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Open-File Report # NM/Baca-19d

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.

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JOHN D. HARTZ

OCT 06 1975

UNION

GEO THERMAL DIVISION DEL' PYLE

SUBSURFACE SURVEY

Field Work Sheet

OCT 8 1975

136 546 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAC #6
 CASING 9 5/8" AT 795' 7" AT 2585' ELEV. 8725.7 DATE: 9/30/75
 LINER DESCRIPTION: 2585 - TD = OPEN HOLE ZERO POINT 6 L + 10'
 DEPTH 3834'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4250 PSI SN 7198 CLOCK - 12 hr 15 TURN

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

ENGAGE STYLUS P-0925 T-0919 DISENGAGE STYLUS P-1340 T-1340

WELL HEAD 157 PSIC 0-4000 TIC

PICKUP @ 3834' TIME ON BOTTOM 1116 - 1216 MAX. °F 489.6

WELL STATUS RIG MOVED OFF LOCATION 9/24/75

SHUT IN: ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-°F	GRAD.	ID	TIME	DEPTH	DEFL.	B-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1035	100	.070	157.6		0	1035	100	0.77	106.6								
1047	1000	.063	141.9		0	1047	1000	.755	326.8								
1059	2000	.119	335.6		0	1059	2000	1.989	401.5								
1112	3000	.328	709.7		+ .001	1112	3000	1.234	470.0								
1116	3834	.460	1004.2		+ .002	1116	3834	1.280	489.6								
1146	3834	.460	1004.2		+ .002	1146	3834	1.280	489.6								
1216	3834	.460	1004.2		+ .002	1216	3834	1.280	489.6								

COMMENTS: NOTE: CANNOT GET P/T TOOLS PAST 3834'

BY: JG

276

GEOTHERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

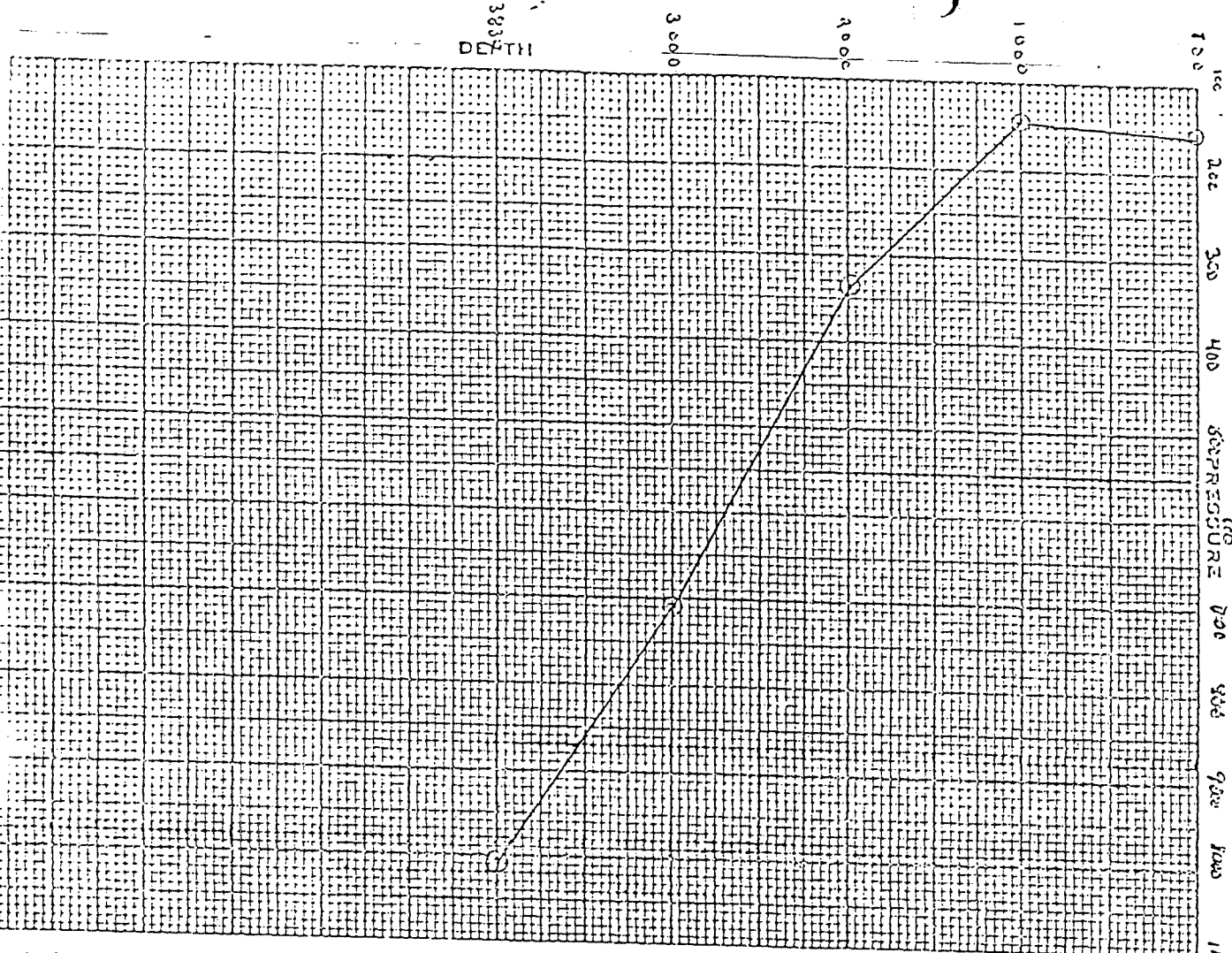
BH6-546

OWNER: SEMINOLE OIL CO. OF CALIF. FIELD: VALLE GYMNASEWELL NAME BOREHOLE: BCHN H6
 CASING: 4 1/2" @ 795' 7" @ 3586' ELEV: 8735.7 DATE: 9-30-75
 LINER DESCRIPTION: 2685 - TD OPEN Hole DEPTH: 3834
 ZERO POINT: GL 710'

HOLE DESCRIPTION: _____
 INSTRUMENT: D-4350 PS.
 SERIAL NO: 7198

PURPOSE: _____
 MAX TEMP: 489.6 °F @ 3834

REMARKS: _____
 STABILIZATION PERIOD _____



PRESSURE, PSI	GAUGE	BOH. I
100	157.6	
1000	191.9	
2000	235.6	
3000	279.7	
3834	321.2	
3834	366.2	
3834	401.2	

DEPTH	PRESSURE	GRADIENT
100	157.6	
1000	191.9	
2000	235.6	
3000	279.7	
3834	321.2	
3834	366.2	
3834	401.2	

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B6 547 P/T

OWNER MUNICIPAL COMPANY FIELD VALLE GRANDE WELL NAME PICK #6
 CASING 4" AT 795', 7" AT 2585' ELEV. 872.57 DATE: 6/25/70
 LINER DESCRIPTION: 7585 TD = OPEN HOLE ZERO POINT CL F 6'
 DEPTH 3469'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-2950 SN 9255 CL 12 1/2 15 TURN

ELEMENT 80' - 641.4 SERIAL NO. 10052 CLOCK 12 1/2 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P 1002 T 1006 DISENGAGE STYLUS P 1410 T 1408

WELL HEAD 41 P519

PICKUP @ 3460 TIME ON BOTTOM 1310 - 1535 MAX. W 493

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
1205	100	1.025	42			1205	100	1.230	152								
1214	105	1.25	42			1214	105	1.635	276								
1224	200	1.235	375			1224	200	1.125	419								
1245	2610	1.563	526			1245	2610	1.215	444								
1257	3040	4.55	752			1257	3040	1.210	445								
1308	3250	5.49	543			1308	3250	1.340	491								
1335	3460	6.02	922			1335	3460	1.395	493								

COMMENTS:

BY: IR CP

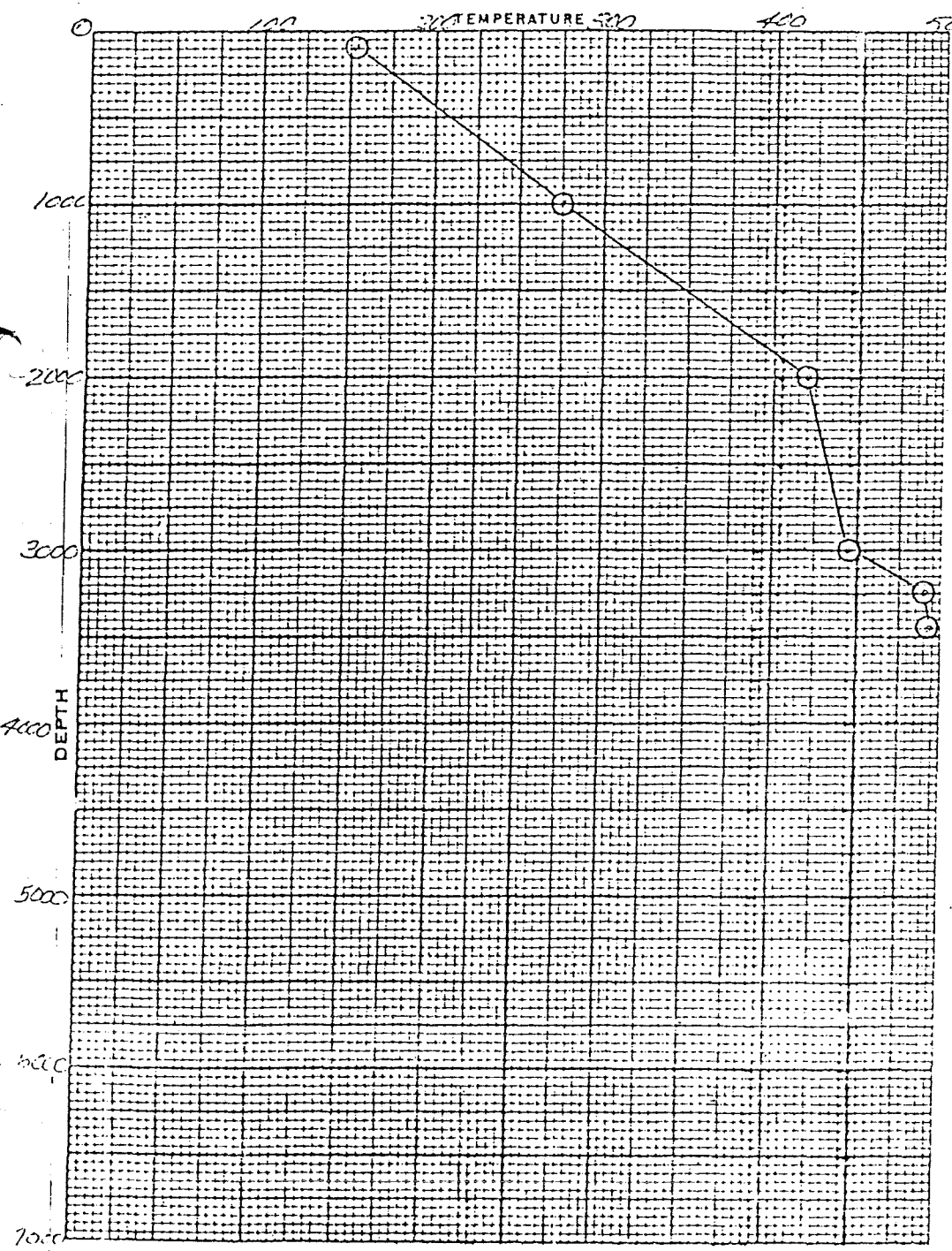
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GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B6-547-PT

OWNER _____ FIELD Lake George WELL NAME BQA #6
 CASING _____ ELEV 8725.7 DATE 6/25/76
 LINER DESCRIPTION: _____ ZERO POINT GL +6'
 _____ DEPTH 3469'
 HOLE DESCRIPTION: _____
 _____ INSTRUMENT _____ FAHP
 _____ SERIAL NO 10052
 PURPOSE _____ MAX TEMP 493 °F @ 3460
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURE	GAUGE	ROMS
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	152		
1000	276		
2000	219		
2500	211		
3000	215		
3250	291		
3460	293		

BY: _____

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B6-547-PT

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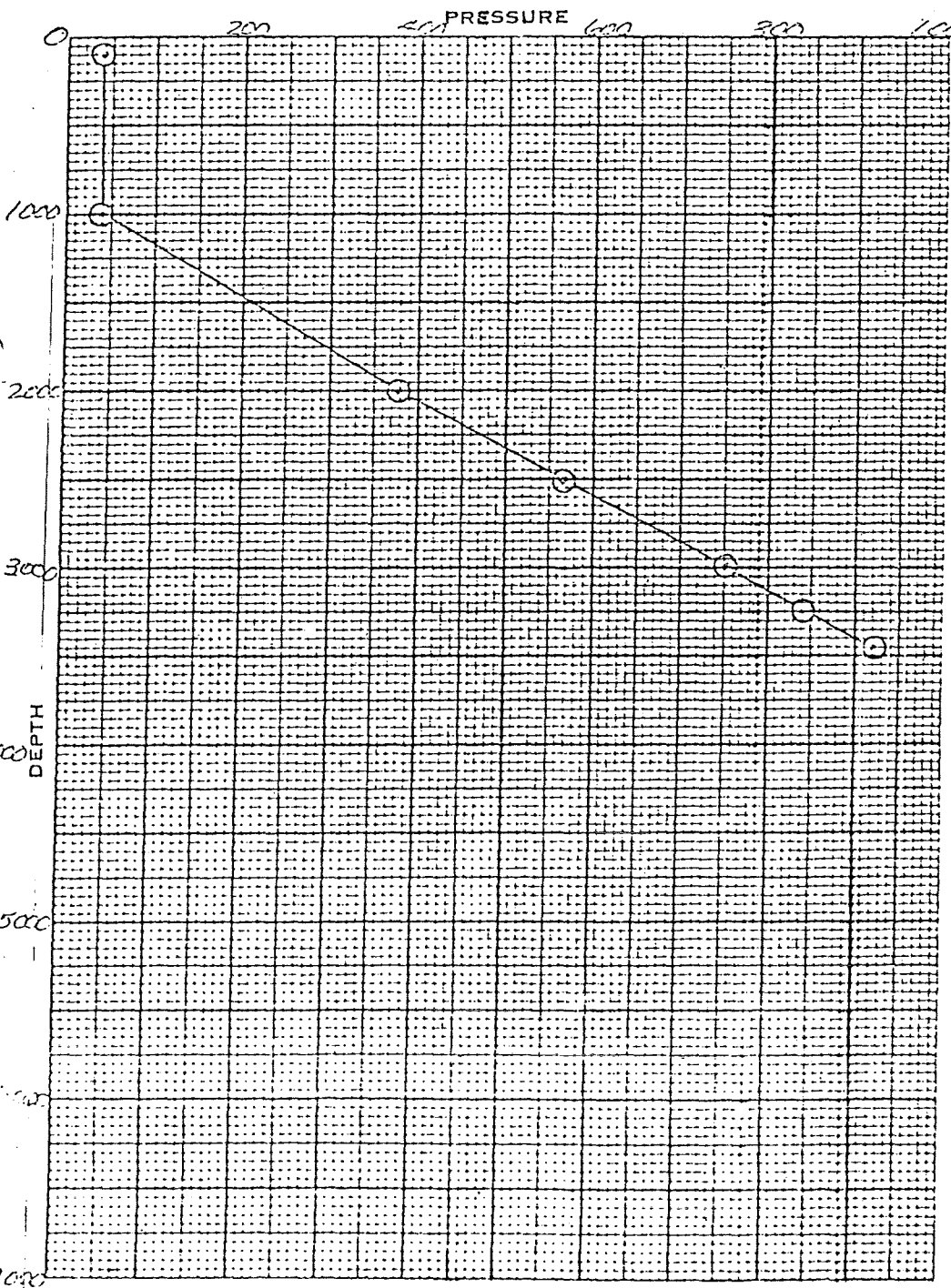
OWNER _____ FIELD _____ WELL NAME BACA #6
 CASING _____ ELEV _____ DATE 6/25/76
 LINER DESCRIPTION: _____ ZERO POINT GL r.l.
 _____ DEPTH 3469'

HOLE DESCRIPTION: _____

 INSTRUMENT _____ PSIG
 SERIAL NO 923.5

PURPOSE _____ MAX TEMP 493 °F @ 3460'
 REMARKS: _____

STABILIZATION PERIOD: _____



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	42	
1000	42	
2000	379	
2500	566	
3000	752	
3250	843	
3460	922	

BY: _____

76

Union

DEL PYLE

GEO THERMAL DIVISION SEP 10 1975

SUBSURFACE SURVEY

Field Work Sheet

B6-545 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACT #6
 CASING 9 5/8" AT 745'; 7" AT 2585 ELEV. 8725.7' DATE: 8/27/75
 LINER DESCRIPTION: 2585' - TD OPEN HOLE ZERO POINT GLT 12'
 DEPTH 3830'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT 0-4250 PSIG SN-7198 CLOCK 12 hr 15 TURN

ELEMENT 32°-686° SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1100 T-1602 DISENGAGE STYLUS P-1647 T-1648

WELL HEAD 113 PSIG

PICKUP @ 3830 TIME ON BOTTOM 1210-1610 MAX. F 489.3

WELL STATUS

SHUT IN: 8/19/75 0930 hrs 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
1135	100	.053	117.1			1135	110	.116	119.1								
1144	1000	.045	101.4			1134	1020	.805	342.8								
1144	2200	.143	319.8			1144	2200	1.035	415.7								
1152	2500	.232	519.1			1152	2500	1.111	453.9								
1201	3000	.316	699.2			1201	3000	1.246	479.6								
1209	3500	.400	879.7			1209	3500	1.243	478.7								
1210	3830	.453	991.5			1210	3830	1.212	487.2								
1310	"	.453	991.5			1310	"	1.272	487.2								
1410	"	.453	991.5			1410	"	1.272	487.2								
1510	"	.453	991.5			1510	"	1.272	487.2								
1610	"	.453	991.5			1610	"	1.272	487.2								

COMMENTS:

BY: Jim J.R.

716

GEOTHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

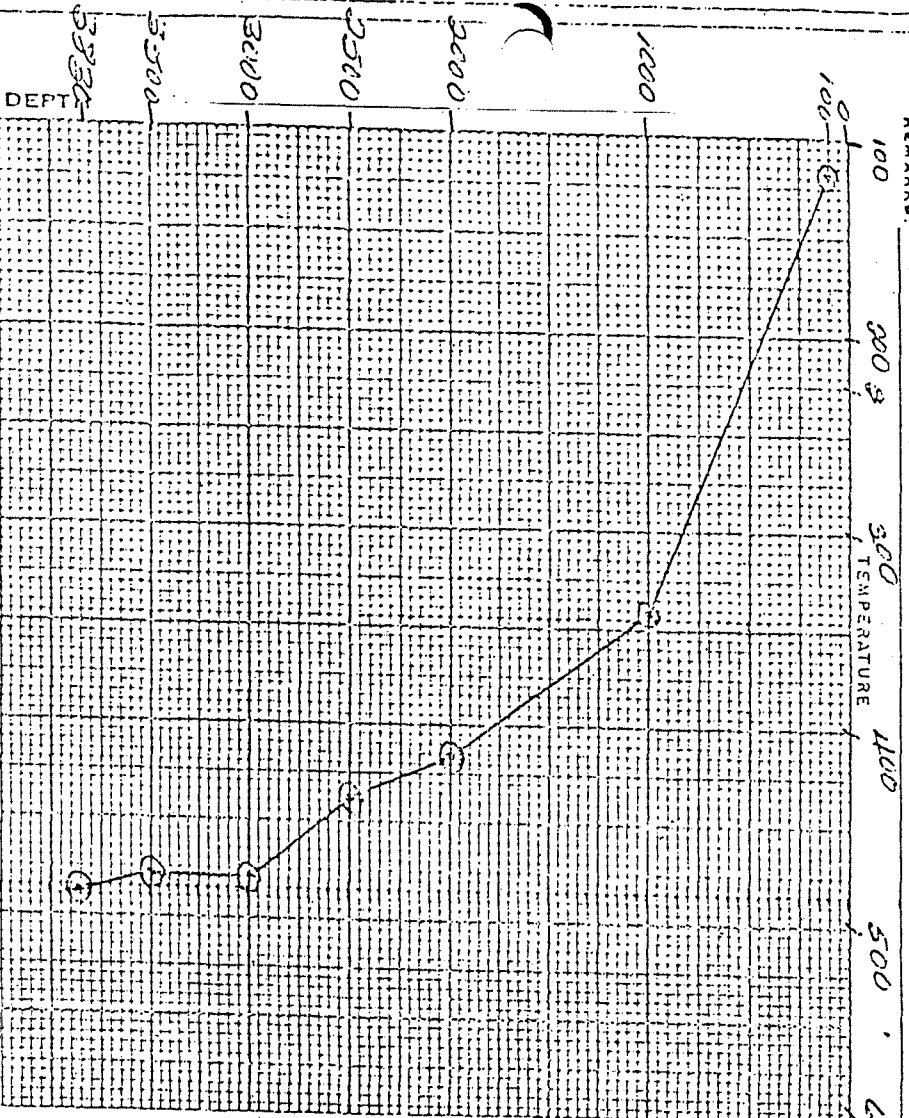
SR#HC-545-T

OWNER: WILLIAMS OIL CO. OF CALIF. FIELD: WELL NAME BORR #6
 CASING: 9 5/8" @ 29.5' ELEV: 8725.7 DATE: 8/27/75
 LINE DESCRIPTION: 7"-795'-2585' ZERO POINT: PT 101
OPEN HOLE - 2585' - 3830' DEPTH: 3830

HOLE DESCRIPTION:

 INSTRUMENT: 829F-686
 SERIAL NO: 10055

PURPOSE: _____
 MAX TEMP: 487.3°F @ 3830



TEMPERATURE AT 100
 END OF TEMPERATURE SURVEY

DEPTH	TEMP.	DEPTH	TEMP.
100	119.2		
200	115.7		
300	118.9		
400	118.2		
450	117.3		
500	117.3		
550	117.3		
600	117.3		

PRESSURE	GAUGE	DEPTH
	113	117.0

COOLING PERIOD

110

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

BL-545 P

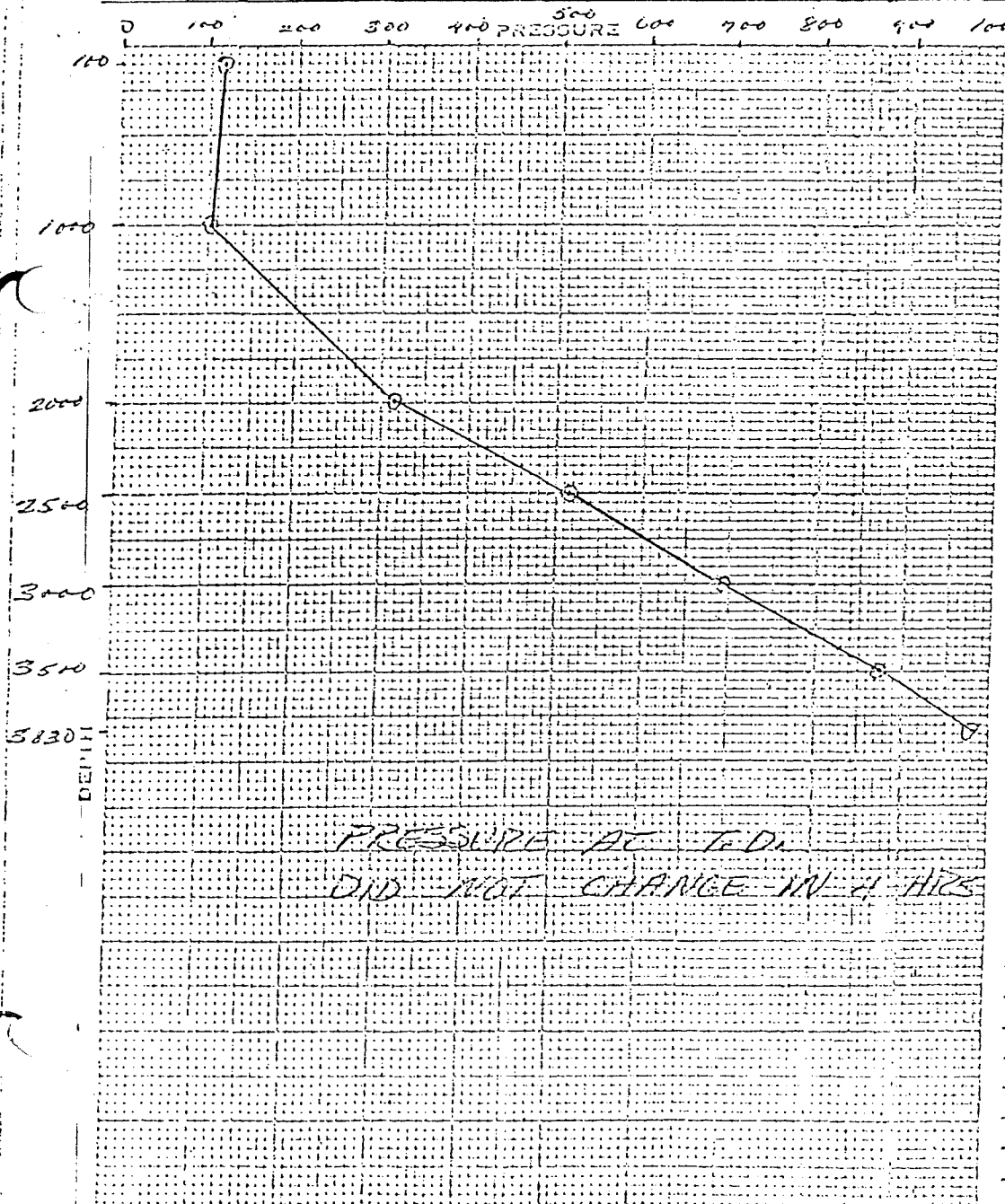
OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAVA # 6
 CASING 9 3/8" AT 795'; 7" AT 2585' ELEV 8725.7 DATE 8/27/75
 LINER DESCRIPTION: 2585-TD = OPEN HOLE ZERO POINT CL +17'
 DEPTH _____

WELL DESCRIPTION: _____

INSTRUMENT D-4250
 SERIAL NO 7198

MAX TEMP 487.3 °F @ 3830

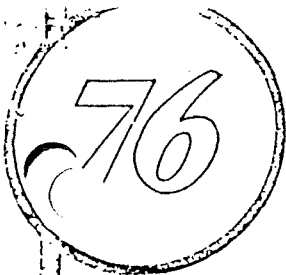
REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES: _____
 CASING PS: 113 117 @ 100'

DEPTH	PRESSURE	GRADIENT
100	117.1	
1000	101.4	
2000	319.8	
2500	519.1	
3000	699.2	
3500	879.3	
3830	996.5	



UNION

DEL' PYLE

SEP 10 1975

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BO 544 T/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME RACA #6
 CASING 9 5/8" AT 795', 7" AT 2585' ELEV. 8725.7' DATE: 8/27/75
 LINER DESCRIPTION: 2585' - TD = OPEN HOLE ZERO POINT CL + 12
 DEPTH 3830'

TUBING DETAIL:

PURPOSE TAND-EM TEMP RUN

REMARKS:

ELEMENT 90° - 646°F SN 10052 CLOCK 12 hr 15 TURN
 ELEMENT 82° - 686°F SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS T₁ - 0730; T₂ 0725 DISENGAGE STYLUS T₁ - 1025; T₂ 1026
 WELL HEAD 118 PSIG 0-400 T/R
 PICKUP @ 3830' TIME ON BOTTOM 0845 - 0945 MAX. °F 487.5
 WELL STATUS
 SHUT IN: 8/19/75 AT 0936 hrs ON PRODUCTION:
 RATE

FL TEMP 10052 T-2 TEMP 10055

TIME	DEPTH	DEFL.	2-T	GRAD.	ID	TIME	DEPTH	DEFL.	2-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0759	100	1.067	101.1			0759	100	1.065	115.6								
0807	1000	1.840	336.6			0807	1000	1.815	345.8								
0816	2000	1.090	408.6			0816	2000	1.037	416.3								
0825	2500	1.177	433.9			0825	2500	1.111	458.9								
0833	3000	1.331	475.4			0833	3000	1.254	481.9								
0843	3500	1.325	473.7			0843	3500	1.247	477.9								
0845	3830	1.350	480.5			0845	3830	1.273	487.5								
0915	"	1.350	480.5			0915	3830	1.273	487.5								
0945	"	1.350	480.5			0945	3830	1.273	487.5								

COMMENTS:

BY: JM JB CP

716

GEOTHERMAL DIVISION

SURFACE TEMPERATURE SURVEY

B6-544 T1

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #6
 CASING 9 7/8" AT 2585' ELEV. 8725.7 DATE: 8/27/75
 LINER DESCRIPTION: 2 3/8" - TD = 0 FCN HOLE ZERO POINT 0.4 + 12'
 DEPTH 3830'

HOLE DESCRIPTION:

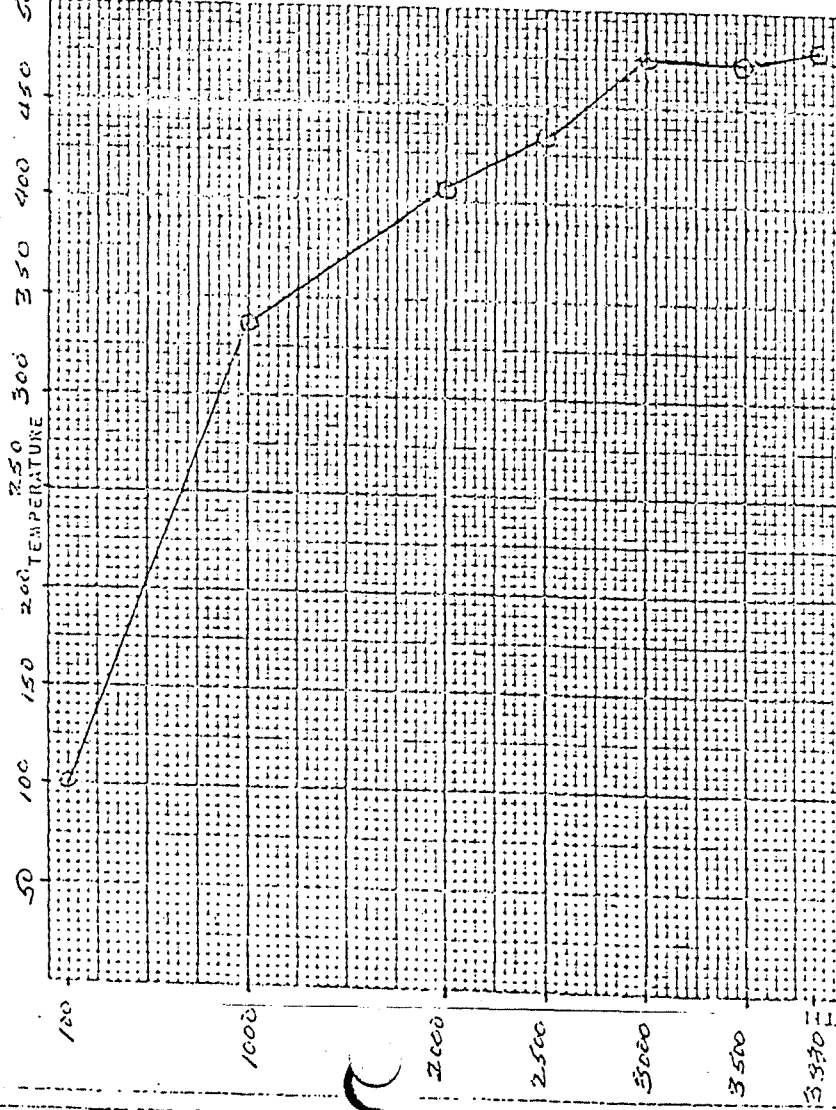
INSTRUMENT 90-646°
 SERIAL NO 10052

PURPOSE

MAX TEMP. 480.5°F @ 3830

REMARKS:

T-1 10052 ELEMENT



PRESSURE	Gauge	DEPTH	TEMP.
		110	101.1
		1100	336.6
		2100	408.6
		2500	433.4
		3100	475.4
		3500	473.7
		3830	480.5

Am. AG. CIP

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

GG 544 T₂

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA # 6
 CASING 9 5/8" AT 795', 7" AT 2585' ELEV. 8725' DATE: 8/27/75
 LINER DESCRIPTION: 2585' TD = OPEN HOLE ZERO POINT CL + 12'
 DEPTH 3830'

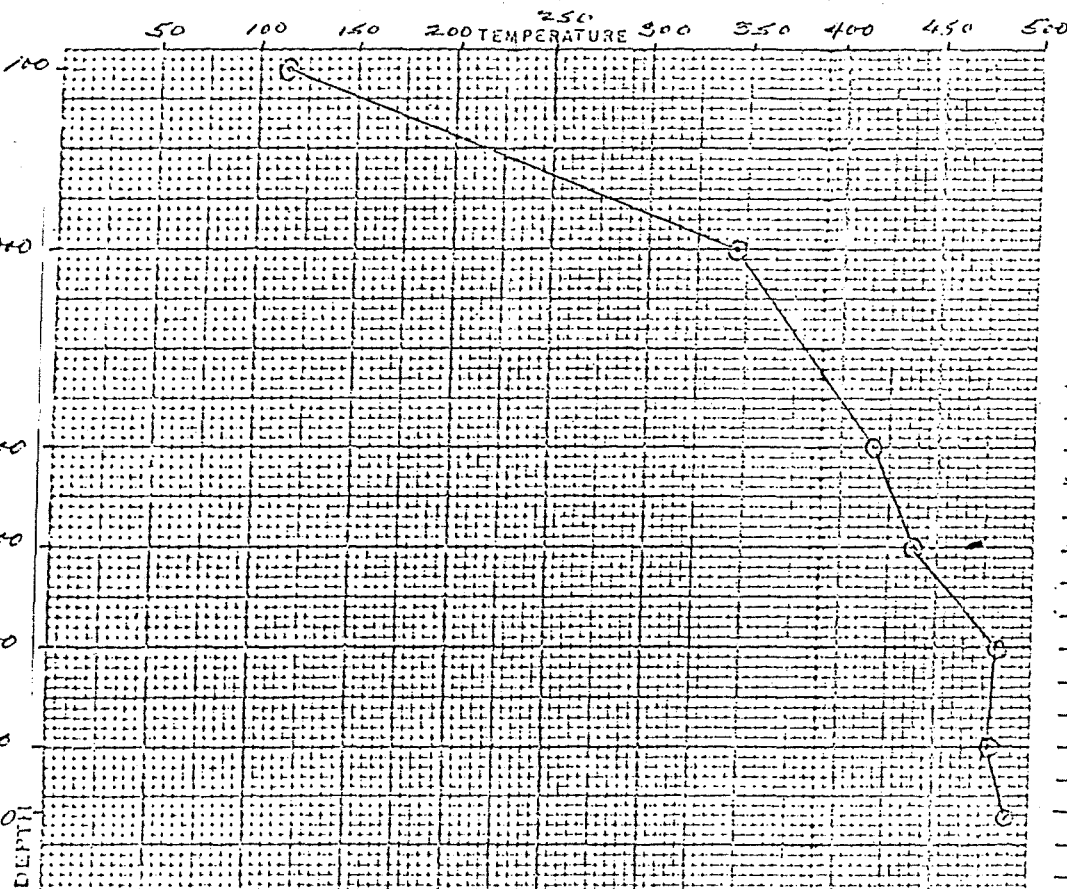
HOLE DESCRIPTION:

INSTRUMENT 82 - G.S.G. ° FAN
 SERIAL NO 10055

PURPOSE

MAX TEMP. 487.5°F @ 3830'

REMARKS:



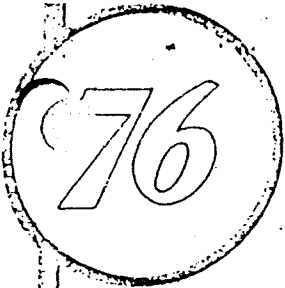
STABILIZATION PERIOD

T-2 10055 ELEMENT

PRESSURES	GAUGE	DEPTH
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	115.6		
1000	345.8		
2000	416.3		
2500	438.9		
3000	481.9		
3500	479.9		
3830	487.5		

J.M. J.B. CP



Union

DEL PYLE
SEP 2 1975

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACA #6-S43-P/T

OWNER UNION OIL CO CALIF FIELD VALLE GRANDE WELL NAME BACA#6
 CASING 9 5/8" @ 795'; 7" @ 2585" ELEV. 8725.7' DATE: 8/21/75
 LINER DESCRIPTION: 2585' - T.O. - OPEN HOLE ZERO POINT GLT 12'
 DEPTH 3830'

TUBING DETAIL:

PURPOSE PSI & TEMP BUILDUP

REMARKS:

ELEMENT-07450 PSIG. 7198 CLOCK 12HR 13375-L 15
 ELEMENT-82°F-666°F SERIAL NO. 10055 CLOCK 12HR 14091-L TURNS STABILIZATION PERIOD
 ENGAGE SYLUS P-0750 T-0751 DISENGAGE SYLUS P-1410 - T-1407
 WELL HEAD 352 PSIG - 0-600 1/6
 PICKUP @ 3830' TIME ON BOTTOM 0815-1435 hr MAX. °F 474.3
 WELL STATUS SHUT IN
 SHUT IN: 0936 HRS 8/19/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P	GRAD.	COILS	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0815	3830	.448	979	-	4.001	-	3830	1.228	474.3	-	-						
0845	-	-	-	-	-	-	-	-	-	-	-						
0915	-	-	-	-	-	-	-	-	-	-	-						
0945	-	-	-	-	-	-	-	-	-	-	-						
1015	-	-	-	-	-	-	-	-	-	-	-						
1045	-	-	-	-	-	-	-	-	-	-	-						
1115	-	-	-	-	-	-	-	-	-	-	-						
1145	-	-	-	-	-	-	-	-	-	-	-						
1215	-	-	-	-	-	-	-	-	-	-	-						
1245	-	-	-	-	-	-	-	-	-	-	-						
1315	-	-	-	-	-	-	-	-	-	-	-						
1335	3830	.448	979	-	4.001	-	3830	1.228	474.3	-	-						

COMMENTS:

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UNION

DEL PYLE

SEP 2 1975

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B6-542 P/7

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME B6UA #6
 CASING 3 7/8" HT 795'; 2 3/4" HT 2585' ELEV. 3725.7' DATE: 8/20/75
 LINER DESCRIPTION: 2585' - TD = OPEN HOLE ZERO POINT GL + 12'
 DEPTH 3830'

TUBING DETAIL:

PURPOSE PSI + TEMP BUILDUP

REMARKS:
SLIGHT - 0 - 4250 PSIC SW-7198 CLOCK 12 hrs 15 TURN
ELEMENT - 82° - 656° F SERIAL NO. 10055 CLOCK 12 hrs 15 TURN STABILIZATION PERIOD
ENGAGE STYLUS P-0319 T-0317 DISENGAGE STYLUS P-1454; T-1454
WELL HEAD 0850 hrs - 278 PSIC; 1450 hrs 300 PSIC
PICKUP @ 3830' TIME ON BOTTOM 0850 - 1450 MAX. F 474.3
WELL STATUS SHUT IN 0936 hrs 8/19/75
 SHUT IN: ON PRODUCTION:
 RATE

PRESSURE					TEMPERATURE											
DEPTH	DEFL.	P-#	GRAD.	ID	TIME	DEPTH	DEFL.	R-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
3830	.446	978.6		1.001	0850	3830	1.185	461.4								
0920	.443	978.8		"	0920	"	1.220	471.9								
0950	.443	978.8		"	0950	"	1.221	472.2								
1020	.443	978.8		"	1020	"	1.221	472.2								
1050	.443	978.8		"	1050	"	1.223	472.8								
1120	.443	978.8		"	1120	"	1.224	473.1								
1150	.443	978.8		"	1150	"	1.226	473.7								
1220	.443	978.8		"	1220	"	1.226	473.7								
1250	.443	978.8		"	1250	"	1.227	474.0								
1320	.443	978.8		"	1320	"	1.228	474.3								
1350	.443	978.8		"	1350	"	1.228	474.3								
1420	.443	978.8		"	1420	"	1.228	474.3								
1450	.443	978.8		"	1450	"	1.228	474.3								

COMMENTS: WELL BRIDGED OFF AT 3830'

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UNION

DEL PYLE

GEO THERMAL DIVISION SEP 2 1975

SUBSURFACE SURVEY
Field Work Sheet

86-541 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #6
 CASING 9 5/8" AT 795.7' AT 2855' ELEV. 8725.7 DATE: 8/19/75
 LINER DESCRIPTION: 2855' - TD = OPEN HOLE ZERO POINT GL + 12'
 DEPTH 3830'

TUBING DETAIL:

PURPOSE SHUT IN PSI + TEMP BUILD UP

REMARKS:

ELEMENT - 0-4250 P210. SN-7198 CLOCK-12 HR 15 TURN
 ELEMENT 82-686°F SERIAL NO. 10055 CLOCK-12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0922; T-0817 DISENGAGE STYLUS P-1633; T-1635
 WELL HEAD SEE CHART
 PICKUP @ 3830' TIME ON BOTTOM 0945-1545 MAX. °F
 WELL STATUS SHUT IN 0936 hrs 8/19/75
 SHUT IN: ON PRODUCTION:
 RATE

TEMPERATURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0945	3830'	1.198	465.4			1245	3830'	1.252	481.3								
	"	1.199	465.7			1315	"	1.234	476.0								
47	"	1.205	467.5			1345	"	1.229	474.6								
48	"	1.210	469.0			1415	"	1.224	473.1								
49	"	1.213	469.8			1445	"	1.220	471.9								
50	"	1.216	470.7			1515	"	1.219	471.6								
51	"	1.223	472.8			1545	"	1.218	471.3								
52	"	1.228	474.3														
53	"	1.233	475.7														
54	"	1.238	477.2														
55	"	1.243	478.7														
1000	"	1.255	482.2														
05	"	1.268	486.1														
10	"	1.274	487.8														
15	"	1.277	488.7														
20	"	1.279	489.3														
25	"	1.279	489.3														
30	"	1.280	489.6														
35	"	1.281	489.9														
40	"	1.282	490.2														
45	"	1.283	490.5														
1100	"	1.304	496.7														
15	"	1.305	496.9														
20	"	1.296	494.3														
45	"	1.290	492.6														
1200	"	1.290	492.6														
	"	1.289	489.9														
	"	1.266	485.5														

COMMENTS: WELL BRIDGED OFF AT 3830'

BY: JM & J.B.



UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B6-540 P/T

OWNER UNION OIL COMPANY, FIELD VALLE GRANDE WELL NAME BACA #6
 CASING 9 5/8" AT 795'; 7" AT 2585' ELEV. 8725 7 DATE: 8/19/75
 LINER DESCRIPTION: 2585 - TD OPEN HOLE ZERO POINT 34 + 12'
 DEPTH 3830'

TUBING DETAIL:

PURPOSE SHUT IN PSI + TEMP BUILDUP

REMARKS:

ELEMENT - 0-4250 PSIG SN 7198 CLOCK - 12 HR 15 TURN
 ELEMENT 82 - 656 °F SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0822 T-0817 DISENGAGE STYLUS P-1655 T-1635
 WELL HEAD SEE CHART
 PICKUP @ 3830' TIME ON BOTTOM 0945-1545 MAX. °F
 WELL STATUS SHUT IN 0936 HRS 8/19/75
 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
0	3830	.250	559		0	1245	3830	.435	951		t.001						
	"	.258	576		0	1315	"	.436	953		"						
47	"	.268	549		0	1345	"	.436	953		"						
48	"	.275	612		0	1415	"	.443	968		"						
47	"	.282	627		0	1445	"	.442	966		"						
50	"	.290	644		0	1515	"	.441	964		"						
51	"	.296	657		0	1545	"	.441	964		"						
52	"	.306	678		0												
53	"	.314	695		0												
54	"	.321	709		0												
55	"	.327	722		0												
1000	"	.365	803		0												
05	"	.393	862		t.001												
10	"	.411	900		"												
15	"	.422	924		"												
20	"	.428	936		"												
25	"	.430	941		"												
30	"	.431	943		"												
35	"	.432	945		"												
40	"	.433	947		"												
45	"	.434	949		"												
1100	"	.435	951		"												
15	"	.436	953		"												
30	"	.437	956		"												
45	"	.438	958		"												
12	"	.439	960		"												
30	"	.437	956		"												
30	"	.435	951		"												

COMMENTS:

WELL BRIDGED OFF AT 3830'

BY: JMI + JRB

76

union

GEOTHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

86-541 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #6
 CASING 9 5/8" AT 795, 7" AT 2585' ELEV. 8725.7 DATE: 8/19/75
 LINER DESCRIPTION: 2585' - TD = OPEN HOLE ZERO POINT GL + 12'
 DEPTH 3830'

TUBING DETAIL:

PURPOSE SHUT IN PSI + TEMP BUILD UP

REMARKS:

ELEMENT - 0-4250 PSI @ SN-7488 CLOCK - 12 HR 15 TURN
 ELEMENT 82-696°F SERIAL NO. 10055 CLOCK - 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0822; T-0817 DISENGAGE STYLUS P-1635; T-1635
 WELL HEAD SEE CHART
 PICKUP @ 3830' TIME ON BOTTOM 0945 - 1545 MAX. °F
 WELL STATUS SHUT IN 0936 hrs 8/19/75
 SHUT IN: ON PRODUCTION:
 RATE

TEMPERATURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0945	3830	1.198	465.4			1245	3830	1.252	481.3								
	"	1.199	465.7			1315	"	1.234	476.0								
	"	1.205	467.5			1345	"	1.229	474.6								
48	"	1.210	469.0			1415	"	1.224	473.1								
49	"	1.213	469.8			1445	"	1.220	471.9								
50	"	1.216	470.7			1515	"	1.219	471.6								
51	"	1.223	472.8			1545	"	1.218	471.3								
52	"	1.228	474.3														
53	"	1.233	475.7														
54	"	1.238	477.2														
55	"	1.243	478.7														
1000	"	1.255	482.2														
05	"	1.268	486.1														
10	"	1.274	487.8														
15	"	1.277	488.7														
20	"	1.279	489.3														
25	"	1.279	489.3														
30	"	1.280	489.6														
35	"	1.281	489.9														
40	"	1.282	490.2														
45	"	1.283	490.5														
1100	"	1.304	495.7														
15	"	1.305	496.7														
30	"	1.296	494.3														
45	"	1.290	492.6														
1200	"	1.290	492.6														
	"	1.281	489.9														
	"	1.266	485.5														

COMMENTS: WELL BRIDGED OFF AT 3830'

BY: JM + JB

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B6-546⁴¹ P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #6
 CASING 9 5/8" AT 795', 7" AT 258' ELEV. 8725.7 DATE: 8/19/75
 LINER DESCRIPTION: 2585 - TD OPEN HOLE ZERO POINT 22' + 12'
 DEPTH 3830'

TUBING DETAIL:

PURPOSE SHUT IN PSI + TEMP BUILDUP

REMARKS:

ELEMENT - 0-4250 PSIG SN 7198 CLOCK - 12 HR 15 TURN
 ELEMENT 82-686 °F SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0822 T-0817 DISENGAGE STYLUS P-1655 T-K35
 WELL HEAD SEE CHART
 PICKUP @ 3830' TIME ON BOTTOM 0945-1545 MAX. °F
 WELL STATUS SHUT IN 0936 HRS 8/19/75
 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
0	3830	.250	559		0	1245	3830'	.435	951		1.001						
	"	.258	576		0	1315	"	.436	953		"						
47	"	.268	597		0	1345	"	.436	953		"						
48	"	.275	612		0	1415	"	.443	968		"						
49	"	.282	627		0	1445	"	.442	966		"						
50	"	.290	644		0	1515	"	.441	964		"						
51	"	.296	657		0	1545	"	.441	964		"						
52	"	.306	678		0												
53	"	.314	695		0												
54	"	.321	709		0												
55	"	.327	722		0												
1000	"	.365	803		0												
05	"	.393	862		1.001												
10	"	.411	900		"												
15	"	.422	924		"												
20	"	.429	936		"												
25	"	.430	941		"												
30	"	.431	943		"												
35	"	.432	945		"												
40	"	.433	947		"												
45	"	.434	949		"												
1100	"	.435	951		"												
15	"	.436	953		"												
30	"	.437	956		"												
45	"	.438	958		"												
12	"	.439	960		"												
	"	.437	956		"												
30	"	.435	951		"												

COMMENTS:

WELL BRIDGED OFF AT 3830'

BY: JM + JB

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-6-540-P11

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#6
 CASING 9 5/8" @ 795'; 7" 0' - 2585 ELEV. 8725.7 DATE: 6/5/75
 LINER DESCRIPTION: OPEN HOLE 2585' - T.O. ZERO POINT GLT 12'
 DEPTH 4681

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4250 PSIG 7198 12hr-13375-L 15
 ELEMENT T-820F-6860F SERIAL NO. 10055 CLOCK 12hr-14091-L 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0638 T-0642 DISENGAGE STYLUS P-0850 T-0850

WELL HEAD

PICKUP @ 4681' TIME ON BOTTOM 0314-0822 MAX. 'F 536.4

WELL STATUS STATIC.

