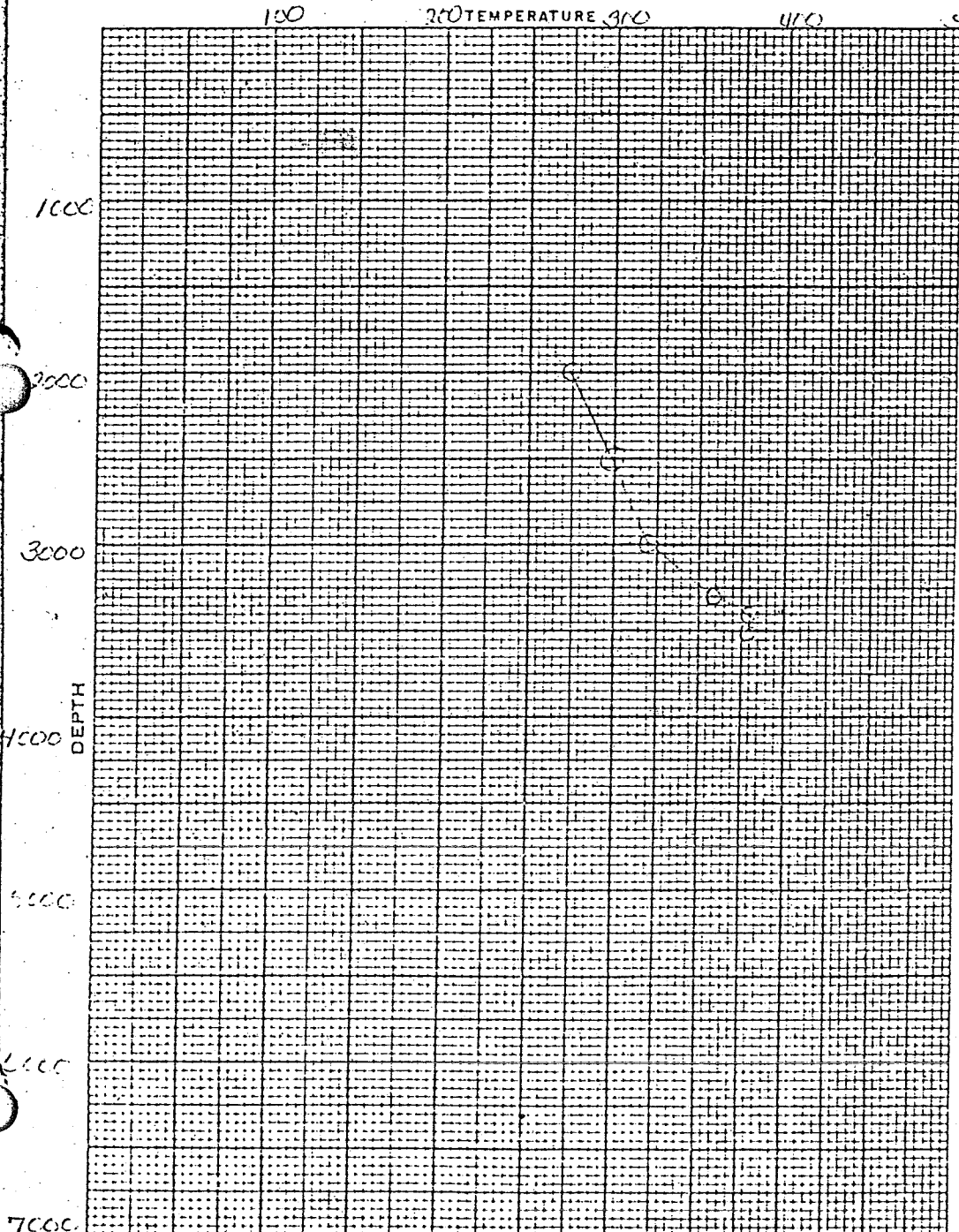
HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ INSTRUMENT 1 FAH  
 SERIAL NO 10052

PURPOSE Survey Requested by Geologists MAX TEMP 380 °F @  
 REMARKS: To Study Temp Build-Up

### STABILIZATION PERIOD

PRESSURES	GAUGE	80%3
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
2000	273		
2500	299		
3000	345		
3300	359		
3400	380		
3500	379		



BY: John MacNege

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BACA #12 SURVEY DATA #3 + #4

BACA #12 SURVEY #3 - SURVEY RUN TO 3352'  
COULD NOT GET PAST 3352' DUE TO PLUG IN HOLE.

BACA #12 SURVEY #4 - SURVEY RUN TO 3352'  
WITH CENTRALIZER; COULD NOT GET PAST 3352'  
DUE TO PLUG IN HOLE.