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GL03875

Open-File Report # NM/Baca-19f

BACA PROJECT
DATA AND REPORTS

WELLS

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

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

DEL PYLE
APR 5 1976

BIO-S46-P1r

OWNER UNION OIL CO OF CALIF FIELD VALLE GRANDE
WELL NAME BOKAHO
CASING 20" @ 653'; 13 3/8" @ 2794' ELEV. 8734
DATE: 3/18/76
LINER DESCRIPTION: 9 7/8" @ 4418'; 7" @ 4275' - T.D.
ZERO POINT 66710'
DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

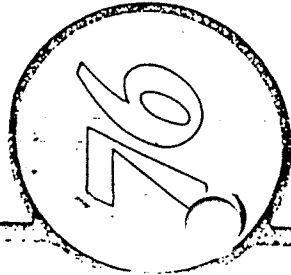
P-0-4000 PSIG 7198 124R 12889-L
ELEMENT T-80°F-646°F SERIAL NO. 10052 CLOCK 124R 13371-L TURN STABILIZATION PERIOD
ENGAGE SYLUS P-0934 T-0928 DISENGAGE SYLUS P-1228 T-1252
WELL HEAD 4.75
PICKUP @ 5959 TIME ON BOTTOM 1122-1152 MAX. °F 530 @ 5500
WELL STATUS SHUT IN.
SHUT IN: 8/21/75 ON PRODUCTION:
RATE

PSIG.

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	IB CORR.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1015	1000	1.005	11		0	1015	1000	1.432	215								
1130	2000	1.178	403		-1.002	1030	2000	1.058	408								
1142	3000	1.315	764		-1.001	1042	3000	1.437	504								
1154	4000	1.509	1111		0	1054	4000	1.421	500								
1167	5000	1.671	1457		+1.003	1107	5000	1.441	505								
1119	5500	1.756	1629		+1.005	1119	5500	1.538	530								
1152	5959	1.845	1774		+1.007	1152	5959	1.382	489								

COMMENTS:



Union

GEOHERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

B10-S46-PT

OWNER _____ WELL NAME BACA #10

CASING _____ DATE 3/18/26

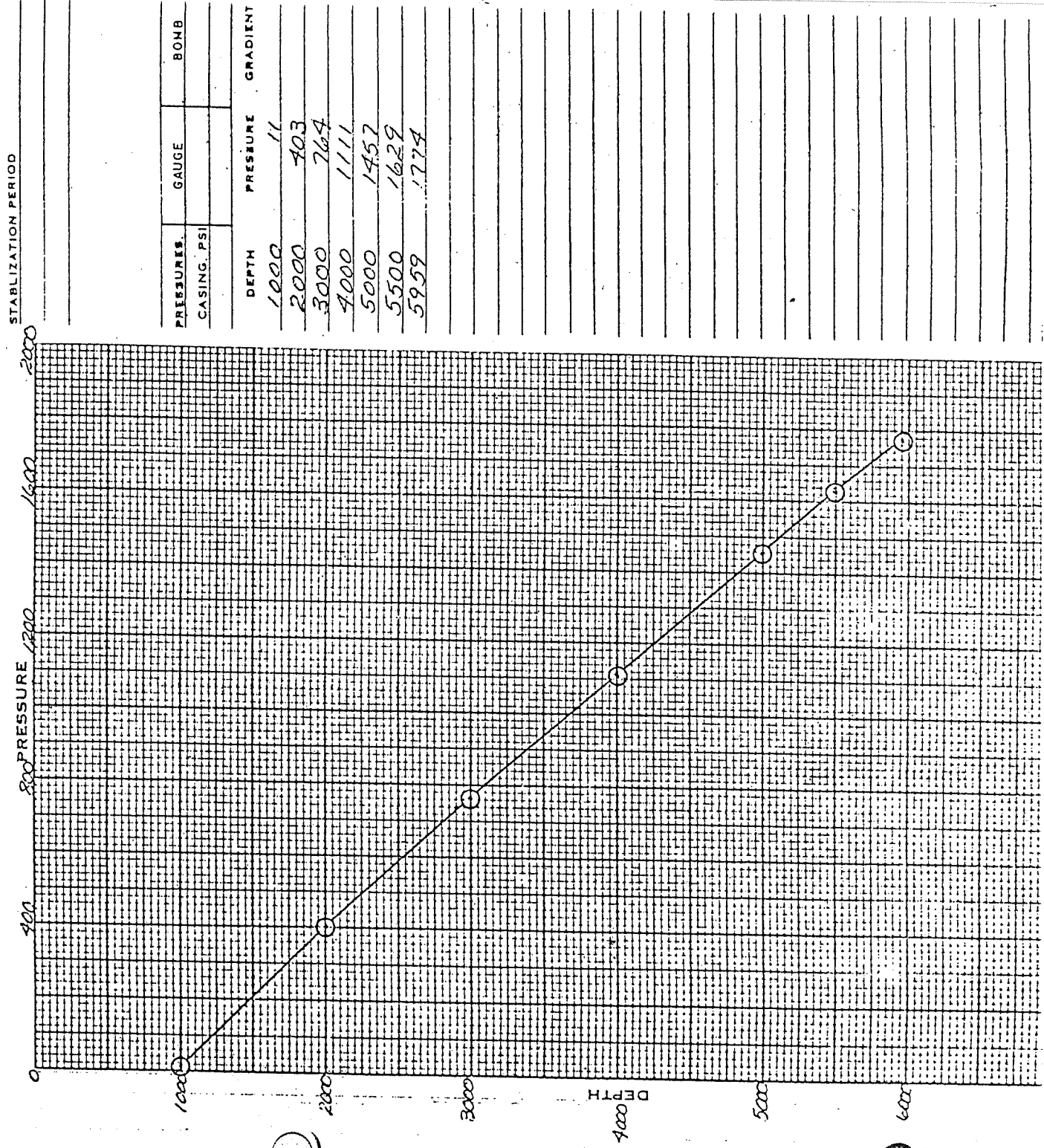
LINER DESCRIPTION: _____ ZERO POINT GL. +10'

DEPTH 5959'

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSIC _____

REMARKS: _____ SERIAL NO 7198

PURPOSE _____ MAX TEMP 530 °F @ 5500'



76

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GEOHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

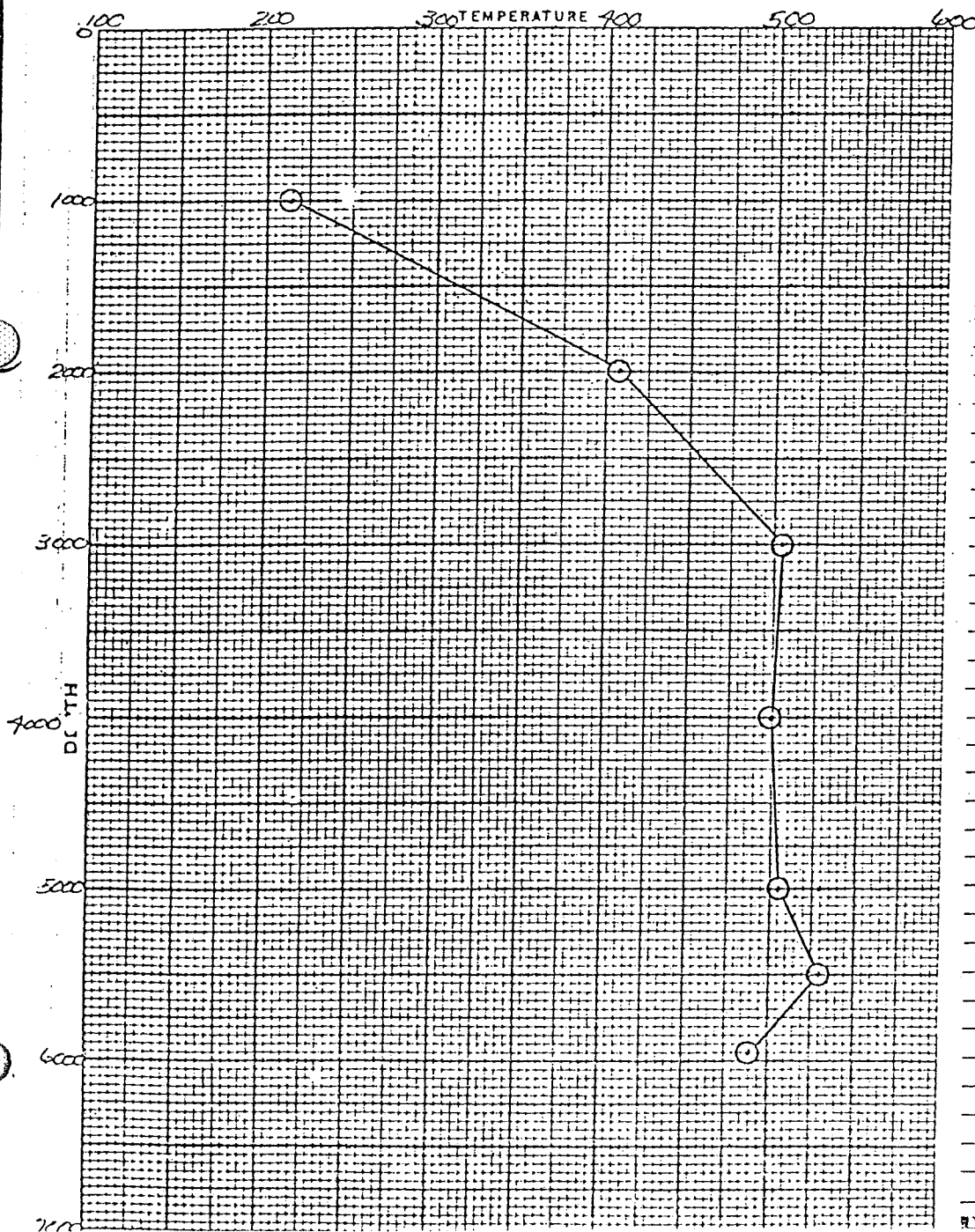
B10-S46-PT

OWNER _____ FIELD _____ WELL NAME BACA #10
 CASING _____ ELEV _____ DATE 3/18/76
 LINER DESCRIPTION _____ ZERO POINT GL +10'
 _____ DEPTH 5959'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHR
 _____ SERIAL NO 10052

PURPOSE _____ MAX TEMP 530 °F @ 5500'
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES.	GAUGE	BOMB	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
1000	215		
2000	408		
3000	507		
4000	500		
5000	505		
5500	530		
5959	489		

BY: _____

576

DEL PYLE

GEOHERMAL D.V.C.O. MAY 3 1976

SUBSURFACE SURVEY
Field Work Sheet

310 S-24 P/T

OWNER: UNION OIL COMPANY FIELD: VALLE GRANDE WELL NAME: 1000 #10
 CASING: 20" AT 053' 13 1/2 2194 ELEV.: 9734 DATE: 4/17/76
 LINER DESCRIPTION: 9 5/8" AT 4413' ZERO POINT: 5.11' 18'
7" AT 4275 DEPTH: 5957'
 TUBING DETAIL: PER FORATIONS - 3000 - ?

PURPOSE:

REMARKS:

ELEMENT: 0-4000 PSI SN 7198 CLOCK: 12 HR 15 TURN
 ELEMENT: 80-646.4 SERIAL NO.: 10052 CLOCK: 12 HR 15 TURN STABILIZATION PERIOD:
 ENGAGE STYLUS: P 1007 T: 1003 DISENGAGE STYLUS: P 1750 T: 1772
 WELL HEAD: 1
 PICKUP: 5959 TIME ON BOTTOM: 1627-1657 MAX. P.: 532
 WELL STATUS:
 SHUT IN: 5/11/76 ON PRODUCTION:
 RATE:

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	CO ₂	TIME	DEPTH	DEFL.	P-T	GRAD.	10	TIME	DEPTH	DEFL.	P-T	GRAD.	10
1452	100	-	-	-	-	1452	100	325	187								
1505	1002	4.5			0	1505	1000	419	206								
1517	1177	401			-0.003	1517	2000	1.095	410								
1529	2000	532	7.57		-0.003	1529	3000	1.137	504								
1541	4000	509	11.11		T.C.O.1	1541	4000	1.125	501								
1553	5000	75	14.07		T.C.O.4	1553	5000	1.145	506								
1605	6000	7.0	16.37		+0.005	1605	5000	1.546	532								
1610	5000	7.60	16.37		+0.005	1610	5000	1.546	532								
1625	5000	7.60	16.37		+0.005	1625	5000	1.546	532								
1627	5000	8.39	17.52	17.3	+0.009.5	1627	5000	1.408	496								
1642	5000	8.89	17.86	17.5	+0.009.5	1642	5000	1.408	496								
1657	5000	8.89	17.86	17.5	+0.009.5	1657	5000	1.408	496								

By: S.P.

COMMENTS: RUN SURVEY AFTER SPERRY - SUN PULLED 1/4" TUBING

76

UNION
GEO THERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

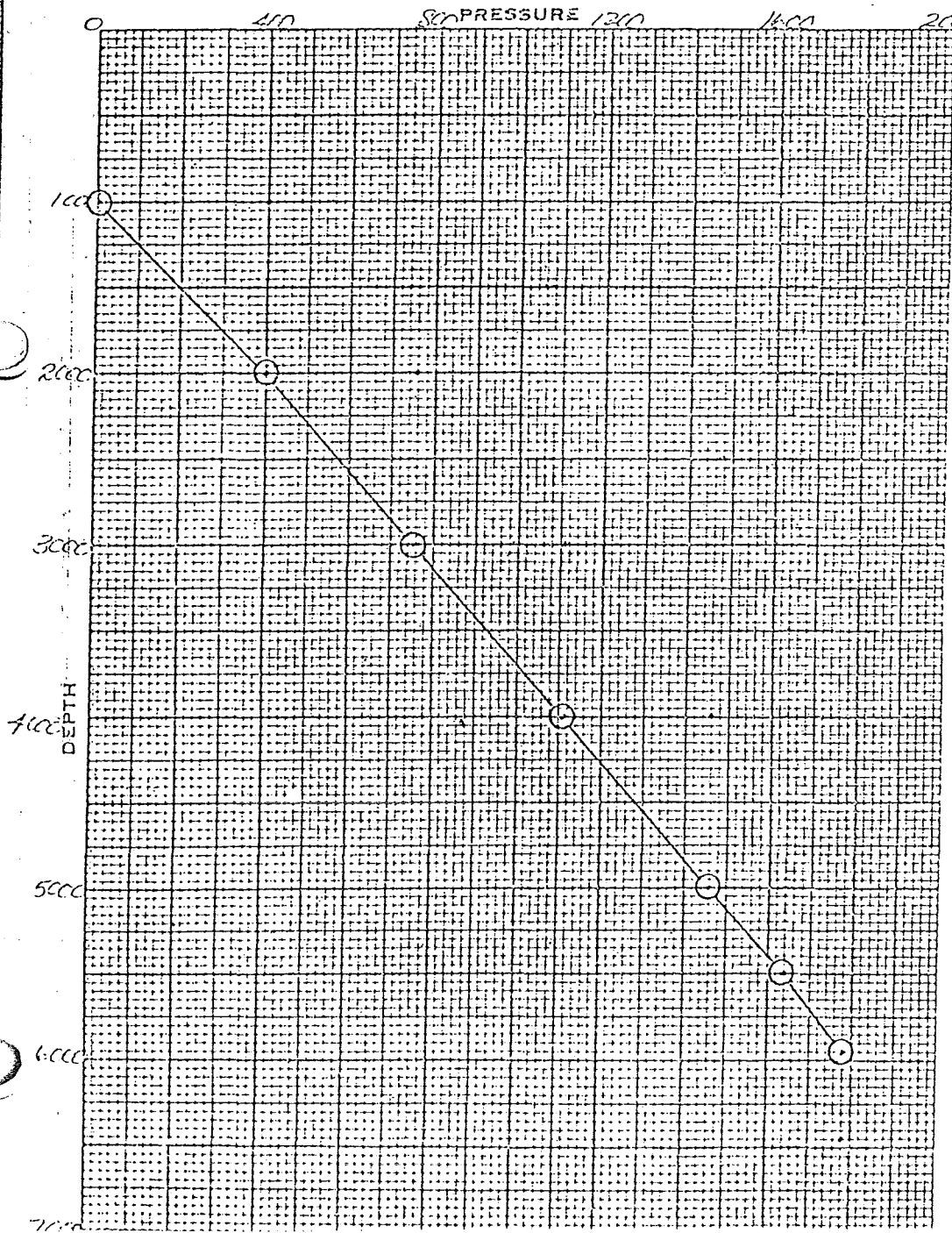
B10-S47-DT

OWNER _____ FIELD _____ WELL NAME BACA #10
 CASING _____ ELEV _____ DATE 4/14/76
 LINER DESCRIPTION: _____ ZERO POINT GL #10'
 _____ DEPTH 5959'

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSIG
 _____ SERIAL NO 7198

PURPOSE _____ MAX TEMP 532 °F @ 5500'
 REMARKS: _____

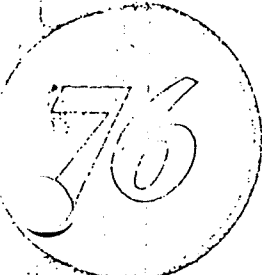
STABILIZATION PERIOD _____



PRESSURE	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	-	
1000	4.5	
2000	4.01	
3000	7.57	
4000	11.1	
5000	14.57	
5500	14.37	
5959	17.52	

BY: _____



UNION

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

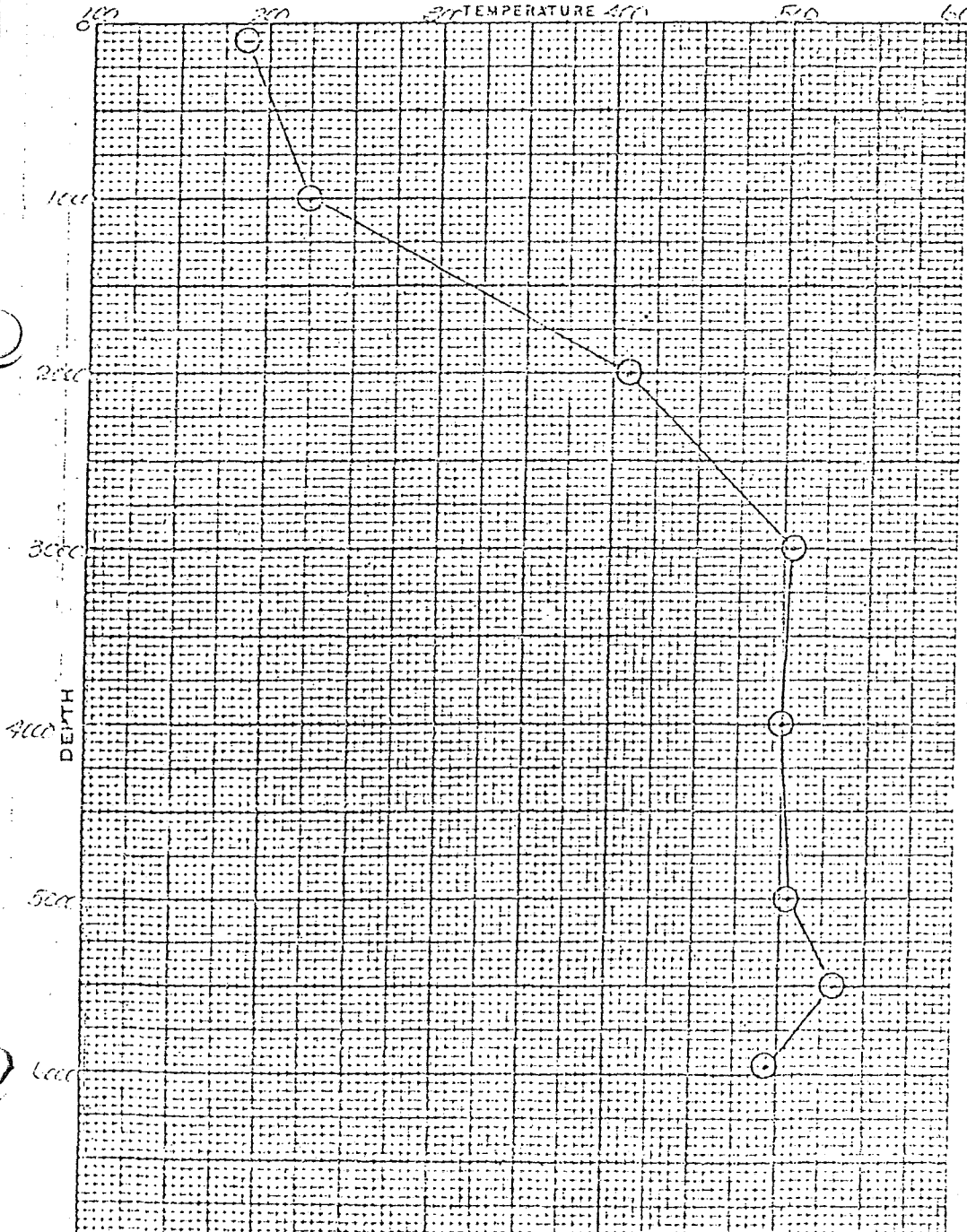
B10-S47-DT

OWNER _____ FIELD _____ WELL NAME B10-S47-DT
 CASING _____ ELEV _____ DATE 11/10/78
 LINER DESCRIPTION _____ ZERO POINT GL 210'
 _____ DEPTH 5952'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHP _____
 _____ SERIAL NO 16052

PURPOSE _____ MAX TEMP 532 F @ 5900'
 REMARKS _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOB	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100	187		
1000	226		
2000	410		
3000	504		
4000	501		
5000	506		
5900	532		
5952	532		

76

UNION

GEOTHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BH10-SH8-P1T

OWNER: UNION OIL CO. CALIF. FIELD: VALLE GRANDE WELL NAME: BACA 10
 CASING: 20" @ 655', 13 3/8" @ 2794' ELEV. 8734 DATE: 10-18-76
 LINER DESCRIPTION: 9 5/8" @ 4118' ZERO POINT: 624101
 7" @ 4275' - 5959' DEPTH: 5959'

TUBING DETAIL:

PURPOSE:

REMARKS:

P-0-4650 R310. 9222 12 hr 15
 ELEMENT T-100-7927 SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE SYLUS P-1130 T-1132 DISENGAGE SYLUS P-1530-T-1535
 WELL HEAD 6
 PICKUP @ 5959' TIME ON BOTTOM 1442-1520 MAX. T.F. 543 @ 5500'
 WELL STATUS SHUT IN
 SHUT IN: ON PRODUCTION:
 RATE:

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	TEMP.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
21	100	1003	8		-	1212	100	0	0								
22	100	1005	14		-	1227	1100	1.295	218								
239	2000	1150	380		-0.001	1239	2000	1.855	418								
251	3000	1301	736		-	1251	3000	1.126	507								
302	3250	1339	825		-	1302	3250	1.144	513								
313	3500	1376	913		-	1313	3500	1.151	515								
324	3750	1412	998		-	1324	3750	1.136	510								
335	4000	1449	1035		-	1335	4000	1.124	506								
346	4250	1485	1119		-	1346	4250	1.120	505								
357	4500	1522	1256		-	1357	4500	1.128	507								
408	4750	1559	1313		-	1408	4750	1.141	512								
419	5000	1595	1427		-	1419	5000	1.155	516								
430	5250	1632	1514		-	1430	5250	1.210	534								
441	5500	1670	1603		-	1441	5500	1.237	543								
500	5959	1732	1718		-0.001	1500	5959	1.182	525								

COMMENTS:

76

union

GEO THERMAL DIVISION PYLE

SUBSURFACE SURVEY
Field Work Sheet

MAR 17 1975

B10 595 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BHCA #10
 CASING 20" AT 653; 13 3/8" AT 2994 ELEV. 8754 DATE: 3/9/76
 LINER DESCRIPTION: 9 5/8 4418"; 7" 4275" ZERO POINT CL+10'
 DEPTH 5959

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 2-4110 PSI SN 7198 CLOCK-12 hr 15 TURN

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

ENGAGE STYLUS P-0915 T-0919 DISENGAGE STYLUS P-1150 T-1149

WELL HEAD 5.0

PICKUP @ 5959 TIME ON BOTTOM 1037 1107 MAX. °F

WELL STATUS SHUT IN

SHUT IN: 8/21/76 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	0	0	0	0	0957	100	.408	216								
1035	5500	.755	1627		+ .004	1035	5500	1.497	537								
1107	5959	.824	1772		+ .007	1107	5959	1.272	487								

COMMENTS:

76

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

10-540-P/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NO. 3004-214
 CASING 20" @ 3.53' - 13 7/8" @ 2794' ELEV. 8734 DATE: 1/29/75
 LINER DESCRIPTION: 7 7/8" @ 4-115'; 7" @ 4275 To T.D. ZERO POINT 2510'
 DEPTH 279'

TUBING DETAIL:

PURPOSE

REMARKS:

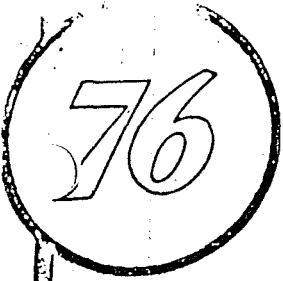
ELEMENT P-O-40002516 7198 13375-L 15
 ELEMENT-T-32°-688°F SERIAL NO. 10055 CLOCK 12389-L 15 TURN STABILIZAT PERIOD
 ENGAGE STYLUS P-1031 T-1031 DISENGAGE STYLUS P-1352 T-1100
 WELL HEAD 3.9
 PICKUP @ 5959' TIME ON BOTTOM 1313-1323 MAX. 'F. 538 @ 5320'
 WELL STATUS SHUT IN.
 SHUT IN: 3/21/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE					
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1100	100	0	0	-	-	1100	100	460	213	-	-
1210	5320	1750	1216	-	4003	1210	5320	1746	535		
1323	5759	1815	1759	-	4003	1323	5759	1853	481		

COMMENTS:



union

DEL PYLE

JAN 6 1976

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#10-537-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA-10
 CASING 20" @ 653' 13 3/8" @ 2704' 9 5/8" @ 4411' ELEV. 8734' DATE: 12-18-75
 LINER DESCRIPTION: 7" @ 4415 TO T.D. ZERO POINT GL+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - P-0-40007516 7198 CLOCK 1242 12508-1 15
 ELEMENT - T-821F-6819F SERIAL NO. 10055 CLOCK 1242 14091-L 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1415 T-1420 DISENGAGE STYLUS P-1741 T-1742.
 WELL HEAD 3.0
 PICKUP @ 5959 TIME ON BOTTOM 1654-1720 MAX. °F 535.5 @ 5500'
 WELL STATUS SHUT IN.
 SHUT IN: 8/24/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P. °	GRAD.	ID CORR.	TIME	DEPTH	DEFL.	P. °	GRAD.	ID	TIME	DEPTH	DEFL.	P. °	GRAD.	ID
1525	3500	.418	919		0	1525	3500	1.350	510								
1536	3750	.457	1002		0	1536	3750	1.338	507								
1547	4000	.498	1055		0	1547	4000	1.324	503								
1555	4250	.541	1175		+1.001	1558	4250	1.305	497								
1609	4500	.579	1258		+1.002	1609	4500	1.315	500								
1620	4750	.619	1342		+1.003	1620	4750	1.331	505								
1631	5000	.662	1432		+1.004	1631	5000	1.350	510								
1642	5250	.703	1518		+1.003	1642	5250	1.407	527								
1653	5500	.741	1598		+1.003	1653	5500	1.437	535.5								
1720	5959	.813	1748		+1.002	1720	5959	1.207	468								

COMMENTS:

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

310-537-P11

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME B-10
 CAGING 20" @ 653' 13 3/8" @ 2794'; ELEV. 8734' DATE: 12-18-75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" 4275' TO T.D. ZERO POINT GL+10'
 DEPTH 5959'

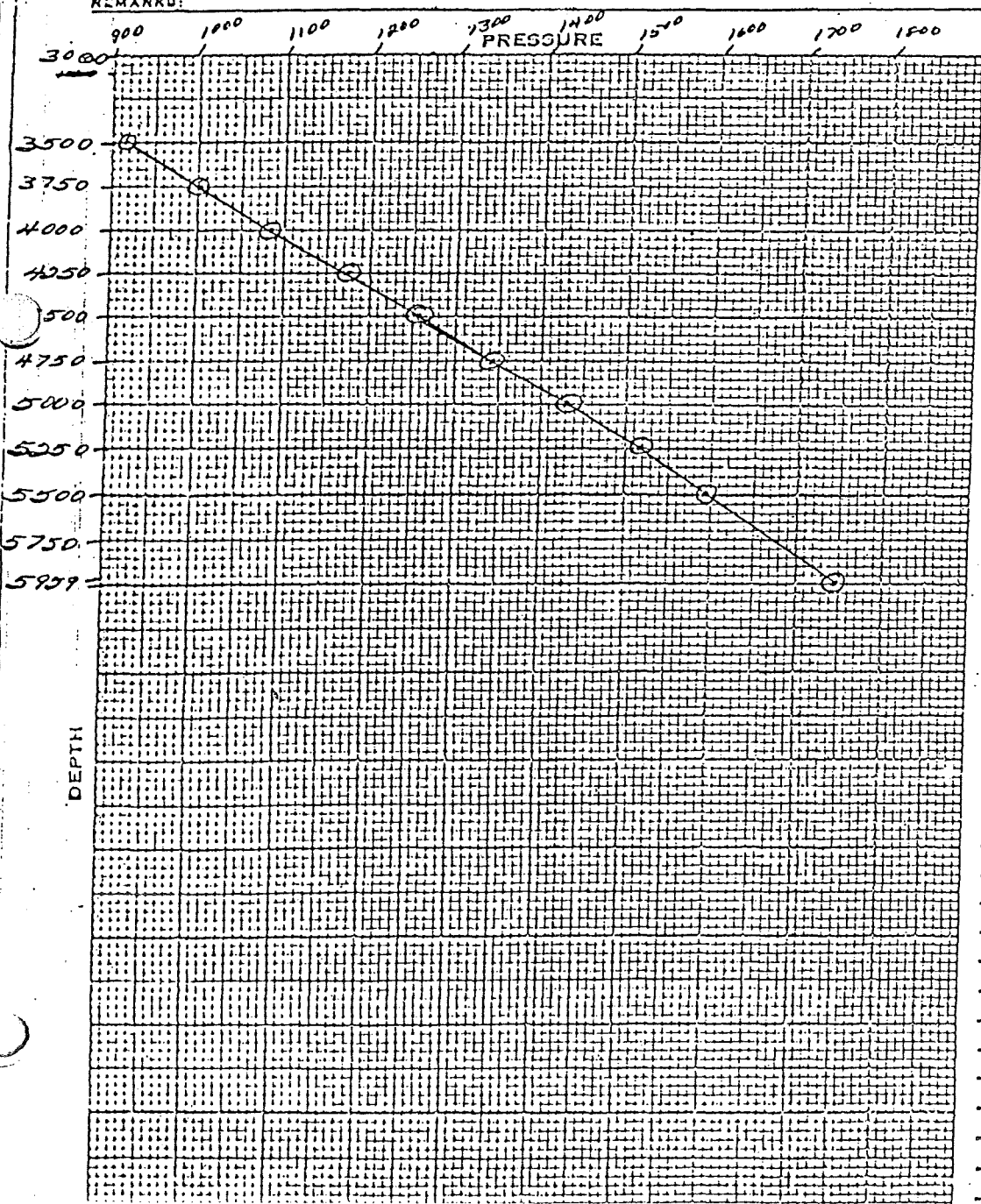
HOLE DESCRIPTION:

INSTRUMENT 0-11000
 SERIAL NO. 7198

PURPOSE

MAX. TEMP 535.5 °F @ 5500'

REMARKS:



STABILIZATION PERIOD

PRESSURES.	GAUGE	COMP.
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
3500	919	-
3750	1002	.332
4000	1088	.344
4250	1176	.360
4500	1258	.320
4750	1342	.336
5000	1432	.360
5250	1518	.344
5500	1598	.320
5959	1748	.329

516

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

810-537-717

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA-10
 CASING 20" @ 653', 13 3/8" @ 270' ELEV. 5734' DATE: 12-18-75
 LINER DESCRIPTION: 9 5/8" @ 4418', 7" @ 4275' T.D. ZERO POINT GL+10'
 DEPTH. 5859'

HOLE DESCRIPTION:

INSTRUMENT 829F-6860 FAX.