SHUT IN:

ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P. #	GRAD.	ID	TIME	DEPTH	DEFL.	P. T	GRAD.	ID	TIME	DEPTH	DEFL.	P. T	GRAD.	ID
255-0726	0	.020	45	0	0	"	0	0	0	0							
73	100	.027	61	.138	0	"	100	.196	145								
735-0720	1000	.035	79	.102	0	"	1000	.598	277								
747-0754	2000	.160	360	.282	0	"	2000	1.027	413								
756-0803	3000	.331	731	.370	0	"	3000	1.193	464								
805-0812	4000	.495	1078	.351	7.002	"	4000	1.270	487								
914-0822	4681	.600	1298	.324	7.002	"	4681	1.440	536.4								

COMMENTS:

BY: J.M. / J.B.

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GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BNG-540-P/T

OWNER <u>UNION OIL CO. OF CALIF</u>	FIELD <u>VALLE GRANDE</u>	WELL NAME <u>BACA #6</u>
CASING <u>9 7/8" @ 795'; 7" - 0' - 2585'</u>	ELEV. <u>8725.5</u>	DATE: <u>6/5/75</u>
LINER DESCRIPTION: <u>OPEN HOLE - 2585 - T.D.</u>		ZERO POINT <u>GL+ 12'</u>
		DEPTH <u>4681'</u>

HOLE DESCRIPTION:

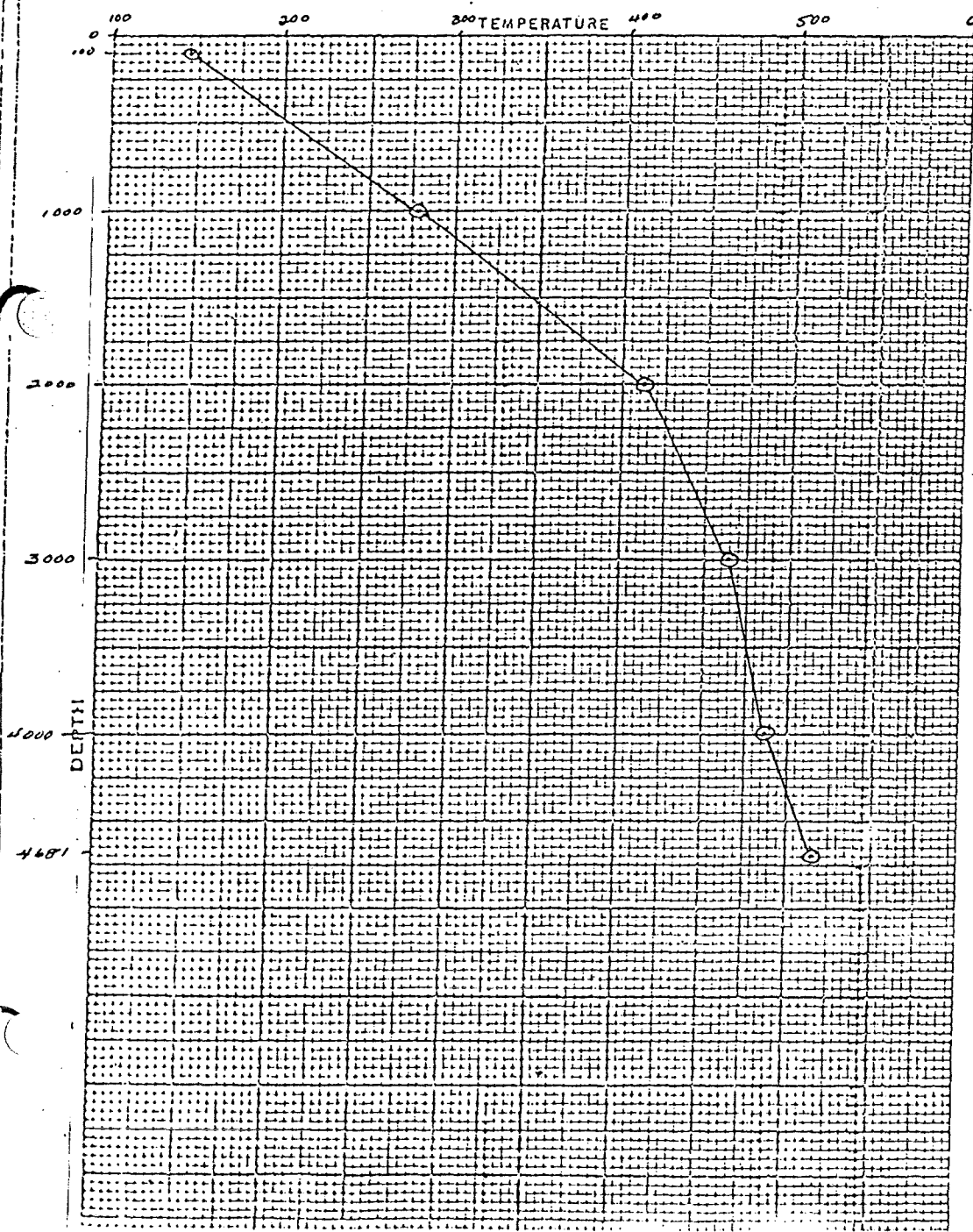
INSTRUMENT 82°F - 686 FAH
SERIAL NO 10055

PURPOSE

MAX TEMP. 536.4 °F @ 4681'

REMARKS:

STABILIZATION PERIOD



PRESSURES	GAUGE	CORRECTION	DEPTH
CASING, PSI	40	45	
DEPTH	TEMP.	DEPTH	TEMP.
0	0		
100	145		
1000	277		
2000	413		
3000	464		
4000	487		
4681	536		

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GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B#L-540-P17

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA#6
 CASING 9 5/8" @ 795' ; 7" - 0' - 258.5' ELEV. 8725.5 DATE 6/5/75
 LINER DESCRIPTION: OPEN HOLE - 258.5' - F.D. ZERO POINT GL+12'
 DEPTH 4681'

HOLE DESCRIPTION:

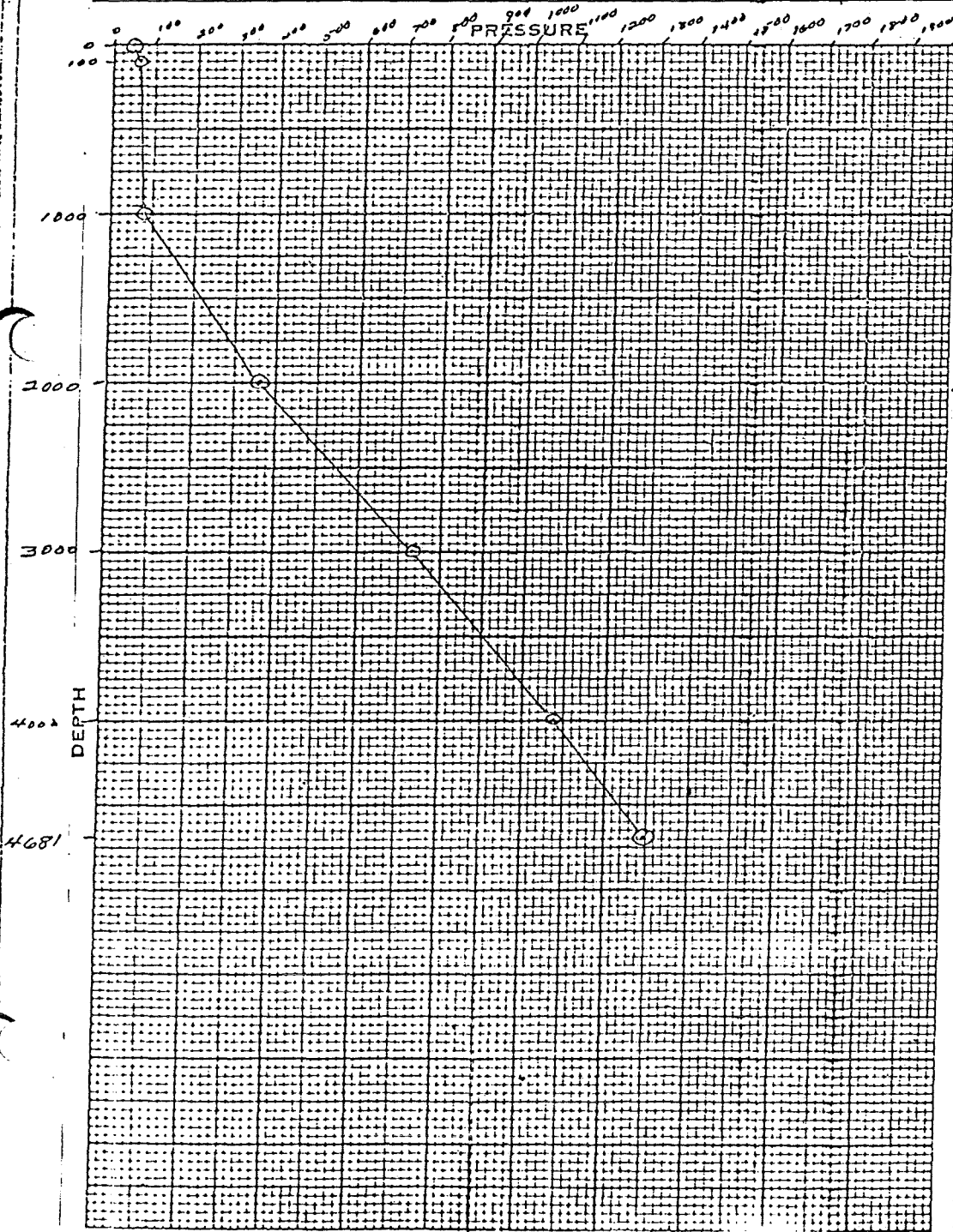
INSTRUMENT Q-4250 PSI
 SERIAL NO 7198

PURPOSE

MAX. TEMP 536.4 °F @ 4681'

REMARKS:

STABILIZATION PERIOD



PRESSURE	GAUGE	BONG
CASING. PSI	40	45

DEPTH	PRESSURE	GRAD. IN
0	45	
100	61	
1000	79	
2000	360	
3000	731	
4000	1078	
4681	1298	

BY: A. J. B.

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#6-S-39-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#6
 CASING 9 7/8" @ 795 - 7'0 - 2585" ELEV. 8725.7' DATE: 5/27/75
 LINER DESCRIPTION: OPEN HOLE - 2585 - T.D. ZERO POINT 6L+12'
 DEPTH 4681' (4810' T.D.)

TUBING DETAIL:

PURPOSE

REMARKS: RAN SINKER BAR WITH CENTRALIZER - COULD NOT GET PASSED 4681'

P-0-4250 PSIG - 7198 12HR-13375-L 15

ELEMENT 82°F - 686°F SERIAL NO. 10055 CLOCK 12HR-13374-L RETURN STABILIZATION PERIOD

ENGAGE STYLUS P-1606 T-1608 DISENGAGE STYLUS P-1804 T-1804

WELL HEAD 100 PSIG 0-600 T/G

PICKUP @ 4681' TIME ON BOTTOM 1731-1741 HRS MAX. °F 530.7

WELL STATUS SHUT IN -

SHUT IN:

ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	LOG	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	0	.042	95	0	0	"	0	0	0	0							
03-1613	100	.042	95	0	0	"	100	.013	85.9	0							
04-1654	1000	.042	95	0	0	"	1000	.740	322.1	.263							
06-1700	2000	.160	360.4	.266	0	"	2000	1.015	409.6	.086							
07-1718	3000	.333	735.2	.375	0	"	3000	1.178	459.3	.050							
09-1730	4000	.497	1081.9	.343	1.002	"	4000	1.250	480.8	.022							
11-1741	4681	.605	1308.8	.327	1.004	"	4681	1.430	530.7	.073							

COMMENTS:

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GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

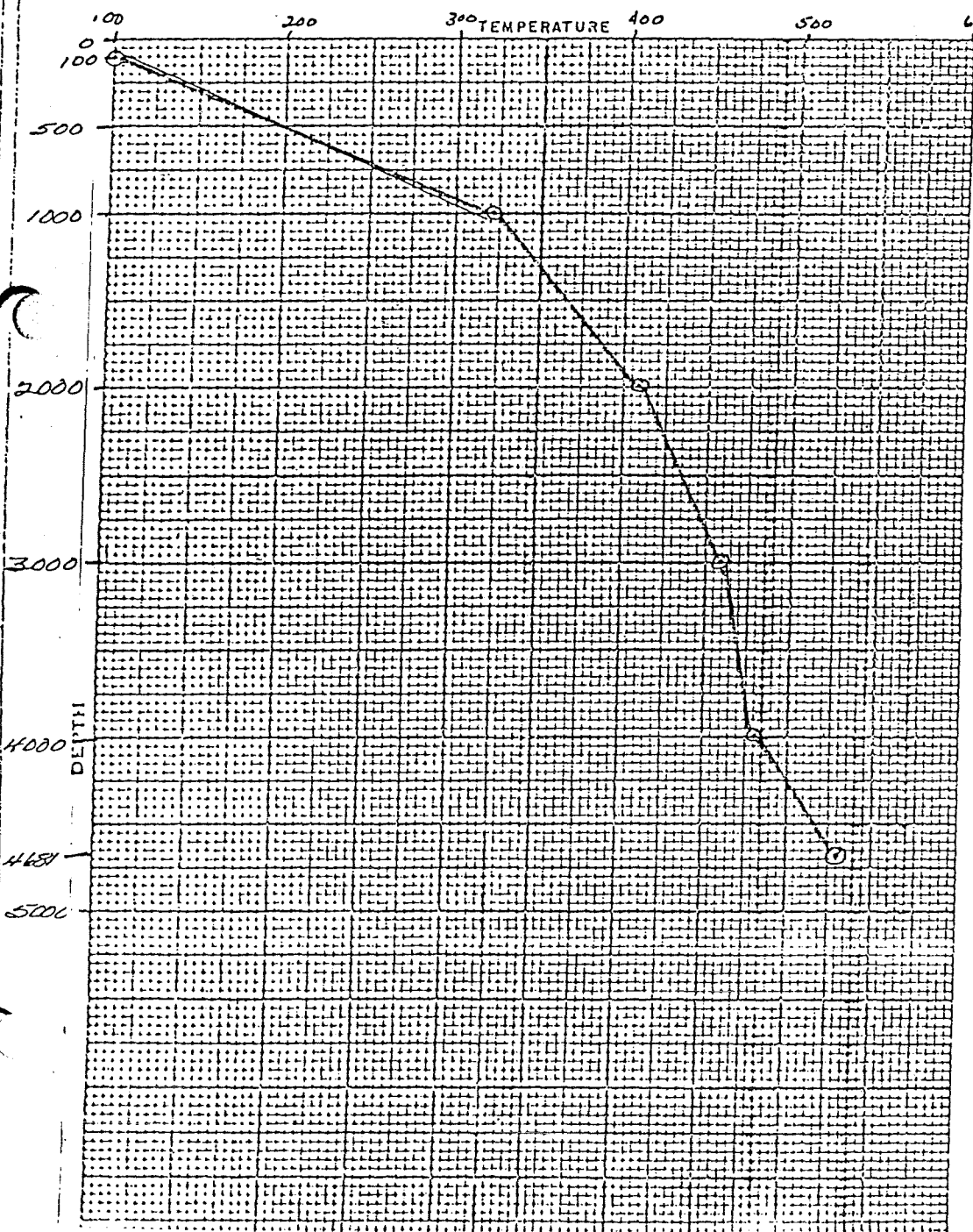
B#6-539-P1T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#6
 CASING 9 5/8" @ 795', 7" @ 2585' ELEV. 8725.7' DATE: 5/27/75
 LINER DESCRIPTION: OPEN HOLE - 2585 - T.D. ZERO POINT GLT12'
 DEPTH 4850' - SURVEY TO 4681'

HOLE DESCRIPTION: _____
 INSTRUMENT 82°F-686° FAH
 SERIAL NO 10055

PURPOSE _____ MAX. TEMP. 530.7 °F @ 4681'

REMARKS: _____



PRESSURES		GAUGE	DEPTH	
CASING, PSI		100	95	
DEPTH	TEMP.	DEPTH	TEMP.	
0	0			
100	85.9			
1000	322.1			
2000	409.6			
3000	459.3			
4000	480.8			
4681	530.7			

Extrap 979 psi @ 3690
 JD#

716

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B#6-539-P1T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#6
 CASING 9 5/8" @ 725' 7" @ 2585' ELEV. 8725.7' DATE: 5/27/75
 LINER DESCRIPTION: OPEN HOLE - 2585' - TD. ZERO POINT 6412'
 DEPTH 4850' SURVEY TO 4681'

HOLE DESCRIPTION:

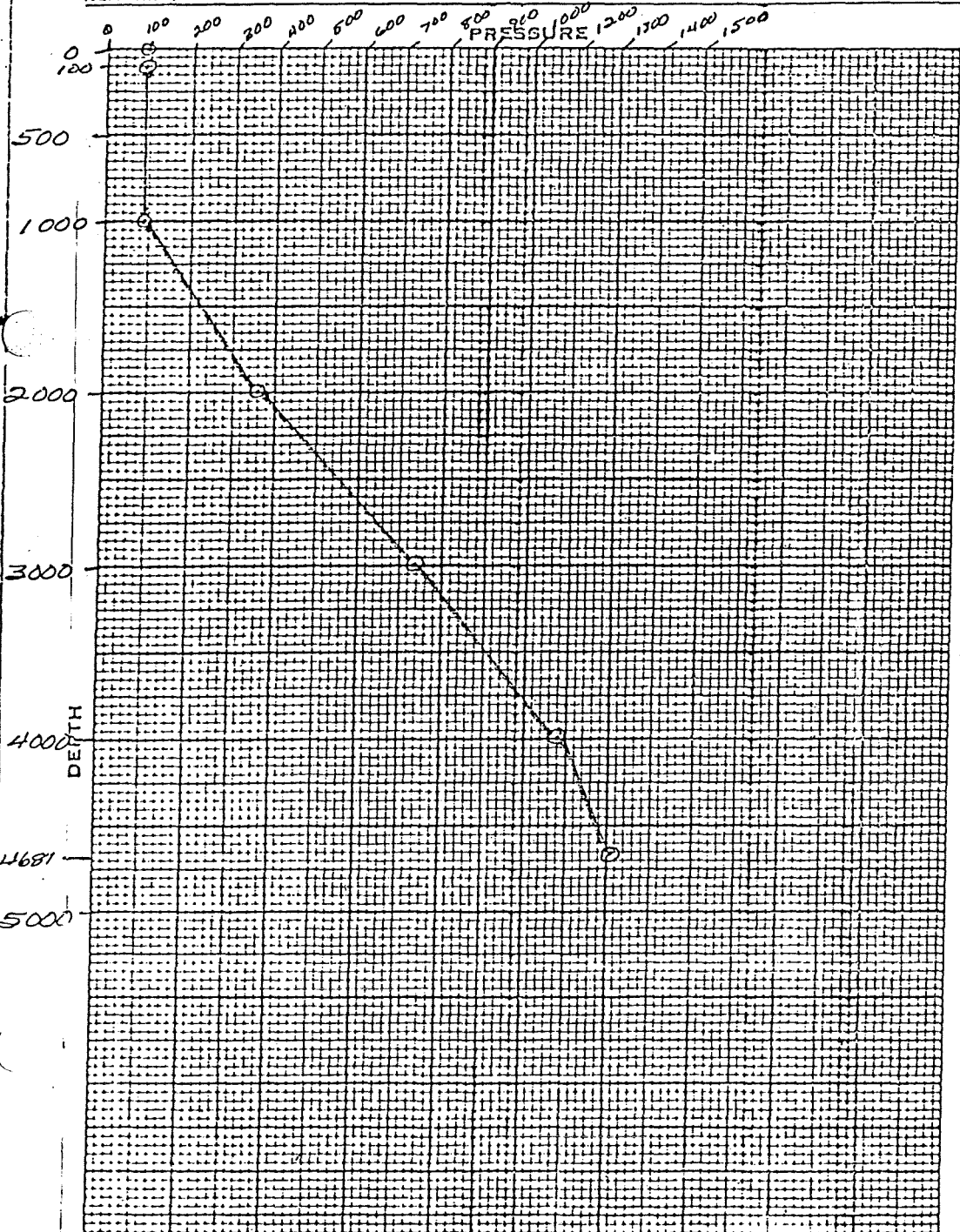
INSTRUMENT 0-4250 PS
 SERIAL NO 7198

PURPOSE

MAX TEMP 530.7 °F @ 4681'

REMARKS:

STABILIZATION PERIOD



PRESSURE	GAUGE	BCMB
CASING, PSI	100	95

DEPTH	PRESSURE	GRADIENT
0	95	0
100	95	0
1000	95	0
2000	360.4	.266
3000	735.2	.375
4000	1081.9	.343
4681	1308.8	.327

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

326-5-35-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #6

CASING 7 7/8" @ 795' ELEV. 8725.7' DATE: 2/14/75

LINER DESCRIPTION: 7" HUNG @ 692' - 3700' ZERO POINT CL+6'

SLOTS - 2655'-2710; 2985'-3170; 3589'-3699' DEPTH 3666'

TUBING DETAIL:

PURPOSE

REMARKS:

P-O-4250 PSIG 7198 12hr 13575L 15

ELEMENT R-882-698°F SERIAL NO. 10055 CLOCK 12hr 13790L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1054 HAS T-1102 HD; DISENGAGE STYLUS P-1417 HAS T-1417 HAS

WELL HEAD 145 PSIG

PICKUP @ 3666' TIME ON BOTTOM 1318-1453 MAX. F 475.7 @ 3500

WELL STATUS SHUT IN.

SHUT IN: ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-O	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
-1-	00	005	144.4	0	000	1137-1147	100	.007	90.1	0	-						
-1137	500	065	146.4	0	000	1145-1155	500	.599	289.7	.499	-						
1-1211	1000	065	146.4	0	000	1201-1211	1000	.874	376.9	.174	-						
2-1222	1500	075	169.0	.045	000	1212-1222	1500	.905	386.5	.019	-						
3-1247	2000	1.60	360.4	.383	000	1243-1248	2000	1.069	436.0	.099	-						
4-1254	2500	2.46	550.8	.381	000	1244-1254	2500	1.107	447.0	.022	-						
5-1305	3000	.329	726.7	.352	f.001	1255-1305	3000	1.179	468.0	.042	-						
7-1317	3500	.413	904.7	.356	f.002	1307-1317	3500	1.206	476.0	.016	-						
8-1353	3666	.439	959.7	.331	f.002	1318-1353	3666	1.168	464.7	0	-						

COMMENTS:

BY: J.M.J.

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GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B446-535-P17

OWNER UNION OIL CO. OF NELE FIELD WALLS GRAVDS WELL NAME BEAR'S
 CASING 2 3/8" @ 795' 7" HULL - 593' - 8700' ELEV. 8725.71 DATE 2/1/57
 LINEAR DESCRIPTION: 5405-5683'-5710.2955'-5776'-5802-5899' ZERO POINT CGT-61
 DEPTH 3666'

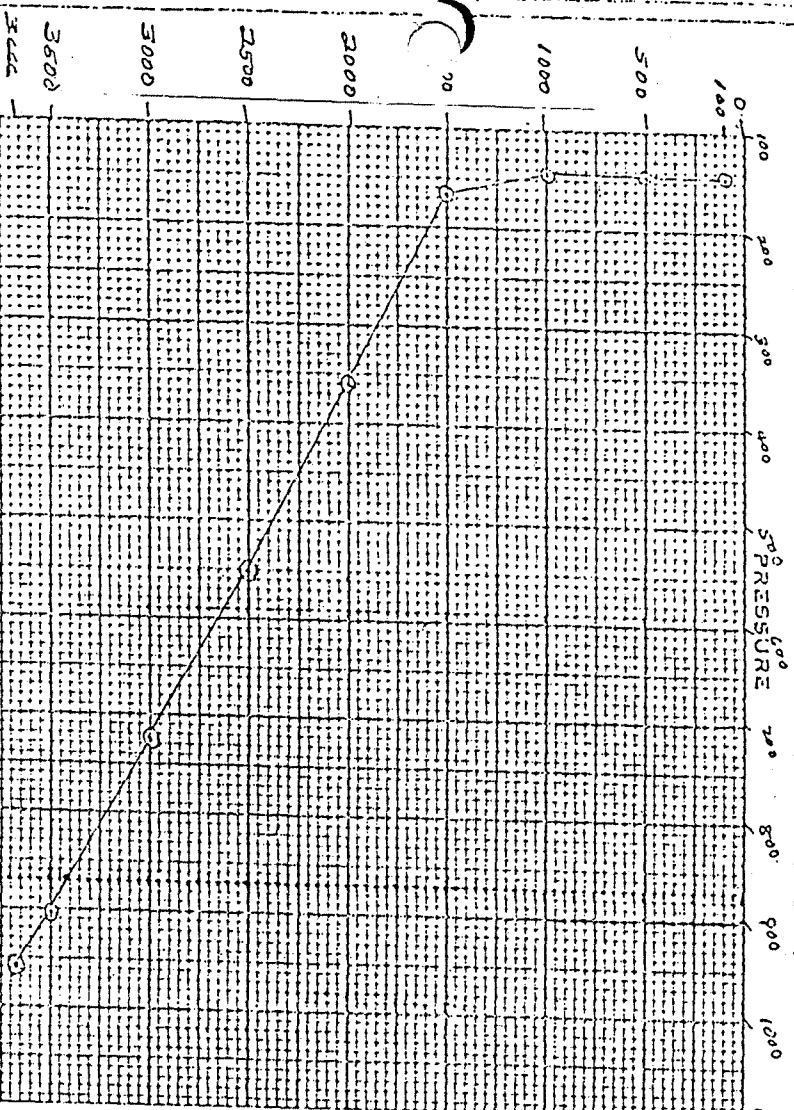
HOLE DESCRIPTION:

INSTRUMENT 0-4250 PG
 SERIAL NO. 7198

MAX TEMP 475.7 °F @ 3666'

PURPOSE
 REMARKS:

100 STABILIZATION PERIOD



PRESSURE	GAUGE	BOB'S
CASING, PSI	145	146

DEPTH	PRESSURE	GRADIENT
100	146.4	0
500	146.4	0
1000	146.4	0
1500	169	.045
2000	360.4	.353
2500	550.8	.351
3000	726.7	.352
3500	904.7	.356
3666	999.7	.331

DEPTH

3600
3500
3400
3300
3200
3100
3000
2900
2800
2700
2600
2500
2400
2300
2200
2100
2000
1900
1800
1700
1600
1500
1400
1300
1200
1100
1000
900
800
700
600
500
400
300
200
100
0

1000
500
0

PSI

GEO THERMAL DIVISION

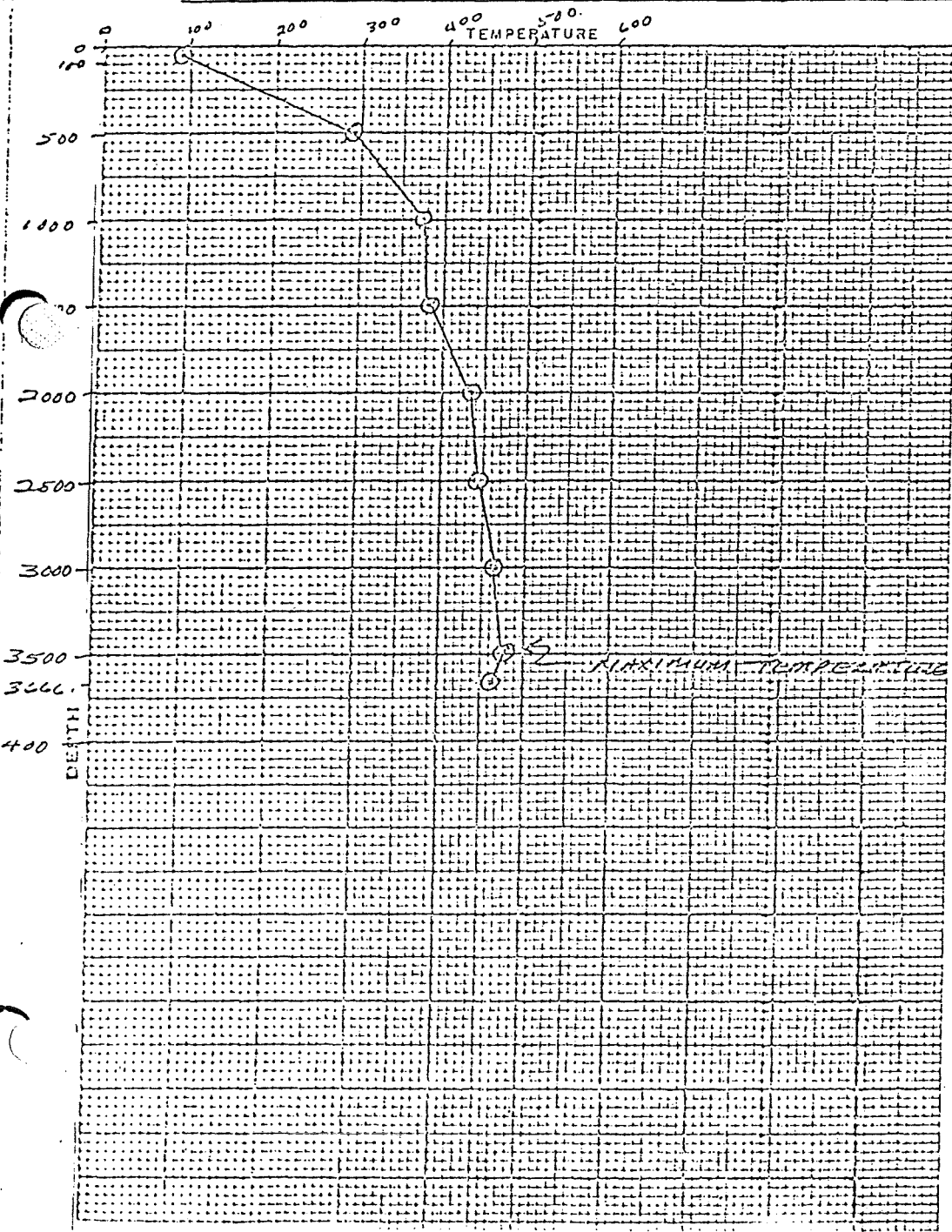
SUBSURFACE TEMPERATURE SURVEY

B#6-S-28-PIT

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDS WELL NAME BACA-46
 CASING 9 5/8" @ 525 7" HUNG-692'-3700' ELEV. 8725.7 DATE: 2/4/75
 LINER DESCRIPTION: SLOTS-2433'-2710'; 2986'-3176'; 3589'-3666' ZERO POINT GL+4'
 DEPTH 3666'

HOLE DESCRIPTION: _____
 INSTRUMENT 889F-698° FAHR
 SERIAL NO 10055

PURPOSE _____ MAX TEMP. 475.7 °F @ 3500
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES,	GAUGE	DEPTH
CASING, PSI	145	146

DEPTH	TEMP.	DEPTH	TEMP.
100	90.1		
500	289.7		
1000	376.9		
1500	386.5		
2000	436.0		
2500	447.0		
3000	467.9		
3500	475.7		
3666	464.7		

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GEOHERMAL DIVISION

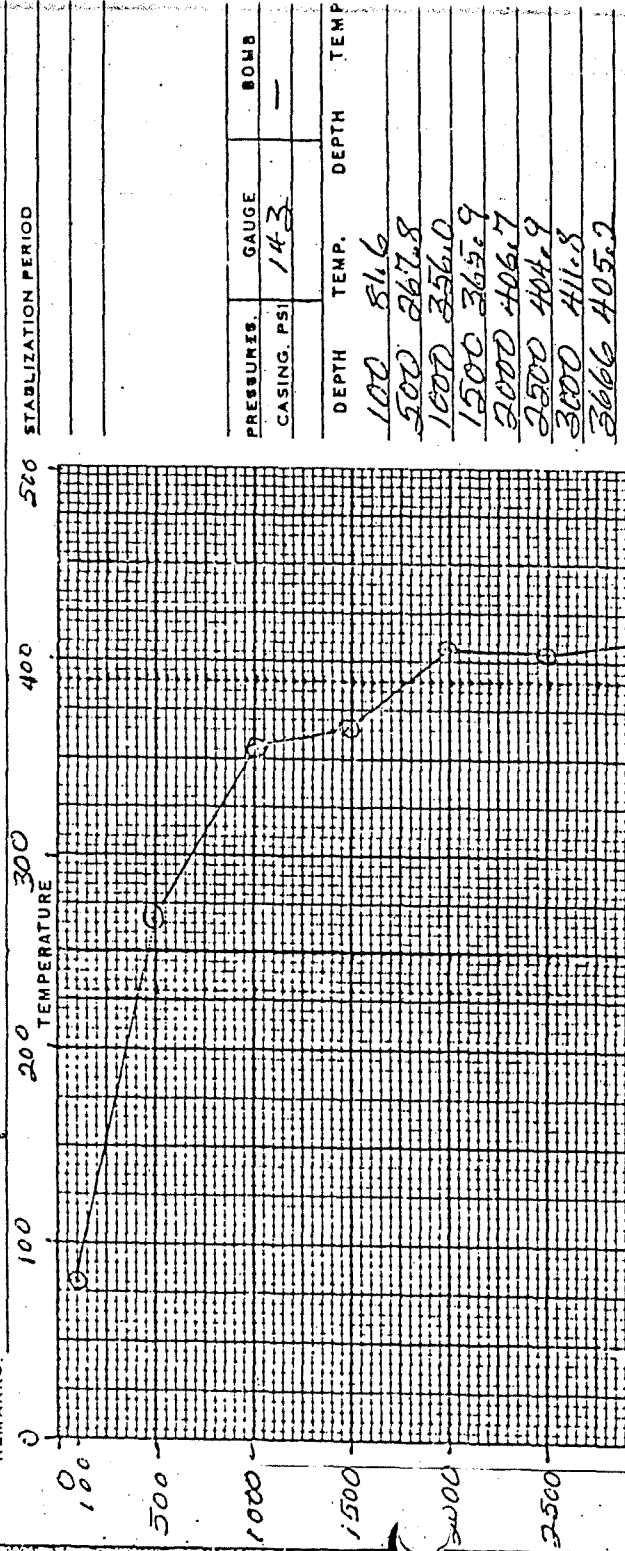
SUBSURFACE TEMPERATURE SURVEY

B6-537-T

OWNER Union Oil Co. Calif FIELD V.C.
 CASING B#6 DATE 10-4-74
 LINER DESCRIPTION: 3666 ZERO POINT 3666
 DEPTH 3666

HOLE DESCRIPTION:
 INSTRUMENT 800-646 FAH
 SERIAL NO 10052

PURPOSE: 41.8 °F @ 3000
 REMARKS:



PRESSURES	GAUGE	BOMB
CASING, PSI	143	-

DEPTH	TEMP.	DEPTH	TEMP.
100	81.6		
500	267.8		
1000	356.0		
1500	363.9		
2000	406.7		
2500	404.9		
3000	411.8		
3666	405.2		

BY: J.M.

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GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

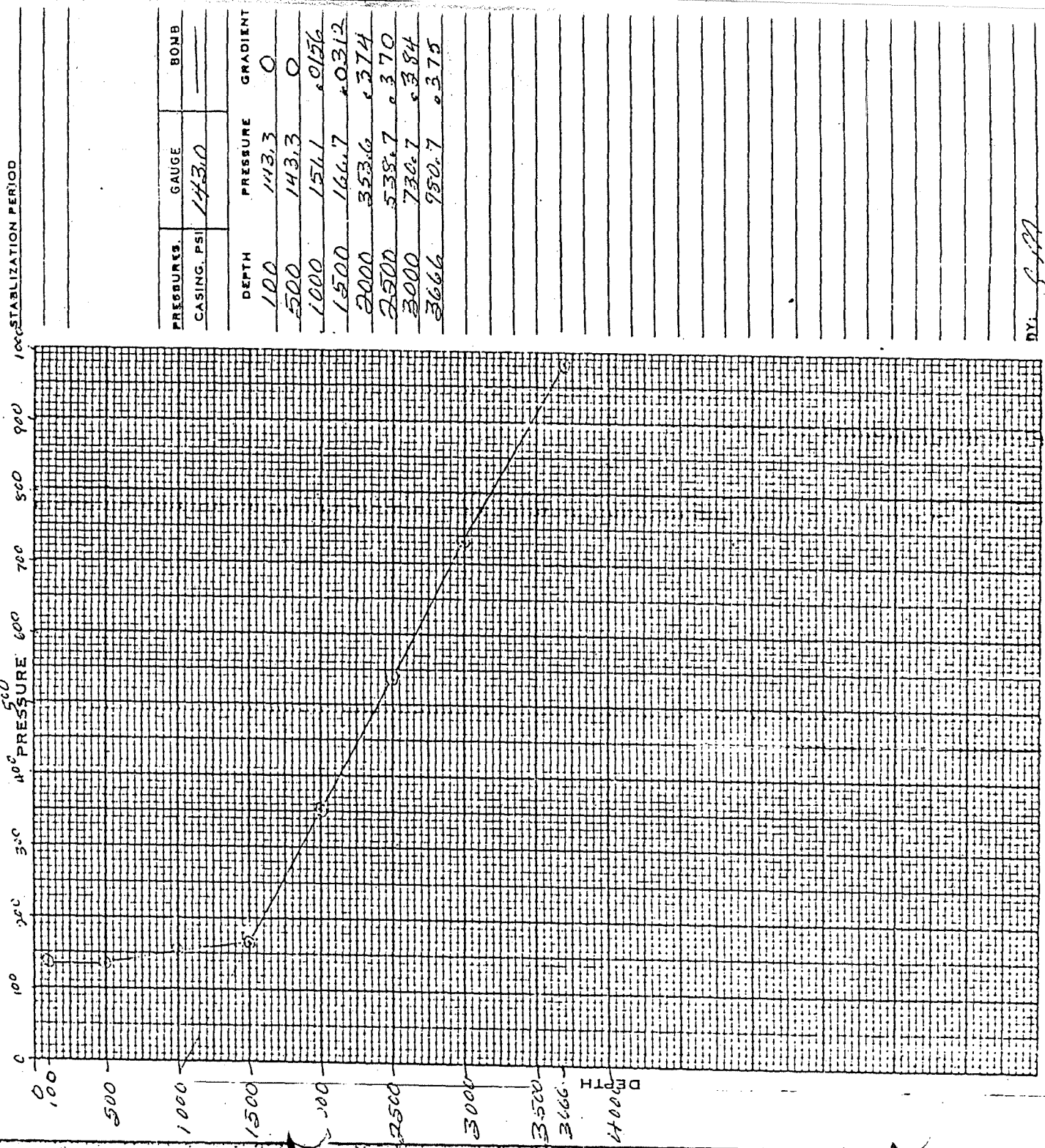
B#6-536-P.

OWNER Union Oil of Calif FIELD VALLE GRANDE WELL NAME BARA#18
 CASING 9 7/8" AT 795' ELEV 8726' DATE 10/3/74
 LINER DESCRIPTION: 7" AZ 692 TO 3700 ZERO POINT CLTG'
SCOT- INTERVALS 2633'-2710' - DEPTH 3666'
2980' - 3176'
3589' - 3699'

HOLE DESCRIPTION: _____ INSTRUMENT 2750 PSIC _____
 SERIAL NO 9235

PURPOSE: _____ MAX TEMP 411.8 ° F @ 3000'

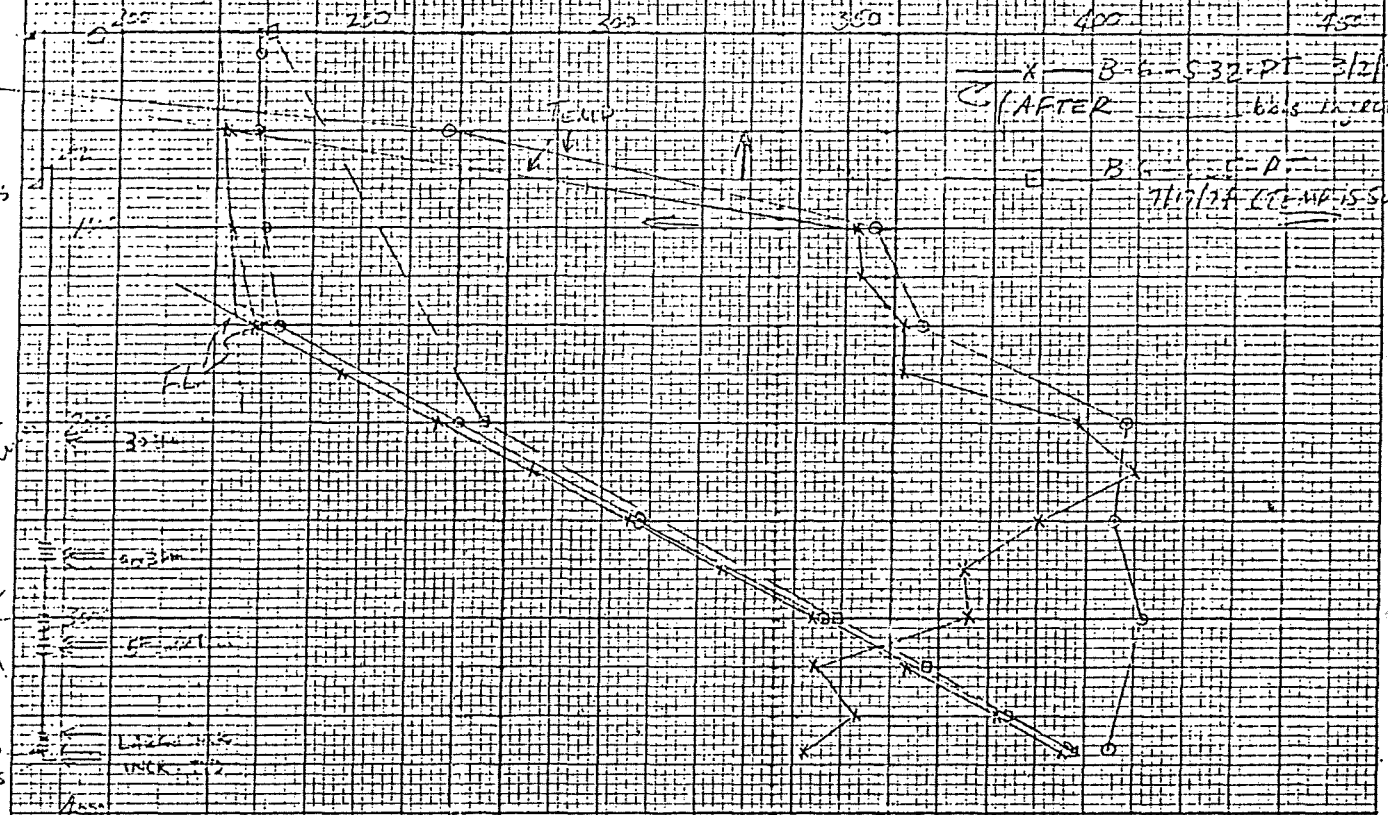
REMARKS: _____



BY: [Signature]

TEMPERATURE OF

10/3/74



X B-6-S-32-PT 3/2/74
C (AFTER 60.5 Injection)

B-6-S-32-PT
7/17/74 (Cement is Su. Port)

PRESSURE, psig

TEMPERATURE OF

B-6-S-32-PT
10/2/74
THIS IS ESSENTIAL
THE SAME AS B-6-S-32-PT

PRESSURE, psig

JDH 10/9/74

10 1/2 INCHES
MADE IN U.S.A.
KROFFEL & ESSER CO.

81500
10/2/74

785
790
795

800
805
810
815
820
825
830
835
840
845
850
855
860
865
870
875
880
885
890
895
900
905
910
915
920
925
930
935
940
945
950
955
960
965
970
975
980
985
990
995
1000

3700
TD 3715

DEPTH

0 100 200 300 400 500 600 700 800 900 1000 1100

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GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B#6-536-T

OWNER UNION OIL COMPANY OF CALIF FIELD VALLE GRANDE WELL NAME BACA #6
 CASING 9 7/8" AC 795' ELEV 8726 DATE 10-3-74
 LINER DESCRIPTION: 7" AC 692' - 3700 ZERO POINT CL + 6
SCOT INTERVALS - 2633' - 2710'; 2956' - 3176'; DEPTH 3666'
3589' - 3699';

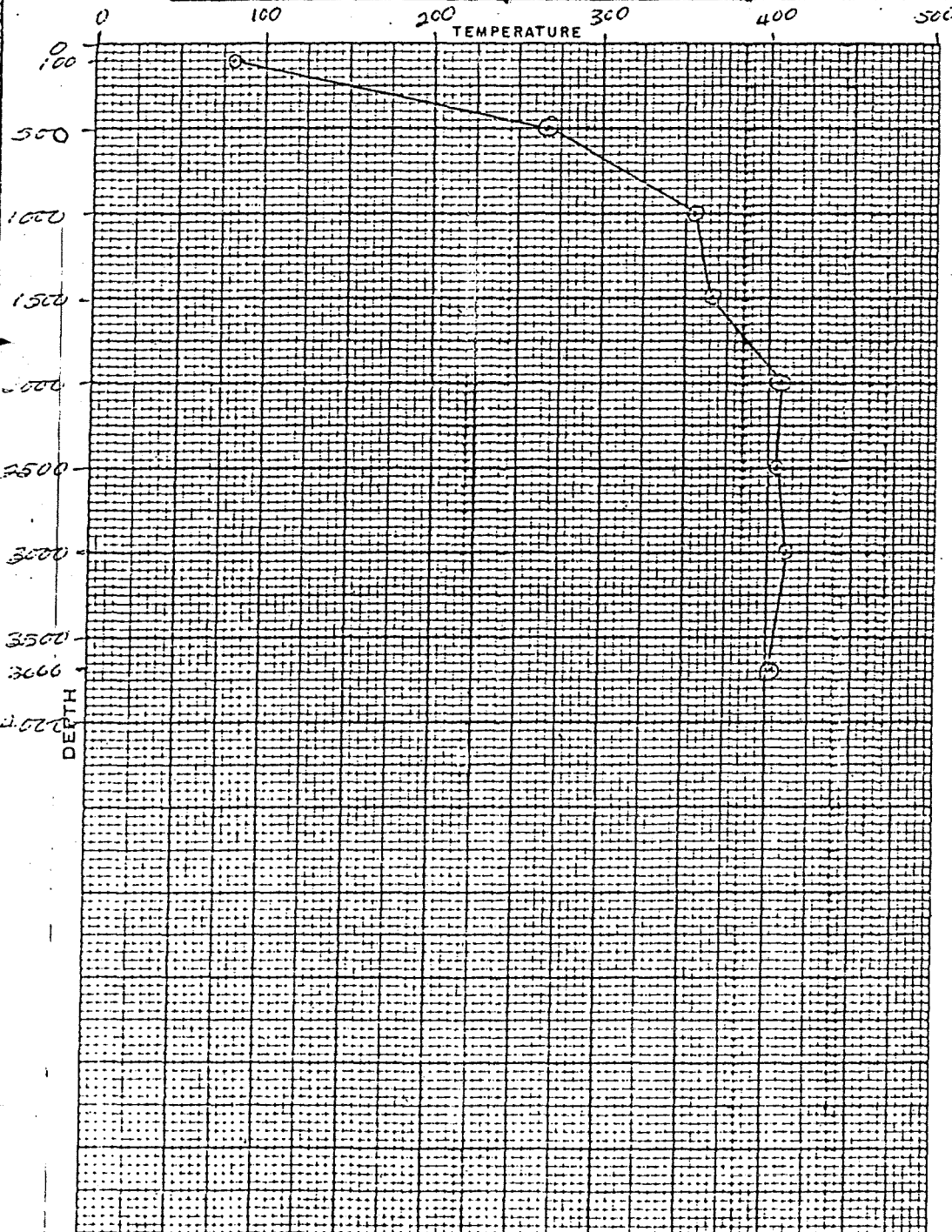
HOLE DESCRIPTION: _____

INSTRUMENT SC-646
 SERIAL NO 10052

PURPOSE _____

MAX TEMP 411.8 °F @ 3000'

REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	3042
CASING, PSI	143.0	—

DEPTH	TEMP.	DEPTH	TEMP.
100	81.6		
500	267.8		
1000	356.0		
1500	365.9		
2000	408.4		
2500	405.5		
3000	411.8		
3666	404.9		

BY: J.M.

