

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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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

DEE PYLE
APR 5 1976

BIO-546-P1r

OWNER UNION OIL CO OF CALIF FIELD VALLE GRANDE WELL NAME BAKAHIO
 CASING 20" @ 653'; 13 3/4" @ 2794' ELEV. 8734 DATE: 3/18/76
 LINER DESCRIPTION: 9 7/8" @ 4418'; 7" @ 4275' - T.D. ZERO POINT GLT10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4000 PSIG 7198 12hr 12889-L
 ELEMENT T-80F-646°F SERIAL NO. 10052 CLOCK 12hr 13374-L TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0934 T-0928 DISENGAGE STYLUS 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-#	GRAD.	FB CORR.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	1000	1.005	11		0	1018	1000	1.432	215								
1130	2000	1.178	403		-1.002	1030	2000	1.058	408								
1042	3000	1.345	764		-1.001	1042	3000	1.437	504								
1054	4000	1.509	1111		0	1054	4000	1.421	500								
1107	5000	1.674	1457		+1.003	1107	5000	1.441	505								
1119	5500	1.756	1629		+1.005	1119	5500	1.538	530								
1152	5959	1.825	1774		+1.007	1152	5959	1.382	489								

COMMENTS:

BY: L M CO

76

UNION

GEO THERMAL DIVISION

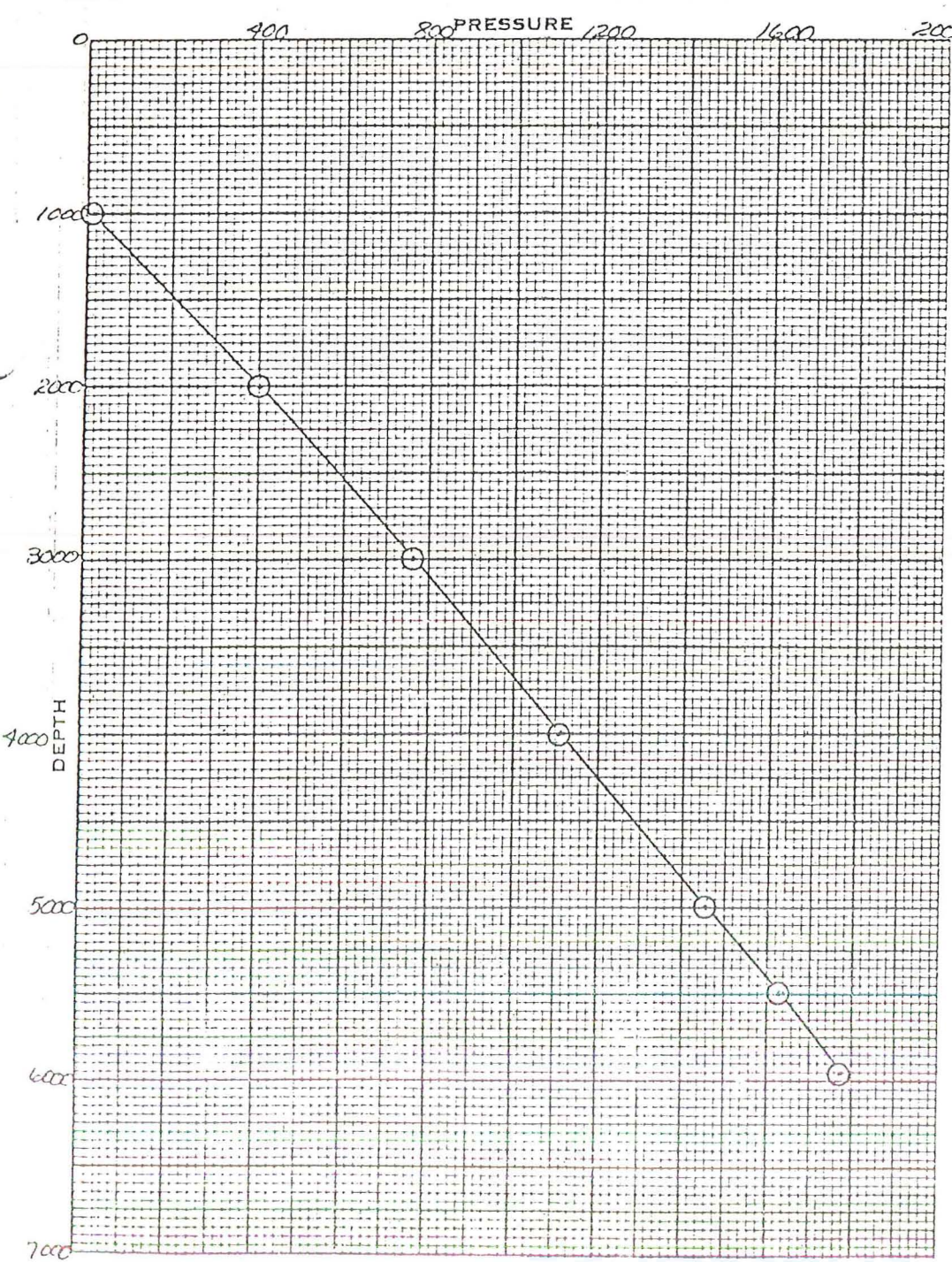
SUBSURFACE PRESSURE SURVEY

B10-546-PT

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

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSIC
 _____ SERIAL NO 7198

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



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
1000	11	
2000	403	
3000	764	
4000	1111	
5000	1457	
5500	1629	
5959	1774	

BY: _____

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UNION 76

GEOHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

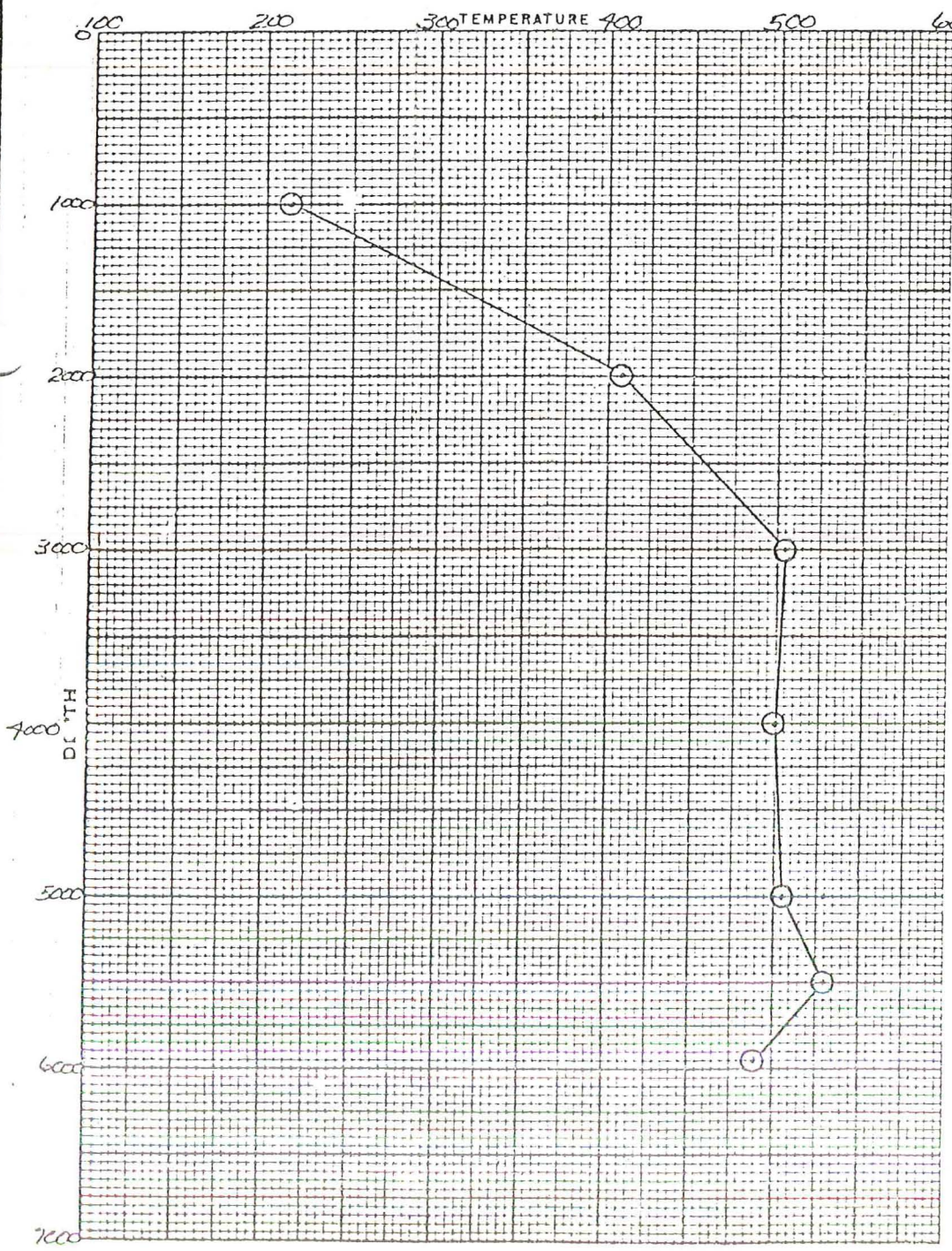
B10-S46-PT

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: _____

76

DEE PYLE

GEO THERMAL D.V.C.O. NOV 3 1976

SUBSURFACE SURVEY
Field Work Sheet

310 524 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME 310-524-110
 CASING 20' AT 653' 13 1/2 2194 ELEV. 9734 DATE: 11/17/76
 LINDER DESCRIPTION: 9 5/8 AT 4413' ZERO POINT 6 1/2 FT 10'
7" HT 4275 DEPTH 5957
 TOOLING DETAIL: PER FORATIONS - 3000 - ?

PURPOSE

REMARKS:

ELEMENT 0-4000 PSI SN 7198 CLOCK 12:42 15 TURN
 ELEMENT 80-6.46 F SERIAL NO. 10052 CLOCK 12:42 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P 1937 T 1003 DISENGAGE STYLUS P 1750 T 1727
 WELL HEAD 1
 PICKUP @ 5957 TIME ON BOTTOM 1627-1657 MAX. @ 532
 WELL STATUS
 SHUT IN: 9/11/76 ON PRODUCTION:
 RATE

TIME	DEPTH	DEFL	PRESSURE			CORR.	TIME	DEPTH	DEFL	TEMPERATURE			IS	TIME	DEPTH	DEFL	P-T	GRAD.	IS
			P-T	GRAD.	GRAD.					V-T	GRAD.	IS							
1452	100	345	187																
1505	1003	4.5			0	1505	1000	1219	226										
1517	1177	431			-0.003	1517	1000	1.095	410										
1529	1342	757			-0.003	1529	2000	1.137	504										
1541	1509	1111			+0.001	1541	4000	1.105	501										
1553	1675	1457			+0.004	1553	4000	1.445	506										
1605	1840	1837			+0.005	1605	5000	1.546	532										
1610	1840	1837			+0.005	1610	5500	1.546	532										
1625	1840	1837			+0.005	1625	5500	1.546	532										
1627	1857	1839	1730	1730	+0.009	1627	5957	1.408	496										
1643	1857	1839	1730	1730	+0.009	1643	5957	1.408	496										
1657	1857	1839	1730	1730	+0.009	1657	5957	1.408	496										

Run by J.M.

COMMENTS: RUN SURVEY AFTER SPERRY - SUN pulled 1/4" tubing

BY:

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	BOND
CASING PSI		

DEPTH	PRESSURE	GRADIENT
100	-	
1000	4.5	
2000	401	
3000	757	
4000	1111	
5000	1457	
5500	1637	
5959	1752	

BY: _____



UNION

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

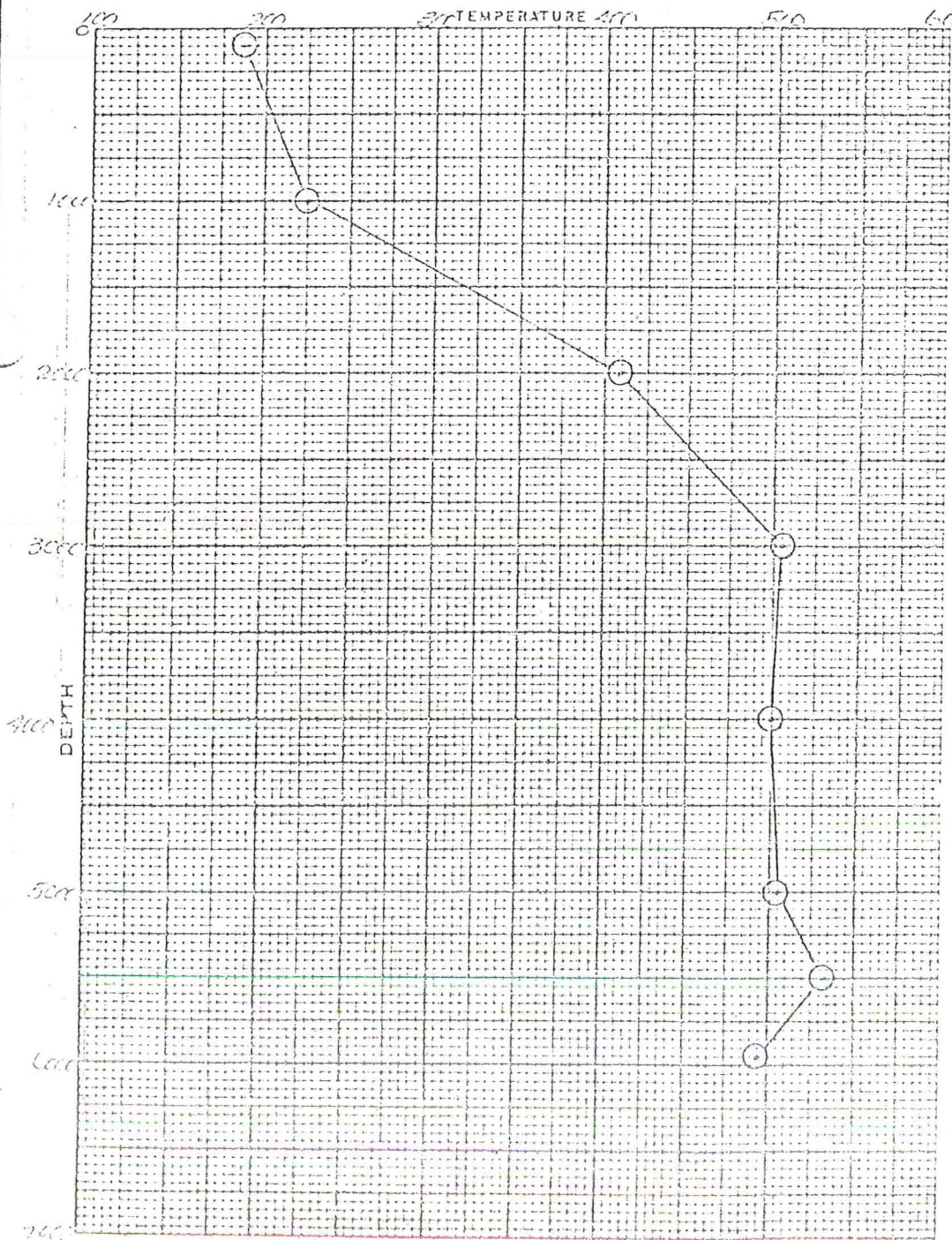
BIO-S47-DT

OWNER _____ FIELD _____ WELL NAME BACN #10
 CASING _____ ELEV _____ DATE 4/14/72
 LINER DESCRIPTION _____ ZERO POINT GL + 10'
 _____ DEPTH 5959'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHP _____
 _____ SERIAL NO 10052

PURPOSE _____ MAX TEMP 532 F @ 5900'
 REMARKS _____

STABILIZATION PERIOD _____



PRESSURES	GUAGE	BOMB	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100	187		
1000	226		
2000	310		
3000	504		
4000	506		
5000	506		
5500	532		
5959	496		

BY: _____

76



GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BH10-SH8-P17

OWNER UNION OIL CO. CALIF. FIELD VALLE GRANDE WELL NAME BACA 10
 CASING 20" @ 653', 13 3/8" @ 2794' ELEV. 8734 DATE: 10-18-76
 LINER DESCRIPTION: 9 5/8" @ 4418' ZERO POINT 64710'
7" @ 4275' - 5959' DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4650 P510 9222 12hr 15
 ELEMENT T-100-7927 SERIAL NO. 10098 CLOCK 12hr 15turn STABILIZATION PERIOD
 ENGAGE SYLUS P-1130 T-1132 DISENGAGE SYLUS P-1530-T-1535
 WELL HEAD 6
 PICKUP @ 5959' TIME ON BOTTOM 1440-1500 MAX. F. 5430-5500'
 WELL STATUS SHUT IN
 SHUT IN: _____ ON PRODUCTION: _____
 RATE: _____

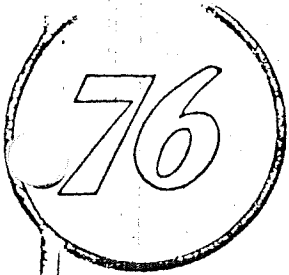
PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
21	100	1003	8		-	1215	100	0	0								
22	1000	1005	14		-	1227	1000	1295	218								
239	2000	1150	330		-0.01	1239	2000	1855	418								
251	3000	1301	736		-	1251	3000	1126	507								
302	3250	1339	825		-	1302	3250	1114	513								
313	3500	1376	913		-	1313	3500	1151	515								
324	3750	1312	998		-	1324	3750	1136	510								
335	4000	1349	1035		-	1335	4000	1124	506								
346	4250	1385	1119		-	1346	4250	1120	505								
357	4500	1522	1256		-	1357	4500	1128	507								
408	4750	1559	1313		-	1408	4750	1141	512								
419	5000	1595	1427		-	1419	5000	1155	516								
430	5250	1632	1514		-	1430	5250	1210	534								
441	5500	1670	1603		-	1441	5500	1237	543								
500	5959	1737	1718		-0.01	1500	5959	1182	525								

COMMENTS:

BY: J.M. / J.B.



UNION

GEOTHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

MAR 17 1975

B17 595 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 653; 13 3/8" AT 2754 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 - 0-AMU PSI SN 7198 CLOCK - 12 hr 15 TURN

ELEMENT 82°-080° 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	1.447	537								
1107	5959	.824	1772		+ .007	1107	5959	1.272	487								

COMMENTS:

BY:

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

10-540-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL ME 3004-FL
 CASING 20" @ 6.53' - 13 7/8" @ 2794' ELEV. 8754 DATE: 1/22/75
 LINER DESCRIPTION: 7 5/8" @ 4-118'; 7" @ 11275 To T.D. ZERO POINT 26110'
 DEPTH 259'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT P-O-10000PSIG 7195 13325-L 15
 ELEMENT-T-82°-688°F SERIAL NO. 10055 CLOCK 12389-L 12 TURN STABILIZED PERIOD
 ENGAGE STYLUS P-1031 T-1031 DISENGAGE STYLUS P-1252 T-1100
 WELL HEAD 3.9
 PICKUP @ 5959' TIME ON BOTTOM 1213-1323 MAX. °F 538 @ 5500'
 WELL STATUS SHUT IN
 SHUT IN: 3/21/75 ON PRODUCTION:
 RATE

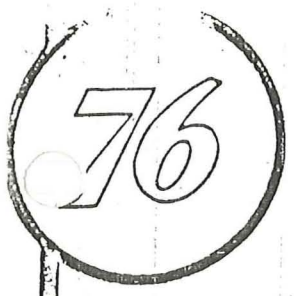
PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	TD	TIME	DEPTH	DEFL.	P-T	GRAD.	TD	TIME	DEPTH	DEFL.	P-T	GRAD.	TD	
	100	0	0	-	-	1100	100	1100	213	-	-							
	5500	1750	1116	-	4003	1210	5500	1246	538									
	1323	5259	1513	1759	-	4003	1323	5259	1253	531								

COMMENTS:

BY: J.H. CP CD



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" @ 2794' 9 5/8" @ 4418' ELEV. 8734' DATE: 12-18-75
 LINER DESCRIPTION: 7" @ 4275 TO T.D. ZERO POINT GL+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - P-8" H000 R51G 7198 CLOCK 1242 12889-1 15

ELEMENT - T-8 1/2" F-6849F 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. P 535.5 @ 5500'

WELL STATUS SHUT IN.

SHUT IN: 8/24/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-F	GRAD.	CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1525	3500	1418	919		0	1525	3500	1.350	510								
1536	3750	1457	1002		0	1536	3750	1.338	507								
1547	4000	1498	1088		0	1547	4000	1.324	503								
1558	4250	1541	1178		+1.001	1558	4250	1.305	497								
1609	4500	1579	1258		+1.002	1609	4500	1.315	500								
1620	4750	1619	1342		+1.003	1620	4750	1.331	505								
1631	5000	1662	1430		+1.004	1631	5000	1.350	510								
1642	5250	1703	1518		+1.003	1642	5250	1.407	527								
1653	5500	1741	1598		+1.003	1653	5500	1.437	535.5								
1720	5959	1813	1748		+1.009.	1720	5959	1.207	468								

COMMENTS:

BY: S M

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B10-537-P11

OWNER UNION OIL CO. OF CALIF. FIELD WALL 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. F.D. ZERO POINT GL+10'
 DEPTH 5959'

HOLE DESCRIPTION:

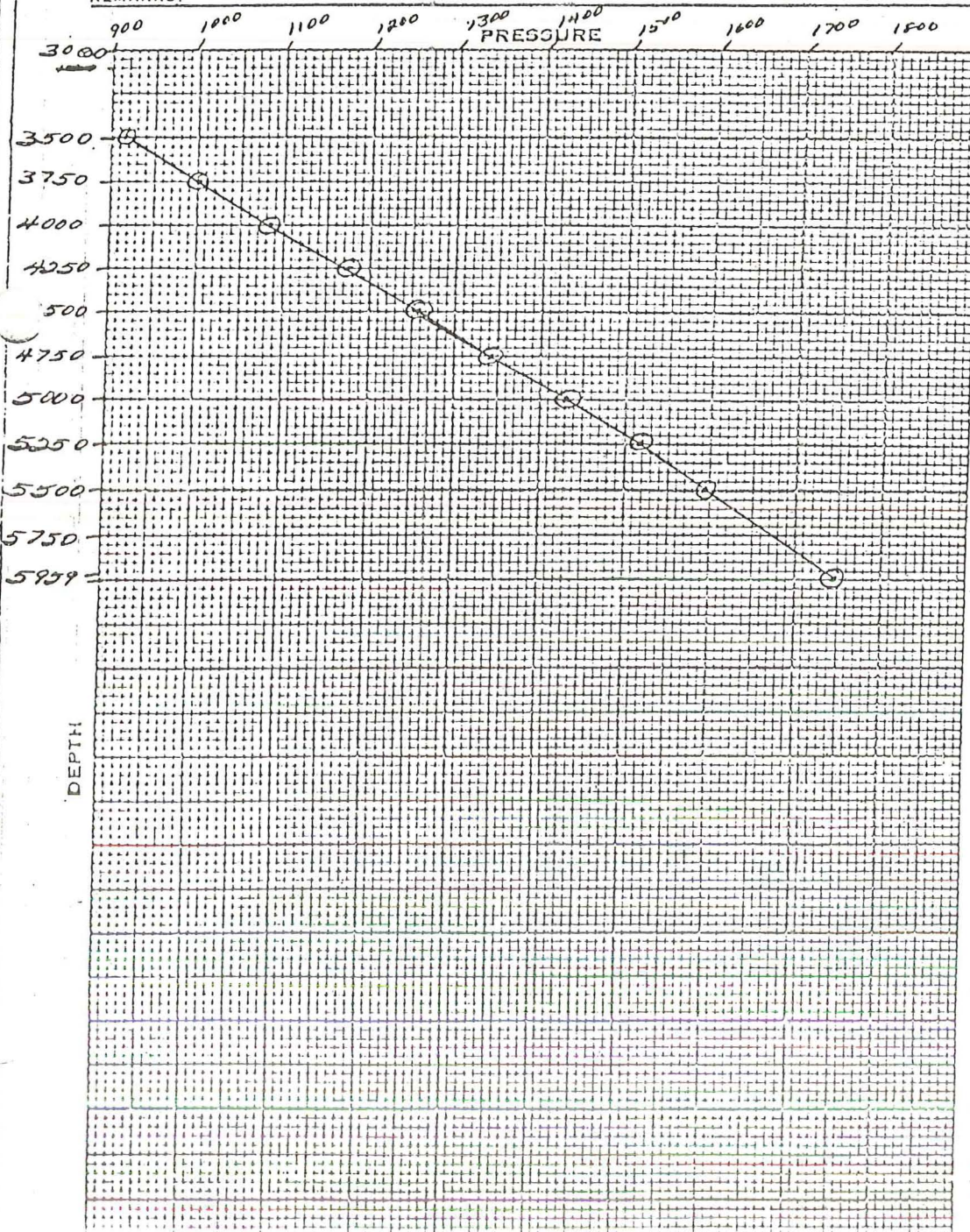
INSTRUMENT 0-4000 PS
 SERIAL NO. 7198

PURPOSE

MAX. TEMP 535.5 °F @ 5500'

REMARKS:

STABILIZATION PERIOD



PRESSURES.	GAUGE	CORR.
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
3500	919	-
3750	1002	.332
4000	1088	.344
4250	1175	.360
4500	1258	.320
4750	1342	.336
5000	1432	.360
5250	1518	.344
5500	1598	.320
5959	1748	.329

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GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B10-537-71+

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA-10
 CASING 20" @ 653', 13 3/8" @ 2794' ELEV. 5734' DATE: 12-18-75
 LINER DESCRIPTION: 9 5/8" @ 4418', 7" @ 4275' T.D. ZERO POINT GL+10'
 DEPTH 5859'

HOLE DESCRIPTION: _____

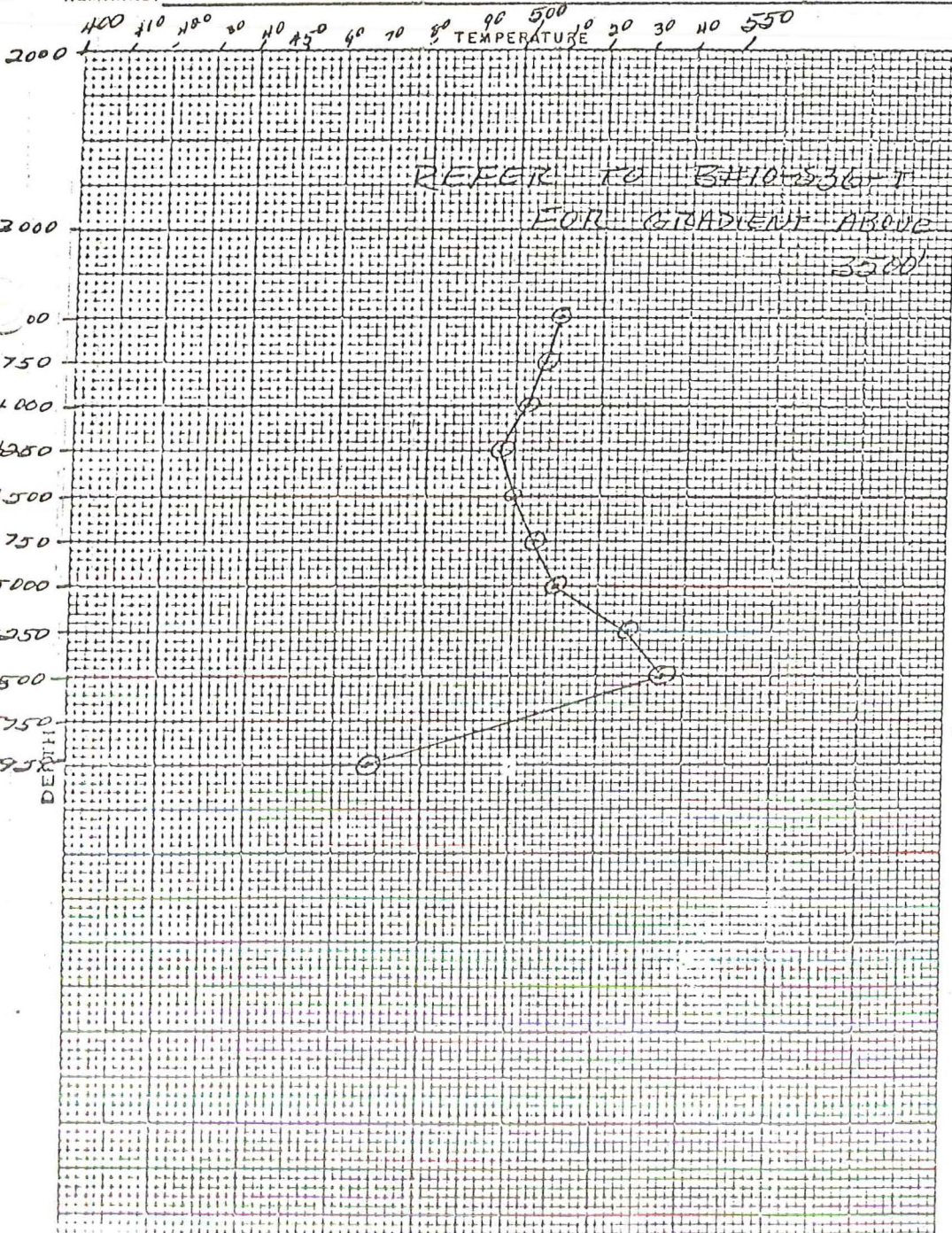
INSTRUMENT 829F-6860 FAX.
 SERIAL NO 10055

PURPOSE _____

MAX TEMP. 535.5 °F @ 5500

REMARKS:

STABILIZATION PERIOD _____



PRESSURES	GAUGE	DOMS	
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		

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UNION

DEL PYLE

GEO THERMAL 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" @ 7794' ELEV. 8734' DATE: 12-14-75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" @ 4275 - T.D. ZERO POINT: C.L. 110'
 DEPTH: 5229'

TUBING DETAIL:

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

REMARKS:

ELEMENT - P - 0 - 1111 P.S.I.C. 7195 CLOCK - 12:17 - 14091 - 15
 ELEMENT - T - 80°F - 152°F SERIAL NO. 10655 CLOCK 12:40 - 12589 - 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P - 1049 T - 1112 DISENGAGE STYLUS P - 1045 T - 432
 WELL HEAD 4
 PICKUP @ 5959' TIME OF BOTTOM 1320 - 1350 MAX. P 5355 5500
 WELL STATUS SHUT IN
 SHUT IN: 8/21/75 ON PRODUCTION:
 RATE

P.S.I.C.