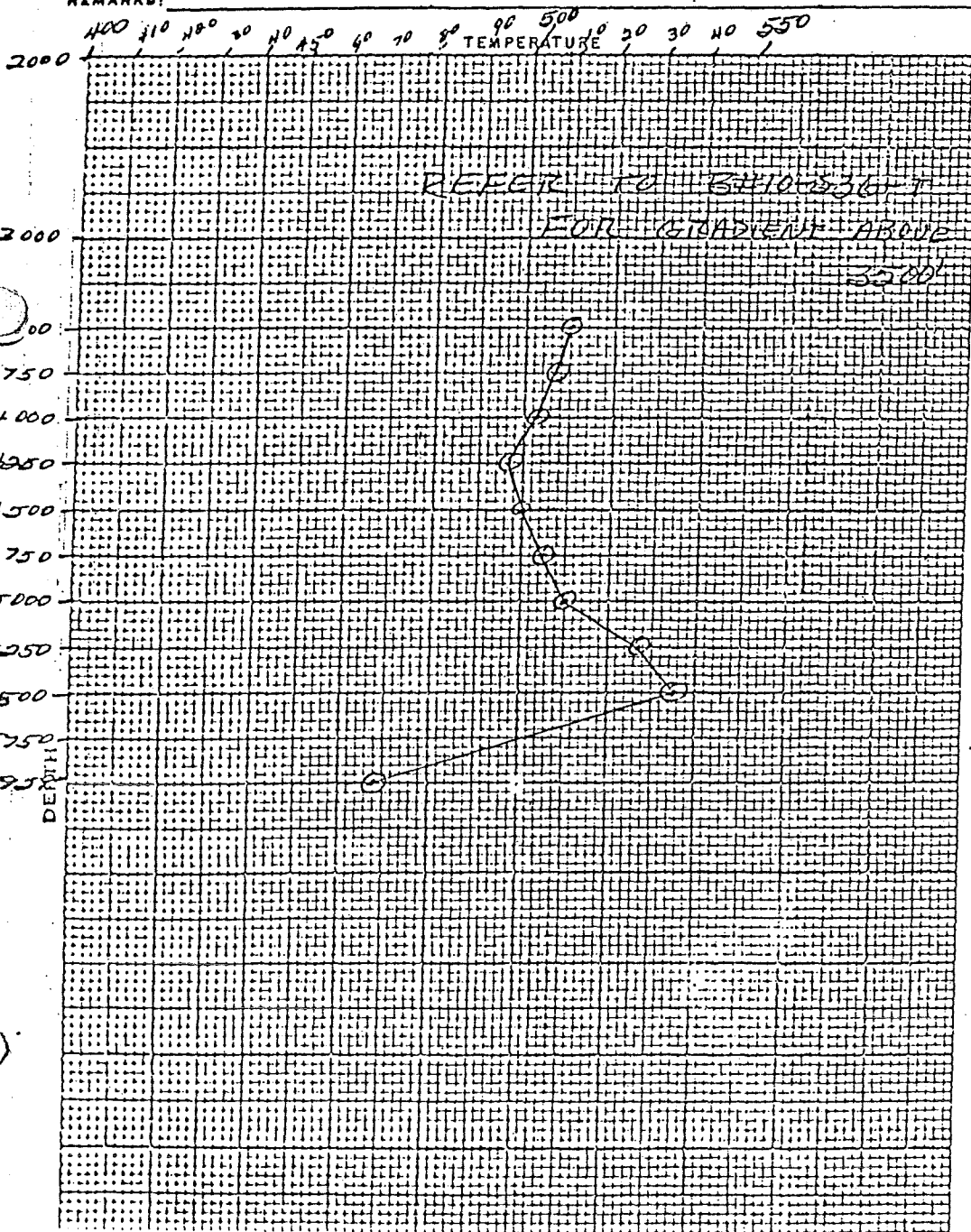
SERIAL NO 10055

PURPOSE:

MAX TEMP. 535.5 °F @ 5500

REMARKS:

STABILIZATION PERIOD



PRESSURES	GAUGE	DEPTH
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3500	510		
3750	507		
4000	503		
4250	497		
4500	500		
4750	505		
5000	510		
5250	527		
5500	535.5		
5859	465		

76

UNION

DEL PYLE

GEOHERMAL DIVISION

DEC 29 1975

SUBSURFACE SURVEY

Field Work Sheet

310-536-P1T

OWNER: UNION OIL CO. OF CALIF. FIELD: VALLE GRANDE WELL NAME: BACH-10
 CASING: 20" @ 65.3'; 13 3/8" @ 2294' ELEV.: 8734' DATE: 12-14-75
 LINER DESCRIPTION: 9 5/8" @ 1418'; 7" @ 4275 - T.D. ZERO POINT: 66-110'
 DEPTH: 5959'

TUBING DETAIL:

PURPOSE: SPECIAL GRADIENT TO STUDY TEMP BETWEEN 3000' - 4000' - J.M.

REMARKS:

ELEMENT - P - 0 - 11. PS10. 7195 CLOCK - 1542 - 14091 - 15
 ELEMENT - T - 82°F - 65.3' SERIAL NO. 10655 CLOCK 1240 - 12559 - 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1049 T-1412 DISENGAGE STYLUS P-1045 T-1432.
 WELL HEAD 4
 PICKUP @ 5959' TIME OF BOTTOM 1320-1350 MAX. F 53250 5020
 WELL STATUS SHUT IN.
 SHUT IN: 8/21/75 ON PRODUCTION:
 RATE

PS10					TEMP					
TIME	DEPTH	DEFL.	P	GRAD.	TIME	DEPTH	DEFL.	P	GRAD.	ID
1100	1000	.004	9.1		0	1144	1000	.323	211.4	
1126	2000	.173	590		-0.003	1156	2000	1.027	413	
1205	3000	.339	751		-0.002	1205	3000	1.317	501	
1220	3250	.379	836		-0.001	1220	3250	1.312	508	
1232	3500	.418	919		0	1232	3500	1.373	511	
1243	3750	.458	1004		0	1243	3750	1.342	508	
1254	4000	.497	1086		0	1254	4000	1.324	503	
1306	5000	.114	1436		+0.004	1306	5000	1.350	510	
1318	5500	.143	1602		+0.003	1318	5500	1.437	535.5	
1350	5959	.517	1757		+0.010	1350	5959	1.205	468	

COMMENTS:

76

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

UNIVERSITY OF CALIFORNIA

B10-536-7/1

OWNER MINION OIL CO. CALIF. FIELD WALLE GRANDE WELL NAME B000 #10
CASING 20" 2653, 13 3/8" 10941, 5" 1418' ELEV. 8234' DATE 12-14-75
LINK# DESCRIPTION: 7" 0.4225' - T ZERO POINT 6.4 + 1.8'
DEPTH: 5959'

HOLE DESCRIPTION:

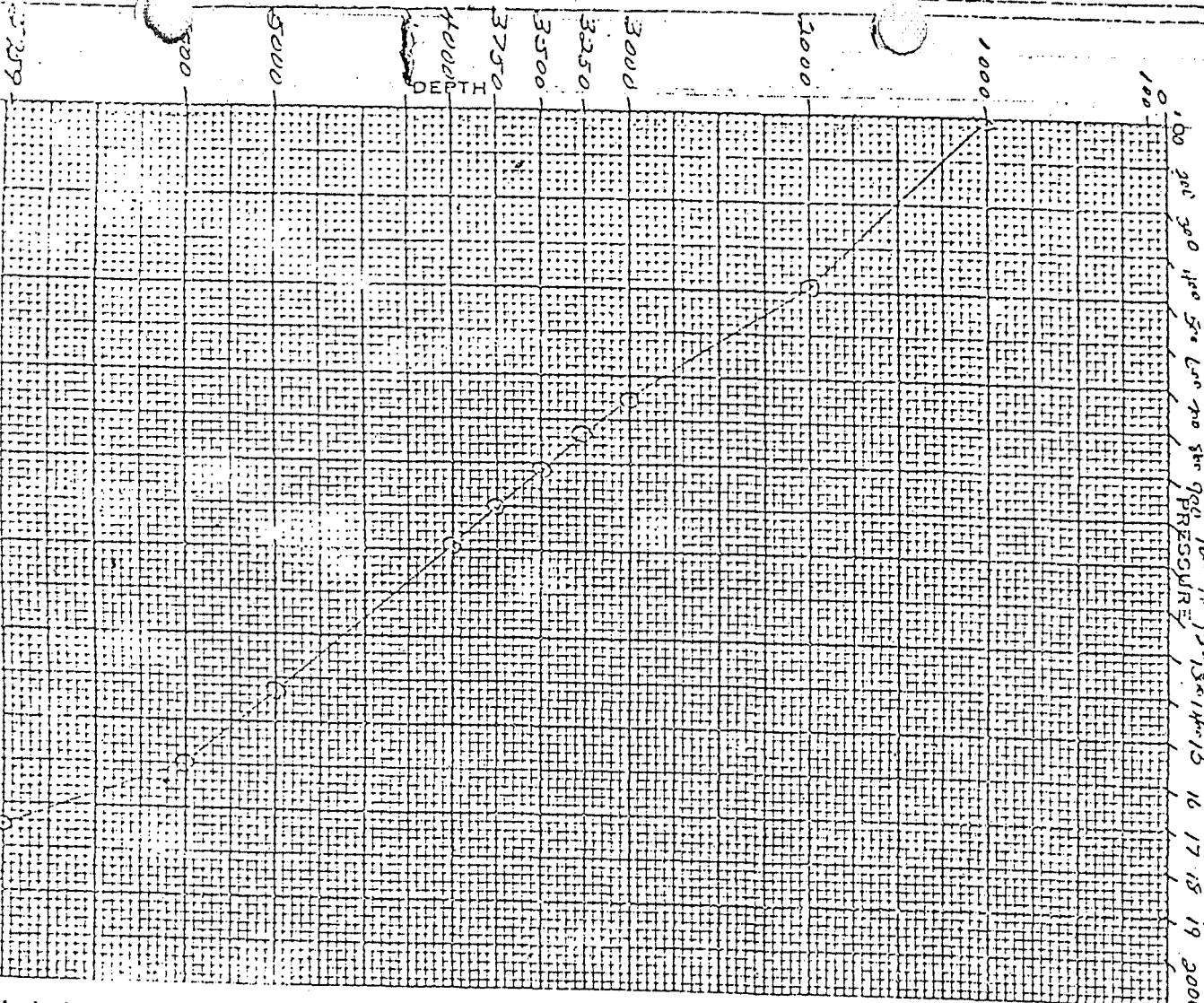
INSTRUMENT 0 - 400 0 PSIC
SERIAL NO 7198

MAX TEMP 535.5 OF @ 5566

PURPOSE

STABILIZATION PERIOD

REMARKS:



DEPTH	PRESSURE	GRADIENT
0	0	-
1000	1000	.330
2000	2000	.330
3000	3000	.330
3500	3500	.332
3750	3750	.332
4000	4000	.332

GEOTHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

516

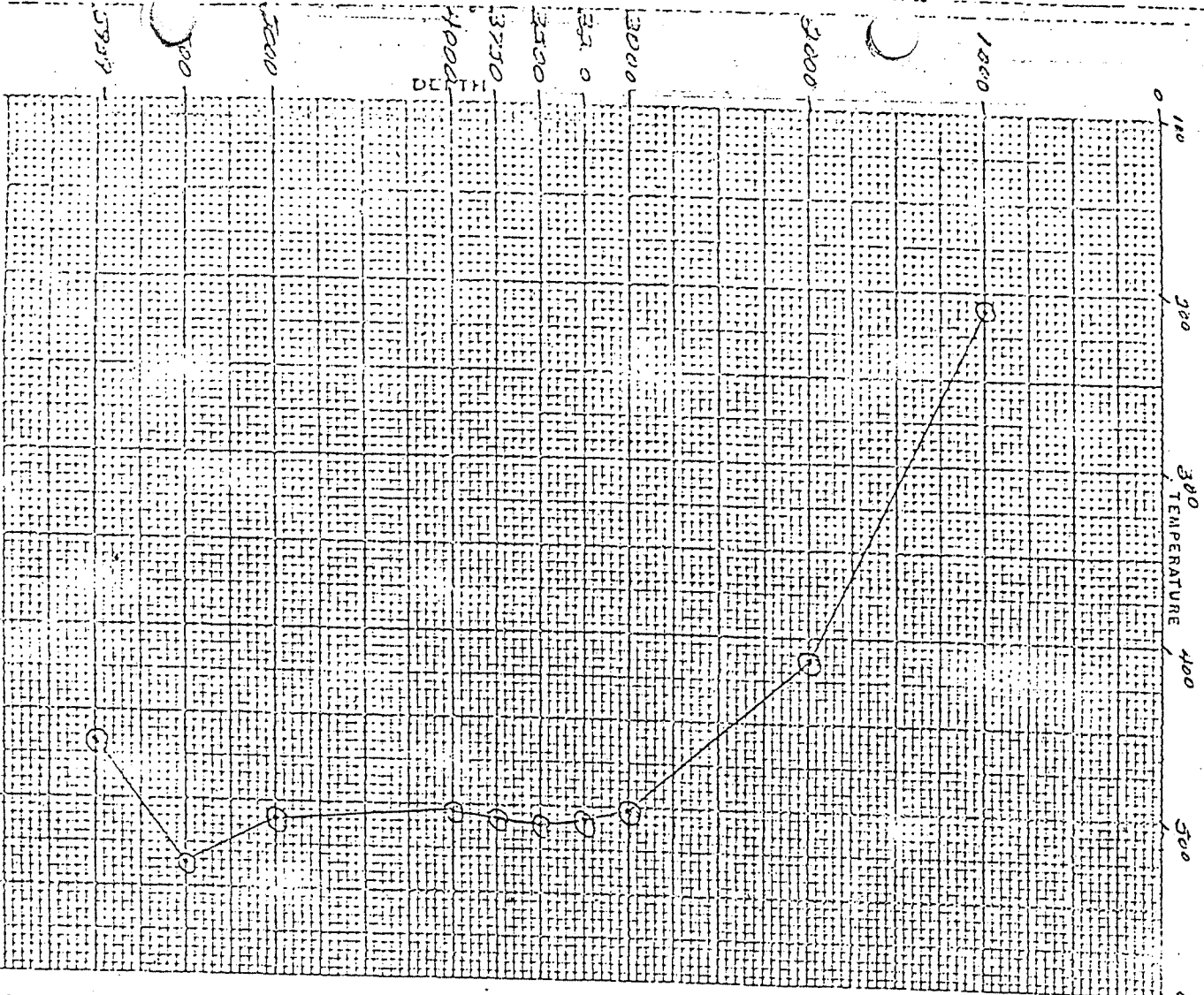
B00-5330-711

OWNER WILLIAM GLE CO. OF CHIE FIELD WELL OR GRADE BARRE #110
 CAVING 2 1/2" x 5 1/2" x 13 1/2" x 27 1/2" x 35 1/2" x 44 1/2" ELEV. 8734' DATE: 12-14-75
 LITH DESCRIPTION 7 1/2" x 40 1/2" - T.D. ZERO POINT A1 + 1.8'
 DEPTH 5925' 0"

HOLE DESCRIPTION:

INSTRUMENT B095 - 6560 PAIR
 SERIAL NO 14655

REMARKS: PURPOSE GRADIENT TO STUDY TEMPS BETWEEN 3000' - 4000' MAX TEMP 535.5 °C 10000'



STABILIZATION PERIOD

DEPTH	TEMP.	DEPTH	TEMP.
1800	411		
2000	413		
3000	501		
3250	505		
3500	511		
3750	505		
4000	505		
4250	510		
4500	525		
4750	535		
5000	445		

76

UNION

GEOHERMAL DIVISION

DEL PYLE

DEC 18 1975

SUBSURFACE SURVEY

Field Work Sheet

B10-535-P/T

OWNER UNION OIL CO OF CALIF FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 80' @ 6.53'; 13 3/8" @ 2794' ELEV. 8734' DATE: 12-5-75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" @ 4275 - T.D. ZERO POINT 6L+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT-P-0-4000 PSIG 7199 CLOCK 12HR 14091-L 15
 ELEMENT-T-800F-686°F SERIAL NO. 10055 CLOCK 12HR 12589-L TURN/5 STABILIZATION PERIOD
 ENGAGE STYLUS P-0955 T-0958 DISENGAGE STYLUS P-1320 T-1320
 WELL HEAD 3"
 PICKUP @ 5959' TIME ON BOTTOM 1144-1244 MAX. °F 534
 WELL STATUS STATIC
 SHUT IN: 8/21/75 ON PRODUCTION:
 RATE

PSIG

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	CDGR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
	100						100											
	1000						1000	.394	211									
	2000	.173	392		-.002		2000	1.020	411									
	3000	.342	757		-.001		3000	1.322	502									
	4000	.509	1099		0		4000	1.324	503									
	5000	.667	1442		+0.03		5000	1.347	509									
	5500	.748	1612		+0.04		5500	1.431	534									
	5959	.818	1759		+0.09		5959	1.188	462									
	5959	.818	1759		+0.09		5959	1.188	462									
	5959	.818	1759		+0.09		5959	1.188	462									

COMMENTS:

111

GEO THERMAL DIVISION, DEL PUE

SUBSURFACE TEMPERATURE SURVEY DEC 18 1975

B10-535-PT

516

OWNER <u>UNION OIL CO. OF CALIF</u>	FIELD <u>VALLE GRANDE</u>	WELL NAME <u>BACA #10</u>
CASING <u>20" @ 653'; 13 1/2" @ 2794'</u>	ELEV. <u>8734'</u>	DATE: <u>12-5-75</u>
LOG DESCRIPTION: <u>9 5/8" G.H.S.'; 7" @ 4275' - T.D.</u>	ZERO POINT <u>GL+10'</u>	DEPTH <u>5959'</u>

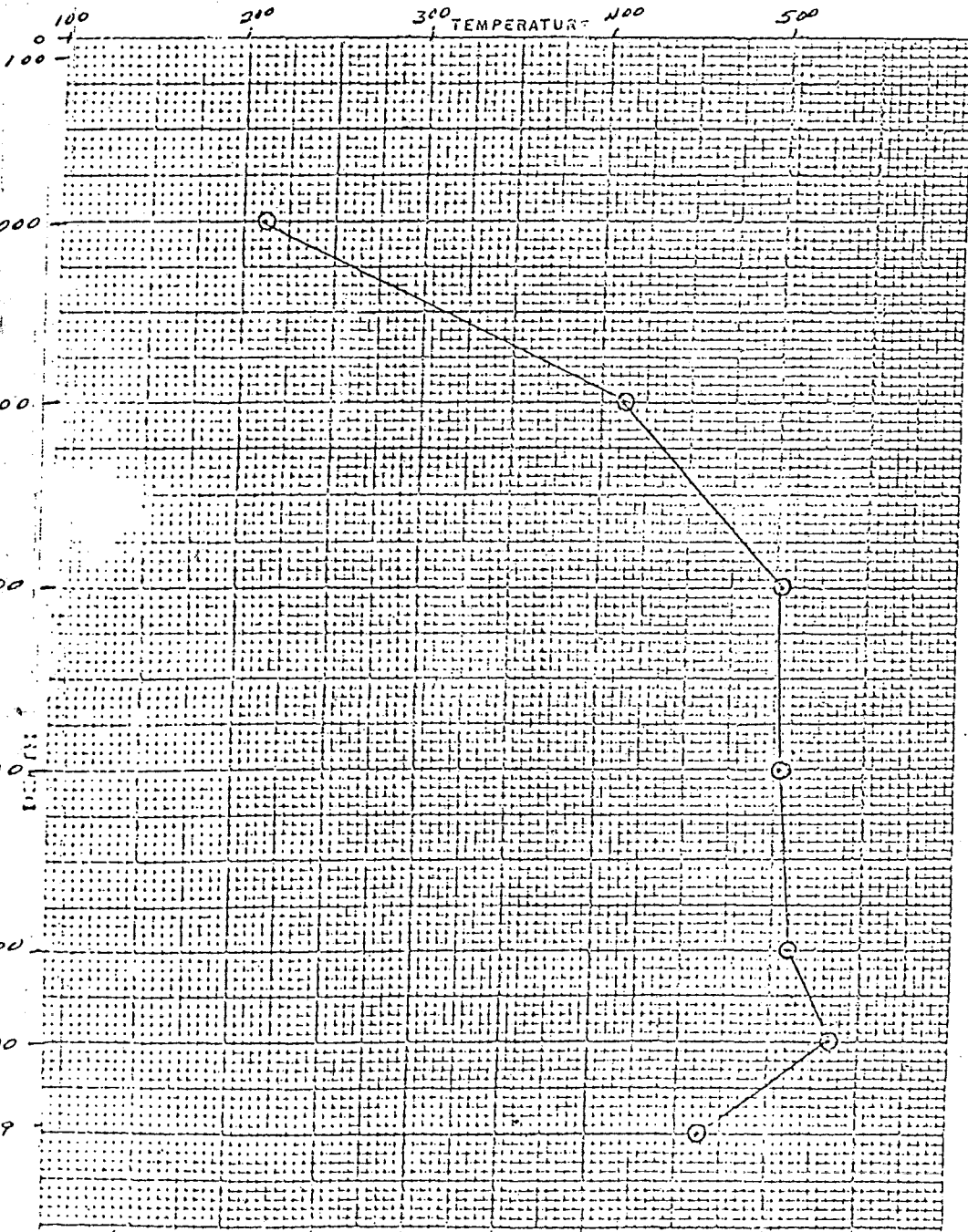
HOLE DESCRIPTION:

INSTRUMENT 82°F-686°F F...
SERIAL NO 10055

PURPOSE

MAX TEMP. °F @ 5500

REMARKS:



STABILIZATION PERIOD	
PRESSURE	GAUGE
CASING PSI	
DEPTH	TEMP. DEPT. TEMP.
100	
1000	211
2000	411
3000	502
4000	503
5000	509
5959	534
5959	462

716

GEO THERMAL DIVISION

DEL PYLE

SUBSURFACE PRESSURE SURVEY

DEC 18 1975

B10-15-P17

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BOMBARD
 CASING 20" @ 653', 13 3/8" @ 2794' ELEV. 5734' DATE: 12-5-75
 LINER DESCRIPTION: 9 5/8" @ 4415', 7" @ 4275' - T.D. ZERO POINT GL+10'
 DEPTH 5959'

HOLE DESCRIPTION:

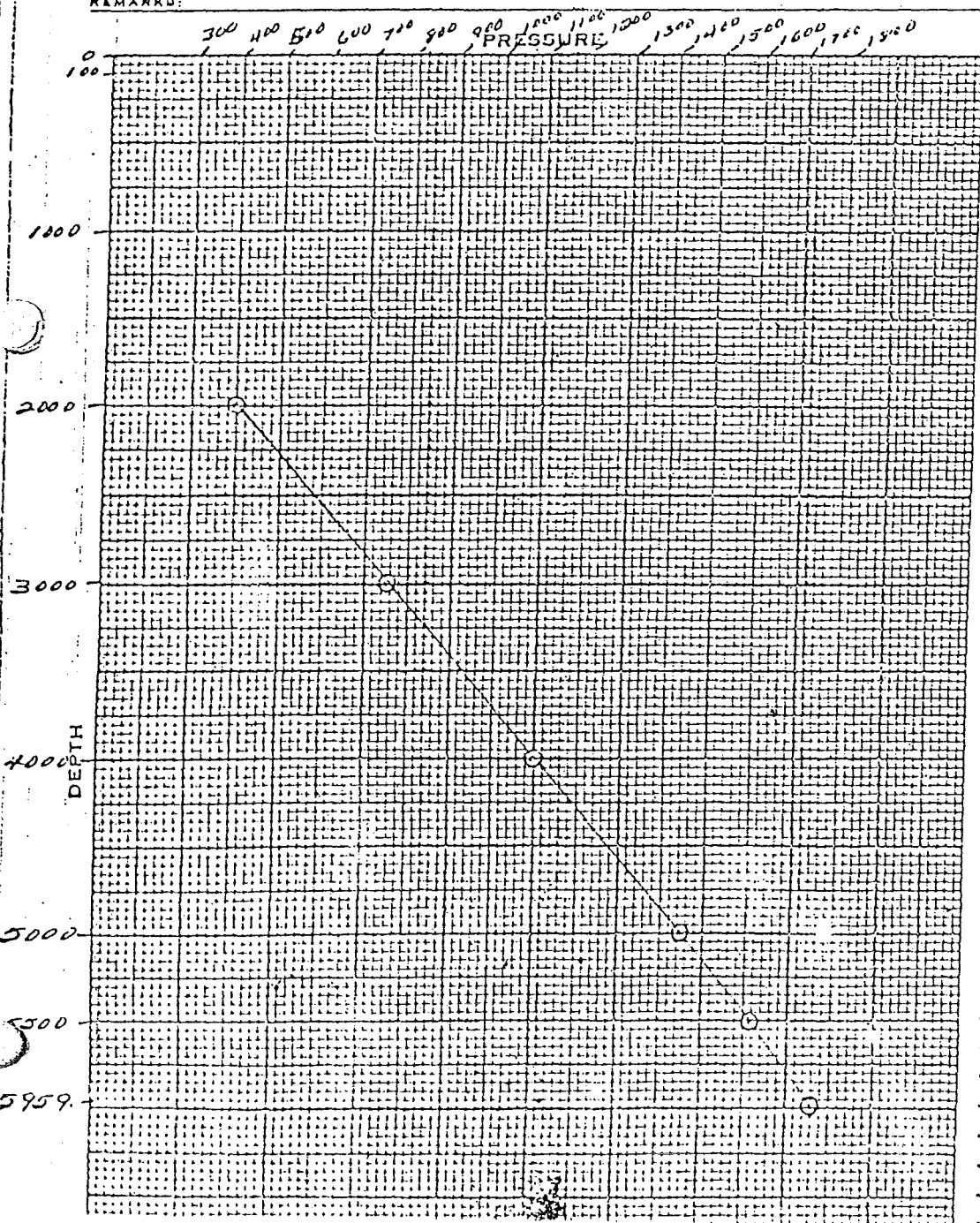
INSTRUMENT 0-4000 PSIC
 SERIAL NO. 7198

PURPOSE

MAX TEMP °F @ 5500

REMARKS:

STABILIZATION PERIOD



PRESSURES.	GAUGE	DEPTH
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100		
1000		
2000	390	
3000	720	
4000	1050	
5000	1380	
5500	1610	
5959	1750	

76

UNION

DEL PYLE

GEO THERMAL DIVISION JAN 6 1975

SUBSURFACE SURVEY

Field Work Sheet

B10 534 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 26" AT 653; 13 3/8" AT 2794 ELEV. 8734' DATE: 11/26/75
 LINER DESCRIPTION: 9 5/8" AT 4418'; 7" 4275' - TD ZERO POINT
 DEPTH

TUBING DETAIL:

PURPOSE INTERFERENCE TEST

REMARKS:

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

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

ENGAGE SYLUS P-0944 T 0949 DISENGAGE SYLUS P-1456 T-1456

WELL HEAD 2 PSI 6

PICKUP @ 5959 TIME ON BOTTOM 1229-1529 MAX. °F

WELL STATUS

SHUT IN: 2/21/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE										
DEPTH	DEFL	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
115	100	-	-	-	1115	100	.377	205.4								
1127	5500	.745	1605.9	+ .003	1127	5500	1.430	533.5								
1157	5500	.745	1605.9	+ .003	1157	5500	1.430	533.5								
1227	5500	.745	1605.9	+ .003	1227	5500	1.430	533.5								
1229	5959	.819	1761.0	+ .010	1229	5959	1.170	456.9								
1259	5959	.819	1761.0	+ .010	1259	5959	1.170	456.9								
1329	5959	.819	1761.0	+ .010	1329	5959	1.170	456.9								

COMMENTS:

76

UNION

GEO THERMAL DIVISION

DEL PYLE

DEC 8 1975

SUBSURFACE SURVEY

Field Work Sheet

B10 534 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 653'; 13 3/8" AT 2794 ELEV. 8734' DATE: 11/26/75
 LINER DESCRIPTION: 9 3/8" AT 448'; 7" 4275' - TD ZERO POINT
 DEPTH

TUBING DETAIL:

PURPOSE INTER FERENCE TEST

REMARKS:
LOGGING - 0-4000 PSI SN 7198 CLK 12 HR 15 TURN
ELEMENT 82°-686°F SERIAL NO. 10053 CLK 12 HR 15 TURN STABILIZATION PERIOD
ENGAGE STYLUS P-0944 T-0149 DISENGAGE STYLUS P-1456 T-1456
WELL HEAD 2 PSIG
PICKUP @ 5959 TIME ON BOTTOM 1229-1329 MAX. 4'
 WELL STATUS
 SHUT IN: 5/21/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

T	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1175	100	-	-	-	-	1115	100	.377	205.4								
1127	5500	.745	1605.9		1.003	1127	5510	1.430	533.5								
1157	5500	.745	1605.9		1.003	1157	5500	1.430	533.5								
1227	5500	.745	1605.9		1.003	1227	5500	1.430	533.5								
1229	5959	.819	1761.0		1.010	1229	5959	1.170	456.9								
1259	5959	.819	1761.0		1.010	1259	5959	1.170	456.9								
1329	5959	.819	1761.0		1.010	1329	5959	1.170	456.9								

COMMENTS:

76

UNION

DEL' PYLE

GEOHERMAL DIVISION DEC 5 1975

SUBSURFACE SURVEY
Field Work Sheet

533 RERUN
BA10-~~5~~-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BAA#10
 CASING 20" @ 653' ; 15 3/4" @ 2774' ELEV. 8734' DATE: 11/20/79
 LINER DESCRIPTION: 9 5/8" @ 4418' ; 7" @ 4273' - T.D. ZERO POINT GL+10'
 DEPTH 5929'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT P-O-HCOOP SIG. - S/N 7198 12/12-14071-L

ELEMENT T-820F-656F SERIAL NO. 10055 CLOCK 1262-12871-L TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1042 T-1046 DISENGAGE STYLUS P-1419 T-1415

WELL HEAD 2

PICKUP @ 5957 TIME ON BOTTOM 1241-1346 MAX. F. 531.5 @ 5500'

WELL STATUS STATIC-

SHUT IN: 8/21/75 ON PRODUCTION:

RATE

PSIC

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	LOG CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1131	100	-	-	-	-	1131	100	.367	202								
1240	5500	1746	1603		+1003	1240	5500	1424	531.8								
1246	5520	1749	1614.3		+1003	1346	5959	1456	452.6								
1246	5520	1749	1614.3		+1003												
1241	5959	1822	172.73		7010												
1311	5959	1820	176.3		7010												
1341	5959	1820	176.3		7010												

COMMENTS:

JOHN B. HARTZ
 NOV 23 1975



GEOHERMAL DIVISION

SUBSURFACE SURVEY
 Field Work Sheet

3#10-532-71T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BORN #10
 CASING 20" @ 653'; 13 3/8" @ 2794' ELEV. 8734' DATE: 11/10/75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" @ 4275' - T.D. ZERO POINT GL+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4000 PSIG 7198 12612-12591-6 15
 ELEMENT T-829F -686°F SERIAL NO. 10055 CLOCK 12614-291-4 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0944 T-0949 DISENGAGE STYLUS P-1354 T-1354
 WELL HEAD 2.3
 PICKUP @ 5959' TIME ON BOTTOM 1150-1328 MAX. F 529 @ 5500'
 WELL STATUS STATIC-
 SHUT IN: 8/21/75 ON PRODUCTION:
 RATE

PSIG TEMP

TIME	DEPTH	DEFL.	P-#	GRAD.	TEMP.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	0	0			1035	100	.374	204								
1048	1000	0	0			1048	1000	.114	218								
1100	2000	.176	399		-1.002	1100	2000	1.010	408								
1112	3000	.344	762		-1.001	1112	3000	1.300	495.5								
1124	4000	.505	1108		-0	1124	4000	1.302	496.1								
1137	5000	.671	1451		+1.004	1137	5000	1.326	503								
1148	5500	.752	1621		+1.004	1148	5500	1.415	529								
2-1328	5959	.823	1769		+1.011	1150-1328	5959	1.125	443								

COMMENTS:

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

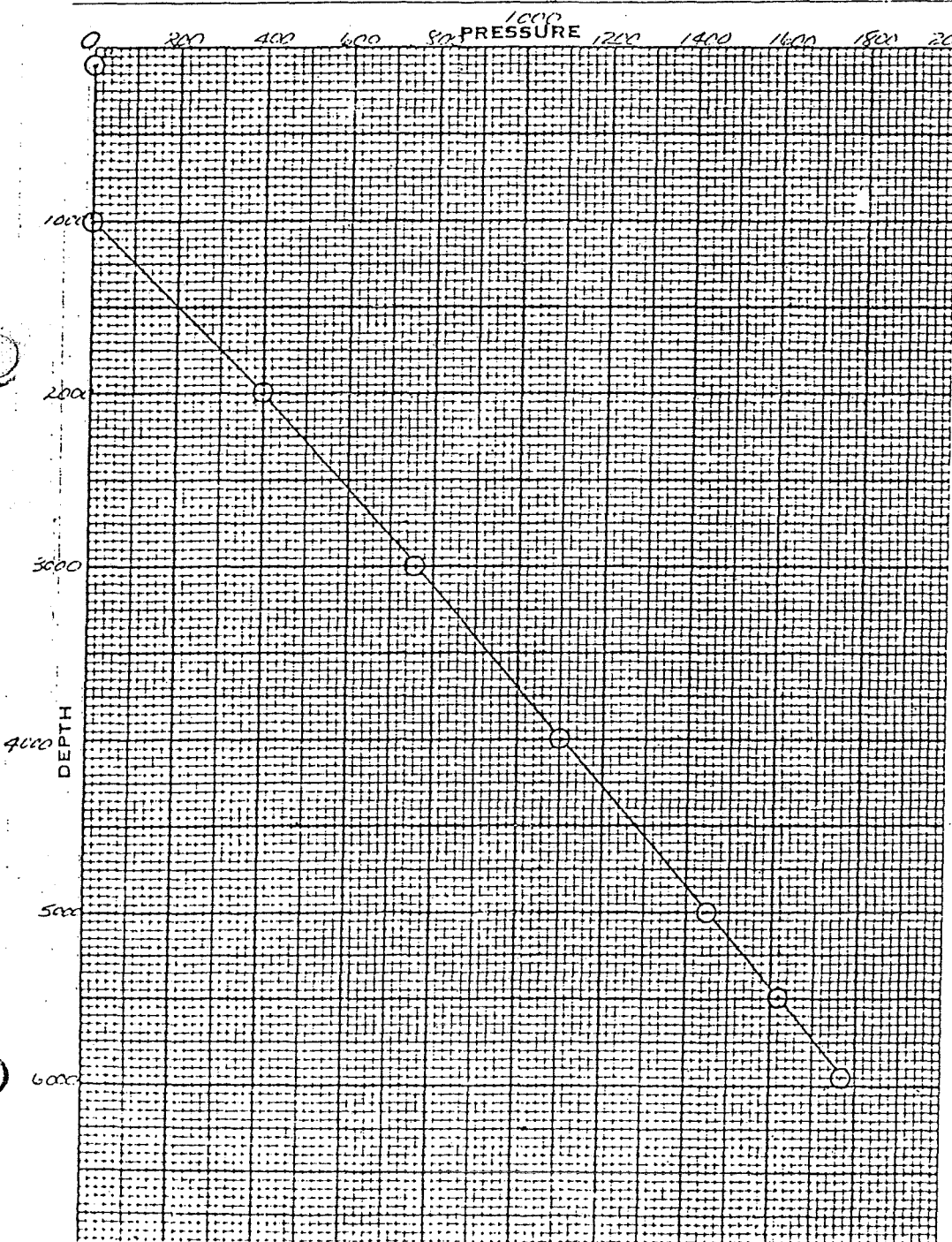
76

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #10
CABING _____ ELEV _____ DATE 11/10/75
LINER DESCRIPTION: _____ ZERO POINT G.L. +10'
DEPTH 5959'