76

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

BG-535-Pre

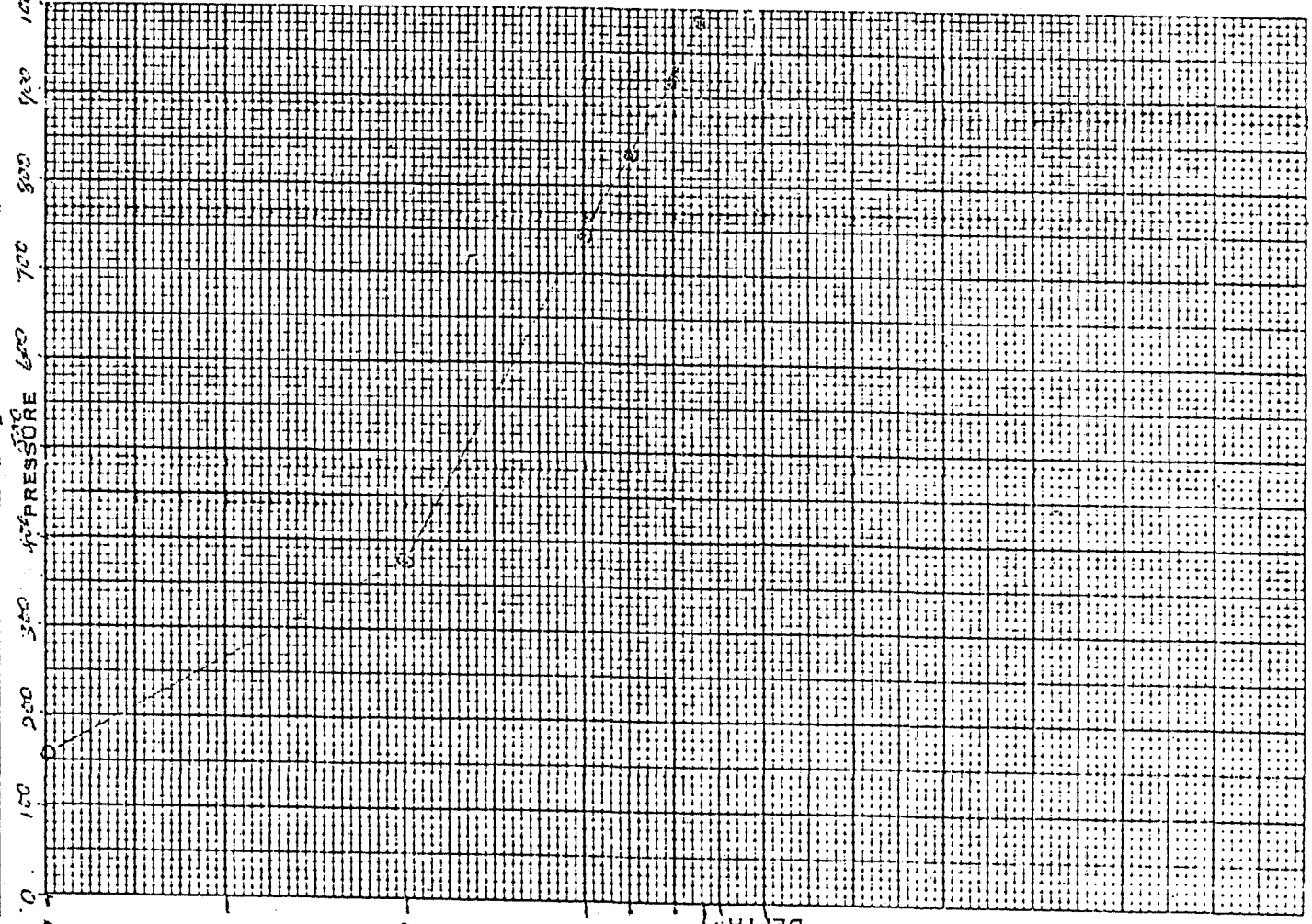
OWNER: UNION OIL OF CALIFORNIA FIELD: VALLE GRANDE WELL NAME: BACH #6
CASING: 9 5/8" AT 795' ELEV: 8'500 DATE: 7/17/74
LINER DESCRIPTION: 7" SLOTTED LINER 692' - 3700 ZERO POINT: C.L.T. 3'
DEPTH: 3680'

HOLE DESCRIPTION:

INSTRUMENT: 0-4250 SERIAL NO: 7198

PURPOSE: INTERFERENCE TEST WITH BACH #11 SEP TEST #5 MAX TEMP: 495.4 °F @ 3670
REMARKS: BACH #6 HAS HAD SOME H₂O INJECTION FROM BACH #11

DEPTH	PRESSURE	GAUGE	BONG
0	153.51	152	153.51
2000	377.19		1.16
3000	744.73		1.36
3250	837.55		1.37
3500	919.83		1.32
3670	955.23		1.38



BY: G. J. [Signature]

76

GEO THERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

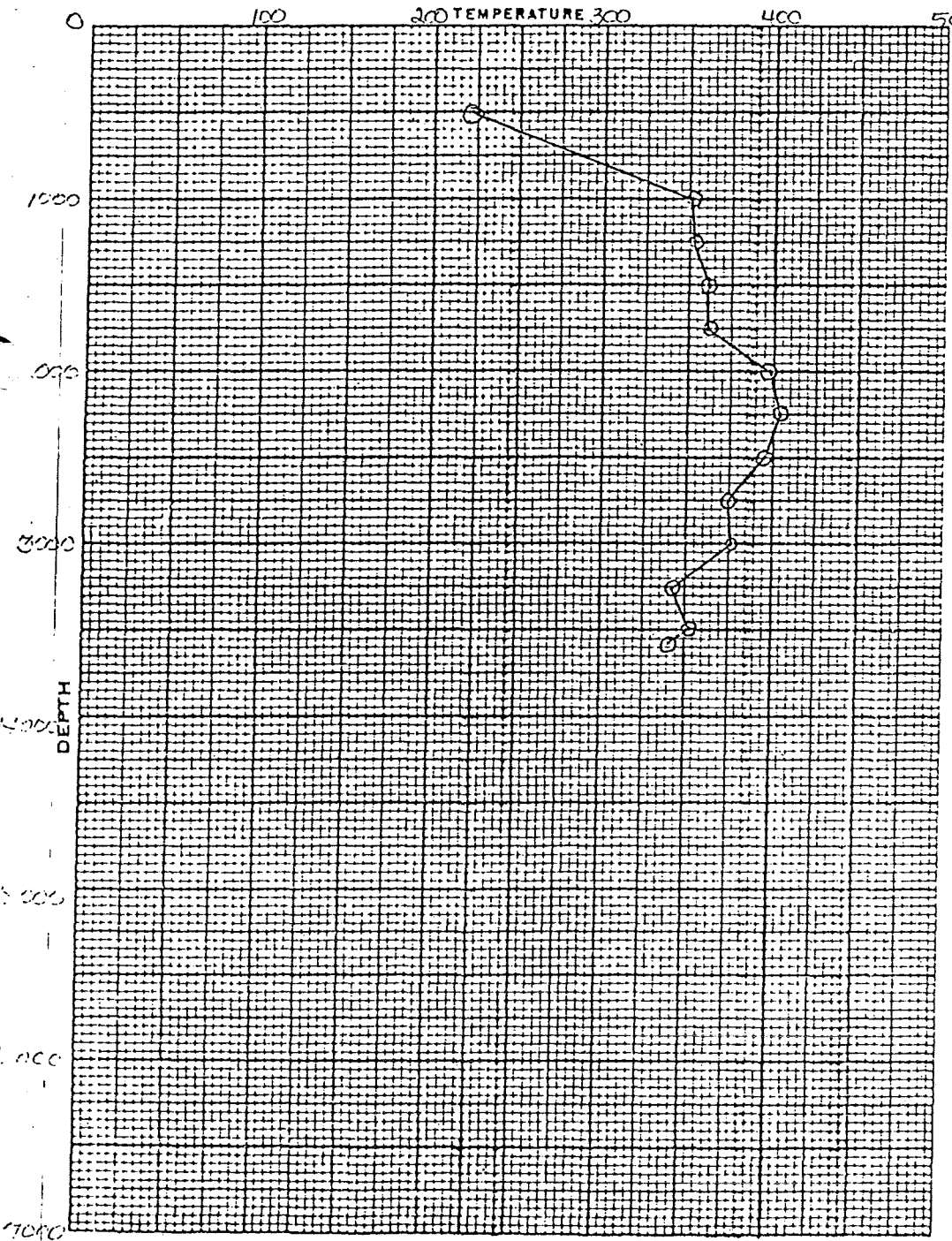
B6-S32P/T

OWNER Union Oil Company FIELD _____ WELL NAME BACA No. 6
 CASING _____ ELEV _____ DATE 3/2/74
 LINER DESCRIPTION: _____ ZERO POINT _____
 _____ DEPTH 3680 T.D.

HOLE DESCRIPTION: _____
 _____ INSTRUMENT 80°-646° FAHF
 _____ SERIAL NO KTB 10052

PURPOSE Static Gradient Survey MAX TEMP 409.5 °F @ 2250
 REMARKS: Bottom Max Pressure 12 hrs 985.23 335.1F

STABILIZATION PERIOD _____



PRESSURES.	GALGE.	BOMB	
CASING. PSI			
DEPTH	TEMP.	DEPTH	TEMP.
500	223.3		
1000	351.7		
1250	353.4		
1500	362.4		
1750	362.4		
2000	397.5		
2250	409.5		
2500	390.4		
2750	374.9		
3000	375.7		
3250	344.4		
3500	353.4		
3680 T.D.	341.8		

BY: Tom Almette

76

GEO THERMAL DIVISION

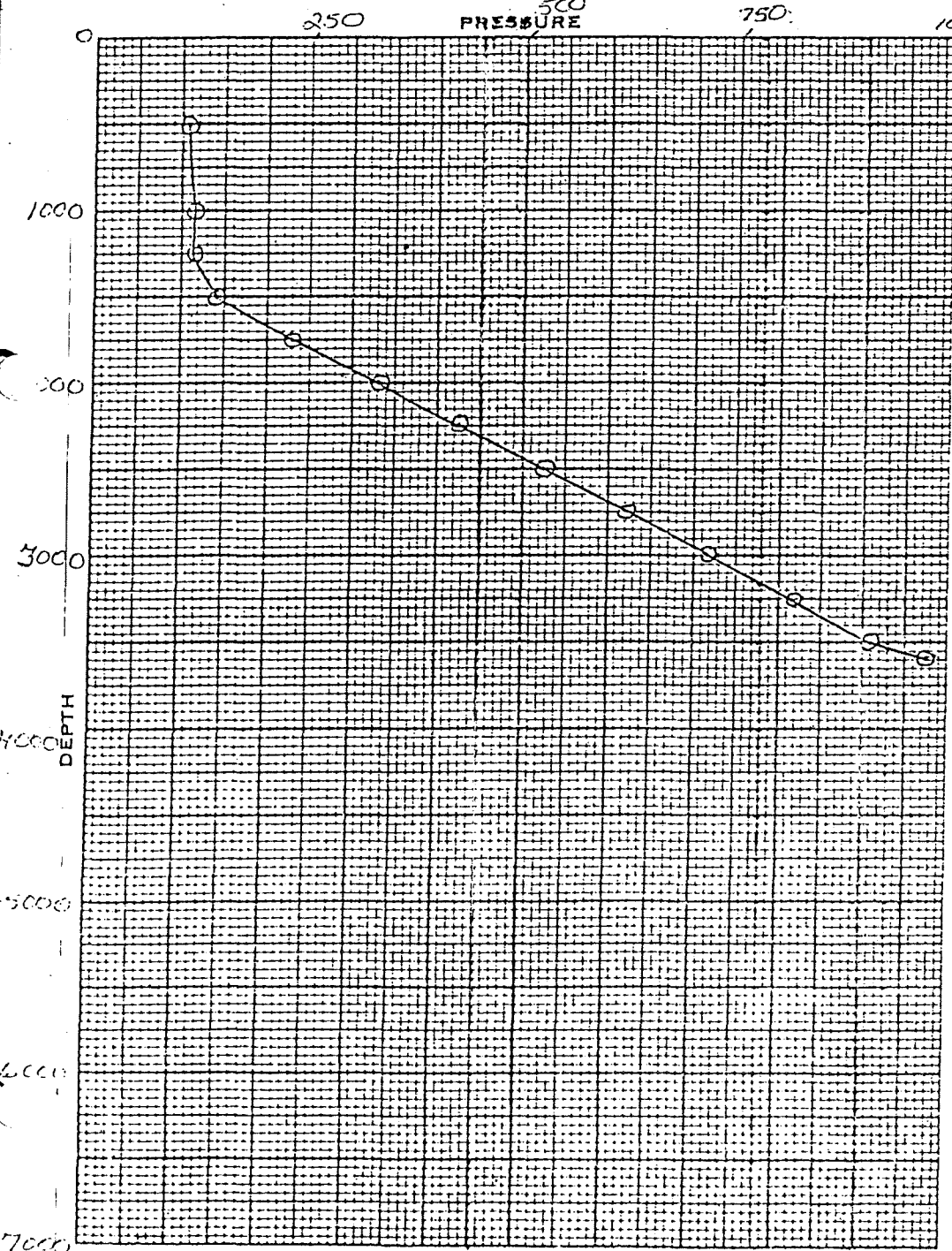
SUBSURFACE PRESSURE SURVEY

B6-332 P/T

OWNER Union Oil Company FIELD _____ WELL NAME BACA No. 6
 CASING 12-7/8" @ 36', 9-5/8" @ 195', 7" @ 692-322' ELEV 8726 GL DATE 3/2/74
 LINER DESCRIPTION: _____ ZERO POINT _____ DEPTH 3680 TD.

HOLE DESCRIPTION: _____ INSTRUMENT 0-4250 PSIC
 SERIAL NO KPG 7198

PURPOSE Static Gradient Survey MAX. TEMP 409.5 °F @ 2250'
 REMARKS: Bottom MAX PRESSURE 12 hr 985.23 335.1°



STABILIZATION PERIOD _____

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
500	109.65	
1000	116.23	
1250	116.23	
1500	140.35	
1750	230.26	
2000	331.14	
2250	427.63	
2500	527.43	
2750	622.36	
3000	719.41	
3250	816.46	
3500	909.28	
3680 TD	976.79	

BY: Tom Wignette

76

GEO THERMAL DIVISION

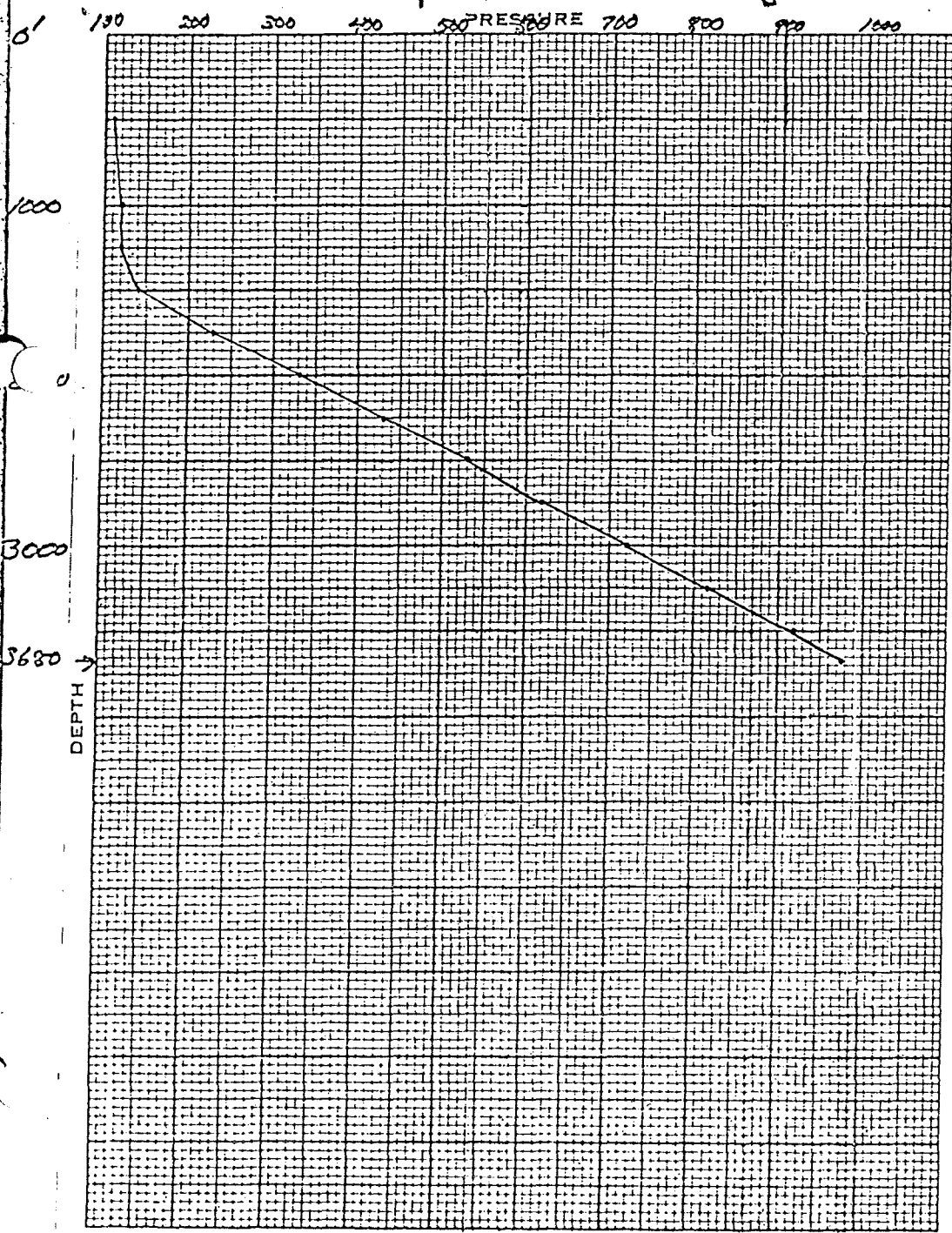
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Baca #6
 CASING _____ ELEV. _____ DATE 3/2/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 2'
 _____ DEPTH 3687 - S - 3687

HOLE DESCRIPTION: _____

 INSTRUMENT 4250 PSIC
 SERIAL NO 7198

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: Temp. Temp. & Press. Survey



STABILIZATION PERIOD _____

PRESSURES,	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
0'	0	0
500	109.65	.001
1000	116.23	.0
1250	116.23	.001
1500	140.35	.02
1750	230.26	.096
2000	331.14	.101
2250	427.63	.096
2500	527.43	.100
2750	622.36	.095
3000	719.41	.091
3250	816.46	.091
3500	909.28	.093
3680	976.79	.086

BY: RL

76

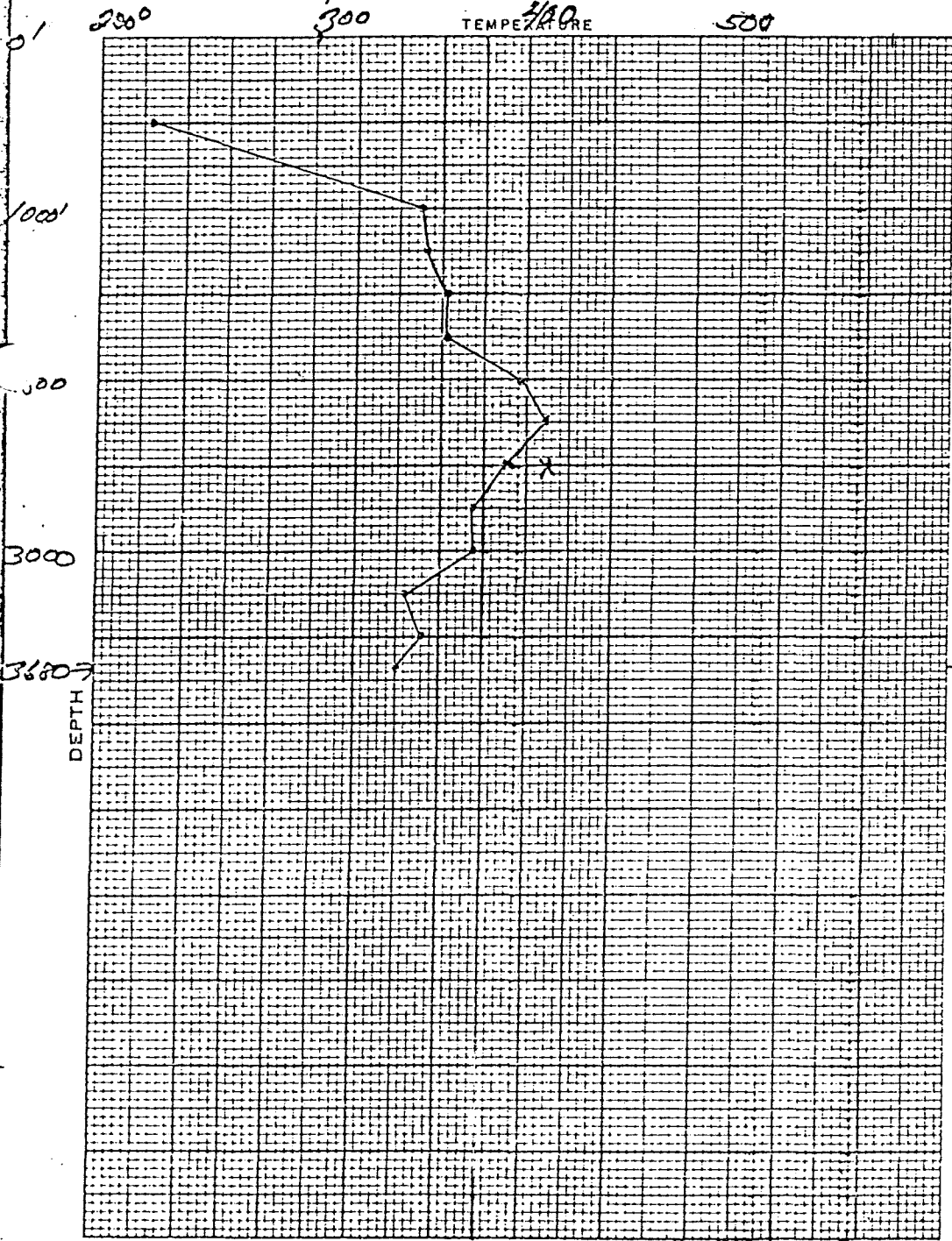
GEOTHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Raca #6
 CASING _____ ELEV _____ DATE 3/2/74
 LINER DESCRIPTION: _____ ZERO POINT 2' + GL
 _____ DEPTH 3627.5 - 3687

HOLE DESCRIPTION: _____

 _____ INSTRUMENT 80° - 6460 FAH
 SERIAL NO 10052

PURPOSE Temp. & Press. Gradient MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESURES,	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEM
0'	0		
500	223.3		
1000	351.7		
1250	353.4		
1500	362.4		
1750	362.4		
2000	397.5		
2250	409.5		
2500	390.4		
2750	374.9		
3000	375.7		
3250	344.4		
3500	353.4		
3680	341.8		

BY: RL

76

GEO THERMAL DIVISION

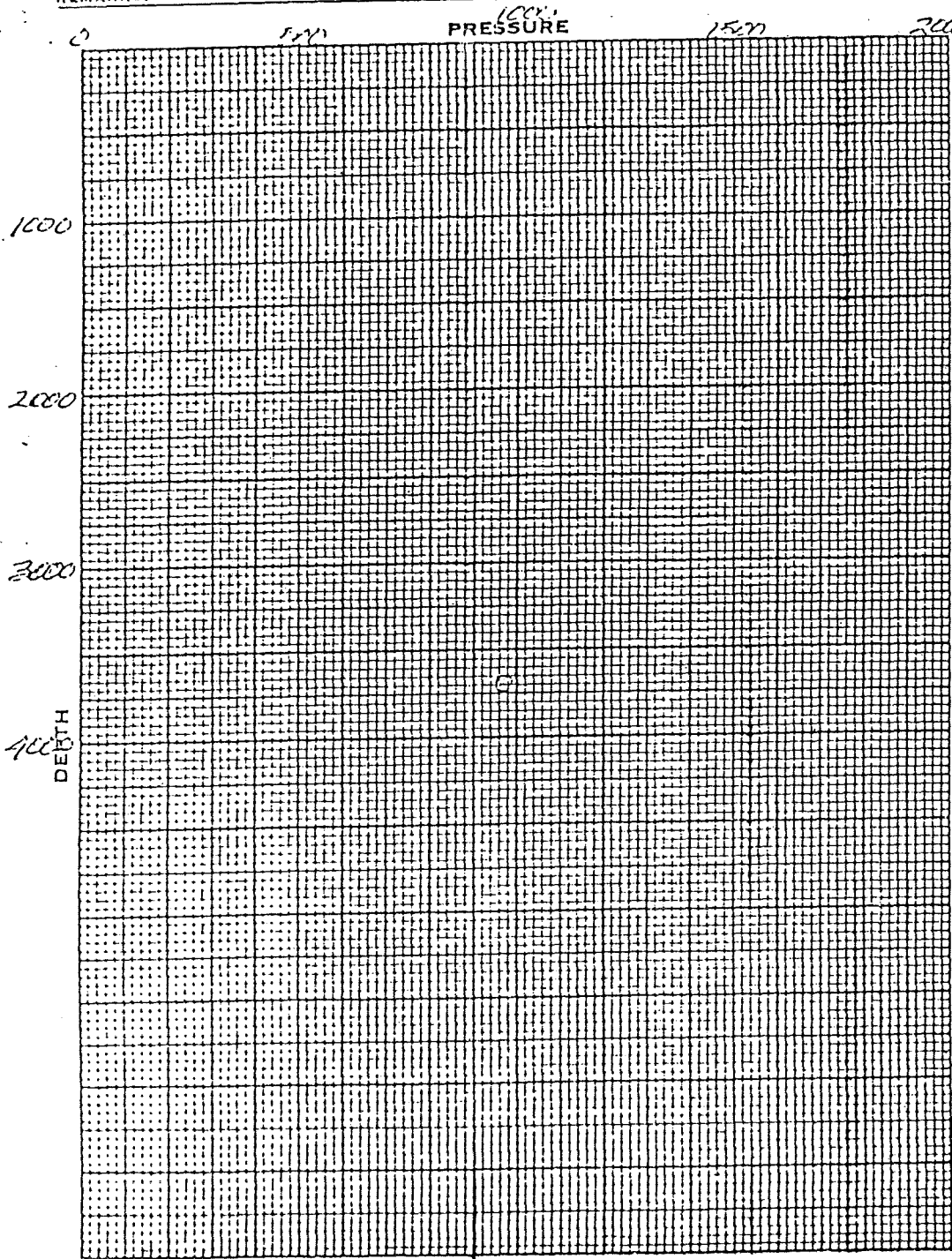
BG-330 P

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co FIELD _____ WELL NAME BACN No. 6
 CASING _____ ELEV 8726.6 DATE 12-19-73
 LINER DESCRIPTION: _____ ZERO POINT Ch + 1'
 _____ DEPTH 3690

HOLE DESCRIPTION: _____ INSTRUMENT 2100
 _____ SERIAL NO KP6 6609 N

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESSURE	GAUGE	BOM
CASING, PSI		

DEPTH	PRESSURE	GRADE
3690		
MAX	965	
MIN	955	

Press oscillates
ON 7.5 MINS cycle

BY: _____

76

GEO THERMAL DIVISION

B6-531-P

SUBSURFACE PRESSURE SURVEY

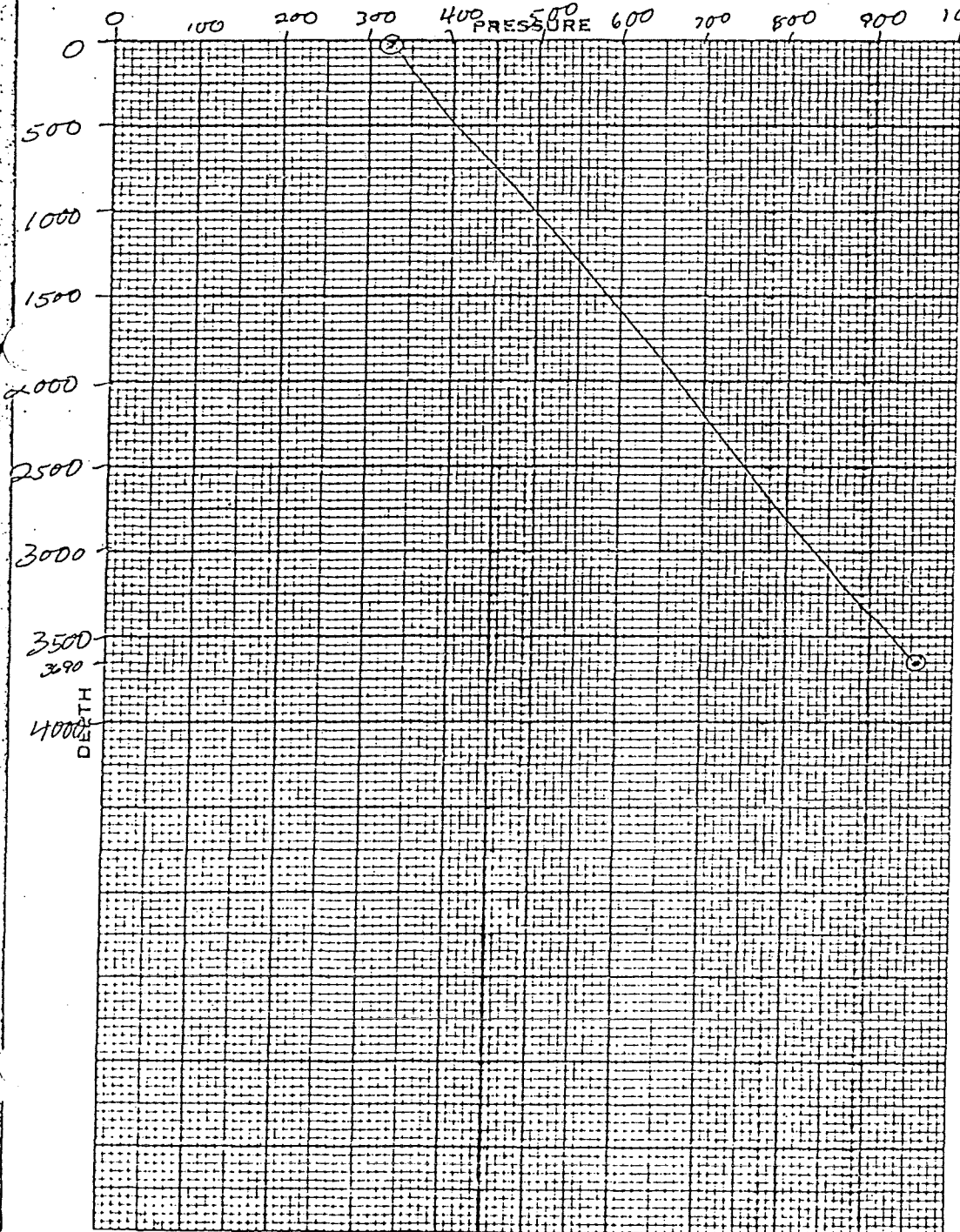
OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME B-6
 CABING _____ ELEV _____ DATE 12/10/73
 LINER DESCRIPTION: _____ ZERO POINT 1" Above Ground
 _____ DEPTH 3690

HOLE DESCRIPTION: _____

 INSTRUMENT 4250 PSI
 SERIAL NO KPG 7188

PURPOSE _____ MAX TEMP 48.4 °F @ _____

REMARKS: _____



STABILIZATION PERIOD 16 MIN

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
0	320.18	
3690	953.59	

BY: _____

76

GEO THERMAL DIVISION

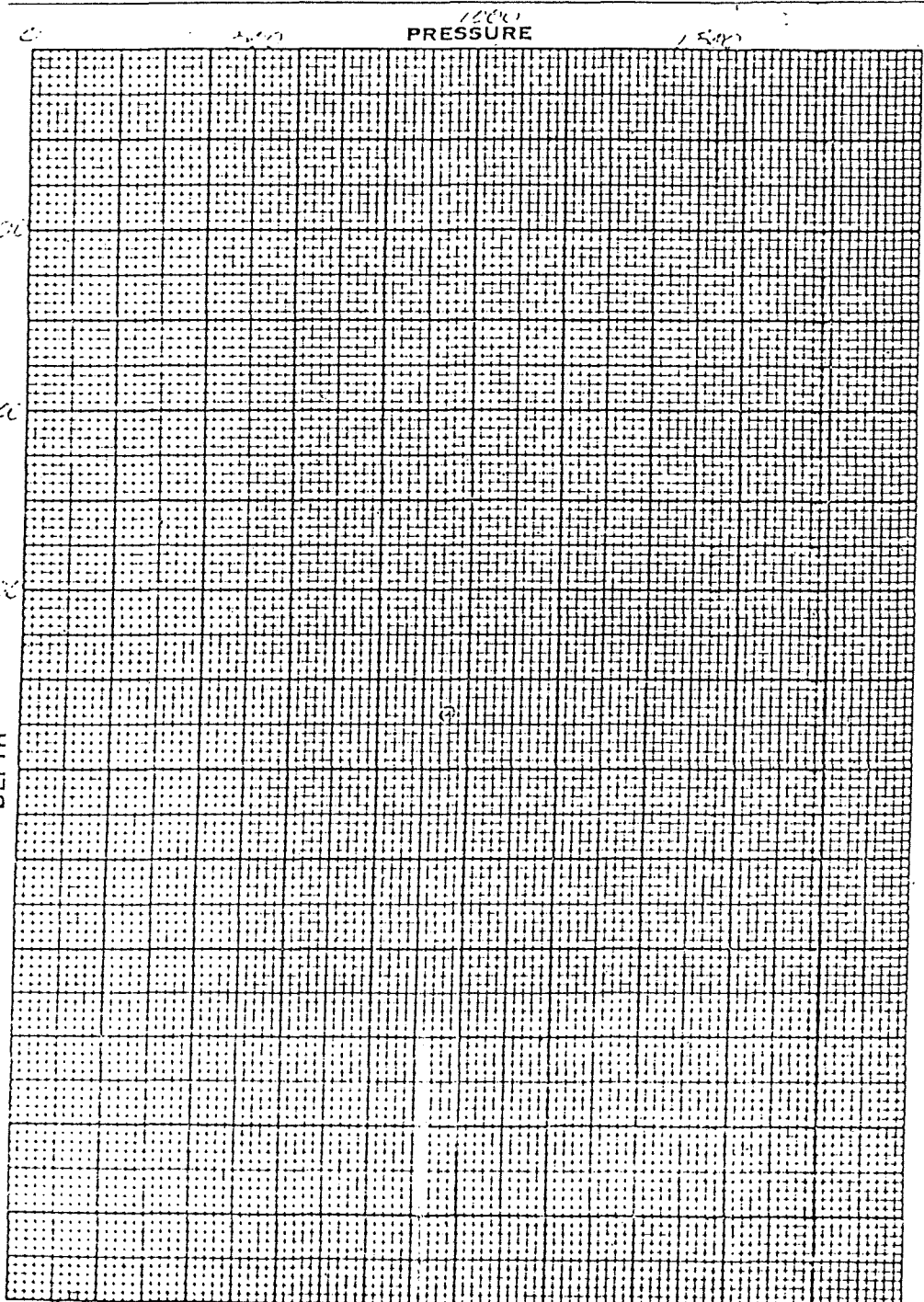
B6-329 PT

SUBSURFACE PRESSURE SURVEY

OWNER Green Oil Co FIELD _____ WELL NAME Brick No. 6
 CASING _____ ELEV _____ DATE 12-10-73
 LINER DESCRIPTION: _____ ZERO POINT _____
 _____ DEPTH _____

HOLE DESCRIPTION: _____ INSTRUMENT 1250 PS
 _____ SERIAL NO KPS-7198

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
<u>3690</u>	<u>953.59</u>	

Temperature 140.00

BY: F. Kuhn

76

GEOHERMAL DIVISION

BC-528P

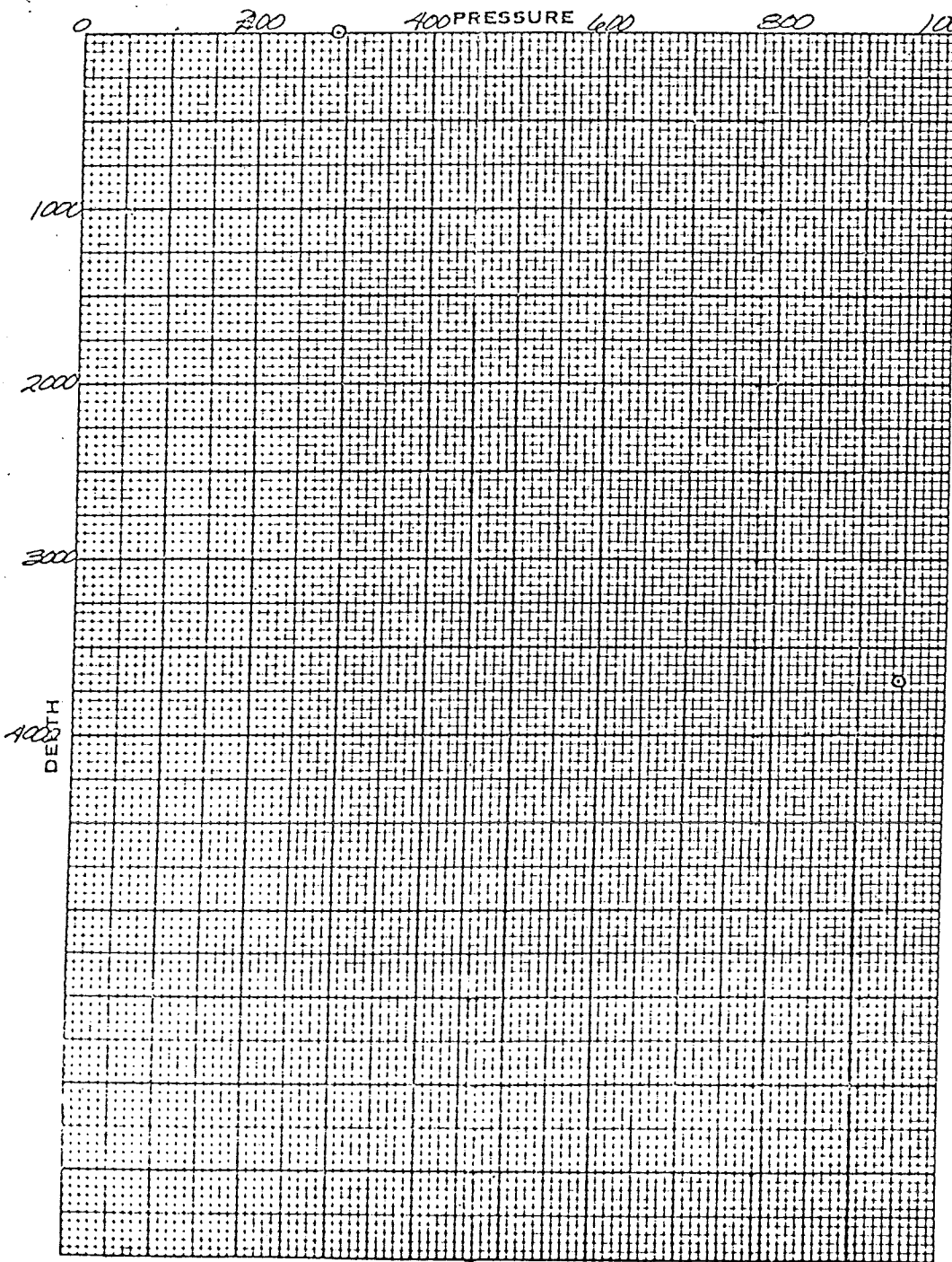
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. FIELD _____ WELL NAME BACA 6
 CASING _____ ELEV 8726 GA DATE 11-8-73
 LINER DESCRIPTION: _____ ZERO POINT GA + 14'
 _____ DEPTH 3715

HOLE DESCRIPTION: _____ INSTRUMENT 2500 PSI
 _____ SERIAL NO KPG 9595

PURPOSE Entrepreneur test with Bacon Test BA-2 MAX TEMP _____ °F @
 REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
0	289.4	
3690	997.37	

BY: _____

GEO THERMAL DIVISION

136-527P

SUBSURFACE PRESSURE SURVEY

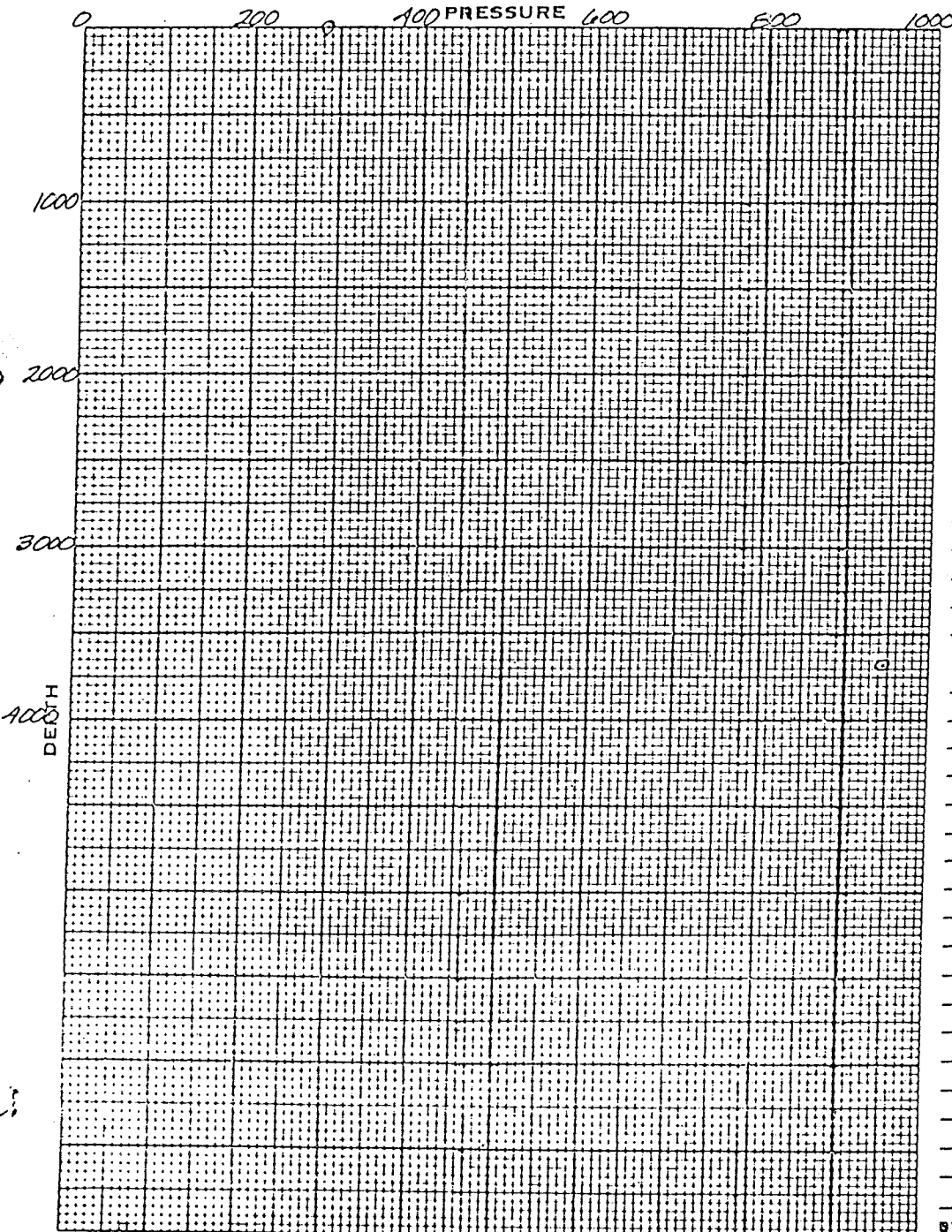
76

OWNER UNION Oil Co FIELD _____ WELL NAME BACA No. 6
 CASING _____ ELEV 5726.01 DATE 11-2-73
 LINER DESCRIPTION: _____ ZERO POINT GL + 1A
 _____ DEPTH 3715

HOLE DESCRIPTION: _____
 _____ INSTRUMENT 2500 PSI
 _____ SERIAL NO KP6 9595

PURPOSE Interference test by BACA B4-2 Test MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
0	286.68	
3690	946.12	

BY: _____

76

GEO THERMAL DIVISION

BC - 526 P

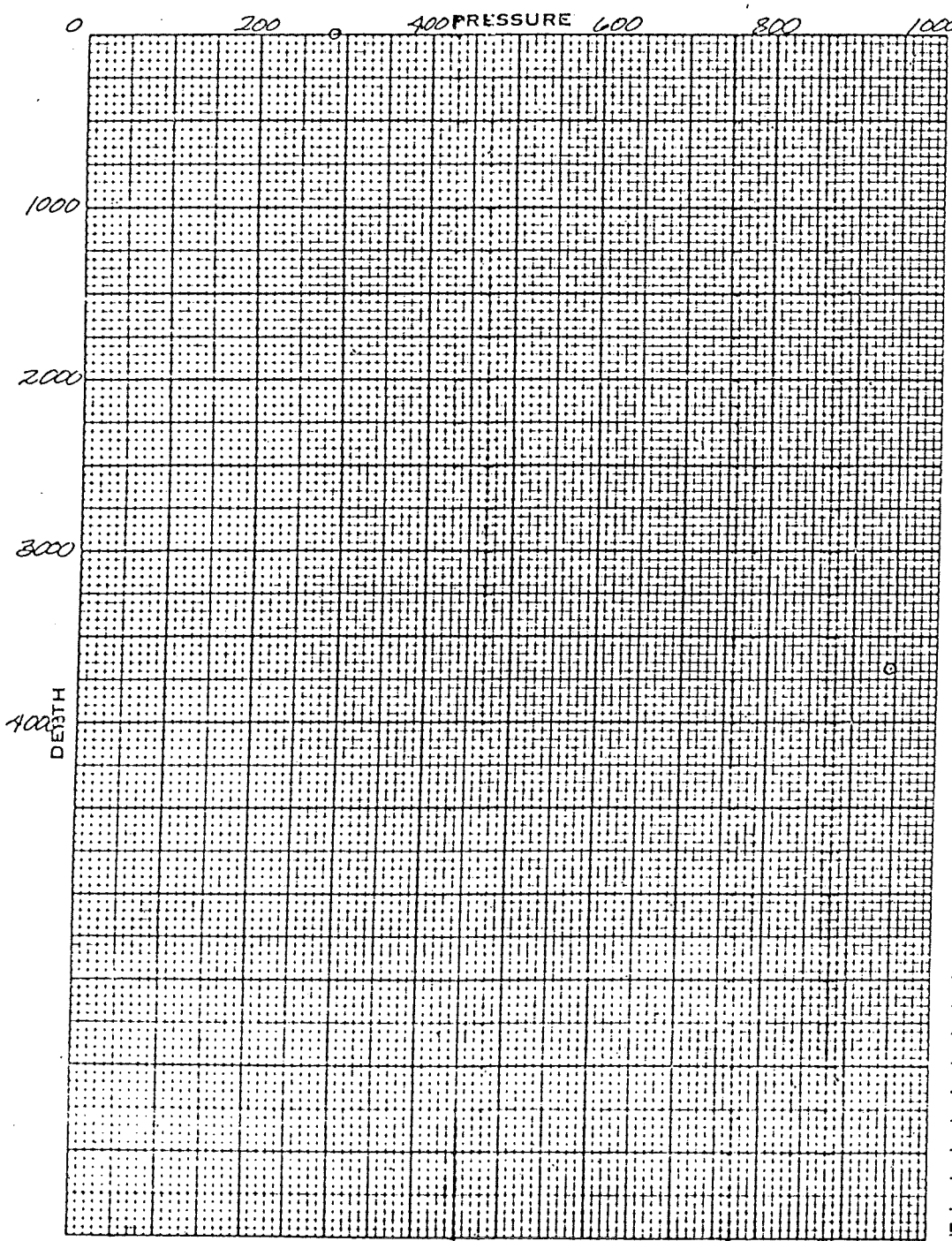
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. FIELD _____ WELL NAME BACA No. 6
 CASING _____ ELEV 8726.06 DATE 10-29-73
 LINER DESCRIPTION _____ ZERO POINT GL + 14'
 _____ DEPTH 3715