TEMP

TIME	DEPTH	DEFL.	P	GRAD.	TIME	DEPTH	DEFL.	P	GRAD.	ID	TIME	DEPTH	DEFL.	P	GRAD.	ID
1144	1000	1.004	81		0	1144	1000	1.325	211.4							
1156	2000	1.172	590		-0.002	1156	2000	1.427	413							
1208	3000	1.339	751		-0.002	1208	3000	1.517	501							
1220	3250	1.419	836		-0.001	1220	3250	1.592	508							
1232	3500	1.498	919		0	1232	3500	1.673	511							
1243	3750	1.578	1004		0	1243	3750	1.742	508							
1254	4000	1.657	1086		0	1254	4000	1.824	503							
1306	5000	1.64	1436		+0.024	1306	5000	1.350	510							
1318	5500	1.743	1602		+0.003	1318	5500	1.437	535.5							
1350	5229	1.517	1757		+0.10	1350	5229	1.205	468							

COMMENTS:

BY:

76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

310-536-217

OWNER UNION OIL CO. CALIF FIELD VALLE GRANDE WELL NAME B009 #10
 CASING 20" @ 53', 13 3/8" @ 2794', 8 1/2" @ 4418' ELEV. 8734' DATE 12-14-75
 LINER DESCRIPTION: 7" @ 4775' - T.B. ZERO POINT GL + 10'
 DEPTH 5959'

HOLE DESCRIPTION:

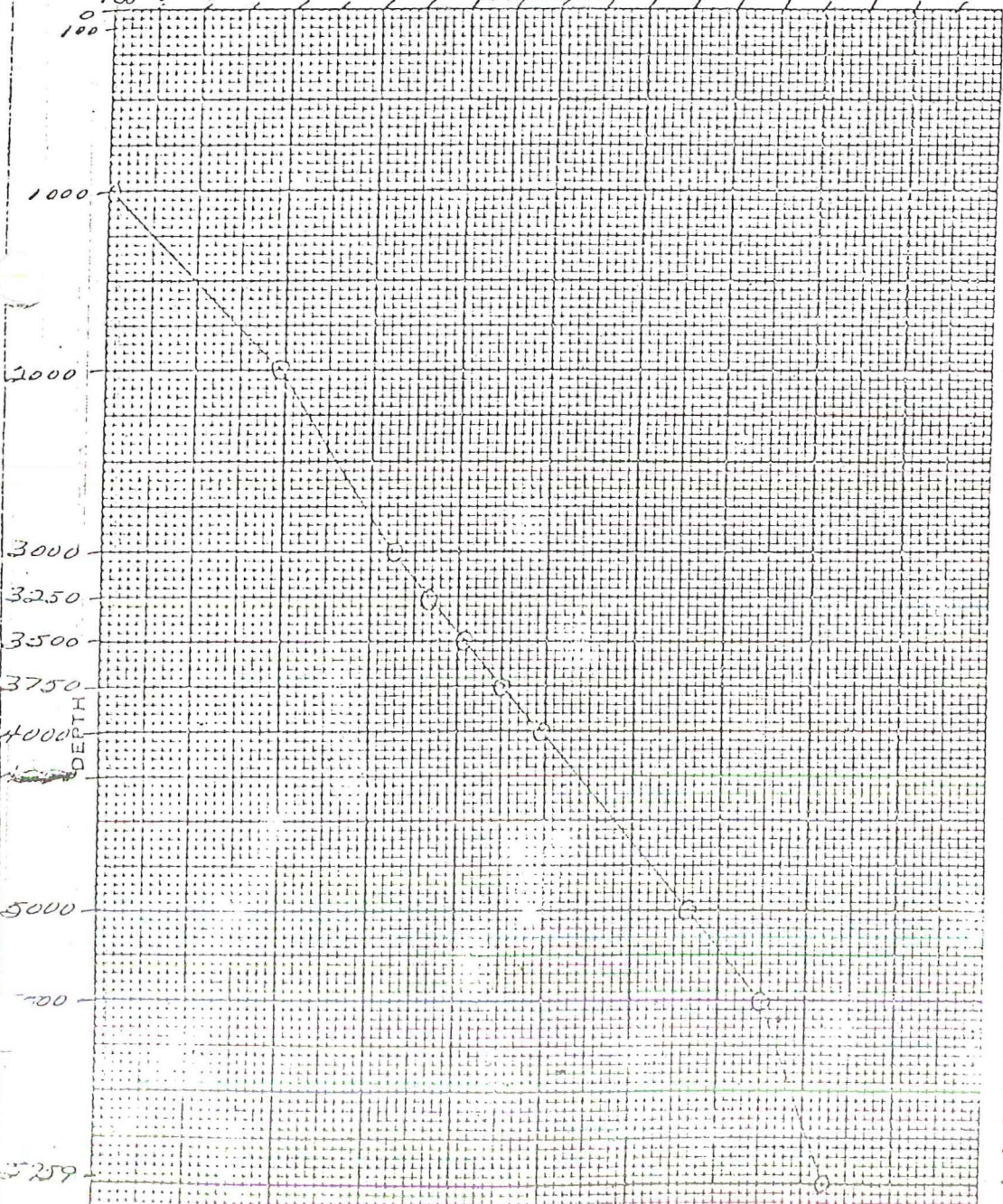
INSTRUMENT 0-4000 PSIC
 SERIAL NO 7198

PURPOSE

MAX TEMP 535.5 °F @ 5500

REMARKS:

STABILIZATION PERIOD
 0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 15 16 17 18 19 2000
 PRESSURE



PRESSURE	GAUGE	BOMB
CASING PSI	0' H2O	9250 CIRC
DEPTH	PRESSURE	GRADIENT
1000	9.1	-
2000	38.5	.330
3000	75.1	.362
3250	83.6	.345
3500	91.9	.332
3750	100.2	.340
4000	108.5	.319
5000	143.1	.350
5959	178.7	.331
		.338

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

516

20-536-711

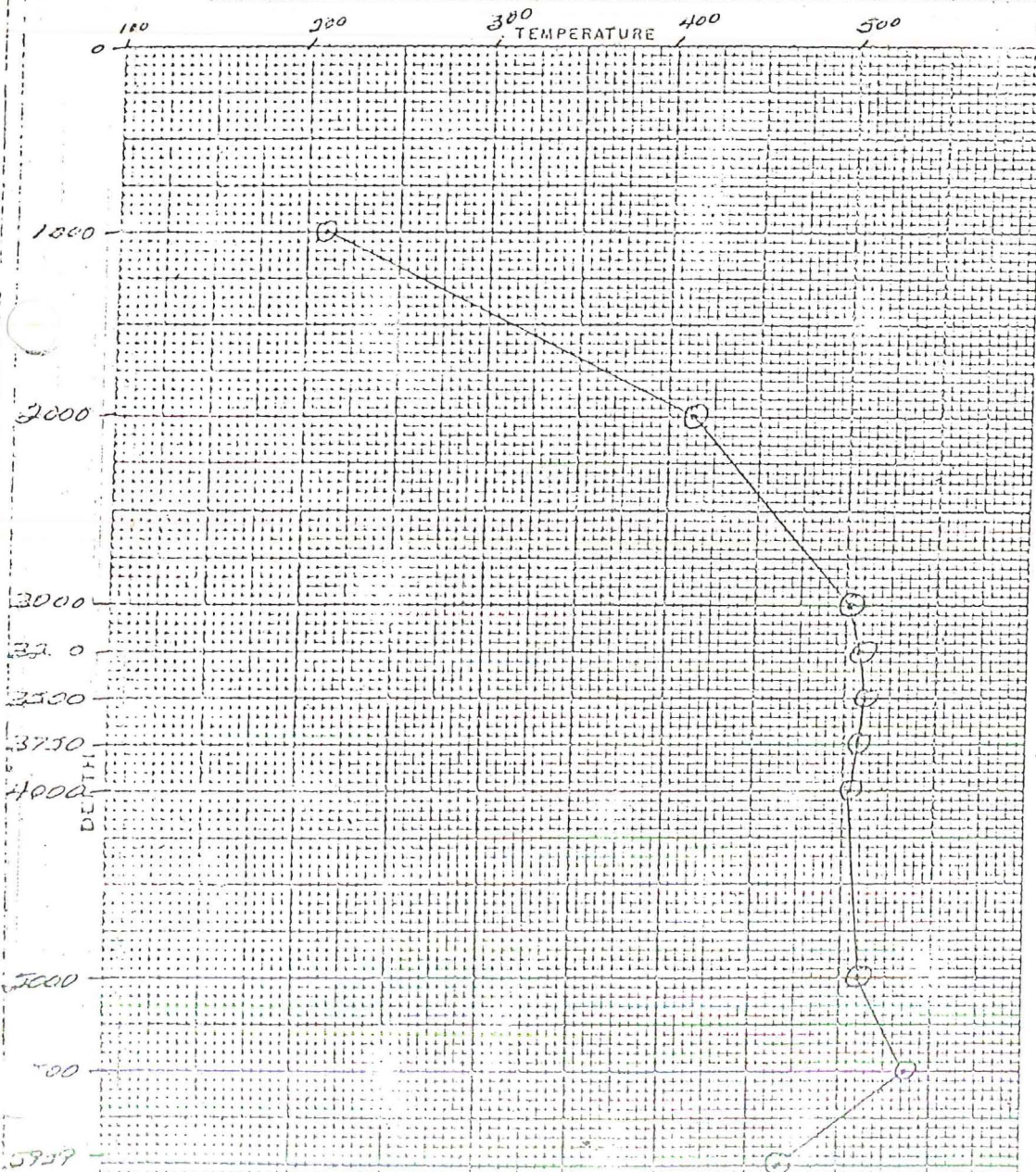
OWNER UNION OIL CO OF CALIF FIELD VALLE GRANDE WELL NAME BK 2-110
 COORDINATES 21°0'45.3" N, 123°11'02.74" W, 9580' H.A.S. ELEV. 8734' DATE: 12-14-75
 HOLE DESCRIPTION: 7" 0-4277' - T.D. ZERO POINT 61+16'
 DEPTH 5959'

HOLE DESCRIPTION:

INSTRUMENT 829F-686° FAN
 SERIAL NO 10055

PURPOSE GRADIENT TO STUDY TEMPS BETWEEN 3000' - 4000' MAX TEMP. 535.5 °C @ 5500'

REMARKS:



LOG STRATIFICATION PERIOD			
PRESSURE	GAUGE	DEPTH	
COR. NO.	PSI	MPSIG	FOOT
COR. NO.	PSI	MPSIG	FOOT
		DEPTH	TEMP.
		1000	211
		2000	413
		3000	501
		3250	508
		3500	511
		3750	508
		4000	508
		5000	510
		5500	535.5
		5959	465

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 20" @ 653'; 13 3/8" @ 2794' ELEV. 8734' DATE: 12-5-75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" @ 4275 - T.D. ZERO POINT GL+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT-P-0-4000 PSIG 7198 CLOCK 12hr 14091-L 12
 ELEMENT-T-80°F-686°F SERIAL NO. 10055 CLOCK 12hr 17589-L TURN'S 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.	CDR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
	100	15					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:

BY: R.H. om

GEO THERMAL DIVISION DEL PYLE

SUBSURFACE TEMPERATURE SURVEY

B10-535-717

15

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" @ 653', 13 1/2" @ 2794' ELEV. 8734' DATE: 12-5-75
 LINER DESCRIPTION: 9 5/8" @ 415', 7" @ 4275' - T.D. ZERO POINT GL+10'
 DEPTH 5959'

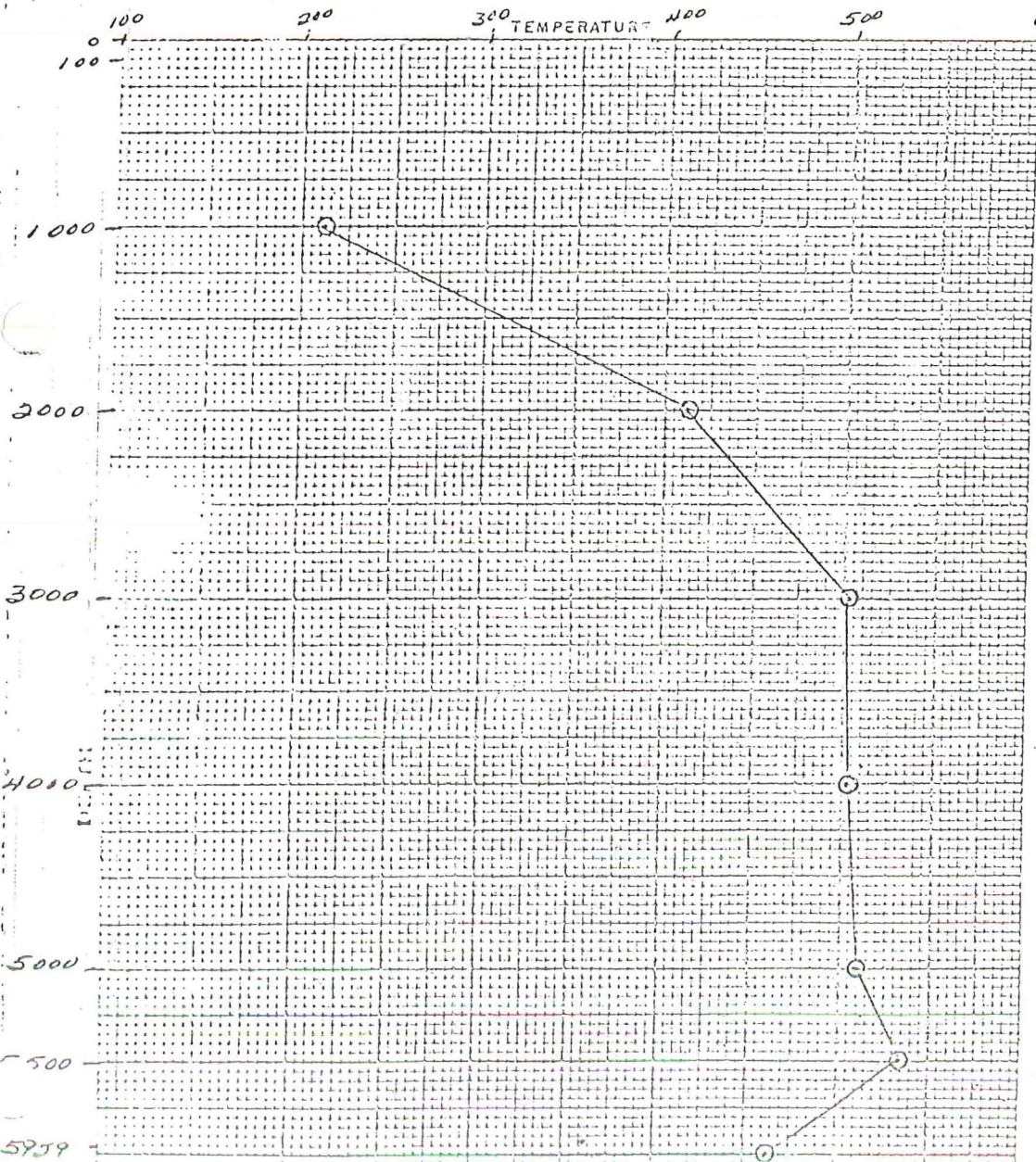
WELL DESCRIPTION:

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

PURPOSE

MAX TEMP. °F @ 5500

REMARKS:



DEPTH	TEMP.	DEPTH	TEMP.
100			
1000	211		
2000	411		
3000	502		
4000	503		
5000	509		
5000	534		
5959	462		

GEO THERMAL DIVISION

DEL PYLE

SUBSURFACE PRESSURE SURVEY

DEC 18 1975

B10-5-P17

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BPCA #20
 CASING 20" @ 653', 13 3/8" @ 2794' ELEV. 8734' DATE 12-5-75
 LINER DESCRIPTION 9.5/8" @ 1415', 7" @ 4075' - T.D. ZERO POINT GLT 10'
 DEPTH 5959'

HOLE DESCRIPTION:

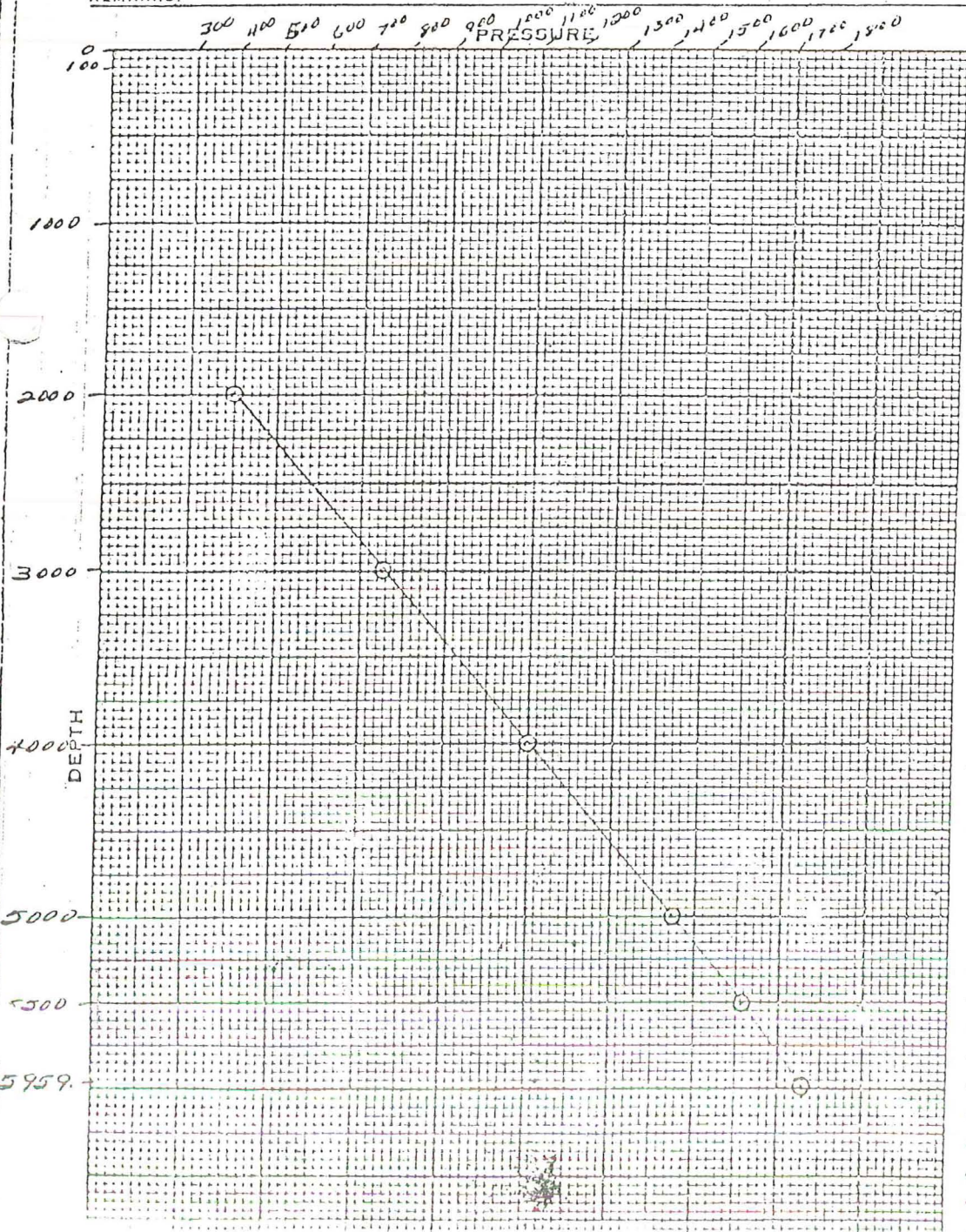
INSTRUMENT 0-4000 PSIC
 SERIAL NO. 7198

PURPOSE

MAX TEMP °F @ 5500

REMARKS:

STABILIZATION PERIOD



PRESSURES.	GAUGE	BOMB
CASING, PSI		
DEPTH	PRESSURE	GRADIENT
100		
1000		
2000	39	
3000	72	
4000	105	
5000	138	
5500	161	
5959	175	



union

DEL PYLE

GEO THERMAL DIVISION JAN 6 1976

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 1/8" AT 2794 ELEV. 8734' DATE: 11/26/75
LINER DESCRIPTION: 9 5/8" AT 4418'; 7" 4275' - TD ZERO POINT DEPTH

TUBING DETAIL:

PURPOSE INTER FERENCE TEST

REMARKS:

ELGILAT - 0-400 PSI SN 7198 CLOCK 12 HR 15 TURN

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

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

WELL HEAD 2 PSI 16'

PICKUP @ 5959 TIME ON BOTTOM 1229-1329 MAX. F

WELL STATUS

SHUT IN: 5/21/75

ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

Table with columns for DEPTH, DEFL., P-T, GRAD., ID, TIME, and multiple columns for TEMPERATURE. Contains handwritten data for pressure and temperature readings at various depths.

COMMENTS:

76



DEL PYLE
 GEOTHERMAL DIVISION 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 7/8" 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 CLK 12 HR 15 TURN
 ELEMENT 82°-686°F SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0944 T-0949 DISENGAGE STYLUS P-1456 T-1456
 WELL HEAD 2 PSI
 PICKUP @ 5959 TIME ON BOTTOM 1229-1529 MAX. W
 WELL STATUS:
 SHUT IN: 5/21/75 ON PRODUCTION:
 RATE

PRESSURE TEMPERATURE

PRESSURE					TEMPERATURE												
T	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1115	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

DEL PYLE

GEO THERMAL DIVISION DEC 5 1975

SUBSURFACE SURVEY
Field Work Sheet

533 RERUN
B#10-5-PT

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BKA#10
 CASING 20" @ 653' & 13 3/4" @ 2774' ELEV. 8734' DATE: 11/20/79
 LINER DESCRIPTION: 9 5/8" @ 4418' & 7" @ 4275' - T.D. ZERO POINT 66+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - P-O-HCOORIG - - S/N 7195 12/12-14091-L
 ELEMENT T-820F-686' SERIAL NO. 10055 CLOCK 12/12-12591-L TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1042 T-1046 DISENGAGE STYLUS P-1419 T-1418.
 WELL HEAD 2
 PICKUP @ 59.59 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.	CONTR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1131	100	-	-	-	-	1131	100	.367	202								
1210	5500	1746	1669		+1003	1240	5500	1.424	531.8								
1210	5500	1749	1643		+1003	1346	5959	1.126	452.6								
1210	5500	1749	1643		+1003												
1241	5959	1822	1727.3		+1010												
1311	5959	1820	176.3		+1010												
1341	5959	1820	176.3		+1010												

COMMENTS:

RY: 0-11

JOHN B. HARTZ
 10023 1975



GEO THERMAL DIVISION

SUBSURFACE SURVEY
 Field Work Sheet

B#10-532-P1T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACH #10
 CASING 20" @ 653'; 13 3/8" @ 2794' ELEV. 8734' DATE: 11/10/75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" @ 4475' - T.D. ZERO POINT 66410'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4000 PSIG 7198 1242-12591-L 15
 ELEMENT T-829F-6869F SERIAL NO. 10055 CLOCK 124214291-L 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. " 529 @ 5500'
 WELL STATUS STATIC -
 SHUT IN: 8/21/75 ON PRODUCTION:
 RATE

PSIG

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	CORR.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	0	0		-	1035	100	1.374	204								
1048	1000	0	0		-	1048	1000	1.414	218								
1100	2000	176	399		-0.002	1100	2000	1.010	408								
1112	3000	1344	762		-0.001	1112	3000	1.300	495.5								
1124	4000	505	1108		-0	1124	4000	1.302	496.1								
1137	5000	671	1451		+0.004	1137	5000	1.326	503								
1148	5500	752	1621		+0.004	1148	5500	1.415	529								
1150-1328	5859	823	1769		+0.011	1150-1328	5859	1.125	443								

COMMENTS:

BY: J.B. HARTZ

76

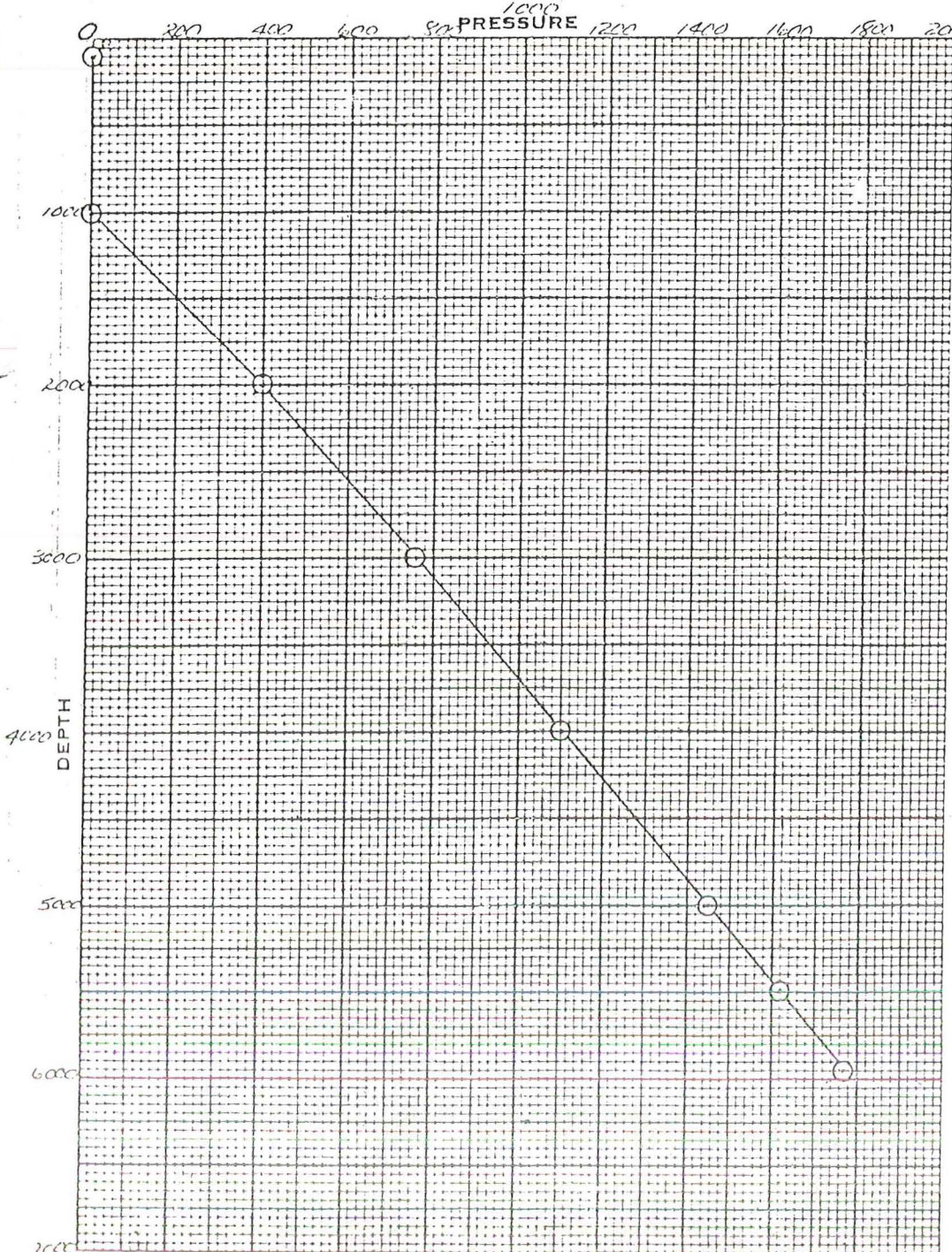
UNION
GEO THERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

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 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	