HOLE DESCRIPTION: _____
INSTRUMENT 0 - 4000 PSIG
SERIAL NO 7198

PURPOSE _____ MAX TEMP 529 °F @ 5500'
REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES.	GAUGE	BOMB
CASING. PSI		

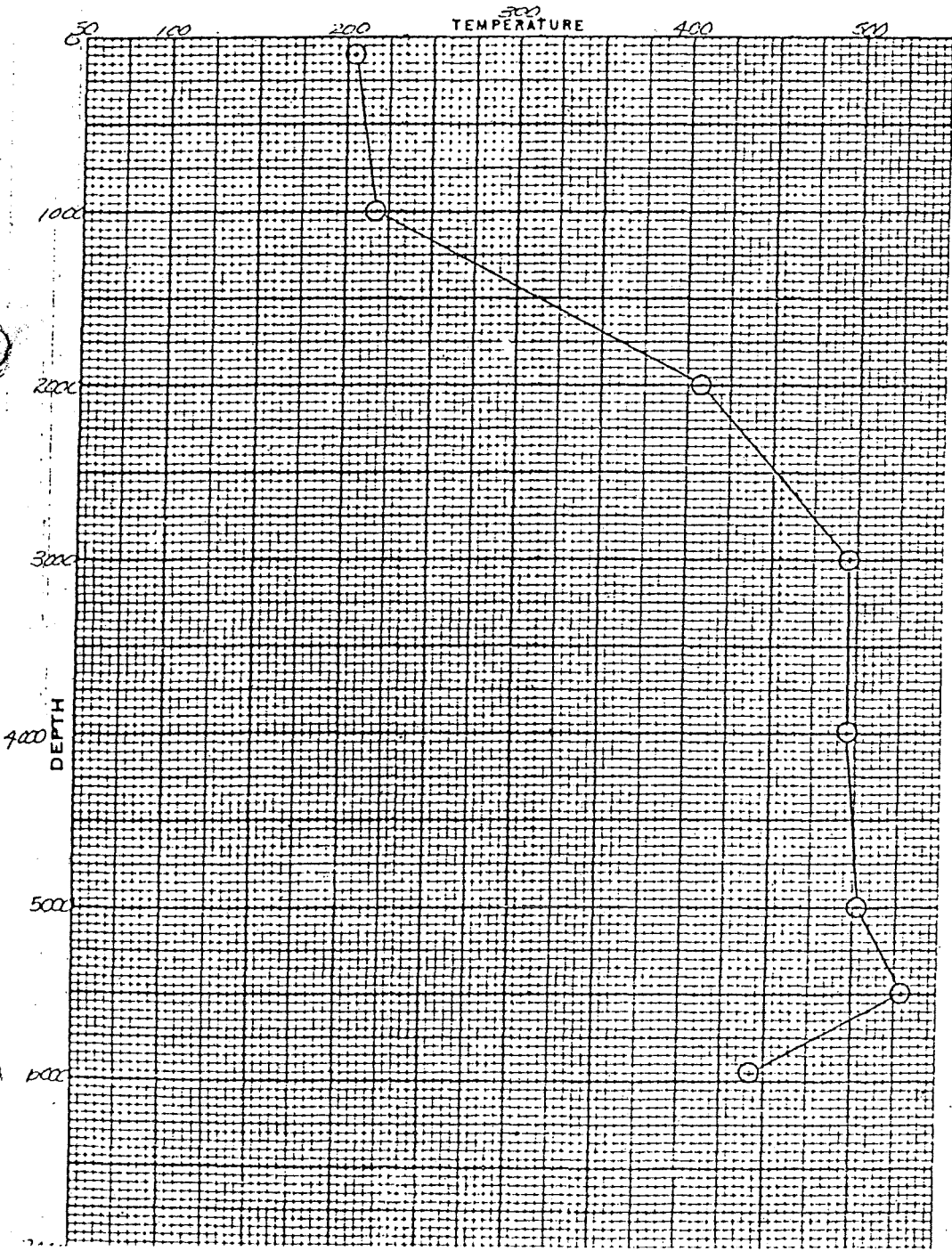
DEPTH	PRESSURE	GRADIENT
100	0	
1000	0	
2000	399	
3000	762	
4000	1103	
5000	1451	
5500	1621	
5959	1769	

76

UNION

GEOTHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #10
 CASING _____ ELEV _____ DATE 11/10/75
 LINER DESCRIPTION: _____ ZERO POINT G.L. +10'
 _____ DEPTH 5959'
 HOLE DESCRIPTION: _____ INSTRUMENT 82 - 686 FAHR
 _____ SERIAL NO 10055
 PURPOSE _____ MAX TEMP 529 °F @ 5500'
 REMARKS _____



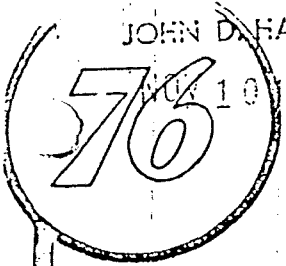
STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	204		
1000	218		
2000	408		
3000	495.5		
4000	496.1		
5000	503		
5500	529		
5959	443		

BY: RB & JM

JOHN D. HARTZ



NOV 10 1975



GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

3#10 531 FT

OWNER Union Oil Co of Calif FIELD Valle Grande WELL NAME BACA #10
 CASING 20" @ 653'; 13 3/8" @ 2794' ELEV. 8734' DATE: 11/5/75
 LINER DESCRIPTION: 9 5/8" @ 448'; 7" @ 4275' - T.D. ZERO POINT GL +10'
 DEPTH 5959

TUBING DETAIL:

PURPOSE

REMARKS:

Element - 0-4000 Rq 7198 12 hr 14091-1 15 T
ELEMENT - 82° - 686°F SERIAL NO. 10055 CLOCK 12hr, 129896, 15 TURN STABILIZATION PERIOD
ENGAGE STYLUS P-0900 T-0905 DISENGAGE STYLUS P-1225 T, 1225
 WELL HEAD 2 Big
PICKUP @ 5959' TIME ON BOTTOM 1053-1153 MAX. °F 531°F @ 5500'
 WELL STATUS STATIC
 SHUT IN: 8/21/75 ON PRODUCTION:

RATE

Pressure						Temperature											
T	DEPTH	DEFL.	P-T	GRAD.	NO. 12	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0-076	100	.003	7	-	0	0440	100	.377	205.4								
1-1051	5500	.755	1626.8	-	+0.05	1051	5500	1.921	531								
3-1153	5959	1.821	1765.2	-	+0.011	1153	5959	1.126	443.4								

COMMENTS:

76

UNION

JOHN D. HARTZ

NOV 06 1975

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACA #10-530-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 80" @ 6'3"; 13 7/8" @ 2794' ELEV. 8734' DATE: 10/30/75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" @ 5275' - T.D. ZERO POINT GL+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - O - 44002210 7188 1262 13375-2 15
 ELEMENT 82°F - 686°F SERIAL NO. 10055 CLOCK 12:12 4091-415 STABILIZATION PERIOD
 ENGAGE SYLUS P-0905; T-0902 DISENGAGE SYLUS P-1023, T-1029

WELL HEAD 2

PICKUP @ 5959' TIME ON BOTTOM 10:13-11:13 MAX. F 531 @ 5500'

WELL STATUS STATIC

SHUT IN: 8/31/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	PRESSURE				TEMPERATURE				ID	
		DEFL.	P-T	GRAD.	GRAB	TIME	DEPTH	DEFL.	P-T		GRAD.
02	100	1003	7	-	0	0932	100	1385	308	-	
11	5500	0754	1624	-	1624	1041	5500	1420	531	-	
13-1153	5959	0825	1734	-	1734	1153	5959	1415	440	-	

COMMENTS:

76

UNION

DEL PYLE

GEO THERMAL DIVISION

NOV 7 1975

SUBSURFACE SURVEY

Field Work Sheet

B10 529 P/P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 653'; 13 1/8" AT 2794' ELEV. 8734' DATE: 10/22/75
 LINER DESCRIPTION: 9 5/8" 4418'; 7" 4275 - TD ZERO POINT CL #10'
 DEPTH 5959'

TURING DETAIL:

PURPOSE

REMARKS:

ELEMENT P₁ - 0-4000 PSI SN 7198 CLOCK 12 to 12 1/2 TURN
 ELEMENT P₂ - 0-2950 PSI SERIAL NO. 9235 CLOCK 12 to 13 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P 0858 P₂ 0854 DISENGAGE STYLUS P₁-1135 P₂-1135
 WELL HEAD 2 BIC 0/100 T/G
 PICKUP @ 5959 TIME ON BOTTOM MAX. 'F
 WELL STATUS
 SHUT IN: 8/21/75 ON PRODUCTION:
 RATE

P₁ - #7198

P₂ 9235

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	100	1.001	2.0		0		100	1.001	2.0								
0951	1100	1.002	5.0		0		1000	1.002	3.0								
1013	2100	1.172	394.0		-002		2000	1.240	379.0								
1015	3100	1.338	749.0		-002		3000	1.481	732.0								
1027	4100	1.580	1092.0		0		4000	1.719	1080.0								
1040	5100	1.667	1442.0		+004		5000	1.957	1426.0								
1051	5500	1.749	1614.0		+004		5500	1.071	1513.0								
1104	5959	1.872	1767		+012		5959	1.176	1746.0								

COMMENTS: PRESSURES WERE CORRECTED USING TEMPERATURES FROM B10-528 P/T

76

UNION

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

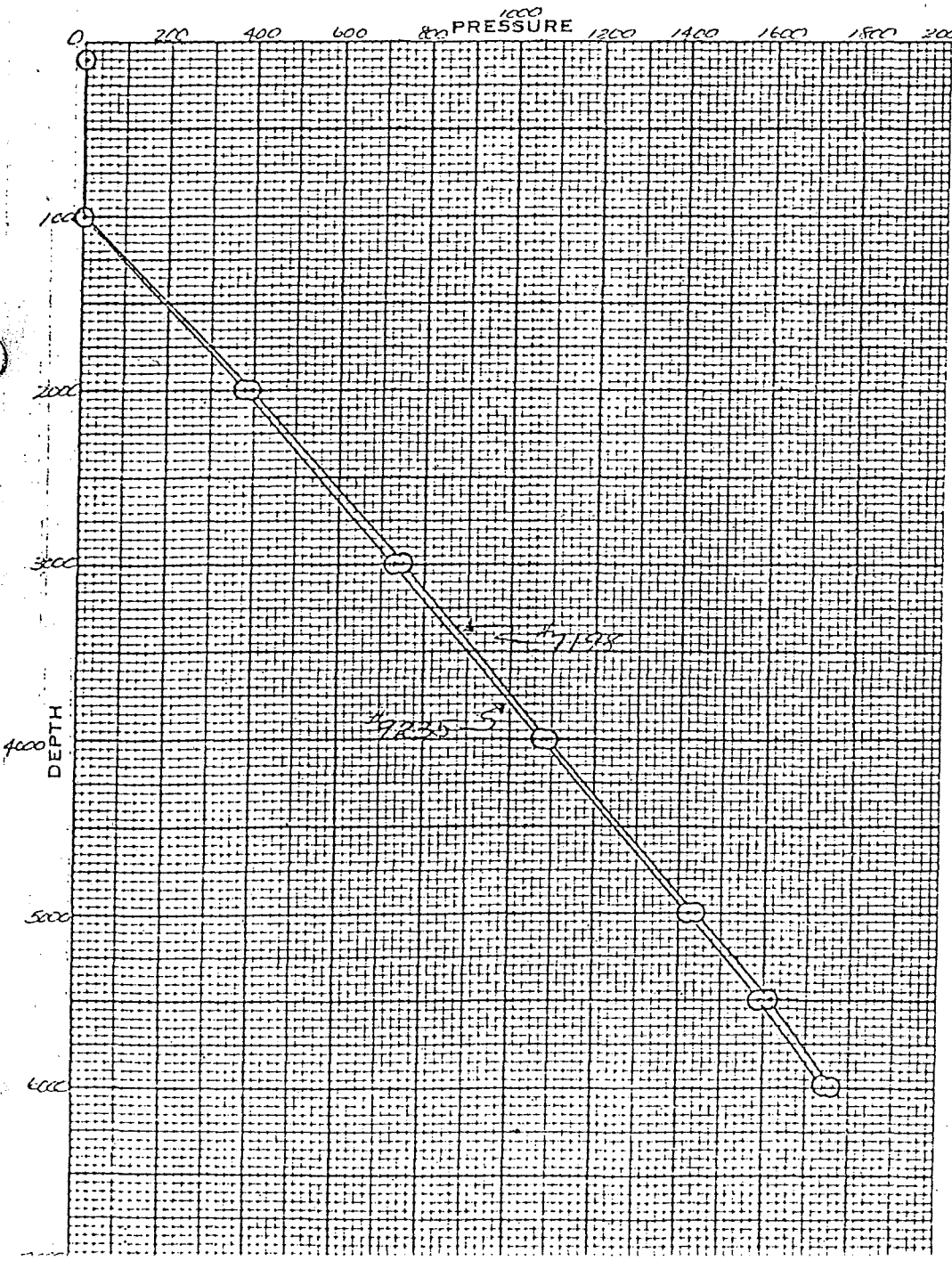
B10-S29-PP

OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #10
 CASING _____ ELEV _____ DATE 10/22/75
 LINER DESCRIPTION: _____ ZERO POINT G.L. +10'
 _____ DEPTH 5959'

HOLE DESCRIPTION: _____

 INSTRUMENT _____ PSIC
 SERIAL NO #7198 and #9235

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: Pressures were corrected using Temperatures from B10-S28-PT survey.



STABILIZATION PERIOD _____

PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
#7198		
100	2.0	0
1000	5.0	0
2000	394.0	-0.002
3000	749.0	-0.002
4000	1092.0	0
5000	1442.0	+0.004
5500	1614.0	+0.004
5959	1767.0	+0.012

DEPTH	PRESSURE	GRADIENT
#9235		
100	2.0	
1000	3.0	
2000	379.0	
3000	732.0	
4000	1080.0	
5000	1426.0	
5500	1593.0	
5959	1746.0	

76

UNION

D. C. DECPYLE

GEO THERMAL DIVISION NOV 7 1975

SUBSURFACE SURVEY
Field Work Sheet

BAC# 10-528-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BAC#10
 CASING 20" @ 653'; 13 3/8" @ 2794' ELEV. 8734.5' DATE: 10/21/75
 LINER DESCRIPTION: 9 7/8" @ 4418'; 7" HUNG - 4275' - 6000' ZERO POINT GLT
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4800 13012 12hr - 13375-L 15
 ELEMENT T-620E-680E SERIAL NO. 10055 CLOCK 12HR 14091-L TURN 15 STABILIZATION PERIOD
 ENGAGE STYLUS P-1327 T-1327 DISENGAGE STYLUS P-1558-T-1559
 WELL HEAD 3
 PICKUP @ 5959' TIME ON BOTTOM 1514-1524 MAX. P 525°F @ 5500'
 WELL STATUS STATIC
 SHUT IN: 1010 hrs 9/3/75 ON PRODUCTION:
 RATE

PSIG

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	TEMP	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1410	100	.001	2		0	1400	100	.015	87							
1412	1000	.002	4		0	1412	1000	.361	800							
1424	2000	.153	342		+1002	1424	2000	1.004	406							
1436	3000	.302	693		+1002	1436	3000	1.269	456							
1448	4000	.452	1047		+1002	1448	4000	1.285	491							
1500	5000	.595	1382		+1004	1500	5000	1.318	501							
1513	5500	.667	1550		+1004	1513	5500	1.400	525							
1524	5959	.733	1705		+1008	1524	5959	1.080	429							

COMMENTS:

BOMB # 13012 IS NOT STABLE. AND PRESSURES ARE NOT CORRECT. JDH 11/3/75

76

W1117511

GEOHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

B10-S28-PT

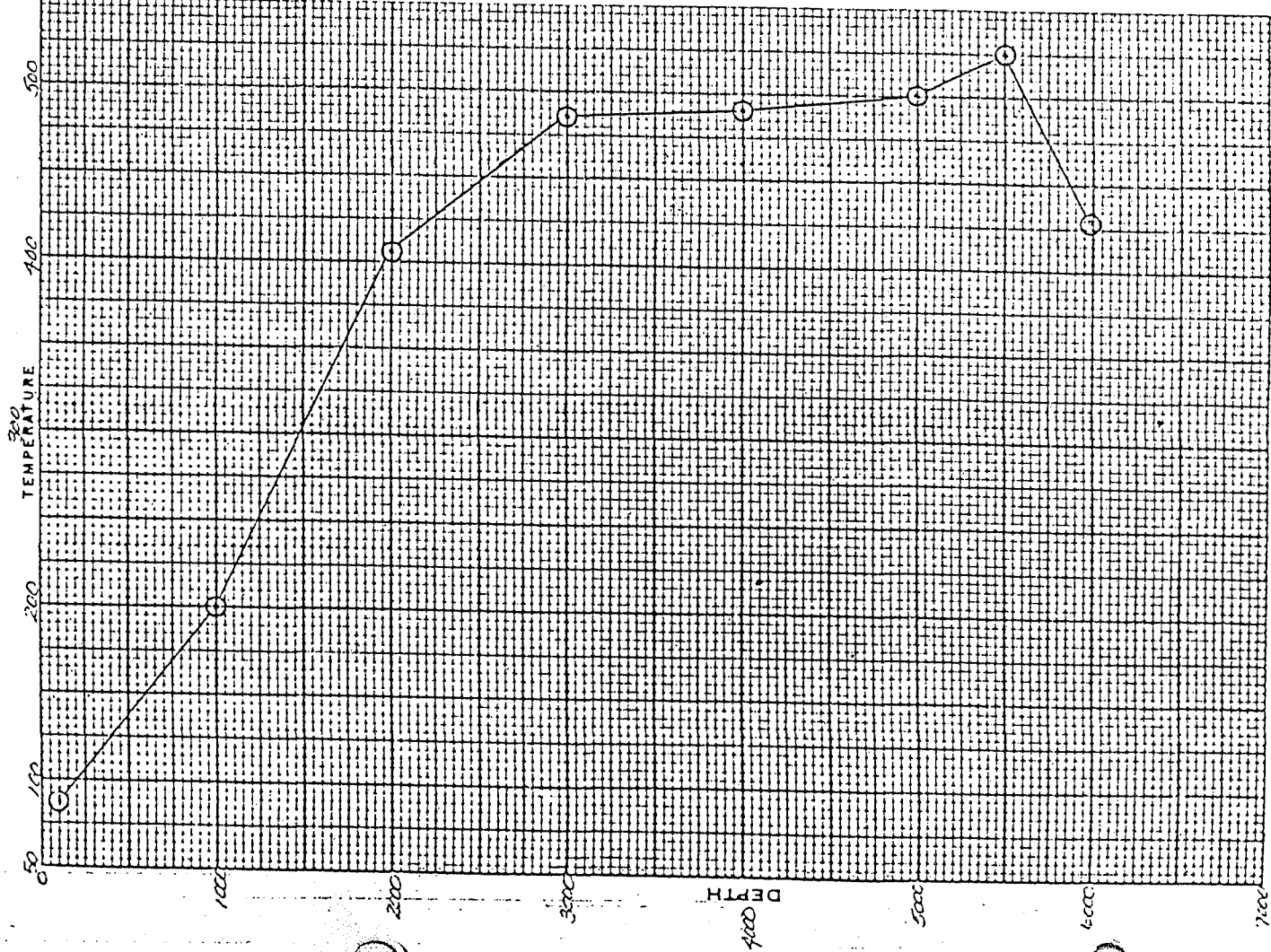
OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #10
 CASING DATE 10/21/75
 LINER DESCRIPTION G.L. +10'
 DEPTH 5959'

HOLE DESCRIPTION:
 INSTRUMENT SERIAL NO 10055 FAHR

PURPOSE
 REMARKS MAX TEMP 525 °F @ 5500'

STABILIZATION PERIOD

PRESSURE CASING, PSI	GAUGE	BOMB
100	87	
1000	200	
2000	406	
3000	486	
4000	491	
5000	501	
5500	525	
5959	429	



BY:

76

UNION

GEOTHERMAL DIVISION

DEL PYLE

NOV 7 1975

SUBSURFACE SURVEY

Field Work Sheet

B10 527 P/P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 653'; 13 3/8" AT 2794' ELEV. 8734' DATE: 10/21/75
 LINER DESCRIPTION: 9 5/8" AT 4418'; 7" 4275 - TD ZERO POINT CL +10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT P₁ 0-4000 PSI SN 7198 CLOCK 12 PM 15 T
 ELEMENT P₂ 0-2950 PSI SERIAL NO. 9235 CLOCK 12 PM 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P₁-0945' P₂ 0947 DISENGAGE STYLUS P₁ 1211; P₂ 1211
 WELL HEAD 3 PSIG 0-100 / T/G
 PICKUP @ 5959 TIME ON BOTTOM 1135-1145 MAX. P
 WELL STATUS
 SHUT IN: 9/3/75 1010 HRS ON PRODUCTION:
 RATE P # 7198 P # 9235

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1015	110	0.01	2.0		0	1015	110	0.01	2.0		0						
1028	140	0.02	5.0		0	1028	140	0.02	3.0		0						
1040	240	0.173	392.0		-0.02	1040	240	0.242	381.5		-0.003						
1053	3040	0.347	754.6		-0.01	1053	3040	0.482	734.0		+0.01						
1109	4440	0.502	1096.0		0	1109	4440	0.717	1078.3		+0.006						
1122	5040	0.670	1008.6		+0.04	1122	5040	0.953	1420.3		+0.11						
1133	5300	0.752	1620.5		+0.04	1133	5300	1.068	1588.0		+0.10						
1145	5959	0.821	1765.2		+0.12	1145	5959	1.173	1742.0		+0.20						

COMMENTS: THE PRESSURES WERE CORRECTED USING TEMPERATURES FROM B10 5-28 P/P

76

UNION
GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B10-S27-PP

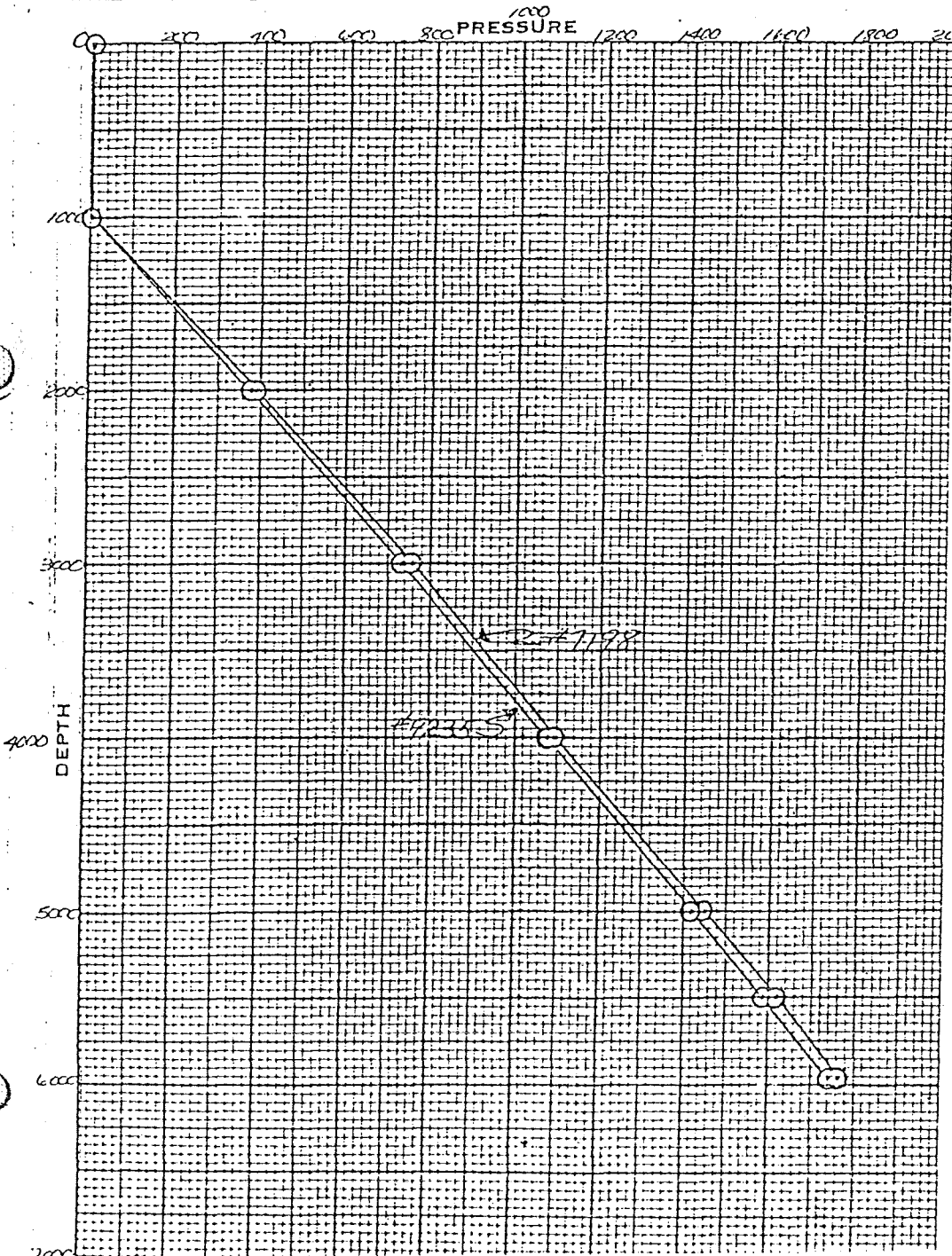
OWNER Union Oil Company FIELD Valle Grande WELL NAME Baca #10
 CASING _____ ELEV _____ DATE 10/21/75
 LINER DESCRIPTION: _____ ZERO POINT G.L. +10'
 _____ DEPTH 5959'

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSI
 _____ SERIAL NO #7198 and #9235

PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: The pressures were corrected using Temp. from B10-S28-PT survey.

STABILIZATION PERIOD _____

PRESSURES.	GAUGE	BOMB
CASING, PSI		



DEPTH	PRESSURE	CORRECTION
<u>#7198</u>		
100	2.0	0
1000	5.0	0
2000	39.0	-.002
3000	759.6	-.001
4000	1096.0	0
5000	1448.6	+.004
5500	1620.5	+.004
5959	1765.2	+.012

<u>#9235</u>		
100	2.0	0
1000	3.0	0
2000	381.5	-.003
3000	734.0	+.001
4000	1078.3	+.006
5000	1420.3	+.011
5500	1588.0	+.010
5959	1742.0	+.020

J.M. and J.B.

76

UNION

DEL' PYLE

GEO THERMAL DIVISION OCT 22 1975

SUN SURFACE SURVEY
Field Work Sheet

B10-526 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #10
 CASING 20" NT 6.53' 13 3/8" AT 2744' ELEV. 8734.5 DATE: 10/9/75
 LINER DESCRIPTION: 9 5/8" AT 4415' ZERO POINT GL + 10'
7" 4275' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE INTERFERENCE SURVEY

REMARKS:

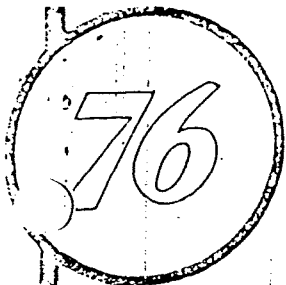
ELEMENT - 0-4250 PSIG SN 7198 CLOCK-12 HR 15 TURN
 ELEMENT - 82°-686°F SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0945 T-0947 DISENGAGE STYLUS
 WELL HEAD 3 PSIG 0-100 T/G
 PICKUP @ 5959 TIME ON BOTTOM 1131-1231 MAX. °F
 WELL STATUS
 SHUT IN: 1010 hrs 9/3/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	5300	.753	1620.8		+0.05	1029	5500	1.366	513.9								
1029	5500	.753	1620.8		+0.05	1059	5500	1.402	525.6								
1129	5500	.753	1620.8		+0.05	1129	5500	1.402	525.6								
1131	5959	.822	1740.6		+0.08	1131	5959	1.150	450.8								
1201	5959	.822	1740.6		+0.08	1201	5959	1.055	421.8								
1231	5959	.822	1740.6		+0.08	1231	5959	1.055	421.8								

COMMENTS:



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-DEL BLEP/T

SEP 22 1975

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#10
 CASING 20" @ 653'; 13 3/8" @ 2994' ELEV. 8737.5 DATE: 9/17/75
 LINER DESCRIPTION: 9 5/8" @ 2450' + 4418' ZERO POINT 66-10'
 7" @ 4275 - T.D. DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4250 7198 12hr 13375-L 15
 ELEMENT T-82°F-656°F SERIAL NO. 10055 CLOCK 12hr 14091-L TURN/5 STABILIZATION PERIOD
 ENGAGE STYLUS P-1012, T-1008 DISENGAGE STYLUS P-1325, T-1325
 WELL HEAD 5 PSIG.
 PICKUP @ 5959 TIME ON BOTTOM 1200-1300 MAX. °F 503.8
 WELL STATUS SHUT IN
 SHUT IN: 1010hr - 9/13/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID CORR.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1000	100	0	0	0	0	-	1000	.031	92	0							
1000	1000	0	0	0	0	-	1000	.383	207.4	.128							
1004	2000	1.158	356	0	0	-	2000	.976	397.3	.19							
1116	3000	1.327	723	1.366	0	-	3000	1.129	444.4	.047							
1130	4000	1.490	1067	1.344	+0.002	-	4000	1.245	479.3	.035							
1147	5000	1.658	1420	1.353	+0.005	-	5000	1.281	490	.011							
1159	5000	1.741	1595	1.350	+0.006	-	5500	1.328	503.8	.028							
1200	5959	1.816	1754	-	+0.008	-	5959	.953	390	-							
1230	"	1.818	1759	-	+0.008	-	"	.950	389	-							
1300	"	1.818	1759	1.356	+0.008	-	"	.946	387.7	-							

COMMENTS:

BY:

716

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

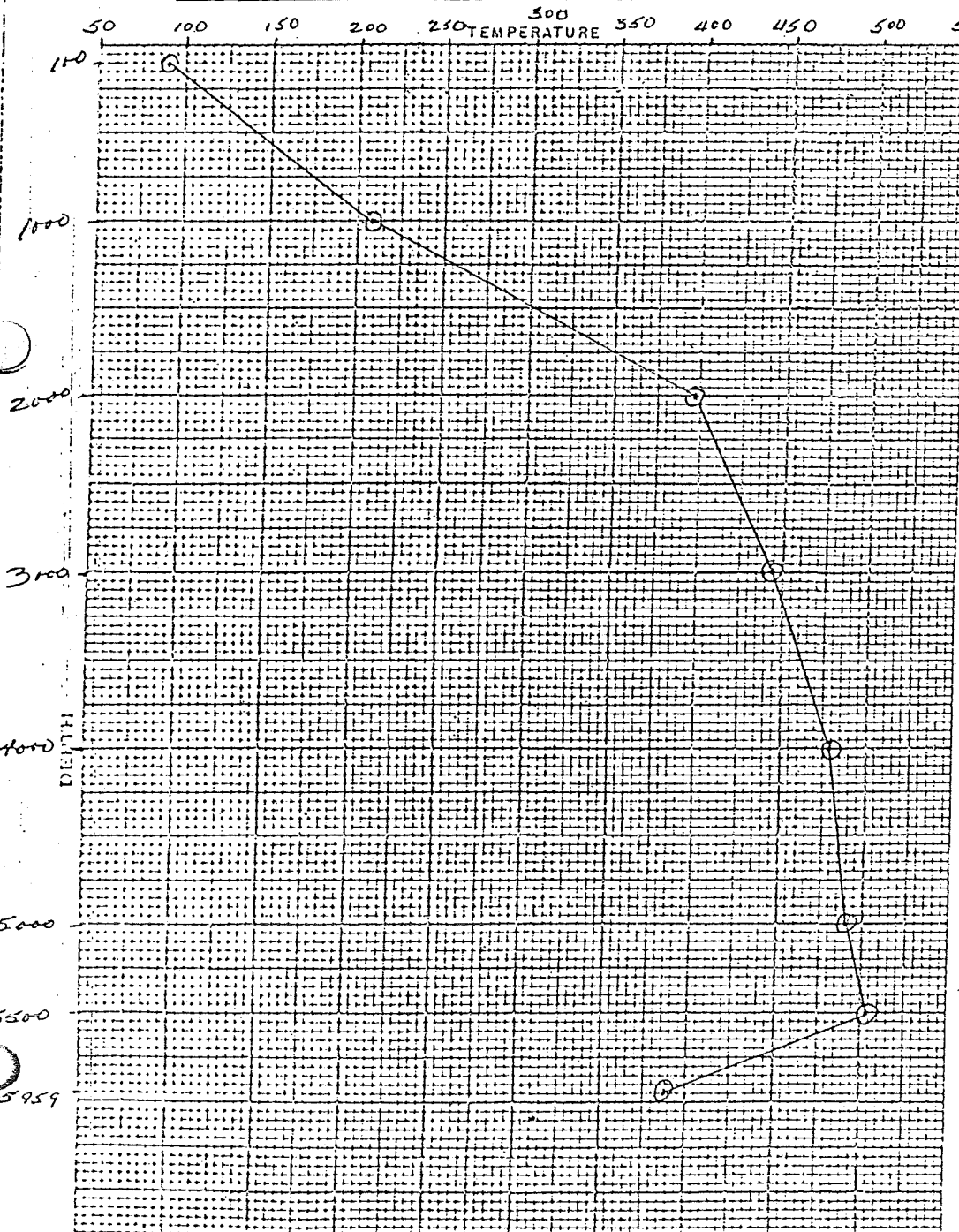
B10 525 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #10
 CASING 20" AT 653' 13 3/8 AT 2794' ELEV. 8734.5 DATE: 9/17/75
 LINER DESCRIPTION: 9 5/8" 2480' 4418' ZERO POINT GL + 10
7" 4278' - TD DEPTH 5959'

WELL DESCRIPTION: _____ INSTRUMENT 82°-686° FAN
 SERIAL NO 10055

PURPOSE _____ MAX TEMP. 503 OF @ 5500

REMARKS: _____



DEPTH	TEMP.	DEPTH	TEMP.
110	91.7		
1000	207.4		
2000	397.3		
3000	444.4		
4000	479.3		
5000	489.9		
5500	503.8		
5959	390.0		
5959	387.7		