HOLE DESCRIPTION: _____

 INSTRUMENT 2500
 SERIAL NO KPG 9595

PURPOSE Interference Check with BA-2 Test MAX TEMP _____ °F @ _____
 REMARKS _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING: PSI		

DEPTH	PRESSURE	GRADIENT
0	286.68	
3690	996.12	

BY: _____

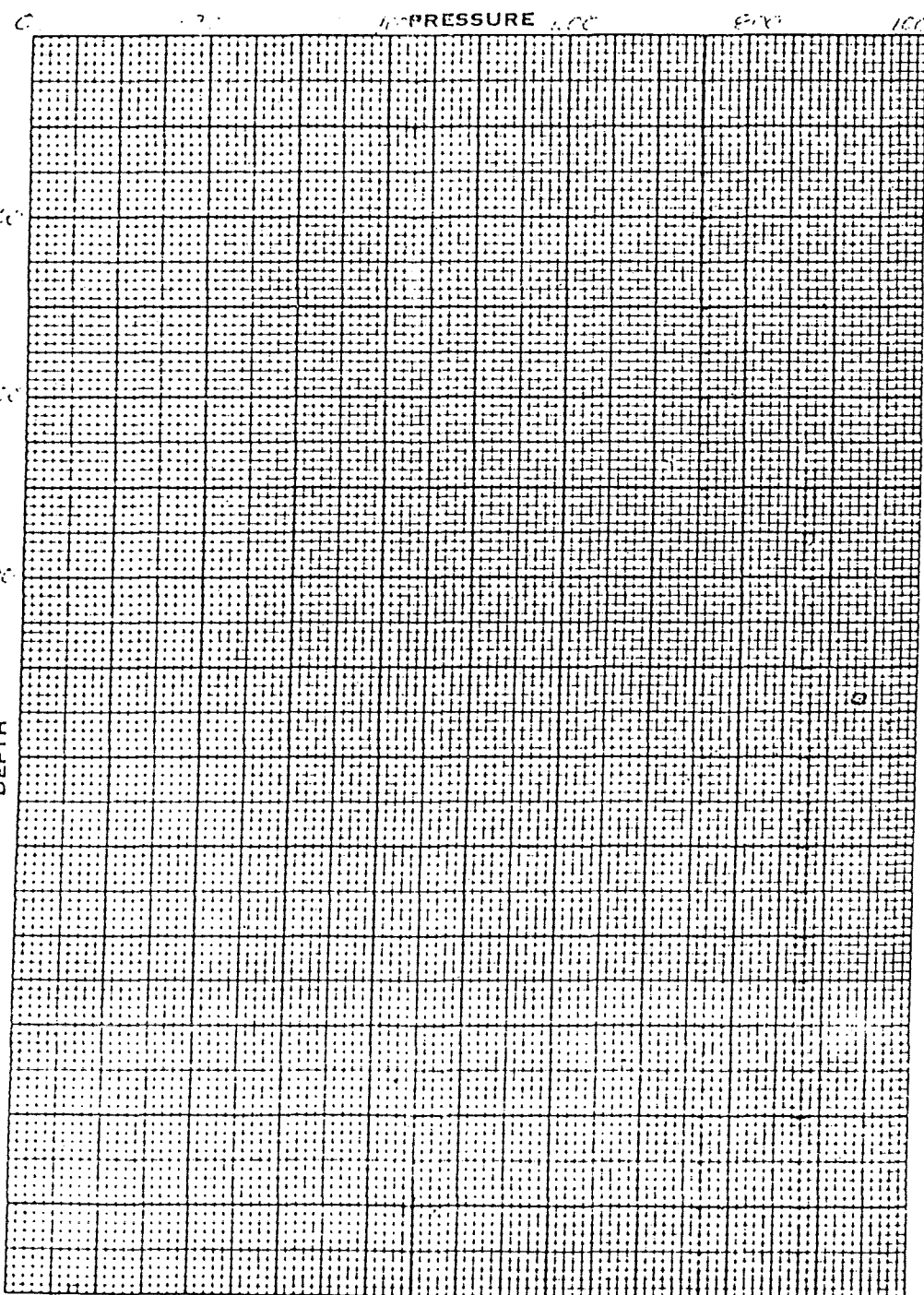
76

GEOTHERMAL DIVISION B6-525P
 SUBSURFACE PRESSURE SURVEY

OWNER Over Oil Co. FIELD _____ WELL NAME BICA No. 6
 CASING _____ ELEV 5226 ft DATE 12-17-73
 LINER DESCRIPTION: _____ ZERO POINT CH + 14
 _____ DEPTH 3715

HOLE DESCRIPTION: _____ INSTRUMENT 2100
 _____ SERIAL NO 6609N

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
3690	932.3	

BY: _____

76

GEO THERMAL DIVISION

B6-524PT

SUBSURFACE TEMPERATURE SURVEY

OWNER UNION Oil FIELD _____ WELL NAME BACA No.6
 CASING _____ ELEV 8726 GL DATE 10-9-73
 LINER DESCRIPTION: _____ ZERO POINT GL
 _____ DEPTH 3715

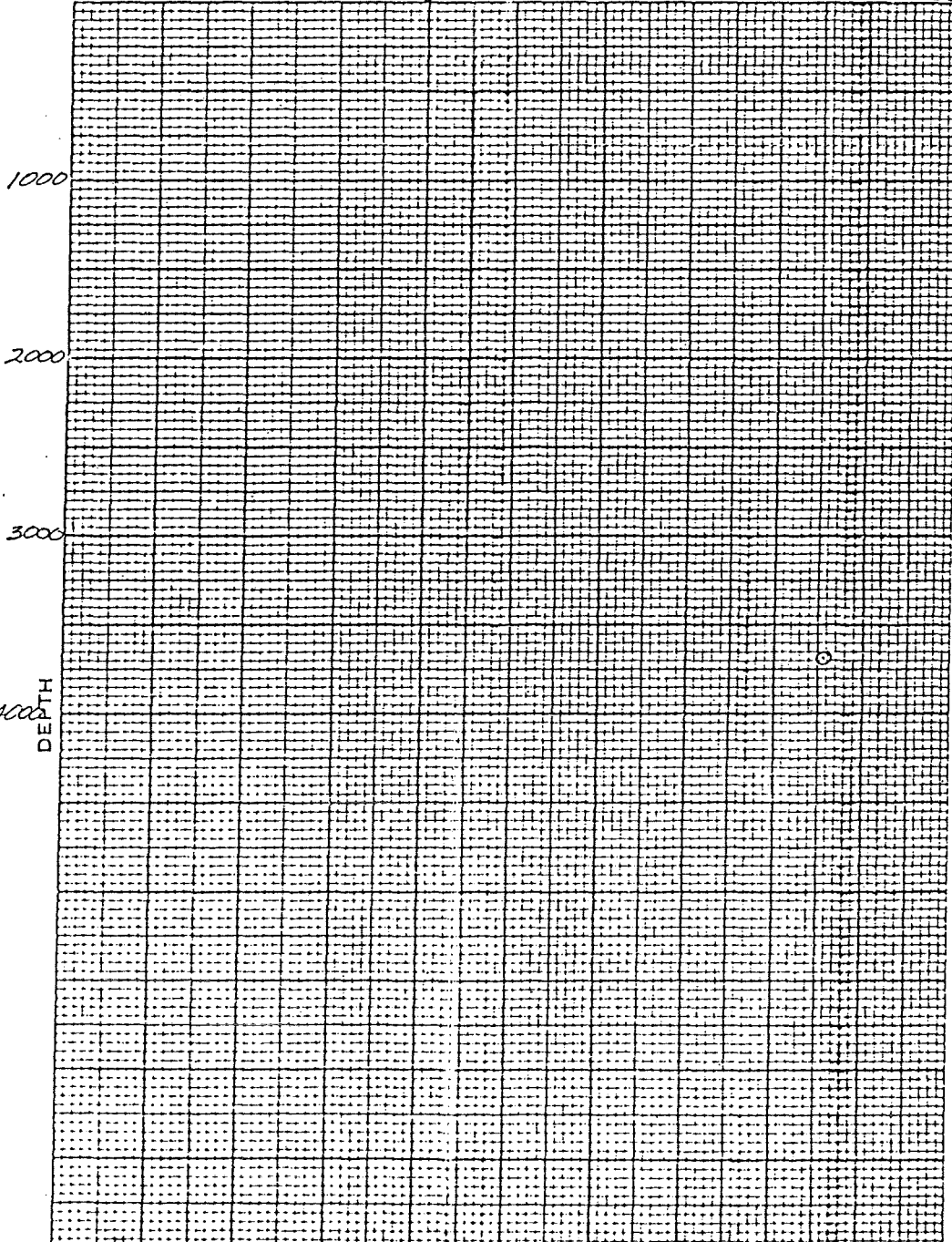
HOLE DESCRIPTION: _____

 INSTRUMENT 300-736 FA: _____
 SERIAL NO KBT-10036

PURPOSE Press/Temp. Checks MAX TEMP 527.9 °F @ 3690
 REMARKS: _____

100 200 300 TEMPERATURE 400 500 600

STABILIZATION PERIOD



PRESSURES	GAUGE	BOYB
CASING .PSI	<u>320</u>	<u>317</u>

DEPTH	TEMP.	DEPTH	TEMP.
<u>0</u>	<u>-</u>		
<u>3690</u>	<u>527.9</u>		

BY: _____

76

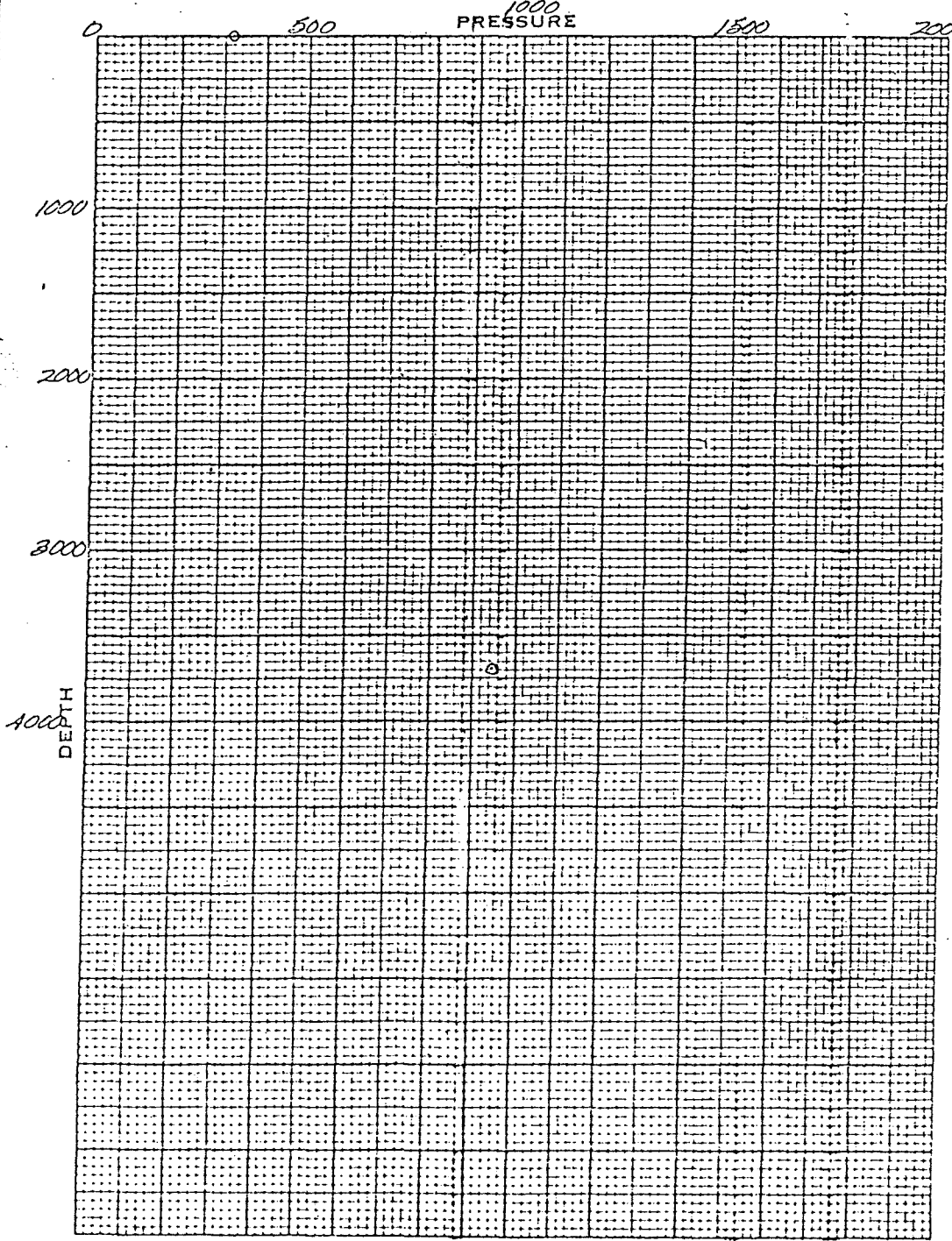
GEO THERMAL DIVISION 86-524PT

SUBSURFACE PRESSURE SURVEY

OWNER UNION Oil Co FIELD _____ WELL NAME BACA No. 6
CASING _____ ELEV 5726 GL DATE 10-4-73
LINER DESCRIPTION: _____ ZERO POINT GL
DEPTH 3715

HOLE DESCRIPTION: _____
INSTRUMENT 2400 PS
SERIAL NO 4609N

PURPOSE Press./Temp. Check MAX TEMP 527.9 °F @ 3690
REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMBS
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
0	317	

3690 993 HIGH

3690 936 LOW

Press is oscillating
ON ± 5 MIN CYCLES.

BY: _____

76

GEO THERMAL DIVISION

B6-523PT

SUBSURFACE PRESSURE SURVEY

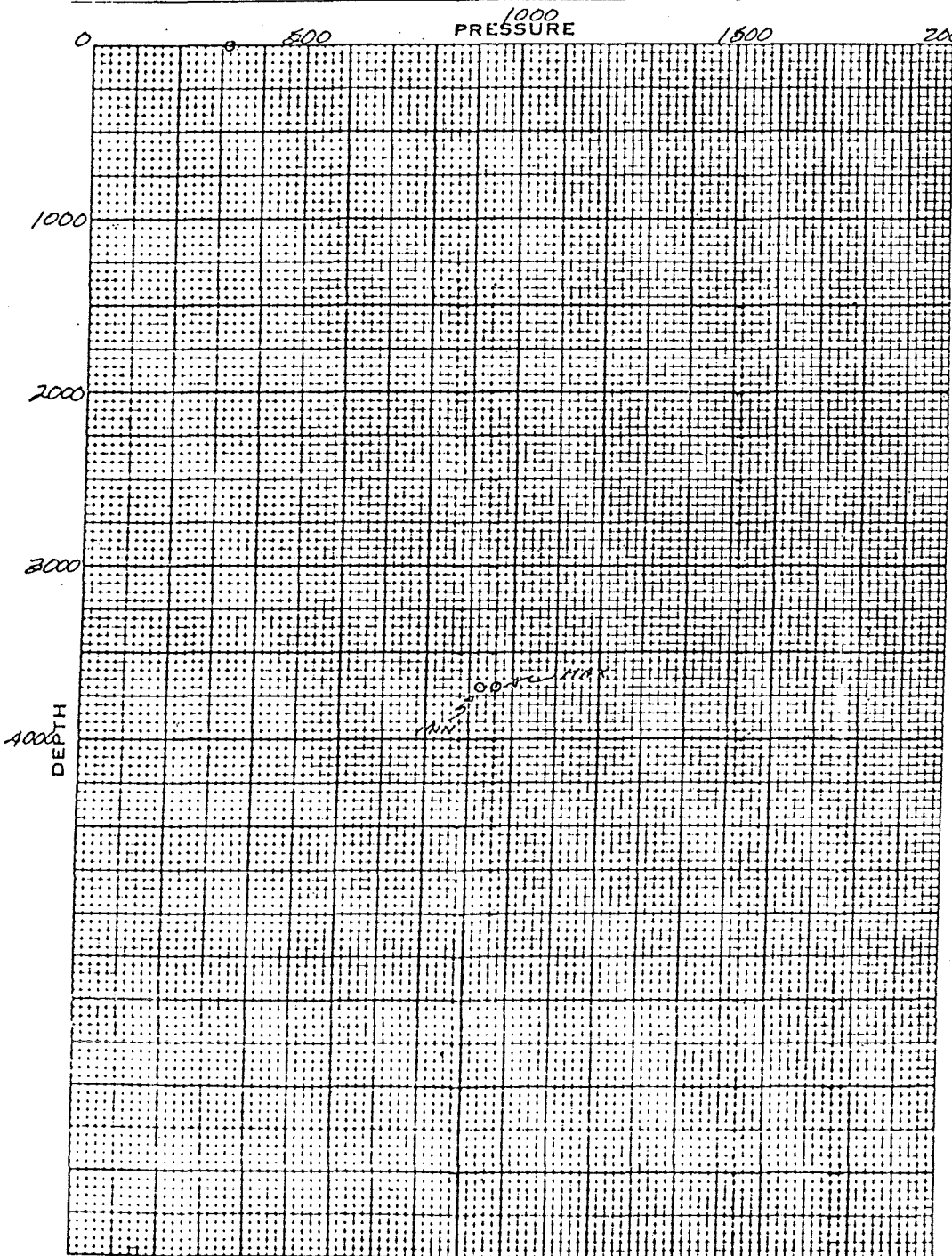
OWNER UNION Oil Co of CANF FIELD _____ WELL NAME BACA No.6
 CASING _____ ELEV 5226.61 DATE 9-19-73 / 9-20-73
 LINER DESCRIPTION: _____ ZERO POINT GL
 _____ DEPTH 3715

HOLE DESCRIPTION: _____ INSTRUMENT 2400
 _____ SERIAL NO 6609N

PURPOSE _____ MAX TEMP 527.4 °F @ 3690

REMARKS:

STABILIZATION PERIOD



PRESSURES	GAUGE	BOME
CASING, PSI	320	

DEPTH	PRESSURE	GRADIE
1000	341	
3690		

TIME	Hi Press	Lo Press
1920	962	959
2020	960	953
2120	956	953
2220	954	949
2320	948	942
0020	944	939
0120	939	933
0220	937	927
0320	931	923
0420	931	924
0520	929	917
0550	923	906

Press fluctuating like a sine wave on about 5 mins intervals

DROP IN press with time could be due to leak in packing gland

BY:

76

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

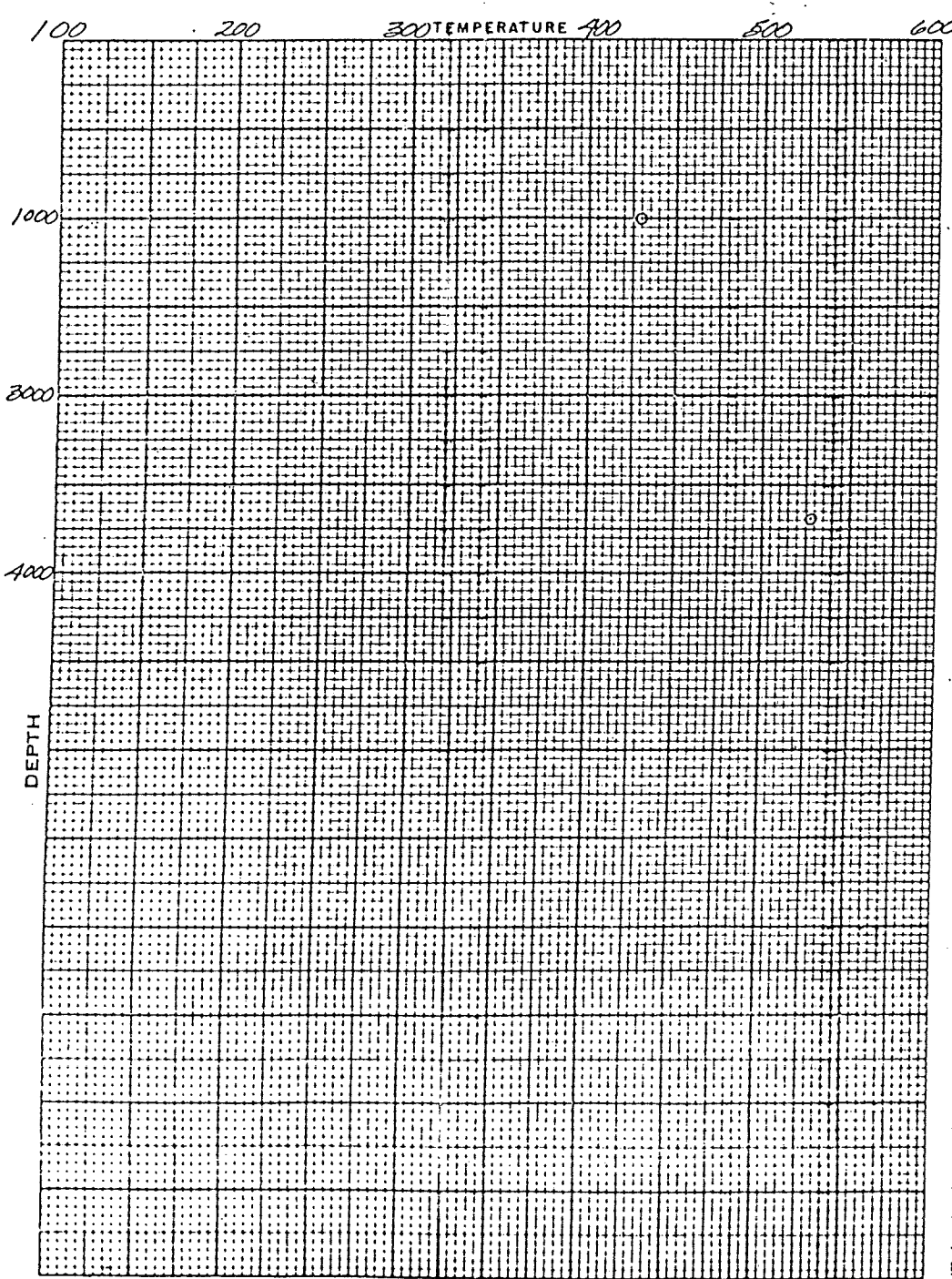
BG-523PT

OWNER UNION OIL Co of CALIF. FIELD _____ WELL NAME BACA No. 6
 CASING 9-5/8" @ 795 ELEV 5726 GL DATE 9-19-73 - 9-20-73
 LINER DESCRIPTION 7" LINER 692-3700 ZERO POINT GL + 0
 DEPTH 3715

HOLE DESCRIPTION: _____

INSTRUMENT 300-736 FA
 SERIAL NO KT B-10036

PURPOSE Pressure / Temperature check MAX TEMP 527.9 °F @ 3690
 REMARKS: _____



STABILIZATION PERIOD.

PRESSURES.	GAUGE	BOMB	
CASING. PSI	<u>320</u>		
DEPTH	TEMP.	DEPTH	TEM
<u>3690</u>	<u>527.9</u>		
<u>1000</u>	<u>429.6</u>		

BY: _____

76

GEO THERMAL DIVISION

B6-522PT

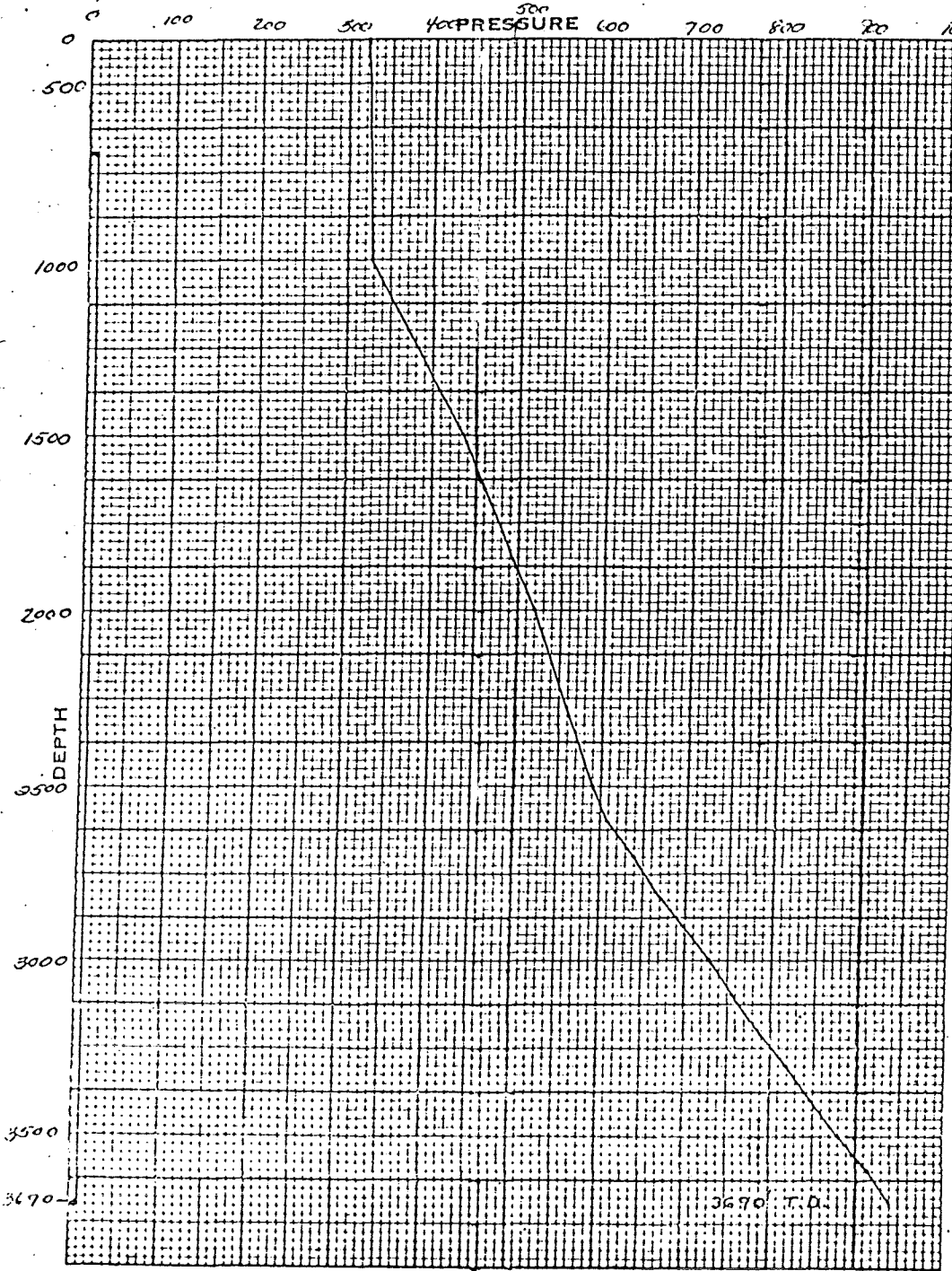
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Baca #6
 CASING 9 5/8" C. from surface to 795' ELEV 3726.61 DATE 8.3.73
 LINER DESCRIPTION: 7" liner from 692' to 3700' Perf. intervals 14' above ground
from 2634' to 2710'; 2980' to 3177'; 3589' DEPTH 3715'
3698'

HOLE DESCRIPTION:

INSTRUMENT 2500 PSI
 SERIAL NO KPG 9595

PURPOSE Static tandem press. and temp. survey MAX TEMP 521.9 °F @ 3690'
 REMARKS:



STABILIZATION PERIOD
SI 1-16-73 @ 1133

PRESSURES	GAUGE	BOMB
CASING, PSI	322	322.62

DEPTH	PRESSURE	GRADIENT
0	322.62	
50	322.62	
500	323.91	.003
1000	327.76	.008
1500	435.73	.216
2000	520.20	.169
2500	590.91	.141
2600	608.59	.177
2700	640.15	.316
2800	664.14	.240
2900	698.23	.341
3000	728.54	.303
3100	756.31	.278
3200	786.62	.303
3300	819.44	.325
3400	848.48	.290
3500	880.05	.316
3600	914.14	.341
3690	940.66	.295

Time C 3500 21.8
 T.T. TIME 28714.5 MID

BY Carl Junker

76

GEO THERMAL DIVISION

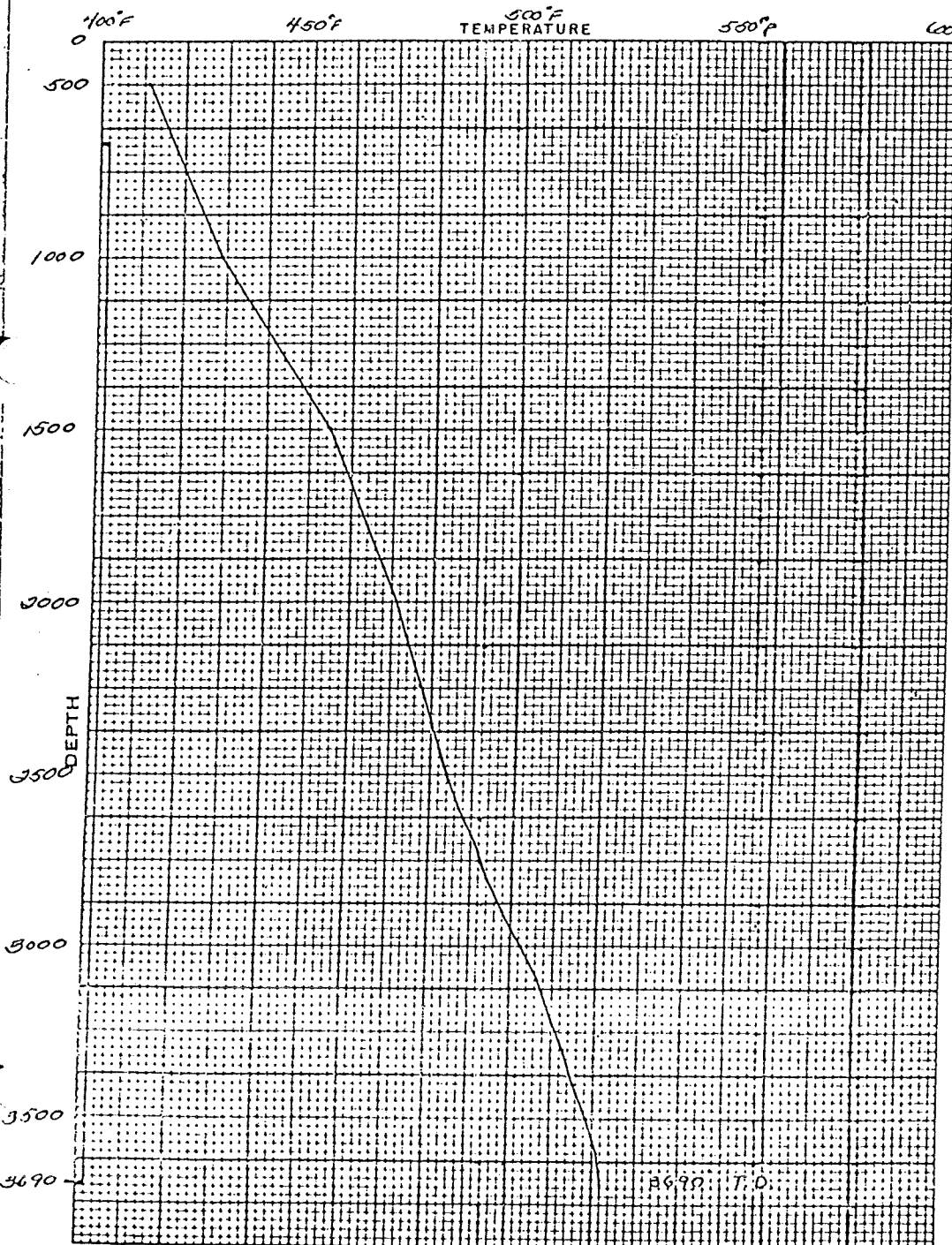
SUBSURFACE TEMPERATURE SURVEY

B6-522PT

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Baca # 6
 CASING 9 7/8" C. from surface to 795' ELEV 8726 C.L. DATE 8.3.73
 LINER DESCRIPTION: 7" liner from 692' to 3700' Per. intervals ZERO POINT 14' above ground
from 2634'-2710'; 2980'-3177'; 3589'- DEPTH 3715'
5698'

HOLE DESCRIPTION: _____ INSTRUMENT 300' to 736' F. FAH.
 SERIAL NO KTB-10036

PURPOSE Static tandem press. and temp. survey MAX TEMP 521.9°F @ 3690'
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	Gauge	BOMB
CASING, PSI	322	322.62

DEPTH	TEMP.	DEPTH	TEMP.
0			
50			
500	411.0		
1000	429.0		
1500	454.6		
2000	471.0		
2500	484.0		
2600	487.1		
2700	490.7		
2800	494.1		
2900	498.0		
3000	502.4		
3100	506.6		
3200	509.5		
3300	512.8		
3400	515.7		
3500	518.6		
3600	520.9		
3690	521.9		

BY Carl Junker

76

GEO THERMAL DIVISION

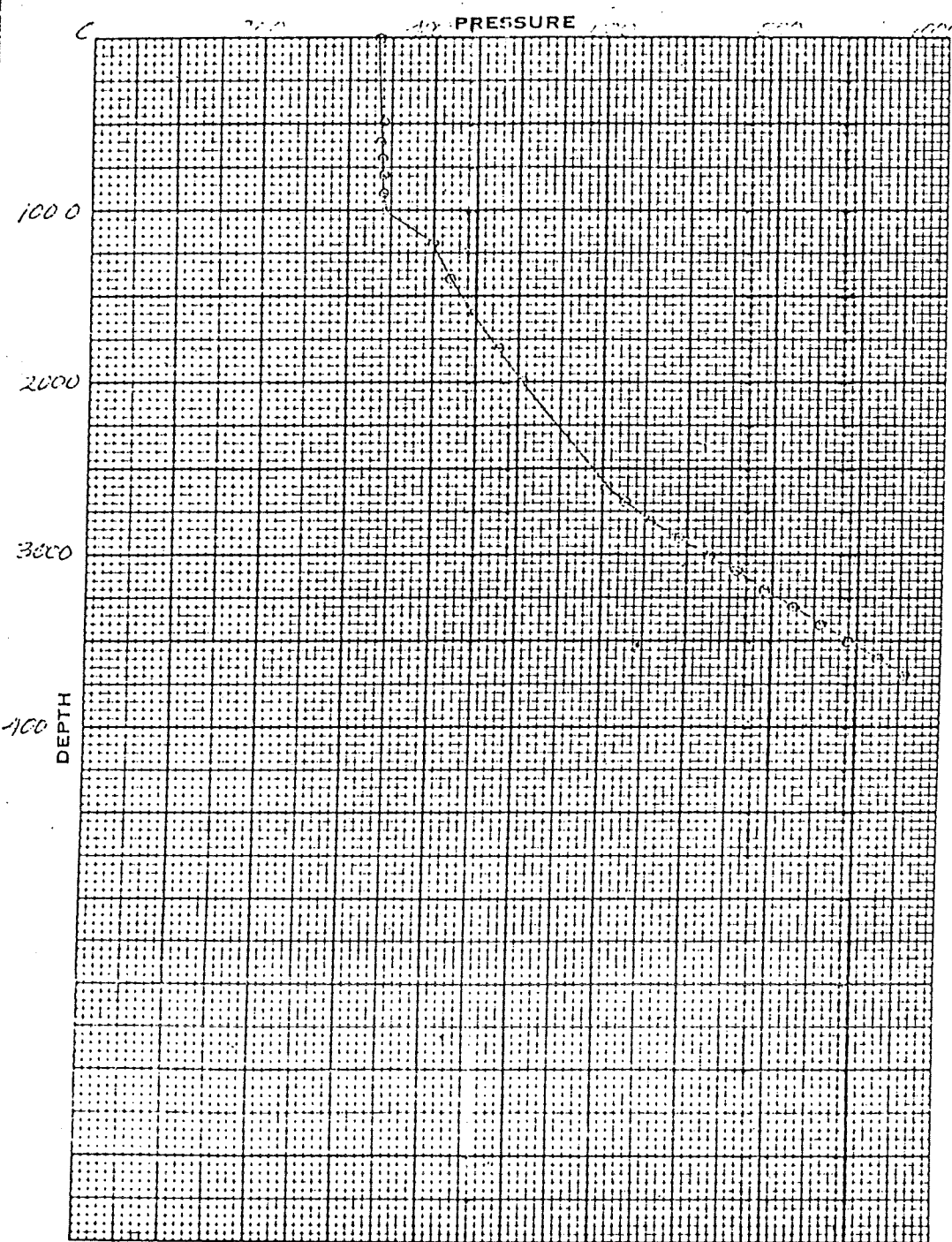
BG-321 PT

SUBSURFACE PRESSURE SURVEY

OWNER Unice Oil Co of Calif FIELD _____ WELL NAME BACA No. 6
 CASING _____ ELEV 8726.02 DATE MAY 29, 1973
 LINER DESCRIPTION: _____ ZERO POINT _____
 _____ DEPTH 3690

HOLE DESCRIPTION: _____ INSTRUMENT 0.2400 PS
 SERIAL NO 6607N

PURPOSE GRADIENT / TRANS. BQ MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
0	334.25	
500	341.16	0.012
600	350.95	0.012
700	348.16	0.015
800	346.39	0.015
900	342.57	0.015
1000	359.33	0.118
1200	400.39	0.236
1400	422.47	0.160
1600	477.04	0.131
1800	478.35/476.33	0.142
2000	507.51/511.42	0.142
2200	592.42/605.95	0.152
2400	621.43/626.19	0.202
2500	653.51/657.19	0.310
2600	692.1/692.45	0.333
2800	721.43/727.38	0.319
3000	753.27/752.53	0.310
3200	785.71/792.56	0.345
3400	816.61/823.21	0.310
3600	850.18/857.11	0.333
3800	884.52/882.29	0.322
3600	917.93/923.90	0.341
3690	917.93/923.90	0.341

BY: T. H. Baker

76

GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

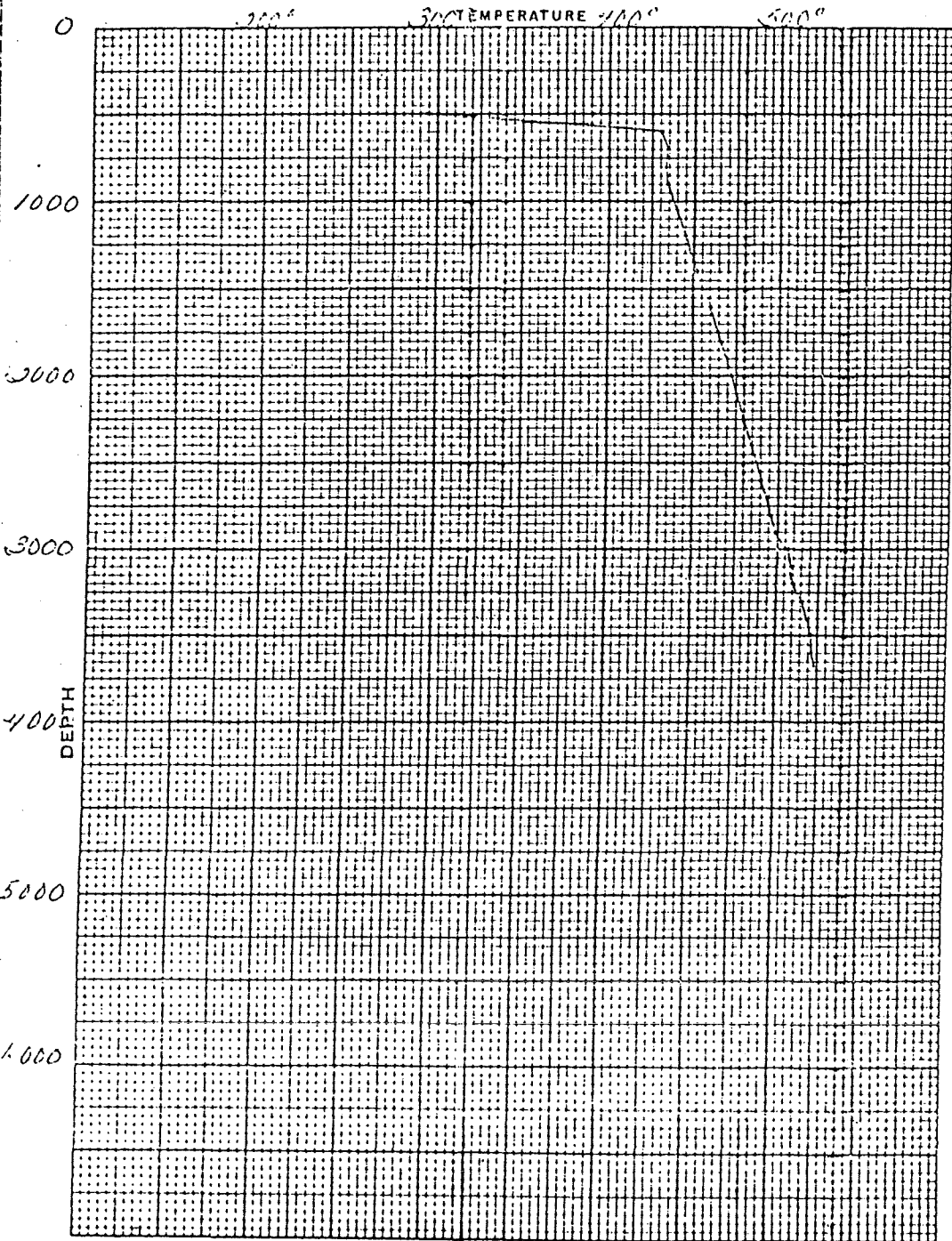
B6-521PT

OWNER Union Oil Co. of California FIELD _____ WELL NAME Boca #6
 CASING _____ ELEV 5126.61 DATE: May. 27, 1973
 LINER DESCRIPTION: _____ ZERO POINT _____
 _____ DEPTH _____

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAI
 _____ SERIAL NO _____

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES	GAUGE	SOILS	
CASING, PSI			
DEPTH	TEMP.	DEPTH	TEM
500	434.5		
600	430.6		
700	434.0		
800	433.5		
900	434.3		
1000	437.7		
1200	445.7		
1400	452.3		
1600	460.3		
1800	466.7		
2000	472.5		
2400	490.9		
2700	502.2		
2800	507.2		
2900	507.2		
3000	516.3		
3100	522.9		
3200	516.0		
3300	516.3		
3400	518.9		
3500	520.4		
3600	521.7		
3690	524.8		

BY: _____

76

GEOTHERMAL DIVISION

BG-320PT

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co of Calif FIELD _____ WELL NAME BACR No. 6
 CASING _____ ELEV 5726 GL DATE MAY 29, 1973
 LINER DESCRIPTION: _____ ZERO POINT _____
 _____ DEPTH 3690

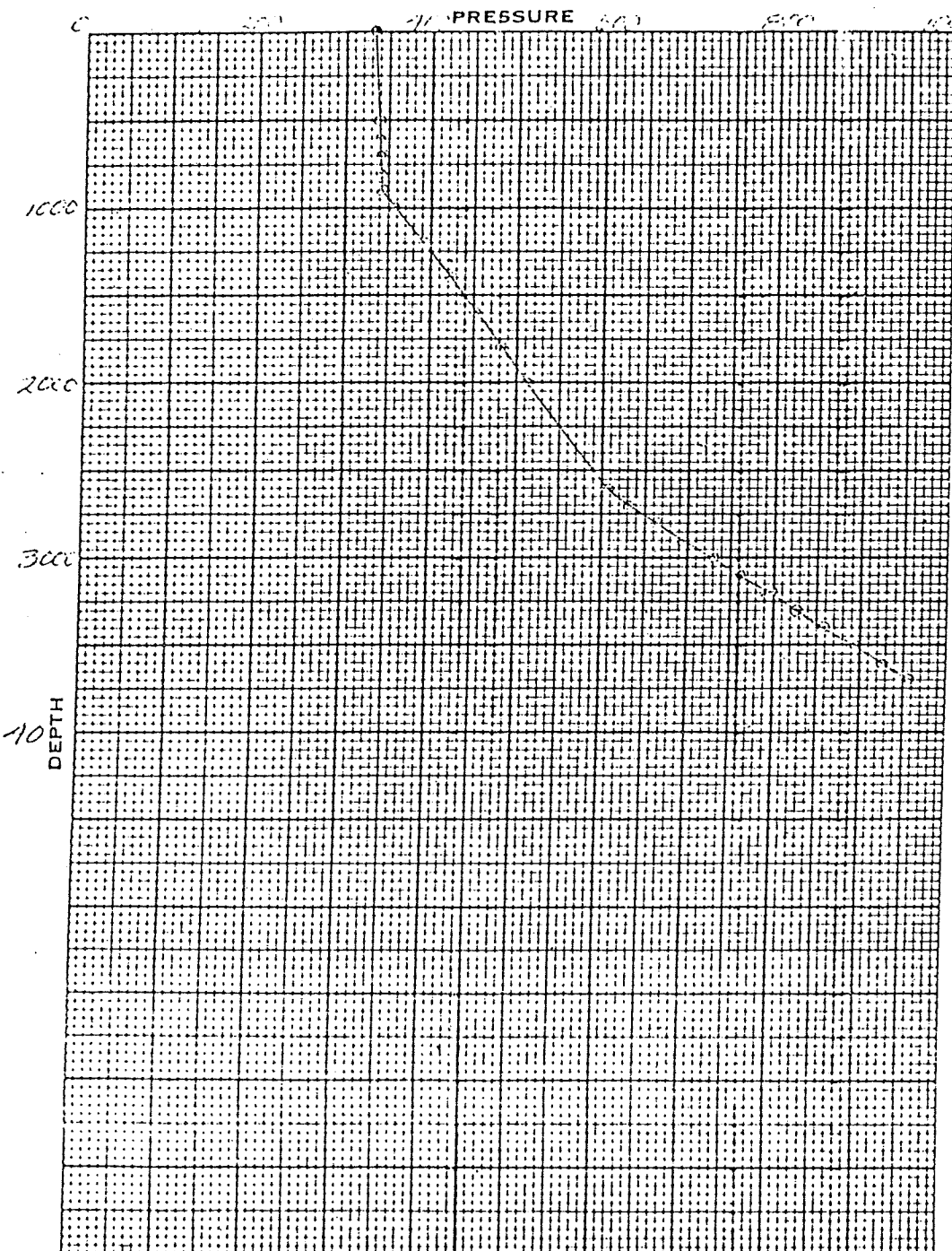
HOLE DESCRIPTION: _____ INSTRUMENT C-2100 P: _____
 _____ SERIAL NO 660711

PURPOSE GRADIENT / PRESS. BU. MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
0	536.61	
500	391.34	0.009
600	391.34	0.009
700	392.52	0.012
800	393.70	0.012
900	394.88	0.012
1000	398.06	0.192
1200	392.13	0.169
1400	422.83	0.159
1600	450.00	0.139
1800	479.53/450.11	0.159
2000	510.24/491.42	0.159
2500	603.57/400.52	0.154
2700	673.61/430.95	0.214
2900	657.14/461.90	0.310
3000	694.67/492.43	0.340
3100	725.00/730.95	0.340
3200	757.14/761.40	0.310
3300	782.29/781.43	0.330
3400	822.29/822.5	0.330
3500	863.57/859.52	0.320
3600	888.71/888.24	0.330
3690	910.12/926.29	0.310
4000	942.51/942.37	0.310