BY: RB & JM

76

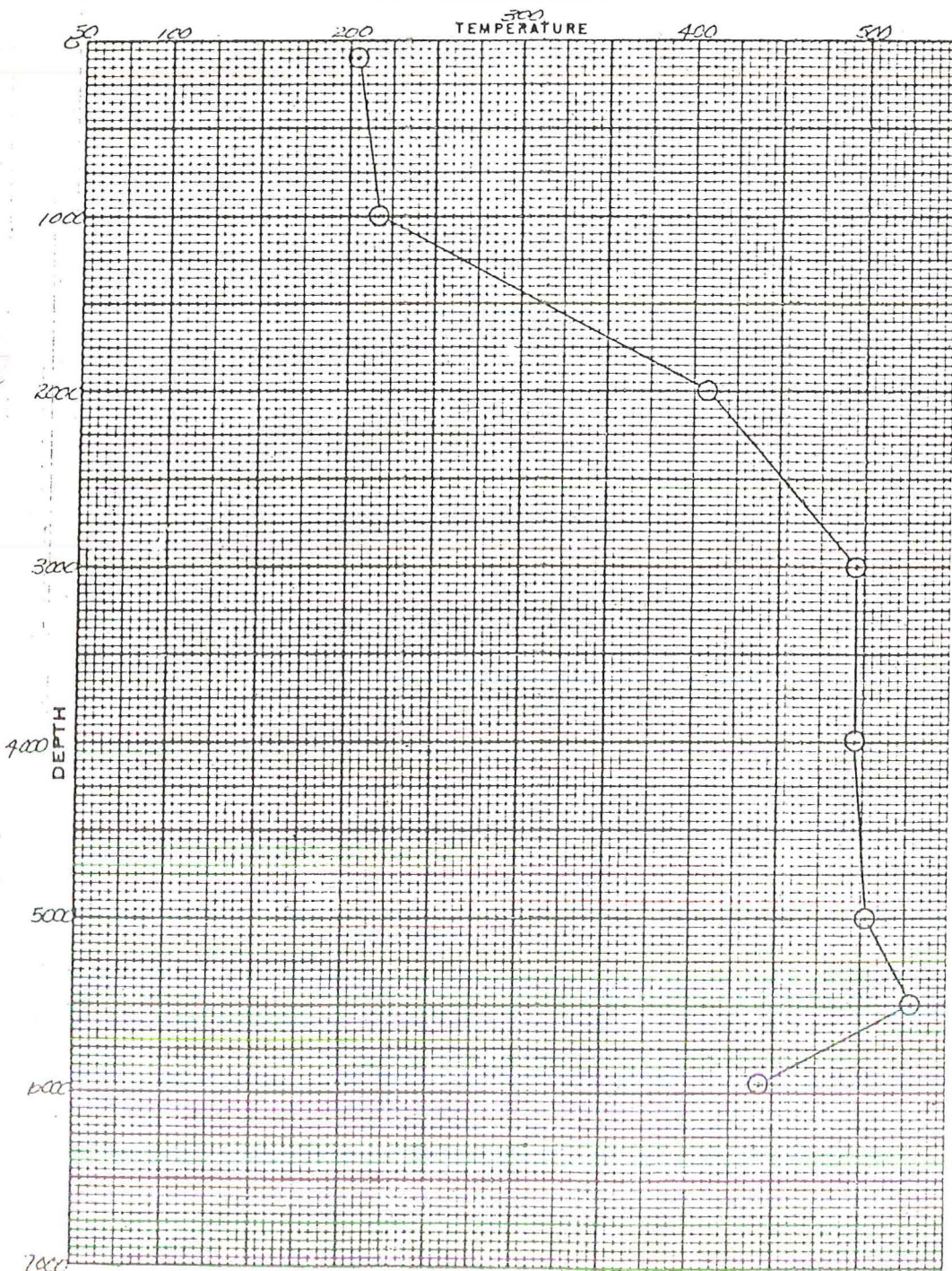
Union

GEO THERMAL 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

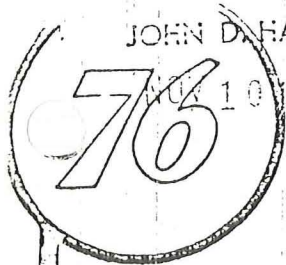


PRESSURES.	GAUGE	BOMB
CASING. PSI		

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



GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#10 531 PT

OWNER Union Oil Co of Calif. FIELD Valle Grande WELL NAME BACA #10
 CASING 20" @ 653' ; 13 3/8" @ 2794' ELEV. 8734' DATE: 11/3/75
 LINER DESCRIPTION: 9 3/8" @ 4418' ; 7" @ 4275 - T.D. ZERO POINT GL +10'
 DEPTH 3939

TUBING DETAIL:

PURPOSE

REMARKS:

Element - 0 - 4000 Rig 7198 12hr 14091-1 15 T
ELEMENT - 82° - 686°F SERIAL NO. 10055 CLOCK 12hr, 128894, 15 TURN STABILIZATION PERIOD
ENGAGE STYLUS P-0900 T 0905 DISENGAGE STYLUS P-1225 T, 1225
 WELL HEAD 2 Rig
 PICKUP @ 3939' TIME ON BOTTOM 1053 - 1153 MAX. °F 531°F @ 5500'
 WELL STATUS STATIC
 SHUT IN: 8/21/75 ON PRODUCTION:
 RATE

Pressure

Temperature

	DEPTH	DEFL.	P-T	GRAD.	LOG R	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0-0440	100	.003	7	-	0	0440	100	.377	205.4								
1-1051	5500	.755	1626	-	+0.005	1051	5500	1.421	531								
3-1153	3939	.821	1765.2	-	+0.011	1153	3939	1.626	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" 1338' @ 2794' ELEV. 8734' DATE: 10/30/75
 LINER DESCRIPTION: 9 5/8" @ 4418'; 7" @ 4975' - T.D. ZERO POINT GL+10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT-O-H000P21G 7188 12/12 13375-L 15
 ELEMENT 82°F-686°F SERIAL NO. 10055 CLOCK 12/12 1409-L15TURN STABILIZATION PERIOD
 ENGAGE SYLUS P-0905; T-0902 DISENGAGE SYLUS P-1023, T-1029
 WELL HEAD 2
 PICKUP @ 5959' TIME ON BOTTOM 10:13-11:43 MAX. F 531 @ 5500'
 WELL STATUS STATIC
 SHUT IN: 8/31/75 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
0932	100	1003	7	-	0	0932	100	1385	328	-							
1041	5500	754	1624	-	7.024	1041	5500	1420	531	-							
1153	5959	895	1724	-	7.024	1153	5959	1115	440	-							

COMMENTS:

BY:

76

UNION

DEL PYLE

GEOHERMAL 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 7/8" AT 2794' ELEV. 8734' DATE: 10/22/75
 LINER DESCRIPTION: 9 5/8" 4418'; 7" 4275 - TD ZERO POINT CL #10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT P₁ - 0-4000 PSI SN 7198 CLOCK 12 to 15 TURN
 ELEMENT P₂ - 0-2950 PSI SERIAL NO. 9235 CLOCK 12 to 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P₁ 0858 P₂ 0858 DISENGAGE STYLUS P₁-1135 P₂-1135
 WELL HEAD 3 PSI 0/100 7/6
 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
	100	1.001	2.0		0		100	1.001	2.0								
0957	1100	1.002	5.0		0		1000	1.002	3.0								
1013	2100	1.172	394.0		-0.02		2000	1.240	379.0								
1015	3100	1.338	749.0		-0.02		3000	1.481	732.0								
1027	4100	1.500	1092.0		0		4000	1.718	1089.0								
1040	5100	1.667	1442.0		+0.04		5100	1.957	1426.0								
1051	5500	1.749	1614.0		+0.04		5500	1.071	1513.0								
1104	5959	1.872	1767		+0.12		5959	1.176	1746.0								

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

BY: IM 1A

76

UNION

GEO THERMAL DIVISION

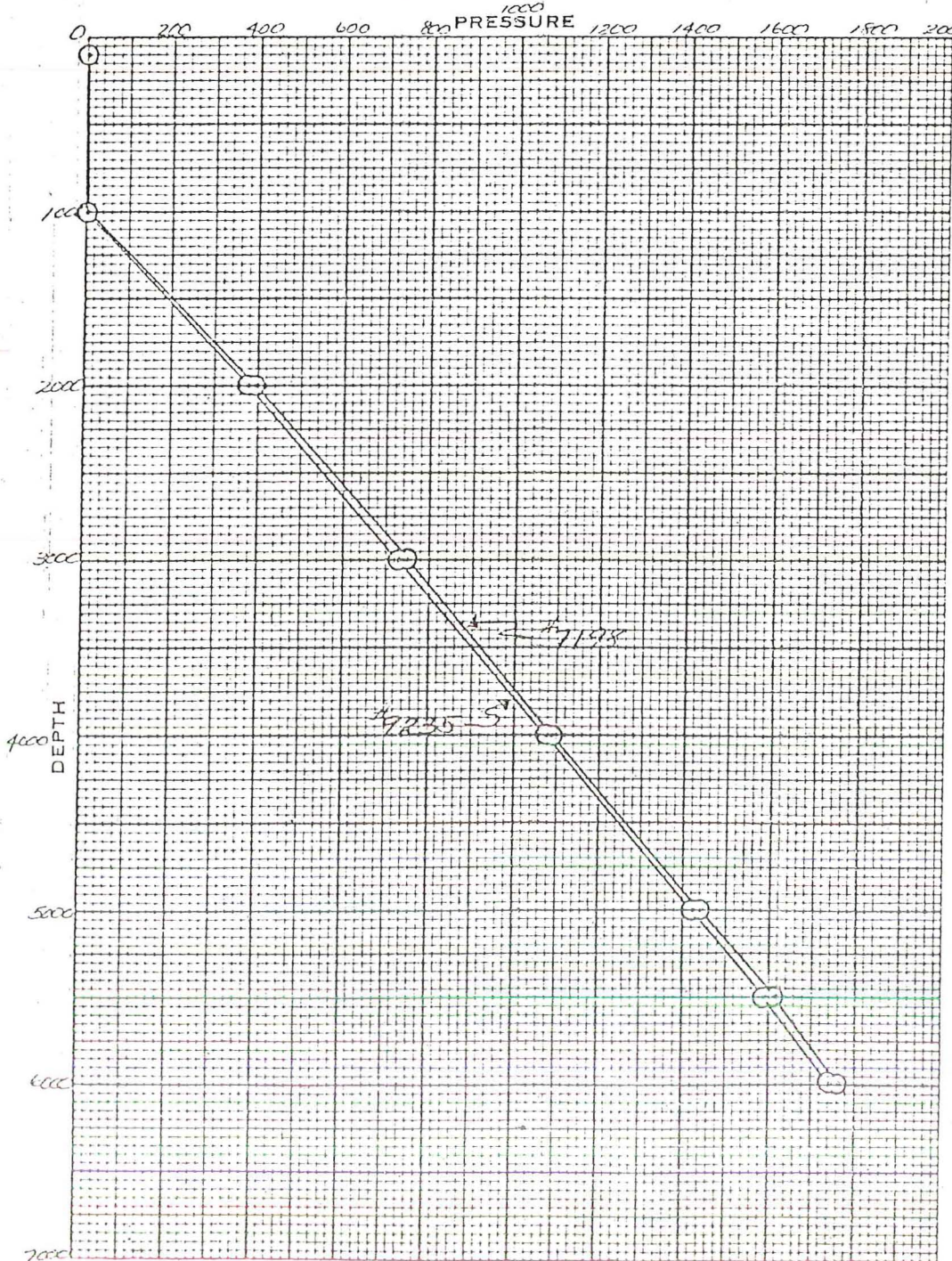
SUBSURFACE PRESSURE SURVEY

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	GRAB-BASED
#7198		
100	2.0	0
1000	5.0	0
2000	394.0	-.002
3000	749.0	-.002
4000	1092.0	0
5000	1442.0	+0.004
5500	1614.0	+0.004
5959	1767.0	+0.012

DEPTH	PRESSURE	GRAB-BASED
#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	

BY: J.M. and J.B.

76

UNION

D.K.
DELPYLE

GEOHERMAL DIVISION NOV 7 1975

SUBSURFACE SURVEY

Field Work Sheet

BACA# 10-528-P1T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#10
 CASING 80" @ 253'; 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:

Pi-O-4800 13012 12hr - 13375-L 15
 ELEMENT T-824E-6860E 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.	PSI CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1412	100	.001	2		0	1400	100	.015	87								
1412	1000	.002	4		0	1412	1000	.341	500								
1424	2000	.153	342		+1.002	1424	2000	1.004	406								
1436	3000	.302	693		+1.002	1436	3000	1.269	456								
1448	4000	.452	1047		+1.002	1448	4000	1.385	491								
1500	5000	.595	1382		+1.004	1500	5000	1.318	501								
1513	5500	.667	1550		+1.004	1513	5500	1.100	525								
1524	5959	.733	1705		+1.008	1524	5959	1.080	429								

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

BY:

76

11/19/75

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

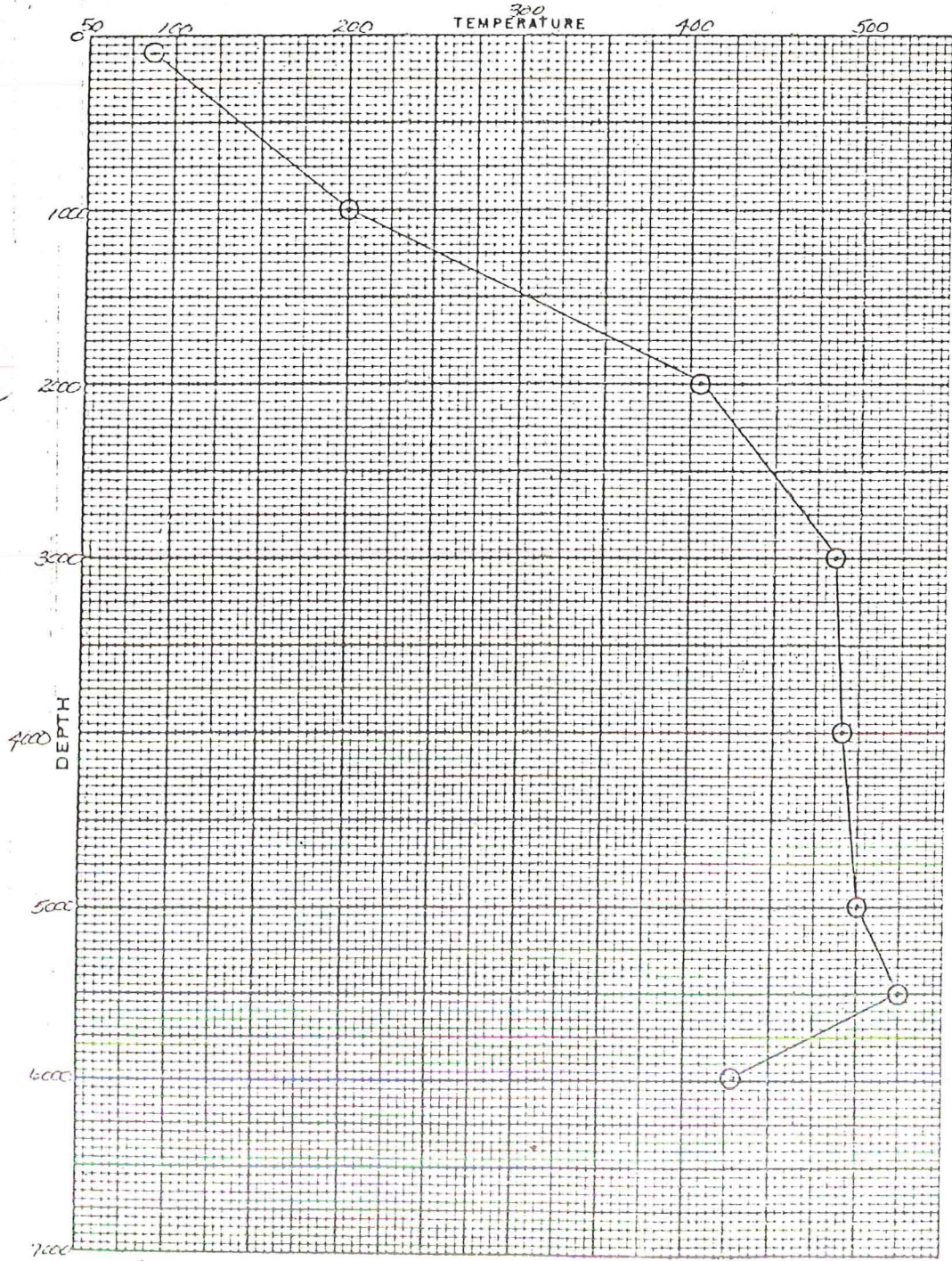
B10-528-PT

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 _____ FAHR
 _____ SERIAL NO 10055

PURPOSE _____ MAX TEMP 525 °F @ 5500'
 REMARKS _____

STABILIZATION PERIOD _____



PRESSURES		GAUGE	BOMBS	
DEPTH	TEMP.	DEPTH	TEMP.	
100	87			
1000	200			
2000	406			
3000	486			
4000	491			
5000	501			
5500	525			
5959	429			

BY: _____

76

UNION

GEOHERMAL 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. 8730' DATE: 10/21/75
 LINER DESCRIPTION: 9 5/8" AT 4418'; 7" 4275 - TD ZERO POINT CL +10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

CLEARANT P₁ 0-4000 PSI SN 7198 CLOCK 12 M 15 T
 ELEMENT P₂ 0-2950 B/SERIAL NO. 9235 CLOCK 12 M 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. °F

WELL STATUS

SHUT IN: 9/3/75 1010 hrs 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
	115	0.01	2.0		0	1015	110	0.01	2.0		0						
1028	115	0.02	5.0		0	1028	110	0.02	3.0		0						
1040	2110	1.173	342.0		-0.02	1040	2110	1.242	331.5		-0.03						
1053	3010	1.347	754.6		-0.01	1053	3010	1.482	734.0		+0.01						
1109	4110	1.502	1096.0		0	1109	4110	1.717	1078.3		+0.06						
1122	5010	1.670	1448.6		+0.04	1122	5010	1.953	1420.3		+0.11						
1133	5380	1.752	1620.5		+0.04	1133	5380	1.068	1538.0		+0.10						
1145	5959	1.821	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

BY: JMC:JRS

76

GEO THERMAL DIVISION

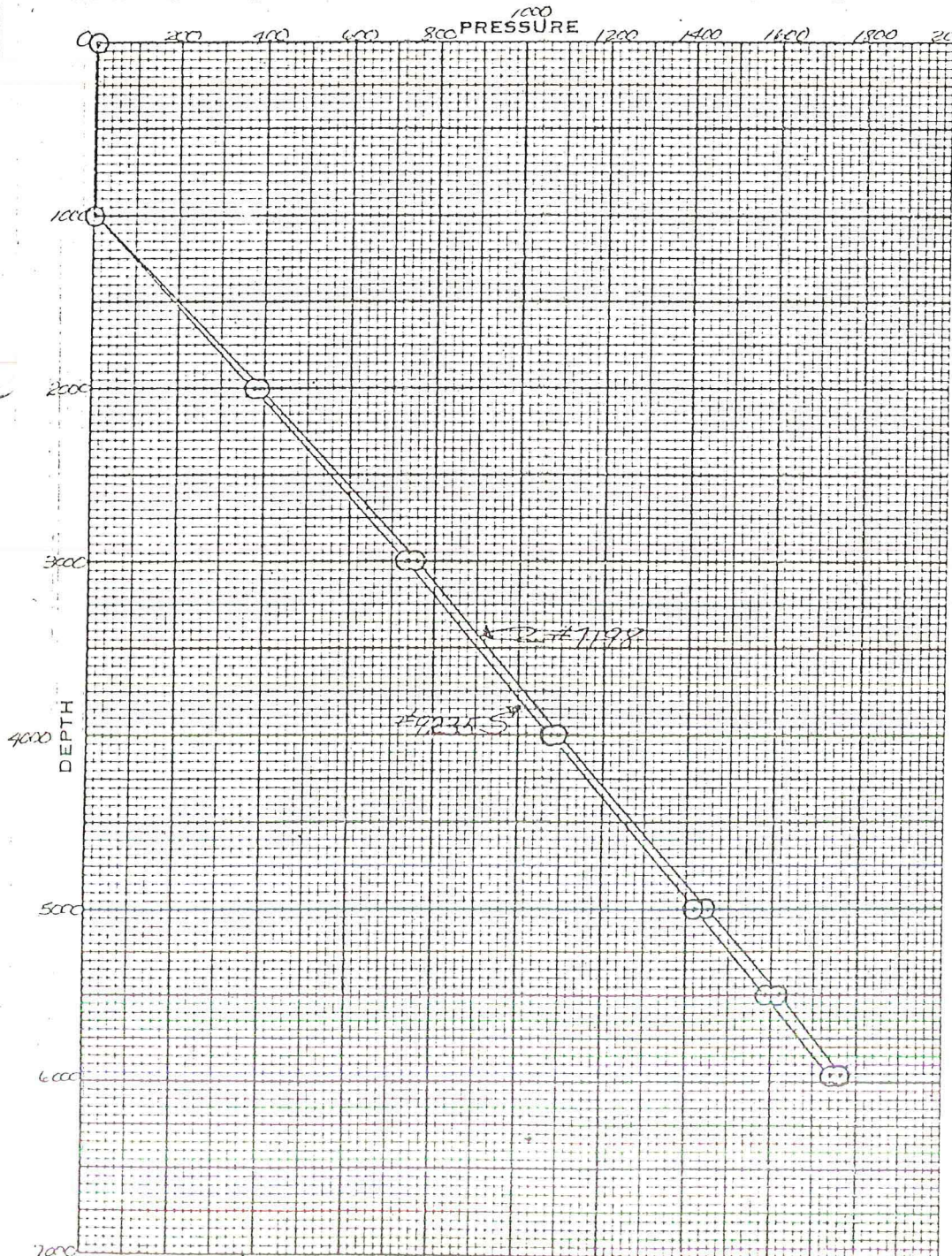
SUBSURFACE PRESSURE SURVEY

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 _____ PSIG
 _____ 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	GRAB POINT
	<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

DEPTH	PRESSURE	GRAB POINT
	<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

BY: J.M. and J.B.

76

UNION

DEL PYLE

GEOHERMAL DIVISION OCT 22 1975

SUBSURFACE SURVEY
Field Work Sheet

B10-526 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #10
 CASING 20" AT 653' 13 3/8" AT 2744' ELEV. 8734.5 DATE: 10/9/75
 LINER DESCRIPTION: 9 5/8" AT 4418' ZERO POINT 664 10'
7" 4275' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE INTERFERENCE SURVEY

REMARKS:

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

ELEMENT - 820-686°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:

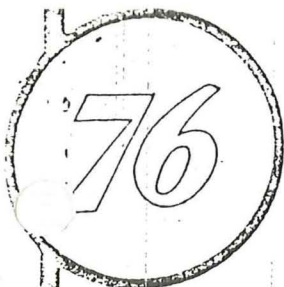
RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	5500	.753	1620.8		+ .005	1029	5500	1.366	513.9								
1059	5500	.753	1620.8		+ .005	1059	5500	1.402	525.6								
1129	5500	.753	1620.8		+ .005	1129	5500	1.402	525.6								
1131	5959	.822	1760.6		+ .008	1131	5959	1.150	460.8								
1201	5959	.822	1760.6		+ .008	1201	5959	1.055	421.8								
1231	5959	.822	1760.6		+ .008	1231	5959	1.055	421.8								

COMMENTS:



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B DEL FILE #11

SEP 22 1975

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE

WELL NAME BACA#10

CASING 20" @ 653'; 13 3/8" @ 2994' ELEV. 8739.5

DATE: 9/17/75

LINER DESCRIPTION: 9 5/8" @ 2450' + 4418'
7" @ 4275' - T.D.

ZERO POINT 6L-10'
DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-4250 7198 12hr 13375-L 15

ELEMENT T-82°F-686°F SERIAL NO. 10055 CLOCK 12hr 14091-L TURN/5 STABILIZATION PERIOD

ENGAGE SYLUS P-1012, T-1008 DISENGAGE SYLUS 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 - 9/3/75 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
1010	100	0	0	0	0	-	100	.031	92	0							
1010	1000	0	0	0	0	-	1000	.383	207.4	.128							
1024	2000	1.158	356	0	0	-	2000	.976	397.3	.19							
1116	3000	1.327	723	1.366	0	-	3000	1.129	444.4	1.047							
1130	4000	1.490	1067	1.344	+0.002	-	4000	1.245	479.3	.035							
1147	5000	1.658	1420	.353	+0.005	-	5000	1.281	490	.011							
1159	5500	1.741	1595	.350	+0.006	-	5500	1.378	503.8	.028							
1400	5959	1.816	1754	-	+0.008	-	5959	.953	390	-							
1230	"	1.818	1759	-	+0.008	-	"	.950	389	-							
1300	"	1.818	1759	.356	+0.008	-	"	.946	387.7	-							

COMMENTS:

BY:

716

GEO THERMAL DIVISION

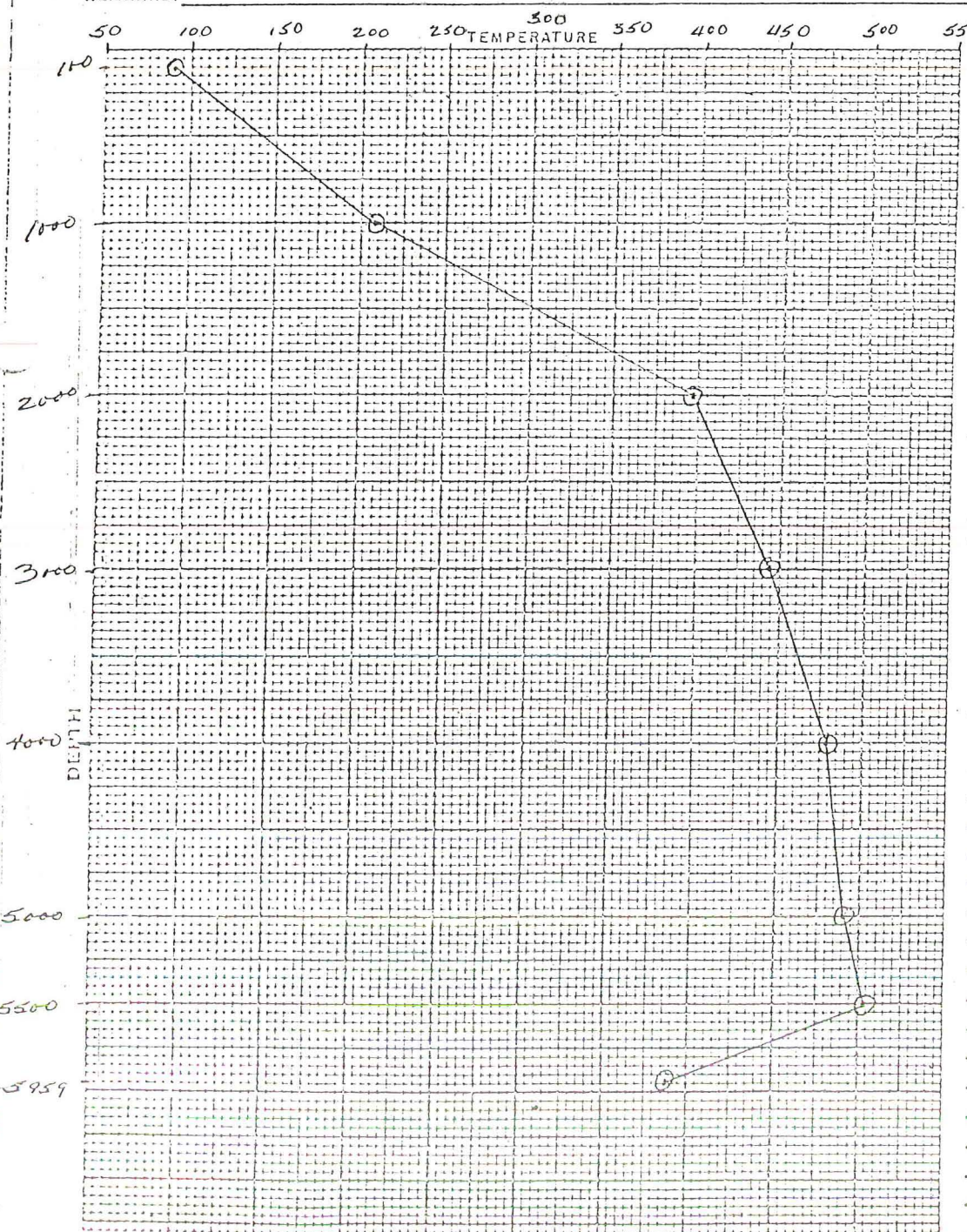
SUBSURFACE TEMPERATURE SURVEY

B10 525 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 655' 13 3/8 AT 2794' ELEV. 8734.5 DATE: 9/17/75
 LINER DESCRIPTION: 9 5/8" 2480' 4418' ZERO POINT CL +10
7" - 4248' - TD DEPTH 5959'

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

PURPOSE _____ MAX TEMP. 503 OF @ 5500
 REMARKS: _____



STABILIZATION PERIOD			
PRESSURE	GAUGE	DRESS	
CASING, PSI			
		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	389.0
		5959	387.7