JW JB

316

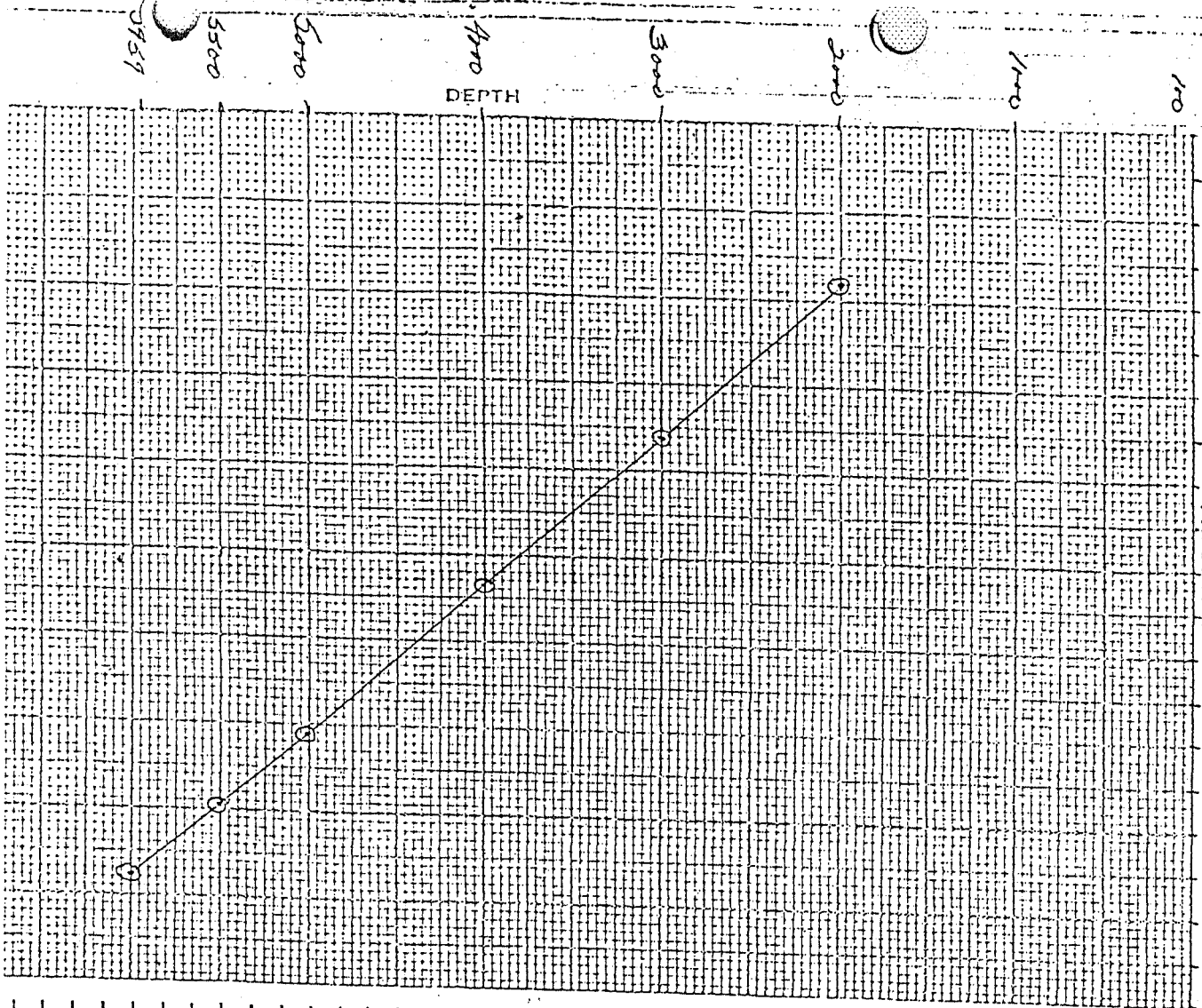
GEOTHERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

B 10 22 P

OWNER: UNION OIL COMPANY FIELD: WALLE GRANDE WELL NAME: BADA #10
 CASING: 20" AT 653', 13 7/8" AT 2794' ELEV: 8734.5 DATE: 9/17/75
 LINER DESCRIPTION: 9 5/8" 2480-4415' ZERO POINT: GL +10'
7" - 4278' - TD DEPTH: 5459'

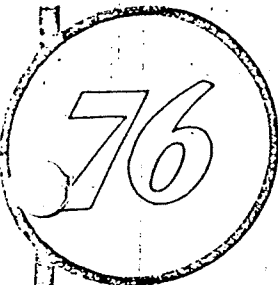
HOLE DESCRIPTION:
 INSTRUMENT: 4250 PS
 SERIAL NO: 7198
 MAX TEMP: 50.3 OF @ 5500

PURPOSE:
 REMARKS:
 STABILIZATION PERIOD



DEPTH	PRESSURE	GRADIENT
1000	0	
1440	0	
2040	355.9	
3000	722.5	
4400	1067.2	
5000	1420.2	
5500	1595.3	
5959	1754.2	
5959	1758.5	
5959	1758.5	

LM 413



union

DEL PYLE

GEO THERMAL DIVISION SEP 22 1975

SUBSURFACE SURVEY

Field Work Sheet

B10 524 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #10
 CASING 20" AT 653'; 13 3/8" AT 2794' ELEV. 8734.5' DATE: 9/12/75
 LINER DESCRIPTION: 9 5/8" AT 2480' - 4418' ZERO POINT CL + 10'
7" 4279' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

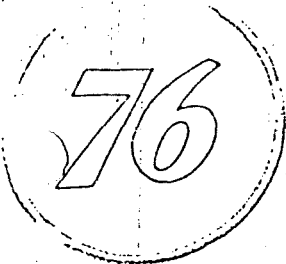
ELEMENT - 0-4250 PSIG SN 7198 LLOCK - 12hr 15 TURN
ELEMENT 82°-686° SERIAL NO. 10055 CLOCK - 12hr 15 TURN STABILIZATION PERIOD
ENGAGE STYLUS P-2901 T-0907 DISENGAGE STYLUS P-0215 T-1216
 WELL HEAD 5 PSIG
 PICKUP @ 5959' TIME ON BOTTOM 1046 - 1146 MAX. °F 493.4
 WELL STATUS SHUT IN AT 1010 hrs 9/3/75
 SHUT IN: ON PRODUCTION:
 RATE

PIESURE

TEMPERATURE

PIESURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0946	5500	1.750	16.144		+0.06	0946	5500	1.293	493.4								
1015	5500	.750	16.144		+0.06	1015	5500	1.293	493.4								
1045	5500	.750	16.144		+0.06	1045	5500	1.293	493.4								
1046	5959	.819	17.06		+0.07	1046	5959	.926	381.3								
1116	5959	.819	17.06		+0.07	1116	5959	.926	381.3								
1146	5959	.819	17.06		+0.07	1146	5959	.926	381.3								

COMMENTS:



UNION

DEL' PYLE

GEO THERMAL DIVISION

SEP 16 1975

SUBSURFACE SURVEY

Field Work Sheet

3#10 - S23 9'

OWNER Union Oil Co. FIELD Valle Grande WELL NAME Biran # 10
 CASING 20" @ 653' - 13 3/8" @ 2794' ELEV. 8734.5 DATE: 9/18/75
 LINER DESCRIPTION: 9 5/8" - 2980' - 4418' ZERO POINT CL + 10'
7" - 4279' - 6000' DEPTH 5960'

TUDING DETAIL:

PURPOSE

REMARKS:

Element 0 - 92501516 7148 133756 12hr 15T

ELEMENT 82°F - 686°F SERIAL NO. 10055 CLOCK 140916 12hr TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1014 - T-1018 DISENGAGE STYLUS P-1325 - T-1329

WELL HEAD 7 PSI

PICKUP 0 - 5960' @ 1301 hr TIME ON BOTTOM 1231 - 1301 MAX. 480°F @ 5300'

WELL STATUS Shut in

SHUT IN: 1010 hr 9/3/75 ON PRODUCTION:

RATE

PRES.

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	CORR.	TIME	DEPTH	DEFL.	T-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.005	11.3	0	0	-	100	.136	125	0							
51-1127	1500	.008	15	.007	0		1000	.425	221	.106							
52-1127	2000	.154	346.8	.328	0		2000	.946	328	.167							
29-1128	3000	.330	729	.346	+1.001		3000	1.128	468	.08							
35-1128	4000	.496	1080	.351	+1.002		4000	1.221	472	.064							
47-1128	5000	.647	1439	.359	+1.005		5000	1.242	478	.006							
51-1228	5500	.750	1614	.350	+1.006		5500	1.244	480	.004							
51-1228	5960	.819	1761	.310	+1.007		5960	.915	378	0							

COMMENTS:

20

76

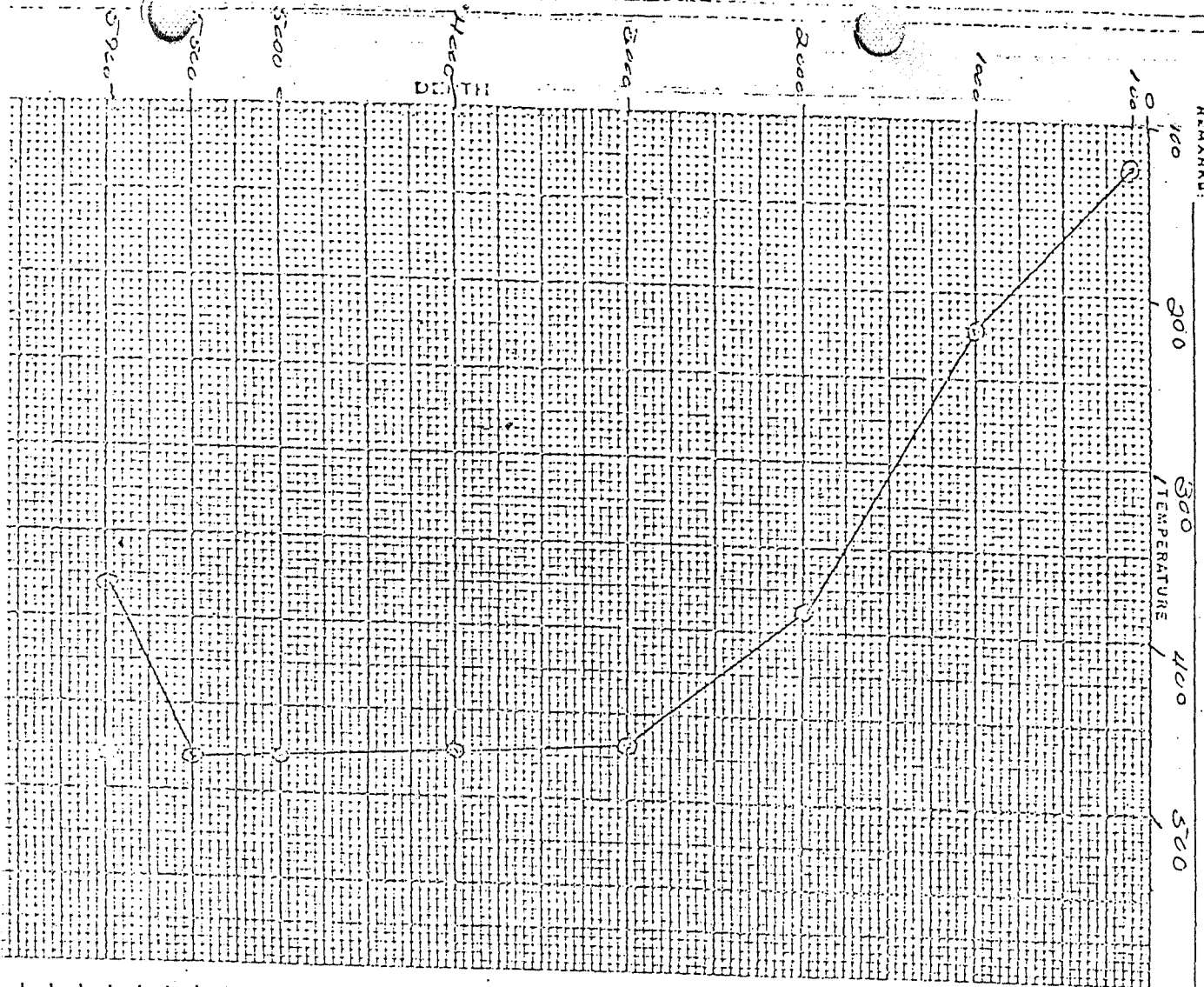
GEO THERMAL DIVISION
GUGURFACE TEMPERATURE SURVEY

BACA #10-S23-1

OWNER: WILLIAM FOR 1 CELL FIELD WELL NAME: BACA #10
 CASING: 20" @ 653' @ 1324' @ 2290' DATE: 9/29/75
 LINER DESCRIPTION: 2 1/2" @ 2450' - 4418' ZERO POINT: G.S. 710
2" LINER - 4279' - 6000' DEPTH: 3960

MOLE DESCRIPTION: _____
 INSTRUMENT: SP-9 - 6865
 SERIAL NO: 10055
 MAX TEMP: 480 °F @ 5500'

PURPOSE: _____
 REMARKS: _____
 STABILIZATION PERIOD: _____



PRESSURES	GAUGE	1	CORRECT
CASING PSI:	7 PSIG		7 PSIG
DEPTH	TEMP.	DEPTH	TEMP.
100	135		
150	221		
200	358		
300	495 416.5		
400	492		
500	478		
550	480		
5900	378		

76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY BACH # 10-5-23-P

OWNER: UNION OIL of CALIF FIELD: VALLE GRANDE WELL NAME: BACH # 10
 CASING: 20" @ 6530' 12 1/2" @ 2771' ELEV: 2734.5 DATE: 9-8-75
 LINER DESCRIPTION: 9 3/4" @ 2450'-4418' ZERO POINT: GL+10'
7" LINER - 4279'-6000' DEPTH: 5760'

WELL DESCRIPTION:

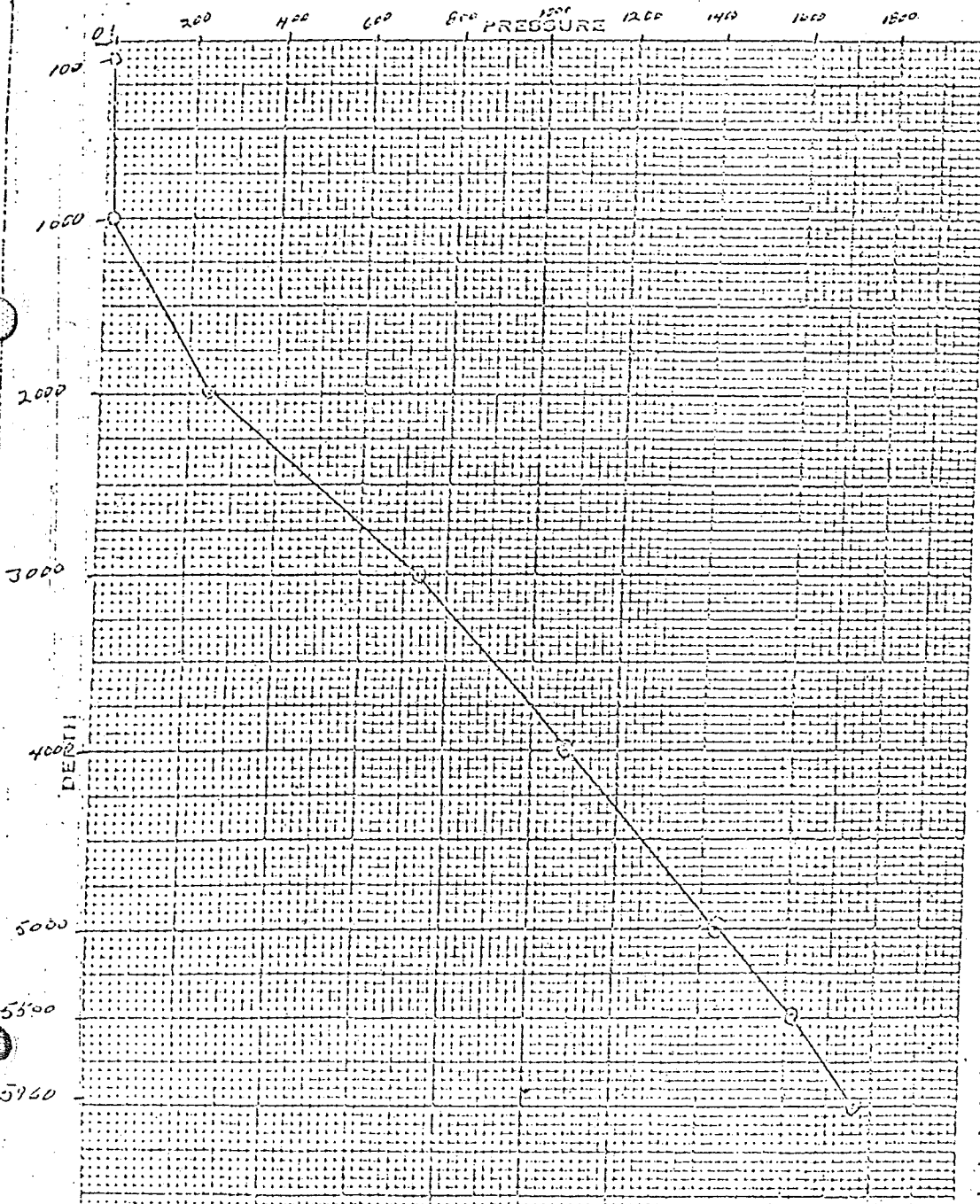
INSTRUMENT: Q-4250
 SERIAL NO.: 7198

PURPOSE:

MAX. TEMP: 480 °F @ 5500'

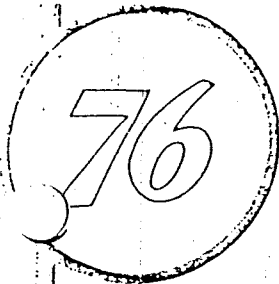
REMARKS:

STABILIZATION PERIOD



PRESSURE GAUGE
 CASING PS: 70516 WELL Q1

DEPTH	PRESSURE	GRAD.
100	11.3	
1000	18	.007
2000	34.6	.026
3000	73.9	.046
4000	109.0	.051
5000	143.9	.059
5500	161.4	.05
5760	176.1	.031



UNION

DEL PYLE

GEO THERMAL DIVISION SEP 11 1975

SUBSURFACE SURVEY

Field Work Sheet

1310-522 P/T

OWNER: UNION OIL COMPANY FIELD: HALL GRANDE WELL NAME: BACA #10
 CASING: 20" AT 633' 13 3/8" AT 2794' ELEV. 8754.8 DATE: 9/4/75
 LINER DESCRIPTION: 7 5/8" AT 2480' - 4418' ZERO POINT: 66.10'
 7" 42.78' - 6000' DEPTH: 5959'

TUBING DETAIL:

PURPOSE:

REMARKS:

ELEMENT: 0-4250 PSIG SN 7198 CLOCK 12hr 15 T
 ELEMENT 82°-650°F SERIAL NO. 10054 CLOCK 12hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1154 T-1150 DISENGAGE STYLUS P. 1605 T-1605
 WELL HEAD 14 PSIG
 PICKUP @ 5959 TIME ON BOTTOM 12:30 - 15:30 MAX. °F 378.8
 WELL STATUS SHUT IN 1010 hrs 9/3/75
 SHUT IN: ON PRODUCTION:
 RATE

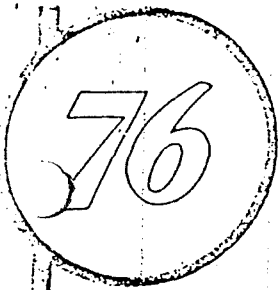
PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1230	5959	.800	1737.5		7.007	1230	5959	.918	378.8								
1300	"	.810	1741.5		"	1300	"	.918	378.8								
1330	"	.810	1741.5		"	1330	"	.918	378.8								
1400	"	.810	1741.5		"	1400	"	.918	378.8								
1430	"	.810	1741.5		"	1430	"	.918	378.8								
1500	"	.810	1741.5		"	1500	"	.918	378.8								
1530	"	.810	1741.5		"	1530	"	.918	378.8								

COMMENTS: NOTE WELL HEAD WAS VERY HOT

BY: Jm JB CP



UNION

DEL PYLE

GEO THERMAL DIVISION SEP 11 1975

SUBSURFACE SURVEY
Field Work Sheet

B10-521 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BARR #10
CASING 20" AT 653' 13 3/8" AT 2794' ELEV. 8734.5' DATE: 9/3/75
LINER DESCRIPTION: 9 5/8" - 2490' - 4418" ZERO POINT CL 110
7" 4278' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE

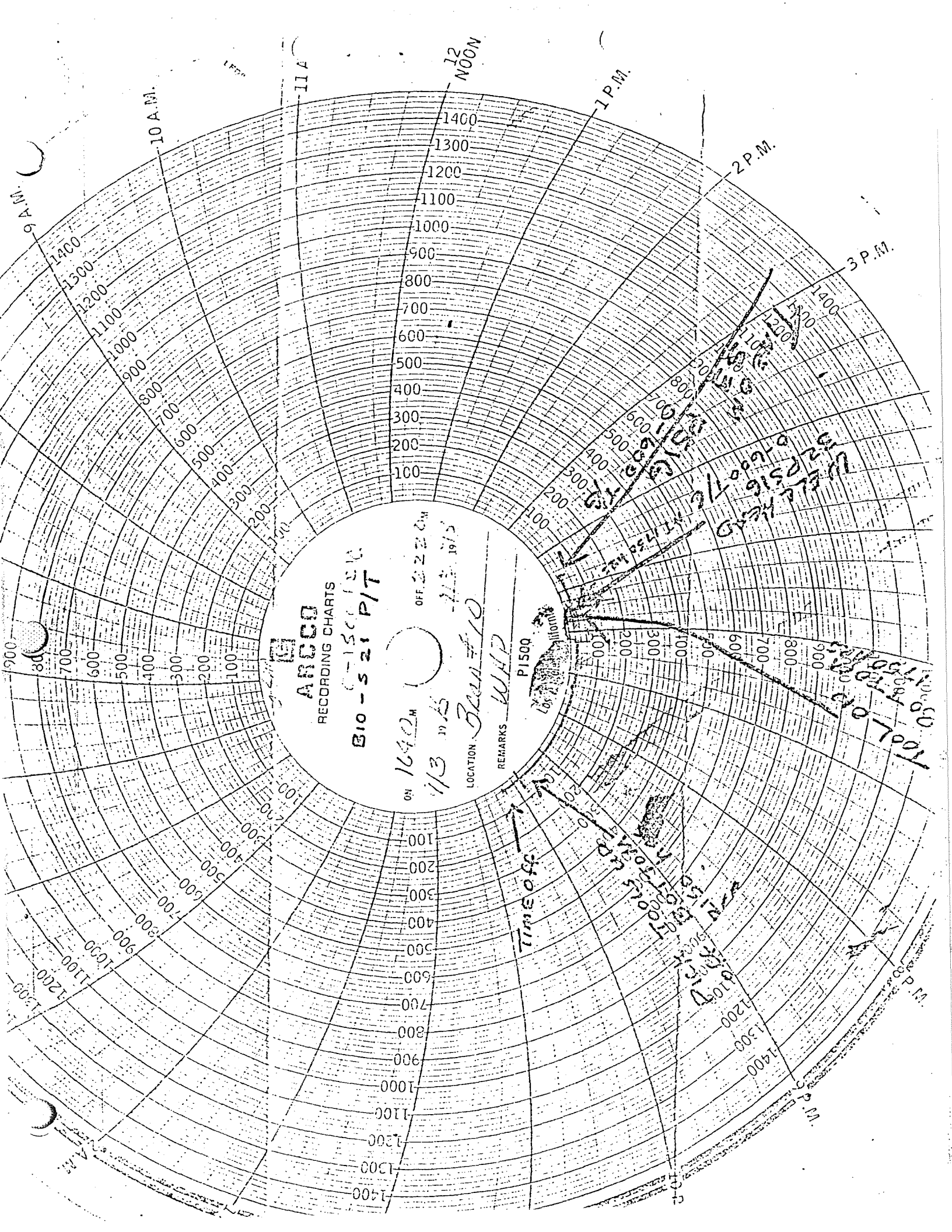
REMARKS:

ELEMENT - G-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-1715 T-1718 DISENGAGE STYLUS P-2255 T-2255
WELL HEAD SEE CHART
PICKUP @ 5959' TIME ON BOTTOM 1750 - 2150 MAX. °F
WELL STATUS SHUT 1010 hrs 9/3/75
SHUT IN: ON PRODUCTION:
RATE

TEMPERATURE PRESSURE

Table with columns for TIME, DEPTH, DEFL., P-T, GRAD., ID under both TEMPERATURE and PRESSURE headings. Data points are recorded for depths from 5959' to 2150'.

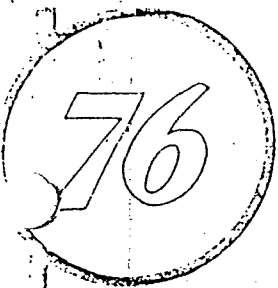
COMMENTS:



ARCO
 RECORDING CHARTS
 BIO-521 P/T
 ON 1640M
 OFF 2222 AM
 113 11.5 11.5 1915
 LOCATION *BRUNO*
 REMARKS *WHP*
 P1500

1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
2100
2200
2300
2400
2500
2600
2700
2800
2900
3000
3100
3200
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4200
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UNION

DEL' PYLE

GEO THERMAL DIVISION SEP 11 1975

SUBSURFACE SURVEY
Field Work Sheet

B-10 520 P/1

OWNER Union Oil Co. FIELD Valle Grande WELL NAME BETA #10
 CASING 21"-653' 13 3/8"-7794' ELEV. 8739.5' DATE: 9/3/75
 LINER DESCRIPTION: 19 3/8"-2480'-4415' ZERO POINT C.L. +10'
7"-4275'-6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE Bottom hole build-up

REMARKS:

O. 4250 PSIG SN-7198 Clock-13375L 15T

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

ENGAGE STYLUS P-0815 T-0820 DISENGAGE STYLUS P-1630 T-1650

WELL HEAD 55 PSIG @ 1020

PICKUP @ 5959' @ 1620 TIME ON BOTTOM 1020-1620 MAX. °F 375.9°F

WELL STATUS Shut in

SHUT IN: @ 1010 9/3/75 ON PRODUCTION:

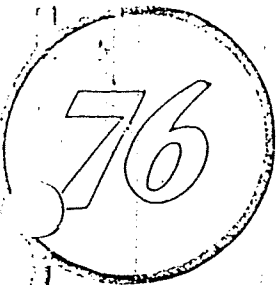
RATE

Temp.

TIME	DEPTH	DEFL.	R-T	GRAD.	ID	TIME	DEPTH	DEFL.	R-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
10	5959	.910	376.2			1320	5959	.909	375.9								
		.909	375.9			1350		✓	✓								
1022		.909	375.9			1420		✓	✓								
1023		✓	✓			1450		✓	✓								
1024		✓	✓			1520		✓	✓								
1025		✓	✓			1550		✓	✓								
1026		✓	✓			1620		✓	✓								
1027		✓	✓														
1028		✓	✓														
1029		✓	✓														
1030		.909	375.9														
1035		✓	✓														
1040		✓	✓														
1045		✓	✓														
1050		✓	✓														
1055		✓	✓														
1100		✓	✓														
05		✓	✓														
10		✓	✓														
15		✓	✓														
20		✓	✓														
1135		✓	✓														
1150		✓	✓														
1205		✓	✓														
1220		✓	✓														
35		✓	✓														
30		✓	✓														

COMMENTS:

RV.



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-10 5-20 9/

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAED #10
 CASING DAVE ELEV. 8739.5 DATE: 9/3/75
 LINER DESCRIPTION: ZERO POINT GL +10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE Bottom hole buildup
 REMARKS:

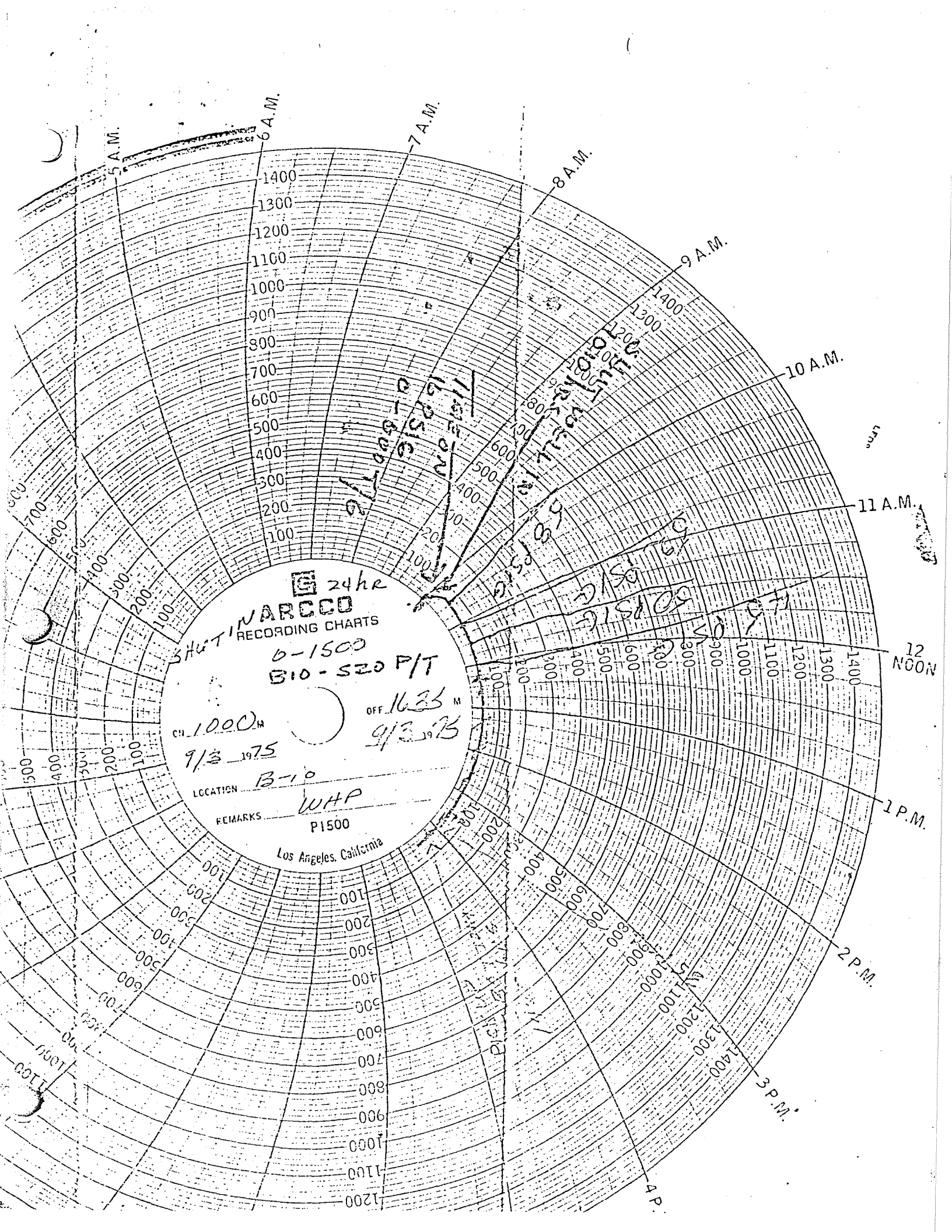
ELEMENT 0-4250 PSIG SERIAL NO. 7198 CLOCK 13375 L 15TURN STABILIZATION PERIOD
 ENGAGE STYLUS 0815 DISENGAGE STYLUS 1650
 WELL HEAD 3.3
 PICKUP @ 5959 TIME ON BOTTOM 1020-1620 MAX. *F 375.9°F
 WELL STATUS shut in
 SHUT IN: 1010 hr 9/3/75 ON PRODUCTION:
 RATE

Pres.

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1020	5959'	.521	1132.4		+1.001	1320	5959'	.712	1169.9		+1.007						
1021		.524	1138.7		+1.001	1350		.768	1162.5		✓						
1022		.533	1157.0		+1.001	1420		.775	1167.9		✓						
1023		.541	1174.4		+1.001	1450		.778	1173.7		✓						
1024		.549	1191.7		+1.001	1520		.785	1184.3		✓						
1025		.564	1222.7		+1.002	1550		.788	1189.9		✓						
1026		.572	1239.4		+1.002	1620		.793	1203.5		+1.007						
1027		.579	1254.2		+1.002												
1028		.585	1266.8		+1.002												
1029		.591	1279.4		+1.003												
1030		.596	1288.9		"												
1035		.603	1304.1		"												
40		.610	1318.3		+1.003												
55		.618	1336.1		+1.003												
50		.626	1352.9		+1.004												
55		.634	1369.7		+1.004												
1100		.643	1388.0		+1.005												
05		.653	1409.1		+1.005												
10		.663	1430.7		+1.005												
15		.672	1449.1		+1.005												
20		.680	1466.9		+1.005												
1135		.706	1521.2		+1.006												
1130		.722	1553.1		+1.006												
1205		.734	1580.5		+1.006												
20		.743	1589.1		+1.007												
35		.751	1616.5		✓												
		.754	1622.9		✓												
		.758	1631.4		✓												

COMMENTS:

BY: *AD*



SHUT
NARCCO
RECORDING CHARTS
6-1500
B10-S20 P/T
CH 1000 M
9/3 1975
OFF 1635 M
9/3 1975
LOCATION B-10
REMARKS WHP
P1500
Los Angeles, California

LFR

12 NOON

1 P.M.

2 P.M.

3 P.M.

4 P.M.

5 A.M.

6 A.M.

7 A.M.

8 A.M.

9 A.M.

10 A.M.

11 A.M.

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-10 S-19 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA 10
 CASING 2 1/2" - 653' ; 1 3/8" - 2794' ELEV. 8734.5' DATE: 4/24/75
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418' ZERO POINT 61+10'
 7" 4278' - 600' DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

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

ELEMENT 8 3/4" 686°F SERIAL NO. 10053 CLOCK 13374-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1348 T-1348 DISENGAGE STYLUS P-1617 T-1617

WELL HEAD 2 PSIG

PICKUP @ 5959' TIME ON BOTTOM 1534-1544 MAX. °F

WELL STATUS FLOWING SINCE 1155 hrs 4/23/75

SHUT IN:

ON PRODUCTION:

RATE

ID	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1-1431	0	.001	2.25			0	.319	210									
1-1432	1000	.001	2.25			1000	.520	252									
1-1440	2000	.001	2.25			2000	.650	294									
1-1449	3000	.001	2.25			3000	.680	303									
1-1451	4000	.001	2.25			4000	.441	227									
1-1506	4100	.001	2.25			4100	.450	230									
1-1515	4500	.024	54.1			4500	.699	309									
1-1523	5000	.030	67.6			5000	.748	325									
1-1632	5500	.032	72.1			5500	.752	326									
1-1644	5959	.032	72.1			5959	.462	234									

COMMENTS:

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BRA #10 S-17 P/T

OWNER UNION OIL COMPANY FIELD VALLÉ GRANDE WELL NAME BACA #10
 CASING 20" 75 653' 13 3/4" - 2794' ELEV. 8745.5' DATE: 2/10/75
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418' ; 7" - 4276' - 6000' ZERO POINT GL + 4
 DEPTH 5968'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4250 PSIC SERIAL NO. 7198 CLOCK - 13790-L 15 TURN

ELEMENT 89°-698° SERIAL NO. 10055 CLOCK 13375-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1151- T-1156 DISENGAGE STYLUS P-1422, T-1422

WELL HEAD - 0 -

PICKUP @ 5958' TIME ON BOTTOM 1345-1352 MAX. F 547.5 - @ 5500

WELL STATUS CAUSTIC INJECTED INTO WELL 1-29-75 APPROX. 1300 BBLs.