BY: MIRNELL TEEFELER

76

GEO THERMAL DIVISION

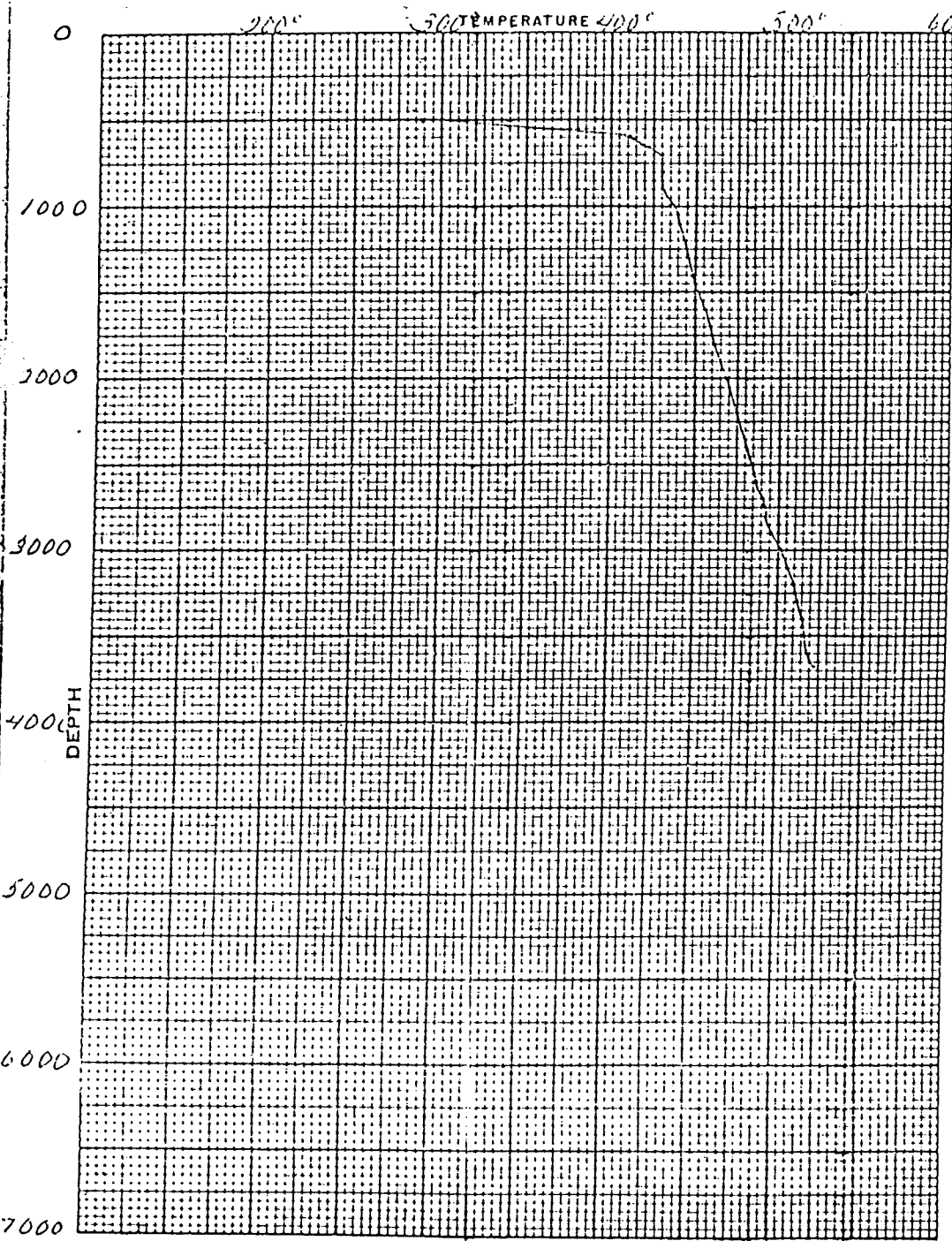
SUBSURFACE TEMPERATURE SURVEY

B6-520PT

OWNER Union Oil Co of California FIELD _____ WELL NAME Saca #4
 CASING _____ ELEV 5736 ft DATE May 29, 1973
 LINER DESCRIPTION: _____ ZERO POINT _____
 _____ DEPTH _____

HOLE DESCRIPTION: _____ INSTRUMENT 21-646 FAH
 _____ SERIAL NO 10005

PURPOSE _____ MAX TEMP _____ OF @ _____
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOB	
CASING, PSI			
DEPTH	TEMP.	DEPTH	TEM
500	388.7		
600	412.8		
700	430.1		
800	430.3		
900	430.8		
1000	435.1		
1200	443.0		
1400	449.7		
1600	456.0		
1800	462.7		
2000	468.5		
2600	486.6		
2700	490.0		
2800	492.4		
2900	495.0		
3000	502.0		
3100	506.3		
3200	509.9		
3300	512.5		
3400	515.0		
3500	516.3		
3600	517.9		
3690	523.7		

BY: _____



PFETTER, INC.

reservoir engineering data

MIDLAND, TEXAS

Page 8 of 11

File 2-5258-P

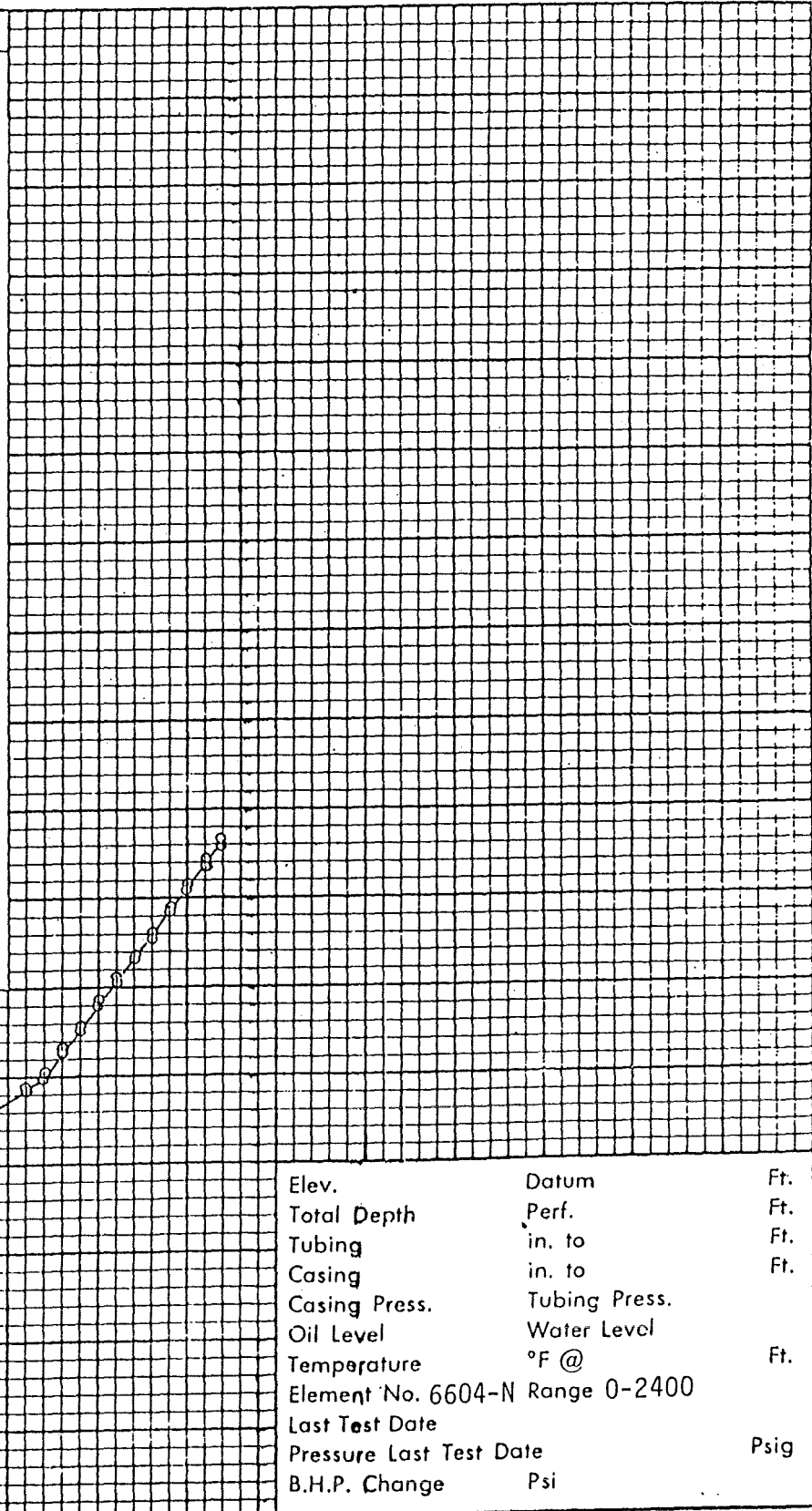
Company UNION OIL CO. OF CALIFORNIA Lease BACA Well No. 6
 Field _____ County SANDOVAL State NEW MEXICO
 Formation _____ Test Date MAY 29, 1973

Status of Well Survey #1

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	336.61	
500	341.34	0.009
600	341.34	0.009
700	342.52	0.012
800	343.70	0.012
900	344.88	0.012
1000	359.06	0.142
1200	392.13	0.169
1400	422.83	0.154
1600	450.00	0.139
1800	479.53/480.71	0.154
2000	510.24/511.42	0.154
2600	603.57/609.52	0.164
2700	623.81/630.95	0.214
2800	657.14/661.90	0.310
2900	691.67/696.43	0.345
3000	725.00/730.95	0.345
3100	757.14/761.90	0.310
3200	789.29/796.43	0.345
3300	820.24/827.38	0.310
3400	853.57/859.52	0.321
3500	885.71/895.24	0.357
3600	919.12/926.29	0.317
3690	947.81/957.37	0.346

PRESSURE POUNDS PER SQUARE INCH GAUGE

2000
1750
1500
1250
1000
750
500
250
0



DEPTH: FEET

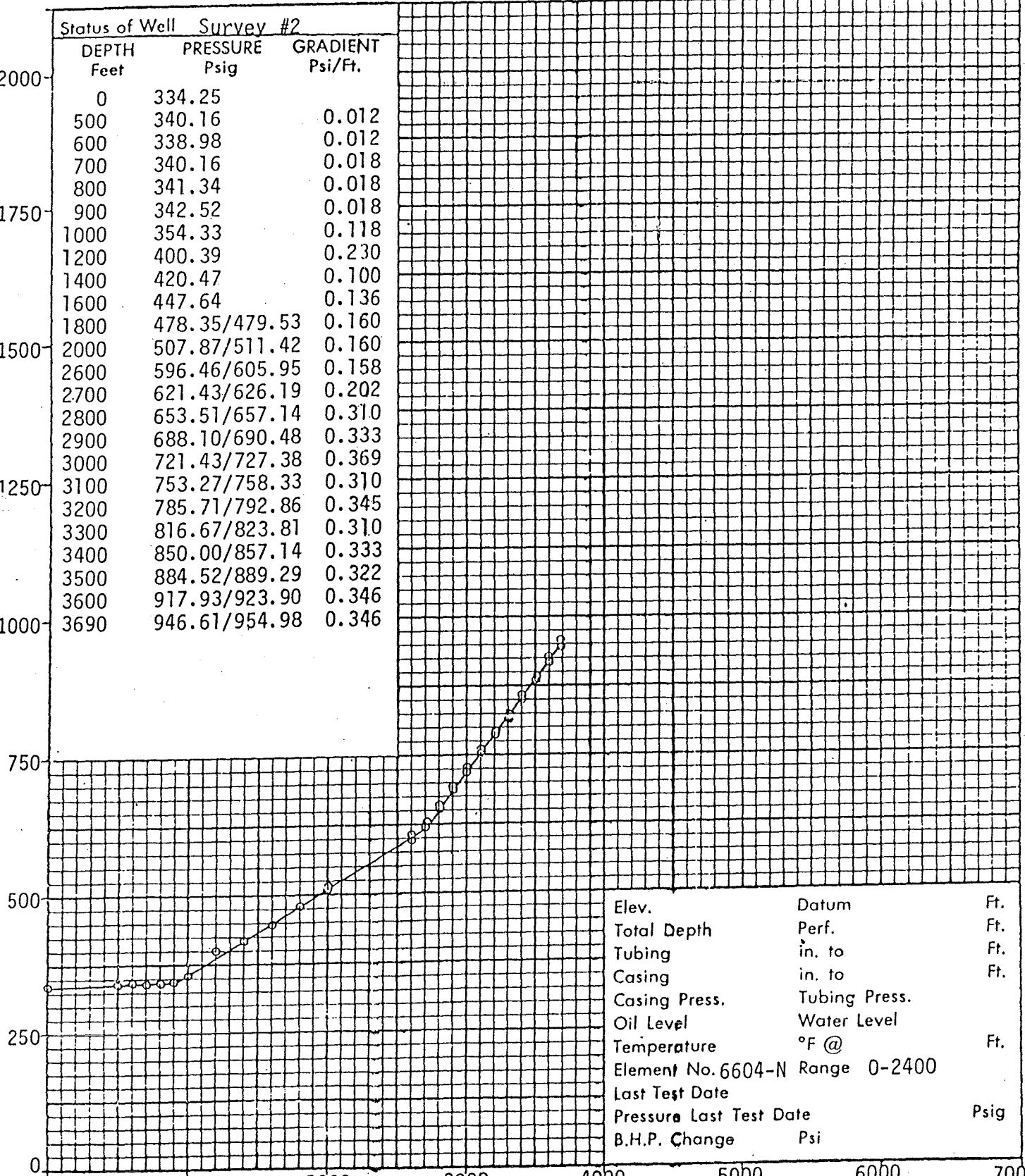
Elev.	Datum	Ft.
Total Depth	Perf.	Ft.
Tubing	in. to	Ft.
Casing	in. to	Ft.
Casing Press.	Tubing Press.	
Oil Level	Water Level	
Temperature	°F @	Ft.
Element No. 6604-N Range 0-2400		
Last Test Date		
Pressure Last Test Date		Psig
B.H.P. Change	Psi	

Company UNION OIL CO. OF CALIFORNIA Lease BACA Well No 6
Field _____ County SANDOVAL State NEW MEXICO
Formation _____ Test Date MAY 29, 1973

Status of Well Survey #2

DEPTH Feet	PRESSURE Psig	GRADIENT Psi/Ft.
0	334.25	
500	340.16	0.012
600	338.98	0.012
700	340.16	0.018
800	341.34	0.018
900	342.52	0.018
1000	354.33	0.118
1200	400.39	0.230
1400	420.47	0.100
1600	447.64	0.136
1800	478.35/479.53	0.160
2000	507.87/511.42	0.160
2600	596.46/605.95	0.158
2700	621.43/626.19	0.202
2800	653.51/657.14	0.310
2900	688.10/690.48	0.333
3000	721.43/727.38	0.369
3100	753.27/758.33	0.310
3200	785.71/792.86	0.345
3300	816.67/823.81	0.310
3400	850.00/857.14	0.333
3500	884.52/889.29	0.322
3600	917.93/923.90	0.346
3690	946.61/954.98	0.346

PRESSURE POUNDS PER SQUARE INCH GAUGE



Elev.	Datum	Ft.
Total Depth	Perf.	Ft.
Tubing	in. to	Ft.
Casing	in. to	Ft.
Casing Press.	Tubing Press.	
Oil Level	Water Level	
Temperature	°F @	Ft.
Element No. 6604-N	Range 0-2400	
Last Test Date		
Pressure Last Test Date		Psig
B.H.P. Change	Psi	

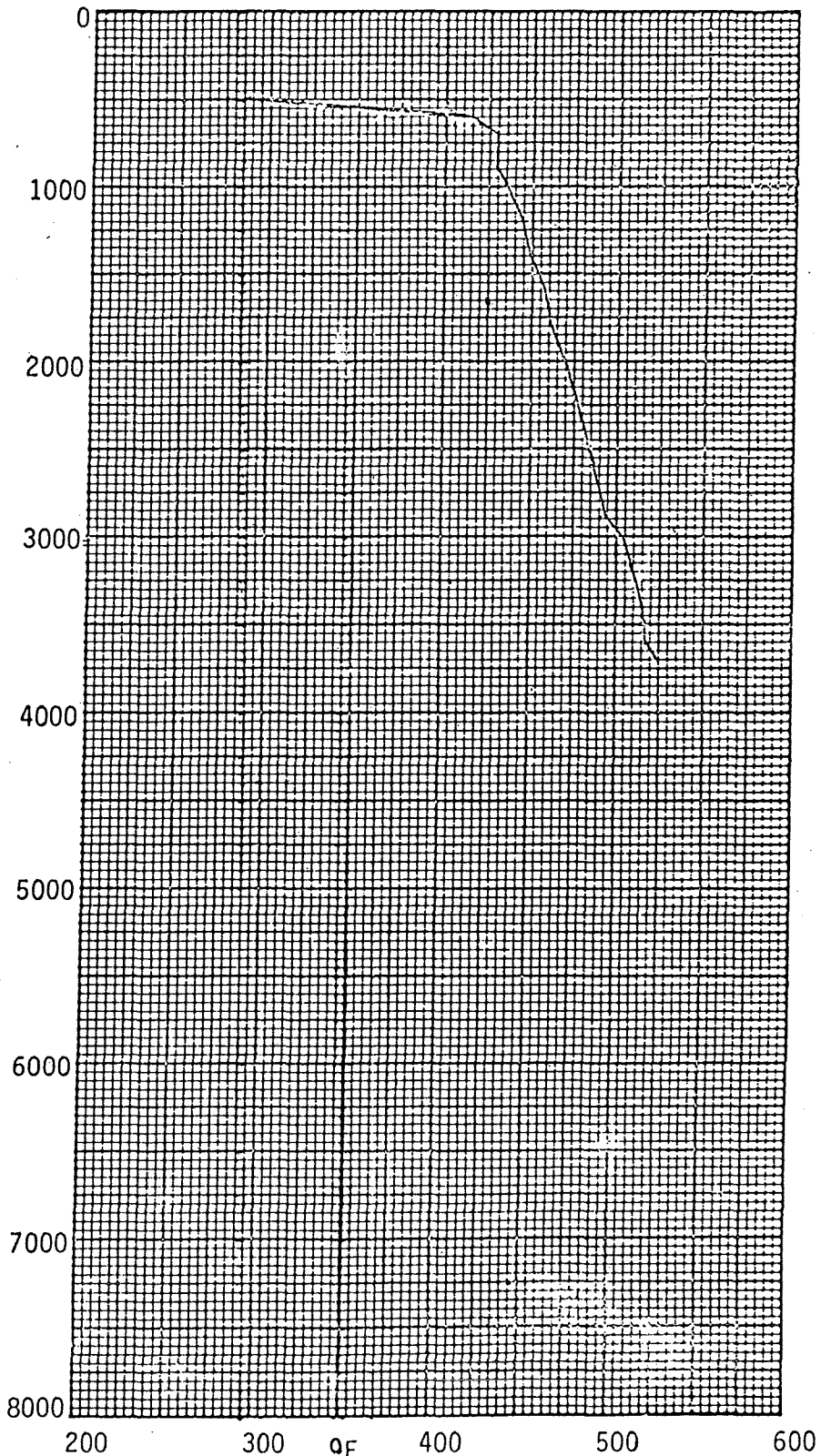
DEPTH: FEET

UNION OIL CO. OF CALIFORNIA
BACA NO. 6
SANDOVAL COUNTY, NEW MEXICO



TEMPERATURE SURVEY # 1
MAY 29, 1973
Our File No. 2-5258-P
Page 10 of 11

DEPTH FEET	TEMP. OF
0	
500	288.7
600	412.8
700	430.1
800	430.3
900	430.8
1000	435.1
1200	443.0
1400	449.7
1600	456.0
1800	462.7
2000	468.5
2600	486.6
2700	490.0
2800	492.4
2900	495.0
3000	502.0
3100	506.3
3200	509.9
3300	512.5
3400	515.0
3500	516.3
3600	517.9
3690	523.7



Temperature Element 10005 Range 84° - 646° F

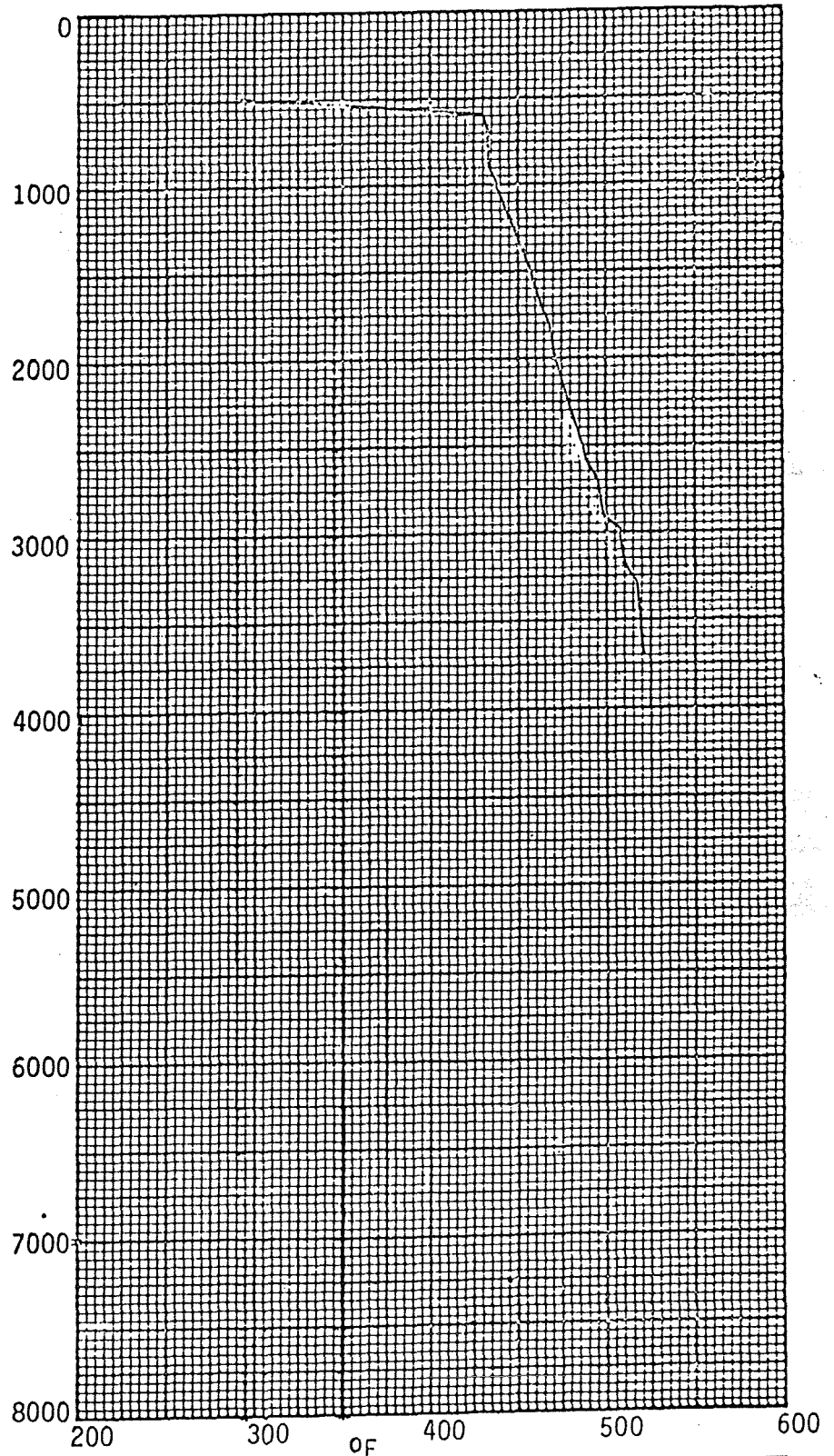
REMARKS

UNION OIL CO. OF CALIFORNIA
 BACA NO. 6
 SANDOVAL COUNTY, NEW MEXICO



TEMPERATURE SURVEY # 2
 MAY 29, 1973
 Our File No. 2-5258-P
 Page 11 of 11

DEPTH FEET	TEMP. °F
0	
500	294.5
600	430.6
700	434.0
800	433.5
900	434.3
1000	437.7
1200	445.7
1400	452.3
1600	460.3
1800	466.7
2000	472.5
2600	490.3
2700	494.2
2800	497.4
2900	499.2
3000	506.3
3100	509.9
3200	510.0
3300	516.3
3400	518.9
3500	520.4
3600	521.7
3690	524.8



Temperature Element 10005 Range 84° - 645° F

REMARKS

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GEO THERMAL DIVISION 136-319PT

SUBSURFACE PRESSURE SURVEY

OWNER Lucas Oil Co. of Calif FIELD Redondo Valley WELL NAME Boca #6
 CASING 9 5/8" O. Pipe surface to 495' ELEV. 5736.06 DATE 2-1-73
 LINER DESCRIPTION: 4" liner from 600' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2655' to 2710'; DEPTH 3715'
2950' to 3176'; 3589' to 3698'

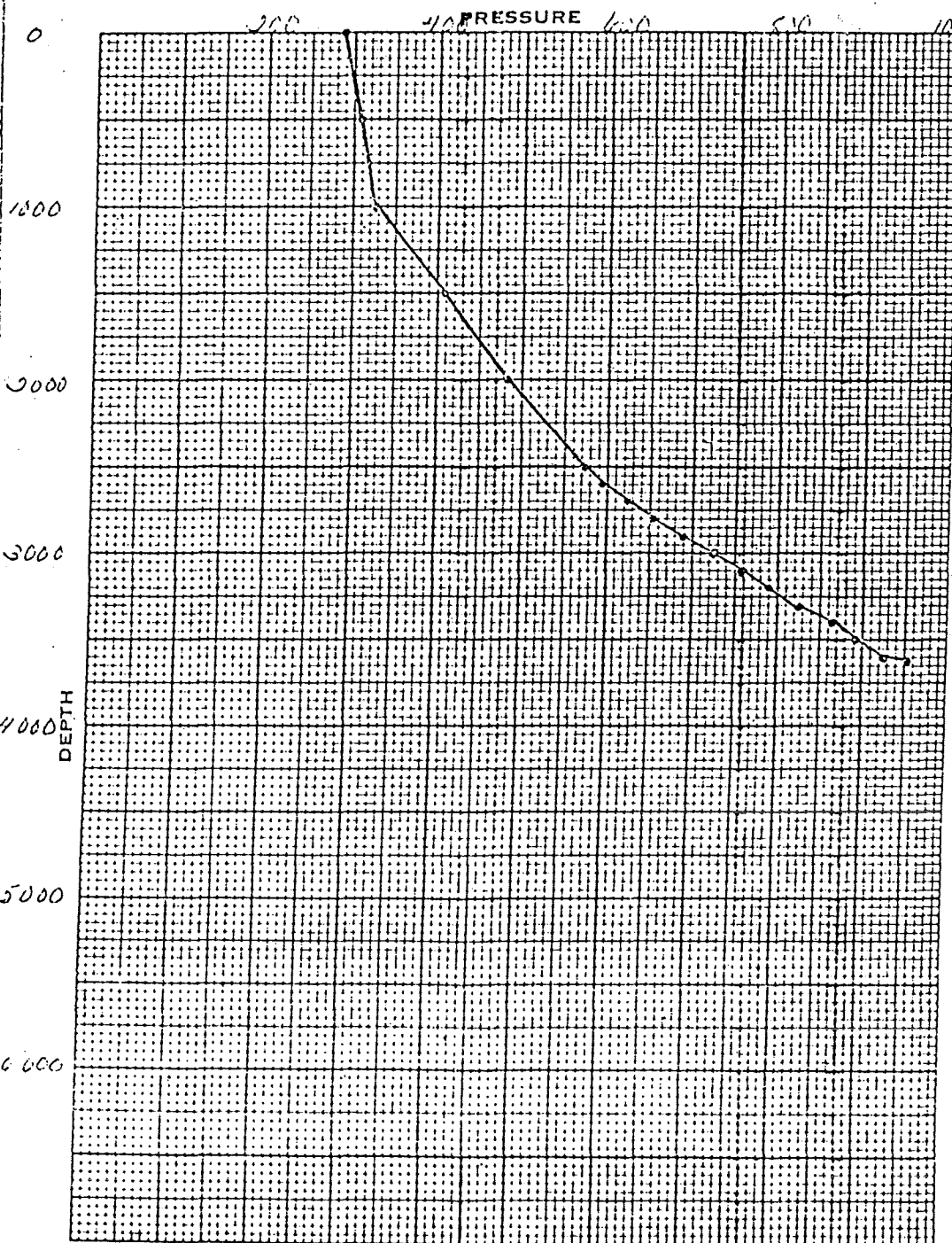
HOLE DESCRIPTION:

INSTRUMENT 2050
 SERIAL NO 7168N

PURPOSE Tenden Temperature and Pressure Survey (Gradient) MAX TEMP _____ °F @ _____

REMARKS:

STABILIZATION PERIOD
25 1-16-73 @ 1133



PRESSURES	GAUGE	BONE
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
0	287.41	
500	309.25	
1000	327.84	
1500	407.22	
2000	483.51	
2500	571.13	
2600	595.88	
2700	623.79	
2800	653.79	
2900	690.00	
3000	725.17	
3100	758.25	
3200	790.34	
3300	825.53	
3400	860.69	
3500	893.76	
3600	936.90	
3690	953.79	

Time @ 3690' 1701

BY:

GEOHERMAL DIVISION

B6-319 PT

SUBSURFACE TEMPERATURE SURVEY

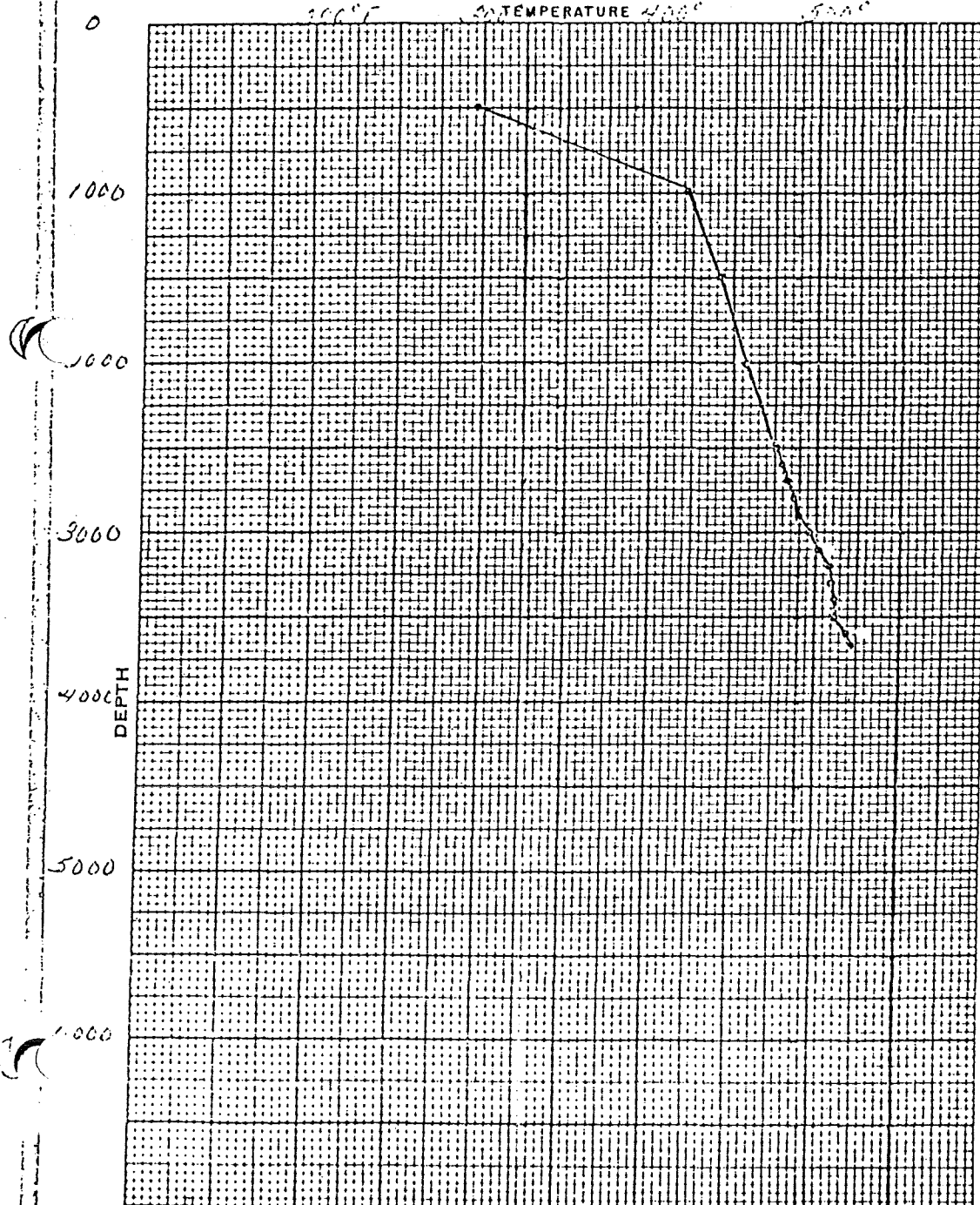
76

OWNER Union Carbide of Calif FIELD Redondo Valley WELL NAME Baca #6
 CAGING 95 1/2" P. from surface to 795' ELEV 5726 GL DATE 2-1-73
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2635' to 2710' DEPTH 3715'
2786' to 3175'; 3599' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 84° F - 646° F FAH
 SERIAL NO KTB-10005

PURPOSE Temden Temperature and Pressure Survey (Gradient) MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES	GAUGE	DOMB
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
500	296.5		
1000	420.2		
1500	441.2		
2000	458.7		
2500	475.4		
2600	479.7		
2700	483.4		
2800	486.3		
2900	488.2		
3000	492.9		
3100	500.7		
3200	507.1		
3300	509.4		
3400	512.2		
3500	512.7		
3600	520.9		
3690	522.9		

BY: _____

76

GEO THERMAL DIVISION

BG-518PT

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Boca #1
 CASING 2 5/8" P from surface to 795' ELEV 5726.61 DATE 1-31-73
 LINER DESCRIPTION: 4" liner from 692' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2633' to 2710'; DEPTH 3715'
2986' to 3176'; 3589' to 3698'

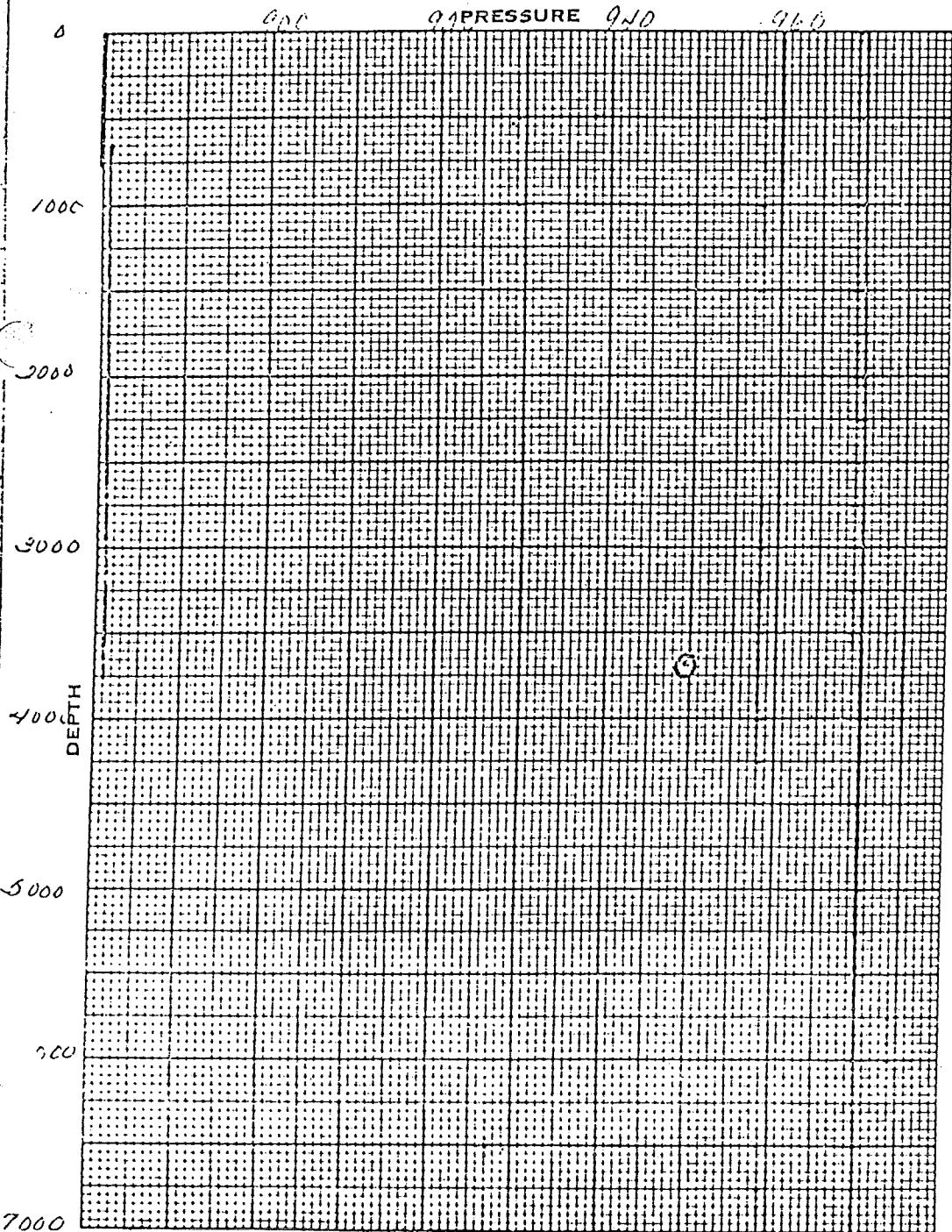
HOLE DESCRIPTION:

INSTRUMENT 3050 PSI
 SERIAL NO 7168N

PURPOSE: Bottom Hole Temperature and Pressure Buildup @ 3690' AX TEMP _____ °F @ _____

REMARKS:

STABILIZATION PERIOD



PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
<u>3690</u>	<u>949.66</u>	

BY:

76

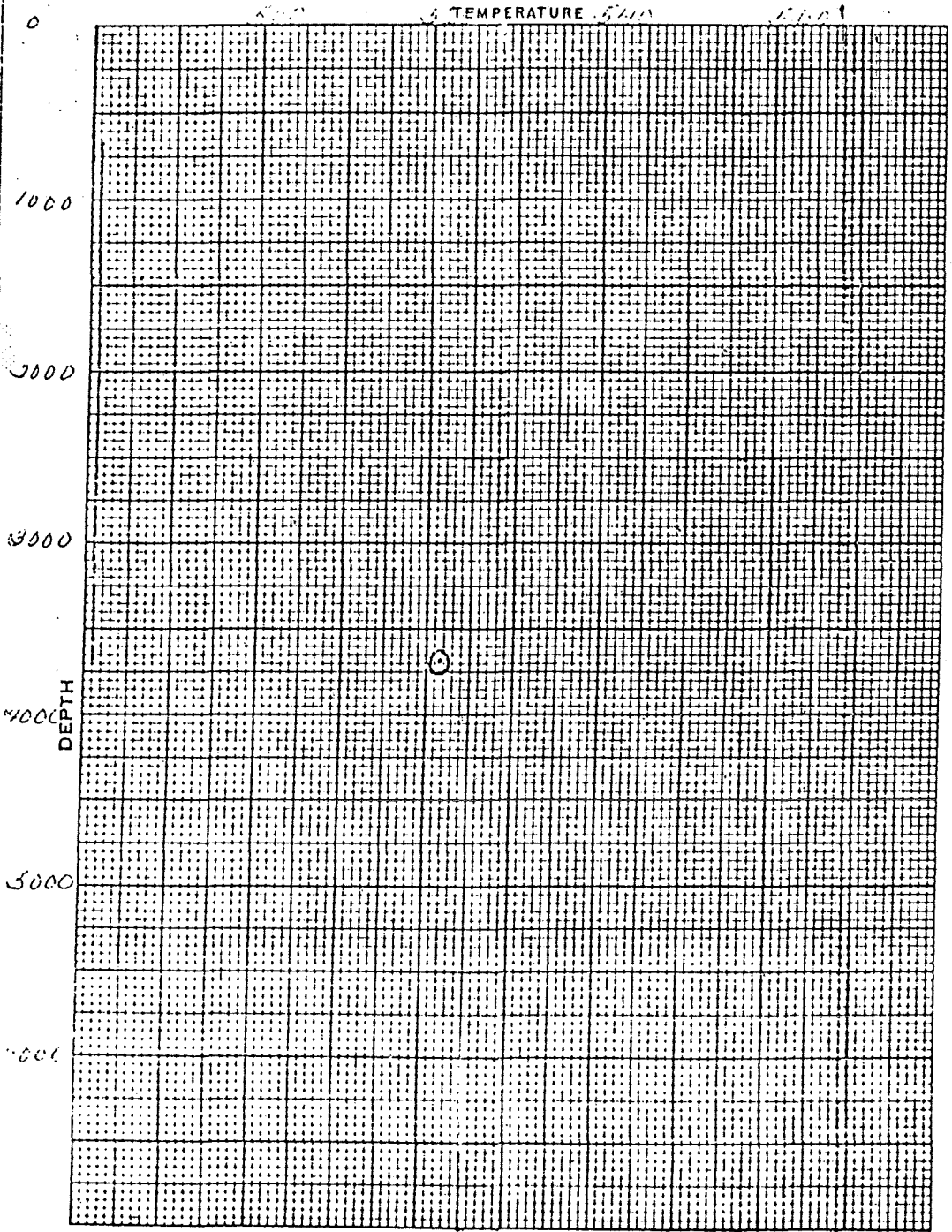
GEOHERMAL DIVISION B6-318PT
SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co of Cal. FIELD Redondo Valley WELL NAME Bozo # 6
 CASING 4 1/2" L. from 541000 to 795' ELEV 9700 5126 G. DATE 1-31-73
 LINER DESCRIPTION: 5" liner from 692' to 3900' ZERO POINT 14' above ground
Particled intervals from 2653' to 2710'; DEPTH 3515'
2946' to 3174'; 3589' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 84°-0.46°F FA
 SERIAL NO KTB-10005

PURPOSE Bottom Hole Temperature and Pressure Logging @ 3698' MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3690	521.7		

BY: _____

76

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BL-317PT

OWNER Union Oil Co of Cal P FIELD Redondo Valley WELL NAME Buca #6
 CAGING 9515-2, from surface to 795' ELEV 5726.62 DATE 1-20-73
 LINER DESCRIPTION: 9" liner from 692' to 3700' ZERO POINT 1.4' above g.c.w.
Perforated intervals from 2633' to 2710' DEPTH 3715'
2986' to 3176'; 3589' to 3698'

HOLE DESCRIPTION:

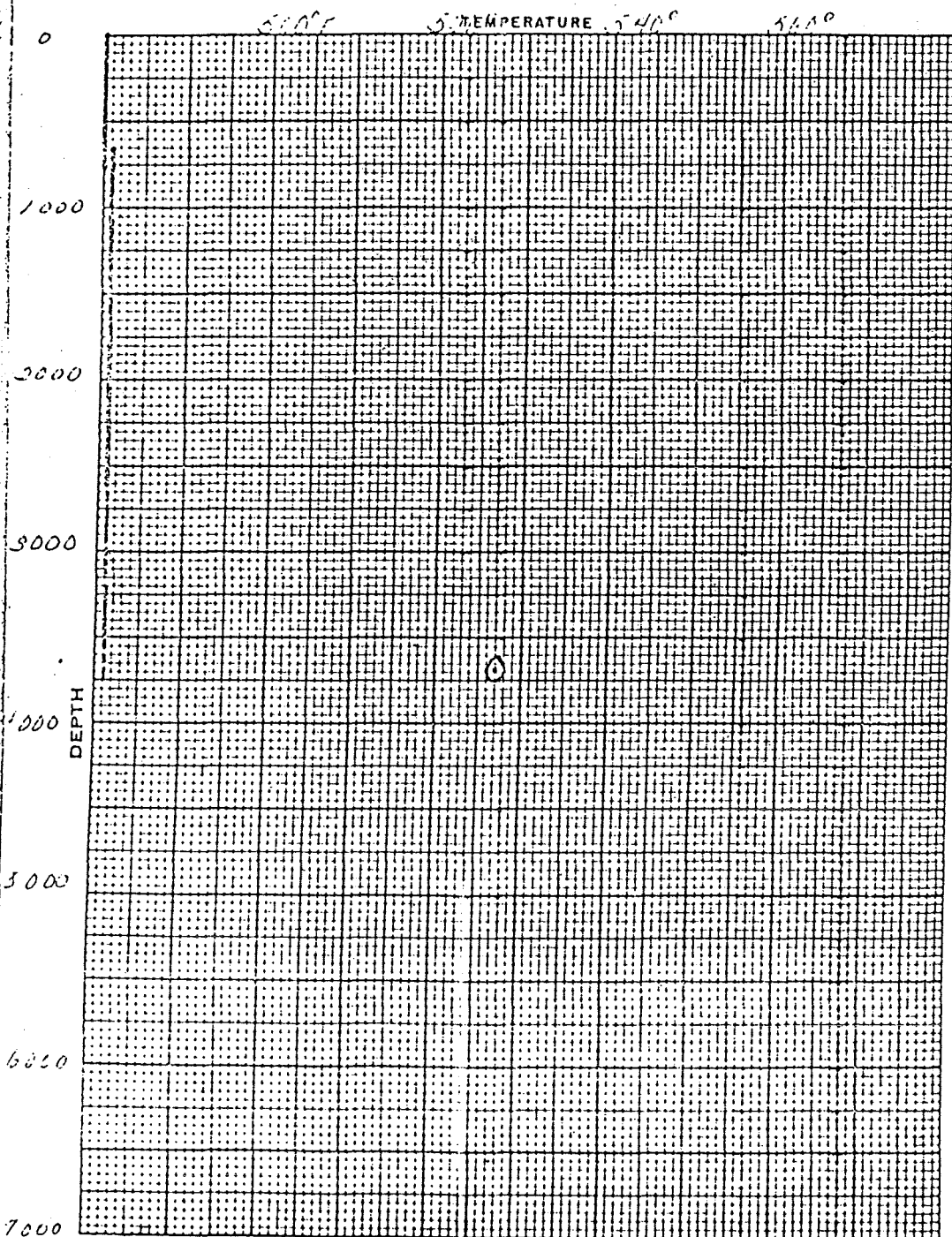
INSTRUMENT 84°-646° F FA
 SERIAL NO KTB-10005

PURPOSE Bottom Hole Pressure and Temperature Buildup MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD

PRESSURES	GAUGE	DOBB
CASING: PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3690	527.3		



BY:

76

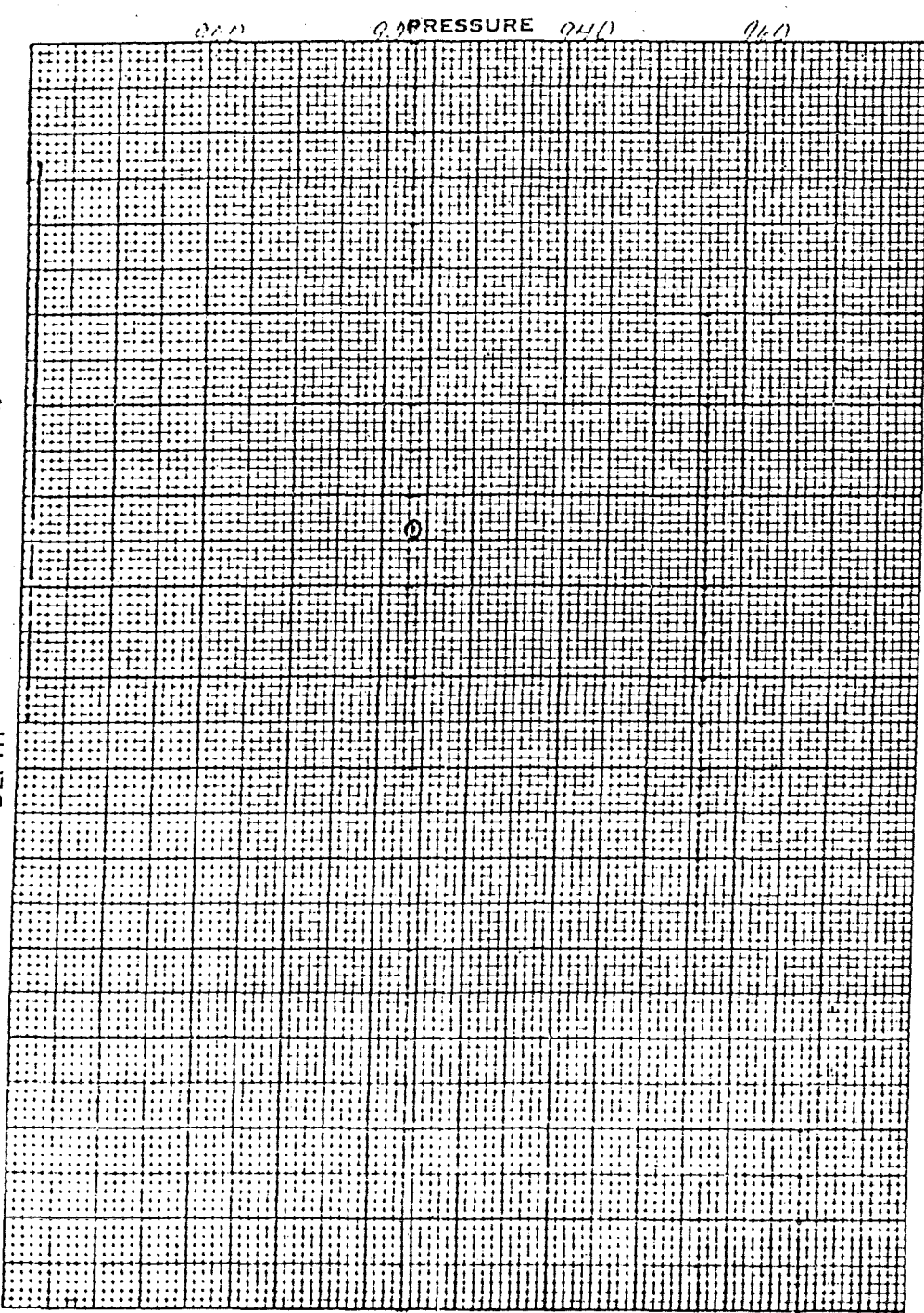
GEO THERMAL DIVISION 86-516 FT
 SUBSURFACE PRESSURE SURVEY

OWNER Alameda Co. Cal. Cal. FIELD Redondo Valley WELL NAME Boon # 5
 CASING 2 1/2" ID from surface to 745' ELEV 8736.62 DATE 1-19-73
 LINER DESCRIPTION: 7" Liner from 692' to 3400' ZERO POINT 14' above ground
Detailed intervals from 2633' to 2710', 2986' to DEPTH 3715'
3176', 3589' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 2050 PS
 SERIAL NO 7168 N

PURPOSE Bottom Hole Pressure and Temperature Buildup MAX TEMP _____ °F @ _____

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
<u>3690</u>	<u>923.79</u>	

BY:

76

GEO THERMAL DIVISION BG-516PT

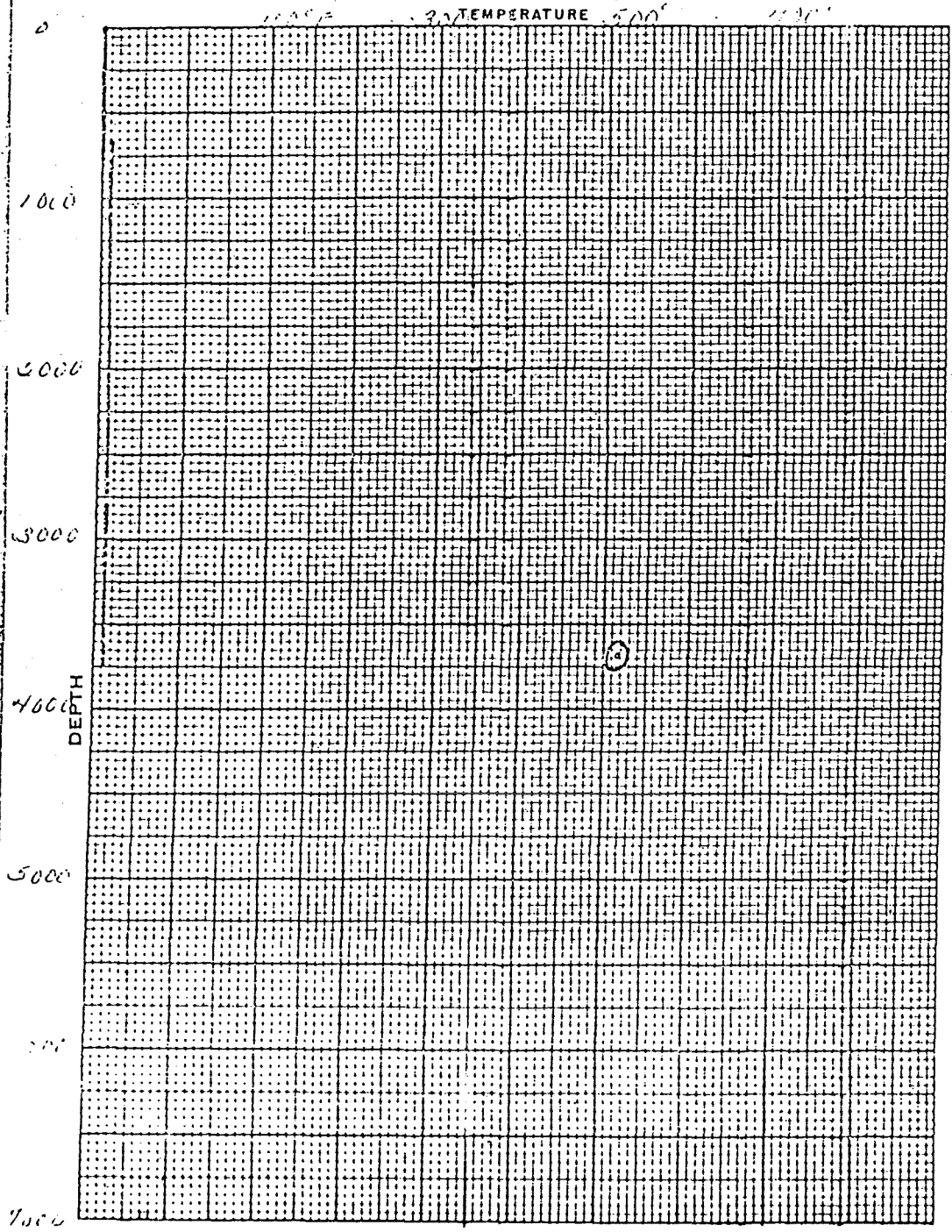
SUBSURFACE TEMPERATURE SURVEY

OWNER California State Oil FIELD Redondo Valley WELL NAME Boca #6
 CASING 2 1/2" casing 945' ELEV 8736 Ch DATE 1-19-73
 LINER DESCRIPTION: 2" liner from 293' to 3900' ZERO POINT 14' above ground
Perforated intervals from 2695' to 2710'; DEPTH 3715'
2986' to 3176'; 3559' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 840-646° F FAH
 SERIAL NO KTB-10005

PURPOSE 3 1/2" Hole Pressure and Temperature Buildup MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3690	319.1		

BY: _____

GEO THERMAL DIVISION

26-315PT

SUBSURFACE PRESSURE SURVEY

76

OWNER Union Oil Co of Calif. FIELD Redondo Valley WELL NAME Boca # 6
 CASING 4 3/4" 0' from surface to 795' ELEV 8726 SL DATE 1-18-73
 LINER DESCRIPTION: 7" liner from 792' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2633' to 2710'; DEPTH 3715'
2986' to 3176'; 3589' to 3698'

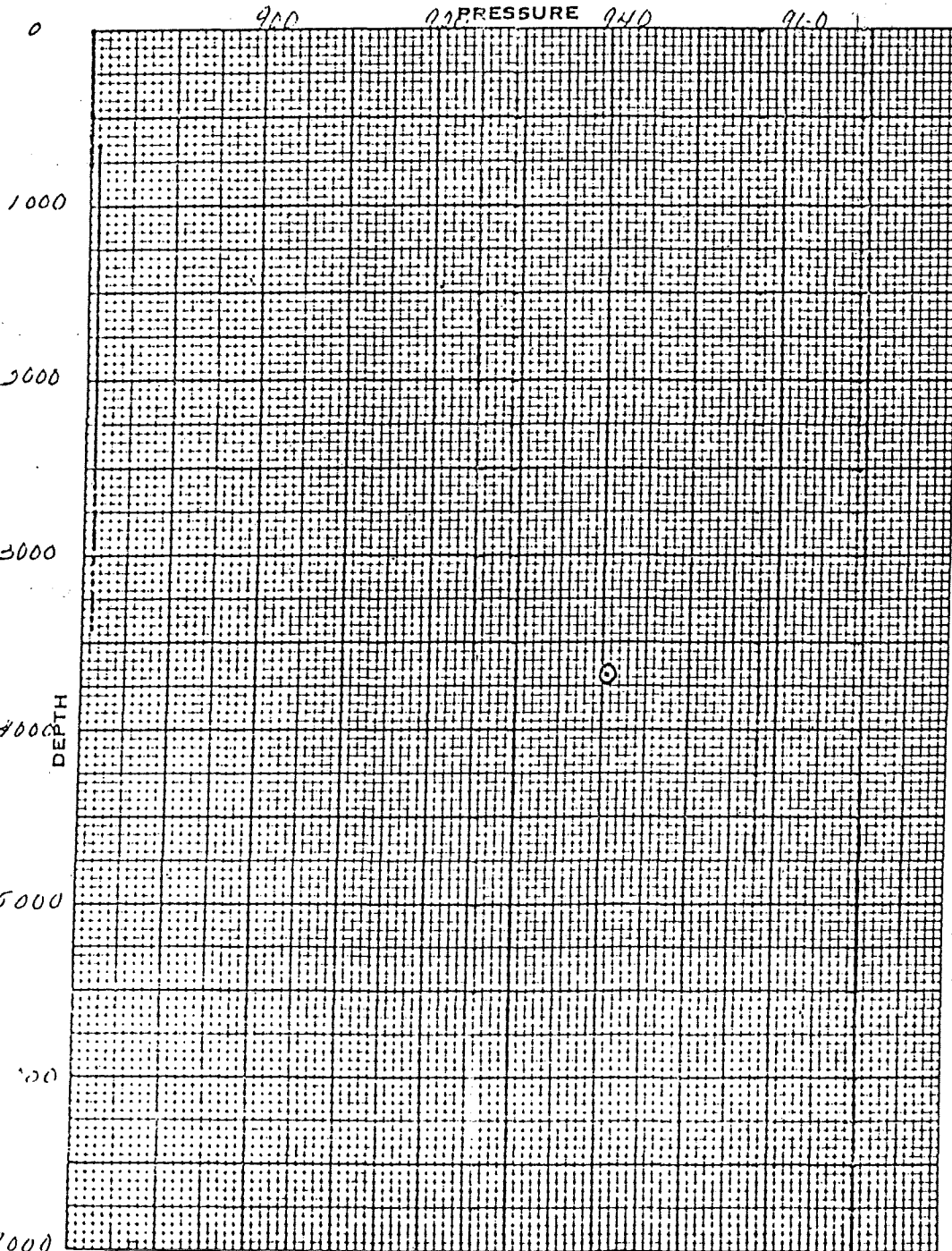
HOLE DESCRIPTION: _____

INSTRUMENT 2050 PSI
 SERIAL NO 7168 N

PURPOSE Bottom Hole Pressure and Temperature Buildup MAX TEMP _____ °F @ _____

REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
3690	943.45	

BY: _____

76

GEO THERMAL DIVISION B6-315 PT

SUBSURFACE TEMPERATURE SURVEY

OWNER *Wagon Oil Co of Calif* FIELD *Redondo Valley* WELL NAME *Boca #6*
CASING *4 1/2" to surface to 745'* ELEV *5736.46* DATE *1-18-73*
LINER DESCRIPTION: *5" liner from 492' to 3700'* ZERO POINT *14' above gravel*
Percutated intervals: from 2693' to 2710', DEPTH *3715'*
2986' to 3176', 3287' to 3698'

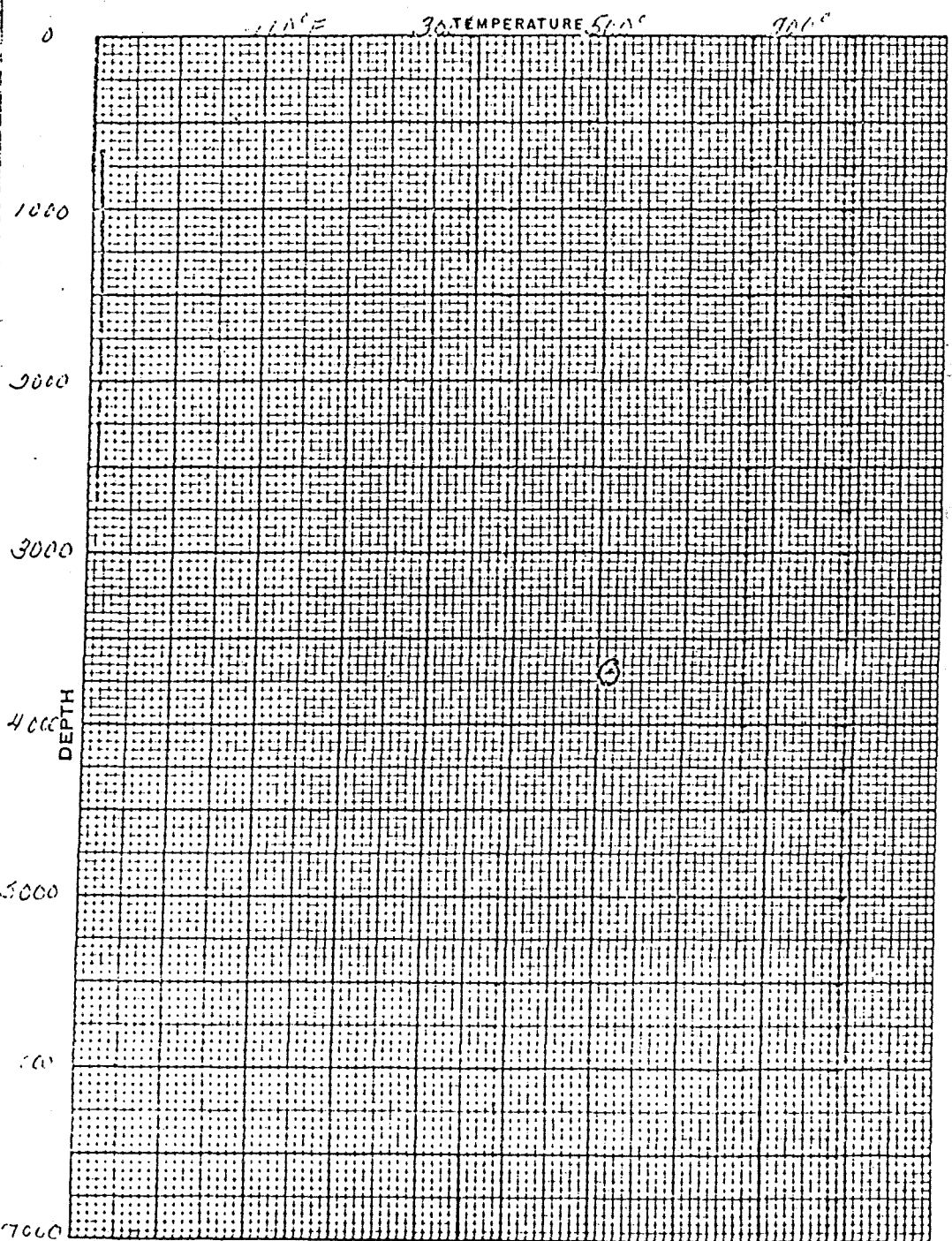
HOLE DESCRIPTION: _____
INSTRUMENT *84°F - 646°F FAH*
SERIAL NO *KTB-10005*

PURPOSE *Bottom Hole Pressure and Temperature Buildup* MAX TEMP _____ °F @ _____
REMARKS: _____

STABILIZATION PERIOD		

PRESSURES	GAUGE	ROWS
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
<i>3690</i>	<i>515.8</i>		



BY: _____

76

GEOHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

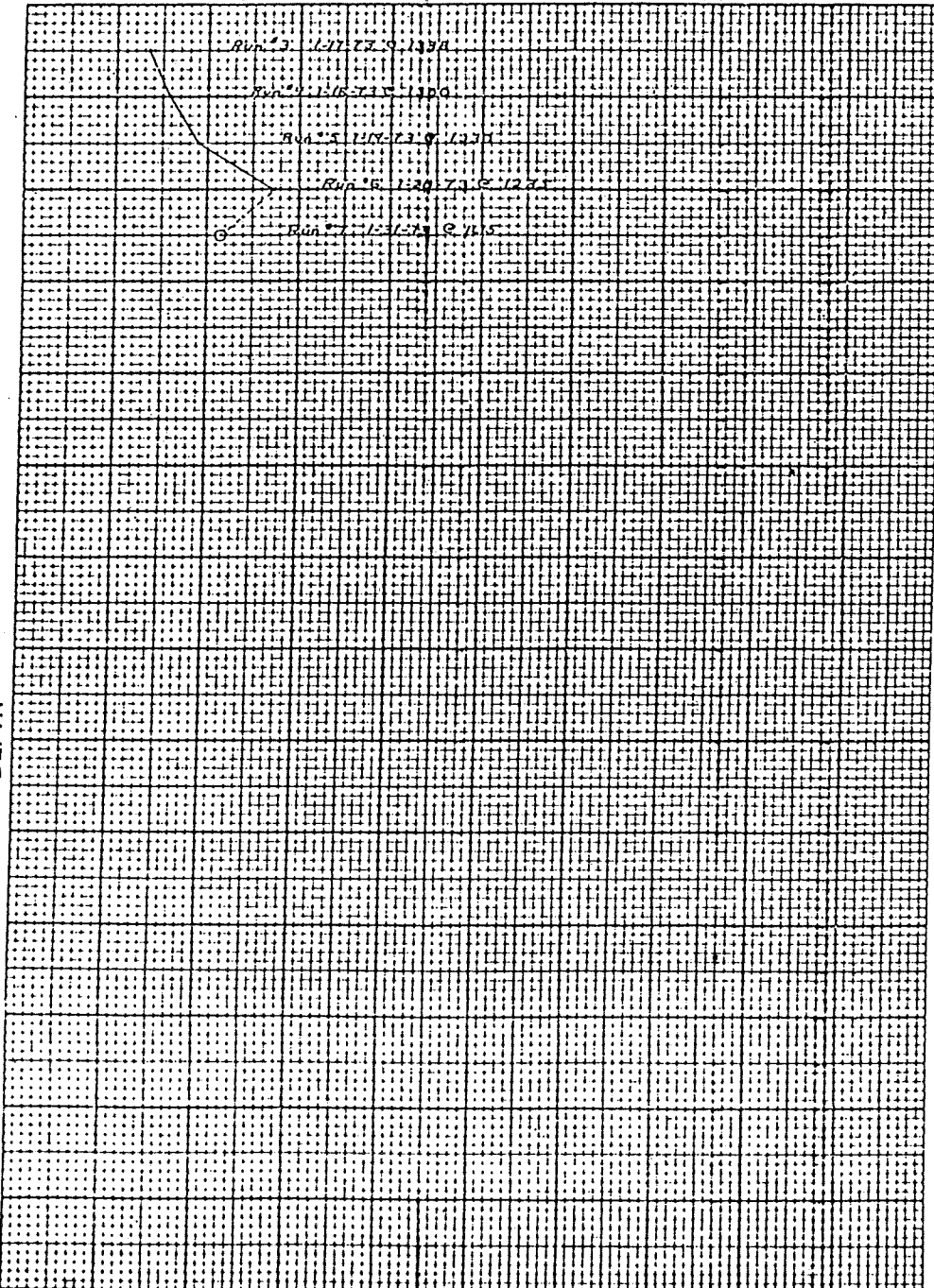
3 15 PT
5 16 PT
5 17 PT
5 18 PT

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Boca #6
 CASING 9 5/8" C. from surface to 795' ELEV 8700' 5726.6' DATE 1-17 to 1-20-73
 LINER DESCRIPTION: 7" liner from 692' to 3700'. Per. intervals from 2634'-2710'; 2980'-3177'; 3589'-3698' ZERO POINT 14' above ground
 DEPTH 3715'

HOLE DESCRIPTION: _____
 INSTRUMENT 84°-646° FA: _____
 SERIAL NO KTB 10005

PURPOSE Bottom hole temperature buildup @ 3690' MAX TEMP 527.3 °F @ 1-20-73
 REMARKS: Shut-in well 1-16-73 @ 1133

580°F 575°F 570°F 565°F 560°F 555°F 550°F 545°F 540°F 535°F 530°F 525°F 520°F 515°F 510°F 505°F 500°F 495°F 490°F 485°F 480°F 475°F 470°F 465°F 460°F 455°F 450°F 445°F 440°F 435°F 430°F 425°F 420°F 415°F 410°F 405°F 400°F 395°F 390°F 385°F 380°F 375°F 370°F 365°F 360°F 355°F 350°F 345°F 340°F 335°F 330°F 325°F 320°F 315°F 310°F 305°F 300°F 295°F 290°F 285°F 280°F 275°F 270°F 265°F 260°F 255°F 250°F 245°F 240°F 235°F 230°F 225°F 220°F 215°F 210°F 205°F 200°F 195°F 190°F 185°F 180°F 175°F 170°F 165°F 160°F 155°F 150°F 145°F 140°F 135°F 130°F 125°F 120°F 115°F 110°F 105°F 100°F 95°F 90°F 85°F 80°F 75°F 70°F 65°F 60°F 55°F 50°F 45°F 40°F 35°F 30°F 25°F 20°F 15°F 10°F 5°F 0°F



TEMPERATURE	DEPTH	DATE
515.5	1-17	1338
515.8	1-18	1300
519.1	1-19	1230
527.3	1-20	1235
521.7	1-31	1615

BY Carl Junker

76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

515 PT
 516 PT
 517 PT
 518 PT

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Boca #6
 CASING 9 5/8" C. from surface to 795' ELEV 8700' 572.4' DATE 1-17 to 1-20-73
 LINER DESCRIPTION: 7" liner from 693' to 3700' Perf. intervals ZERO POINT 14' above ground
from 2634-2710; 2980-3177; 3589-3698' DEPTH 3715'

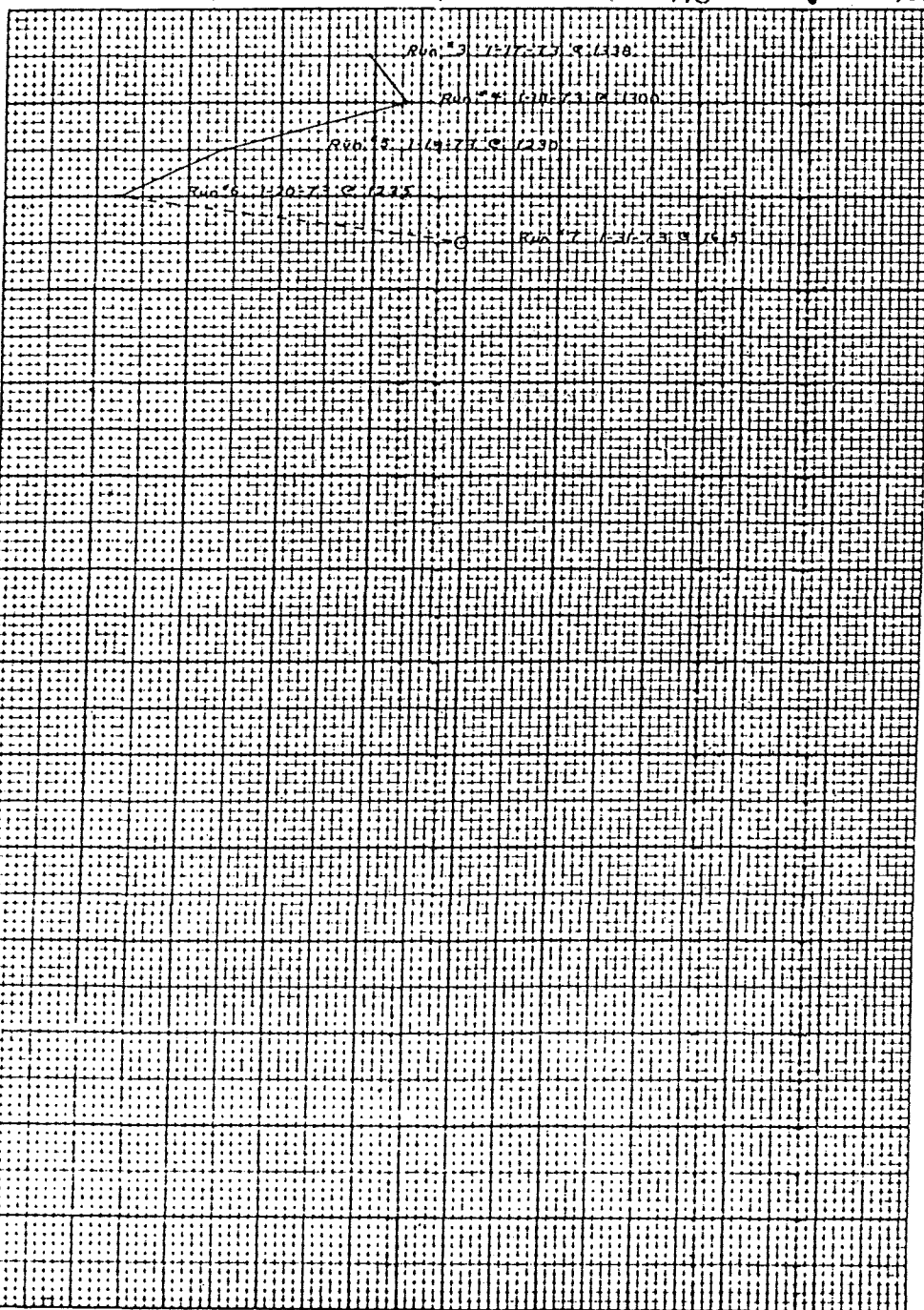
HOLE DESCRIPTION:

INSTRUMENT 2050
 SERIAL NO 7168N

PURPOSE Bottom hole pressure buildup @ 3690'
 REMARKS Shot-in well 1-16-73 @ 1133

MAX TEMP 527.3 °F @ 1-20-73

800 925 975 1000 STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB
CASING, PSI		

Time Depth	PRESSURE	GRADIENT
1-17 @ 1338	937.31	
1-18 @ 1300	943.45	
1-19 @ 1230	923.79	
1-20 @ 1235	912.41	
1-31 @ 1615	949.66	

BY: Carl Junker

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GEO THERMAL DIVISION B6-519PT

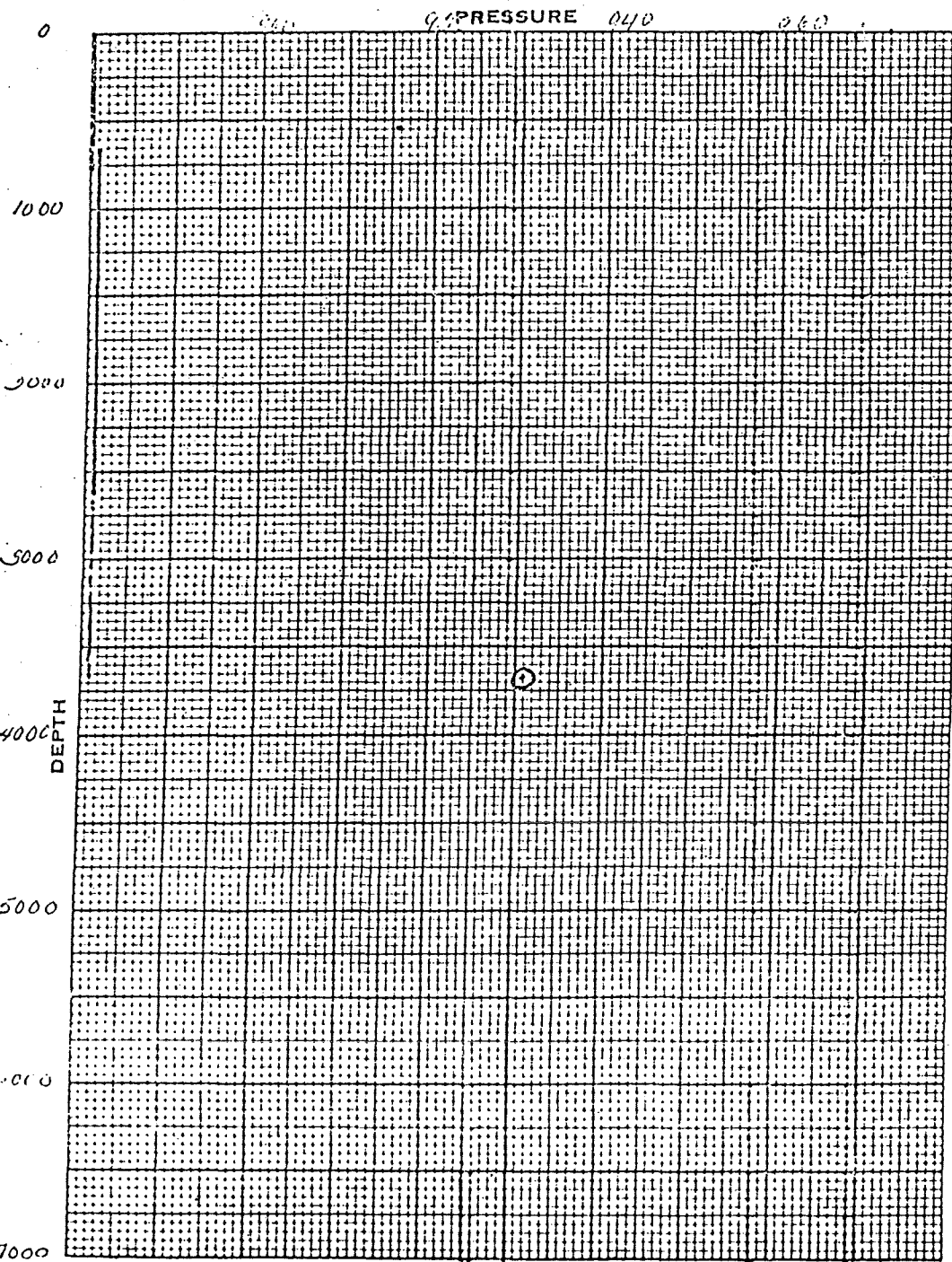
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Baca # 6
 CASING 8 5/8" O.D. from surface to 495' ELEV. 3726 CL DATE 1-17-73
 LINER DESCRIPTION: 7" liner from 492' to 3700' ZERO POINT 14' above ground
Perforated intervals from 3633' to 2710' DEPTH 2715'
2980' to 3176'; 3588' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 3050 PSI
 SERIAL NO 7168 N

PURPOSE Bottom Hole Pressure and Temperature Buildup MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD
35 1133 1-16-73



PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH 3690 PRESSURE 939.31 GRADIENT
Time 1335

BY: _____

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GEO THERMAL DIVISION

B6-319PT

SUBSURFACE TEMPERATURE SURVEY

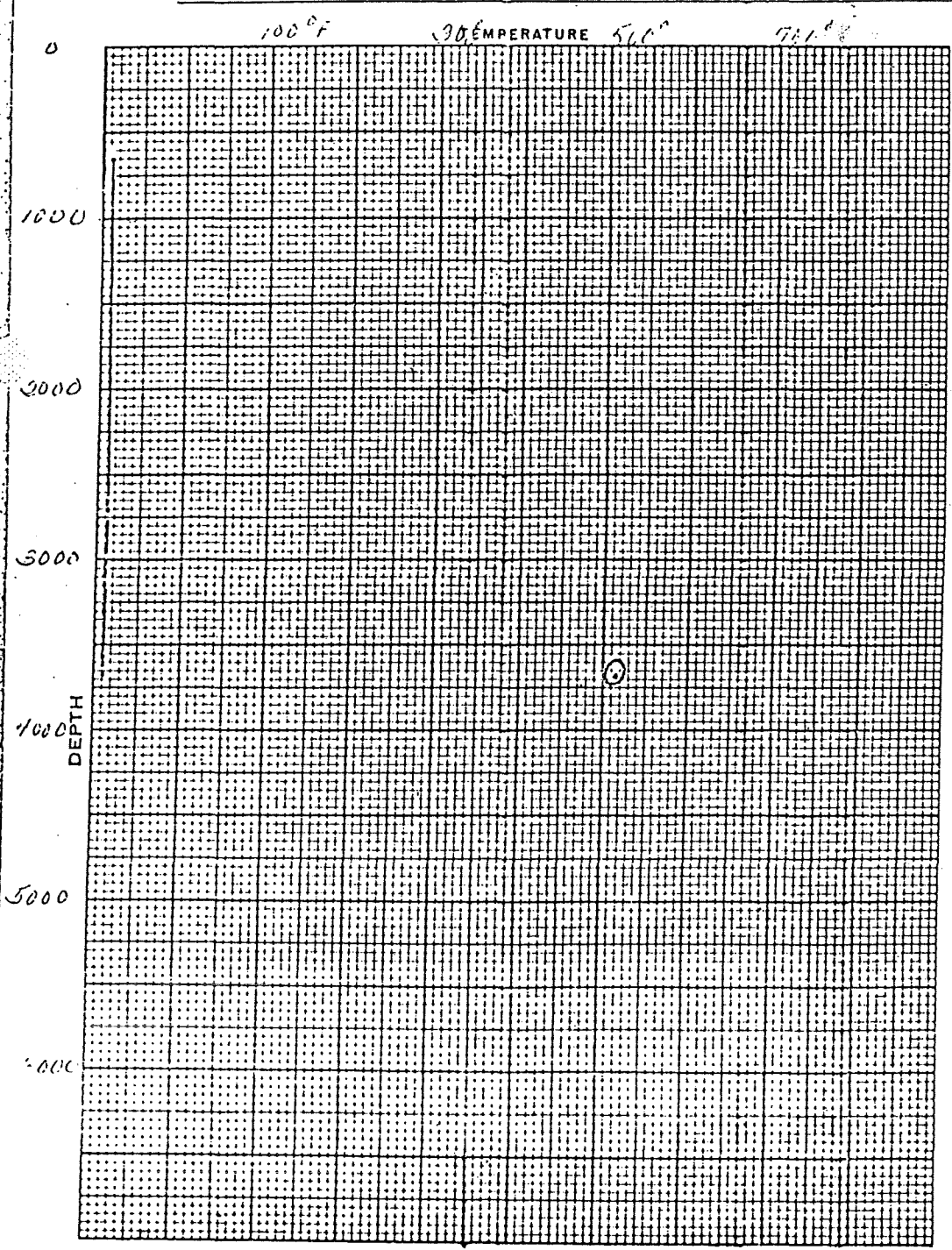
OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Baca #4
 CASING 3 1/2" C. from surface to 715' ELEV 8735.61 DATE 1-19-73
 LINER DESCRIPTION: 7" liner from 693' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2633' to 2710'; DEPTH 3715'
3486 to 3176'; 3589' to 3695'

HOLE DESCRIPTION:

INSTRUMENT 240 F-6460 FEM
 SERIAL NO 12B-10005

PURPOSE Bottom Hole Pressure and Temperature Buildup
 REMARKS:

MAX TEMP _____ °F @ _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB	
CASING, PSI			
DEPTH	TEMP.	DEPTH	TEMP.
	3690		513.5

BY:

76

GEO THERMAL DIVISION

B6-513PT

SUDGURFACE TEMPERATURE SURVEY

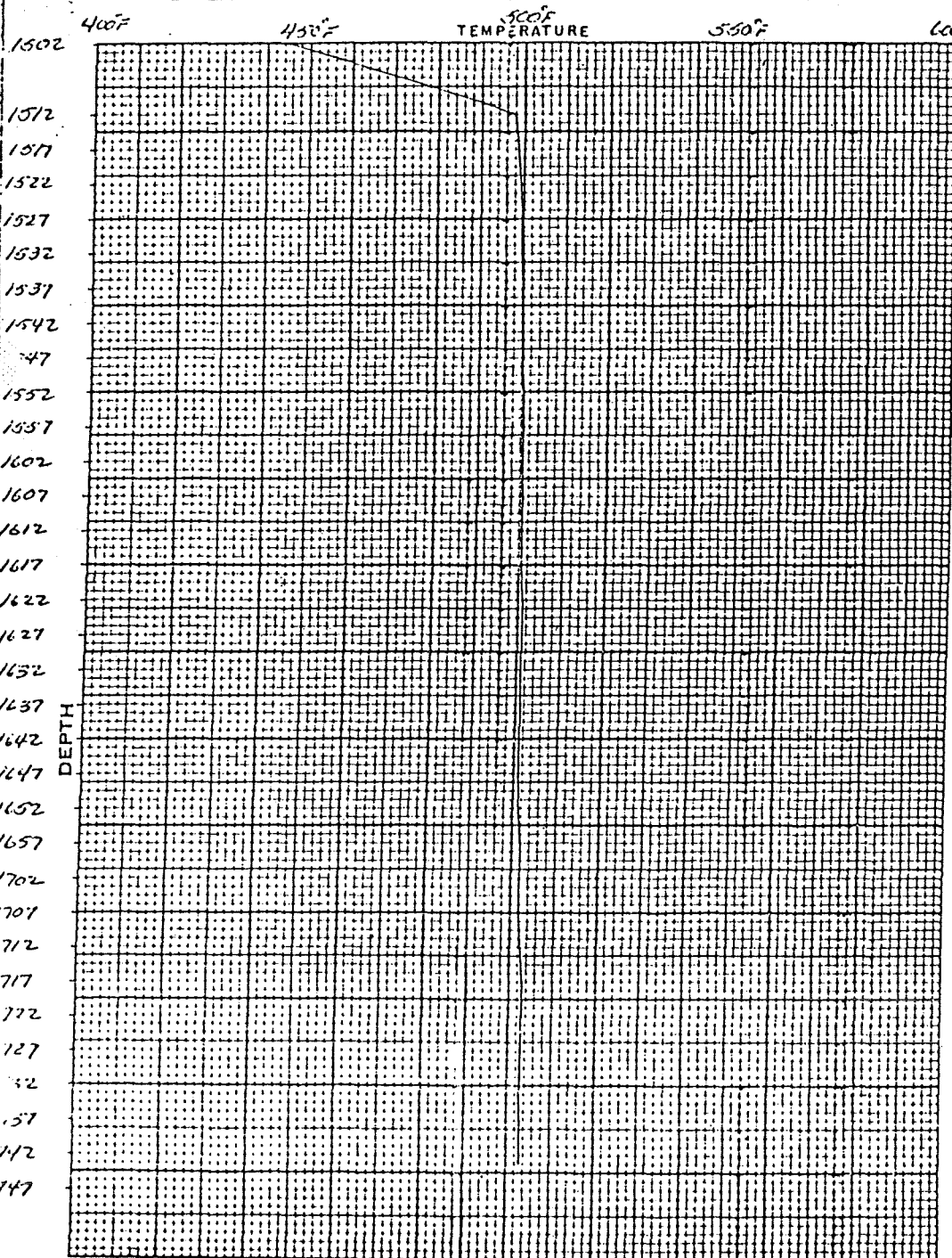
OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Baca # 6
 CASING 9 5/8" C. from surface to 795' ELEV 5126.6h DATE: 1-16-73
 LINER DESCRIPTION: 7" liner from 692' to 3700' - Perf. intervals ZERO POINT 14' above ground
from 2634-2710; 2980-3177; 3589-3698' DEPTH 3715'

HOLE DESCRIPTION: _____

INSTRUMENT S-1-6-16 FAH
 SERIAL NO KTB-10505

PURPOSE Bathym hole temperature buildup @ 3690'
 REMARKS: _____

MAX TEMP 503.0 OF @ 1743 Time



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

TIME DEPTH	TEMP.	TIME DEPTH	TEMP.
1502	445.2	1743	503
1512	497.9		
1517	498.7		
1522	499.4		
1527	499.7		
1532	499.7		
1537	499.9		
1542	499.9		
1547	499.9		
1552	500.5		
1557	500.5		
1602	500.5		
1607	500.7		
1612	500.7		
1617	500.7		
1622	501.0		
1627	501.2		
1632	501.2		
1637	501.2		
1642	501.2		
1647	501.2		
1652	501.5		
1657	502.0		
1702	502.2		
1707	502.2		
1712	502.5		
1717	502.8		
1722	502.8		
1727	502.8		
1732	502.8		
1737	503.0		
1742	503.0		

By Carl Junker

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GEOHERMAL DIVISION

86-513PT

SUBSURFACE PRESSURE SURVEY

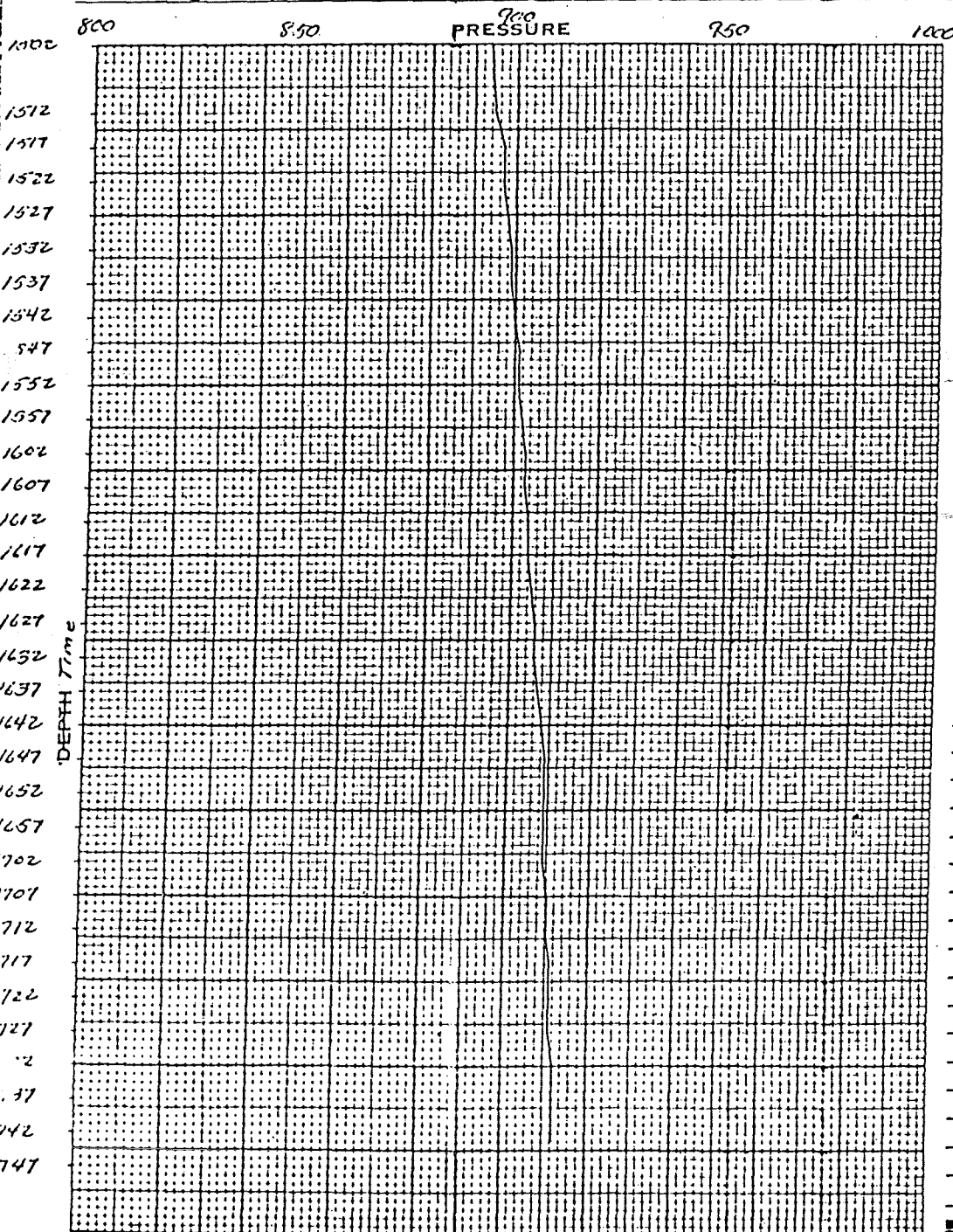
OWNER Union Oil Co. of Cal. FIELD Redondo Valley WELL NAME Baca #6
 CASING 9 3/8" C. from surface to 795' ELEV 8700' 8726.6' DATE 1-16-73
 LINER DESCRIPTION: 7" liner from 692' to 3700'. Perf. intervals ZERO POINT 14' above ground
from 2654'-2710'; 2980'-3177'; 3589'-3698' DEPTH 3715'

HOLE DESCRIPTION:

INSTRUMENT 2050
 SERIAL NO 7168N

PURPOSE Bottom hole pressure buildup @ 3690'
 REMARKS: Shot-in well 1-16-73 @ 1133'

MAX TEMP 503.0 °F @ 1743' Time



STABILIZATION PERIOD

PRESSURES, CASING, PSI	GAUGE	BOMB

Time DEPTH	PRESSURE	GRADIENT
1502	893.79	
1512	894.83	
1517	896.90	
1522	896.90	
1527	897.93	
1532	898.97	
1537	898.97	
1642	900.00	
1547	901.03	
1552	901.03	
1557	902.07	
1602	903.10	
1607	903.10	
1612	904.14	
1617	904.14	
1622	905.17	
1627	906.21	
1632	906.21	
1637	907.24	
1642	908.28	
1647	909.31	
1652	909.31	
1657	909.31	
1702	909.31	
1707	910.34	
1712	910.34	
1717	911.38	
1722	911.38	
1727	911.38	
1732	912.41	
1737	912.41	
1742	912.41	
1743	912.41	

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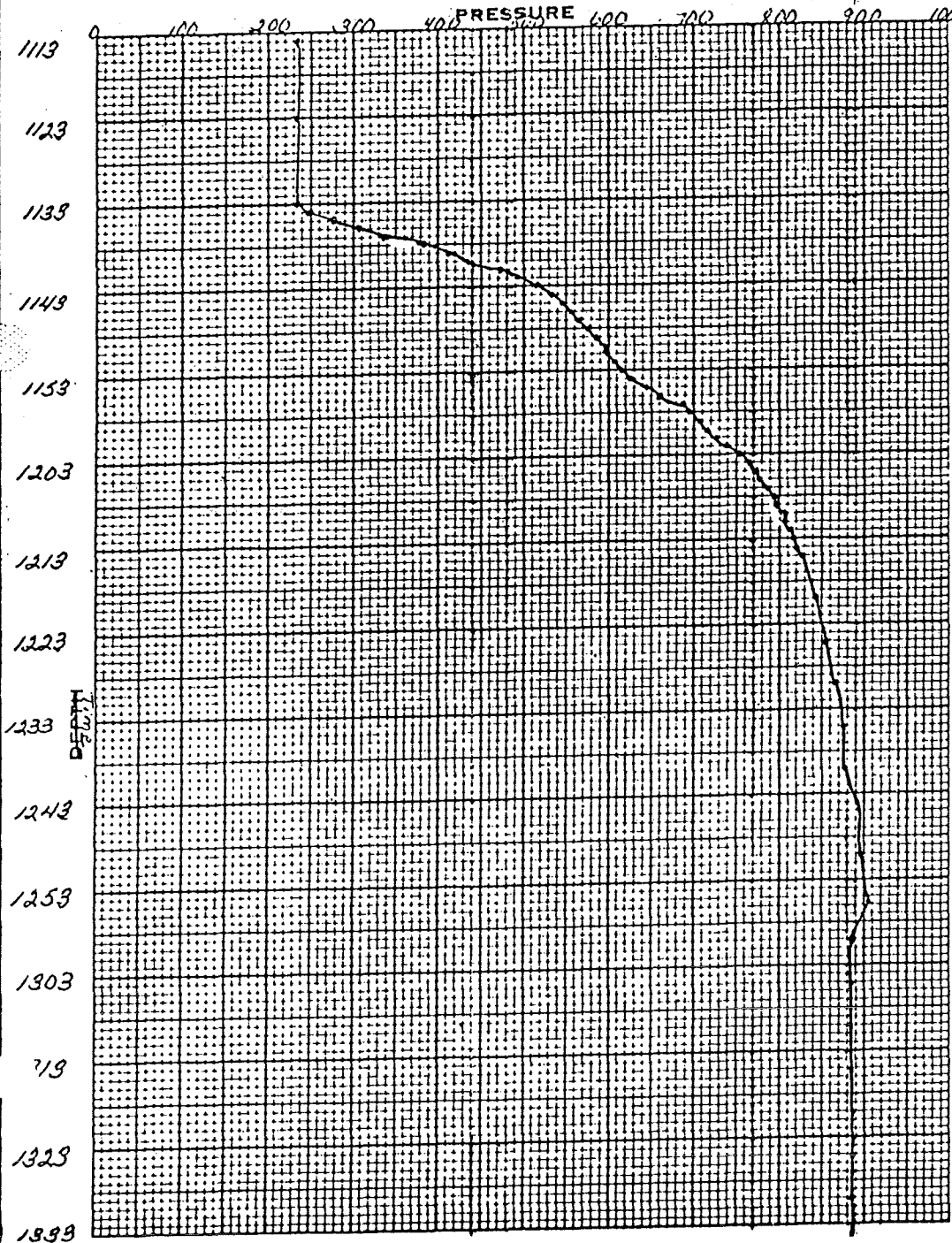
GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co of Calif. FIELD Redondo Valley WELL NAME Boca #6
 CASING 9 5/8" C from surface to 795' ELEV. 8900' DATE 1-16-73
 LINER DESCRIPTION: 7" liner from 692' to 3900', Part. intervals ZERO POINT 14' above ground
from 2634'-2710'; 2980'-3179'; 3589'-3698' DEPTH 3915'