JM JB

BY

76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B10 25 P

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

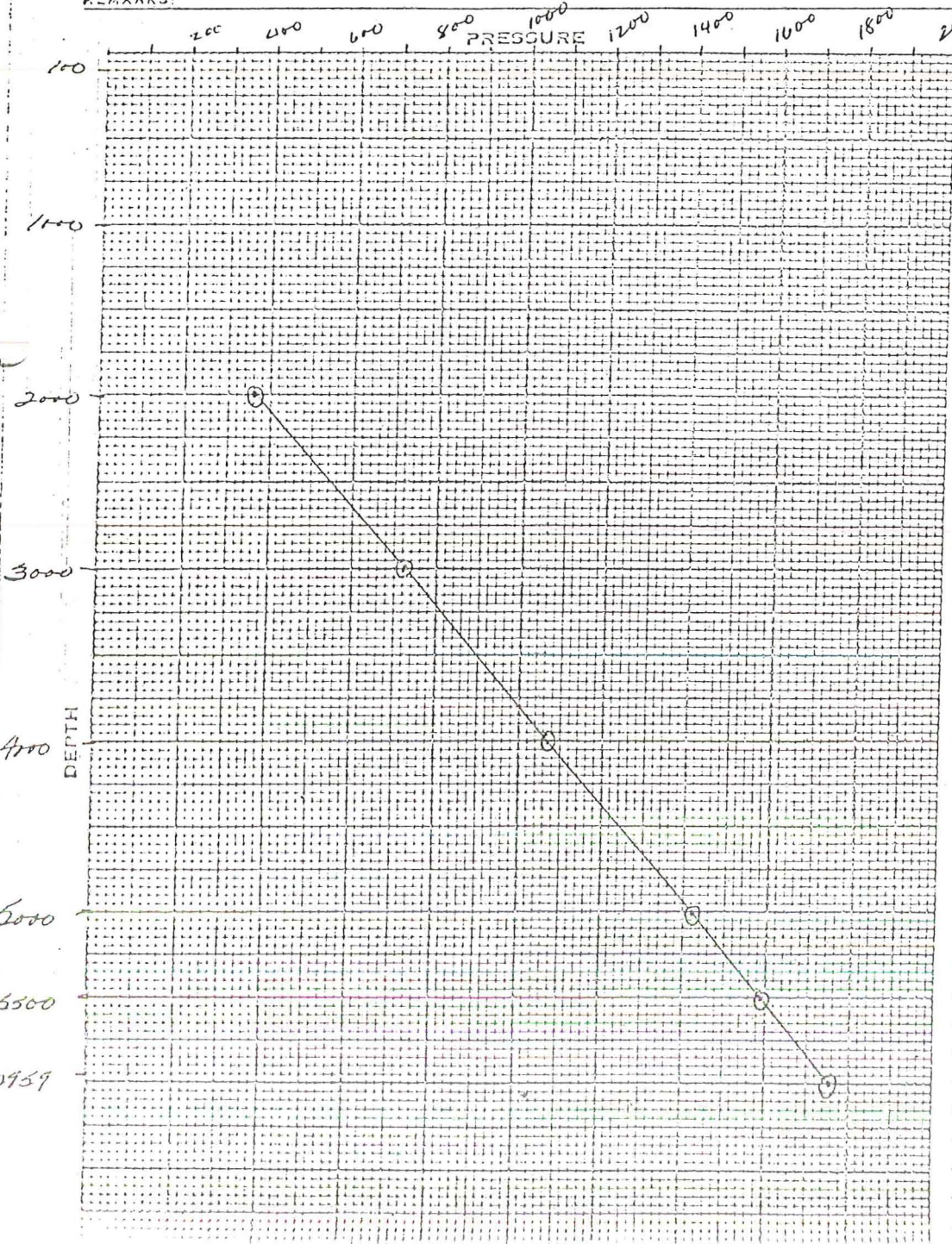
HOLE DESCRIPTION:

INSTRUMENT 4250 PS
 SERIAL NO 7198

PURPOSE

MAX TEMP 503 °F @ 5500

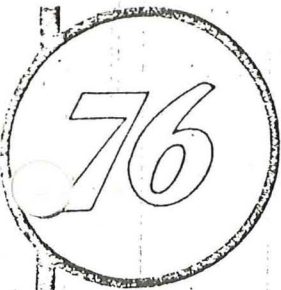
REMARKS:



STABILIZATION PERIOD		
PRESSURE	GAUGE	LOGS
CASING. PSI		

DEPTH	PRESSURE	GRADIENT
100	0	
1400	0	
2000	355.9	
3000	722.5	
4400	1067.2	
5000	1420.2	
5500	1595.3	
5959	1754.2	
5959	1758.5	
5959	1758.6	

JM JB



Union

DEL PYLE

GEOHERMAL 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 2450' - 4418' ZERO POINT CL + 10'
 7" 4279' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4250 PS16 SN 7198 CLOCK - 12 HR 15 TURN

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

ENGAGE STYLUS P-2901 T-0907 DISENGAGE STYLUS P-8215 T-1216

WELL HEAD 5 PS16

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

PIESSURE

TEMPERATURE

PIESSURE					TEMPERATURE													
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
0945	5500	1.750	1614.4		+0.06	0945	5500	1.293	493.4									
1016	5500	.750	1614.4		+0.06	1016	5500	1.293	493.4									
1045	5500	.750	1614.4		+0.06	1045	5500	1.293	493.4									
1046	5959	.819	1760.6		+0.07	1046	5959	.926	381.3									
1116	5959	.819	1760.6		+0.07	1116	5959	.926	381.3									
1146	5959	.819	1760.6		+0.07	1146	5959	.926	381.3									

COMMENTS:

BY: Jim AB

76

UNION

DEL PYLE

SEP 16 1975

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

3#10-523 9

OWNER Union Oil Co. FIELD Valla Grande WELL NAME Bran # 10
 CASING 20" @ 653' - 13 3/4" @ 2774' ELEV. 8734.5 DATE: 9/8/75
 LINER DESCRIPTION: 9 1/2" - 2980' - 4418' ZERO POINT GL + 10'
7" - 4279' - 6000' DEPTH 5960'

TUBING DETAIL:

PURPOSE

REMARKS:

Element 0 - 4250/516 7198 15375L 12hr 15T

ELEMENT 92°F - 686°F SERIAL NO. 10055 CLOCK 12091L 12hr TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1014 - T-1018 DISENGAGE STYLUS P-1325 - T-1327

WELL HEAD 7 P518

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
	0	.005	11.3	0	0	-	100	.136	125	0							
1-11-75	1500	.008	18	.007	0		1000	.425	221	.106							
1-11-75	2000	.154	346.8	.328	0		2000	.946	328	.167							
2-11-75	3000	.330	729	.346	+1.001		3000	1.128	468	.08							
3-11-75	4000	.496	1080	.351	+1.002		4000	1.221	472	.004							
4-11-75	5000	.657	1439	.359	+1.005		5000	1.242	478	.006							
5-11-75	5500	.750	1614	.350	+1.006		5500	1.249	480	.004							
5-1-75	5960	.819	1761	.310	+1.007		5960	.915	378	0							

COMMENTS:

BY:

[Signature]

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BACA # 10-523-7

76

OWNER UNION OIL & CHEM. FIELD VALLE GRANDE WELL NAME BACA #
 CASING 20" @ 653' & 13 3/4" @ 2794' ELEV. 8734.5 DATE: 9/8/75
 LINER DESCRIPTION: 9 3/4" @ 2450' - 4418' ZERO POINT GL + 10'
2" LINER - 4279' - 6010' DEPTH 5960

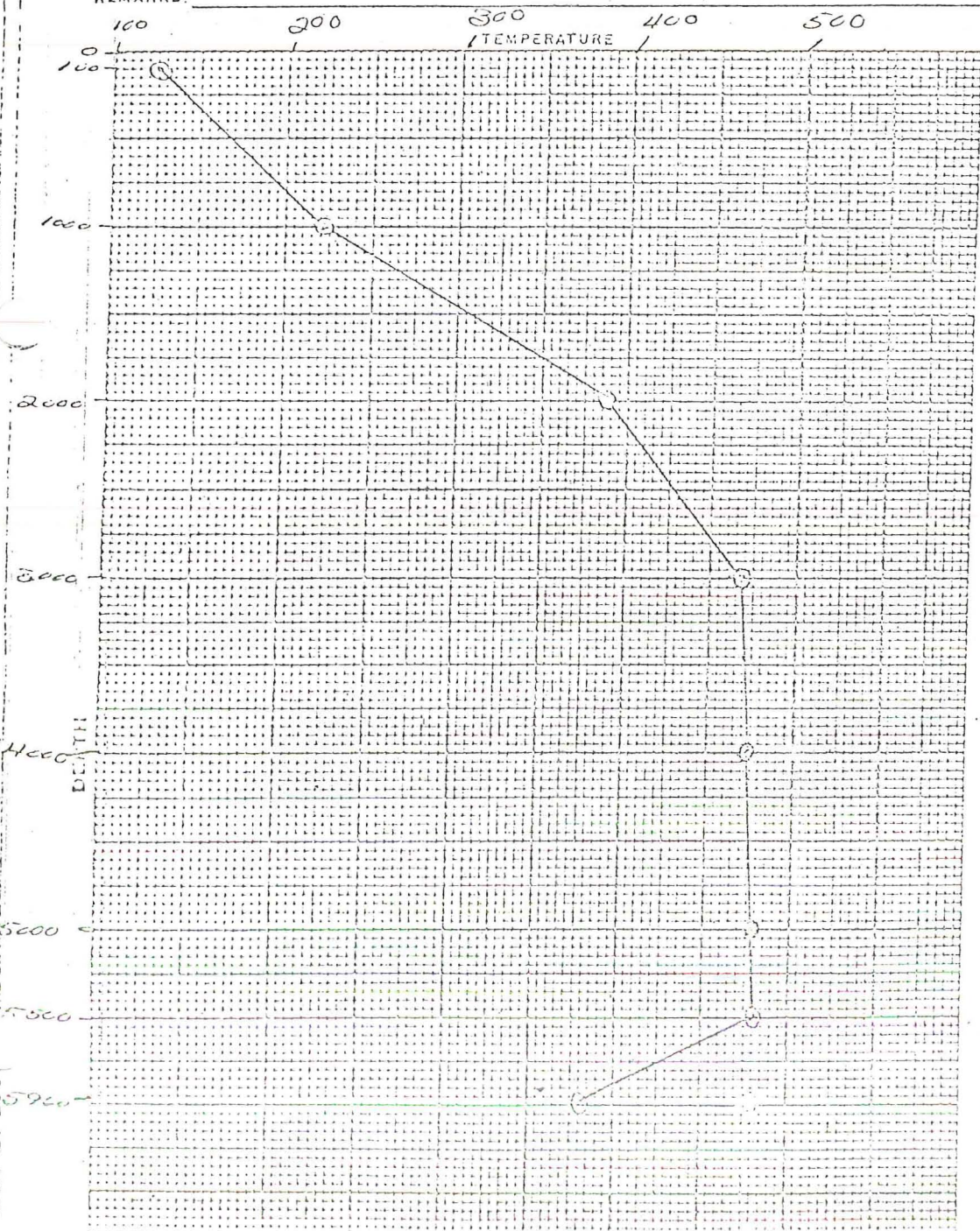
WELL DESCRIPTION:

INSTRUMENT 827-6867 IN.
 SERIAL NO 10055

PURPOSE _____ MAX TEMP 480 °F @ 5500'

REMARKS:

STABILIZATION PERIOD _____



PRESSURES	GAUGE	DEPTH	
CASING, PSI	7 PSI @	11 PSI @ 10'	
DEPTH	TEMP.	DEPTH	TEMP.
100	125		
1000	321		
2000	358		
3000	375 468		
4000	472		
5000	478		
5500	480		
5960	378		

16

GEO THERMAL DIVISION

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

OWNER: MUNICIPALITY OF CALIF FIELD: VALLE GRANDE WELL NAME: BACH # 10
 CASING: 20" @ 6530' 13 1/2" @ 2774' 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:

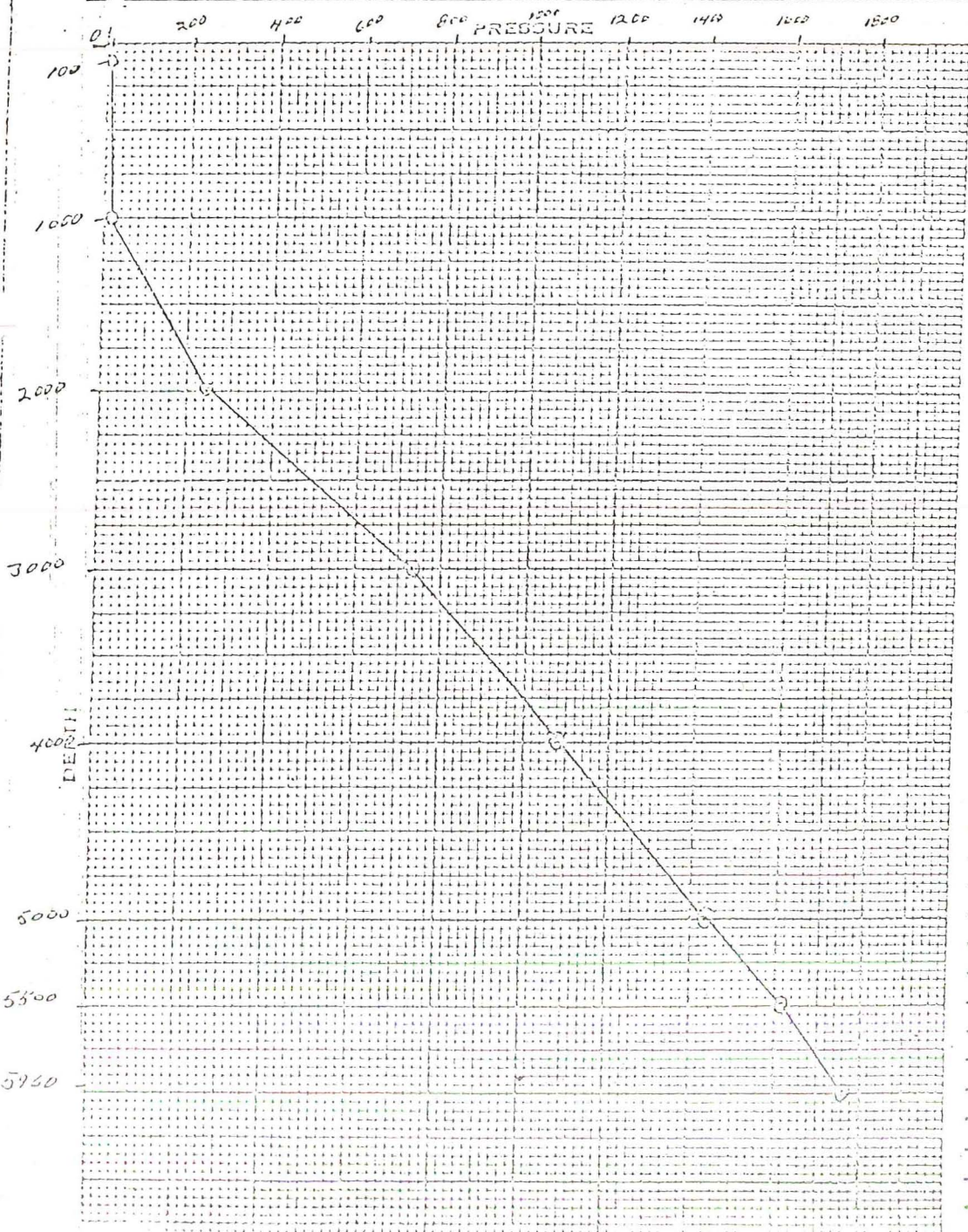
INSTRUMENT: Q-4250
 SERIAL NO: 7198

PURPOSE:

MAX TEMP: 480 °F @ 5500

REMARKS:

STABILIZATION PERIOD



PRESSURE GAUGE: 71516 (MPSI) (0.1)

DEPTH	PRESSURE	GRAD.
1000	11.3	
2000	18	0.007
3000	346	0.320
4000	739	0.346
5000	1080	0.351
5500	1439	0.359
5760	1761	0.35

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UNION

DEL PYLE

GEOHERMAL DIVISION SEP 11 1975

SUBSURFACE SURVEY
Field Work Sheet

B10-522 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 653' 13 7/8" AT 2794' ELEV. 8734.8 DATE: 9/4/75
 LINER DESCRIPTION: 9 7/8" AT 2482' - 4418' ZERO POINT 62410'
 7" 4278' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4230 PSIG SN 7198 CLOCK 12hr 15 T

ELEMENT 82° - 650°F SERIAL NO. 10055 CLOCK 12hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1154 T-1150 DISENGAGE STYLUS P. 1005 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

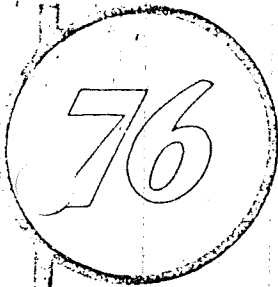
PRESSURE

TEMPERATURE

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	1737.3		7.007	1230	5959	.918	378.8									
	"	.810	1741.5		"	1300	"	.918	378.8									
1300	"	.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 Lab 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 BACH #10
 CASING 20" AT 653' 13 7/8" AT 2794' ELEV. 8734.5' DATE: 9/3/75
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418" ZERO POINT CL +10
7" 4278' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - C-4250 PSIG SW 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

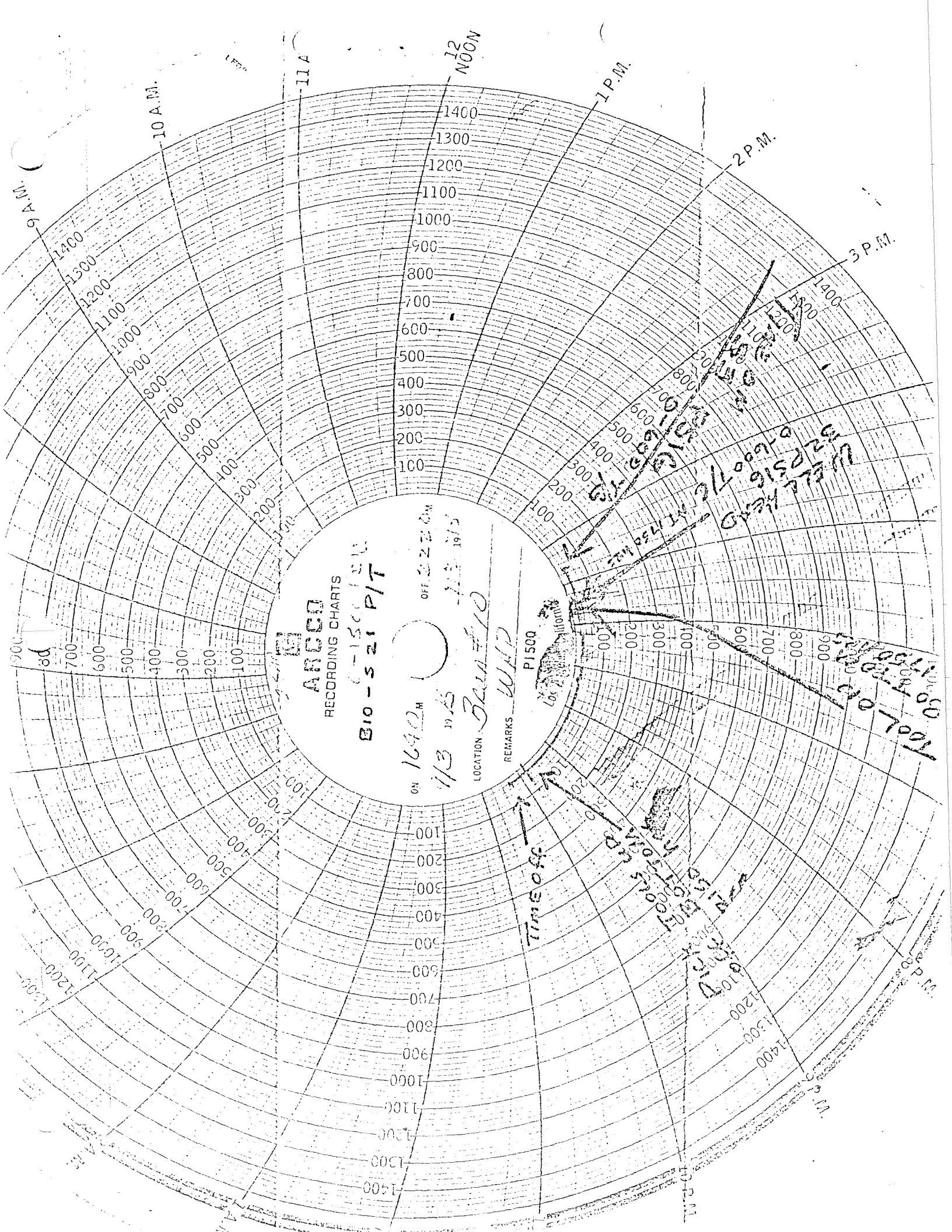
TEMPERATURE

PRESSURE

TEMPERATURE						PRESSURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-#	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D
1750	5759	.918	378.9			1750	5759	.777	1714.0	+1.07							
1820	"	"	"			1820	"	.800	1720.3	"							
1850	"	"	"			1850	"	.802	1724.6	"							
1920	"	"	"			1920	"	.803	1726.7	"							
1950	"	"	"			1950	"	.804	1728.8	"							
2020	"	"	"			2020	"	.806	1733.1	"							
2050	"	"	"			2050	"	.807	1735.2	"							
2120	"	"	"			2120	"	.807	1735.2	"							
2150	"	"	"			2150	"	.807	1735.2	"							

COMMENTS:

BY: JIM JB CP



ARCO
RECORDING CHARTS

BIO-521 P/T

ON 1640 M OFF 2220 M
113 1915 113 1915

LOCATION *San Pedro*

REMARKS *WAP*

P1500

Time off

*1000
1100
1200
1300
1400*

*1000
1100
1200
1300
1400*

*1000
1100
1200
1300
1400*

*1000
1100
1200
1300
1400*

M. D.

P. M.



UNION

DEL' PYLE

GEOHERMAL DIVISION SEP 11 1975

SUBSURFACE SURVEY
Field Work Sheet

B-10 520 P/1

OWNER Union Oil Co. FIELD Valle Grande WELL NAME Benja #10
 CASING 20" - 653' - 13 3/8" - 2794' ELEV. 8734.5' DATE: 9/3/75
 LINER DESCRIPTION: 9 5/8" - 2480' - 4415' ZERO POINT C.L. +10'
7" - 4275' - 6000' DEPTH 5959'

TUBING DETAIL:

PURPOSE Bottom hole build-up

REMARKS:

0.4250 PSIG SN-7198 Clock-13375L 15T
 ELEMENT 82° - 686° F SERIAL NO. 10055 CLOCK 14091L 15T 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
1000	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		✓	✓														
1255		✓	✓														

COMMENTS:

BY:

(Signature)



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-10 5-20 4/1

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING SAVE ELEV. 3734.5 DATE: 9/3/75
 LINER DESCRIPTION: ZERO POINT CL +10'
 DEPTH 5959'

TUBING DETAIL:

PURPOSE Bottom hole build up
 REMARKS:

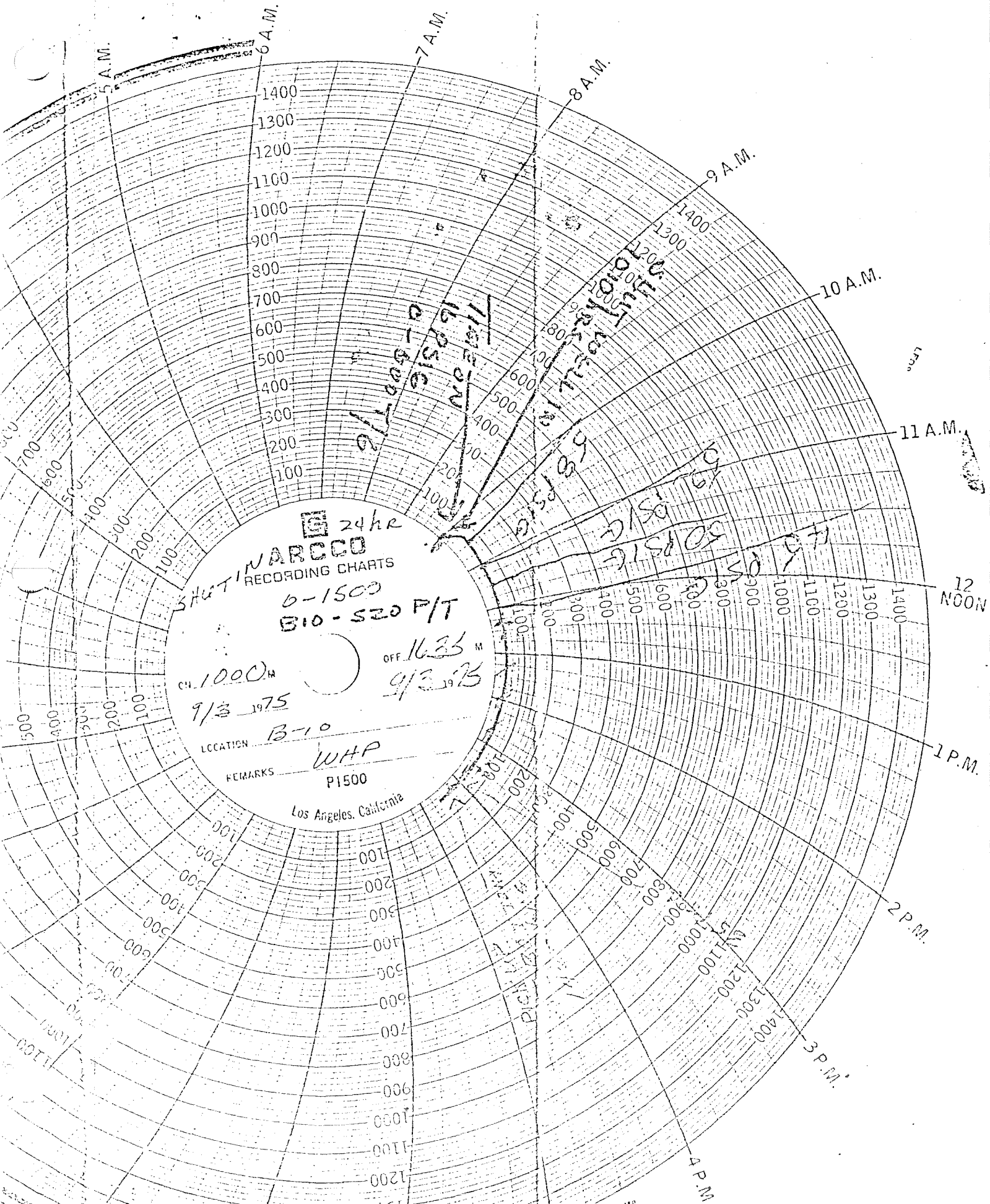
ELEMENT 0-4250 PSIG SERIAL NO. 7198 CLOCK 13375 L 15TURN STABILIZATION PERIOD
 ENGAGE STYLUS 0815 DISENGAGE STYLUS 1650
 WELL HEAD 3.2
 PICKUP 0.5959 TIME ON BOTTOM 1020-1620 MAX. °F 375.9° F
 WELL STATUS shut in
 SHUT IN: 1010 hr 9/3/75 ON PRODUCTION:
 RATE

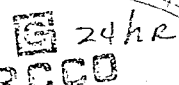
Pres.