SHUT IN: ON PRODUCTION:

RATE

PRESSURE						TEMPERATURE					2/24/75 830 pm						
TIME	DEPTH	DEFL.	P-T	GRAD.	CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	0	0	0	0	"	100	.083	116.9	0							
	1000	0	0	0	0	"	1000	.421	232.7	0		1000	0.22				
2-1253	2000	.156	351.4	0	0	"	2000	.984	411.0	-		2000	0.51				
5-1252	3000	.320	707.6	.356	0	"	3000	1.225	481.1	-		3000	0.82				
3-1302	3500	.406	889.8	.364	+0.01	"	3500	1.276	495.7	-		3500	1.11				
2-1327	4000	.483	1060.0	.340	+0.02	"	4000	1.290	499.6	-		4000	1.01				
0-1327	4500	.573	1241.6	.363	+0.03	"	4500	1.248	487.7	-		4500	0.82				
1-1326	5000	.655	1413.9	.345	+0.05	"	5000	1.309	505.1	-		5000	0.77				
32-1344	5500	.739	1584.1	.354	+0.06	"	5500	1.429	547.5	-		5500	0.70				
5-1350	5953	.811	1743.6	.333	+0.06	"	5953	1.321	517	-		5953	0.62				

COMMENTS:

BY: J.M. A.B.

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BACA #10 S-17 T

56

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" TO 653'; 15 3/8" TO 2774' ELEV. 8734.5' DATE: 2/10/75
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418'; 7" 4279 - 6000' ZERO POINT CL 4
 DEPTH 5968

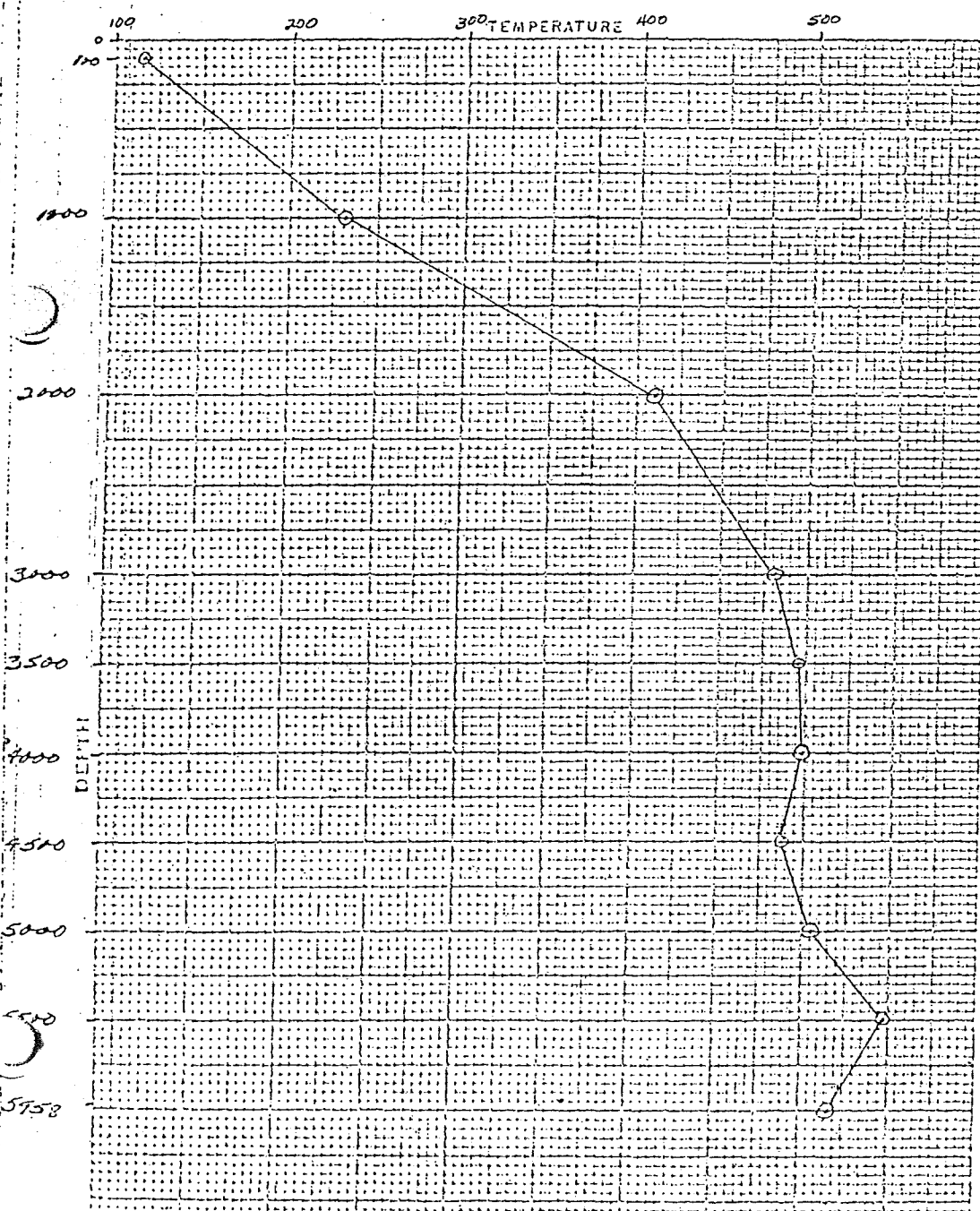
HOLE DESCRIPTION:

INSTRUMENT 880 - 698° FARR.
 SERIAL NO 10055

PURPOSE:

MAX TEMP. 547.5 °F @ 5500

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	BOHR
CASING, PSI	0	0

DEPTH	TEMP.	DEPTH	TEMP.
100	116.9		
1000	233.7		
2000	411.0		
3000	481.1		
3500	495.7		
4000	499.6		
4500	487.7		
5000	505.1		
5500	547.5		
5958	517.0		

GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

BREA #10 5-17-P

10

OWNER UNION OIL COMPANY FIELD WELL GRADE WELL NAME BREA #10
 CASING 20" To 653' - 1338' TO ELEV 8734.5' DATE 2/10/75
 LINEAR DESCRIPTION 9312' - 2430' - 448' - 7 - 4279' - 6000' ZERO POINT 21 + 4
 DEPTH 5968'

HOLE DESCRIPTION:

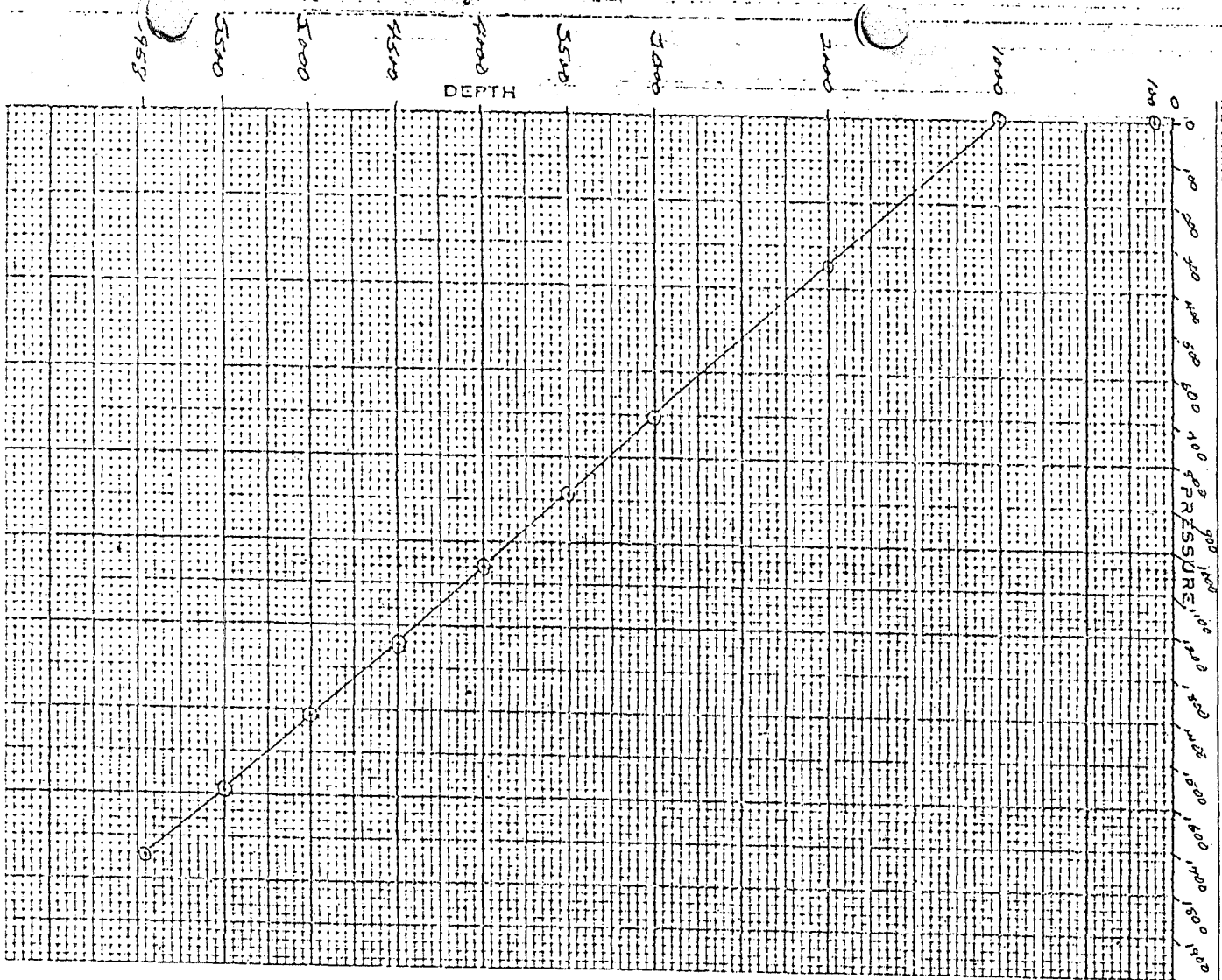
INSTRUMENT 0-4250 PS.
 SERIAL NO 7198

PURPOSE:

MAX TEMP 547.5 °F @ 5320

REMARKS:

STABILIZATION PERIOD



DEPTH	PRESSURE	GRADIENT
1000	0	0
2000	371.4	0
3000	707.6	0.356
3500	887.8	0.364
4000	1060.0	0.370
4500	1241.6	0.363
5000	1413.9	0.345
5500	1596.1	0.354
5958	1743.6	0.333

CLOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B-10-5-16 P/T

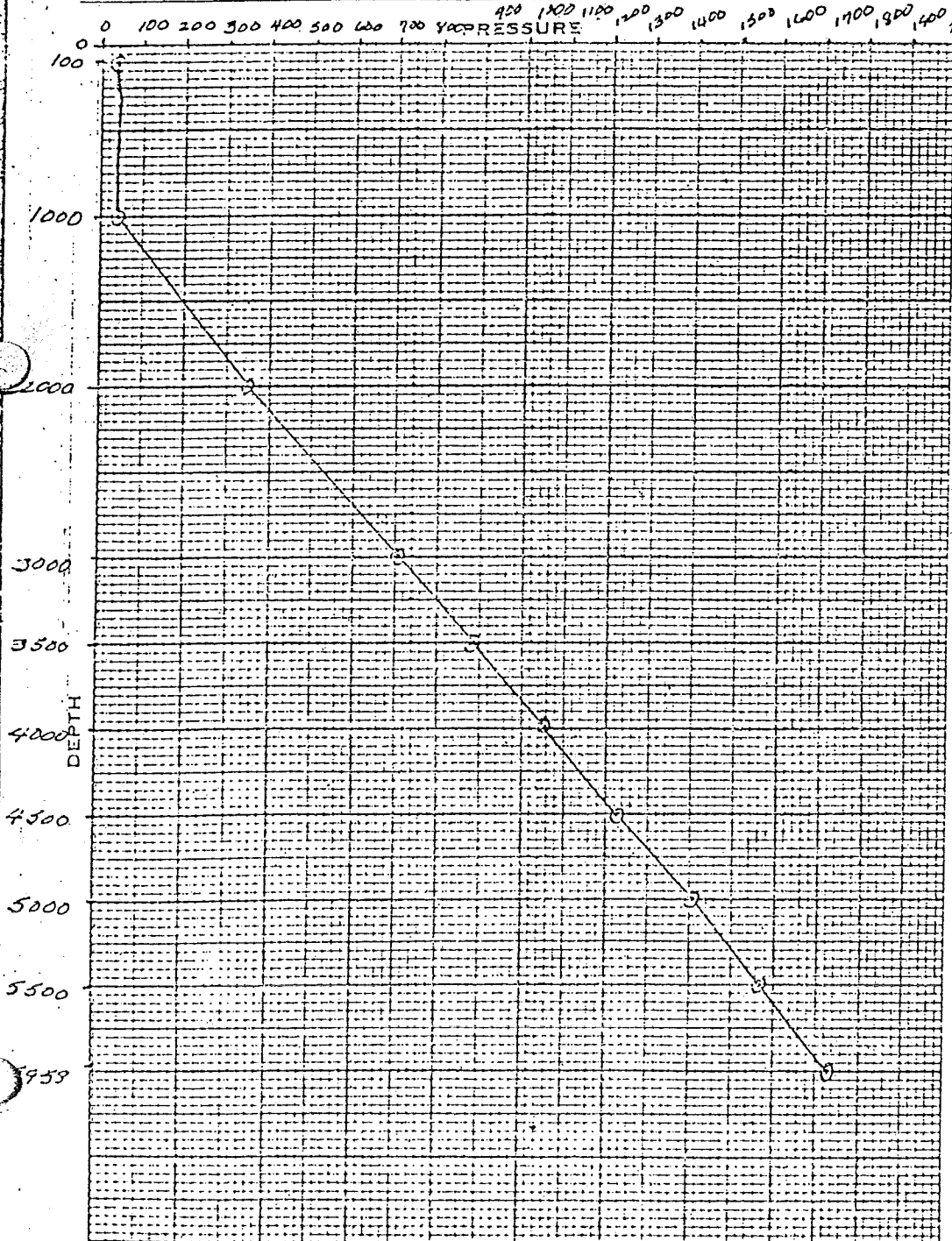
76

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 453'; 13 3/8" TO 2794' ELEV 8734' DATE 12/31/74
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418'; 7" LINER - 4278' - 6000' ZERO POINT C.L. + 3
 DEPTH 5968'

HOLE DESCRIPTION: _____ INSTRUMENT 0-4250 PSIG
 SERIAL NO 7192

PURPOSE: _____ MAX TEMP 545.3 °F @ 5500'

REMARKS: _____ STABILIZATION PERIOD _____



PRESSURES.	GAUGE	80WB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	38.2	0
1000	40.5	.002
2000	344.6	.304
3000	705.5	.360
3500	883.5	.356
4000	1058.8	.356
4500	1233.2	.348
5000	1405.5	.344
5500	1576.3	.341
5958	1731.0	.337

BY: J. Bowen

76

UNION

GEO THERMAL DIVISION

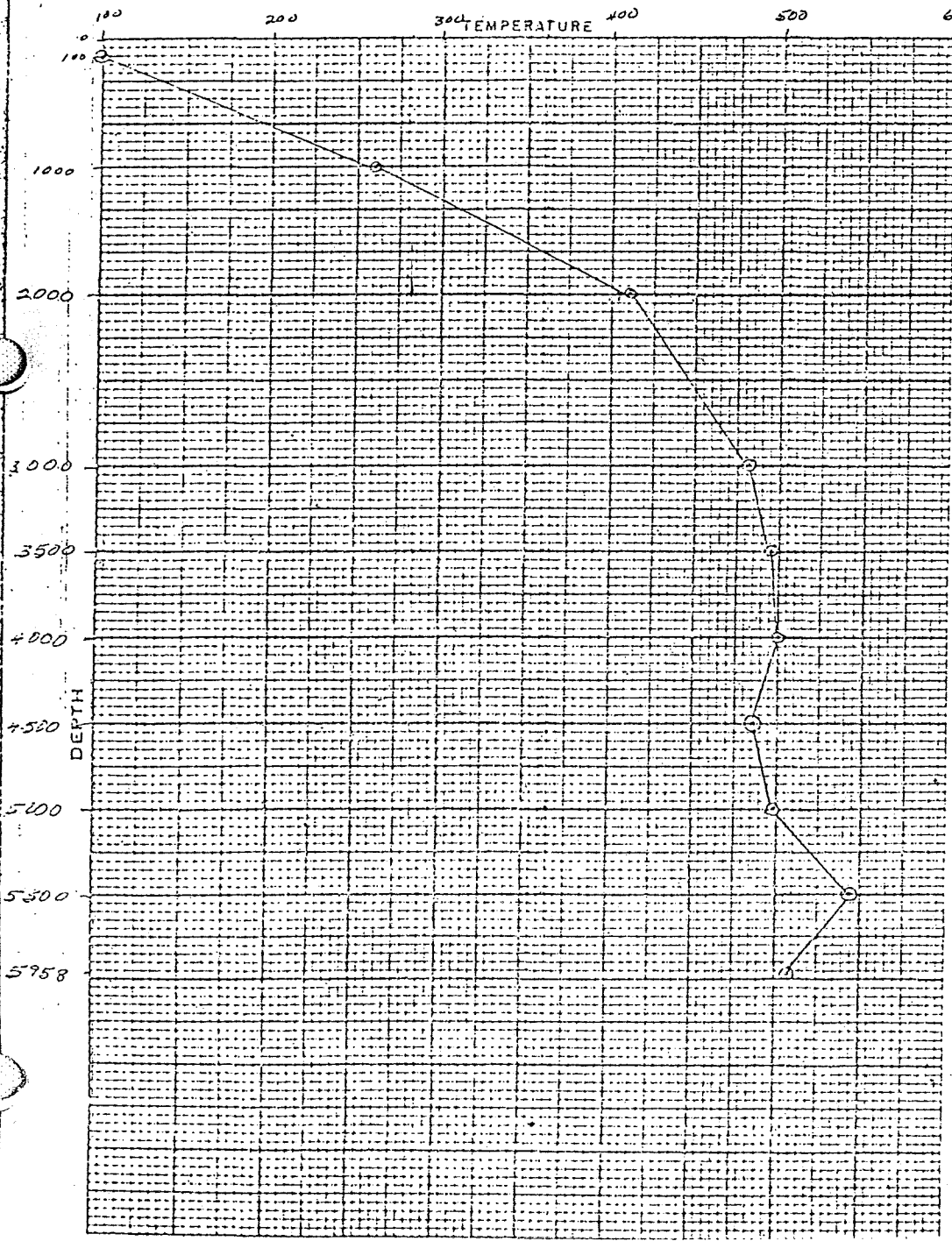
SUBSURFACE TEMPERATURE SURVEY

BACA #10-516-Temp

OWNER UNION OIL CO. OF CALIF. FIELD VALLEY GRANDE WELL NAME BACA #10
 CASING 20" TO 653', 13 3/8" - 2794, 9 5/8" - 2420-4412 ELEV 8734' DATE 12/31/77
 LINER DESCRIPTION: SLOTS 4444'-5594, 5761-5982' ZERO POINT 6473'
 DEPTH 5958'

HOLE DESCRIPTION: _____ INSTRUMENT 88° - 698° FAH
 SERIAL NO 10055

PURPOSE _____ MAX TEMP 545.3 °F @ 5500
 REMARKS _____



PRESSURES	GUAGE	BONS	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100	89.1		
1000	261.5		
2000	411.7		
3000	481.7		
3500	495.7		
4000	500.8		
4500	486.0		
5000	492.6		
5500	545.3		
5958	508.2		

BY: J. Bowen

UNION

GEO THERMAL DIVISION

B10-S15-T

SUBSURFACE TEMPERATURE SURVEY

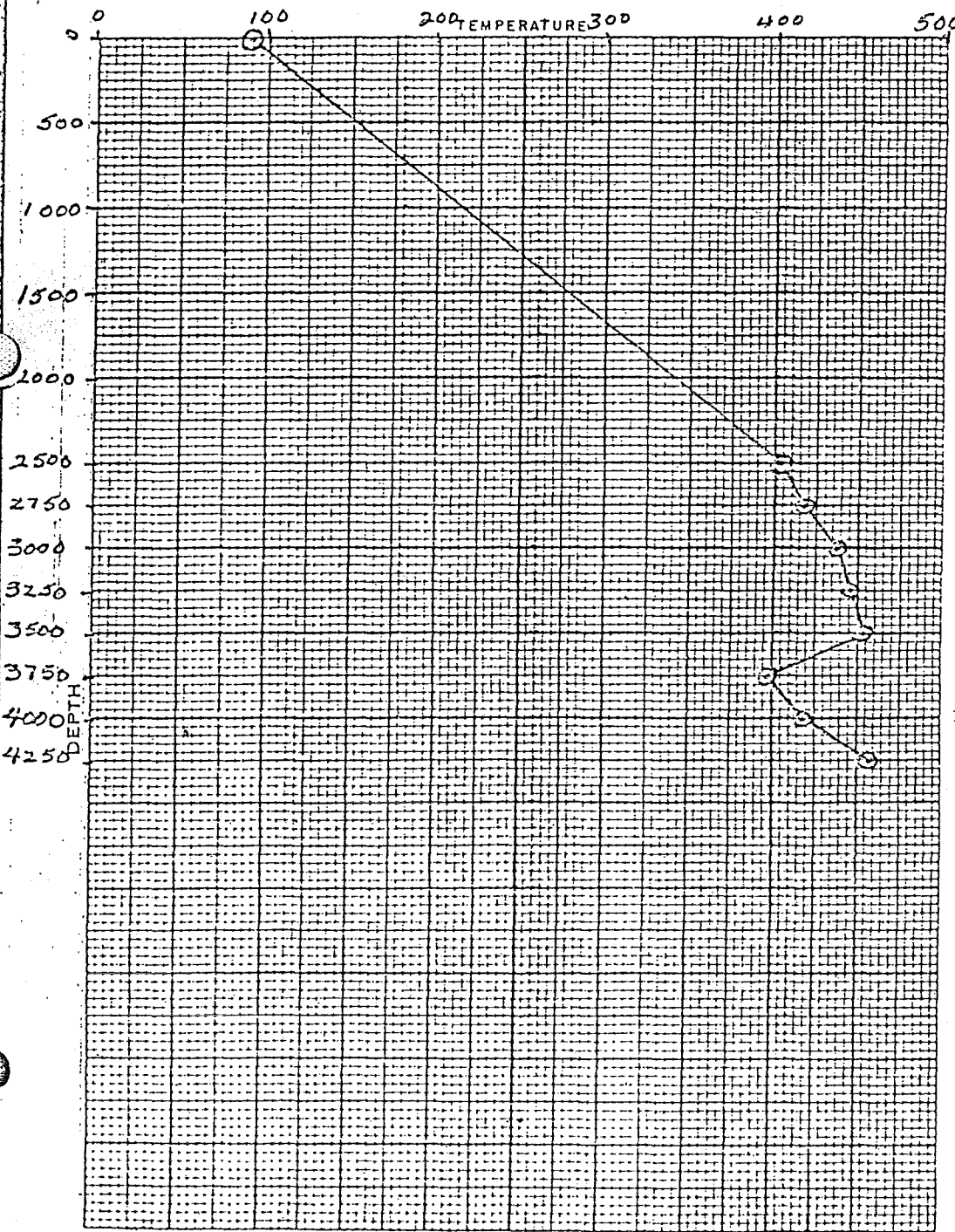
76

OWNER UNION OIL COMPANY OF CALIF. FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" to 653'; 13 3/8" / 2794' ELEV 8734.5' DATE 8/6/74
9 5/8" to 2480' to 4418'; LINER 7" ZERO POINT GL + 10'
4279 to 6000' DEPTH 5968'

WELL DESCRIPTION: SLOT INTERVALS 4444' to 5594'
5761 to 5986' INSTRUMENT RTB 88-698 SERIAL NO 10055

PURPOSE WATER TRACE SURVEY MAX TEMP 458.3 °F @ 4250'
 REMARKS:

STABILIZATION PERIOD



PRESSURES.	GAUGE	NOTE
CASING. PSI	1 PSI	

DEPTH	TEMP.	DEPTH	TEMP.
0	90.1		
2500	403.3		
2750	418.0		
3000	438.0		
3250	441.5		
3500	454.3		
3750	397.4		
4000	419.9		
4250	458.3		

BY: J.M./J.B.

UNION

B10-514-T

GEO THERMAL DIVISION

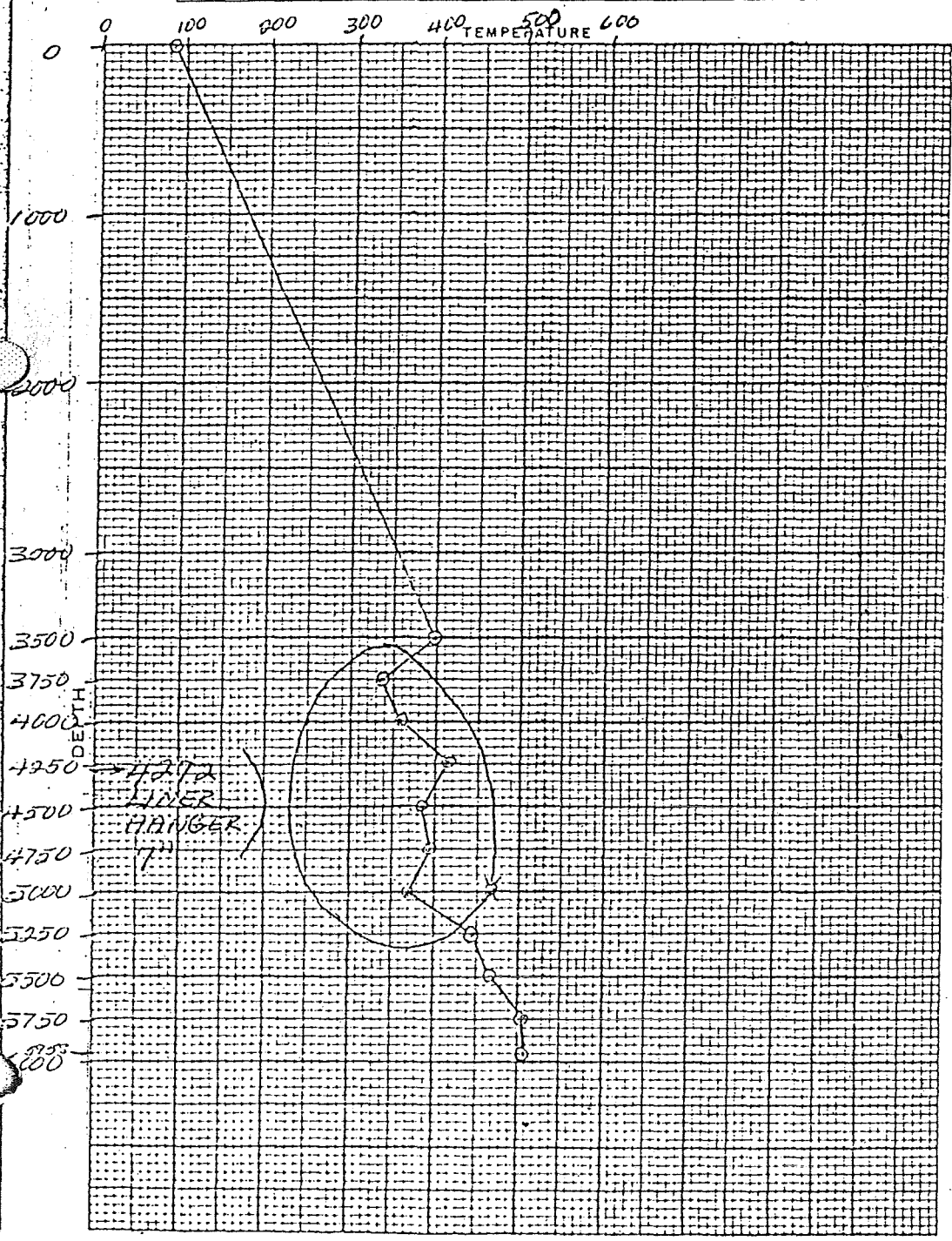
SUBSURFACE TEMPERATURE SURVEY

76

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BACA #10
 CASING _____ ELEV 9000 DATE 7/27/74
 LINER DESCRIPTION: _____ ZERO POINT 10' TGL
 _____ DEPTH 5958

HOLE DESCRIPTION: _____ INSTRUMENT 88°-698° F.M.S.
 _____ SERIAL NO 10055

PURPOSE _____ MAX TEMP 506.2°F @
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURE	GAUGE	BOYS
CASING, PSI	<u>1/2</u>	

DEPTH	TEMP.	DEPTH	TEMP.
0	88.7		
3500	399.6		
3750	336.4		
4000	359.3		
4250	414.1		
4500	386.5		
4750	393.1		
5000	370.4		
5250	448.5		
5500	468.5		
5750	504.8		
5958	506.2		

BY: J-M

UNION

BIO-S13-T

76

GEO THERMAL DIVISION

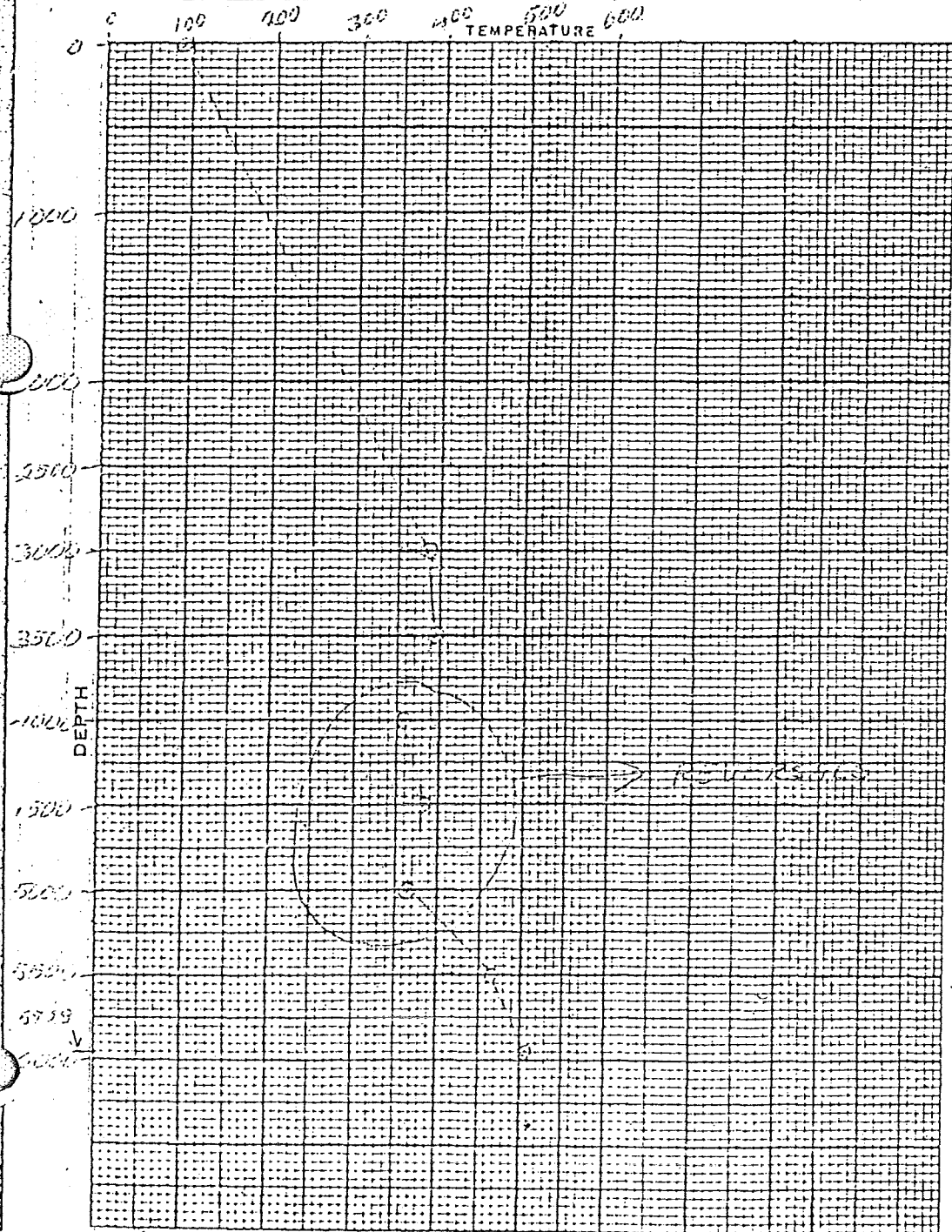
SUBSURFACE TEMPERATURE SURVEY

OWNER UNION OIL OF CALIF FIELD U.G. WELL NAME BACA #10
 CASING _____ ELEV _____ DATE 7/26/74
 LINER DESCRIPTION: _____ ZERO POINT 10' ABOVE G.L.
 _____ DEPTH 5955'

HOLE DESCRIPTION: _____

 INSTRUMENT SEP-675 FAH? _____
 SERIAL NO 10055

PURPOSE _____ MAX TEMP 505.6 °F @ _____
 REMARKS: BIO HAD APPROX 13000 BBLs ILL PRIOR TO SURVEY.



STABILIZATION PERIOD _____

PRESSURE	GAUGE	DEPTH
CASING, PSI	<u>1/2</u>	_____

DEPTH	TEMP.	DEPTH	TEMP.
0	90.1		
3000	355.6		
3500	395.2		
4000	353.0		
4500	382.5		
5000	366.1		
5300	464.7		
5955	505.6		

BY: J.M.