HOLE DESCRIPTION: _____ INSTRUMENT 3050 PSIG
 SERIAL NO 7168 N

PURPOSE Bottom hole pressure buildup @ 3690' MAX TEMP 887.59 °F @ Time 11:33
 REMARKS: Shut-in well 1-16-73 @ 11:33'



STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING. PSI		514 @ C'

Time DEPTH	PRESSURE	GRADIENT
1113	231.82	12.01 728.2
1123	232.87	12.02 739.6
1133	232.87	12.03 751.6
1134	249.15	12.04 762.4
1135	279.05	12.05 773.7
1136	315.25	12.06 785.9
1137	339.18	12.07 795.1
1138	351.44	12.08 791.3
1139	416.34	12.09 797.5
1140	444.22	12.10 801.7
1141	471.13	12.11 806.9
1142	491.75	12.12 811.2
1143	512.40	12.13 815.2
1144	531.96	12.14 819.3
1145	546.70	12.15 824.4
1146	557.50	12.16 829.0
1147	567.21	12.17 834.2
1148	577.22	12.18 839.1
1149	585.57	12.19 843.1
1150	594.55	12.20 848.4
1150.19	599.44	12.21 851.7
1150.37	597.81	12.22 847.9
1151	597.94	12.23 848.1
1152	604.4	12.24 852.4
1153	614.48	12.25 857.5
1154	626.56	12.26 862.2
1155	632.41	12.27 861.5
1156	640.0	12.28 862.4
1157	657.50	12.29 868.2
1158	692.10	12.31 885.5
1159	704.45	12.31 886.5
1200	715.86	12.31 887.5

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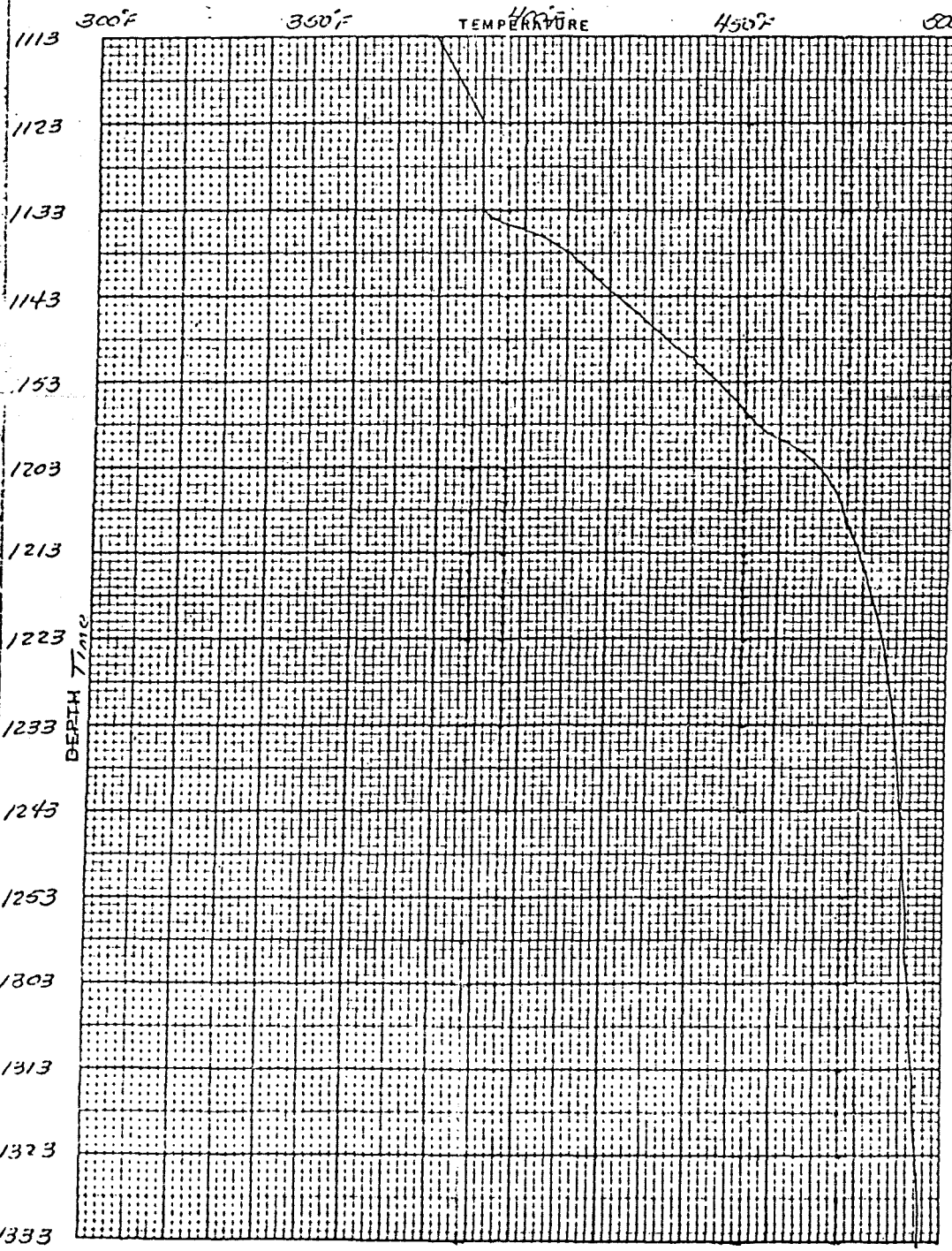
GEOHERMAL DIVISION B6-512PT

SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Baca #6
 CASING 9 3/8" C. from surface to 285' ELEV 8726' G.L. DATE: 1-16-73
 LINER DESCRIPTION: 7" liner from 692' to 3700', Perf. intervals ZERO POINT 14' above ground
from 2634'-2710'; 2980'-3177'; 3589'-3698' DEPTH 3715'

HOLE DESCRIPTION: _____ INSTRUMENT 84°-646° FRI
 SERIAL NO KTB-10005

PURPOSE Bottom hole temperature buildup @ 3690' Time
 REMARKS: _____ MAX TEMP 887.59° F @ 1333.15'



DEPTH	TEMP.	TIME	TEMP.
1113	378.7	1203	467.5
1123	390.3	1204	470.5
1133	390.3	1205	472.5
1134	392.7	1206	473.5
1135	398.5	1207	474.5
1136	404.1	1208	475.5
1137	407.5	1209	475.5
1138	410.4	1210	476.5
1139	412.8	1211	477.5
1140	415.2	1212	478.5
1141	417.3	1213	478.5
1142	419.7	1214	479.5
1143	422.1	1215	480.5
1144	424.0	1220	483.5
1145	426.6	1225	485.5
1146	428.7	1230	487.5
1147	431.4	1235	488.5
1148	433.5	1240	489.5
1149	435.9	1245	490.5
1150	438.5	1250	490.5
1151	441.2	1255	491.5
1152	443.3	1300	491.5
1153	445.7	1305	492.4
1154	447.6	1310	492.4
1155	449.7	1315	493.5
1156	451.3	1320	493.5
1157	453.1	1325	494.5
1158	454.7	1330	494.5
1159	457.6	1333:57	494.5
1200	461.6		
1201	464.8		
1202	467.5		

BY: Carl Junker

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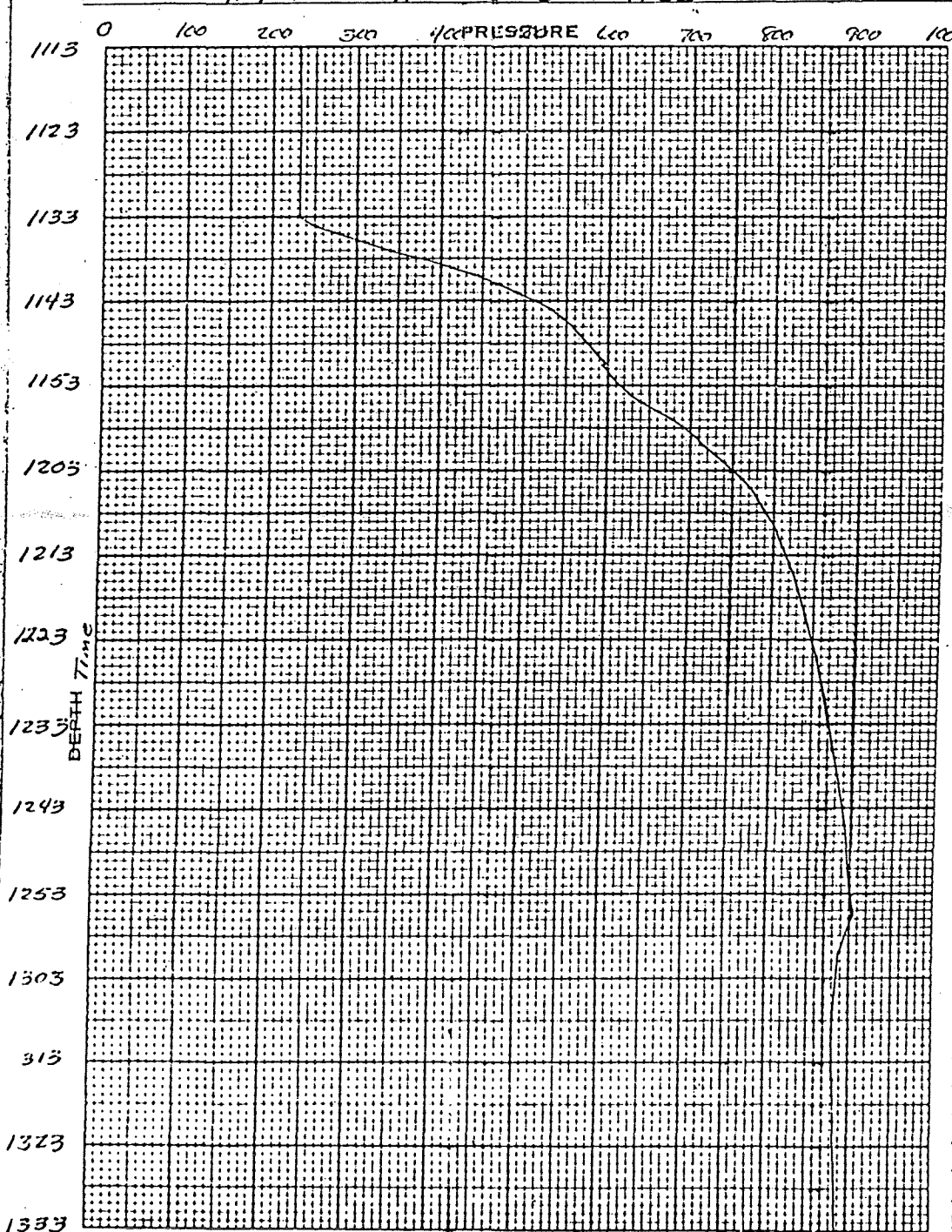
GEO THERMAL DIVISION B6-512PT

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Baca #6
 CASING 9 5/8" C. from surface to 795' ELEV. 8700' 8726' DATE 1-16-73
 LINER DESCRIPTION: 7" liner from 692' to 3700', Perl. intervals ZERO POINT 14' above ground
from 2634-2710; 2780-3177; 3589-3698' DEPTH 3715'

HOLE DESCRIPTION: _____ INSTRUMENT 2050
 SERIAL NO 7168N

PURPOSE Bottom hole pressure buildup @ 3690' MAX TEMP 887.59°F @ 1333' Time
 REMARKS: Shot-in well 1-16-73 @ 1133'



STABILIZATION PERIOD
 Well 5E 1133 1-16-73

PRESSURES.	GAUGE	BOMB
CASING. PSI		51.4 @ C

Time DEPTH	PRESSURE	GRADIENT
1113	231.82	
1123	232.87	
1133	232.87	
1134	249.65	
1135	279.02	
1136	308.25	
1137	337.18	
1138	381.44	
1139	411.34	
1140	444.33	
1141	471.13	
1142	491.75	
1143	513.40	
1144	531.96	
1145	546.39	
1146	557.73	
1147	567.01	
1148	577.32	
1149	585.57	
1150	594.85	
1150:19	597.94	
1150:37	598.81	
1151	597.94	
1152	604.14	
1153	614.48	
1154	626.90	
1155	642.41	
1156	660.0	
1157	677.59	
1158	693.10	
1159	704.48	
1200	715.86	

BY: Carl Junker

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GEO THERMAL DIVISION

B6-512PT co.

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Baco #6
 CASING 4 3/8" C. From surface to 795' ELEV. 8700' 37.26 G DATE 1-16-73
 LINER DESCRIPTION: 7" liner from 692' to 3700'. Post. intervals ZERO POINT 14' above ground
from 2634'-2710'; 2980'-3177'; 3589'-3698' DEPTH 3715'

HOLE DESCRIPTION:

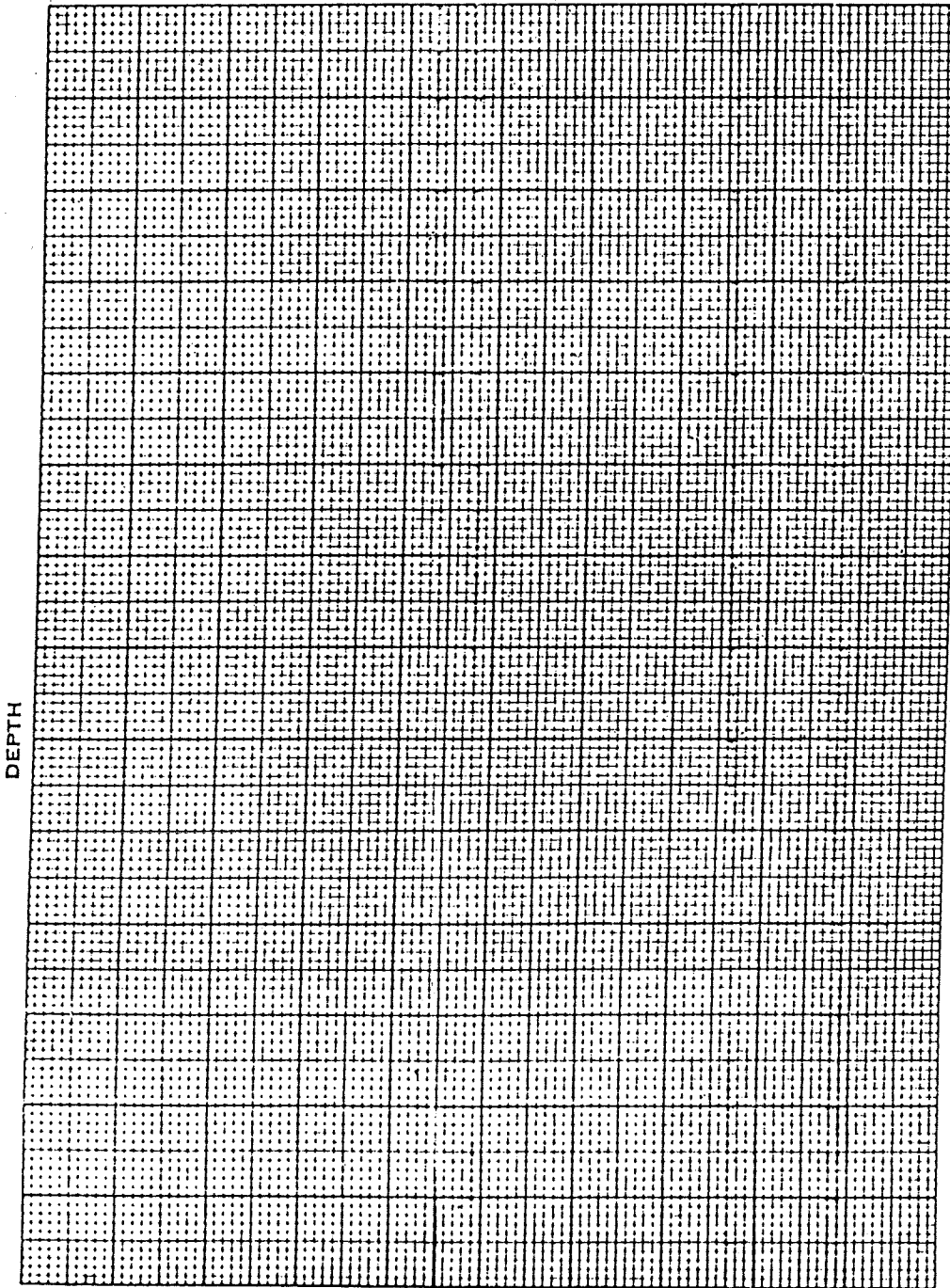
INSTRUMENT 2050 PS
 SERIAL NO 7168N

PURPOSE Bottom hole pressure buildup @ 3690'
 REMARKS: Shot-in well 1-16-73 @ 1133

MAX TEMP 887.59 °F @ 1133:57 Time

PRESSURE

STABILIZATION PERIOD



PRESSURES.	GAUGE.	BOMB.
CASING, PSI		
Time DEPTH	PRESSURE	GRADIENT
1201	728.28	
1202	739.66	
1203	751.03	
1204	762.41	
1205	771.72	
1206	778.97	
1207	785.17	
1208	791.38	
1209	797.59	
1210	801.72	
1211	806.90	
1212	811.03	
1213	816.21	
1214	820.34	
1215	824.48	
1220	841.03	
1225	854.48	
1230	865.86	
1235	875.17	
1240	883.45	
1245	891.72	
1250	897.93	
1255	903.10	
1255:47	903.10	
1300	887.59	
1305	882.41	
1310	881.38	
1315	882.41	
1320	883.45	
1325	885.52	
1330	886.55	
1333:57	887.59	
BY: <u>Carl Junker</u>		

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GEO THERMAL DIVISION

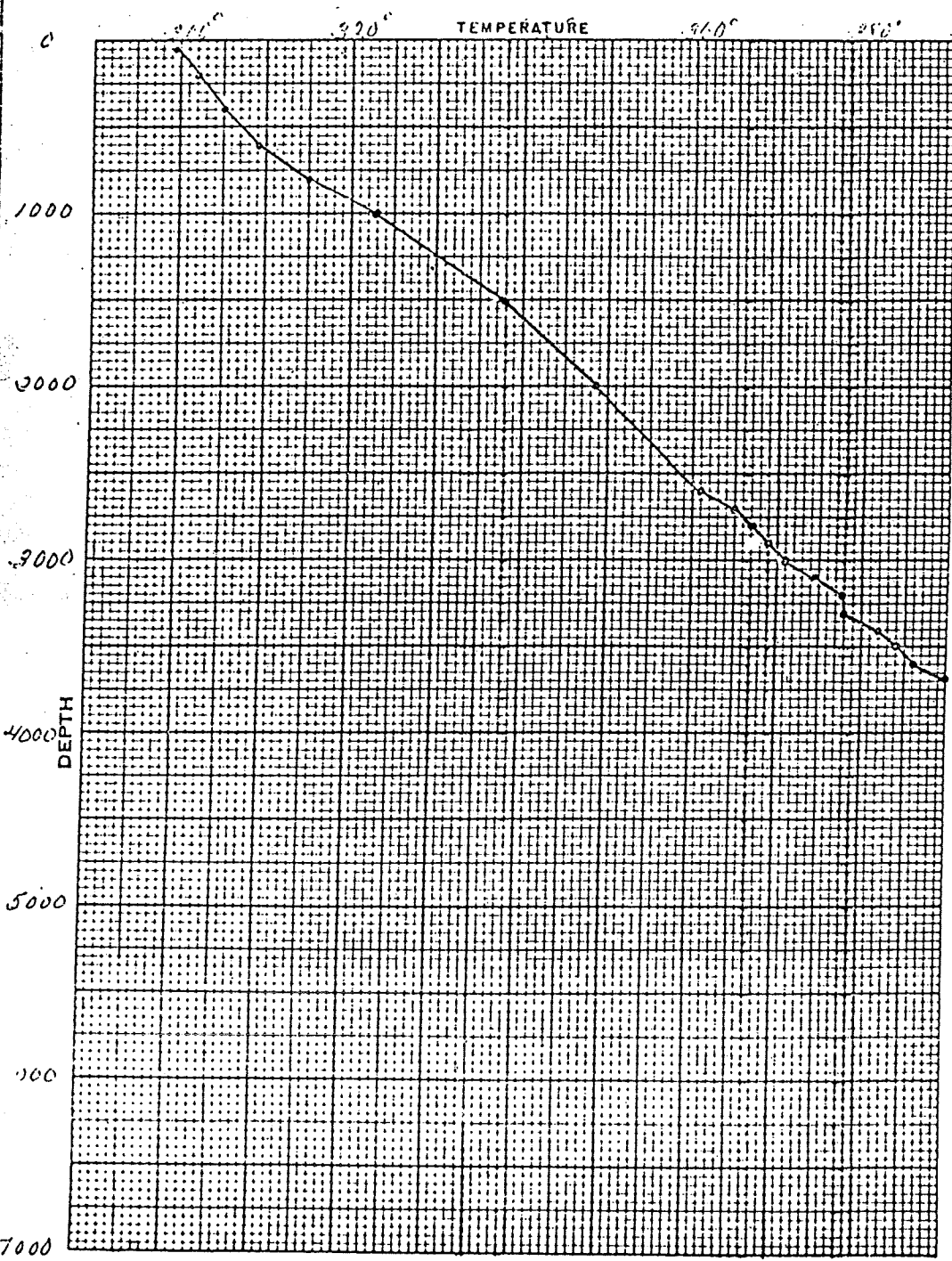
SUBSURFACE TEMPERATURE SURVEY

B6-311PT
(FLOWING)

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Baca #6
 CASING 3 5/8" ID from surface to 985' ELEV 3726 DATE: 1-14-73
 LINER DESCRIPTION: 7" liner from 100' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2633' to 2710'; DEPTH 3715'
2986' to 3176'; 3589' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 84°F - 646° FAH
 SERIAL NO RTB-10005

PURPOSE Tandem Temperature and Pressure Flowing Survey MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEM
50	298.2	65.21	
200	302.2	19.25	
400	305.3	75.52	
600	309.3	70	
800	315.3	83.8	
1000	322.0	9.53	
1500	337.5	114.13	
2000	348.7	122.50	
2400	361.7	156.36	
2700	365.0	162.95	
2800	367.2	167.47	
2900	369.4	172.10	
3000	371.6	176.77	
3100	374.6	183.41	
3200	377.6	190.30	
3300	379.8	195.36	
3400	382.0	200.51	
3500	384.2	205.70	
3600	386.7	211.20	
3698	390.3	217.12	

BY: _____

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GEO THERMAL DIVISION

B6-311PT
(FLOWING)

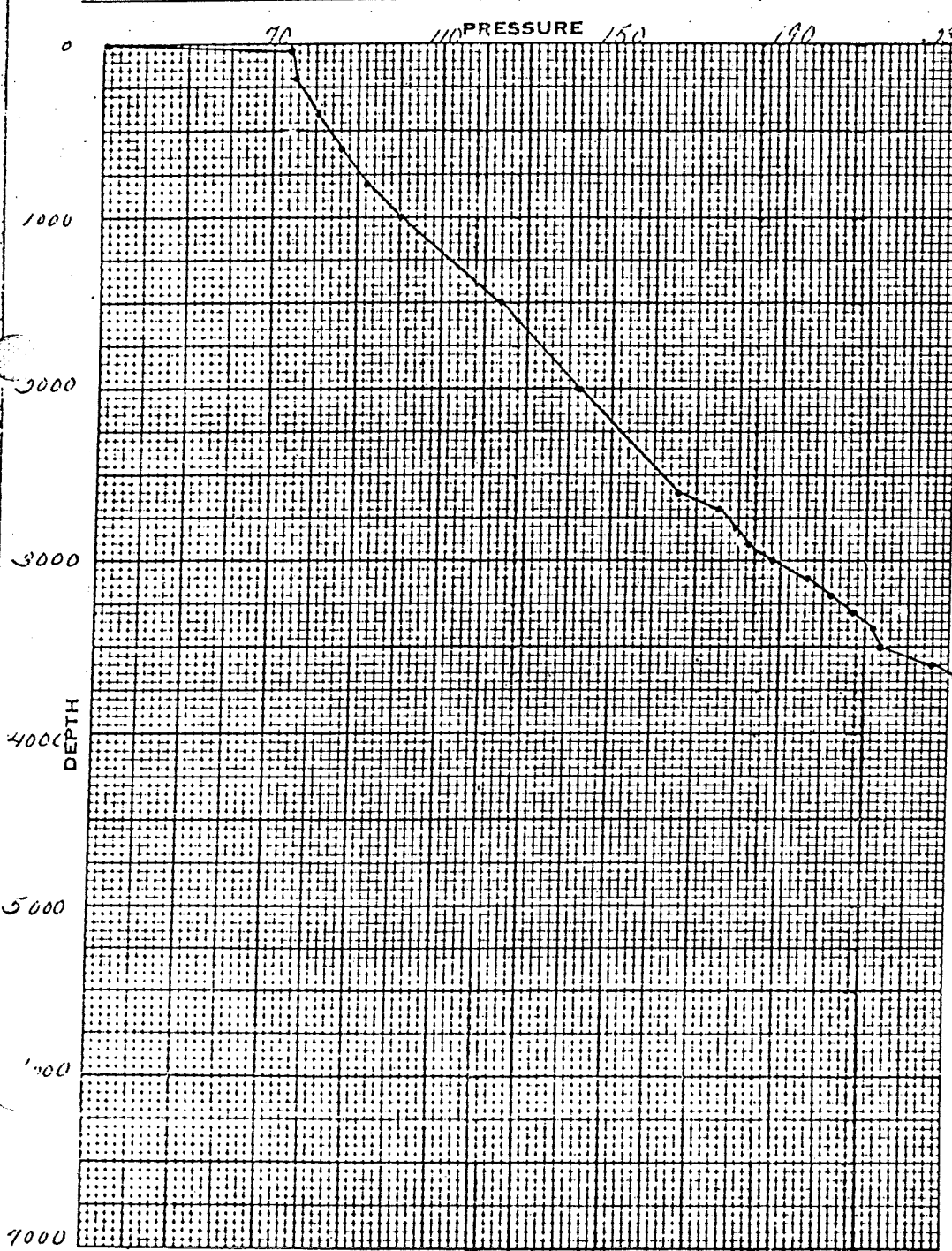
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Redondo Valley WELL NAME Boca # 6
 CASING 9 5/8" C. From surface to 795' ELEV 8126 DATE 1-14-73
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2633' to 2710'; DEPTH 3715'
2750' to 3176'; 3589' to 3698'

HOLE DESCRIPTION:

INSTRUMENT 2050 PS
 SERIAL NO 7168N

PURPOSE Tandem Temperature and Pressure Flowing Survey MAX TEMP _____ °F @ _____
 REMARKS:



STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING, PSI		
DEPTH	PRESSURE	GRADIENT
0	50.55	50.55
50	74.48	316.34
200	75.52	317.20
400	81.82	318.06
600	86.02	318.92
800	92.31	319.78
1000	103.85	320.64
1500	124.83	321.50
2000	142.66	322.36
2600	166.78	323.22
2700	175.17	323.38
2800	179.37	323.54
2900	183.57	323.70
3000	188.81	323.86
3100	196.15	324.02
3200	202.45	324.18
3300	207.69	324.34
3400	212.94	324.50
3500	219.23	324.66
3600	226.57	324.82
3690	237.16	325.00

BY: _____

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GEOTHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

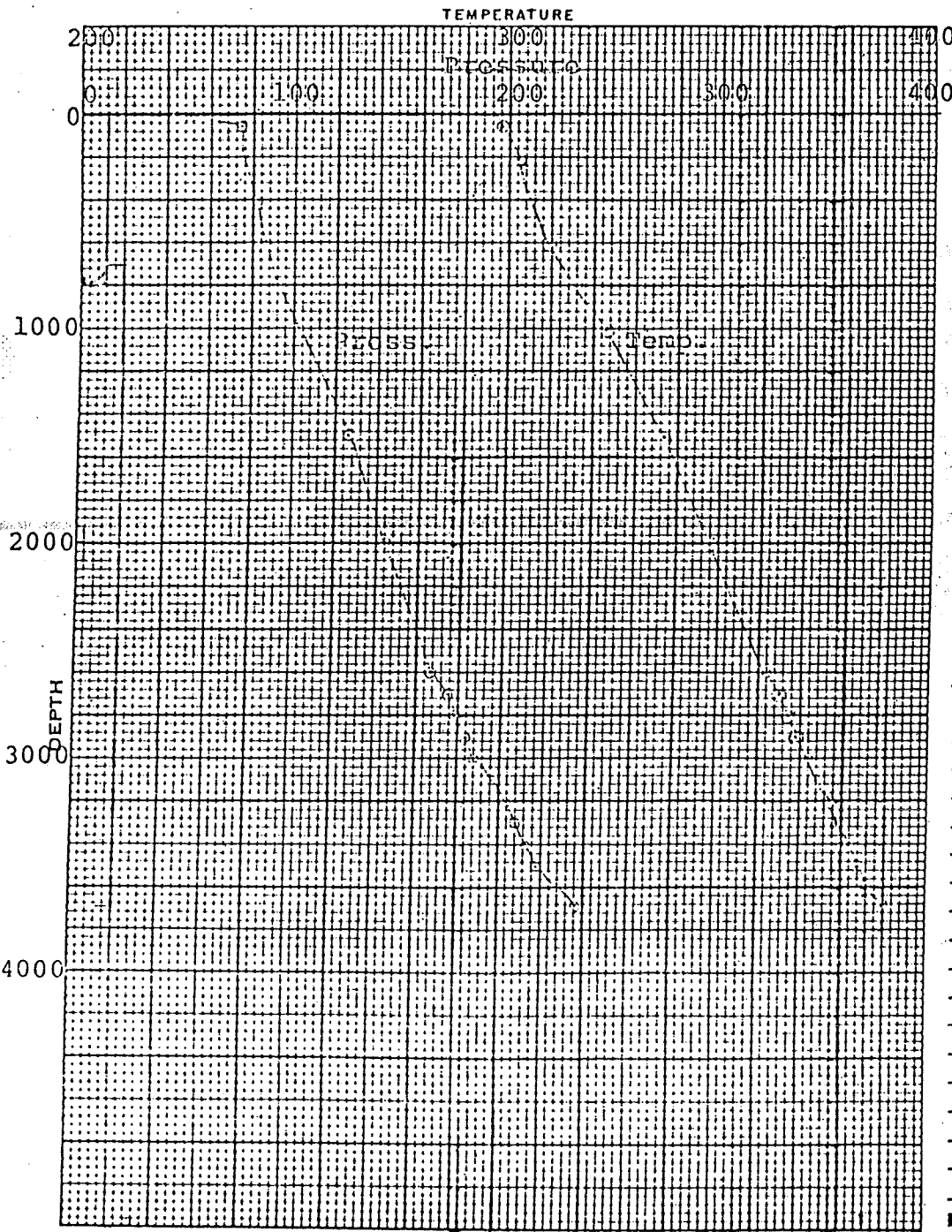
B6-511PT
(FLOWING)

OWNER Union Oil Co. of California FIELD Redondo Valley WELL NAME Baca No. 6
 CASING 9-5/8" C from surface to 795' ELEV 872' DATE: Jan. 14, 1973
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT 14' above gl
 DEPTH _____

HOLE DESCRIPTION: _____ INSTRUMENT 84° - 646° FAH
 SERIAL NO KT-B 10005

PURPOSE Tandem Temperature & Pressure Flowing Survey MAX TEMP _____ °F @ _____
 REMARKS: _____ Flow rate 146,000 lb/hr

STABILIZATION PERIOD _____



PRESSURE	GAUGE	DOB
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
Depth	Pres.	Grad.	Temp.
0	50.35		
50	74.48	.483	298.
200	75.52	.007	302.
400	81.82	.032	305.
600	86.02	.021	309.
800	92.31	.031	315.
1000	103.85	.058	323.
1500	124.83	.042	337.
2000	142.66	.036	348.
2600	166.78	.042	361.
2700	175.17	.083	365.
2800	179.37	.042	367.
2900	183.57	.042	369.
3000	188.81	.052	371.
3100	196.15	.073	374.
3200	202.45	.063	377.
3300	207.69	.052	379.
3400	212.94	.053	382.
3500	219.23	.070	384.
3600	226.57	.073	386.
3690	237.06	.117	390.

BY: JUNKER

GEO THERMAL DIVISION

86-510P

SUBSURFACE PRESSURE SURVEY

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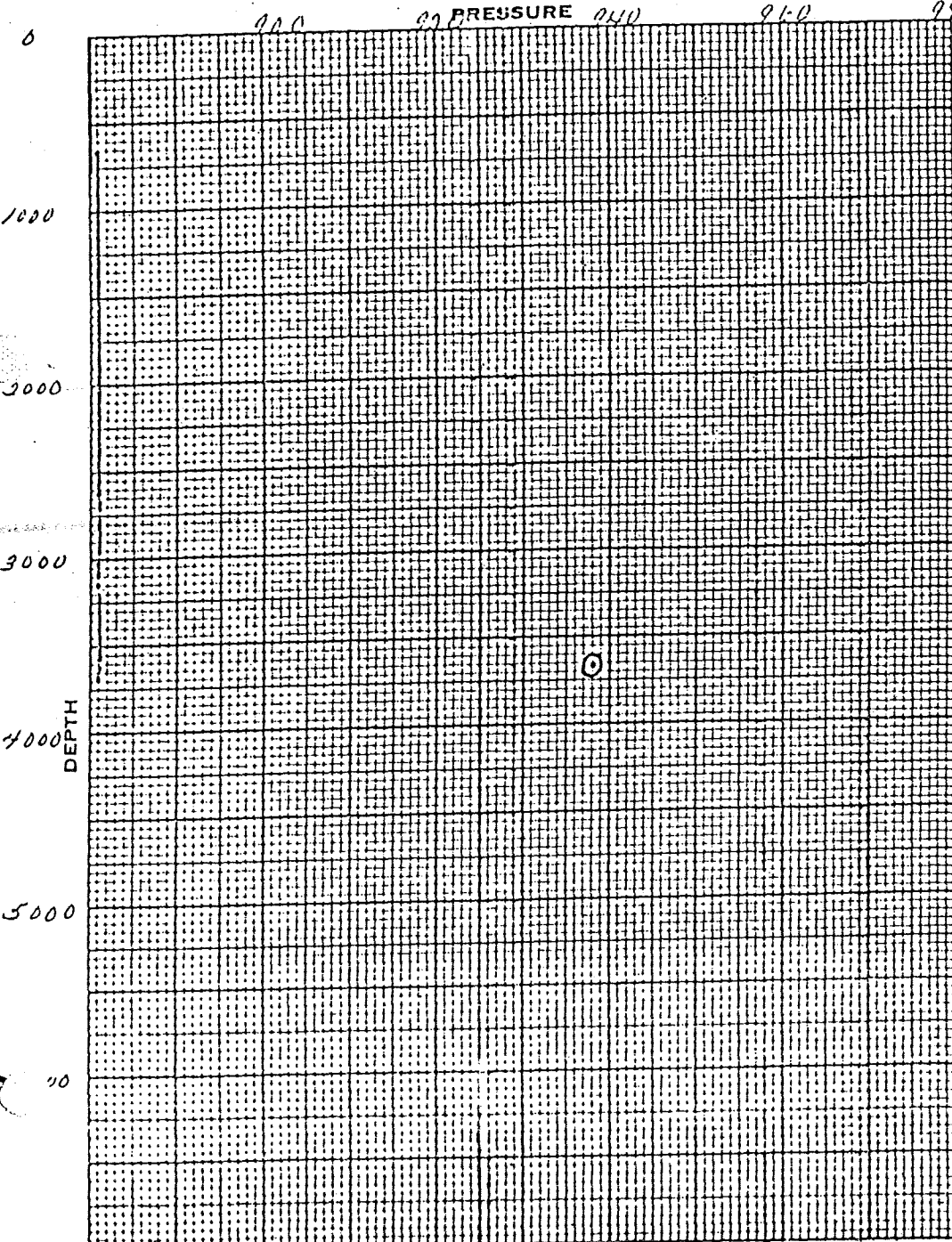
OWNER Big Land & Cattle Co. FIELD Redondo Valley WELL NAME Boca # 6
 CASING 2 3/8" C. from surface to 795' ELEV 5726 DATE 11/6/72
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT 14' above gravel
Perforated intervals from 2693'-2710'; DEPTH 3715'
2786'-3176'; 3589'-3698'

HOLE DESCRIPTION: _____ INSTRUMENT 2050 PS
 SERIAL NO 7168 N

PURPOSE Static Bottom Hole Pressure Buildup MAX TEMP _____ °F @ _____

REMARKS: _____

STABILIZATION PERIOD
55 0957 11-3-72
ST. TIME 4.348 MINS



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
<u>3690</u>	<u>991.28</u>	
<u>3690</u>	<u>968.23</u>	
<u>(corrected for temp)</u>		

BY: _____

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GEOHERMAL DIVISION

B6-39P

SUBSURFACE PRESSURE SURVEY

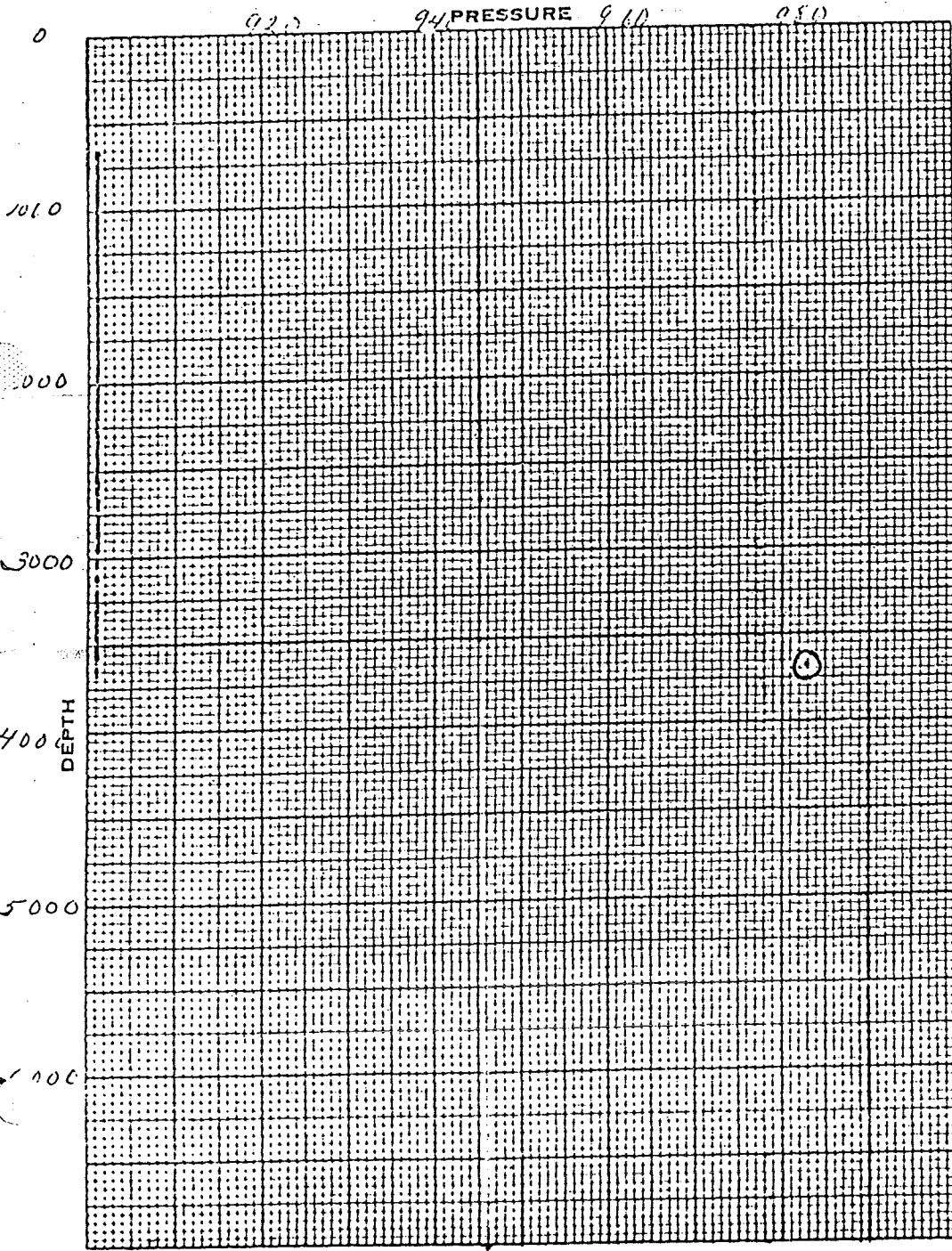
OWNER Baca Land & Cattle Co FIELD Redondo Valley WELL NAME Baca # 6
 CASING 4.516" O. from surface to 995' ELEV 3726 DATE 11/15/72
 LINER DESCRIPTION: 7" liner from 995' to 3700' ZERO POINT 1.4' above ground
Perforated intervals from 3693' to 3710' DEPTH 3715'
3686' to 3716'; 3589' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 3050 PS
 SERIAL NO 7168 N

PURPOSE Static Bottom Hole Pressure Buildup MAX TEMP _____ °F @ _____

REMARKS: _____

STABILIZATION PERIOD
SI 0957 11-3-72
SE 3183 MIN



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH 3690 PRESSURE 983.79 GRADIENT _____
 Time 1300

BY: _____

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GEO THERMAL DIVISION EG-58P

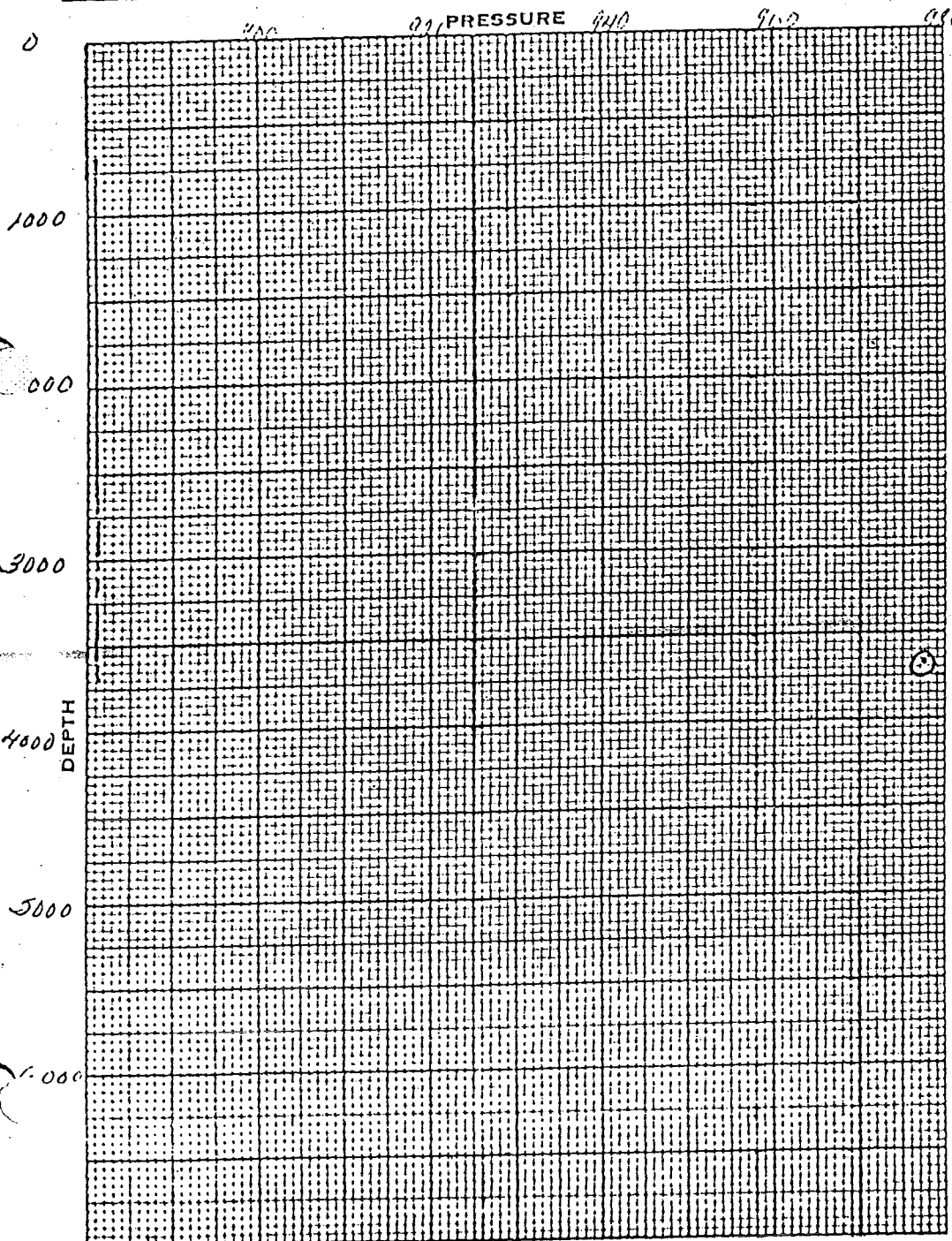
SUBSURFACE PRESSURE SURVEY

OWNER Boca Land & Cattle Co FIELD Redondo Valley WELL NAME Boca #16
 CASING 4 3/4" P. from surface to 795' ELEV 8726 DATE 11/4/72
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT 14" above ground
Perforated intervals from 2639' to 2710'; 2986' to DEPTH 3715'
3176'; 3589' to 3698'

HOLE DESCRIPTION: _____ INSTRUMENT 3050 _____ PSI
 SERIAL NO 7168N

PURPOSE Static Bottom Hole Pressure Buildup MAX TEMP _____ °F @ _____

REMARKS: _____ STABILIZATION PERIOD _____



STABILIZATION PERIOD
SI 0957 11-3-72
1533 MIN. 2.I

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH 3690 PRESSURE 978.62 GRADIENT _____