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	5958	.762	1634.8		+1.007						
1		.524	1135.7		+1.001	1350		.768	1652.5		✓						
1022		.533	1157.0		+1.001	1420		.775	1667.9		✓						
1023		.541	1174.4		+1.001	1450		.778	1673.7		✓						
1024		.549	1191.2		+1.001	1520		.783	1684.3		✓						
1025		.564	1222.7		+1.002	1550		.788	1694.9		✓						
1026		.572	1239.5		+1.002	1620		.793	1705.5		+1.007						
1027		.579	1244.2		+1.002												
1028		.585	1266.8		+1.002												
1029		.591	1274.4		+1.003												
1030		.596	1289.9		"												
1035		.603	1304.6		"												
40		.610	1319.3		+1.003												
45		.618	1336.1		+1.003												
50		.626	1352.9		+1.004												
55		.634	1369.7		+1.004												
1100		.643	1388.6		+1.005												
05		.653	1409.7		+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												
1150		.722	1553.1		+1.006												
1205		.734	1580.5		+1.006												
20		.743	1594.1		+1.007												
35		.751	1616.5		✓												
		.754	1622.5		✓												
		.758	1631.4		✓												

COMMENTS:

BY: (Signature)




 24hr
MARCCO
 RECORDING CHARTS
 0-1500
 BIO-520 P/T
 CH. 1000M
 OFF. 1633 M
 9/3 1975
 LOCATION B-10
 REMARKS WHP
 PI500
 Los Angeles, California

1633
 1100
 1000
 900
 800
 700
 600
 500
 400
 300
 200
 100

1100
 1000
 900
 800
 700
 600
 500
 400
 300
 200
 100

1100
 1000
 900
 800
 700
 600
 500
 400
 300
 200
 100

1100
 1000
 900
 800
 700
 600
 500
 400
 300
 200
 100

1100
 1000
 900
 800
 700
 600
 500
 400
 300
 200
 100

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-10 S-19 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACP 10
 CASING 20"-653'; 13 3/8"-2794' ELEV. 8734.5' DATE: 4/24/75
 LINER DESCRIPTION: 9 5/8"-2480'-4418' ZERO POINT CL+10'
7" 4278'-600' DEPTH 5959'

TUBING DETAIL:

PURPOSE

REMARKS:

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

ELEMENT 820-686°F SERIAL NO. 10055 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

T	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	0	.001	2.25			0		.319	210								
1-1431	1120	.001	2.25			1000		.520	252								
1-1440	2000	.001	2.25			2000		.650	274								
1-1449	3000	.001	2.25			3000		.680	303								
1-1457	3500	.001	2.25			3500		.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								
1-1532	5500	.032	72.1			5500		.752	326								
1-1544	5959	.032	72.1			5959		.462	234								

COMMENTS:

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UNION 76

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BARA #10 S-17 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" TO 653' 13 3/8" - 2794' ELEV. 8745.5' DATE: 2/10/75
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418' ; 7" - 4275' - 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-1472, T-1472
 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. 1500 BBLs.
 SHUT IN: ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

2/27/75 830 PM

TIME	DEPTH	DEFL.	P-T	GRAD.	CORR'D	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							
2-12-75	2000	.156	351.4	0	0	"	2000	.984	411.0	-							
3-10-75	3000	.320	707.6	.356	0	"	3000	1.225	481.1	-							
3-13-75	3500	.406	859.8	.364	+0.01	"	3500	1.276	495.7	-							
3-13-75	4000	.483	1060.0	.340	+0.02	"	4000	1.290	499.6	-							
3-13-75	4500	.573	1241.6	.363	+0.03	"	4500	1.248	487.7	-							
3-13-75	5000	.655	1413.9	.345	+0.05	"	5000	1.309	505.1	-							
3-13-75	5500	.739	1591.1	.354	+0.06	"	5500	1.479	547.5	-							
3-13-75	5953	.811	1743.6	.333	+0.06	"	5953	1.351	517	-							

COMMENTS:

BY: J.M. A.B.

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GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BACA #10 S-17 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" TO 653'; 15 3/8" TO 2794' ELEV. 8734.5' DATE: 2/10/75
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418'; 7" 4278 - 6000' ZERO POINT CL+4
 DEPTH 5968

HOLE DESCRIPTION:

INSTRUMENT 830 - 698° FAHR.
 SERIAL NO 10055

PURPOSE:

MAX TEMP. 547.5 °F @ 5500

REMARKS:



STABILIZATION PERIOD

PRESSURE	GAUGE	ROD
CASING, PSI	0	0

DEPTH	TEMP.	DEPTH	TEMP.
100	116.9		
1600	232.7		
2100	411.0		
3000	481.1		
3500	495.7		
4000	499.6		
4500	487.7		
5000	502.1		
5500	547.5		
5958	517.0		

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

110

BACA #10 S-17.P

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" TO 653' 1 3/8" TO 2794' ELEV 8734.5' DATE 2/10/75
 LINER DESCRIPTION 9 5/8" - 2480' - 4 1/8" ; 7 - 4278' - 6000' ZERO POINT CL + 4
 DEPTH 5968'

MOLE DESCRIPTION:

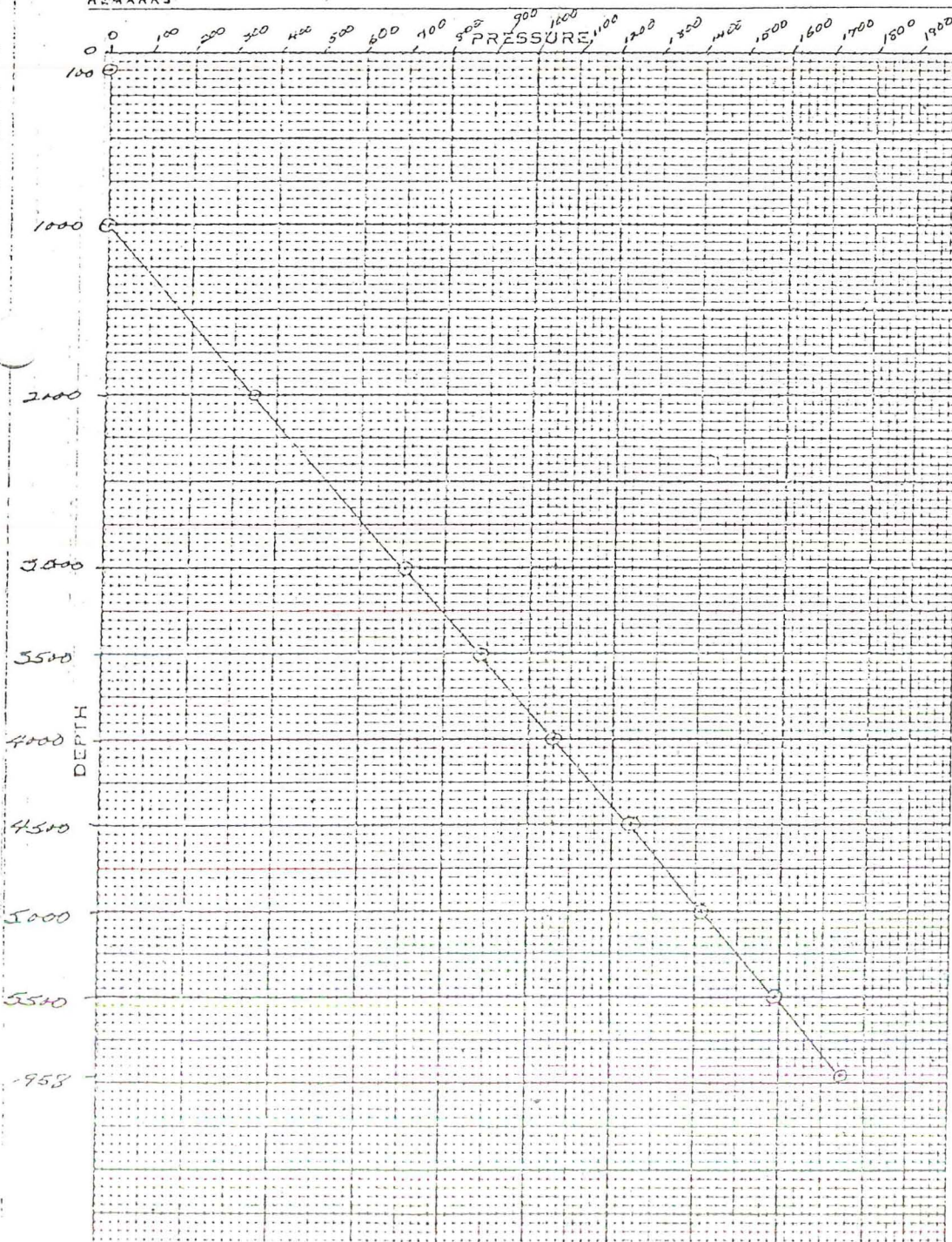
INSTRUMENT 0-4250 PS.
 SERIAL NO 7198

PURPOSE

MAX TEMP 547.5 °F @ 5520

REMARKS

STABILIZATION PERIOD



PRESSURE	GAUGE	DEPTH
CASING. PSI	0	0

DEPTH	PRESSURE	GRADIENT
100	0	0
1000	0	0
2000	351.4	0
3000	707.6	.356
3500	889.8	.364
4000	1060.0	.340
4500	1241.6	.363
5000	1413.9	.345
5500	1591.1	.354
5958	1743.6	.333

BY: J.M.



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-10-5-16 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" TO 653'; 13 3/8" TO 2794' ELEV. 8734.5' DATE: 12/31/74
 LINER DESCRIPTION: 95/8" - 2480' - 4418'; 7" LINER - 4278' - 6000' ZERO POINT CL +3
 DEPTH 5968'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4250 PSIG SN-7198 CLOCK-12 hr 12889 15 TURN

ELEMENT - 88°-69° SERIAL NO. 10053 CLOCK-12 hr 12890 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1103 hrs T-1087 hrs DISENGAGE STYLUS P-1354 hr T-1357 hrs

WELL HEAD 30 PSIG 0-200 T/C

PICKUP @ 5958' TIME ON BOTTOM 1311-1316 hrs MAX. °F 545.3

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
1150	100	.017	38.2	-	-	1150-1224	100	.005	89.1	-	-						
	1000	.018	40.5	.002	-	"	1000	.511	261.5	-	-						
1-1216	2000	.153	344.6	.304	-	"	2000	.986	411.7	-	-						
1-1224	3000	.319	705.5	.360	±.001	"	3000	1.227	481.7	-	-						
1-1231	3500	.403	883.5	.356	±.001	"	3500	1.276	495.7	-	-						
1-1243	4000	.486	1058.8	.350	±.002	"	4000	1.294	500.8	-	-						
1-1252	4500	.569	1232.2	.548	±.004	"	4500	1.243	486.0	-	-						
1-1300	5000	.651	1405.5	.344	±.005	"	5000	1.290	499.6	-	-						
1-1309	5580	.732	1576.3	.341	±.006	"	5500	1.451	545.3	-	-						
1-1316	5968'	.805	1731.0	.337	±.006	"	5958	1.320	508.2	-	-						

* MAXIMUM TEMPERATURE

COMMENTS:

BY: J. Bowen

76

UNION

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

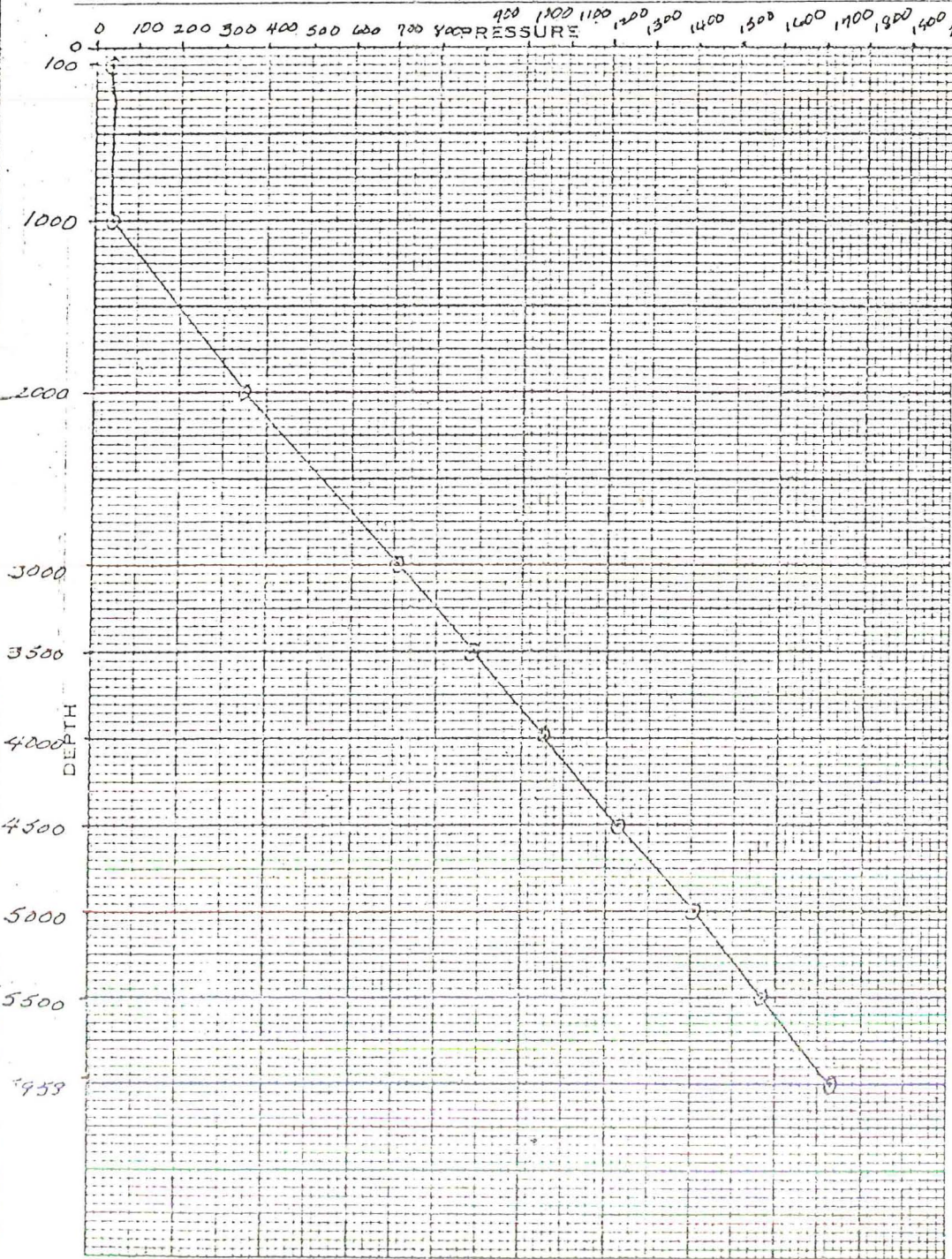
B-10-5-16 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" AT 455'; 13 3/8" TO 2794' ELEV 8734' DATE 12/31/74
 LINER DESCRIPTION: 9 5/8" - 2480' - 4418'; 7" LINER - 4278' - 6000' ZERO POINT CL + 3
 DEPTH 5968'

HOLE DESCRIPTION: _____ INSTRUMENT 0-4250 PSIG
 SERIAL NO 7199

PURPOSE _____ MAX TEMP 545.3 °F @ 5500'

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
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: L. Bowen

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

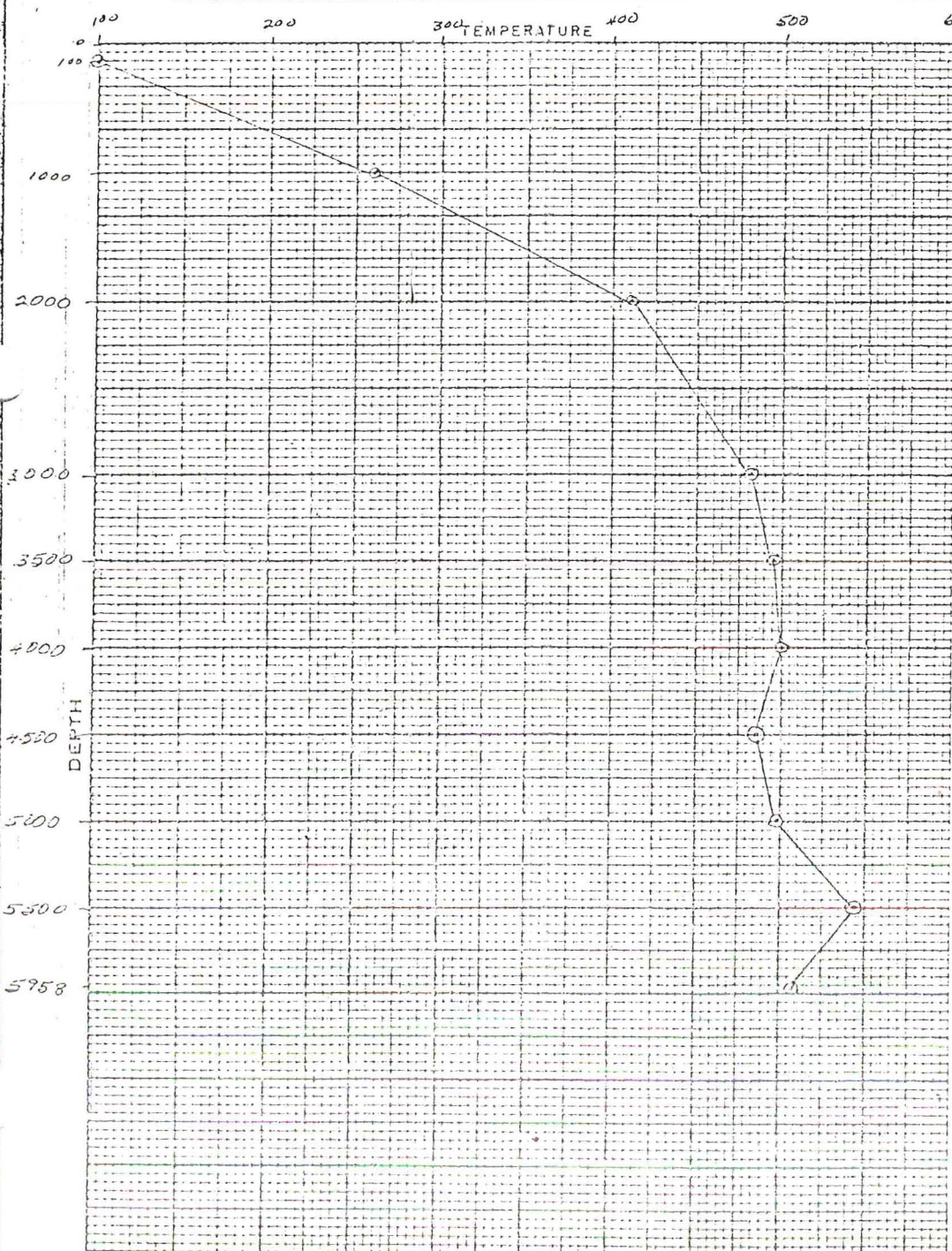
BACA #10-S16-Temp

76

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA #10
 CASING 20" TO 653', 13 3/8" - 2794, 9 5/8" - 2420-4419 ELEV 2734' DATE 12/31/74
 LINER DESCRIPTION: SLOTS 4444'-5574, 5761-5982' ZERO POINT 6473'
 DEPTH 5958'

HOLE DESCRIPTION: _____
 INSTRUMENT 88° - 678° FAH
 SERIAL NO 10055

PURPOSE _____ MAX TEMP 545.3 °F @ 5500
 REMARKS _____



STABILIZATION PERIOD			
PRESSURE	GAUGE	BORG	
CASING, PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100	89.1		
1000	261.5		
2000	416.7		
3000	481.7		
3500	495.7		
4000	500.8		
4500	486.0		
5000	477.6		
5500	545.3		
5958	508.2		

BY: J. E. Swan

UNION

76

GEOHERMAL DIVISION

B10-S15-T

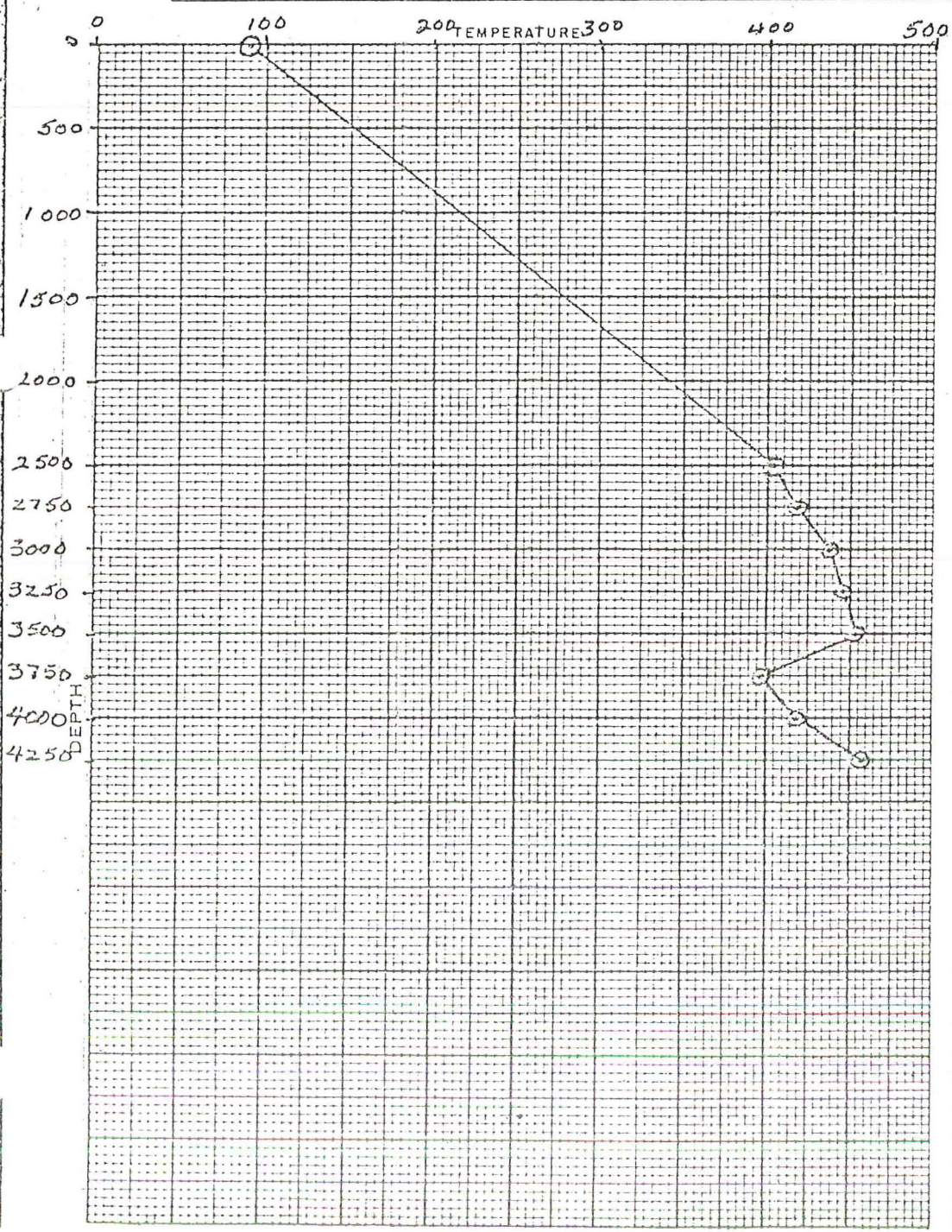
SUBSURFACE TEMPERATURE SURVEY

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 2430' to 4418'; LINER 7" ZERO POINT GL + 10'
4279 to 6000' DEPTH 5968'

INSTRUMENT RTB 88-698 SERIAL NO 10055

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

REMARKS: SLOT INTERVALS 4444' to 5594'
5761 to 5986'



STABILIZATION PERIOD

PRESSURES	GAUGE	9048
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	419.8		
4250	458.3		

BY: J.M./J.B.

GEOTHERMAL 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

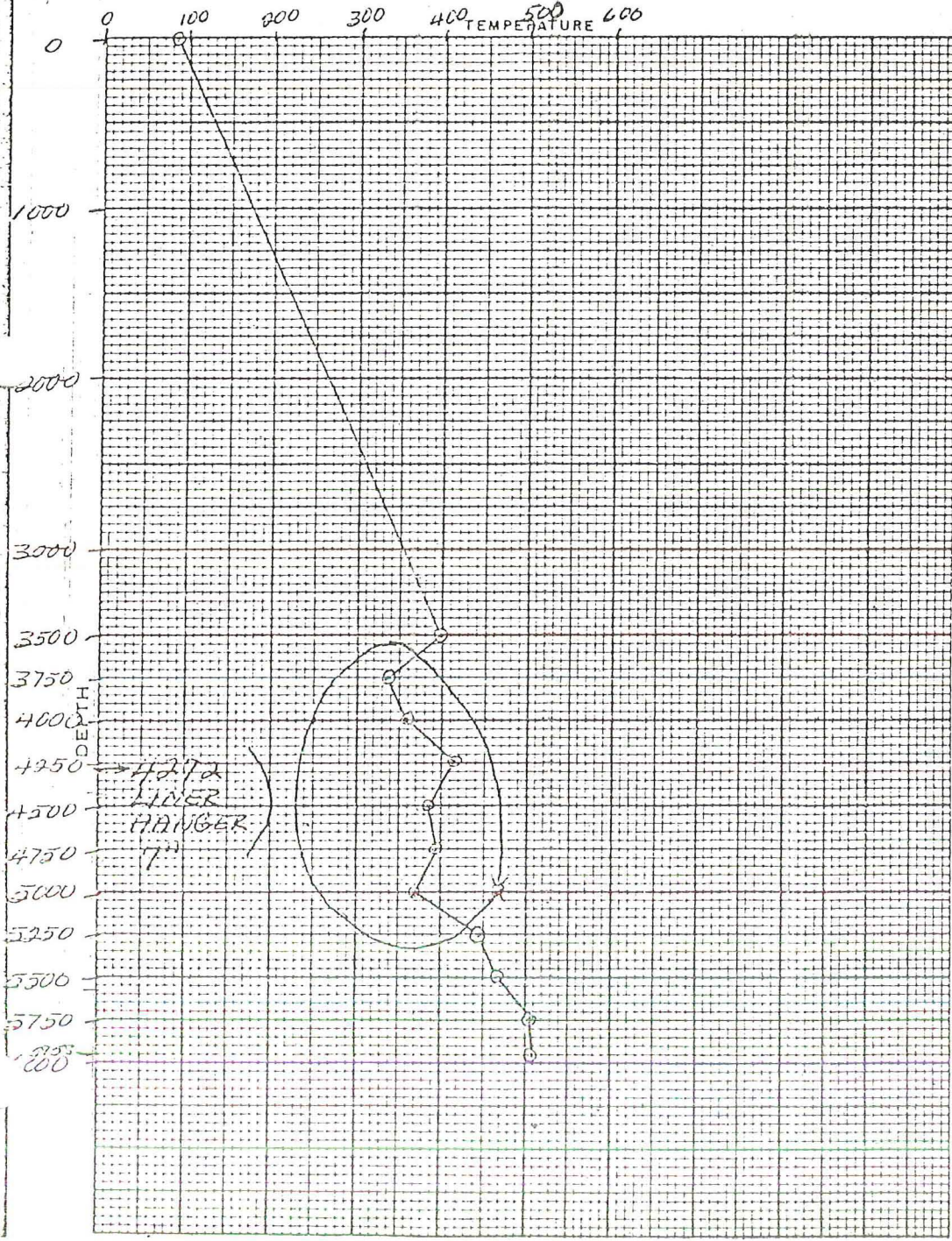
HOLE DESCRIPTION: _____ INSTRUMENT 88-698^o FAHR

SERIAL NO 10055

PURPOSE _____ MAX TEMP 506.2^oF @

REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
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.

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

76

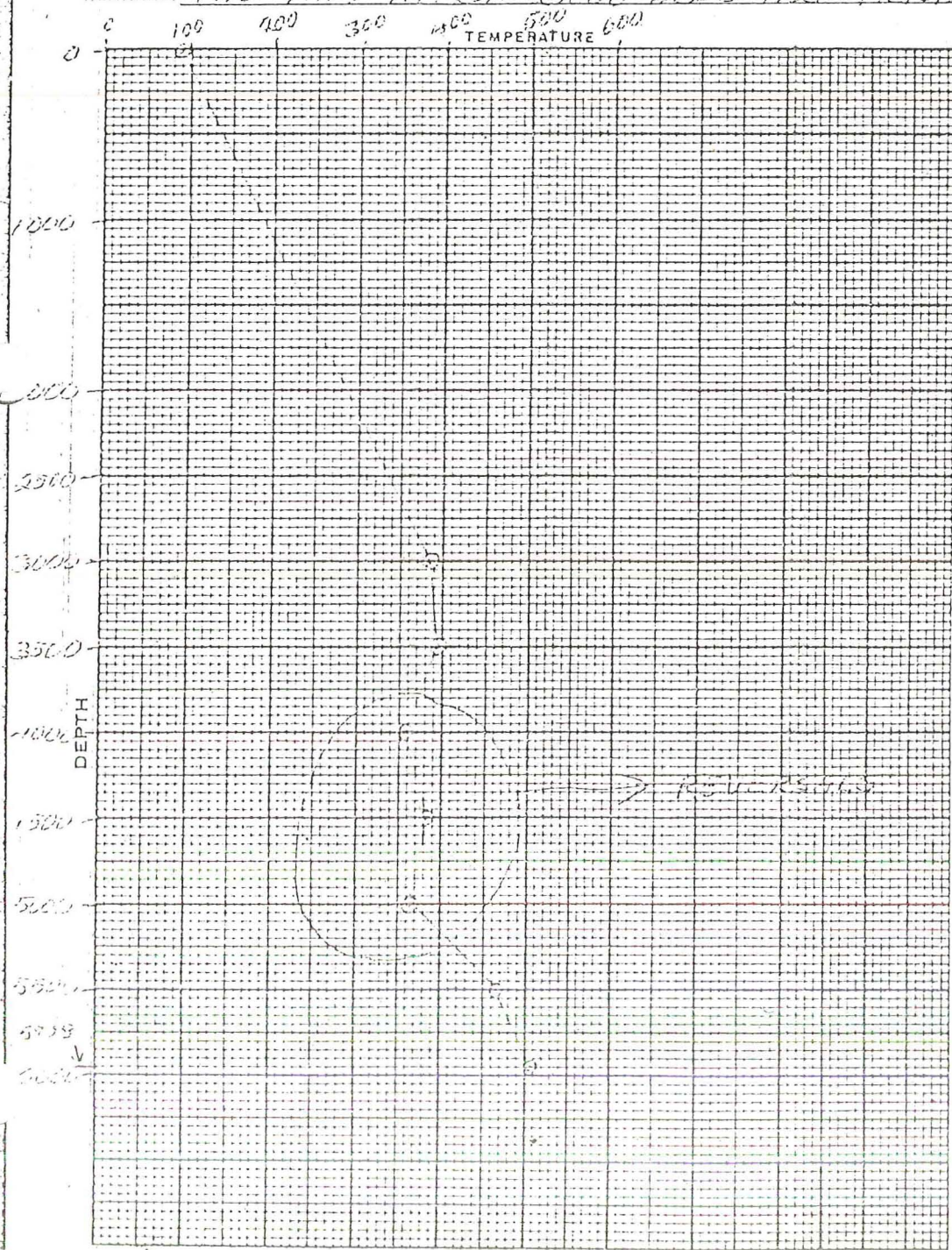
OWNER UNION OIL OF CALIF FIELD U.G. WELL NAME BACA #10
 CASING _____ ELEV _____ DATE 7/26/74
 LINER DESCRIPTION: _____ ZERO POINT 10' Above GL
 _____ DEPTH 5955
 HOLE DESCRIPTION: _____
 _____ INSTRUMENT SEP-675 FAH
 _____ SERIAL NO 10055

PURPOSE _____ MAX TEMP 505.6 °F @
 REMARKS: B10 HAD APPROX 13000 BBLs ILL PRIOR TO SURVEY.