76

Union

W-10-212-1

GEOHERMAL DIVISION

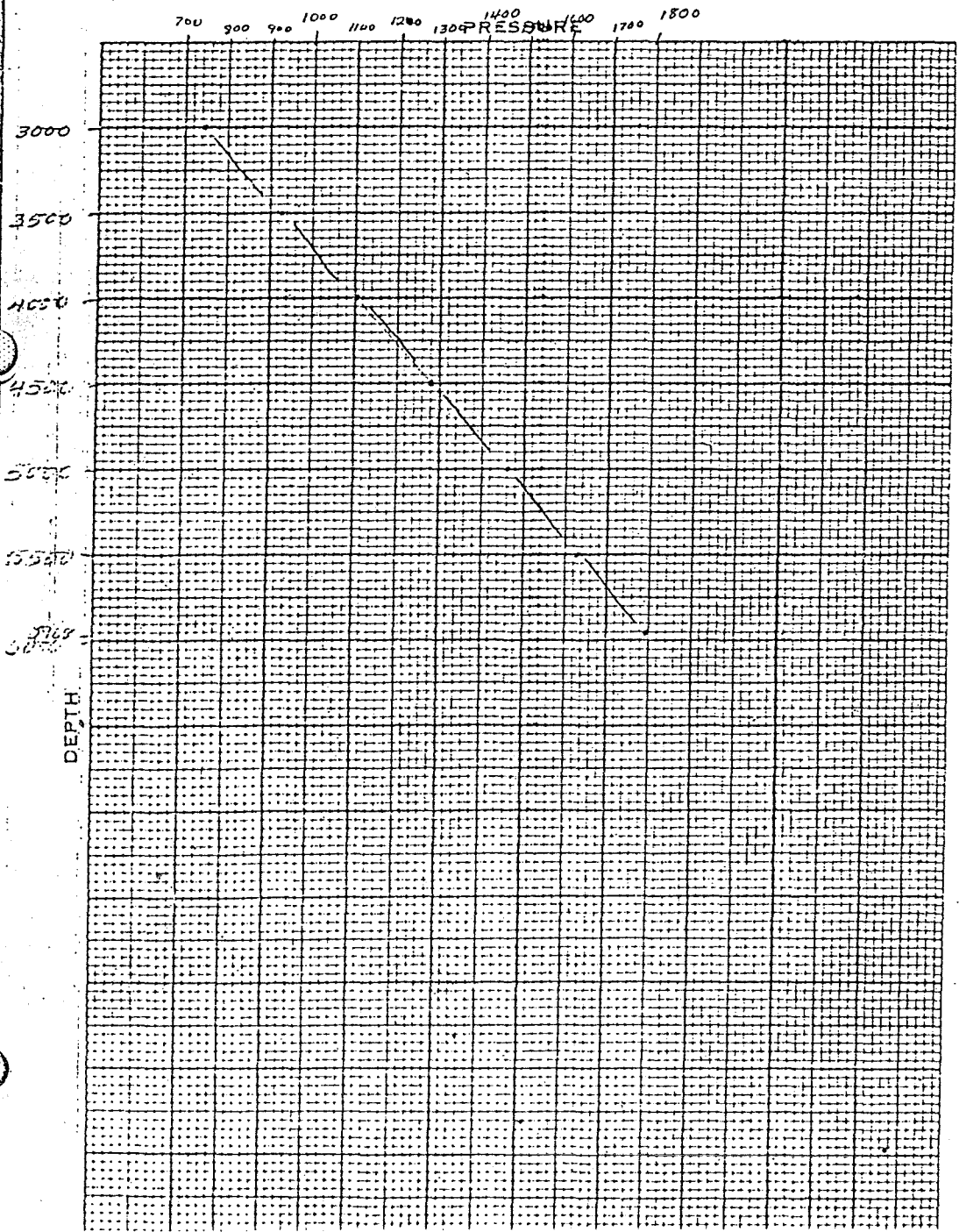
SUBSURFACE PRESSURE SURVEY

OWNER U O C FIELD VE WELL NAME B 10
 CASING _____ ELEV _____ DATE 5-14-74
 LINER DESCRIPTION: _____ ZERO POINT 10' above RL
 _____ DEPTH 5968

HOLE DESCRIPTION: _____ INSTRUMENT 4250 PSIG PSI
 _____ SERIAL NO 7198

PURPOSE _____ MAX TEMP _____ OF @ _____

REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

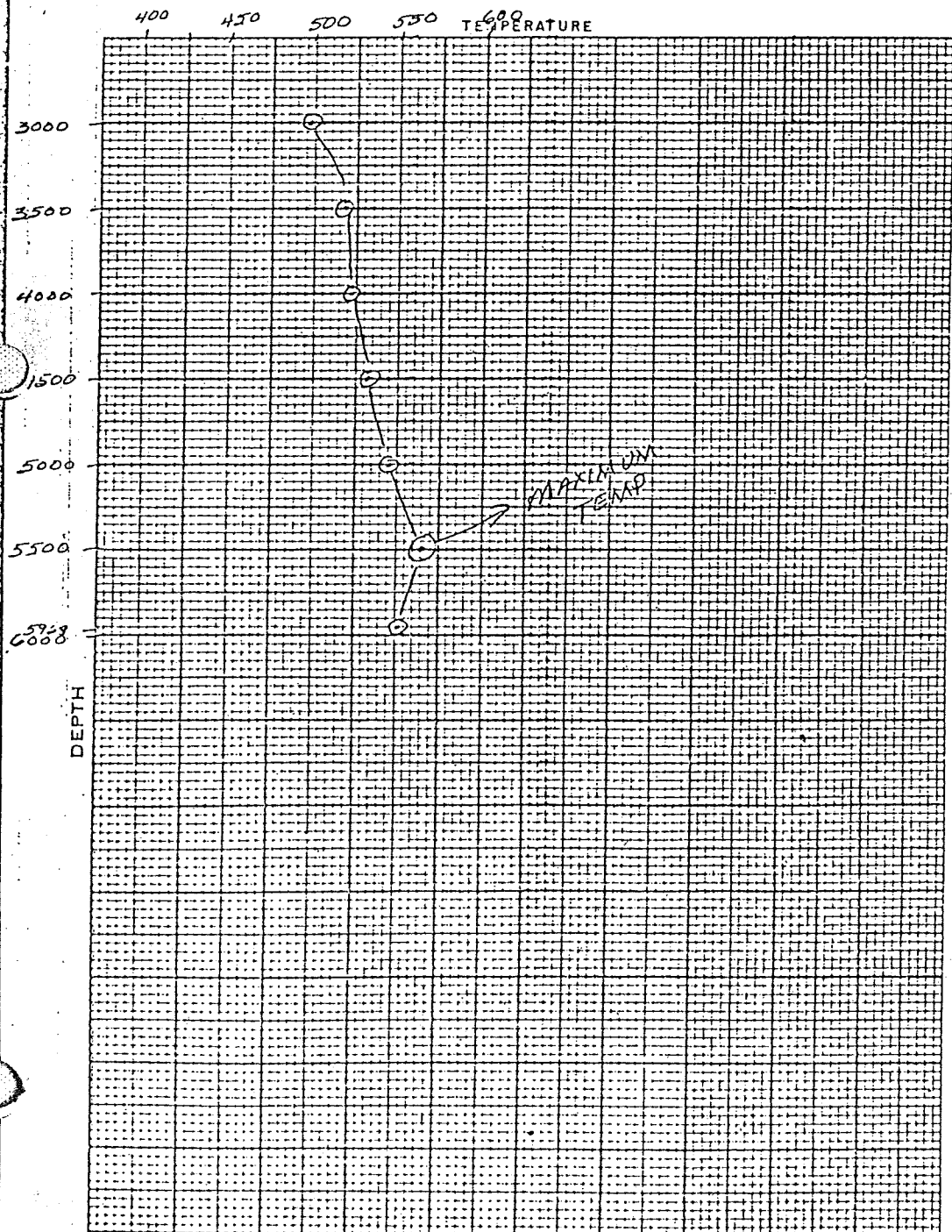
DEPTH	PRESSURE	GRADIENT
3000'	747	
3500'	928	.352
4000'	1104	.350
4500'	1280	.348
5000'	1462	.347
5500'	1636	.345
5968'	1799	.343

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

76

OWNER UOOC FIELD VG WELL NAME B 10
 CASING _____ ELEV _____ DATE 5-16-77
 LINER DESCRIPTION: _____ ZERO POINT 10' above GL
 _____ DEPTH 5968
 HOLE DESCRIPTION: _____ INSTRUMENT 102°F - 718°F FAHR?
 _____ SERIAL NO 10055
 PURPOSE _____ MAX TEMP 565 °F @ _____
 REMARKS: _____



STABILIZATION PERIOD _____

PRESURES.	GAUGE	ROBE	
CASING. PSI			
DEPTH	TEMP.	DEPTH	TEMP.
3000'	498°F		
3500'	519°F		
4000'	533°F		
4500'	533°F		
5000'	542°F		
5500'	565°F		
5968'	552°F		

BY: J.M.

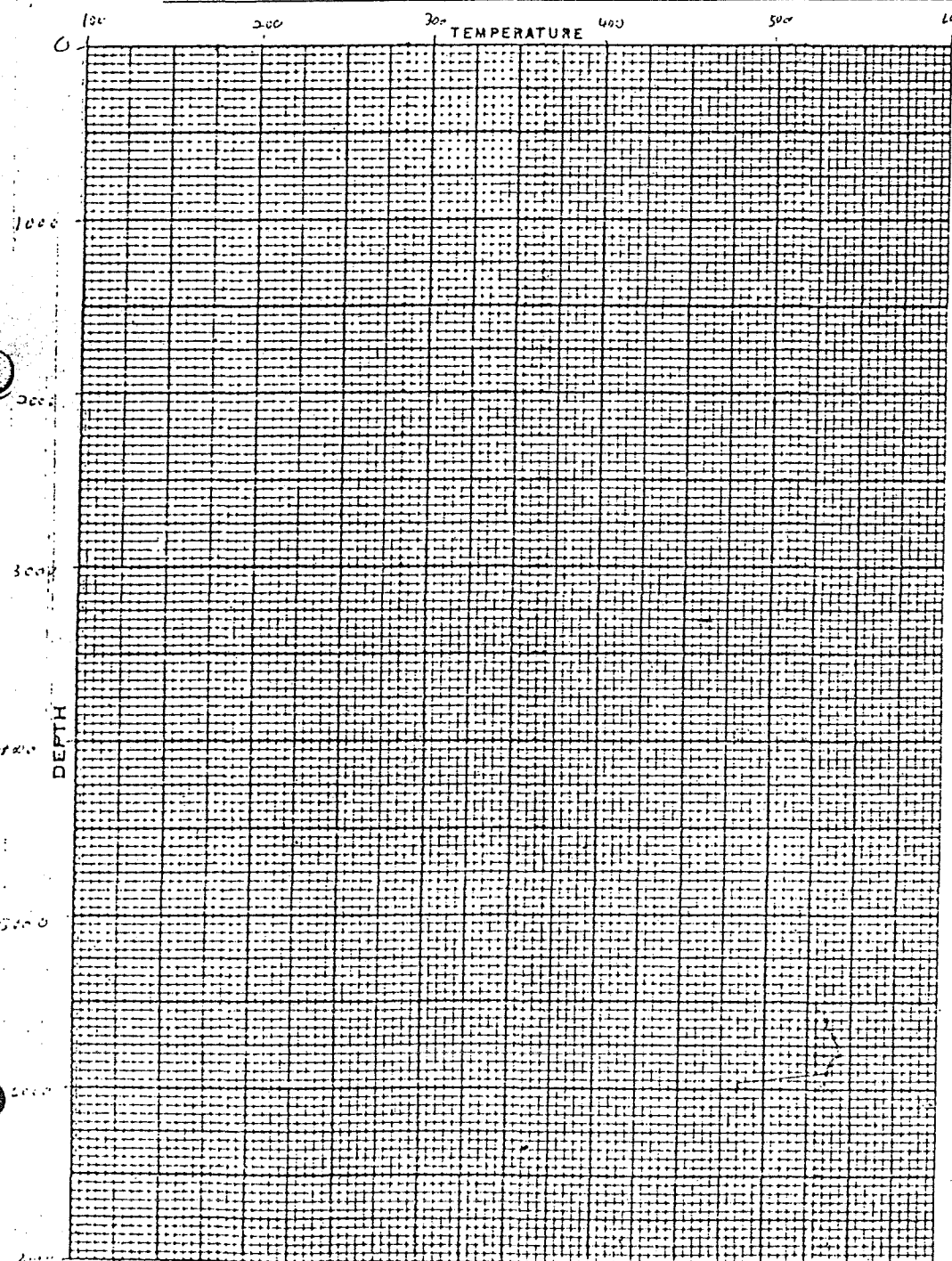
76

UNION
 GEOTHERMAL DIVISION
 SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co of Calif FIELD Valle Grande WELL NAME Baca # 10
 CASING _____ ELEV _____ DATE 3-21-74
 LINEA DESCRIPTION: _____ ZERO POINT GL + 3'
 DEPTH 5465 5-5958

HOLE DESCRIPTION: _____ INSTRUMENT 100' - 719' FAHR
 SERIAL NO 10052

PURPOSE Gradient Survey MAX TEMP _____ °F @ _____
 REMARKS _____



STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	174.8		
5600	535.7		
5650	537.7		
5700	541.2		
5750	543.0		
5800	544.1		
5850	539.5		
5900	537.5		
5458	455.5		

BY: SAID

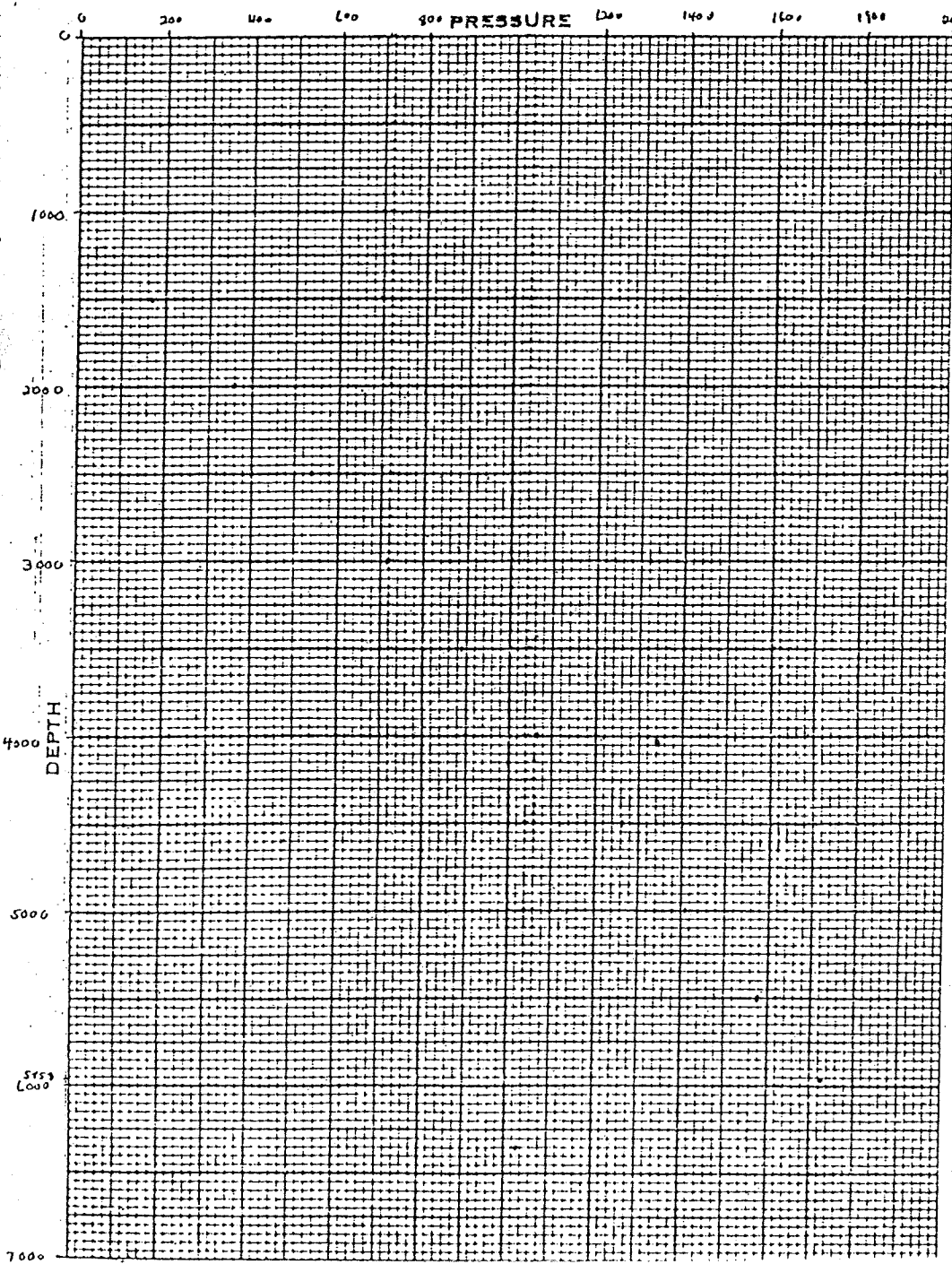
76

UNION
GEO THERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca #10
 CASING _____ ELEV 8734 DATE 3-15-74
 LINER DESCRIPTION: _____ ZERO POINT G.L. + 8'
 _____ DEPTH 5968' 5-5958'

HOLE DESCRIPTION: _____ INSTRUMENT 2550 PSI
 _____ SERIAL NO 9235

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



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	PRESSURE	GRADIENT
0		
500		
1000		
1500	168	
2000	360	
2500	543	
3000	717	
3500	890	
4000	1065	
4500	1235	
5000	1410	
5500	1590	
5958	1726	

BY: _____

76

UNION GEO THERMAL DIVISION

R11-SE-TP

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Cal. FIELD Valle Grande WELL NAME Base #10

CASING _____ ELEV 8734 DATE 3/11/74

LINER DESCRIPTION: _____ ZERO POINT GLT 8'

DEPTH 5783' - 5958'

HOLE DESCRIPTION: _____

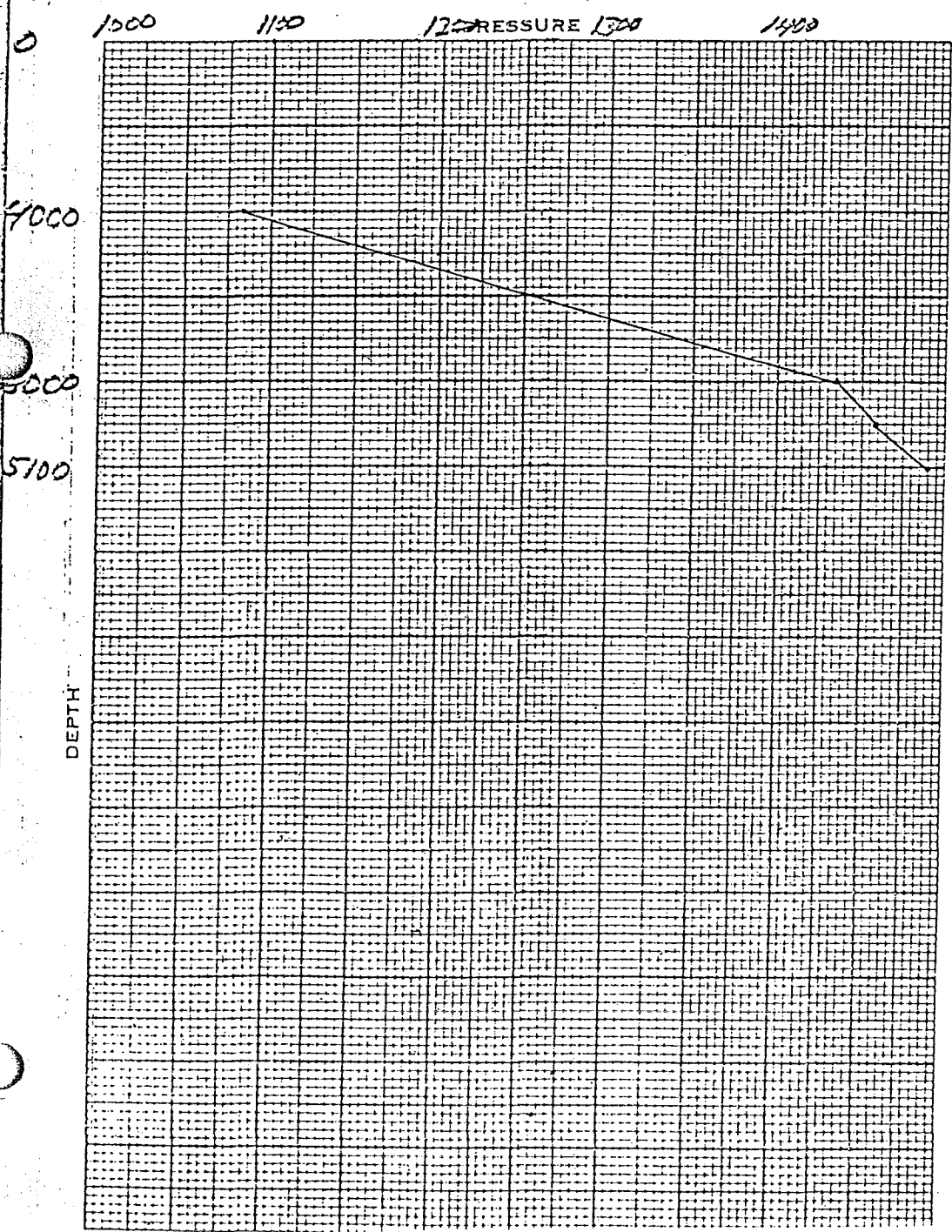
INSTRUMENT 4250 PSIG

SERIAL NO 7178

PURPOSE _____ MAX TEMP _____ °F @ _____

REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES.	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
0	0	
4000	1084.75	0
5000	1434.32	,351
5050	1457.63	,023
5100	1439.41	,032

5150 TO 5958
clock stopped

RT-

76

UNION
 GEOTHERMAL DIVISION
 SUBSURFACE TEMPERATURE SURVEY

810-SE-PT

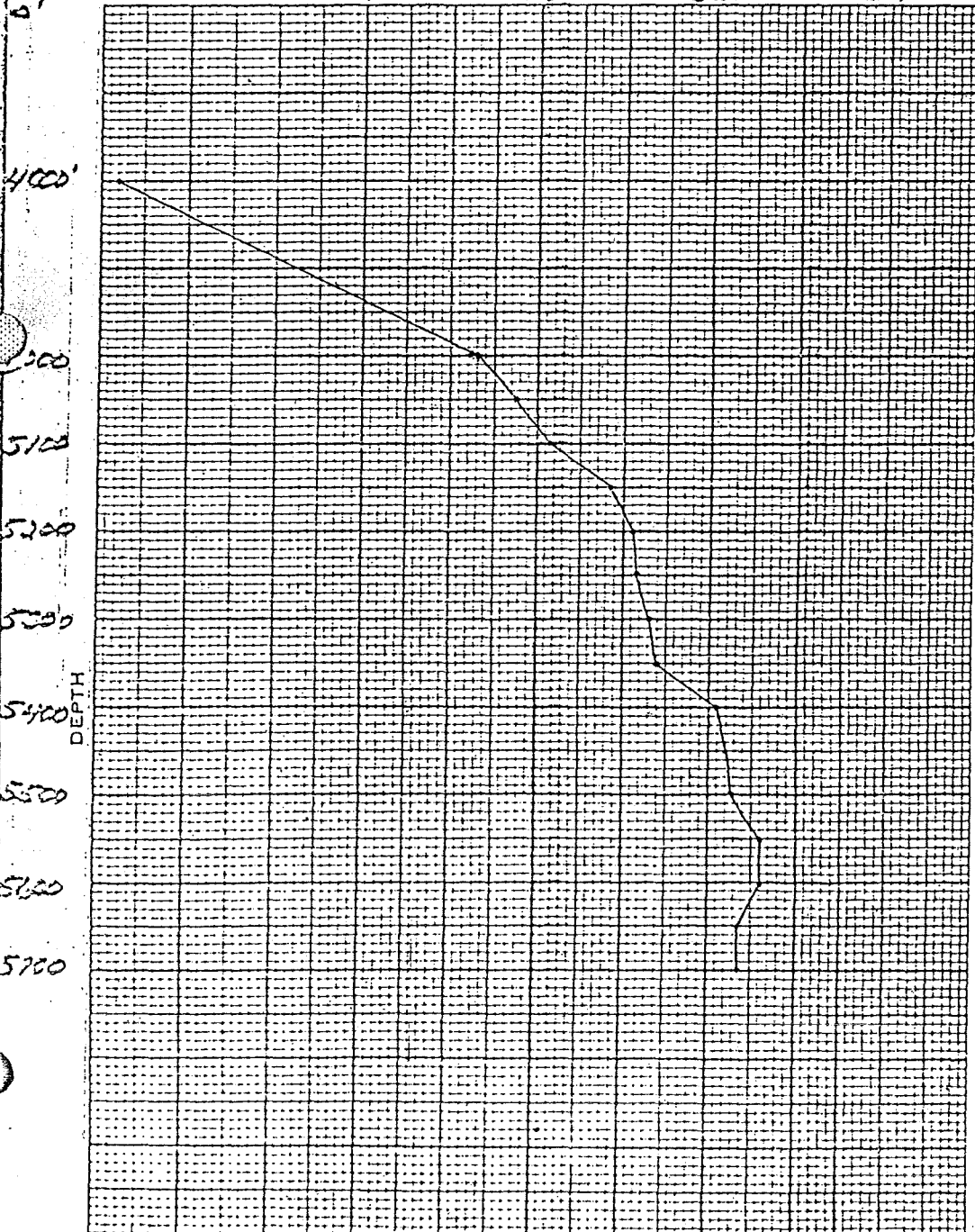
OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Bacee #10
 CASING _____ ELEV 8734' DATE 3/11/74
 LINER DESCRIPTION _____ ZERO POINT GLT 8'
 DEPTH 5768 5-5958

HOLE DESCRIPTION: _____ INSTRUMENT 80° - 645° FAHR
 SERIAL NO 10052

PURPOSE _____ MAX TEMP 53.3 °F @ 5600'
 REMARKS: _____

495 500 510 TEMPERATURE 530 540

STABILIZATION PERIOD



PRESSURES:	GAUGE	BORE
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0'	177.7		
4000	496.1		
5000	513.6		
5050	518.7		
5100	520.8		
5150	524.4		
5200	526.5		
5250	526.7		
5300	526.5		
5350	527.0		
5400	530.4		
5450	530.9		
5500	531.4		
5550	533.0		
5600	533.0		
5650	531.7		
5700	531.7		

5750 - 5958
 Clocks
 stopped

BY: RF

76

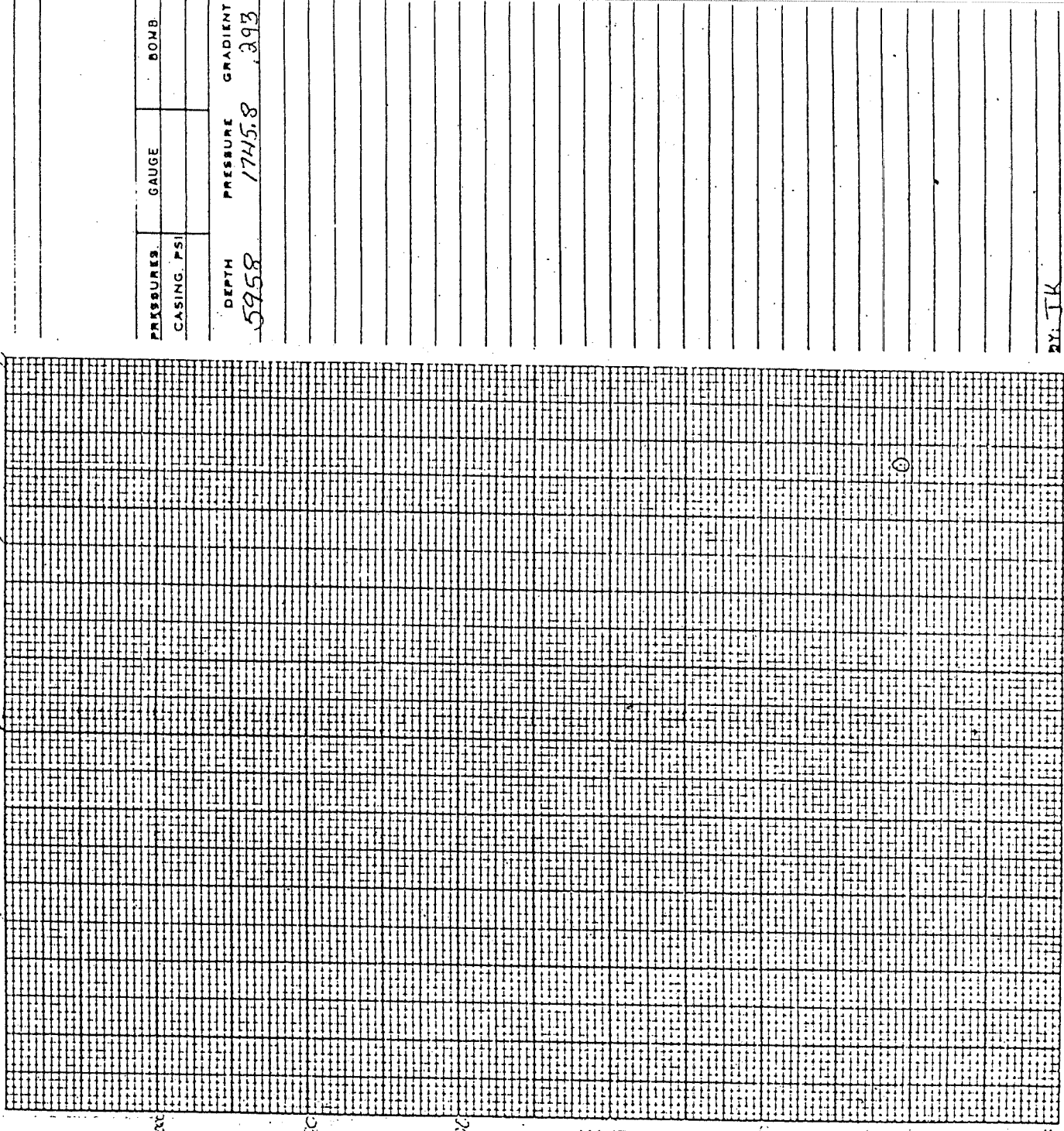
WILBURD GLOUTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Company FIELD BACN #10
CASING GL 8374.5' DATE 3/10/74
LINER DESCRIPTION: GL F.S. ZERO POINT GL F.S.
DEPTH 5958' SURVEY

HOLE DESCRIPTION:
INSTRUMENT _____ SERIAL NO. A.P.T. 719S P.B.C.
PURPOSE:
REMARKS: MAX TEMP 53.7 °F @ 5900'

STABILIZATION PERIOD 1500
PRESSURE 1600



PRESSURES	GAUGE	BOMB
CASING PSI		
DEPTH	PRESSURE	GRADIENT
5958	1745.8	.293

BY: J.K

76

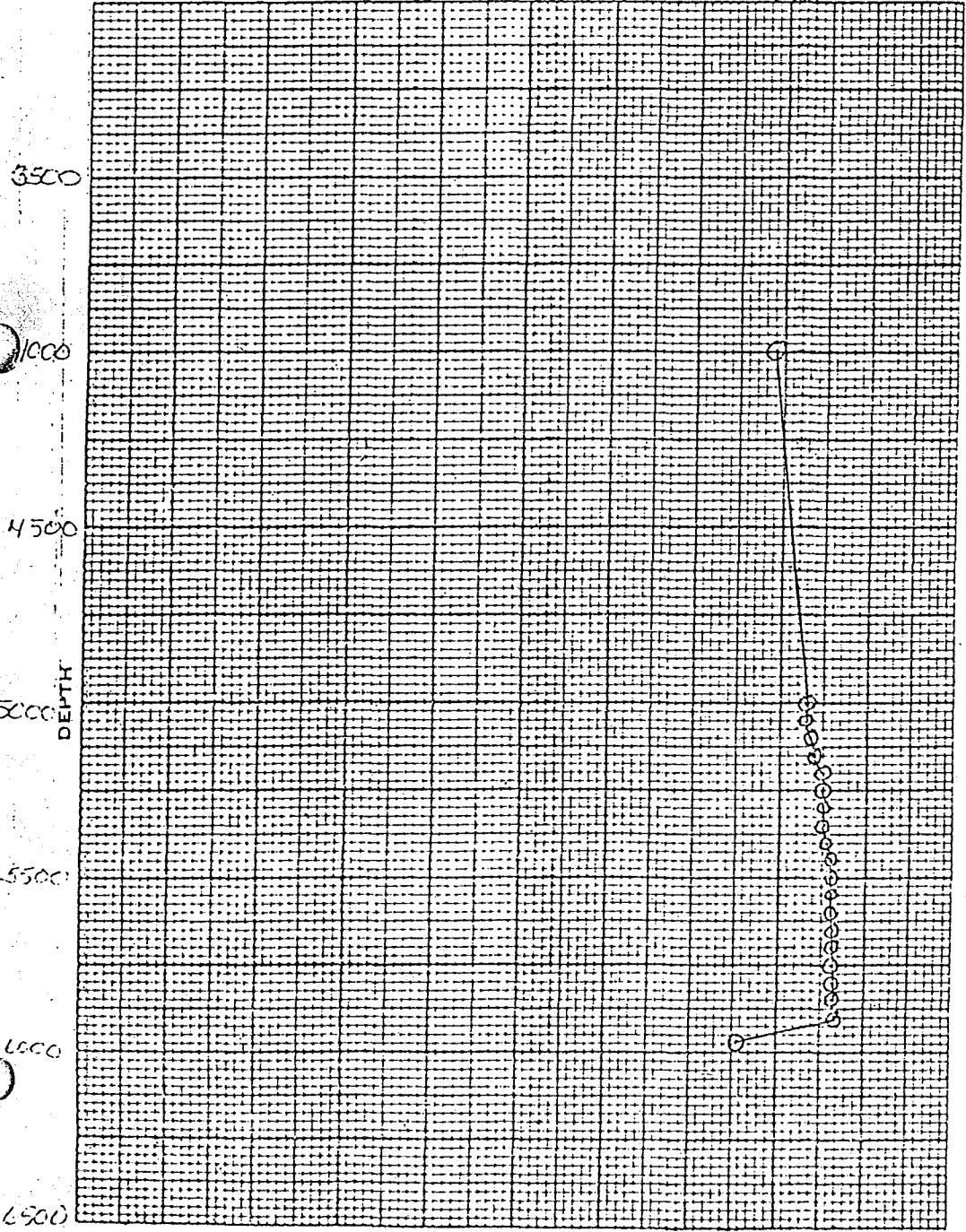
GLOUTHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Company FIELD _____ WELL NAME BACA #10
 CASING _____ ELEV GL 8374.5' DATE 3/10/74
 LINER DESCRIPTION _____ ZERO POINT GL + 8'
 _____ DEPTH 5958' Survey
 HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHR
 _____ SERIAL NO KPG#-10052
 PURPOSE _____ MAX TEMP 532.7 °F @ 5900'
 REMARKS _____

100 200 300 TEMPERATURE 400 500 600

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
4000	495.0		
5000	515.6		
5050	515.5		
5100	518.7		
5150	520.8		
5200	524.2		
5250	524.9		
5300	525.5		
5350	525.5		
5400	527		
5450	530.9		
5500	530.9		
5550	530.9		
5600	530.9		
5650	531.4		
5700	531.4		
5750	531.4		
5800	531.4		
5850	531.4		
5900	532.7		
5958	470.8		

BY: JK

76

WUJUN

GEOTHERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

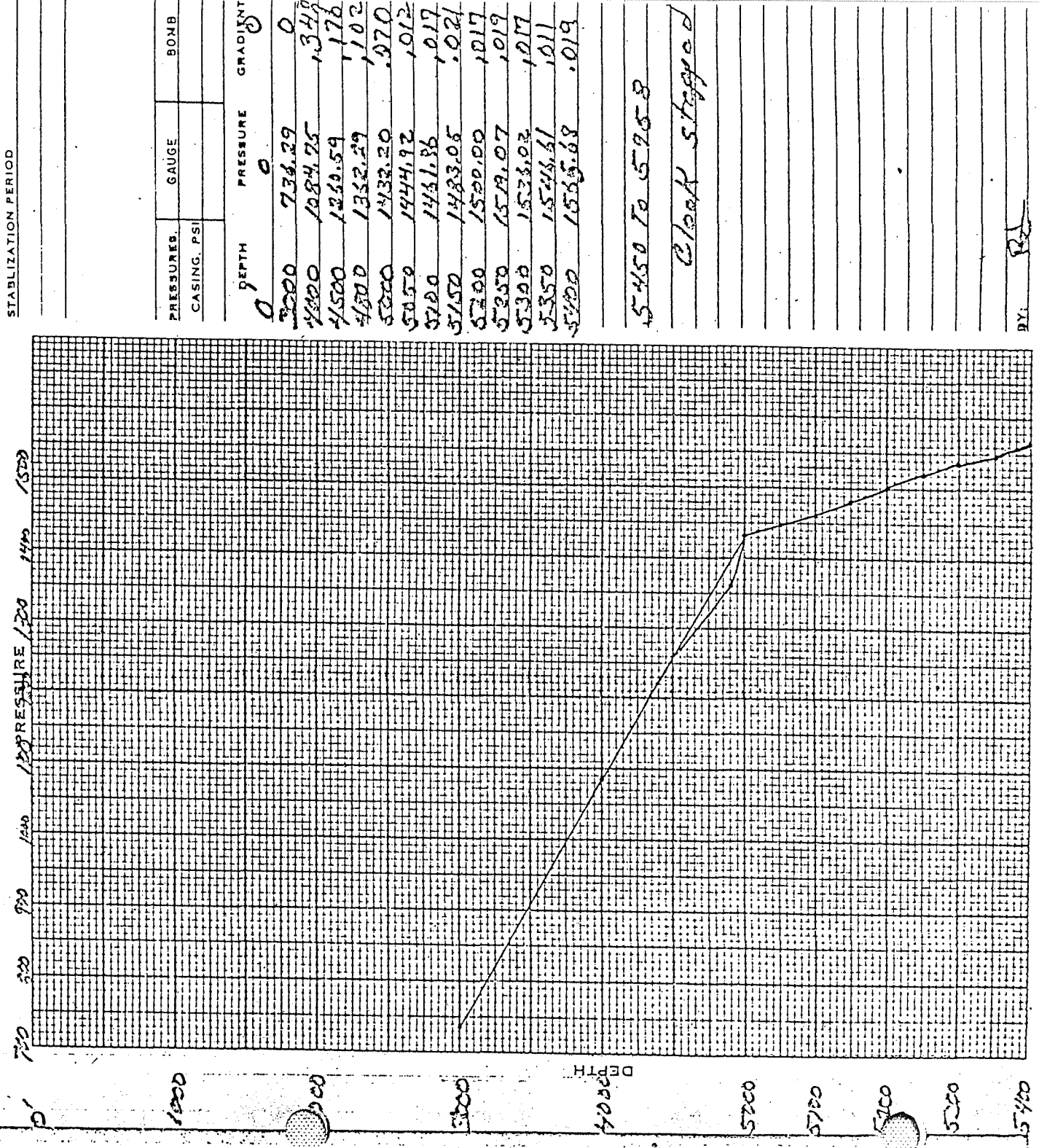
B10-SC-TP

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Baca #10
 CASING ELEV 8734' DATE 3-9-74
 LINER DESCRIPTION: ZERO POINT G-L+8'
 DEPTH 5968 5-5958

HOLE DESCRIPTION: INSTRUMENT 4250 PSIC
 SERIAL NO 7198

PURPOSE: MAX TEMP 526.5°F @ 5400

REMARKS:

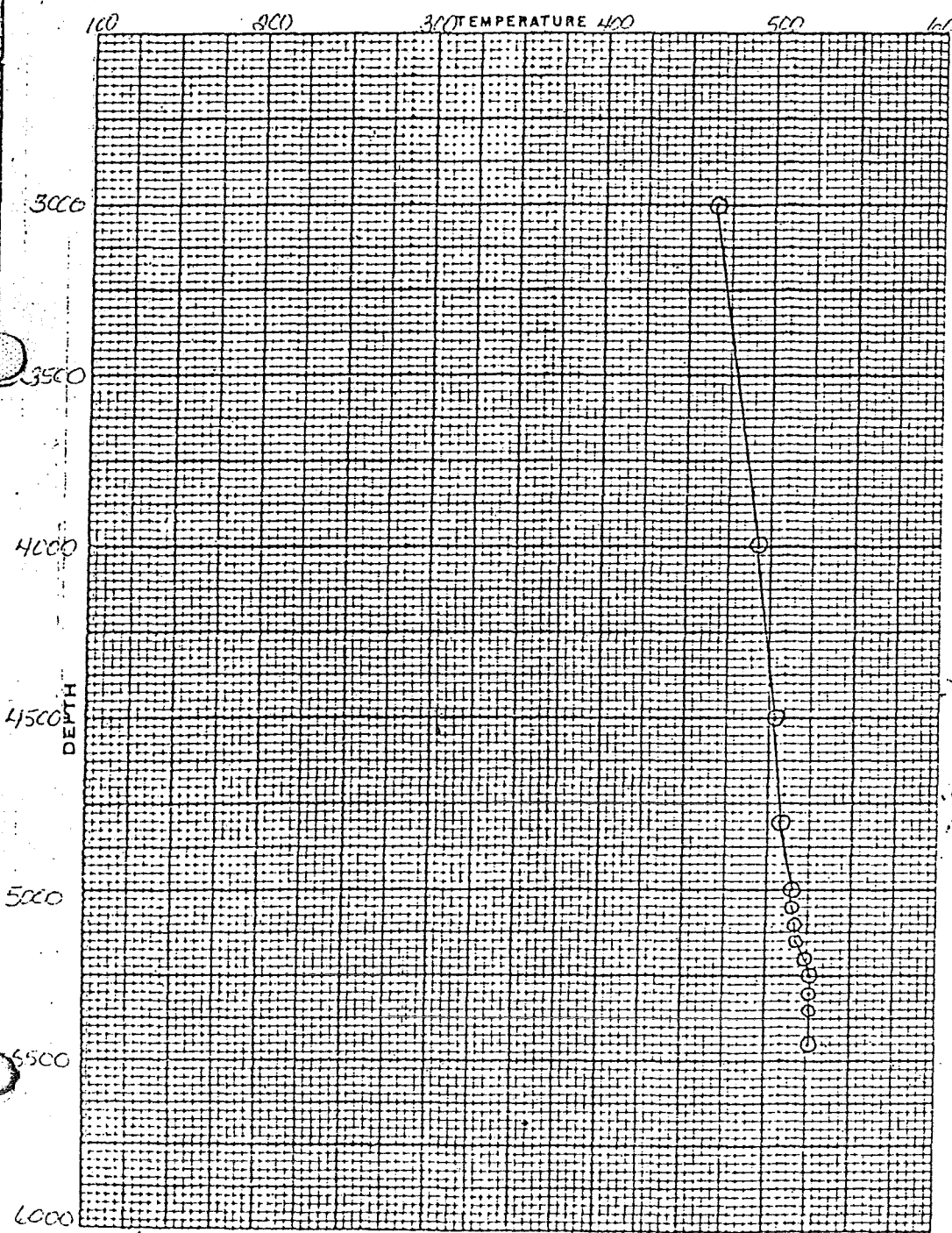


76

UNION
 GEOTHERMAL DIVISION
 SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Company FIELD _____ WELL NAME BACA #10
 CASING _____ ELEV GA 8374.5' DATE 3/9/74
 LINER DESCRIPTION: _____ ZERO POINT GA + 8'
 _____ DEPTH 5450' Survey
 HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHR
 _____ SERIAL NO KPG 10052
 PURPOSE _____ MAX TEMP 526.2 °F @ 5450'
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3000	466.7		
4000	493.7		
4500	504.4		
4800	507.8		
5000	515.1		
5050	515.3		
5100	517.9		
5150	519.0		
5200	524.7		
5250	526.2		
5300	526.2		
5350	526.2		
5450	526.2		

BY: JK

76

UNION
GEOHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

B10-SC-TPO

OWNER Union Oil Co. of California FIELD Udalla Grounds WELL NAME Borehole 10

CASING _____ DATE 3/9/74 ZERO POINT 64.8'

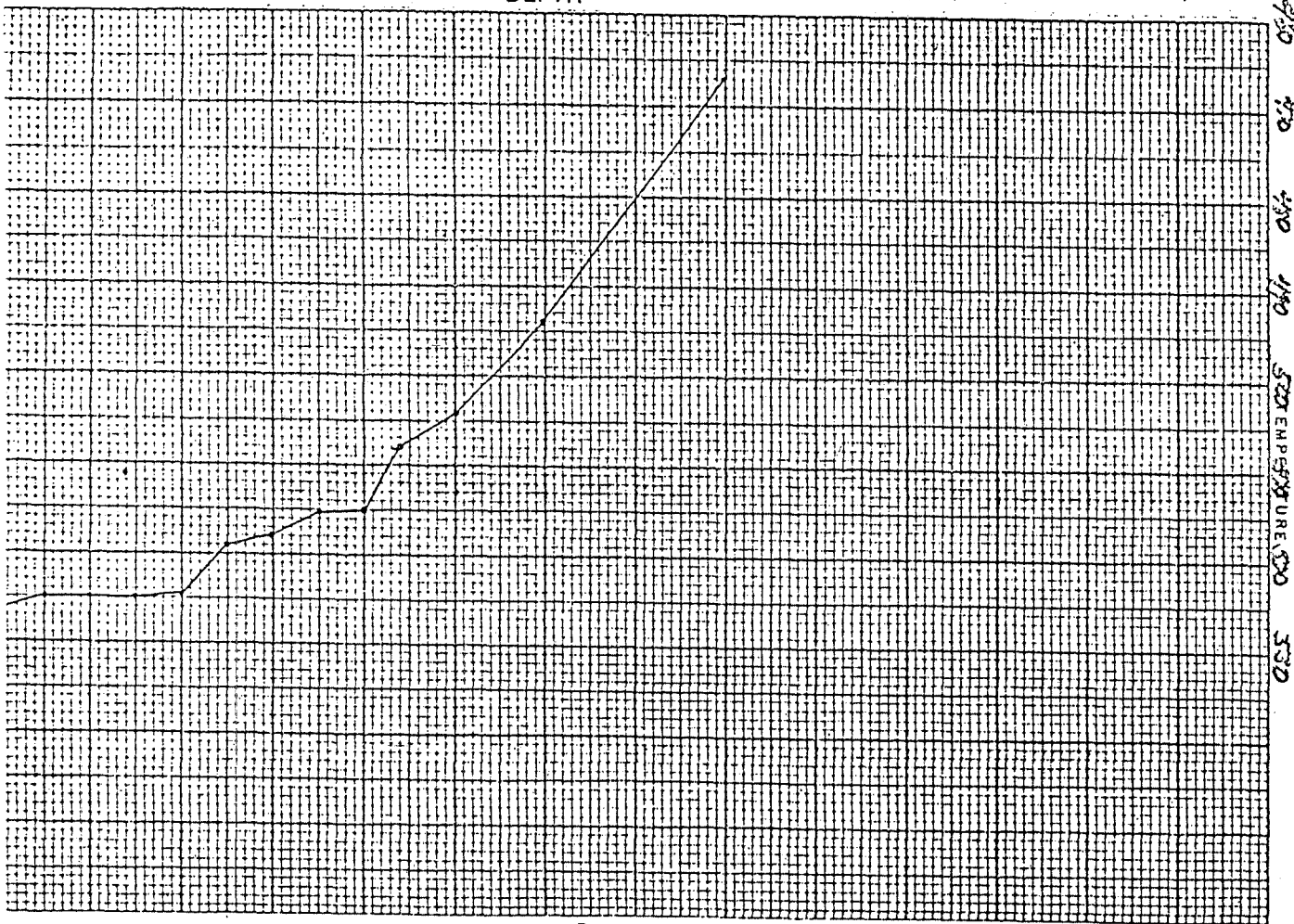
LINER DESCRIPTION _____ ELEV 9734' DEPTH 574.8 S-57958

HOLE DESCRIPTION: _____
INSTRUMENT 500-648° SERIAL NO 10052

PURPOSE _____ MAX TEMP 526.5°F @ 52100

REMARKS: _____ STABILIZATION PERIOD _____

5200
5050
5100
5150
5200
5250
5300



PRESSURES	GAUGE	BORES
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	50.0		
3000	48.6.7		
4000	49.3.9		
4500	50.4.4		
4800	50.7.8		
5000	51.5.1		
5050	51.8.3		
5100	51.9.9		
5150	51.9.0		
5200	52.4.7		
5250	52.6.2		
5300	52.6.2		
5350	52.6.2		
5400	52.6.5		

5450 TO 5758
Clock stopped

BY: RL

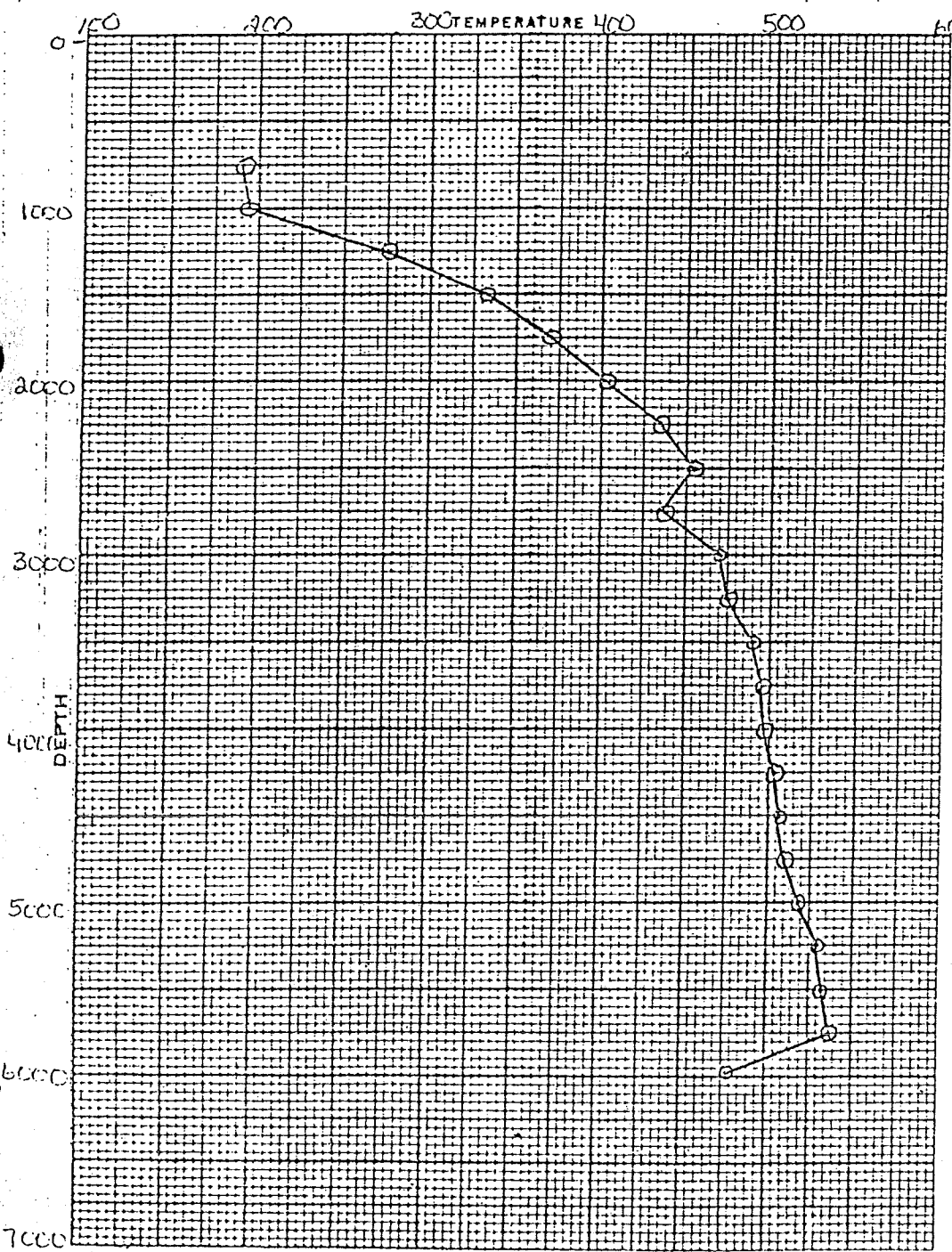
76

UNION
GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Company FIELD _____ WELL NAME BACA #10
 CASING _____ ELEV 8734.5 GL DATE 3/5/74
 LINER DESCRIPTION _____ ZERO POINT GL + 8
 _____ DEPTH 5958'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAH
 _____ SERIAL NO _____

PURPOSE Static Gradient Survey MAX TEMP 533.8 °F @ 5750
 REMARKS _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0			
250			
500			
750	193.6		
1000	194.1		
1250	275.4		
1500	337.8		
1750	371.1		
2000	403.5		
2250	435.2		
2500	456.7		
2750	438.6		
3000	470.5		
3250	475.6		
3500	491.0		
3750	497.6		
4000	496.1		
4250	503.1		
4500	507.8		
4750	510.1		
5000	519.2		
5250	527.8		
5500	531.7		
5750	533.8		
5958.0	477.8		

BY: G. TORGERSON J. K. ...

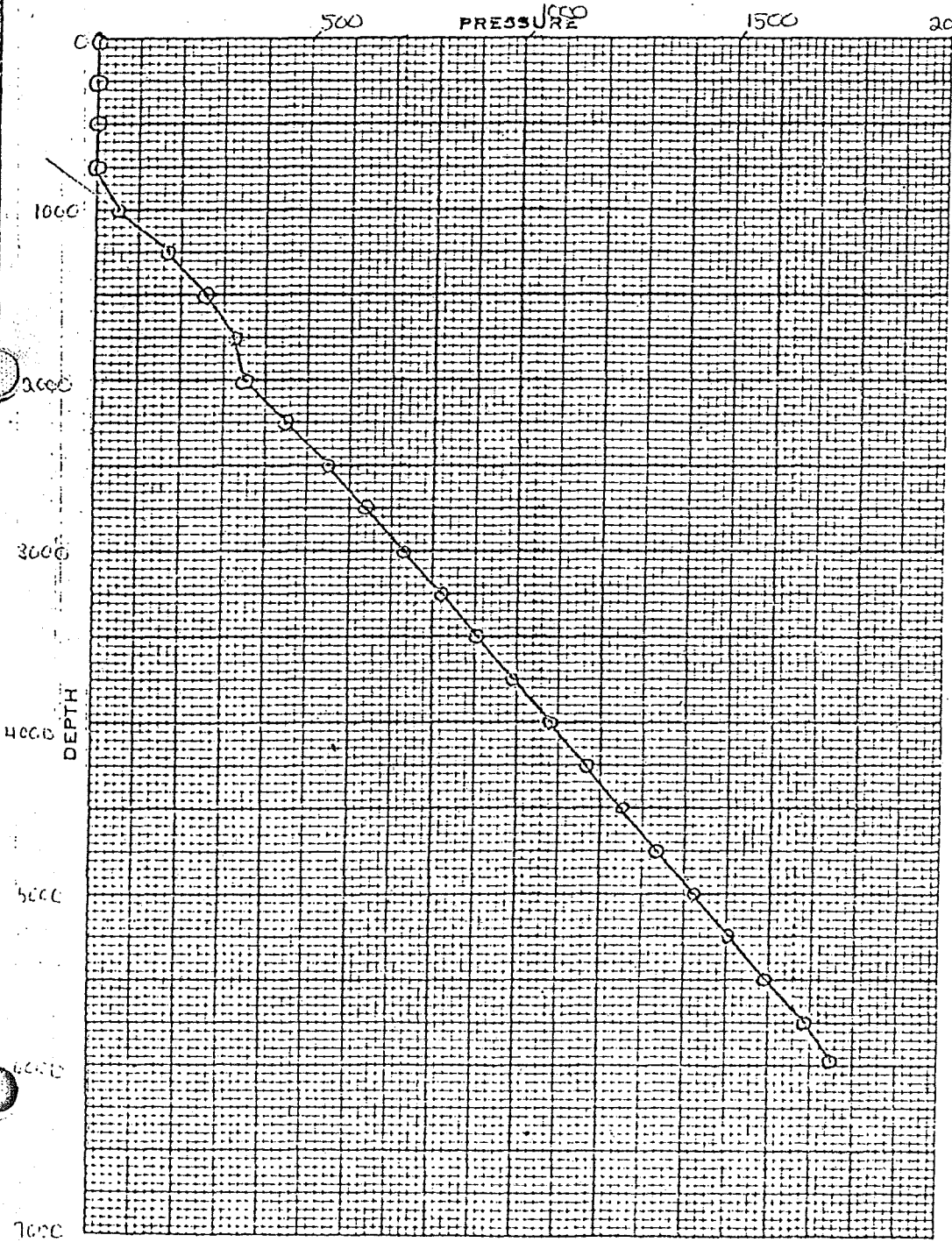
76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Company FIELD _____ WELL NAME 3 FCA #10
 CASING _____ ELEV 9734.5 GL DATE 3-5-74
 LINER DESCRIPTION: _____ ZERO POINT GL ± 8
 _____ DEPTH 5958'
 HOLE DESCRIPTION: _____ INSTRUMENT _____ PSI
 _____ SERIAL NO _____

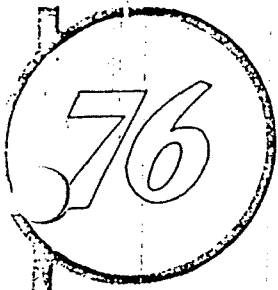
PURPOSE Static Gradient Survey MAX TEMP 533.8 °F @ 5750
 REMARKS: _____



STABILIZATION PERIOD		
PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	PRESSURE	GRADIENT
0	0	
250	0	
500	0	
750	0	
1000	54.82	
1250	155.70	
1500	258.77	
1750	324.56	
2000	357.46	
2250	453.95	
2500	550.63	
2750	639.24	
3000	729.96	
3250	820.68	
3500	905.06	
3750	995.78	
4000	1092.63	
4250	1169.49	
4500	1254.24	
4750	1338.98	
5000	1425.85	
5250	1509.47	
5500	1595.34	
5750	1684.37	
5958	1743.64	

BY: G. Thompson J. K. Kohn



UNION

B10-SA-TP
55

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

Temp ^{Pressure}
BUILT UP

OWNER UNION OIL CO FIELD VALLE GRANDE WELL NAME BACA 10
 CASING 13 3/8" AT 2794 - 20" AT 658' ELEV. 8734.5 G.L. DATE: 3/4/74
 LINER DESCRIPTION: 9 3/8" - 2480' - 4418' TIED BACK TO SURFACE ZERO POINT SWAB GATE GL+8'
7" 4278' - 6000' GRAVEL PACK 5980' - 6000' DEPTH 6000' SURVEY 5968'
 TUBING DETAIL: 5968' - SURVEY 5958'
Locate TD 5968 w/ SINKER BAR & JARS 3/3/74

PURPOSE STATIC TANDEM PRESS & TEMP SURVEY BOTTOM HOLE
 REMARKS: OPEN SWAB GATE @ 10:50 RAN INSTRUMENTS TO 5958' RETURN INSTRUMENTS TO SURFACE. SHUT IN SWAB GATE AT 1955

ELEMENT 1005 2 P-7198 SERIAL NO. 809F - 6416 OF CLOCKT-12HR 13375 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1005 T-1007 DISENGAGE STYLUS 20:11 T-2013

WELL HEAD
 PICKUP @ 5938' @ 1930 TIME ON BOTTOM 7 HR 46 MIN MAX. °F 502.8°F
 WELL STATUS STATIC
 SHUT IN: _____ ON PRODUCTION: _____
 RATE _____

Press TEMP

Press						TEMP											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
00	0'	0	0	0	0	"	"	0	0		0						
02	41300'	.560	1.002	1180.08	118432	"	"	1484	502.8		502.8						
04-1930	5958'	.812	1.006	1735.17	174788	"	"	1.383	475.9		475.9						

COMMENTS:

RY: - 111

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY *Jump + Press Build up*

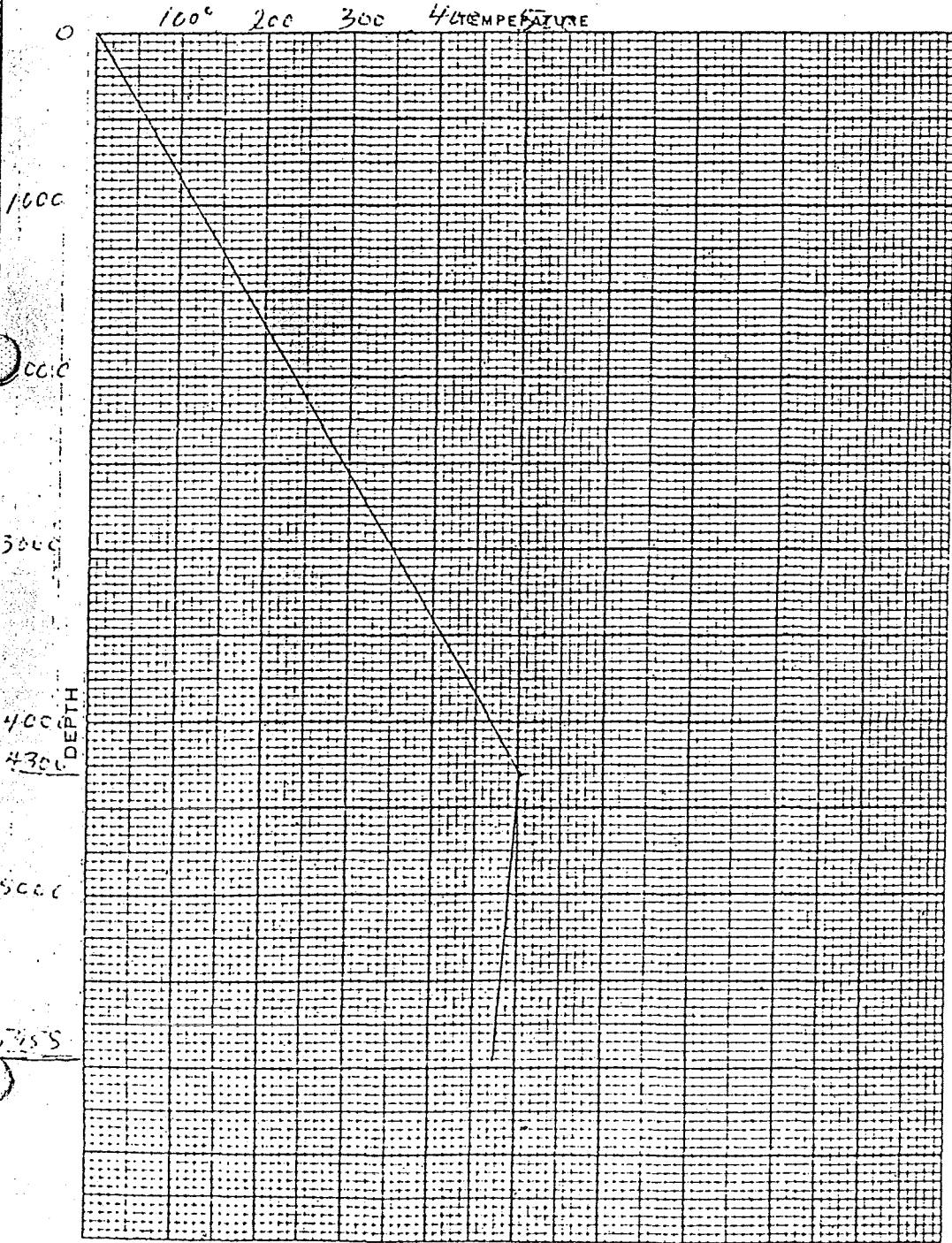
76

OWNER Union Oil Co. of Cal. FIELD Valle Grande WELL NAME B# 10
 CASING _____ ELEV 8734.5 DATE 3/4/74
 LINER DESCRIPTION: _____ ZERO POINT 59' 8" T.D.J.
 _____ DEPTH 5965' Survey 5958'

HOLE DESCRIPTION: _____ INSTRUMENT 80-646° F.A.T. _____
 _____ SERIAL NO 10052

PURPOSE Static Standem Press + Jump Survey Bottom MAX TEMP 502.8°F @ 4300
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES.	GAUGE	CORR
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
4300	502.8		
5958	475.9		

BY: *DFDM*

UNION (B10-SH-11)
GEO THERMAL DIVISION
 SUBSURFACE PRESSURE SURVEY

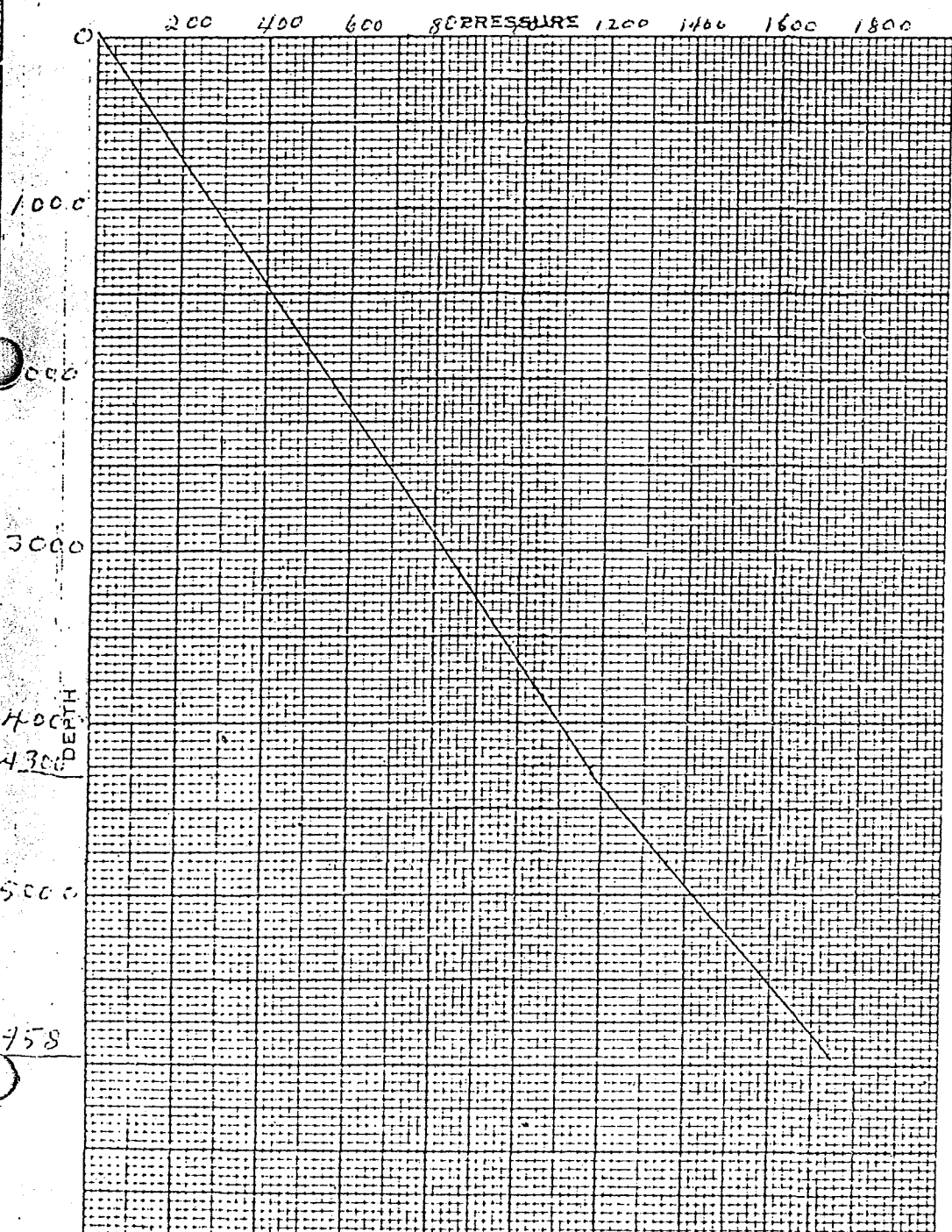
76

OWNER Union Oil Co. Cal. FIELD Valle Grande WELL NAME B# 10
 CASING _____ ELEV 8734 DATE 3/4/74
 LINER DESCRIPTION: _____ ZERO POINT 2' J + 8'
 _____ DEPTH 59.65 Survey 59.58

HOLE DESCRIPTION: _____

 INST.UMENT 4250 _____ PSI
 SERIAL NO 798

PURPOSE Static Standon Press & Temp Survey Bottom Hole MAX TEMP 502.8°F @ 4300
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
0		
4300	1184.32	
5958	1747.83	

BY: SRDM

UNION

GEO THERMAL DIVISION

B 10-3-4 PT

SUBSURFACE TEMPERATURE SURVEY

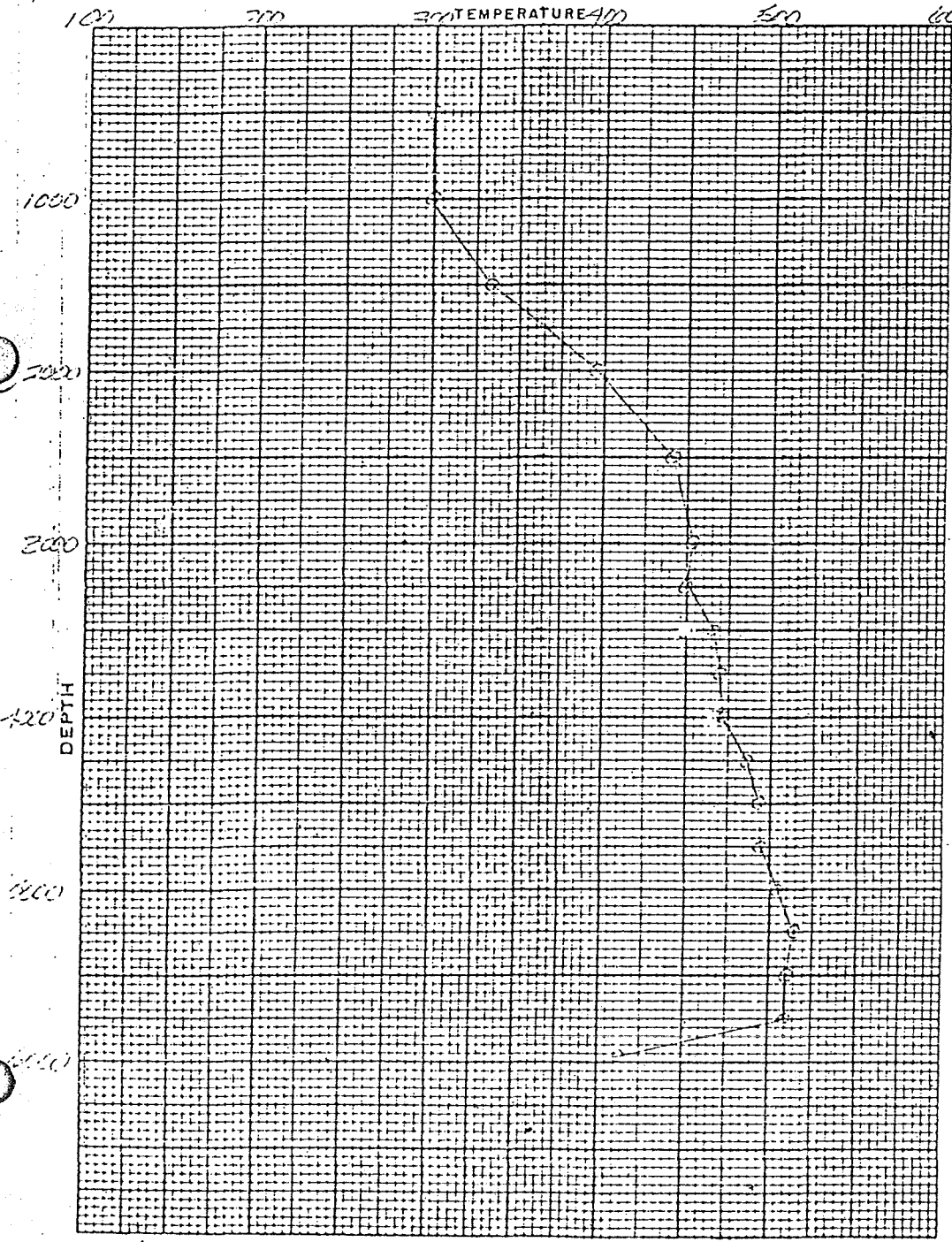
76

OWNER Union Oil Co FIELD _____ WELL NAME BACR No. 10
 CASING _____ ELEV GL 8734.5 DATE 12-6-73
 LINER DESCRIPTION: _____ ZERO POINT GL + 8'
 _____ DEPTH 6001
 _____ 5 760 SURVEY
 HOLE DESCRIPTION: _____ INSTRUMENT 300-236 FAHR
 _____ SERIAL NO KTB 10036
 PURPOSE _____ MAX TEMP 514.9 °F @ 5250
 REMARKS: _____

STABILIZATION PERIOD

PRESSURES	GAUGE	DOWD
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP
500	300		
1000	300		
1500	333.7		
2000	374.8		
2500	411.5		
3000	453.2		
3500	450.9		
3600	466.2		
3750	469.9		
4000	471.6		
4250	486.6		
4500	492.7		
4750	495.7		
5000	509.5		
5250	514.9		
5500	511.1		
5750	510.0		
5900	413.8		



BY: _____

76

UNION

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

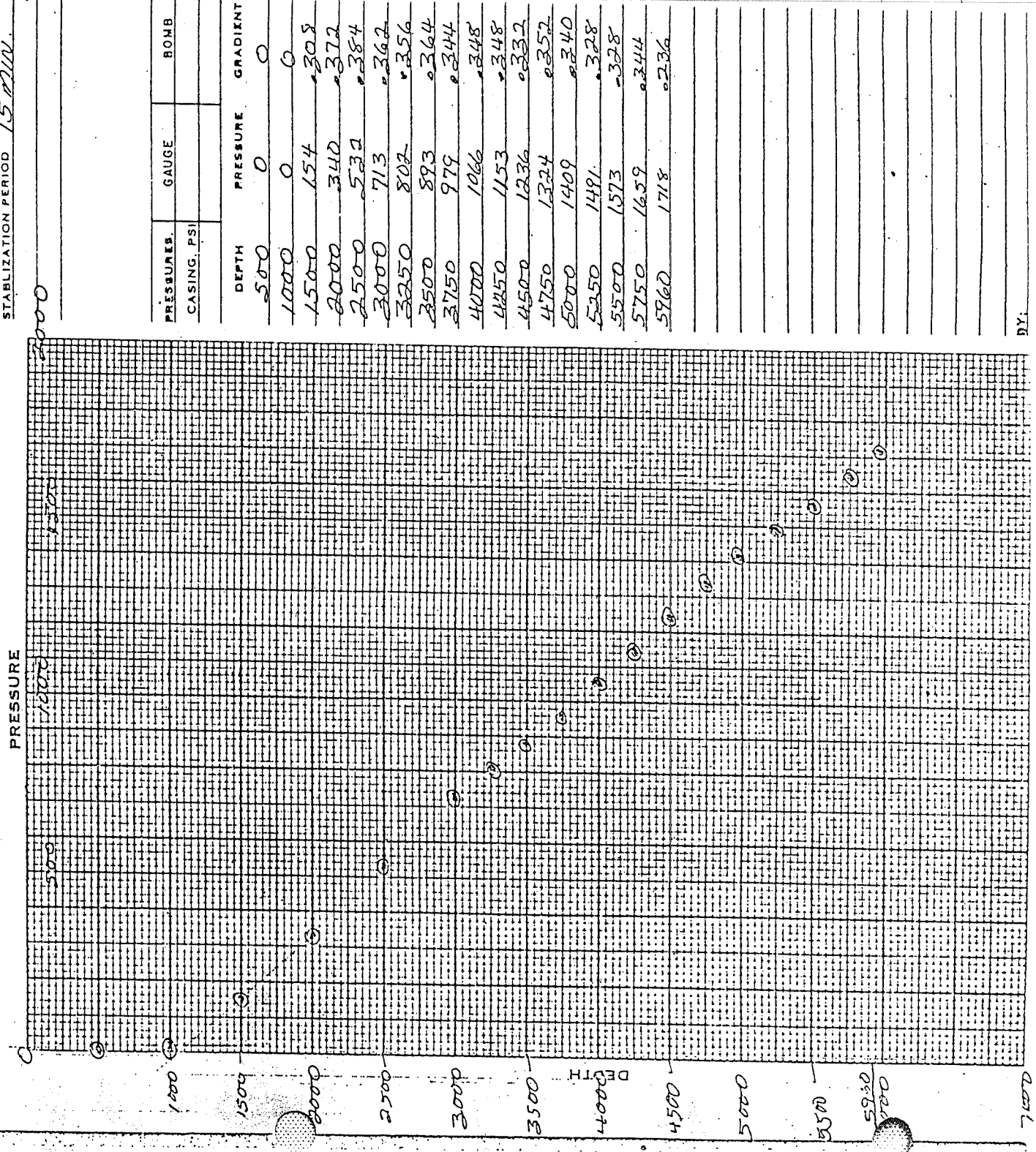
BIO-54-Press

OWNER UNION OIL & GULF FIELD WALLS GRANDE WELL NAME B-10
 CASING ELEV 9300 DATE 12/6/73
 LINER DISCRPTION: 20' Above ground ZERO POINT 6000 DEPTH 6000

HOLE DESCRIPTION:
 INSTRUMENT 4250 PSIC
 SERIAL NO KPG 7198

PURPOSE:
 MAX TEMP 515.4 °F @

REMARKS:
 STABILIZATION PERIOD 15 MIN.



BY:

76

WILSON

GEOTHERMAL DIVISION B10-S3PT

SUBSURFACE PRESSURE SURVEY

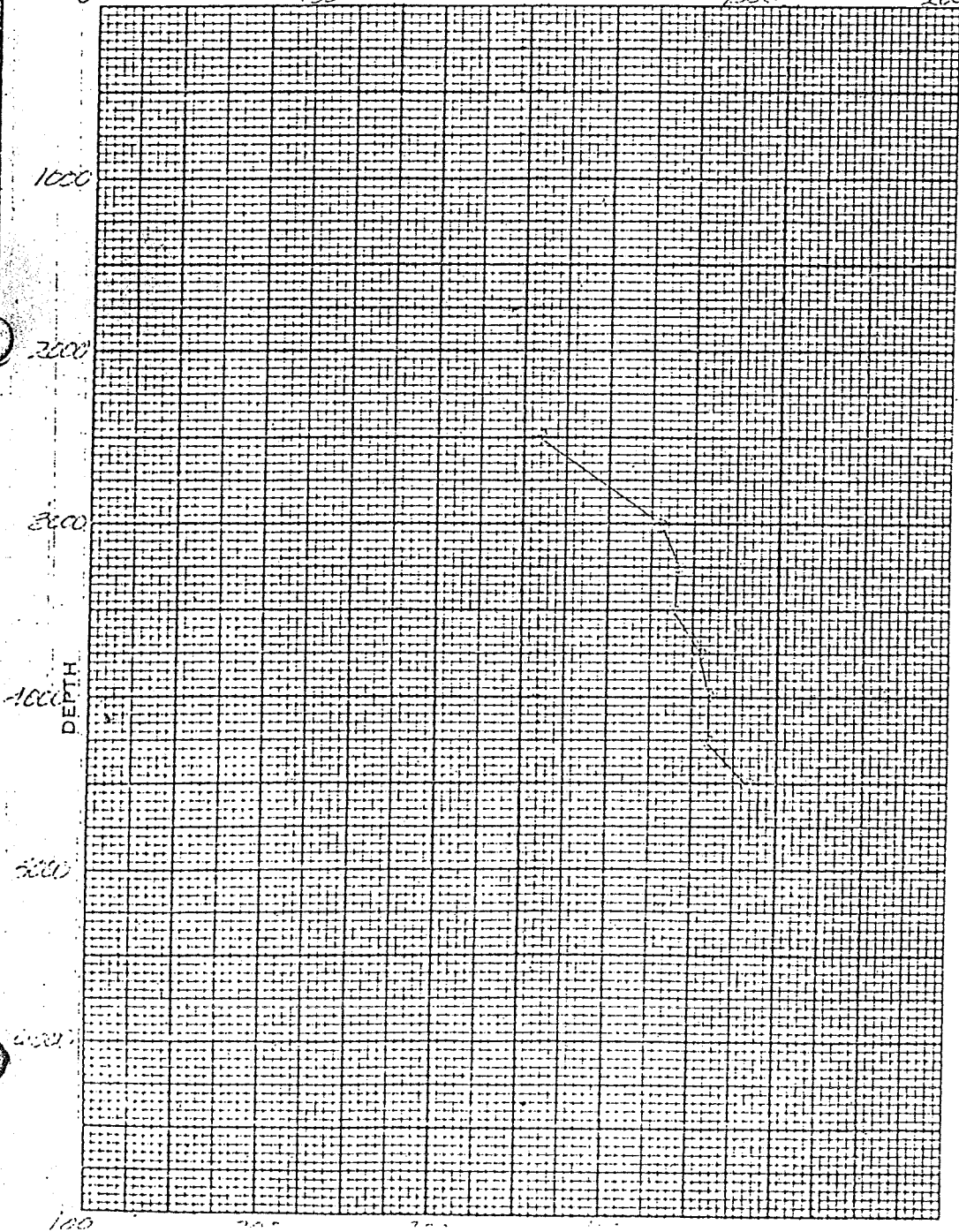
OWNER Union Oil Co of Calif FIELD _____ WELL NAME Bucca No. 10
 CASING _____ ELEV 5734.5 CL DATE: 11-27-73
 LINER DESCRIPTION: _____ ZERO POINT Swath Gate Gate
 DEPTH 6001 Survey 45

HOLE DESCRIPTION: _____ 300-736
 INSTRUMENT A250 PS
 SERIAL NO KPG 7195
KT B 10036

PURPOSE Press/Temp to pinpoint source of flow MAX TEMP 459.8 °F @ 4000
 REMARKS: _____

0 500 1000 1500 2000
 PRESSURE

STABILIZATION PERIOD
Well dead



PRESSURES	GAUGE	BOMB
CASING, PSI	0	0

DEPTH	PRESSURE	GRADIENT
0	0	
2500	26.34	-
3000	523.23	.994
3250	709.88	.7425
3500	801.71	.371
3750	838.20	.346
4000	870.47	.329
4250	1152.55	.725
4500	1241.59	.356

Depth	Temp
0	-
2500	358.1
3000	430.7
3250	440.4
3500	435.2
3750	453.3
4000	459.8
4250	459.1
4500	452.7

BY: F. Kuba

76

UNION

GEOTHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

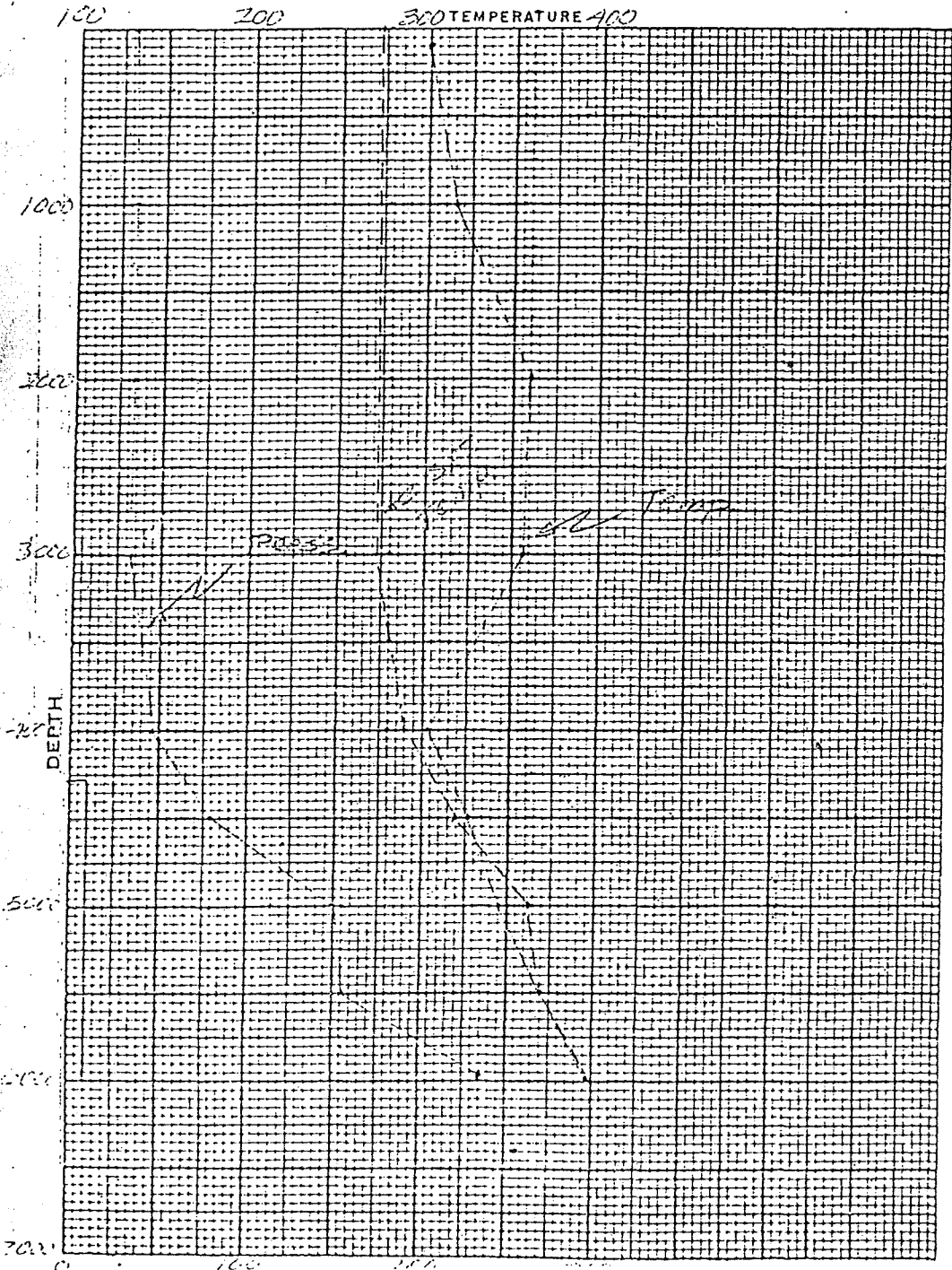
BIO-52 PT
FLOWING

OWNER Union Oil Co of Calif FIELD _____ WELL NAME Boca No. 10
 CASING 13-3/8" at 2774 20" at 653 ELEV. 3734.5 CL DATE 11-18-73
 LINER DESCRIPTION: 4-3/8" - 2450 - 7718' tied back to surface ZERO POINT Swab Gate Gate
7" - 4278' - 6000' Gravel pack 5980 - 6000' DEPTH 6000' Survey 59'

HOLE DESCRIPTION: _____ 4250 PSI
 INSTRUMENT 300-734 FA
 SERIAL NO T-RTB 10036
P-KPG 7193
 PURPOSE Flowing Survey MAX TEMP 397.2 °F @ 5980
 REMARKS: _____

STABILIZATION PERIOD
Flowing at 10-20,000

PRESSURES	GAUGE	BOMB	
CASING, PSI	35	29	
DEPTH	TEMP.	DEPTH	TEMP
100	300	33	-
1000	316.9 ↑	34	-
2000	310.9 ↑	34	-
3000	315.7	33	-
4000	327.3	47	.014
4500	326.8 ↑	79	.064
5000	343.5	149	.14
5800	570	155	.0012
5980	397.2	235	.166



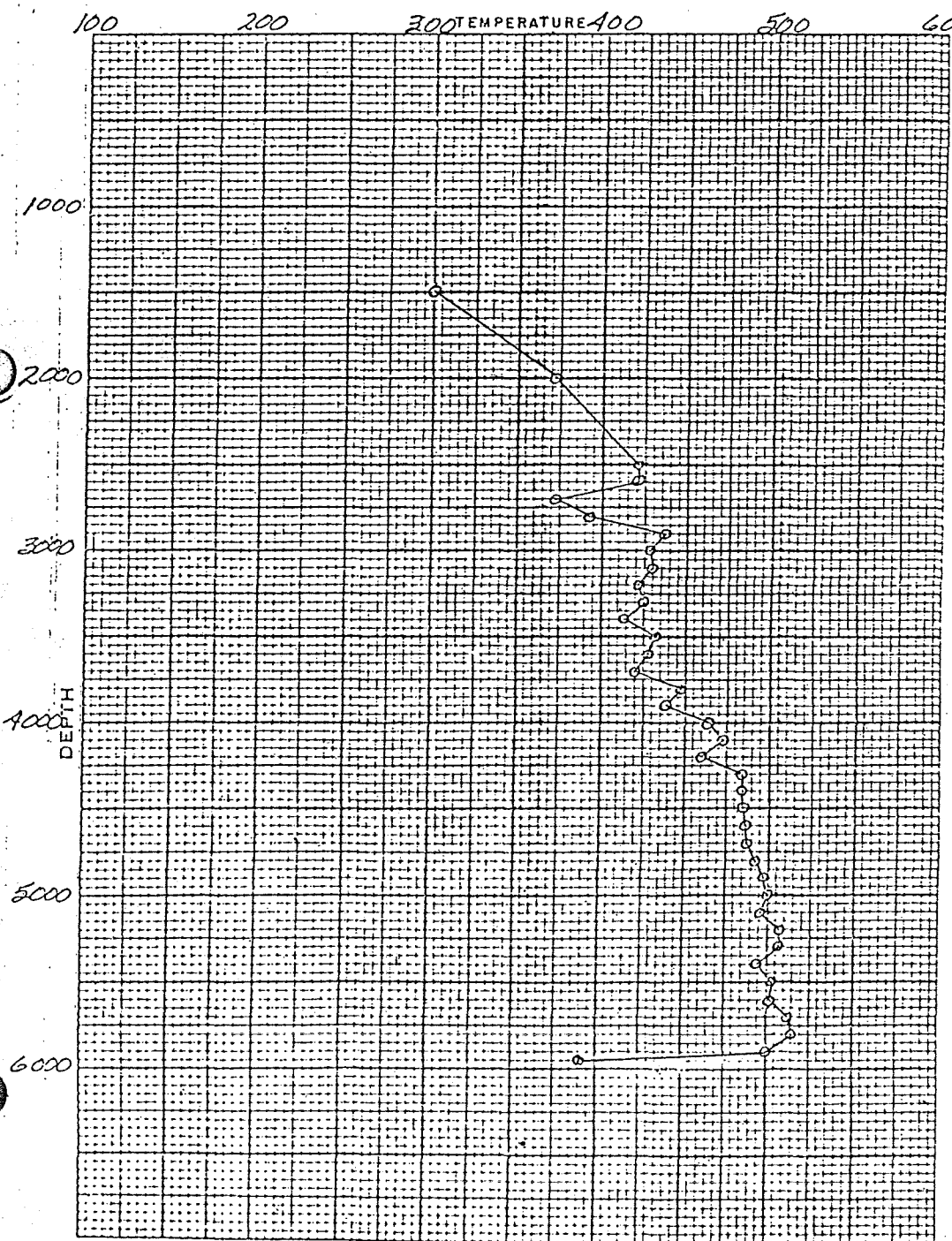
BY: T.N.M. et al

76

UNION
 GEOTHERMAL DIVISION
 SUBSURFACE TEMPERATURE SURVEY

B10-51PT

OWNER UNION OIL Co of CALIF. FIELD _____ WELL NAME BACA 10
 CASING _____ ELEV 8737.5 CL DATE 10-3-73
 LINER DESCRIPTION _____ ZERO POINT GL + 6'
 _____ DEPTH 6001. DRMR
 HOLE DESCRIPTION: _____ INSTRUMENT 300-736 FAHR
 _____ SERIAL NO KI-B 10036
 PURPOSE P/T GRADIENT PRIOR to FLOW MAX TEMP 519.9 °F @ 5800
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOU3
CASING, PSI	—	—

DEPTH	TEMP.	DEPTH	TEMP.
0	496.0	5100	186.9
500	496.0	5200	187.6
1000	496.0	5300	187.6
1500	310.6	5400	187.6
2000	372.6	5500	187.6
2500	421.8	5600	187.6
2600	421.6	5700	187.6
2700	373.7	5800	187.6
2800	392.6	5900	187.6
2900	436.3	5961	187.6
3000	429.3		
3100	429.9		
3200	417.3		
3300	425.3		
3400	414.2		
3500	422.0		
3600	428.0		
3700	420.7		
3800	447.1		
3900	439.5		
4000	464.0		
4100	473.3		
4200	459.8		
4300	484.0		
4400	484.8		
4500	485.8		
4600	486.9		
4700	487.6		
4800	492.2		
4900	497.2		
5000	500.9		

BY: KUHN/MINETTE

GEOTHERMAL DIVISION

BIO-SIPT

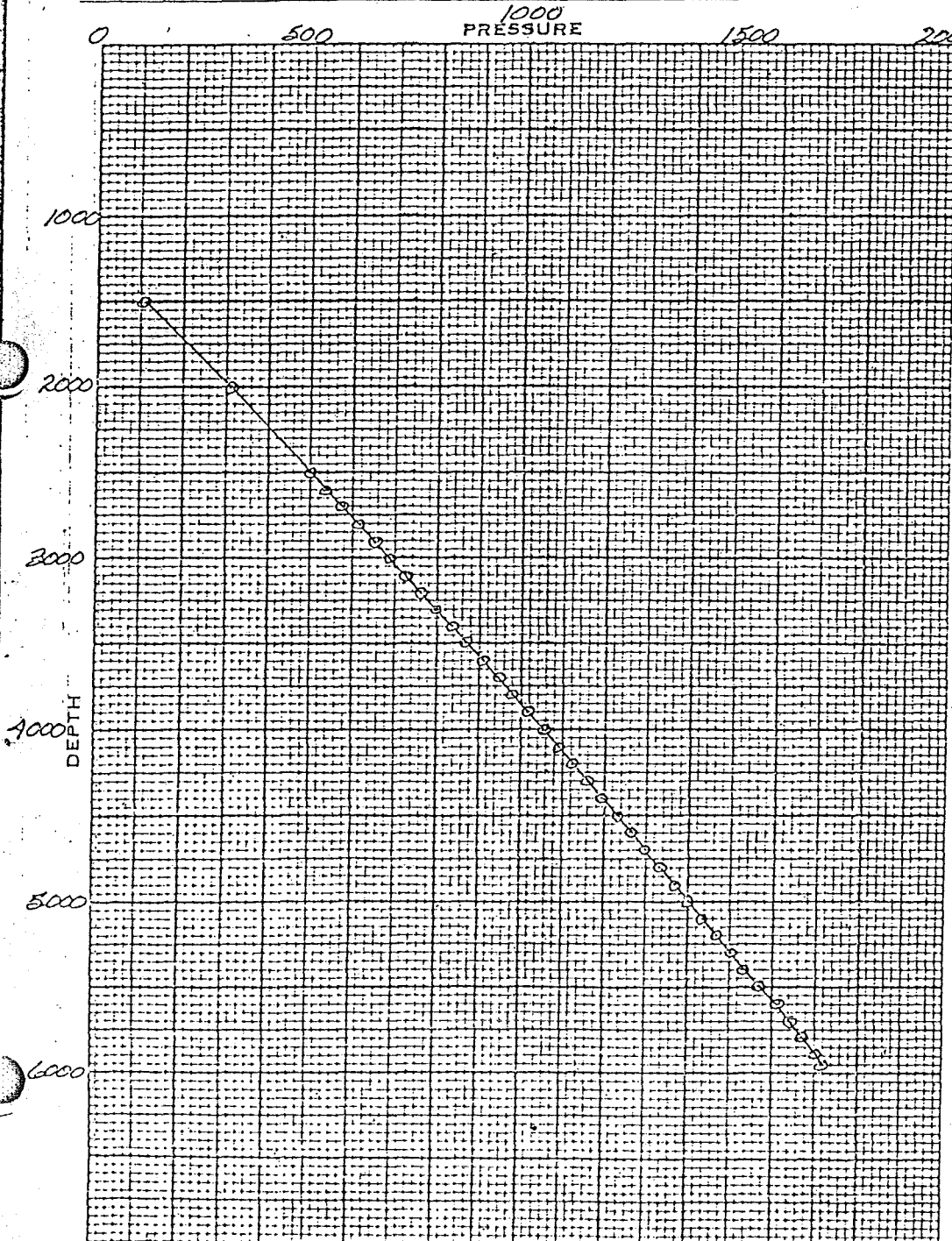
SUBSURFACE PRESSURE SURVEY

76

OWNER Union Oil Co of Calif. FIELD _____ WELL NAME BACA No. 10
 CASING _____ ELEV 5739.5 GL DATE 10-3-73
 LINER DESCRIPTION: _____ ZERO POINT GL + 6'
 _____ DEPTH 6001 DRILLER
 HOLE DESCRIPTION: _____ INSTRUMENT 2900 PSI
 _____ SERIAL NO 6604N
 PURPOSE P/T GRADIENT PRIOR to FLOW MAX TEMP 514.9 °F @ 5800
 REMARKS: _____

STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI	0	0



DEPTH	PRESSURE	GRADIENT
0	-	-
500	-	-
1000	-	-
1500	111	0.222
2000	310	0.398
2500	500	0.380
2600	537	0.370
2700	576	0.390
2800	614	0.380
2900	650	0.360
3000	688	0.380
3100	724	0.360
3200	761	0.370
3300	796	0.350
3400	835	0.390
3500	871	0.360
3600	911	0.400
3700	945	0.340
3800	980	0.350
3900	1018	0.390
4000	1054	0.360
4100	1090	0.360
4200	1125	0.350
4300	1159	0.340
4400	1194	0.350
4500	1229	0.350
4600	1263	0.340
4700	1298	0.350
4800	1331	0.330
4900	1367	0.360
5000	1401	0.340

CONTINUED
 BY: KUHN / MINETTE

76

UNION

GLOUTHERMAL DIVISION B10-SIPT

SUBSURFACE PRESSURE SURVEY

OWNER _____ FIELD _____ WELL NAME BACA #10
 CASING _____ ELEV _____ DATE 10-3-73
 LINER DESCRIPTION: _____ ZERO POINT GL + 6'
 _____ DEPTH 6001 Driller

HOLE DESCRIPTION: _____ INSTRUMENT 2400 PSIG
 _____ SERIAL NO 6604N

PURPOSE _____ MAX TEMP 514.9 °F @ 5800
 REMARKS: _____

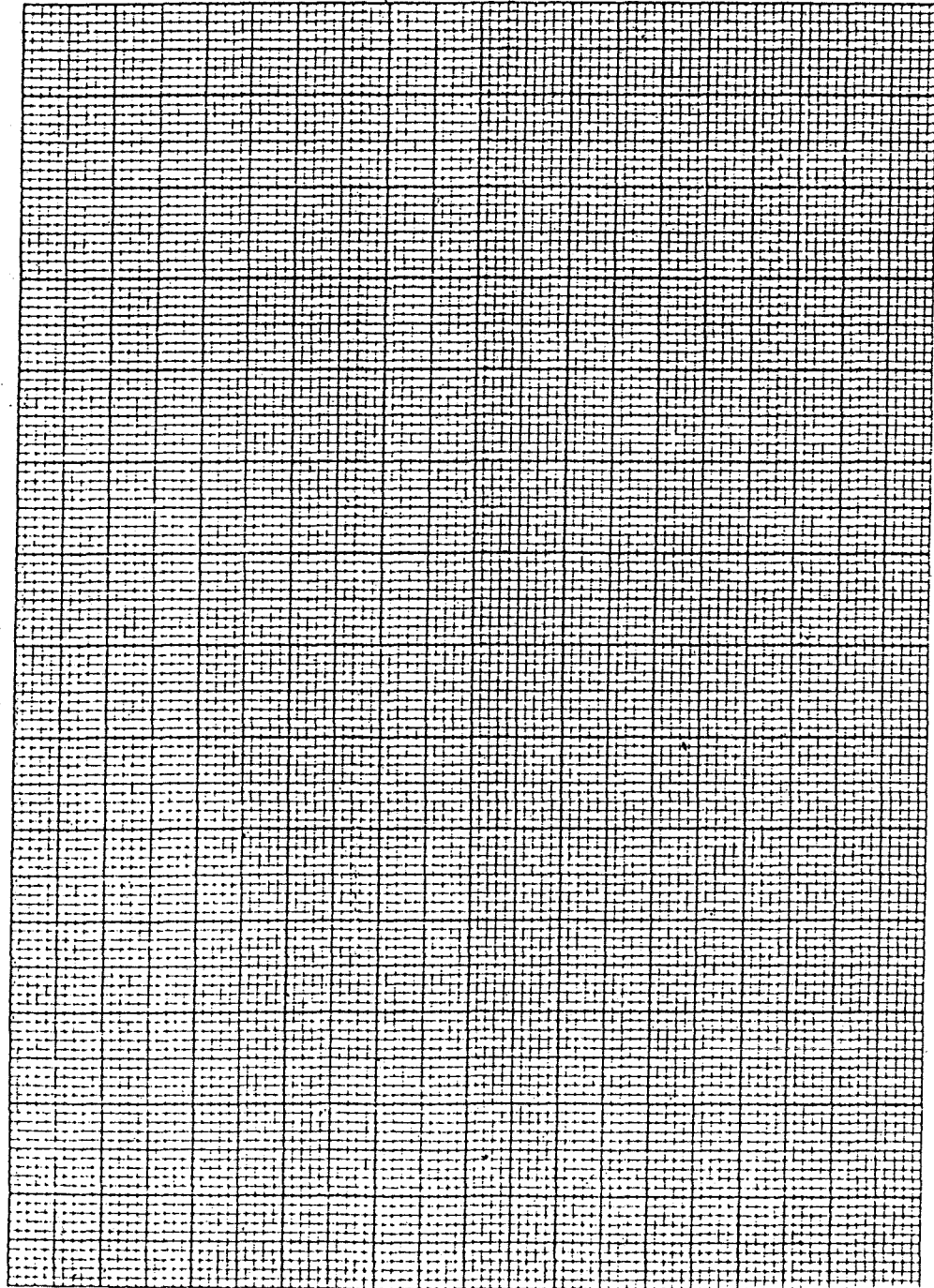
PRESSURE

STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
5100	1485	0.340
5200	1469	0.340
5300	1503	0.340
5400	1536	0.330
5500	1571	0.340
5600	1607	0.360
5700	1640	0.330
5800	1673	0.330
5900	1706	0.330
5961	1715	0.198

DEPTH



BY: _____