Time 1130

BY: _____

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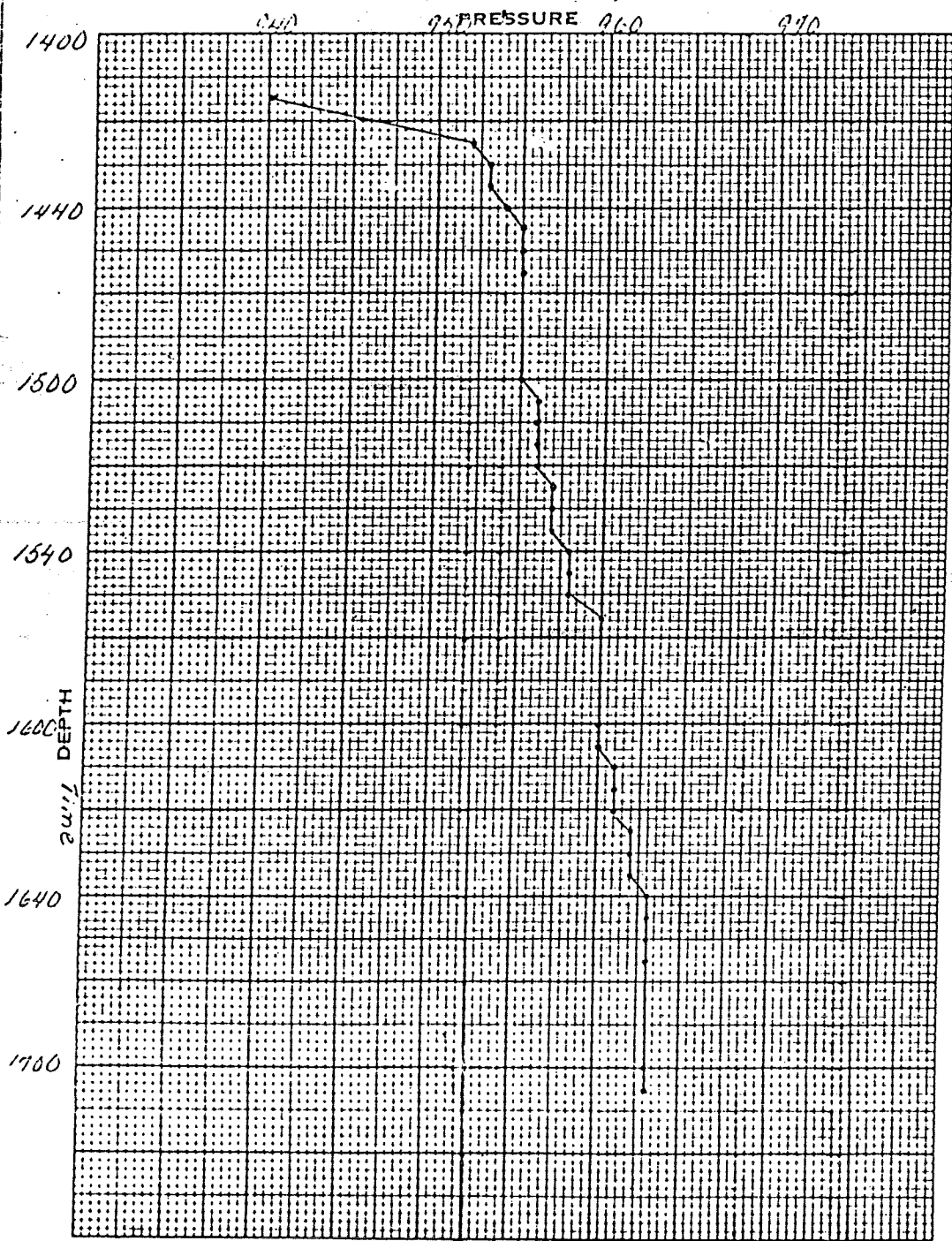
GEO THERMAL DIVISION B6-57P
SUBSURFACE PRESSURE SURVEY

OWNER Peck Land & Cattle Co. FIELD Redondo Valley WELL NAME Boca #6
 CASING 9 5/8" C. from surface to 195' ELEV. 3726 DATE 11/3/72
 LINER DESCRIPTION: 7" liner from 692' to 8900' ZERO POINT 14' above ground
 DEPTH 3715'

HOLE DESCRIPTION: _____
 INSTRUMENT 2050 PS
 SERIAL NO 7168 N

PURPOSE Static Bottom Hole Pressure Buildup MAX TEMP _____ °F @ _____
 REMARKS: _____

STABILIZATION PERIOD
27 0937 11-3-72



PRESSURES.	GAUGE	BOMB
CASING, PSI		
Time	PRESSURE	GRADIENT
1415	940.34	
1425	952.76	
1430	953.79	
1435	953.79	
1440	954.83	
1445	955.86	
1450	955.86	
1455	955.86	
1500	955.86	
1505	956.90	
1510	956.90	
1515	956.90	
1520	956.90	
1525	957.93	
1530	957.93	
1535	957.93	
1540	958.97	
1545	958.97	
1550	958.97	
1555	960.00	
1600	960.00	
1605	960.00	
1610	961.05	
1615	961.05	
1620	961.05	
1625	962.09	
1630	962.09	
1635	962.09	
1640	963.10	
1645	963.10	
1650	963.10	
1655	963.10	
1700	969.10	
1705	969.10	

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GEOHERMAL DIVISION

B6-36P

SUBSURFACE PRESSURE SURVEY

OWNER Bear Land & Cattle Co FIELD Redondo Valley WELL NAME Bore # 6
 CASING 7 3/4" P from surface to 795' ELEV 5126 DATE 11/3/72
 LINER DESCRIPTION: 7" liner from 692' to 590' ZERO POINT 14" above ground
 DEPTH 9715'

HOLE DESCRIPTION:

INSTRUMENT 2050 P.
 SERIAL NO 7168 N

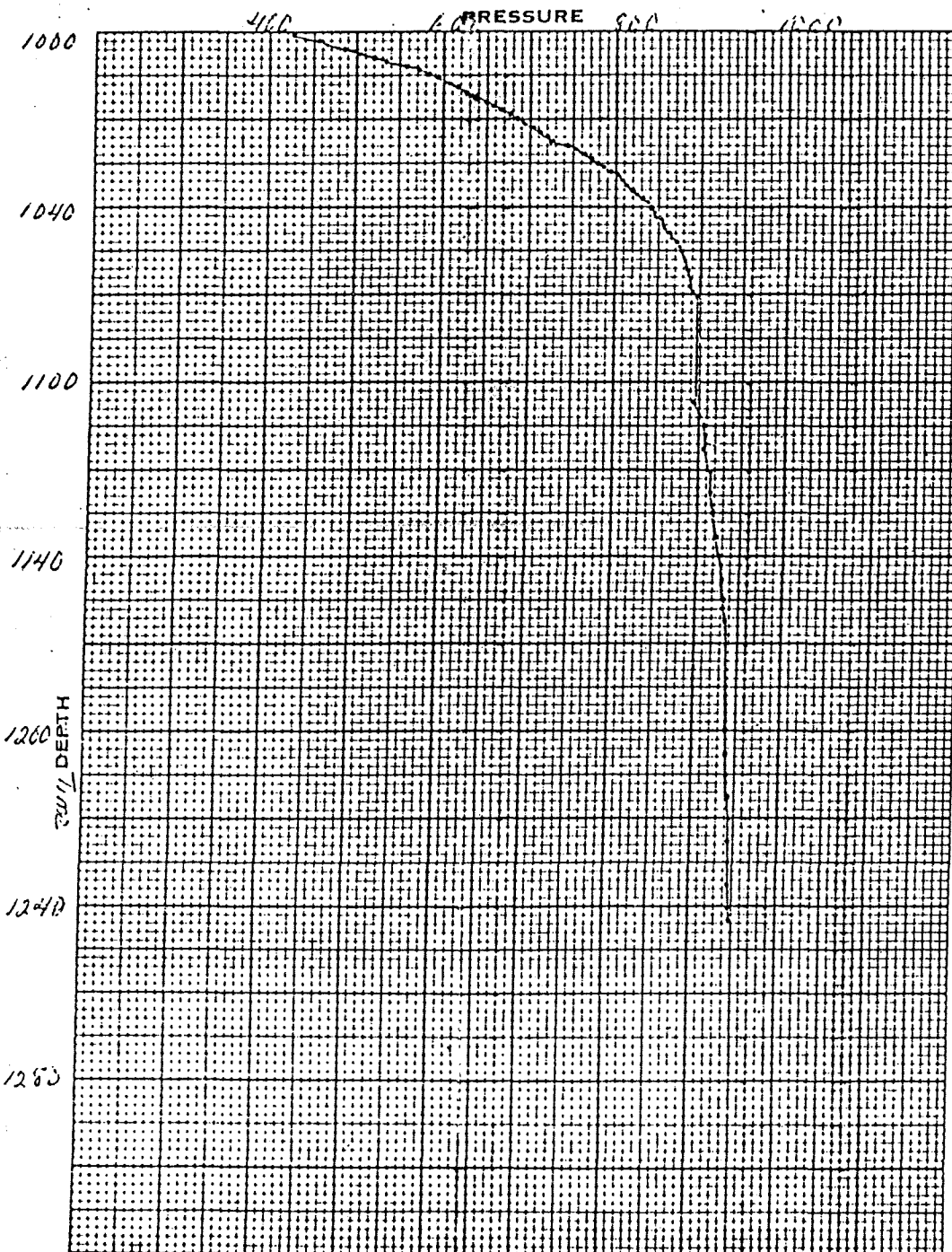
PURPOSE Static BH Pressure Buildup

MAX TEMP _____ °F @ _____

REMARKS:

STABILIZATION PERIOD

51 0757 11-3-72



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
1056	92.56	1039 801
1001	137.54	1034 802
1022	439.61	1035 808
1009	463.91	1036 819
1004	485.57	1037 822
1005	506.19	1038 830
1016	522.58	1039 832
1007	545.36	1040 832
1008	557.75	1041 835
1009	572.16	1042 836
1010	583.51	1043 851
1011	596.91	1044 855
1012	605.38	1045 859
1015	618.62	1046 862
1014	628.97	1047 862
1015	639.31	1048 870
1016	650.69	1049 872
1017	665.97	1050 874
1018	677.37	1051 875
1019	692.55	1052 878
1020	704.55	1053 881
1021	705.12	1054 883
1022	705.45	1055 884
1023	711.52	1056 885
1024	722.65	1057 887
1025	723.41	1058 889
1026	741.73	1059 890
1027	752.63	1060 891
1028	762.41	1065 894
1029	772.69	1110 902
1030	777.93	1115 907
1031	785.17	1120 912
1032	793.45	1125 915

76

GEOTHERMAL DIVISION

B6-56P

SUBSURFACE PRESSURE SURVEY

OWNER Bass Land & Cattle Co. FIELD Redondo Valley WELL NAME Baco #1
 CASING _____ ELEV. 8226 DATE 11/3/73
 LINER DESCRIPTION: _____ ZERO POINT 14' above ground
 _____ DEPTH 2715'

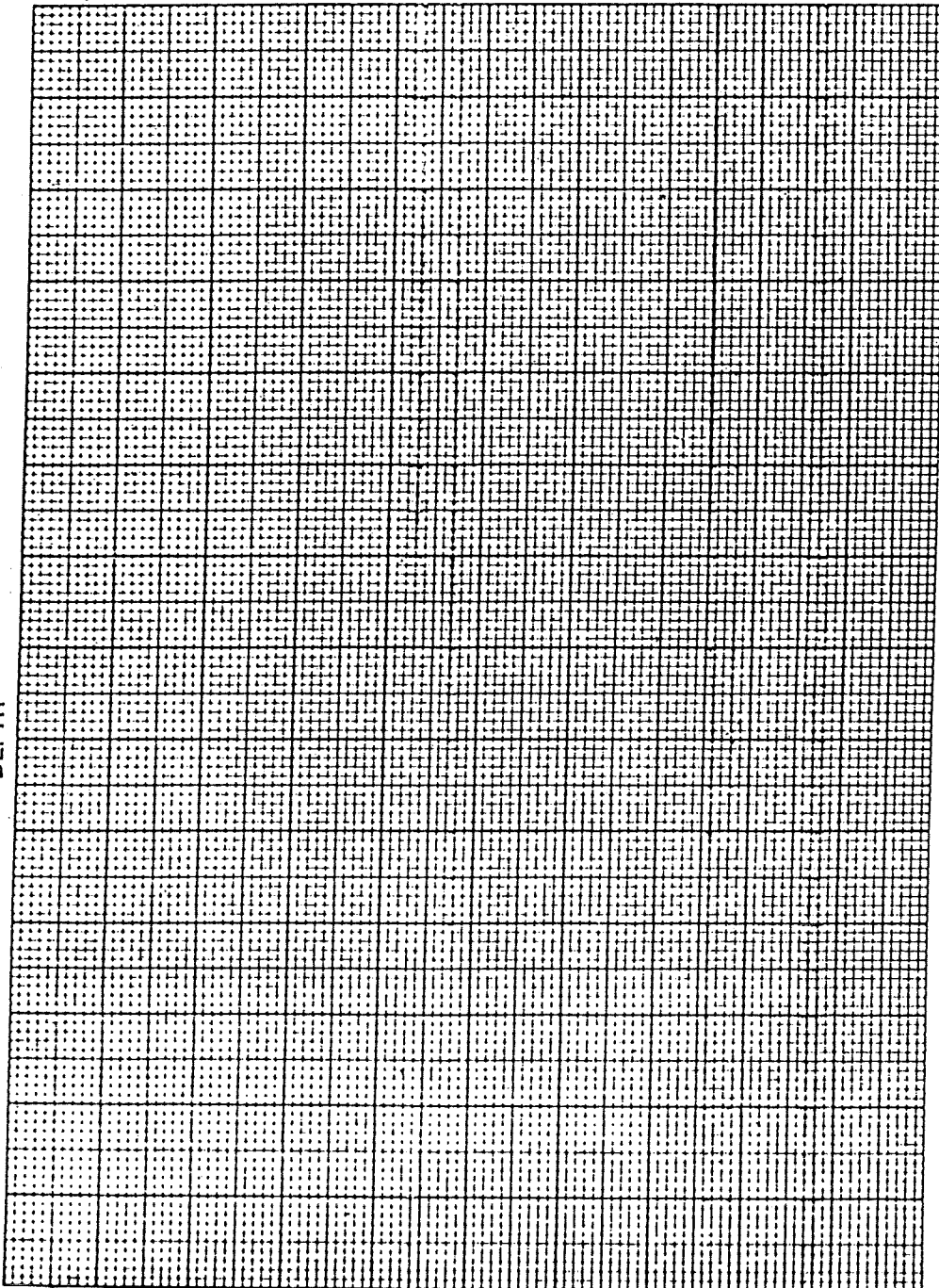
HOLE DESCRIPTION: _____ INSTRUMENT _____
 _____ SERIAL NO _____

PURPOSE _____ MAX TEMP _____ °F @ _____

REMARKS: _____

PRESSURE

STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	Time	PRESSURE	GRADIENT
1130		919.66	
1135		922.79	
1140		926.90	
1145		930.00	
1150		932.07	
1155		935.17	
1200		936.21	
1215		938.28	
1210		939.31	
1215		941.38	
1220		942.41	
1225		943.45	
1230		944.48	
1235		945.52	
1240		946.55	
1243		947.59	

BY: _____

76

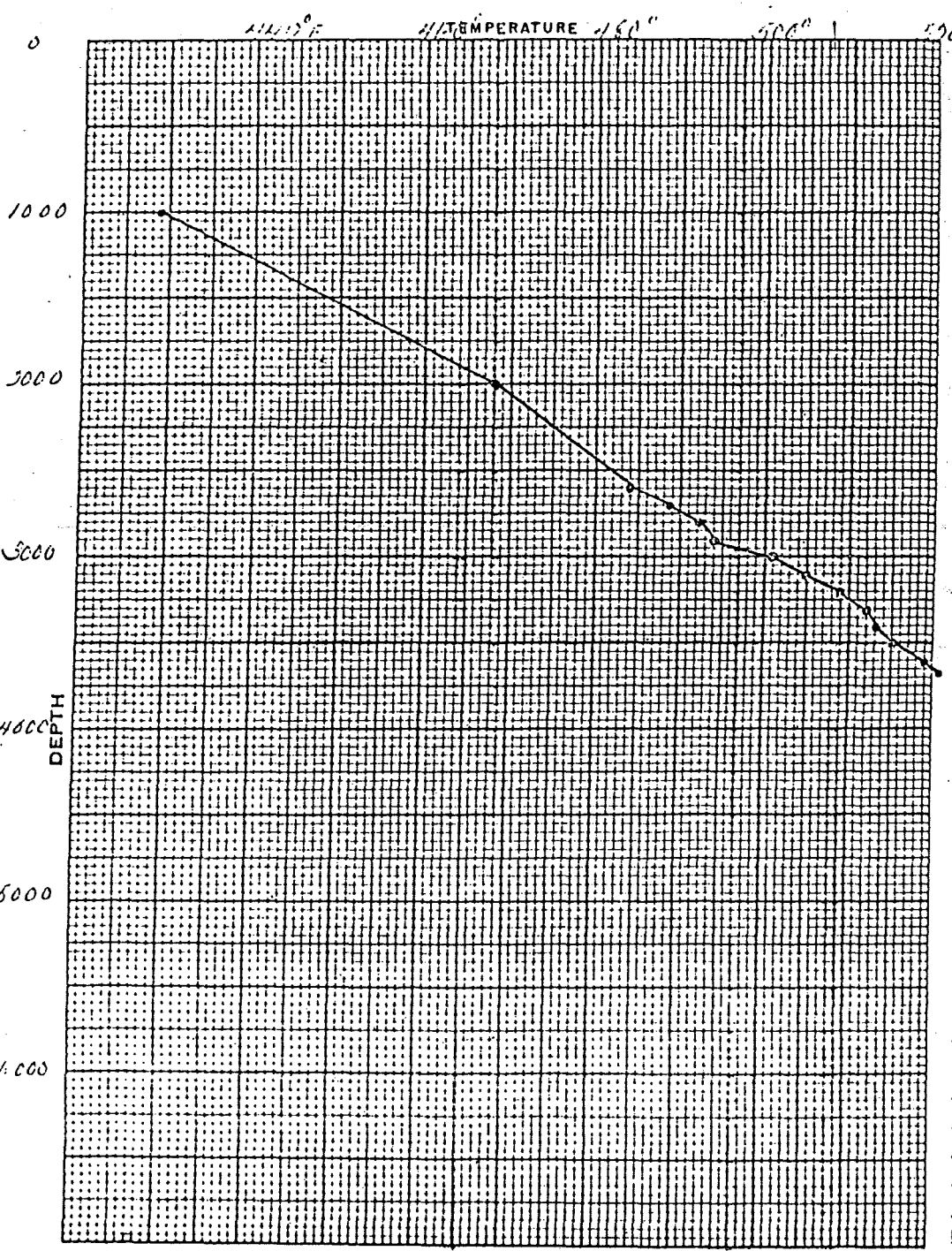
GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B6-55 PT

OWNER Baca Land & Cattle Co FIELD Redondo Valley WELL NAME Baca #6
 CASING 4 5/8" D. from surface to 795' ELEV 8726 DATE 10/24/72
 LINER DESCRIPTION: 7" liner from 622' to 3700' ZERO POINT 14' above ground
Re-located intervals from 2633'-2710', 2986', 317.6' DEPTH 3715'

HOLE DESCRIPTION: 3589' - 3698'
 INSTRUMENT 44°F - 64.6°F FAH
 SERIAL NO KTB-10005
 PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
1000	429.0		
2000	468.0		
2600	487.7		
2700	488.9		
2800	492.1		
2900	494.2		
3000	501.7		
3100	505.1		
3200	509.4		
3300	512.0		
3400	513.5		
3500	515.6		
3600	519.7		
3690	522.7		

BY: _____

WELL LOG

GEO THERMAL DIVISION

B6-35PT

SUBSURFACE PRESSURE SURVEY

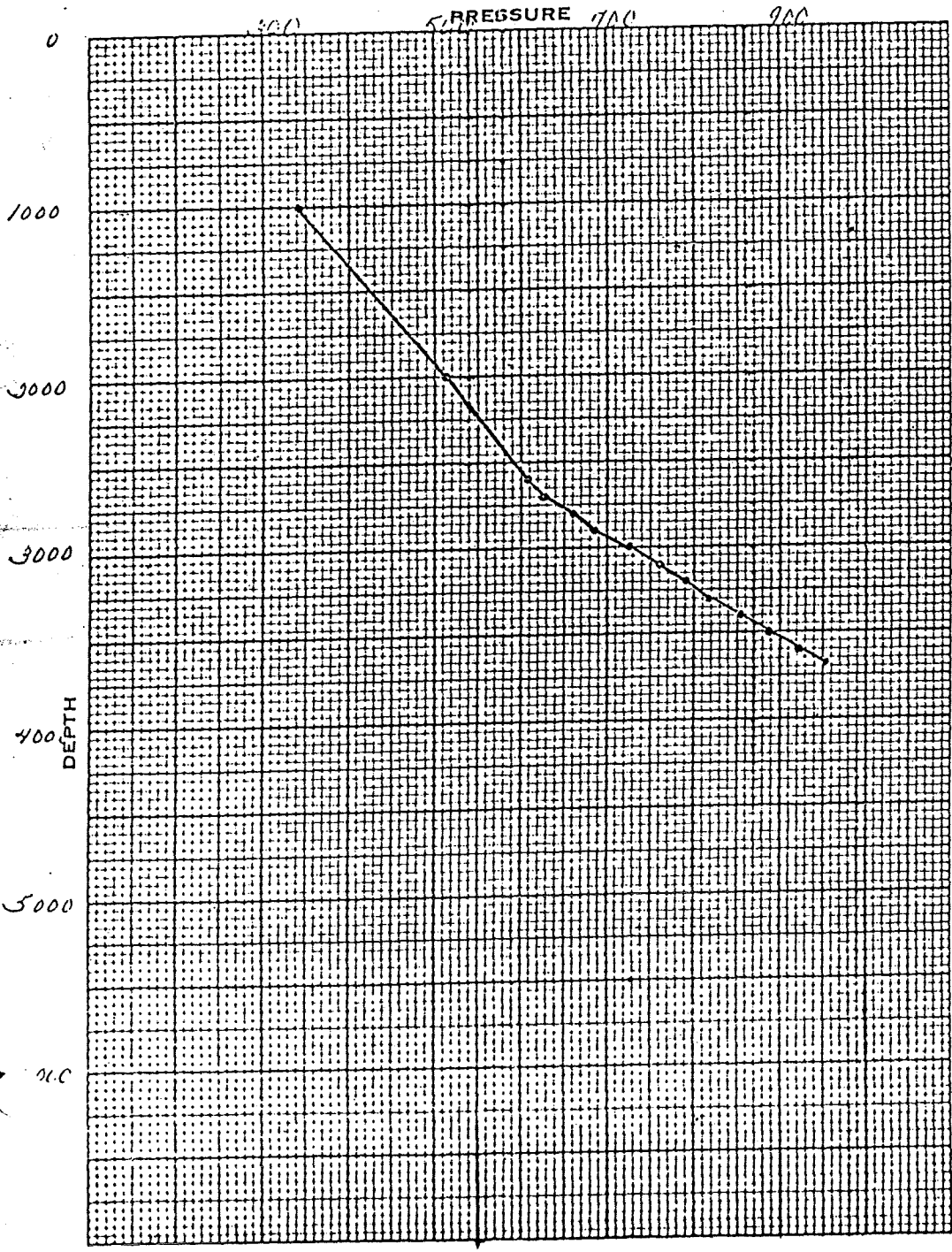
76

OWNER Bona Land & Cattle Co FIELD Redondo Valley WELL NAME Boca # 6
 CASING 95/16" P. from surface to 795' ELEV 5726 DATE 10/24/72
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT 14' above ground
Perforated intervals from 2633'-2710', DEPTH 3715'
2986'-3176',

HOLE DESCRIPTION: 3599' - 3699' INSTRUMENT 2050 PS
 SERIAL NO 7168-N
 MAX TEMP _____ °F @ _____

PURPOSE _____
 REMARKS: _____

STABILIZATION PERIOD
ST 1196 10-15-72



PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
1000	340.21	
2000	512.37	
2600	606.21	
2700	627.93	
2800	660.00	
2900	694.14	
3000	727.24	
3100	760.34	
3200	790.34	
3300	819.31	
3400	852.41	
3500	886.57	
3600	922.76	
3699	933.79	

BY: _____

76

GEO THERMAL DIVISION

B6-347

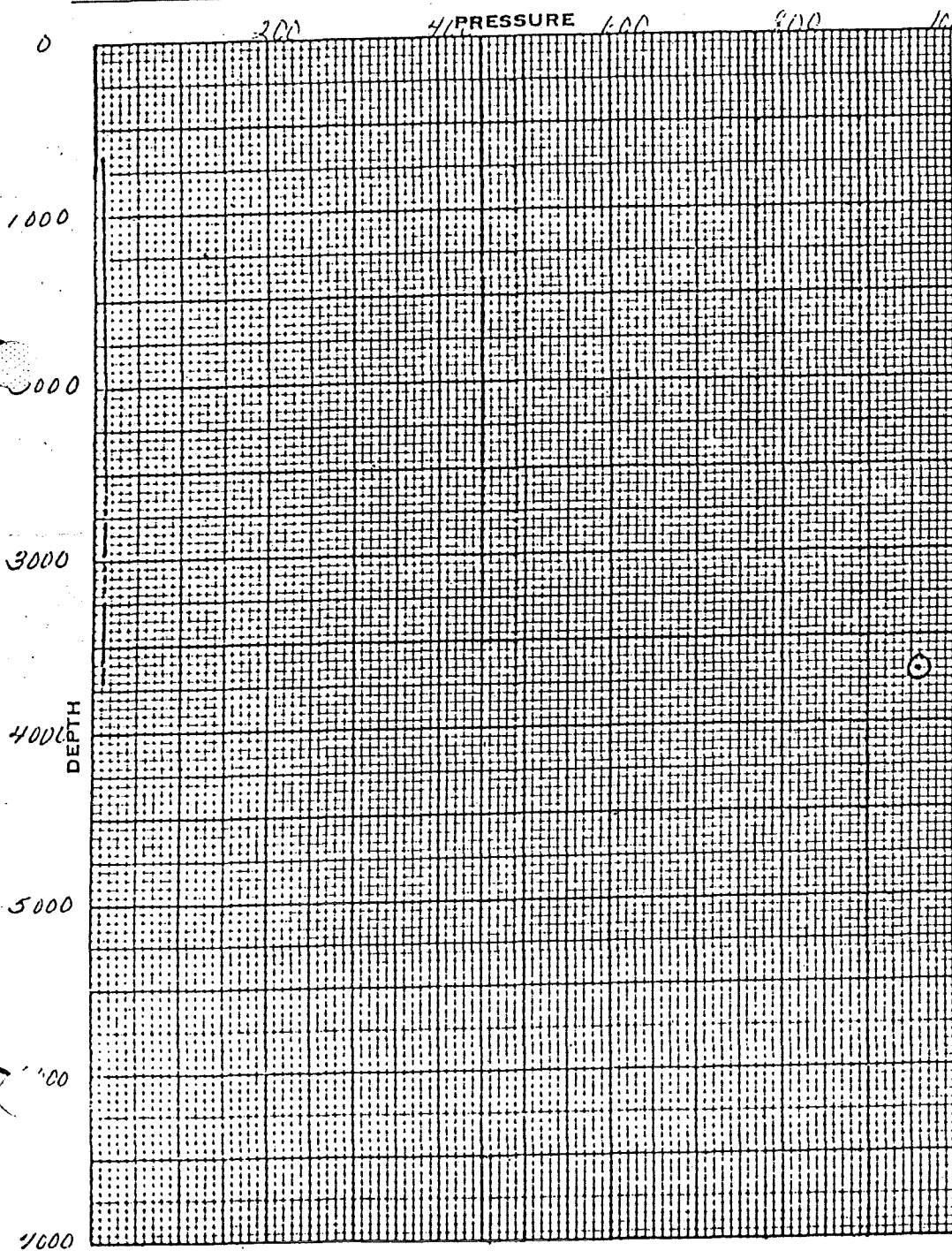
SUBSURFACE PRESSURE SURVEY

OWNER Baca Land & Cattle Co FIELD Redondo Valley WELL NAME Baca #6
 CASING 9 5/8" C. from surface to 795' ELEV 8726 DATE 10/16/72
 LINER DESCRIPTION: 7" liner from 692' to 3900' ZERO POINT _____
Perforated intervals from 2633' to 2710' - 2986' to 3176' DEPTH _____

HOLE DESCRIPTION: 9589' to 3695' INSTRUMENT J400 PSI
 SERIAL NO 6604N

PURPOSE Static Bottom Hole Pressure Buildup MAX TEMP _____ °F @ _____

REMARKS: _____ STABILIZATION PERIOD SE 1146 10-15-72



PRESSURES	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
<u>3690</u>	<u>959.33</u>	

Time 10:52

BY: _____

76

GEO THERMAL DIVISION B6-53P

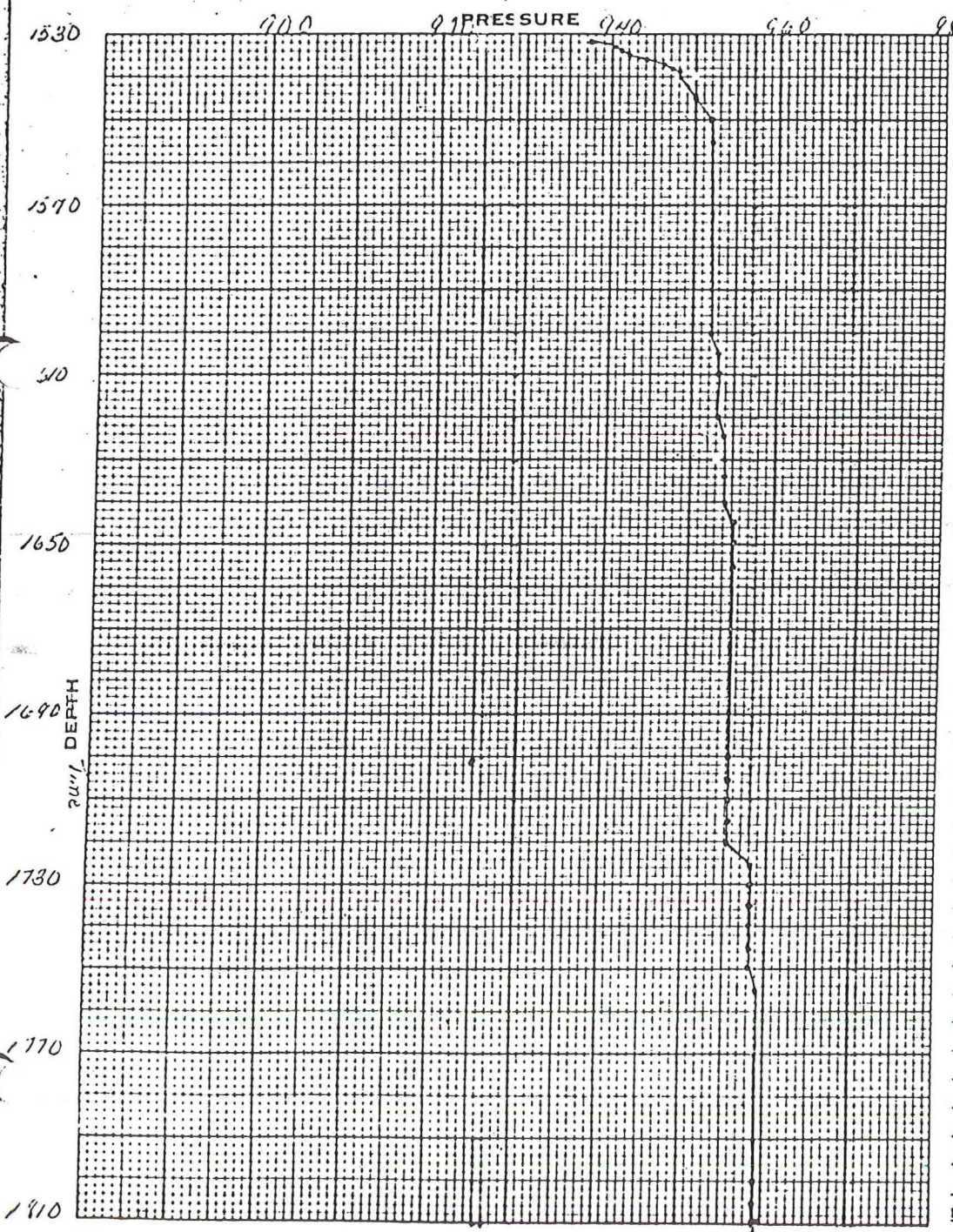
SUBSURFACE PRESSURE SURVEY

OWNER Baca Land & Cattle Co FIELD Redondo Valley WELL NAME Baca #1
 CASING 9-1/2" c from surface to 795' ELEV 8726 DATE 10/15/72
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT _____
Perforated intervals from 2633' to 2710' - 2986' to 3174' DEPTH _____
 HOLE DESCRIPTION: 3589' to 3695'

INSTRUMENT 2400 PSI
 SERIAL NO 4604N
 MAX TEMP _____ °F @ _____

PURPOSE Static Bottom Hole Pressure Buildup
 REMARKS: _____

STABILIZATION PERIOD
25 1196 10-15-72



PRESSURES, CASING, PSI	GAUGE	BOMB

TIME DEPTH	PRESSURE	GRADIENT
1532.80	937.80	1740 950
1533	940.19	1745 950
1534	941.59	1750 950
1535	942.58	1755 950
1536	944.98	1800 950
1537	946.17	1805 950
1538	947.37	1810 950
1539	948.56	1815 950
1540	948.56	1820 950
1545	950.96	1821 950
1550	952.15	
1555	952.15	
1600	952.15	
1605	952.35	
1610	953.35	
1615	953.35	
1620	953.55	
1625	954.55	
1630	954.55	
1635	954.55	
1640	954.55	
1645	955.74	
1650	955.74	
1655	955.74	
1700	956.94	
1705	956.94	
1710	956.94	
1715	956.94	
1720	956.94	
1725	958.13	
1730	958.13	
1735	958.13	

BY: _____

76

GEO THERMAL DIVISION

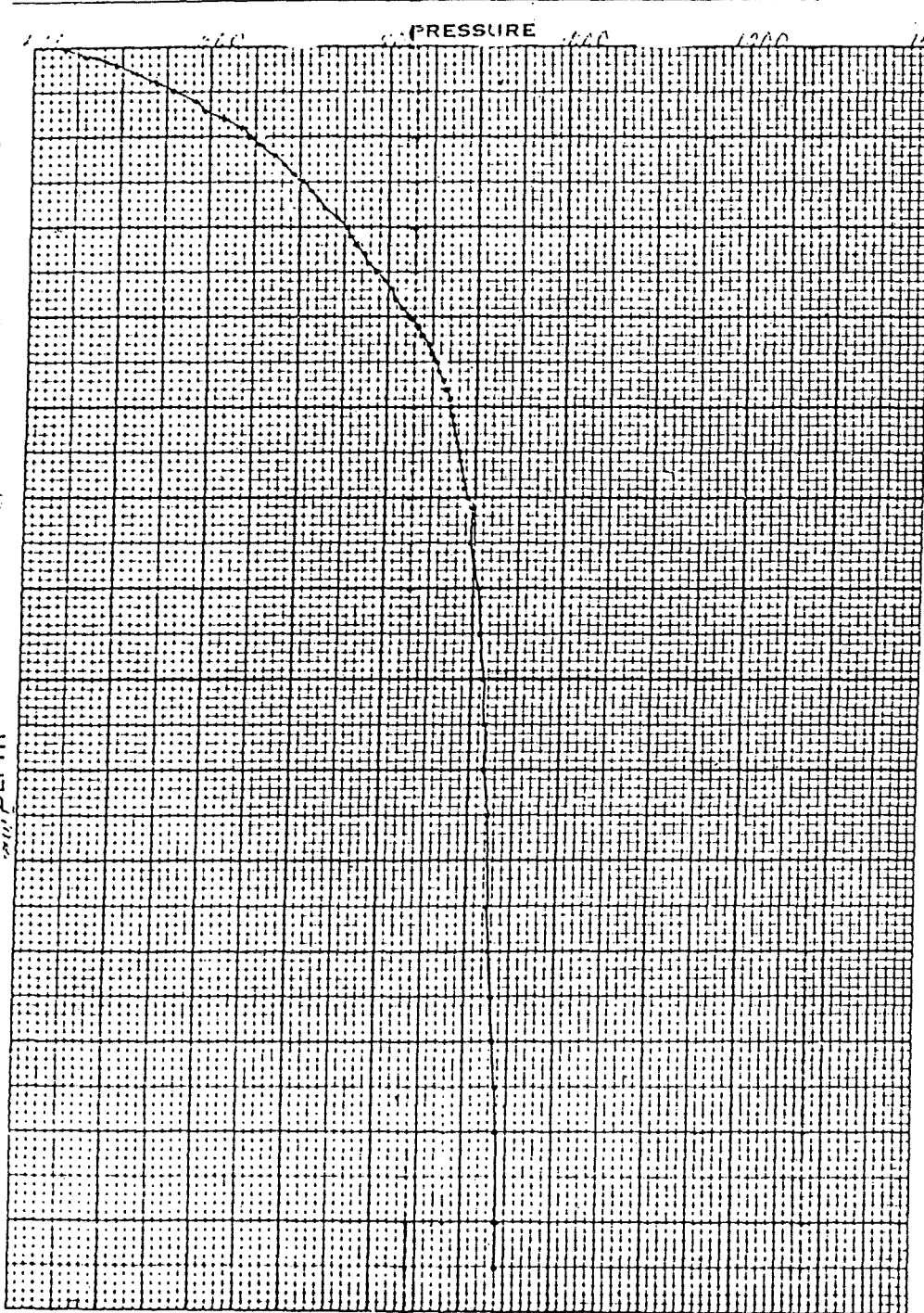
B6-52P

SUBSURFACE PRESSURE SURVEY

OWNER Paul Land & Cattle Co. FIELD Redondo Valley WELL NAME Bacon #6
 CASING 1" from surface to 795' ELEV. 5726 DATE 10/15/72
 LINER DESCRIPTION: 7" Line from 692' to 3700' ZERO POINT _____
Pierced interval from 3653' to 2710' - DEPTH _____
2986' to 3176'

HOLE DESCRIPTION: 3589' to 3698' INSTRUMENT 2400 PS
 SERIAL NO 6604 N

PURPOSE Static Bottom Hole Pressure Buildup @ 3690' MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD
Well S.E. 1146 10-15-72

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
1150	496.45	1224 842.0
1151	461.68	1225 854.0
1153	491.11	1226 853.0
1153	516.75	1227 861.0
1154	539.47	1228 869.0
1155	557.42	1229 864.0
1156	581.34	1230 868.0
1157	594.56	1231 872.0
1158	618.22	1232 874.0
1159	655.17	1233 872.0
1200	647.13	1234 875.0
1201	656.70	1235 881.0
1202	671.05	1236 881.0
1203	681.82	1237 885.0
1204	692.78	1238 885.0
1205	708.35	1239 885.0
1206	712.92	1240 891.0
1207	720.16	1245 891.0
1208	729.07	1251 892.0
1209	741.23	1255 892.0
1210	751.30	1260 892.0
1211	757.18	1265 892.0
1212	765.16	1270 892.0
1213	762.73	1275 892.0
1214	779.91	1280 892.0
1215	787.08	1285 892.0
1216	796.65	1290 892.0
1217	802.69	1295 892.0
1218	809.51	1300 892.0
1219	818.18	1305 892.0
1220	824.16	1310 892.0
1221	832.54	1315 892.0
1222	838.52	1320 892.0
1223	846.89	1325 892.0

76

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B6-5IPT

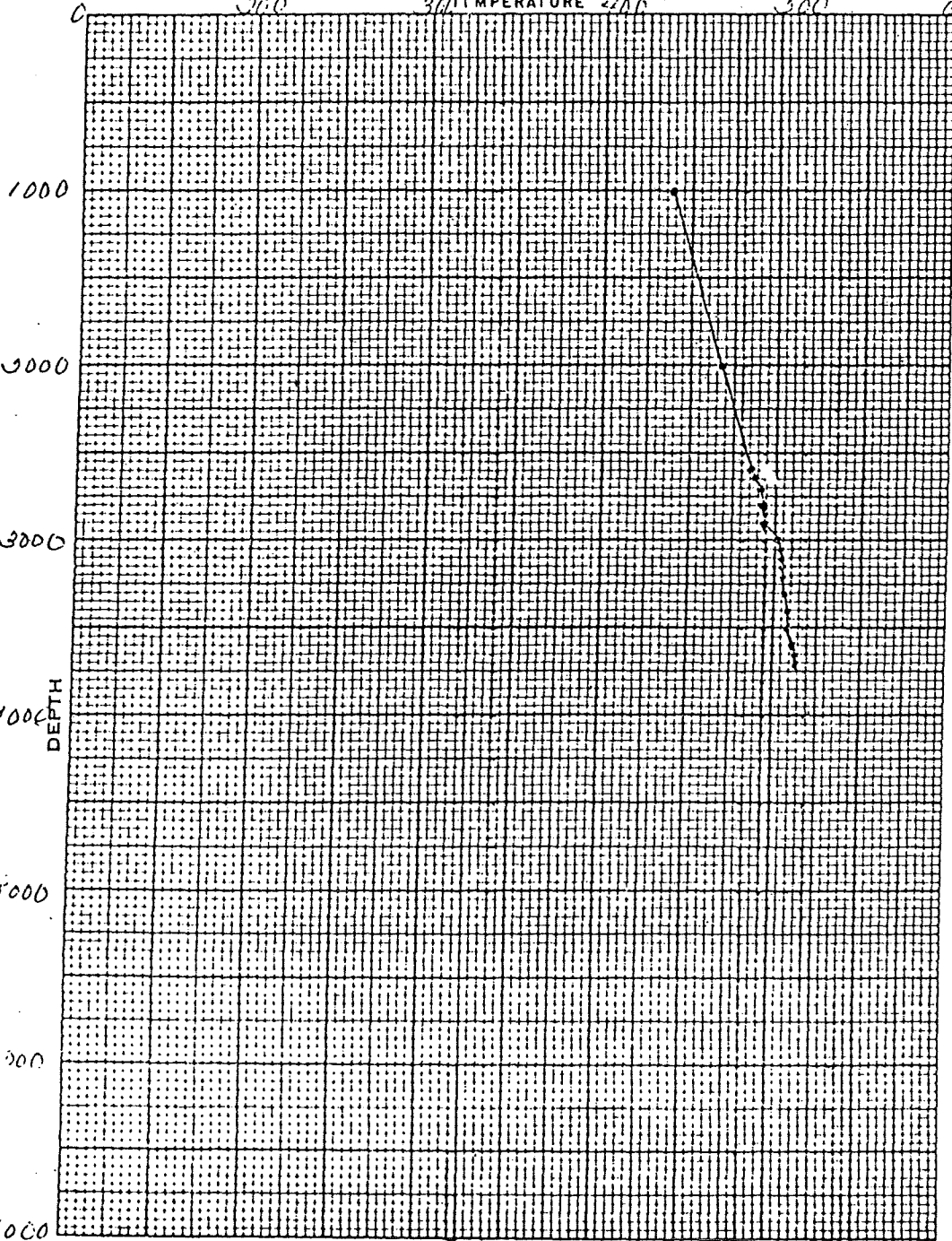
OWNER Boza Land & Cattle Co. FIELD Redondo Valley WELL NAME Boza #6
 CASING 7 3/4" O from surface to 795' ELEV. 8736 DATE: 10-5-72
 LINER DESCRIPTION: 7" liner from 692' to 3710' ZERO POINT _____
Perforated intervals from 2633' to 2710' - DEPTH _____
3986' to 3972'

HOLE DESCRIPTION: 3589' to 3698' INSTRUMENT 84°F - 646°F FA
 SERIAL NO RTB 10005

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: _____

TEMPERATURE 200° 300° 400° 500° 600°

STABILIZATION PERIOD _____



PRESSURES.	GAUGE	DEPTH	TEMP.
CASING, PSI			
		DEPTH	TEMP.
		1000	439.9
		2000	469.0
		2600	485.5
		2650	487.6
		2700	496.3
		2800	499.4
		2900	496.7
		3000	500.2
		3050	504.0
		3100	506.3
		3150	508.7
		3200	509.9
		3300	512.7
		3400	515.6
		3500	516.8
		3600	521.4
		3650	523.2
		3698	524.5

BY:

UNION

GEO THERMAL DIVISION

B6-51PT

SUBSURFACE PRESSURE SURVEY

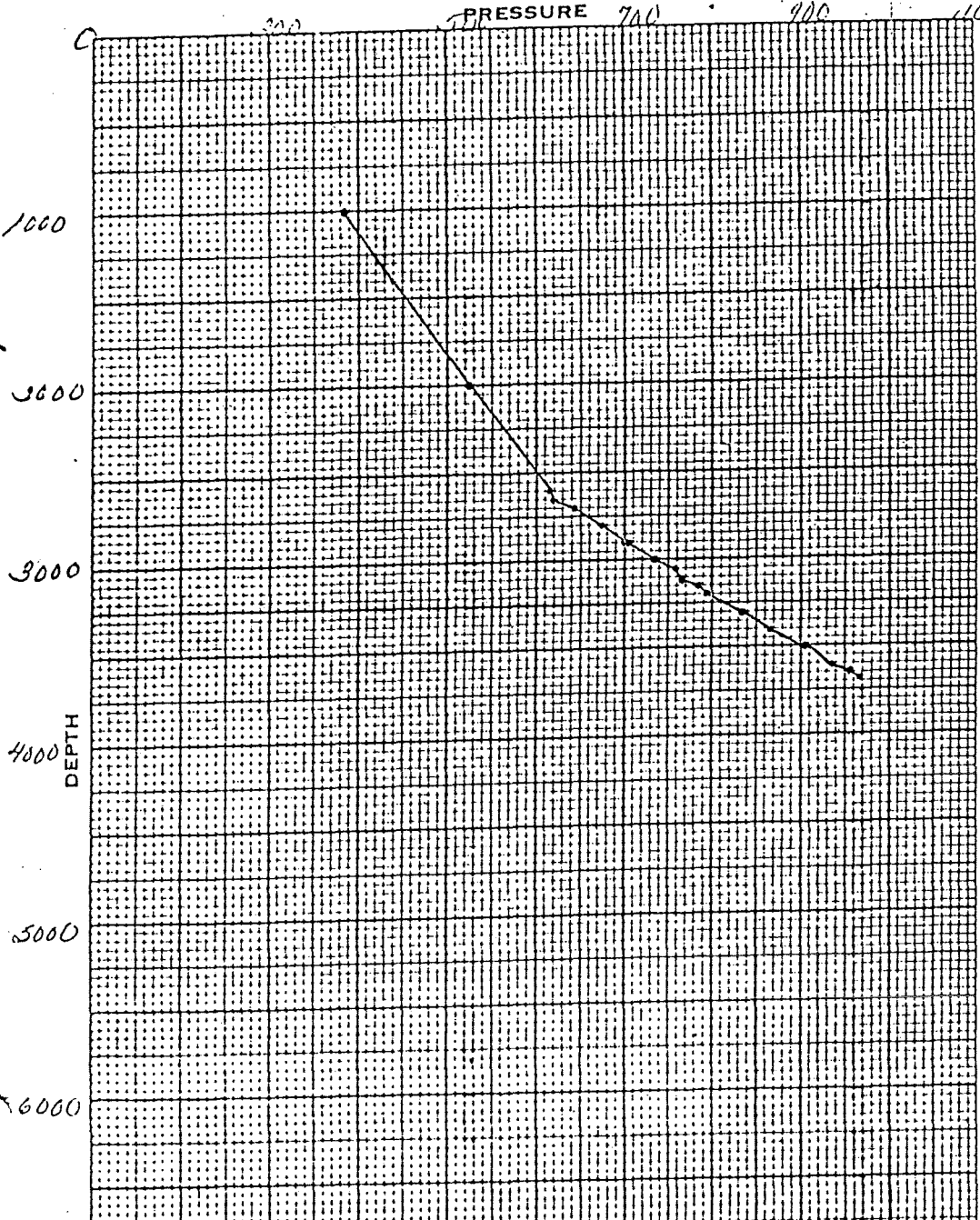
76

OWNER Baca Land & Cattle Co FIELD Redondo Valley WELL NAME Baca #6
 CASING 9 5/8" o. from surface to 795' ELEV. 5726 DATE 10-5-72
 LINER DESCRIPTION: 7" liner from 692' to 3700' ZERO POINT _____
Perforated intervals from 2633' to 2710' - DEPTH _____
2986' to 3176'

HOLE DESCRIPTION: 3589' to 3698' INSTRUMENT 2400 PS
 SERIAL NO 4604 N
 MAX TEMP _____ °F @ _____

PURPOSE _____
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
1000	351.29	
2000	526.32	
2600	616.03	
2650	629.19	
2700	641.15	
2800	672.25	
2900	700.76	
3000	734.45	
3050	751.20	
3100	767.94	
3150	783.49	
3200	799.04	
3300	833.73	
3400	868.42	
3500	903.11	
3600	935.41	
3650	952.15	
3690	967.90	

BY: _____