STABILIZATION PERIOD _____

PRESSURES	GAUGE	DEPTH
CASING, PSI	<u>4</u>	_____

DEPTH	TEMP.	DEPTH	TEMP.
<u>0</u>	<u>90.1</u>		
<u>3000</u>	<u>355.6</u>		
<u>3500</u>	<u>395.2</u>		
<u>4000</u>	<u>358.0</u>		
<u>4500</u>	<u>382.5</u>		
<u>5000</u>	<u>366.1</u>		
<u>5500</u>	<u>464.7</u>		
<u>5955</u>	<u>505.6</u>		



BY: J.M.

76

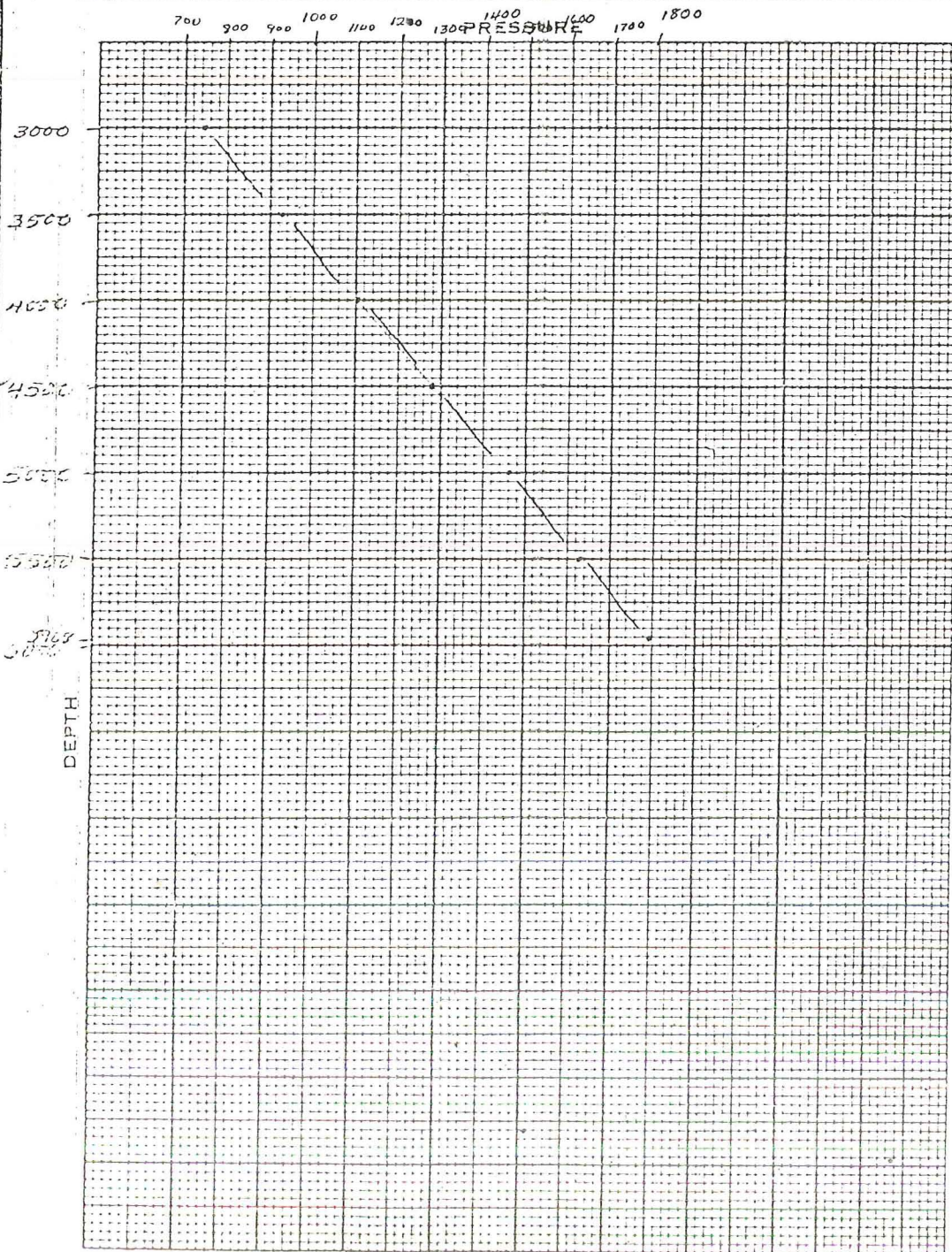
UNION 76

D-10-212-1

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

OWNER U O C FIELD VC WELL NAME B 10
 CASING _____ ELEV _____ DATE 5-14-74
 LINER DESCRIPTION: _____ ZERO POINT 10' - base GL
 _____ DEPTH 5968
 HOLE DESCRIPTION: _____ INSTRUMENT 4250 PSIG PSI
 _____ SERIAL NO 7198
 PURPOSE _____ MAX TEMP _____ °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
3000'	747	
3500'	928	.352
4000'	1106	.35
4500'	1280	.35
5000'	1462	.35
5500'	1636	.35
5968'	1799	.35

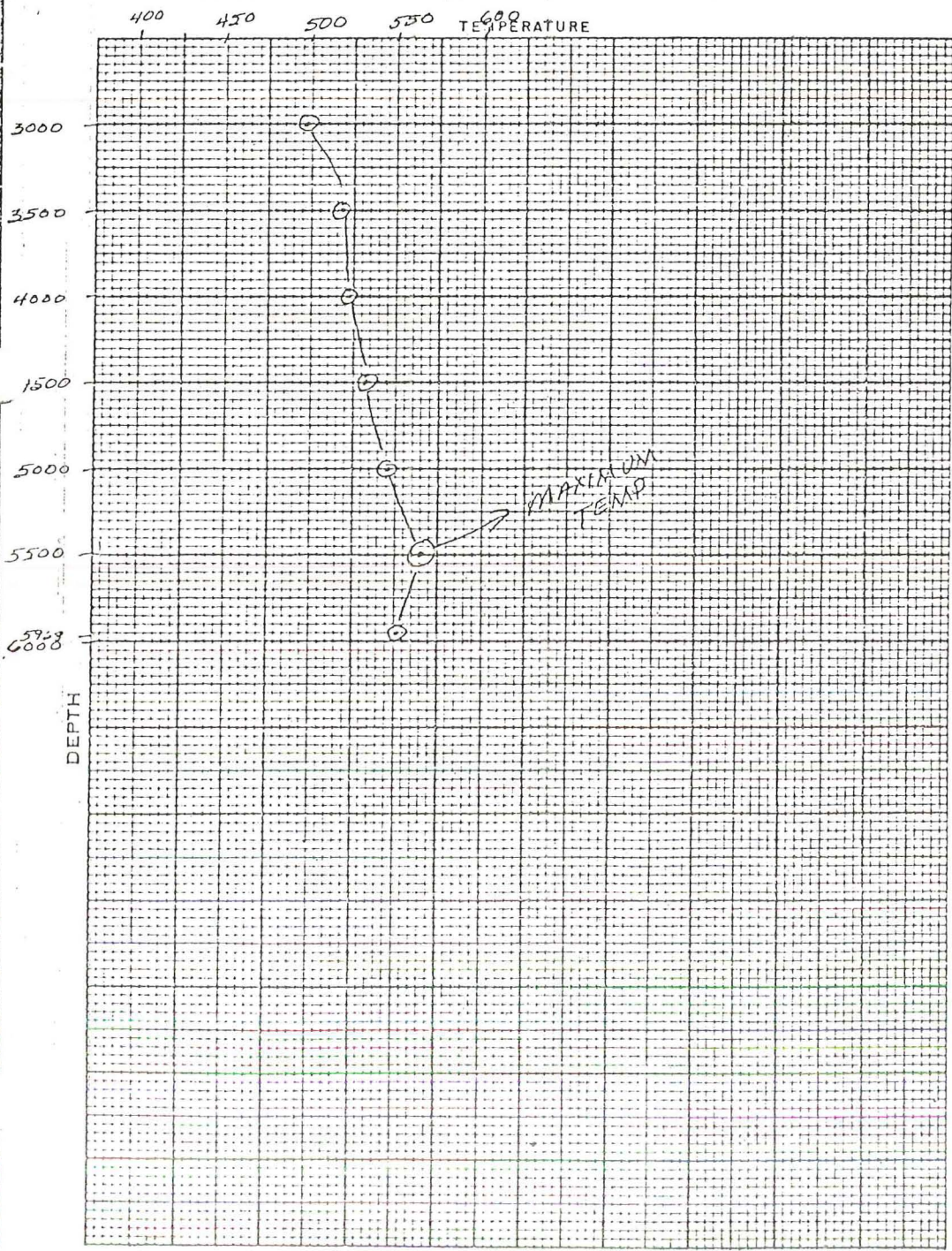
BY: J.M.

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

76

OWNER UOOC FIELD VG WELL NAME B 10
 CASING _____ ELEV _____ DATE 5-16-74
 LINER DESCRIPTION: _____ ZERO POINT 10' above RL
 _____ DEPTH 5968
 HOLE DESCRIPTION: _____ INSTRUMENT 102°F - 718°F FAHR
 _____ SERIAL NO 10055
 PURPOSE _____ MAX TEMP 565 °F @
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	ROMB	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
3000'	498°F		
3500'	519°F		
4000'	523°F		
4500'	533°F		
5000'	540°F		
5500'	565°F		
5968'	552°F		

BY: J.M.

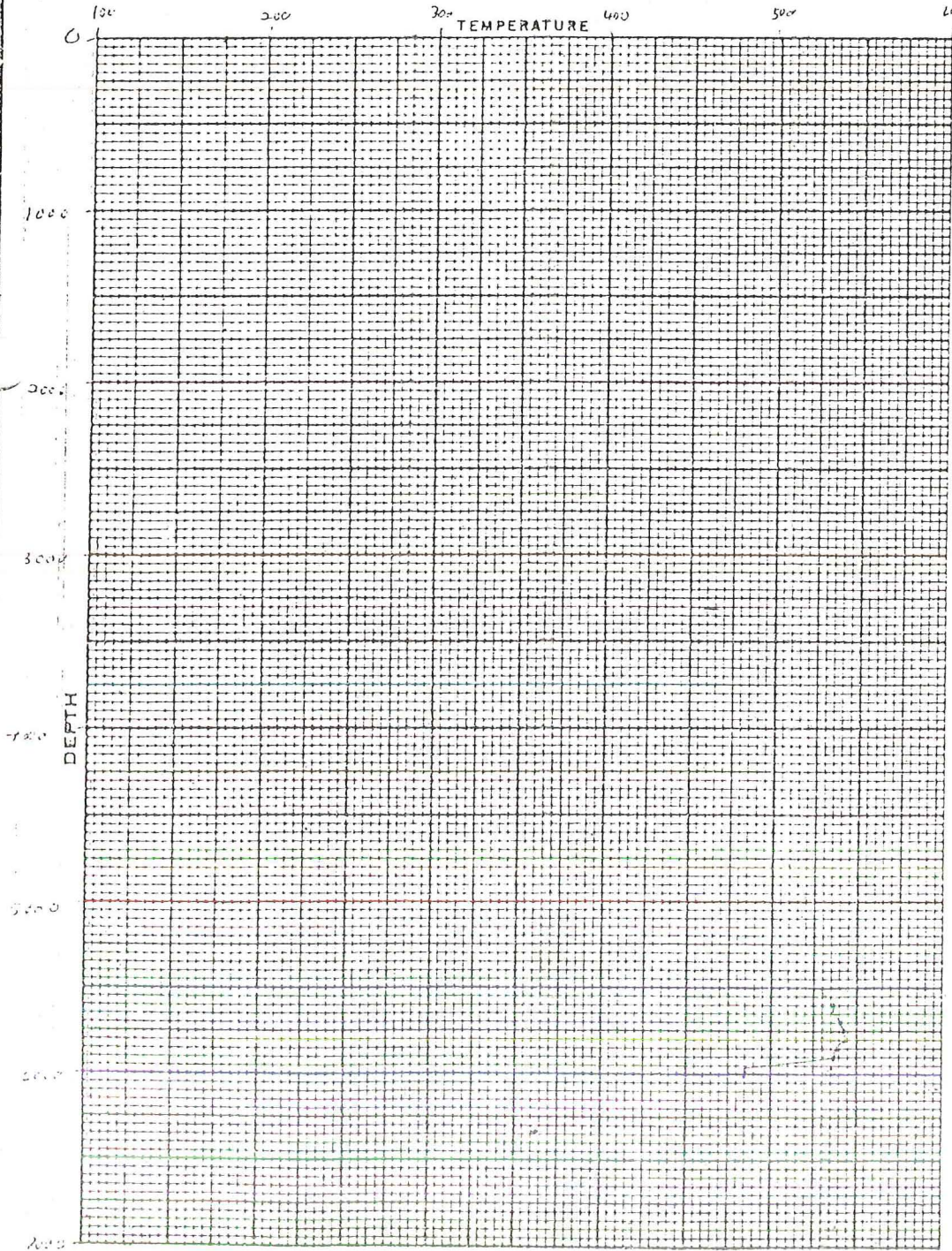
GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

76

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

HOLE DESCRIPTION: _____
INSTRUMENT 100' - 718' 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		
5958	455.5		

BY: SAID

76

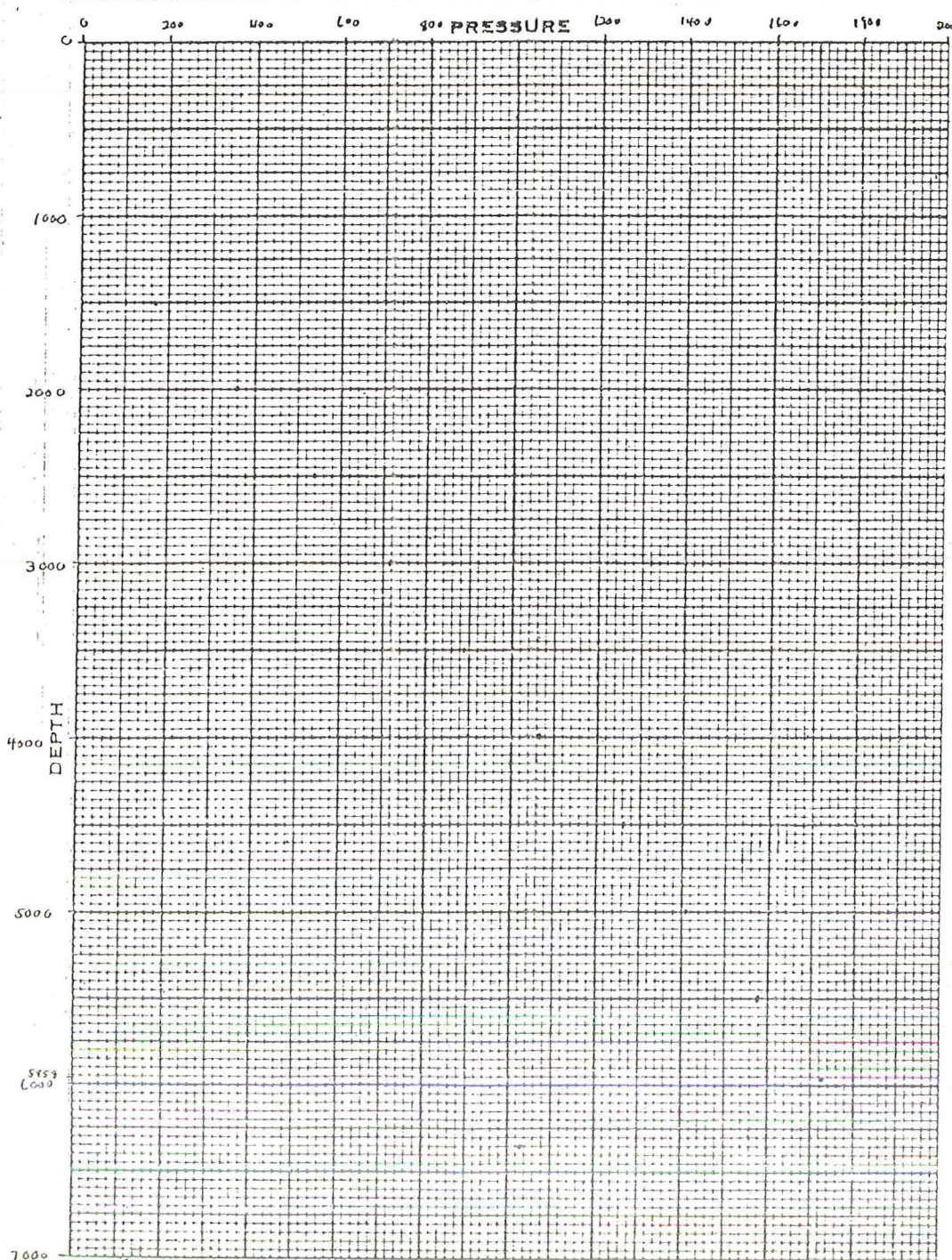
UNION OIL
GEO THERMAL DIVISION
 SUBSURFACE PRESSURE SURVEY

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	320	
2500	543	
3000	717	
3500	890	
4000	1065	
4500	1235	
5000	1410	
5500	1590	
5958	1726	

BY: _____

76

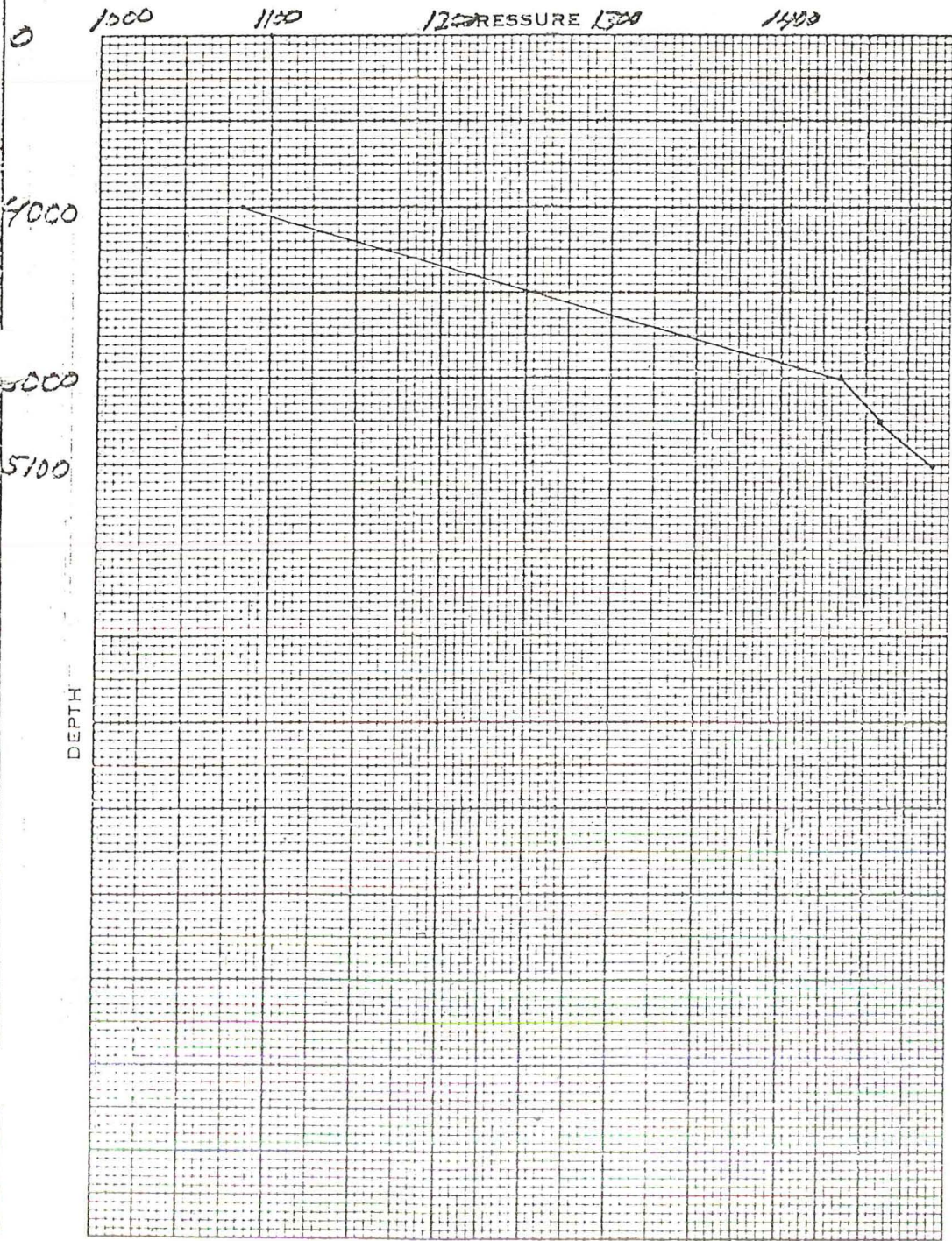
UNION
GEOHERMAL DIVISION
 SUBSURFACE PRESSURE SURVEY

B11-SE-TP

OWNER Union Oil Co. of Cal. FIELD Valle Grande WELL NAME Baca #10
 CASING _____ ELEV 8734 DATE 3/11/74
 LINER DESCRIPTION: _____ ZERO POINT 624' 8"
 DEPTH 5763' - 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
5700	1439.41	,032

5750 TO 5958
 Clock stopped

BY: RF

76

GEOTHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

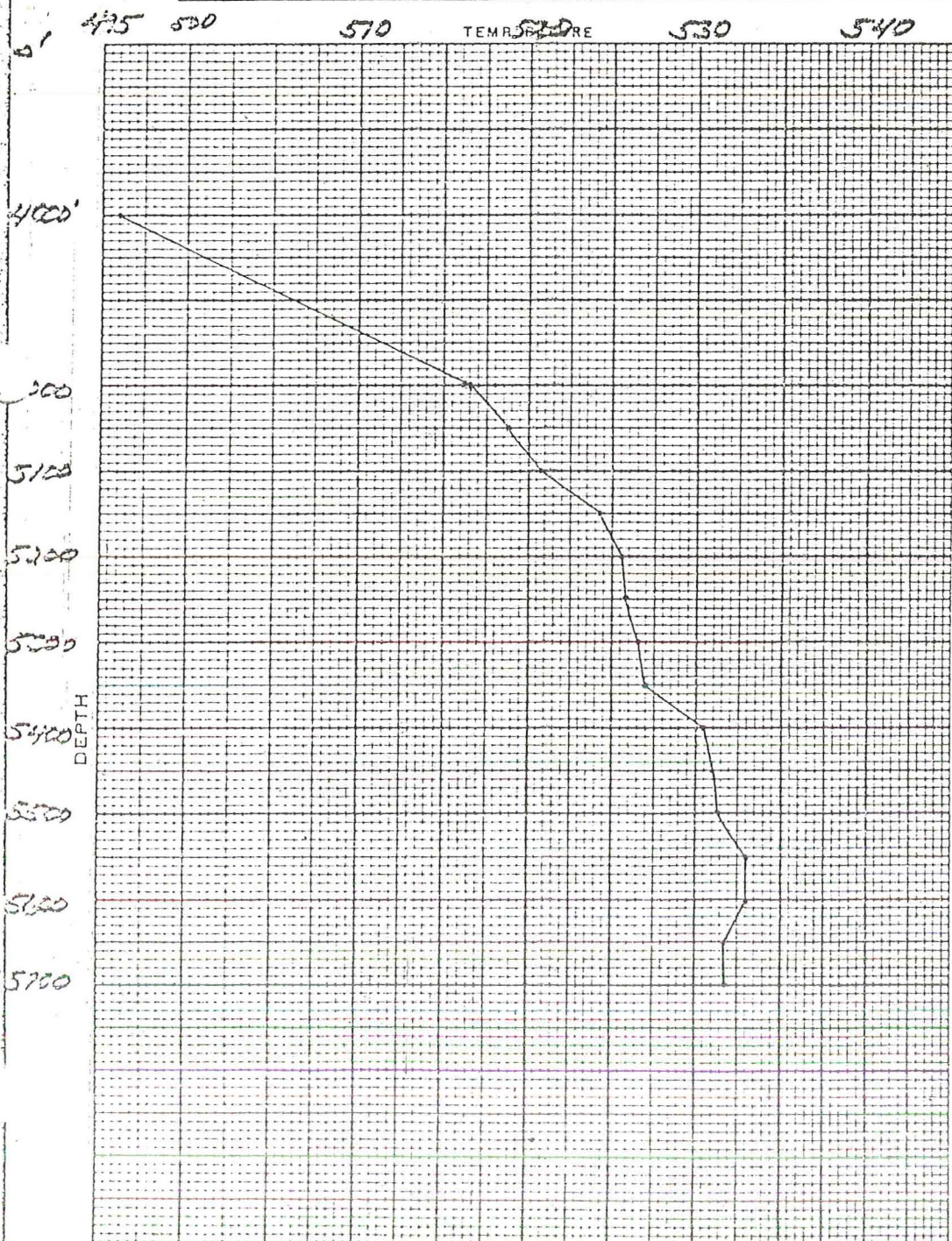
810-SE-PT

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Barea #10
CASING ELEV 8734' DATE 3/11/74
LINER DESCRIPTION ZERO POINT 6249'
DEPTH 5768 5-5958

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

PURPOSE MAX TEMP 533 °F @ 5600'

REMARKS



STABILIZATION PERIOD

Table with 3 columns: PRESSURES, GAUGE, 3033. CASING, PSI.

Table with 4 columns: DEPTH, TEMP., DEPTH, TEMP. Data points from 0' to 5700'.

5750 - 5958

Clocks stopped

BY: RJ

76

GLOTTHERMAL DIVISION

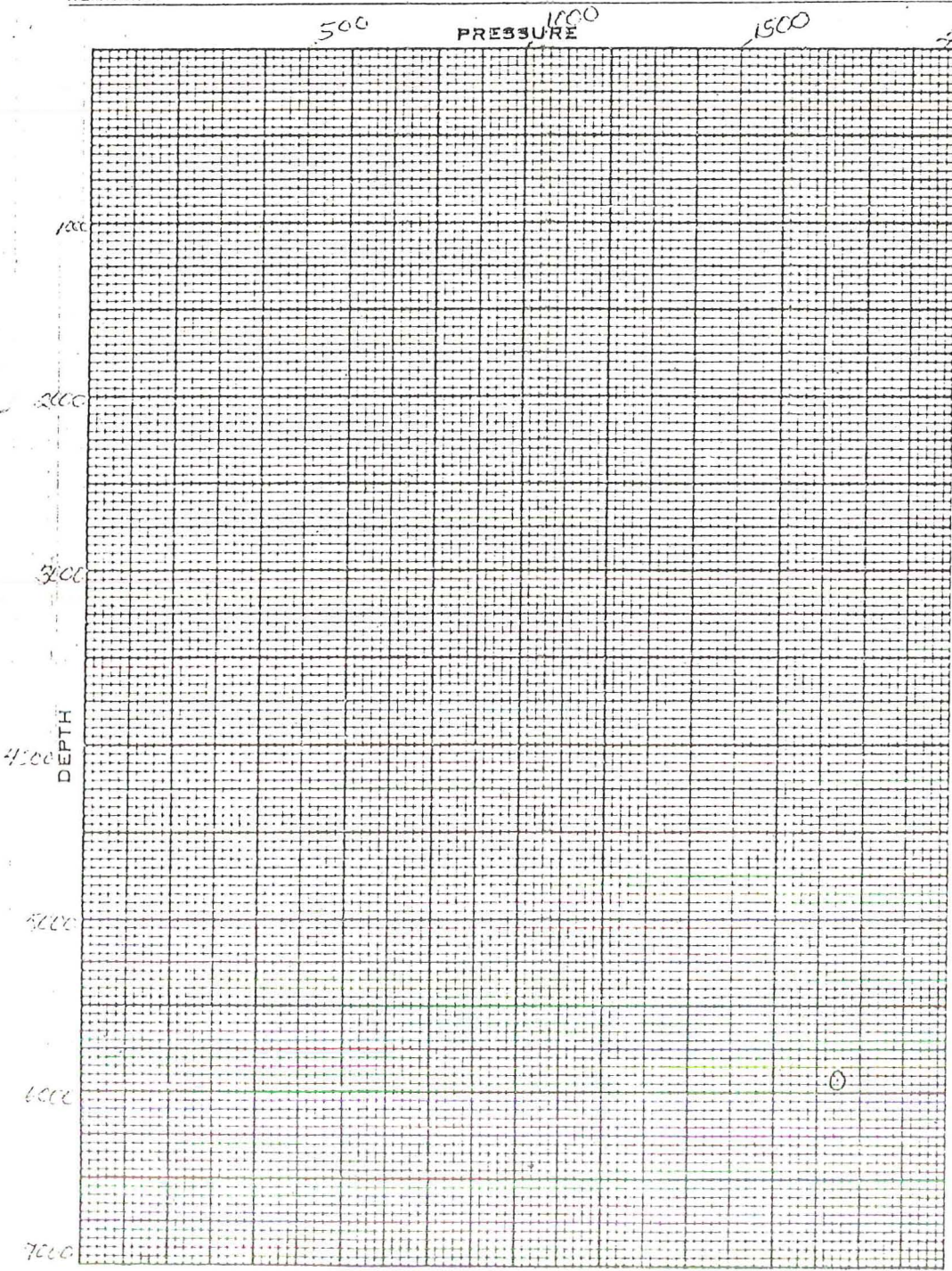
SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL COMPANY FIELD _____ WELL NAME BACN #10
 CASING _____ ELEV GL 8374.5' DATE 3/10/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 8
 _____ DEPTH 5958' Survey

HOLE DESCRIPTION: _____ INSTRUMENT _____ PBIG _____
 _____ SERIAL NO KPT-7198

PURPOSE _____ MAX TEMP 532.7 °F @ 5900'

REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING PSI		
DEPTH	PRESSURE	GRADIENT
<u>5958</u>	<u>1745.8</u>	<u>.293</u>

BY: TK

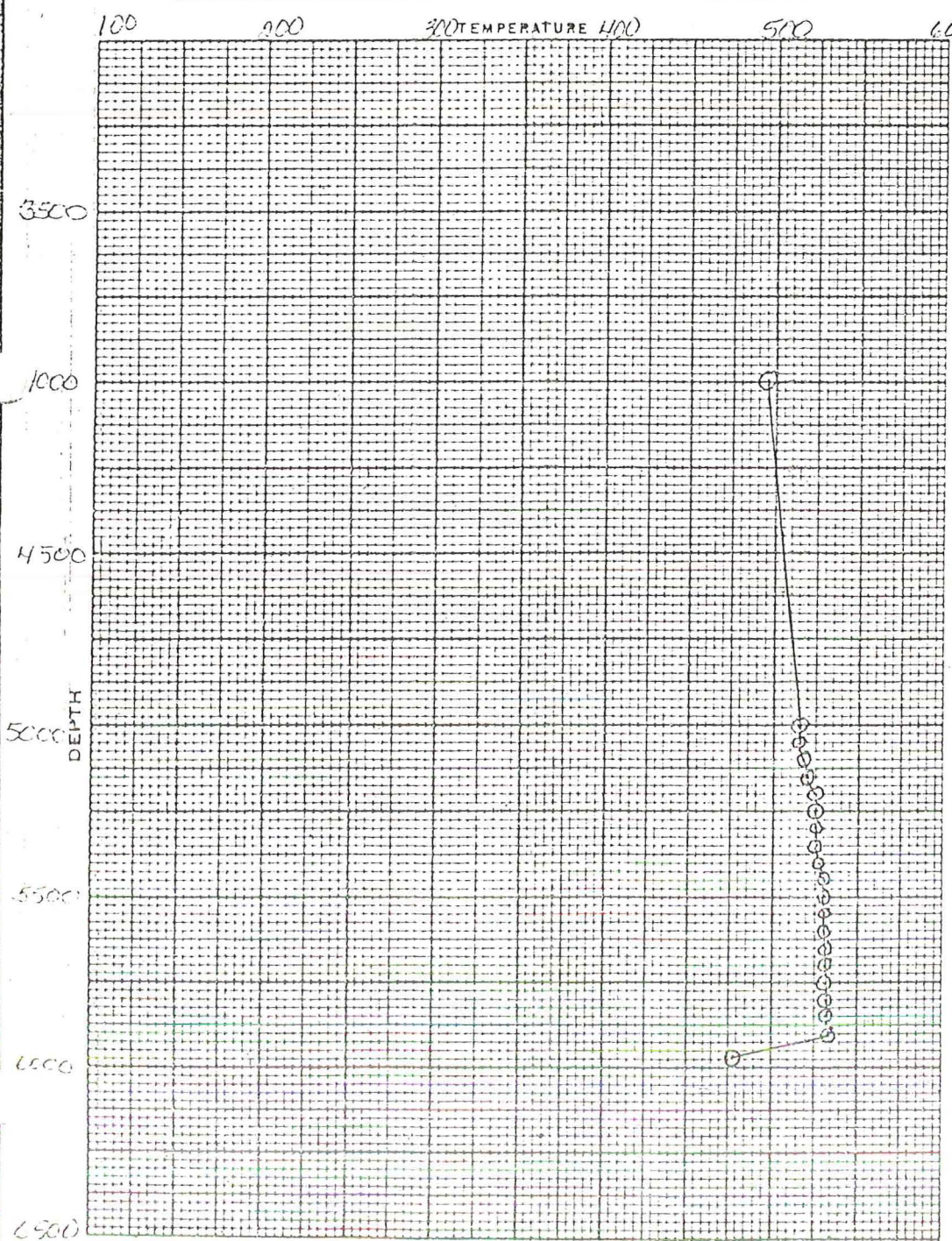
76

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Company FIELD GL 8374.5' 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 _____



STABILIZATION PERIOD _____

PRESSURE	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

GEO THERMAL DIVISION

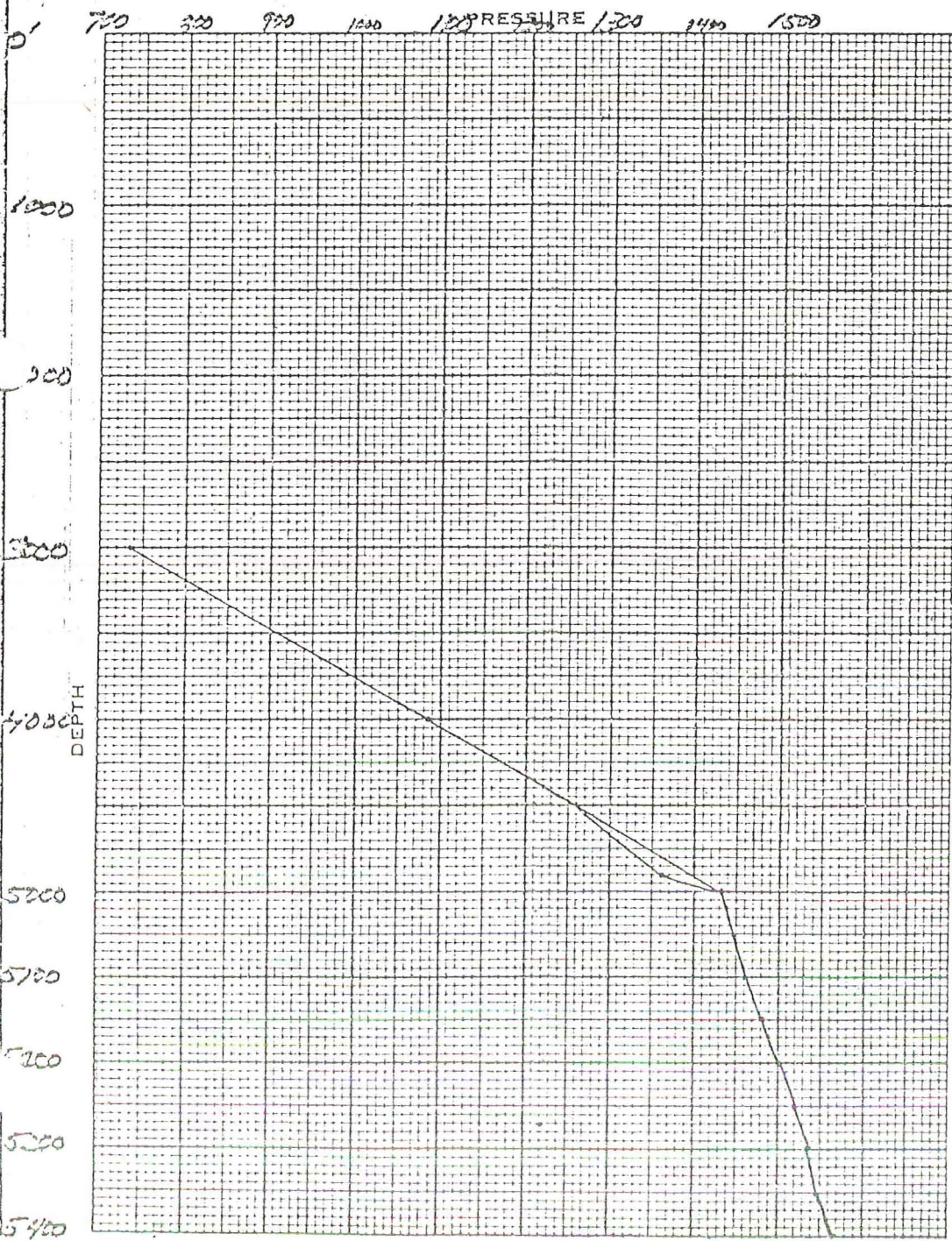
SUBSURFACE PRESSURE SURVEY

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 GL+8'
 _____ DEPTH 5968 5-5958
 HOLE DESCRIPTION: _____ INSTRUMENT 4250 PSIC
 _____ SERIAL NO 7198
 PURPOSE _____ MAX TEMP 526.5°F @ 5400
 REMARKS: _____

STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		



DEPTH	PRESSURE	GRADIENT
0'	0	0
3000	734.29	0
4000	1084.75	.348
4500	1260.59	.176
4800	1332.29	.102
5000	1432.20	.070
5050	1444.92	.012
5100	1451.86	.017
5150	1483.05	.021
5200	1500.00	.017
5250	1519.07	.019
5300	1536.02	.017
5350	1546.61	.011
5400	1565.68	.019

5450 To 5958
 Clock stopped

BY: RL

76

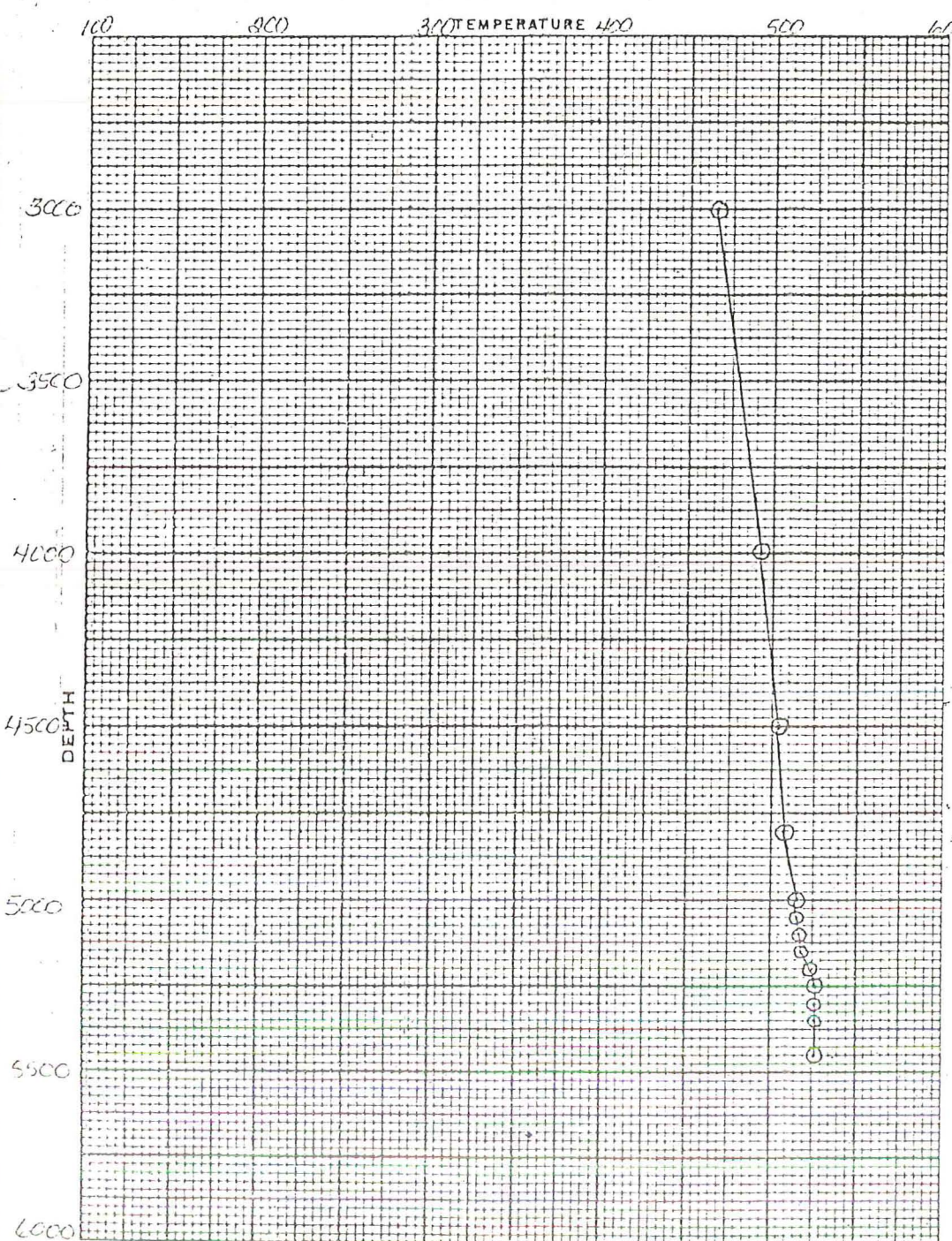
GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

OWNER VAUGHN OIL COMPANY FIELD GA 8374.5' WELL NAME BACA #10
 CASING _____ ELEV GA 8374.5' DATE 3/9/74
 LINER DESCRIPTION: _____ ZERO POINT GA 18'
 _____ DEPTH 5450' Survey

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHR
 _____ SERIAL NO KPG 10052
 _____ MAX TEMP 526.2 °F @ 5450'

PURPOSE _____
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3000	46.7		
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: TK

76

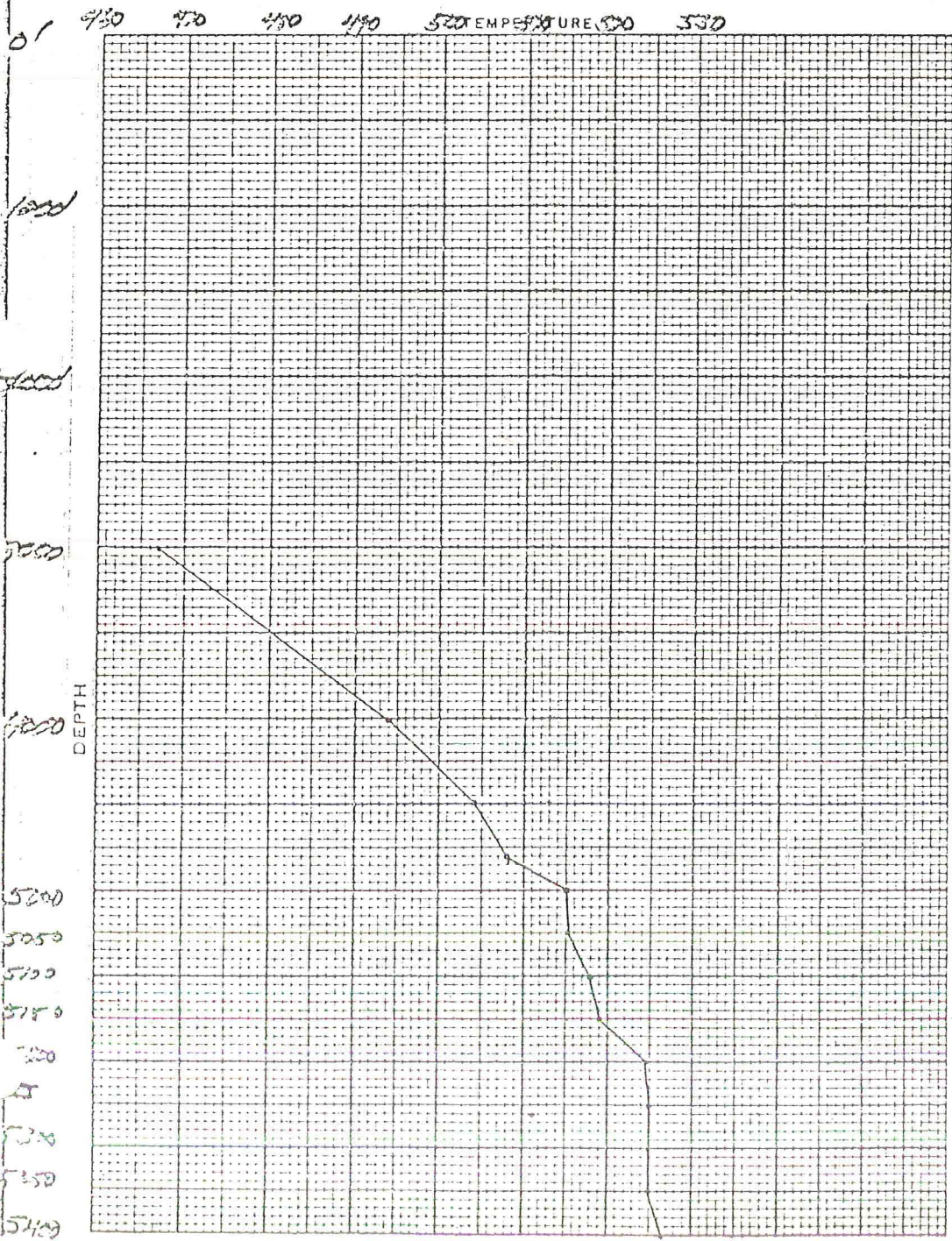
UNION

GEO THERMAL DIVISION

B10-SC-TP

SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Baca #10
 CASING _____ ELEV 8734' DATE 3/9/74
 LINER DESCRIPTION: _____ ZERO POINT GLT 8'
 _____ DEPTH 5758 5-5758
 HOLE DESCRIPTION: _____ INSTRUMENT 80°-646° FAH2
 _____ SERIAL NO 10052
 PURPOSE _____ MAX TEMP 526.5°F @ 5400
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES.	GAUGE	8043
CASING. PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	0.0		
3000	436.7		
4000	473.2		
4500	504.4		
4800	517.8		
5000	515.1		
5250	515.3		
5100	517.9		
5150	519.0		
5200	524.7		
5250	526.2		
5300	526.2		
5350	526.2		
5400	526.5		

5450 to 5758
clock stopped

BY: RF

76

UNION

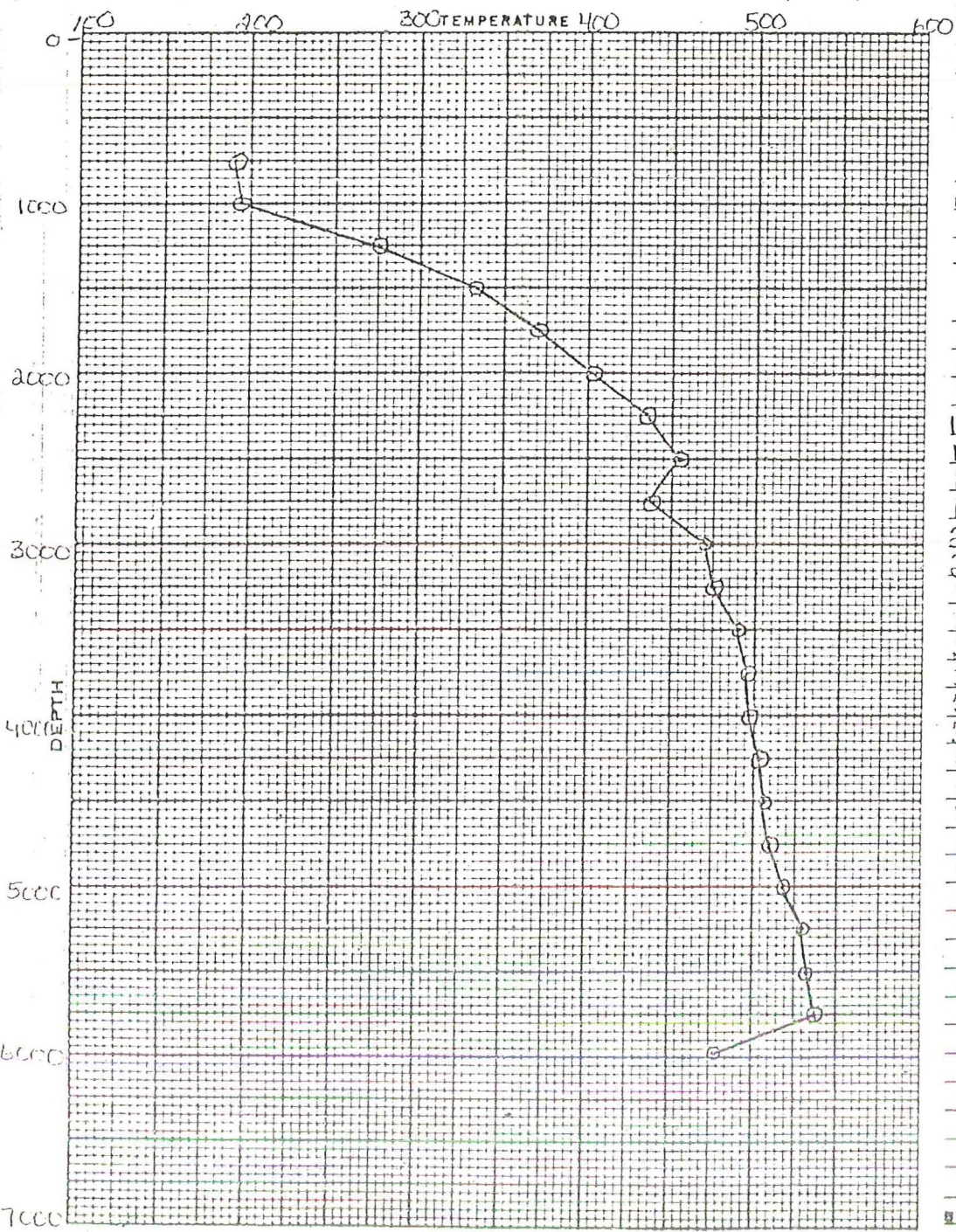
GEO THERMAL DIVISION

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 _____

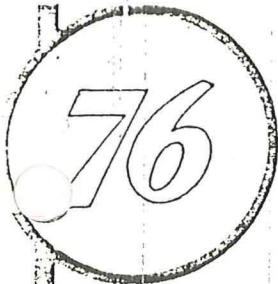
PURPOSE Static Gradient Survey MAX TEMP 533.8 °F @ 5750
 REMARKS _____



STABILIZATION PERIOD		
PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0			
250			
500			
750	192.6		
1000	194.1		
1250	275.4		
1500	337.8		
1750	371.1		
2000	403.5		
2250	435.2		
2500	436.7		
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	527.9		
5500	531.7		
5750	533.8		
5958	477.9		

BY: (T. FORGERTSON) J. K. ...



UNION 76

B10-SA-TP
55

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

Temp ^{Pressure}
BUILD UP

OWNER UNION OIL CO FIELD VALLE GRANDE WELL NAME BACA 10

CASING 13 3/8" AT 2794 - 20" AT 653' ELEV. 8134.5 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 6001' SURVEY 5968'
5968' - SURVEY 5958'

TUBING DETAIL:
Locate TD 5968 w/ SINKER BAR & JACS 3/3/74

PURPOSE STATIC TANDEM PRESS & TEMP SURVEY Bottom Hole

REMARKS: OPEN SWAB GATE @ 10:50 BAN INSTRUMENTS TO 5958' RETURN INSTRUMENTS TO SURFACE. SHUT IN SWAB GATE AT 1955

ELEMENT T-1005.2 P-7198 SERIAL NO. 800F - 646°F CLOCKS - 12HR 13375 TURN 12HR - 13374 STABILIZATION PERIOD

ENGAGE STYLUS P-1005 T-1007 DISENGAGE STYLUS 20:11 T-2013

WELL HEAD

PICKUP @ 5958' @ 19:30 TIME ON BOTTOM 7 HR 66 MIN MAX. °F 502.8°F

WELL STATUS STATIC

SHUT IN: ON PRODUCTION:

RATE

Press

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
00:00	0'	0	0	0	0	"	"	0	0		0						
4-1930	4300'	556	+002	1180.08	118432	"	"	1484	502.8		502.8						
4-1930	5958'	812	+006	1735.17	174788	"	"	1333	475.9		475.9						

COMMENTS:

BY: Tom Kuhn

76

UNION 76

B 10 - 24 - 11

GEO THERMAL DIVISION

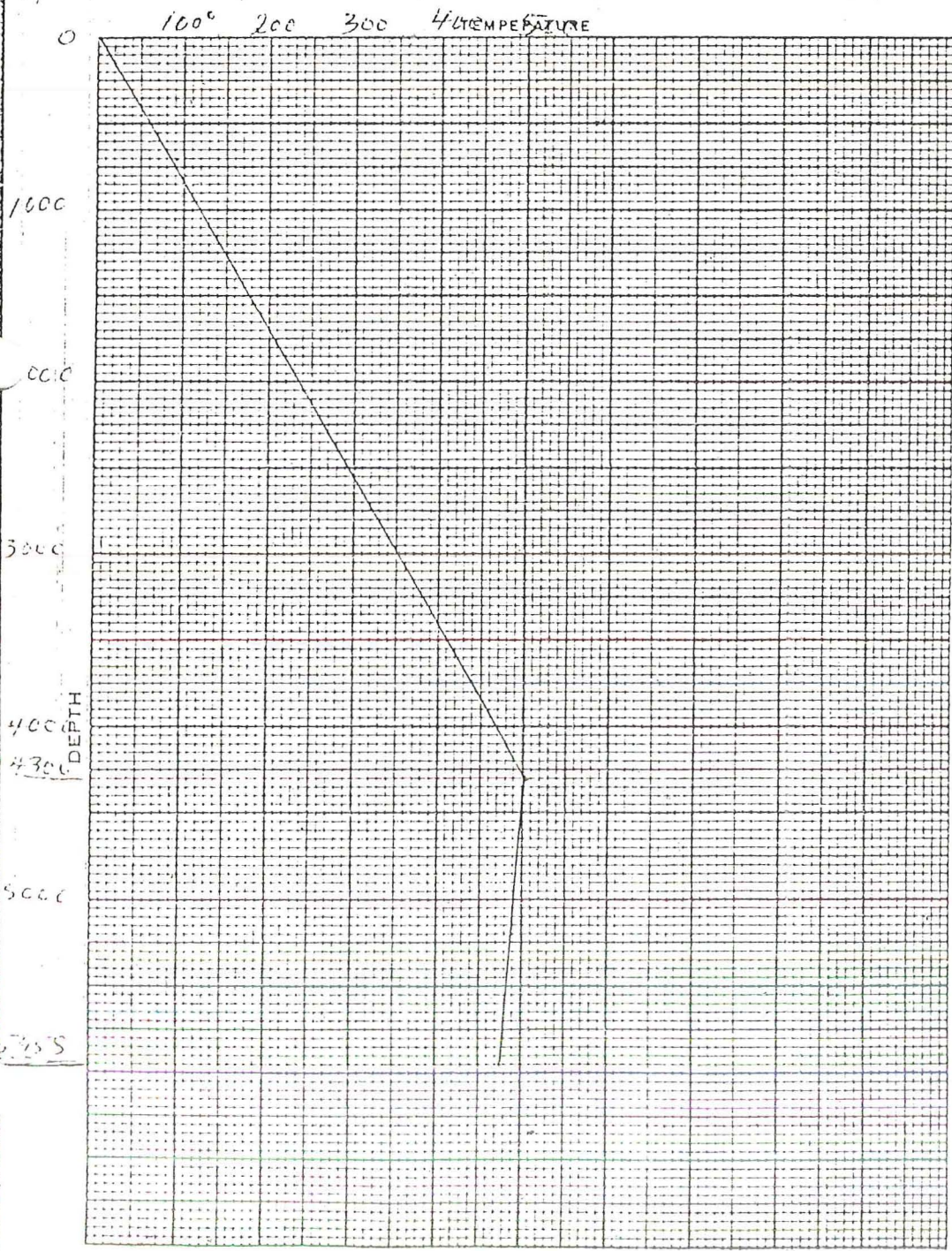
SUBSURFACE TEMPERATURE SURVEY *Temp + Press Build up*

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' 5" DJ
 DEPTH 5968 Survey 5958

HOLE DESCRIPTION: _____ INSTRUMENT 80-6460 FAN# _____
 SERIAL NO. 10052

PURPOSE Static Tandem Press + Temp Survey Hole Bottoms MAX TEMP 502.8°F @ 4300
 REMARKS: _____

STABLIZATION PERIOD _____



PRESSURES.	GAUGE	3033	
CASING. PSI			
DEPTH	TEMP.	DEPTH	TEMP.
0	0		
4300	502.8		
5958	475.9		

BY: *DF DM*

76

UNION (76) B10-SH-11

GEO THERMAL DIVISION

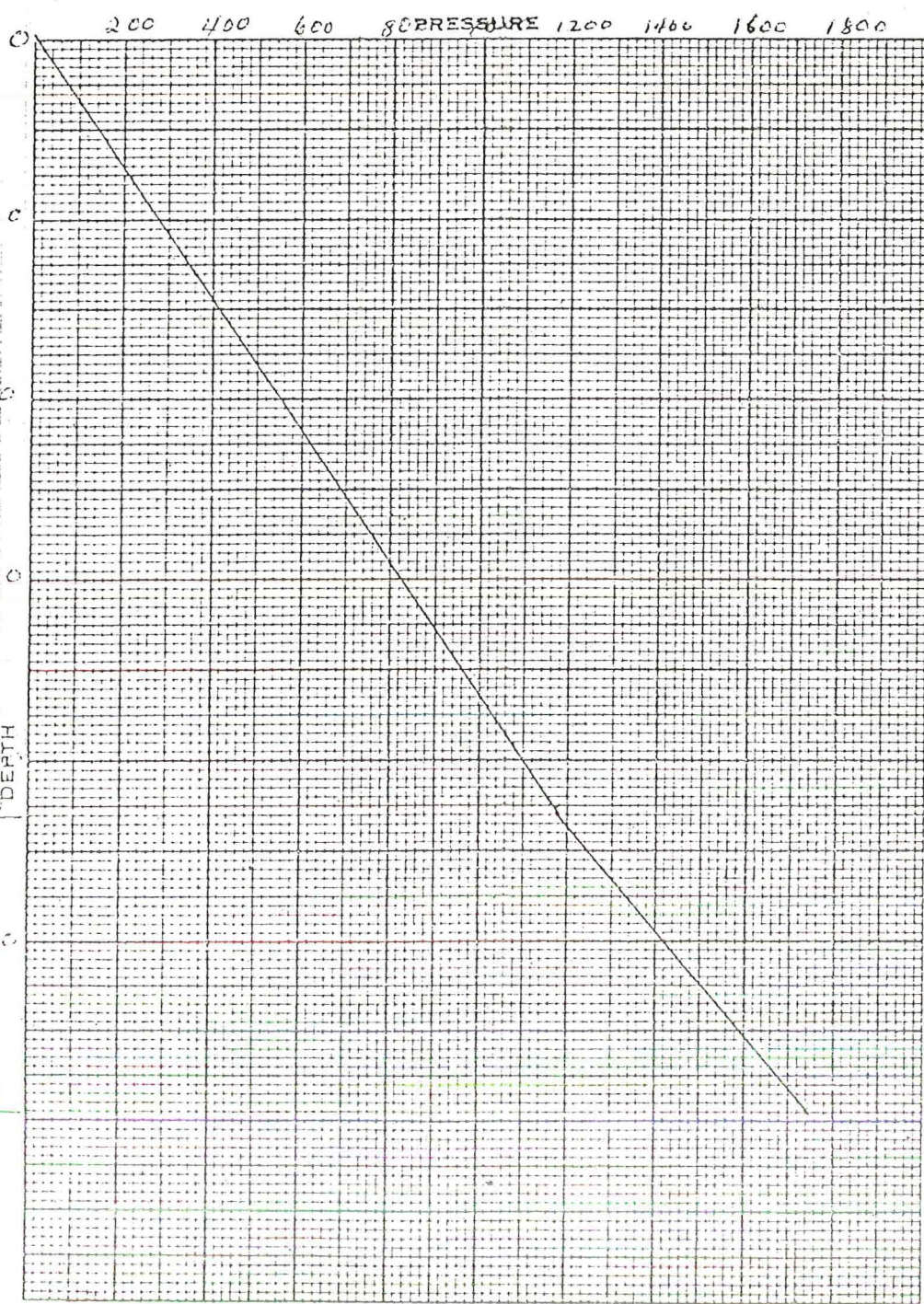
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. Cal. FIELD Valle Grande WELL NAME B#10
 CASING _____ ELEV 8734 DATE 3/4/74
 LINER DESCRIPTION: _____ ZERO POINT 2' + 8'
 _____ DEPTH 5965 Survey 5958

HOLE DESCRIPTION: _____

 _____ INST.UMENT 4250 PSIC
 _____ SERIAL NO 798

PURPOSE Static Gradient 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	1727.83	

BY: SRDM

76

GEOTHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

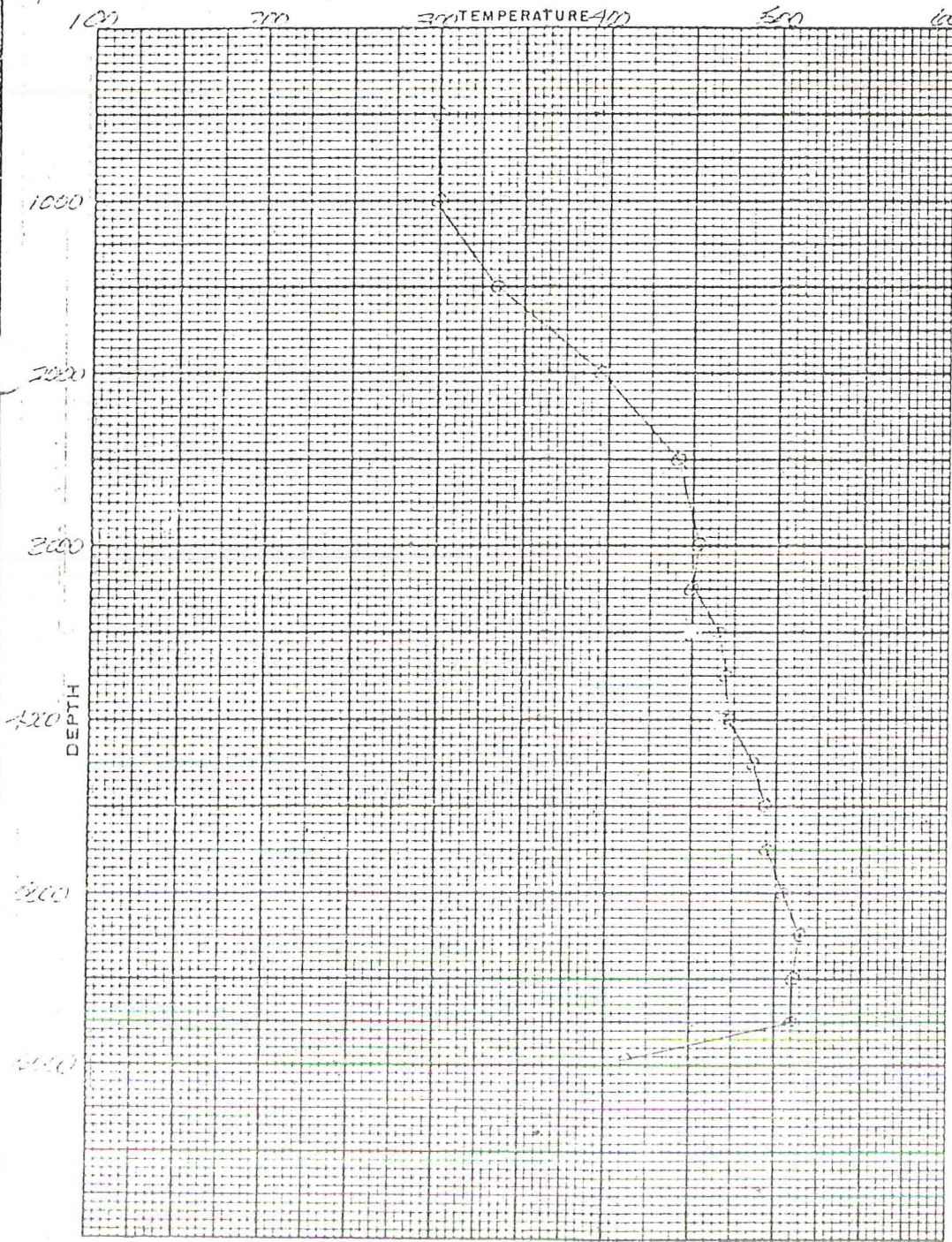
B10-34PT

OWNER Union Oil Co FIELD _____ WELL NAME BACA No. 10
 CASING _____ ELEV GL 87.34.5 DATE 12-6-73
 LINER DESCRIPTION: _____ ZERO POINT GL + 8'
 _____ DEPTH 600.1
 _____ 5960 Survey
 HOLE DESCRIPTION: _____ INSTRUMENT 300-736 FAHP _____
 _____ SERIAL NO KTB 10036
 PURPOSE _____ MAX TEMP 514.9 °F @ 5250
 REMARKS: _____

STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
500	300		
1000	300		
1500	333.7		
2000	394.8		
2500	441.5		
3000	453.2		
3500	450.9		
3800	466.2		
3750	469.9		
4000	471.6		
4250	486.6		
4300	492.7		
4750	495.7		
5100	509.5		
5250	514.9		
5500	511.1		
5750	510.0		
5910	413.8		



BY: _____

76

UNION

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

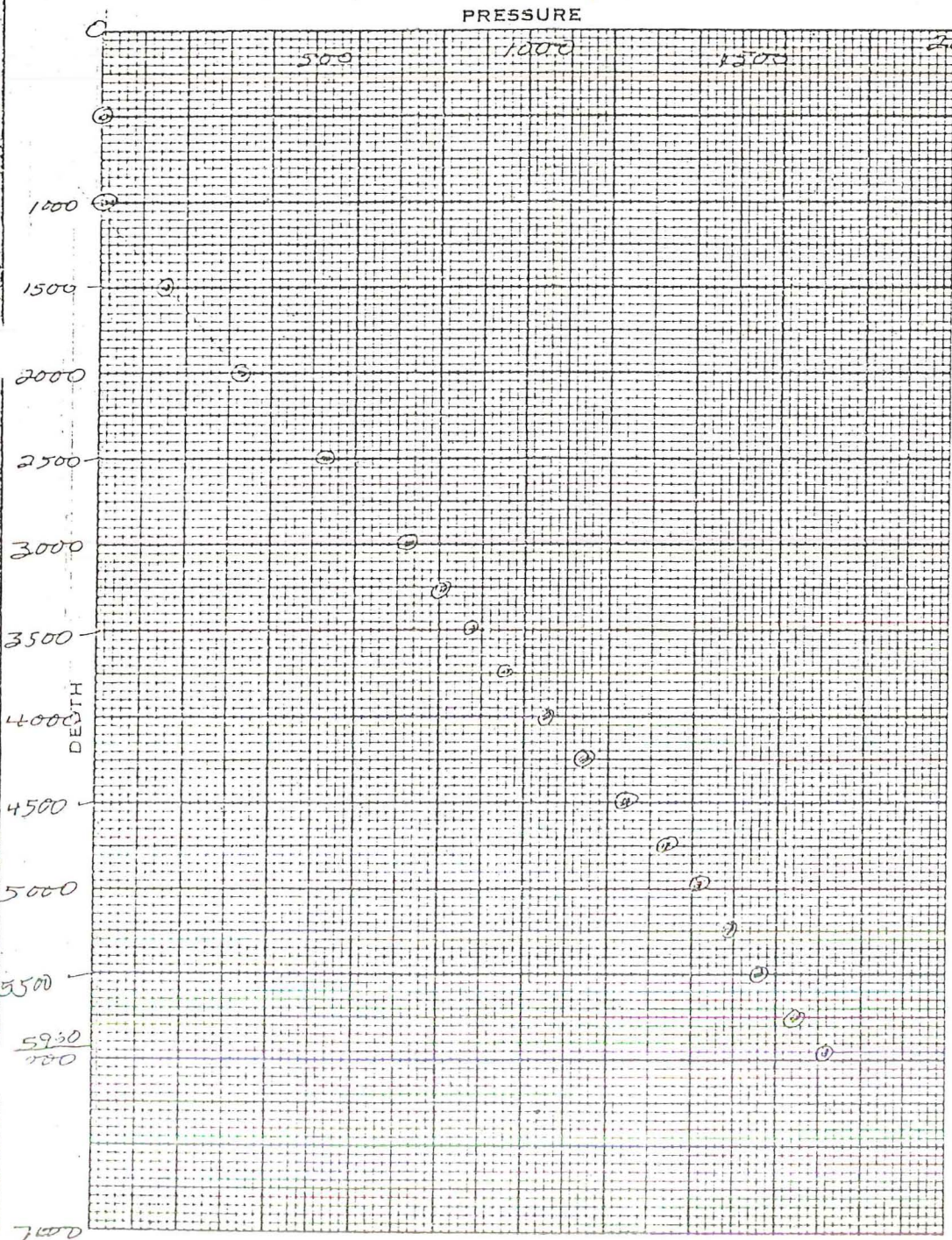
B10-54-Press

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME B-10
 CASING _____ ELEV 9300' DATE 12/6/73
 LINER DESCRIPTION: _____ ZERO POINT 20' Above ground
 _____ DEPTH 6001

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

PURPOSE _____ MAX TEMP 515.4 °F @

REMARKS: _____



STABILIZATION PERIOD 15 MIN.

PRESSURES.	GAUGE	BOMB
CASING, PSI		

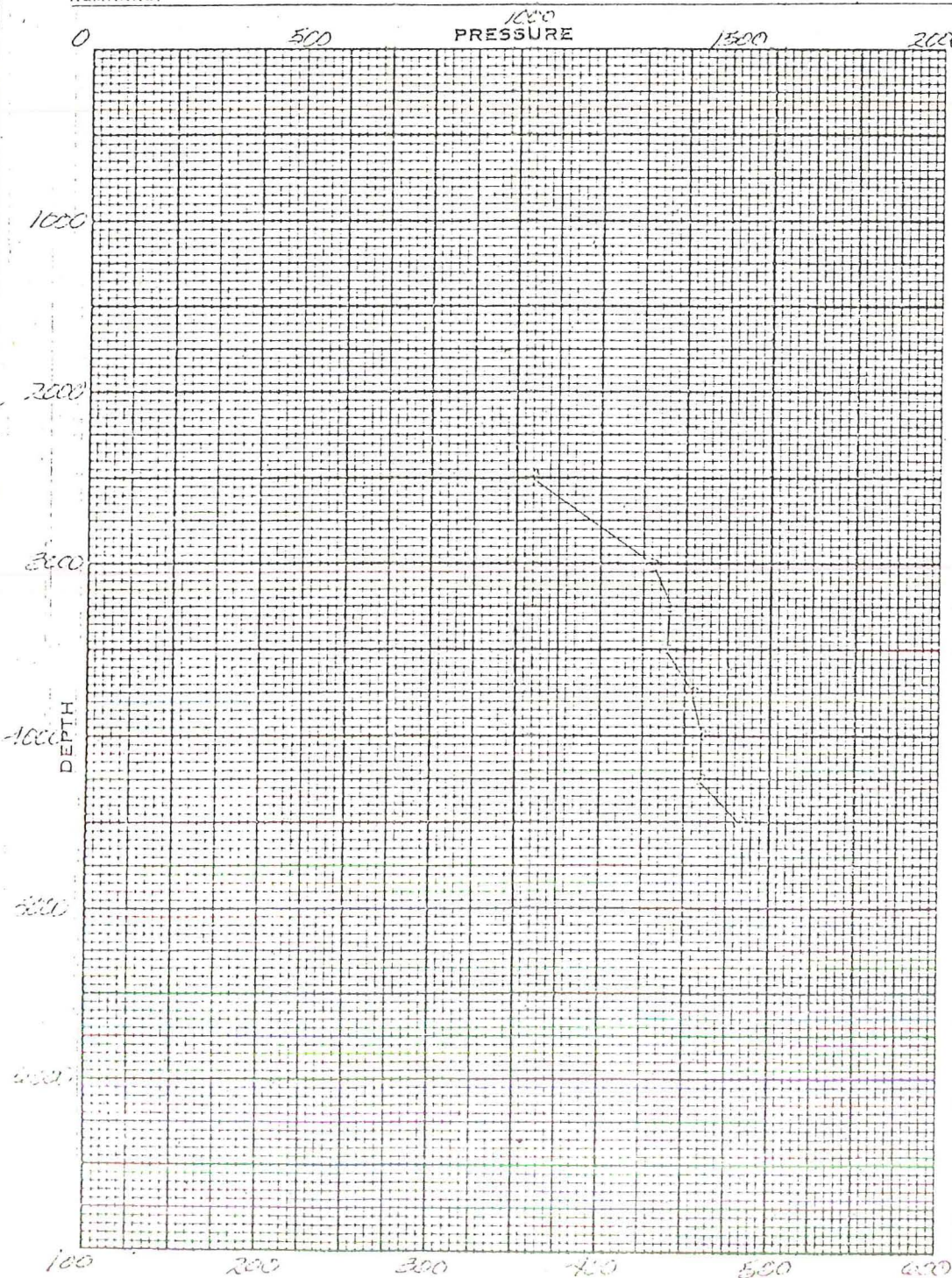
DEPTH	PRESSURE	GRADIENT
500	0	0
1000	0	0
1500	154	0.308
2000	340	0.372
2500	532	0.384
3000	713	0.362
3250	802	0.356
3500	893	0.364
3750	979	0.344
4000	1066	0.348
4250	1153	0.348
4500	1236	0.332
4750	1324	0.352
5000	1409	0.340
5250	1491	0.328
5500	1573	0.328
5750	1659	0.344
5960	1718	0.236

BY: _____

76

GEOTHERMAL DIVISION B10-53PT
SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co of Calif. FIELD _____ WELL NAME B10C No. 10
 CASING _____ ELEV 5739.5 CL DATE: 11-27-73
 LINER DESCRIPTION: _____ ZERO POINT Swath Gate Glt
 _____ DEPTH 6001 Survey 45
 HOLE DESCRIPTION: _____ INSTRUMENT 300-736 PSI
 _____ SERIAL NO KPG 7195
 _____ KTB 1003C
 PURPOSE Press/Temp. to pinpoint source of flow MAX TEMP 459.8 °F @ 4000
 REMARKS: _____



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	970.47	.329
4250	1152.55	.725
4500	1241.54	.356

Depth	Temp
0	-
2500	358.1
3000	430.7
3250	440.4
3500	438.2
3750	453.3
4000	459.8
4250	459.0
4500	452.7

BY: F. Kuhn

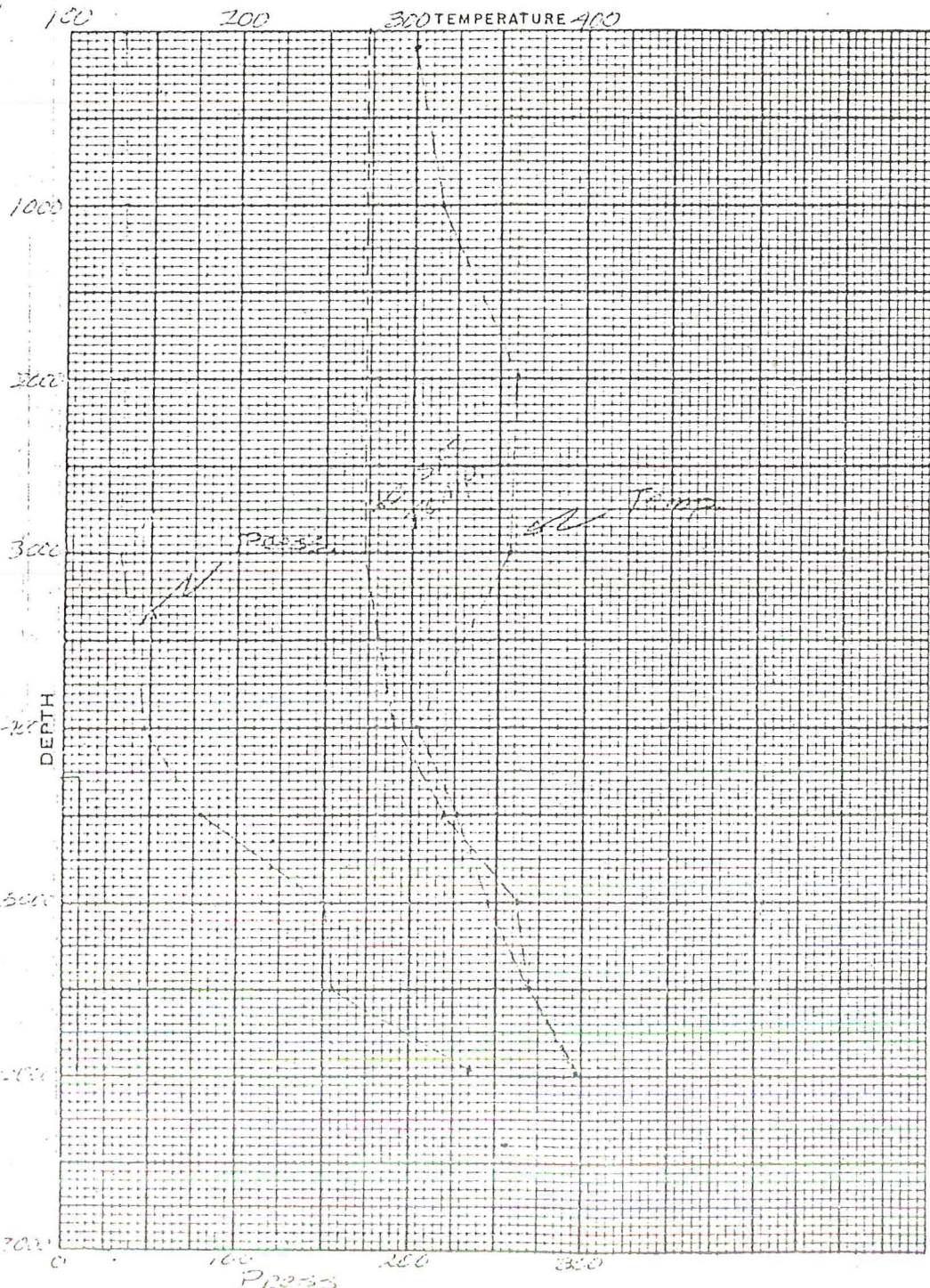
76

GEOTHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

310-52 PT
FLOWING

OWNER Union Oil Co of Calif FIELD _____ WELL NAME Baca No. 10
 CASING 13-3/8 at 2774 20" @ 653 ELEV. 5734.5 CL DATE 11-18-73
 LINER DESCRIPTION: 4-5/8 - 2450 - 4418' tied back to surface ZERO POINT Swab Gate GLTB
7" - 4278' - 6000' Gravel pack 5980 - 6000' DEPTH 6000' Survey 5980
 HOLE DESCRIPTION: _____ 4250 PSI
 INSTRUMENT 300-735 FAH
 SERIAL NO T-KTB 10036
P-KPG 7193
 PURPOSE Flowing Survey MAX TEMP 397.2 °F @ 5980
 REMARKS: _____

STABILIZATION PERIOD
Flowing at 10-20,000 psi



PRESSURES	GAUGE	BOMB
CASING, PSI	35	39

DEPTH	TEMP.	DEPTH Feet	TEMP. °F
100	300	33	-
1000	316.9	34	-
2000	316.9	34	-
3000	333.7	33	-
4000	343.3	47	.014
4500	376.8	79	.064
5000	395.5	149	.14
5500	371	155	.0012
5980	397.2	235	.166

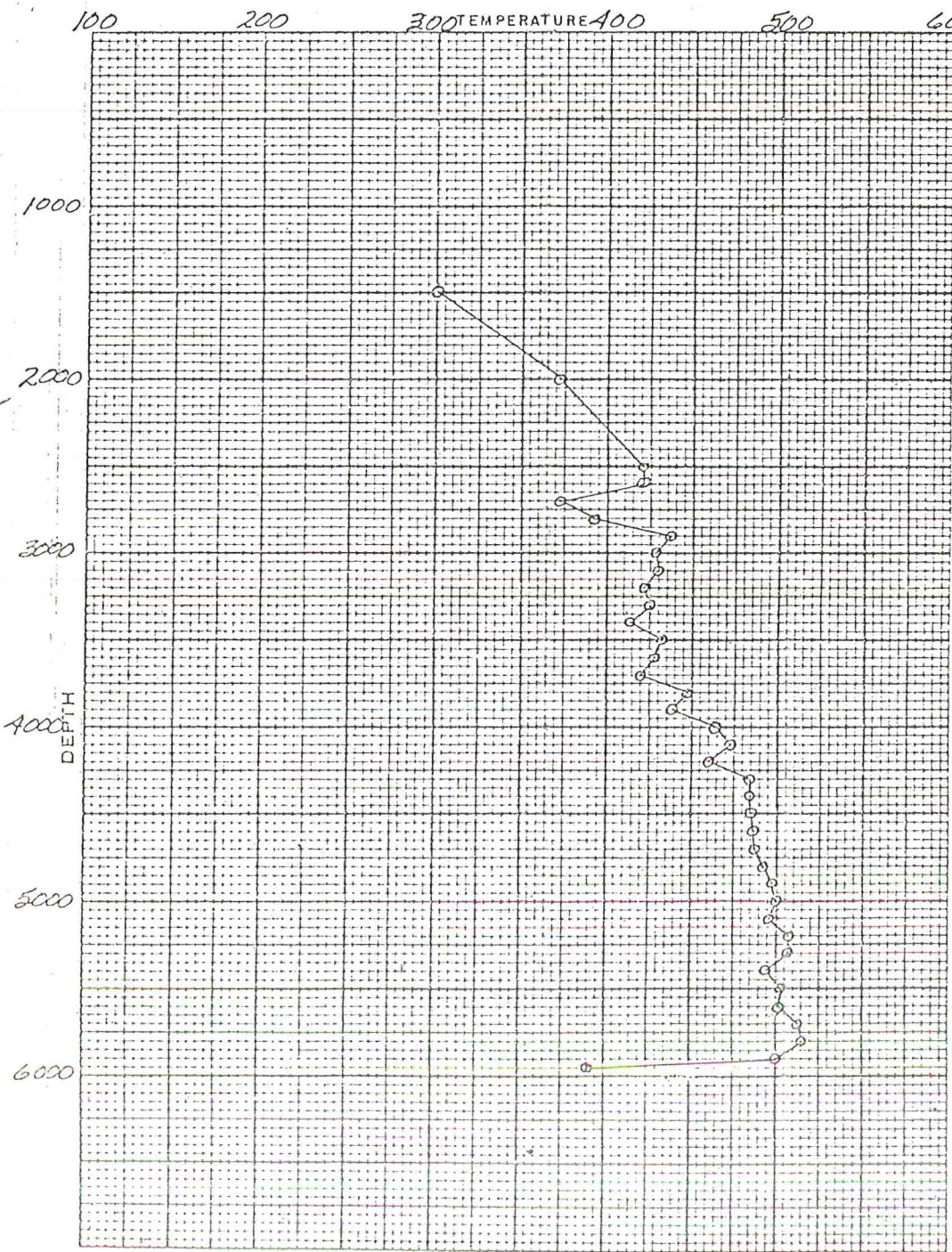
BY: TJM/mw/ll

76

GEOTHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

B10-31PT

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 DRNR
 HOLE DESCRIPTION: _____ INSTRUMENT 300-736 FAHR
 _____ SERIAL NO KT-B 10036
 PURPOSE P/T GRADIENT PRIOR to FLOW MAX TEMP 514.9 °F @ 5800
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURE	GAUGE	BORE
CASING PSI	—	—

DEPTH	TEMP.	DEPTH	TEMP.
0	430.0	5100	496.0
500	430.0	5200	507.1
1000	430.0	5300	506.6
1500	310.6	5400	495.0
2000	372.6	5500	503.0
2500	421.8	5600	501.1
2600	421.6	5700	512.6
2700	373.7	5800	514.9
2800	392.6	5900	499.6
2900	436.3	5961	390.3
3000	429.3		
3100	429.9		
3200	417.3		
3300	425.3		
3400	414.2		
3500	432.0		
3600	428.0		
3700	420.7		
3800	447.1		
3900	438.5		
4000	464.0		
4100	473.3		
4200	459.8		
4300	484.0		
4400	482.8		
4500	485.8		
4600	486.9		
4700	487.6		
4800	492.2		
4900	497.2		
5000	500.9		

BY: KUHN / MINETTE

76

GEOTHERMAL DIVISION

B10-SIPT

SUBSURFACE PRESSURE SURVEY

OWNER UNION Oil Co of Calif. FIELD _____ WELL NAME BACA No. 10
 CASING _____ ELEV 5734.5 GL DATE 10-3-73
 LINER DESCRIPTION: _____ ZERO POINT GL + 6'
 _____ DEPTH 6001 DRILLER
 HOLE DESCRIPTION: _____ INSTRUMENT 2400 PSIC
 _____ SERIAL NO 6604N
 PURPOSE P/T GRADIENT PRIOR to FLOW MAX TEMP 514.9 °F @ 5800
 REMARKS: _____



STABILIZATION PERIOD

PRESURES.	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	0.390
3800	980	0.350
3900	1018	0.380
4000	1054	0.360
4100	1090	0.360
4200	1125	0.350
4300	1159	0.390
4400	1194	0.350
4500	1229	0.350
4600	1263	0.390
4700	1298	0.350
4800	1331	0.330
4900	1367	0.360
5000	1401	0.390

CONTINUED
 BY: KUHN / MINETTE

76

Union 76

GEOTHERMAL 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 Drilled
 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	0.148

BY: