

GL03907

661#

TEMPERATURE AND PRESSURE SURVEYS

BACA WELL NO. 11

EXTRA

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

SEP 22 1976

SUBSURFACE SURVEY

Field Work Sheet

BPH 5164 P/T

OWNER: UNION Oil Co of CA | FIELD: Valle Grande
 CASING: 20" O 207' | 13 3/8" O 1336 | ELEV. 9604'
 LINER DESCRIPTION: 9 3/8" Tie back 1219' | 7 7/8" - 3380'
 WELL NAME: BPH F 11
 DATE: 9-16-76
 ZERO POINT: C.L. + 1
 DEPTH: 6540

TUBING DETAIL:

PURPOSE

REMARKS: Run sinker bar prior to survey - Depth 6540

ELEMENT 0-4760 SN. NO. 13012 12 hr 15T

ELEMENT 80' - 6460' SERIAL NO. 10052 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P 1345 T 1346 DISENGAGE STYLUS

WELL HEAD 339

PICKUP @ 6540 TIME ON BOTTOM 1547.70 1602 MAX. T 581

WELL STATUS

SHUT IN: 9-10-76

ON PRODUCTION:

RATE

Pressure

Temp.

Depth

T	DEPTH	DEFL.	P-T	GRAD.	Corr	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1	100	.139	349	.002	0	1421	100	.037	92								
1433	1000	.133	347	.022	-.004	1433	1000	.152	252		21						
1445	2000	.443	358	.011	-.001	1445	2000	1.066	402		243						
1457	3000	.238	583	.225	0	1457	3000	1.357	482		56						
1509	3500	.201	732	.238	0	1509	3500	1.427	501		577						
1521	4000	.374	905	.326	0	1521	4000	1.467	511		75						
1533	5000	.516	1239	.332	+.001	1533	5000	1.489	517		762						
1545	6000	.658	1573	.331	+.002	1545	6000	1.510	523		825						
1602	6540	.737	1758	.323	0	1602	6540	1.737	581		1377						

COMMENTS:

76

UNION

GEO THERMAL DIVISION

SEP 20 1976

SUBSURFACE SURVEY

Field Work Sheet

B² 11 S 104 P/T

OWNER: Union Oil Co of Cal. FIELD: Ualle Grande

WELL NAME: B-2-F-11

CASING: 20" O 207'; 13 3/4" O 1336 ELEV. 9604'

DATE: 9-16-76

LINER DESCRIPTION: 9 3/4" TROBACK 1219' 7 3/4" - 3380'

ZERO POINT: C-L + L

DEPTH: 6540

TUBING DETAIL:

PURPOSE

REMARKS: Run sinker bar prior to survey - Depth 6540

ELEMENT D-4700 SN. NO. 13012 12 hr 15 T

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

ENGAGE STYLUS P 1315 T 1346 DISENGAGE STYLUS

WELL HEAD 339

PICKUP @ 6540 TIME ON BOTTOM 1547 To 1602 MAX. T 581

WELL STATUS

SHUT IN: 9-10-76 ON PRODUCTION:

RATE

Pressure

Temp.

Depth

	DEPTH	DEFL.	P-T	GRAD.	Corr	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1	100	.139	349	.002	0	1421	100	.037	92								
1433	1000	.139	347	.002	-.004	1433	1000	.1552	252		21						
1445	2000	.443	358	.011	-.001	1445	2000	1.066	402		243						
1457	3000	.238	583	.015	0	1457	3000	1.357	482		56						
1489	3500	.201	732	.028	0	1509	3500	1.427	501		677						
1521	4000	.274	905	.026	0	1521	4000	1.467	511		71						
1533	5000	.516	1239	.032	+.001	1533	5000	1.489	517		762						
1545	6000	.658	1573	.031	+.002	1545	6000	1.510	523		800						
1602	6540	.737	1758	.033	0	1602	6540	1.739	581		837						

COMMENTS:

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GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

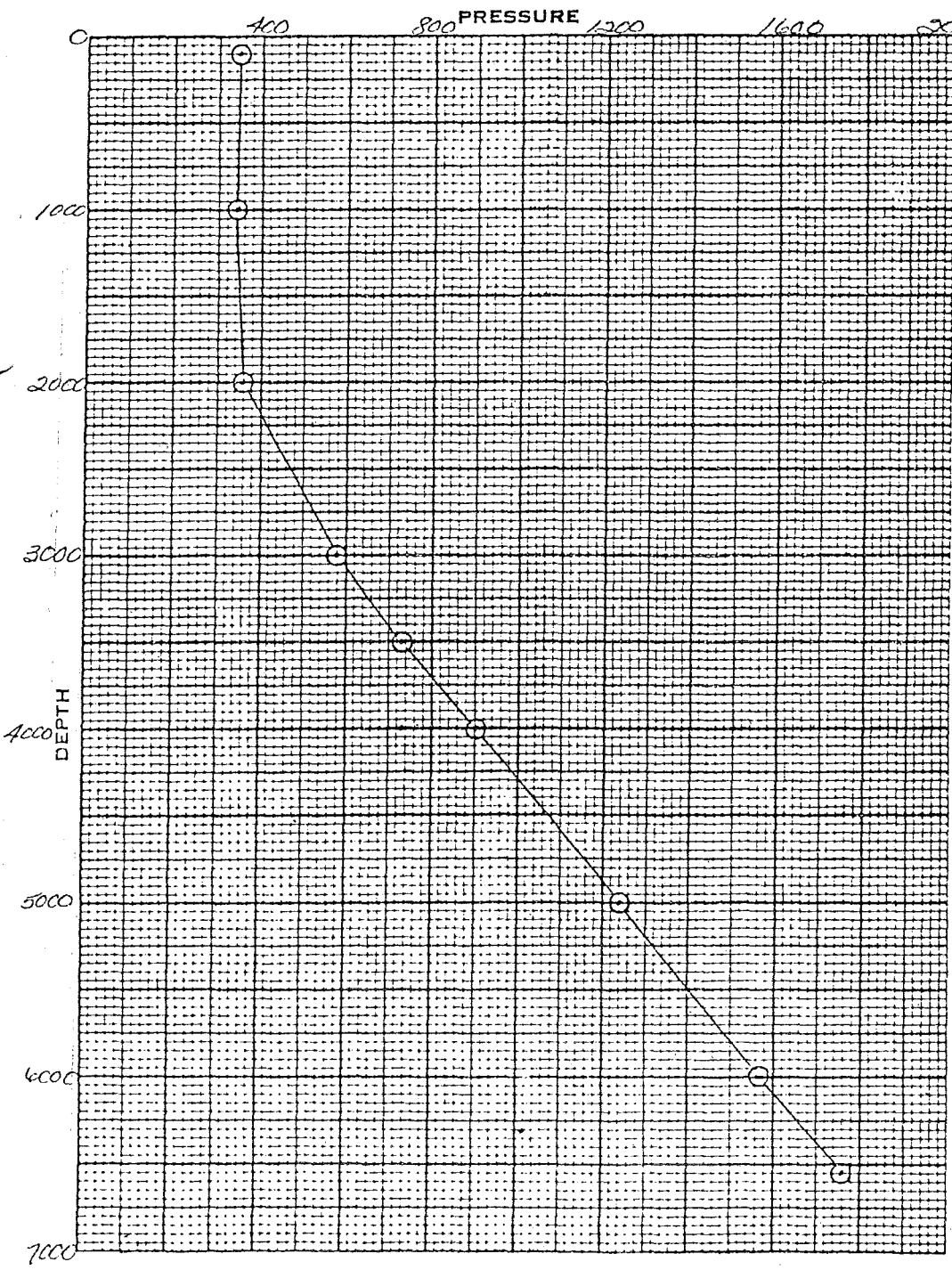
B11-5104-PT

OWNER _____ FIELD Valle Grande WELL NAME BACA #11
 CASING _____ ELEV. 9604' DATE: 9/16/76
 LINER DESCRIPTION: _____ ZERO POINT GL to'
 _____ DEPTH 6540'

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSIG
 _____ SERIAL NO. 13012

PURPOSE _____ MAX TEMP 581 °F @ 6540'

REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	349	
1000	347	
2000	358	
3000	583	
3500	732	
4000	905	
5000	1239	
6000	1573	
6540	1758	

BY: _____

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SUBSURFACE TEMPERATURE SURVEY

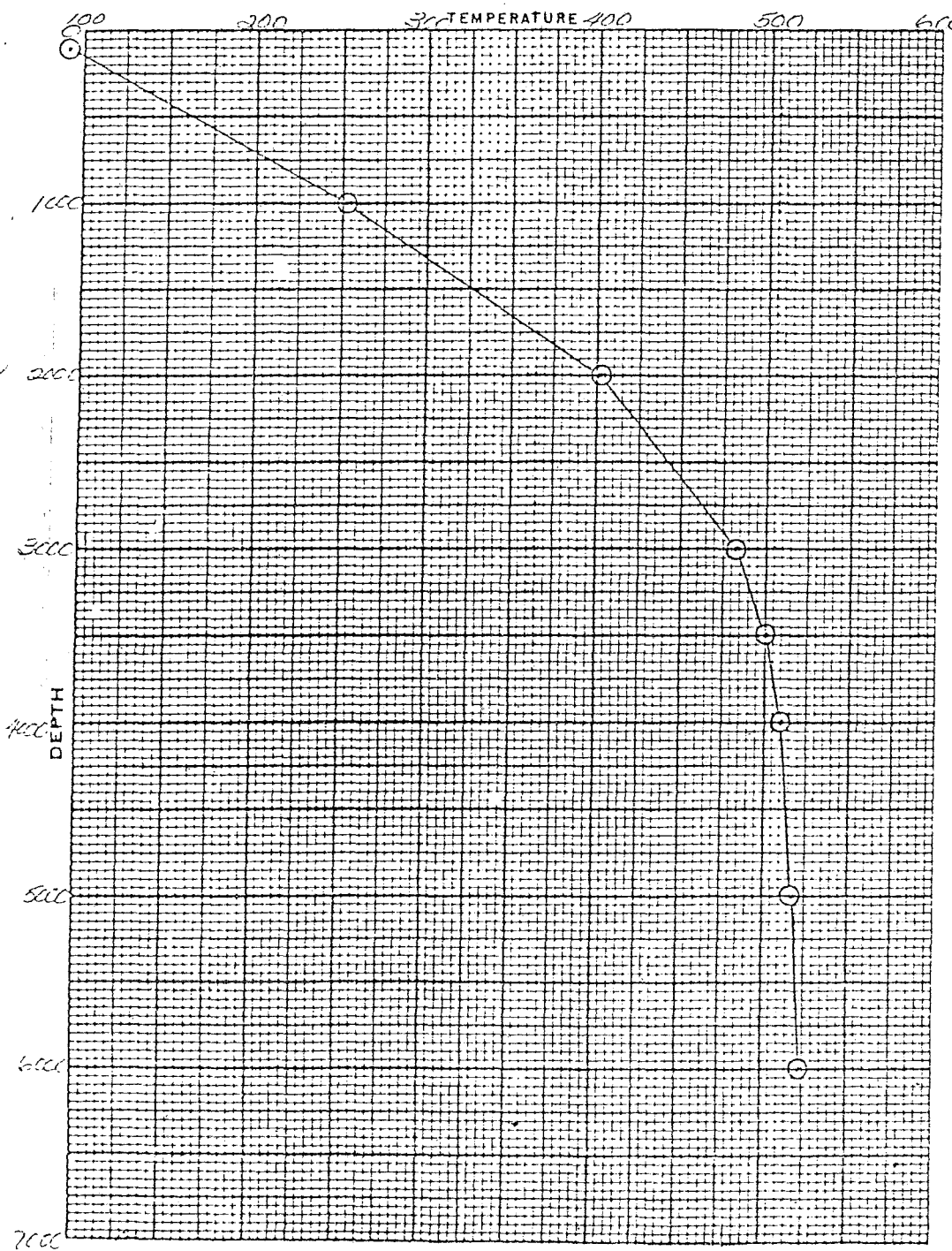
B11-5104-PT

OWNER _____ FIELD White Grande WELL NAME BACA #11
 CASING _____ ELEV 9604' DATE 9/16/76
 LINER DESCRIPTION: _____ ZERO POINT 61. + 6'
 _____ DEPTH 6540'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHR
 _____ SERIAL NO 10052

PURPOSE _____ MAX TEMP 581 °F @ 6540'
 REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	92		
1000	252		
2000	402		
3000	482		
3500	501		
4000	511		
5000	517		
6000	523		
6540	581		

BY:

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SUBSURFACE SURVEY

Field Work Sheet

B#11-5105-P/T

OWNER UNION OIL CO. CALIF. FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 20" @ 207' 1 1/8" @ 1336' ELEV. 9604' DATE: 9/28/76
 LINER DESCRIPTION: 9 5/8" @ 1219' Tieback ZERO POINT 6146'
 9 5/8" - 3380 - T.D. DEPTH 6540'

TUBING DETAIL:

PURPOSE

REMARKS:

P-O-4150 7516 9222 12 1/2 15

ELEMENT T-1105-7929 SERIAL NO. 10095 CLOCK 12 1/2 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1450 T-1450 DISENGAGE STYLUS P-1638 F-1638

WELL HEAD 600

PICKUP @ 6540' TIME ON BOTTOM 1609-1619 MAX. 2500

WELL STATUS SHUT IN

SHUT IN: 9-10-76 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	CO2P	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.257	632	*	0	1507	100	0	0								
	1000	.254	625		-1006	1516	1110	.333	251								
	2110	.249	660		-1001	1525	2110	.278	375								
	3260	.278	682		0	1534	3260	1.104	499								
	3510	.314	717		0	1542	3510	1.132	529								
	4110	.335	934		0	1550	4100	1.156	517								
	5100	.536	1275		0	1559	5000	1.173	522								
	1110	.675	1615		+1001	1603	1600	1.195	530								
	6540	.755	1801		0	1619	6540	1.375	535								

COMMENTS: * NOTE! PRESSURE AT 100' COULD NOT BE CORRECTED DUE TO 100°F MINIMUM TEMP. CORRECTION.

BY: [Signature]

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GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11 5106 FIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME RADA #11
 CASING 20" AT 207' 13 3/8" AT 1336' ELEV. 9064' DATE: 10/5/73
 LINER DESCRIPTION: 9 5/8" TIEBACK AT 1219' ZERO POINT 6646'
9 3/8" AT 3380' DEPTH 6540'
 TUBING DETAIL: 7" AT 3340'

PURPOSE

REMARKS:

ELEMENT 0-4650 PSI SN 9222 CL 12 hr 15T
 ELEMENT 100° - 792° SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1030 T-1025 DISENGAGE STYLUS P-1345 T-1350
 WELL HEAD 600 PSIG
 PICKUP @ 6540 TIME ON BOTTOM 1228-1308 MAX. °F 592
 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
1055	100	.251	618		-.008	1055	100	1.007	103								
1107	1000	.263	646		-.005	1107	1000	1.408	259								
1118	2000	.272	667		0	1118	2000	.752	383								
1129	3000	.279	684		0	1129	3000	1.110	501								
1142	3500	.318	776		0	1142	3500	1.139	511								
1153	4000	.389	943		0	1153	4000	1.157	517								
1225	5000	.535	1286	*	0	1225	5000	1.177	523								
1236	6000	.677	1619		0	1236	6000	1.201	531								
1308	6540	.754	1811	*	0	1308	6540	1.388	592								

* = 30 MINUTE STOPS

COMMENTS:

BY: Jm JB + Archie

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GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11 599 P17

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" AT 207' 13 3/8 1336' ELEV. 9064' DATE: 6/21/76
 LINER DESCRIPTION: 9 5/8" Tieback 1219' 9 5/8" AT 3380' ZERO POINT CLT 2'
 7" AT 3340' DEPTH 3000'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-2950 PSI SN 9235 CL - 12 hr 15 TURN

ELEMENT 100 - 792°F SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P 1438 T 1440 DISENGAGE STYLUS P 1700 T 1700

WELL HEAD 923

PICKUP @ 3000 TIME ON BOTTOM MAX. °F

WELL STATUS

SHUT IN: 1400 4/19/76 ON PRODUCTION:

RATE

PRESSURE

TEMP.

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1518	100	.605	927		-009	1518	100	.017	107								
1520	1000	.645	987		+001	1530	1000	.453	278								
1542	2000	.666	1018		+004	1542	2000	.776	392								
1544	3000	.687	1048		+001	1614	3000	1.251	548								
1614	3000	.687	1048		+001	1614	3000	1.251	548								
1644	3000	.687	1048			1644	3000	1.251	548								

COMMENTS:

BY: [Signature]

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GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

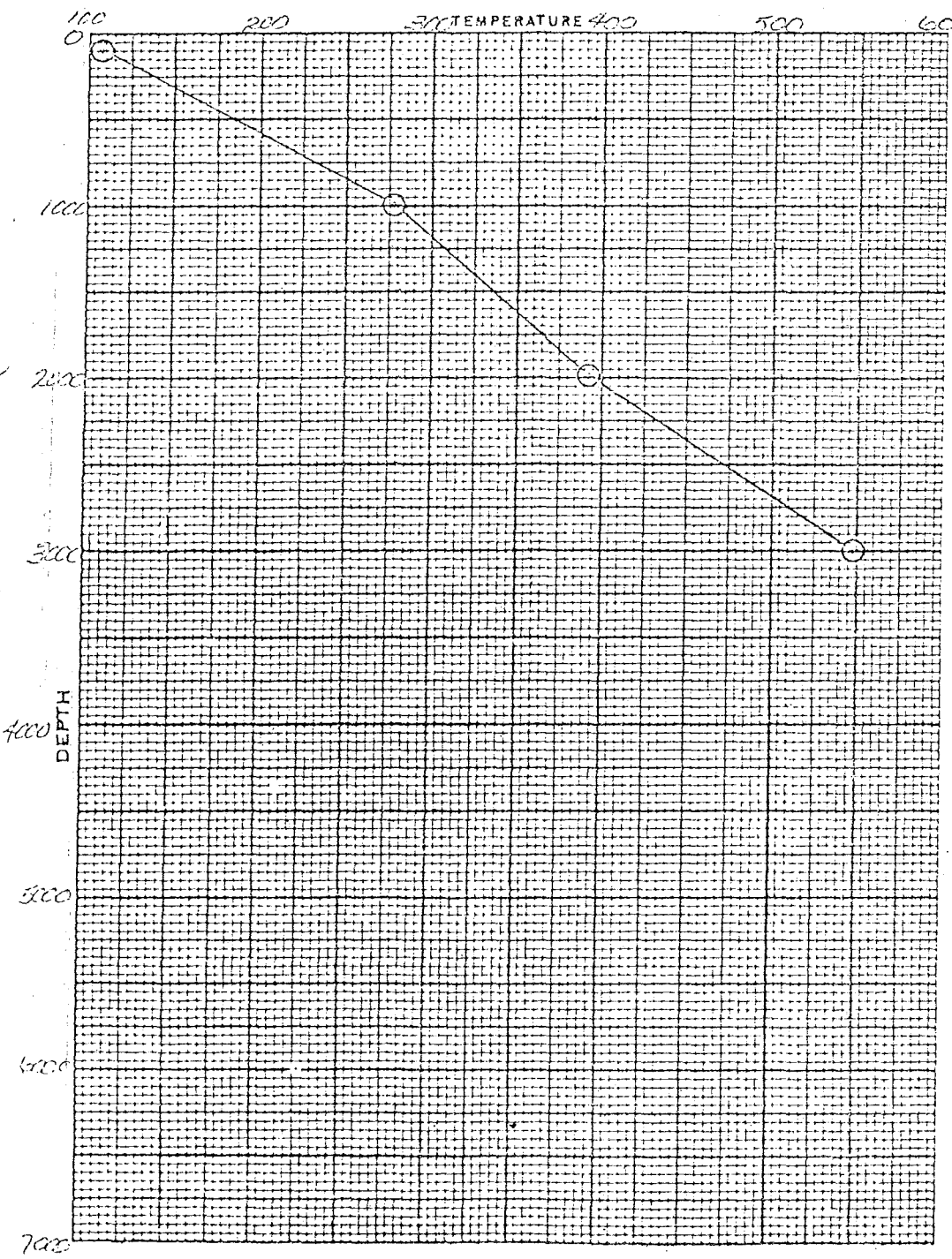
DATE

OWNER _____ FIELD White Granite WELL NAME BOCA #11
 CASING _____ ELEV 9064' DATE 6/21/76
 LINER DESCRIPTION: _____ ZERO POINT SL. T. 2'
 _____ DEPTH 3000

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAHP _____
 _____ SERIAL NO 10098

PURPOSE _____ MAX TEMP 548 °F @ 3000'
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES	GAUGE	3043	
CASING PSI			
DEPTH	TEMP.	DEPTH	TEMP.
100	107		
1000	278		
2000	392		
3000	548		

WY:

76

UNION

GEO THERMAL DIVISION

DESIGN: 100-1170

SUBSURFACE SURVEY
Field Work Sheet

B#11 5-98 7/

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME B#11
 CASING 20" @ 207' & 15 3/4" @ 1336' ELEV. 906.9' DATE: 6/15/76
 LINER DESCRIPTION: 9 5/8" tubing @ 1219' & 9 5/8" @ 3380' ZERO POINT GL + 7'
7" @ 3340' DEPTH 3600'

TUBING DETAIL:

PURPOSE

REMARKS:

Element 0-2950 Psi SM- 9235 Clock 12 hr 15 turn
 ELEMENT 100°-79.2°F SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0907; T-0911 DISENGAGE STYLUS P-1218; T-1218
 WELL HEAD 920 Psi
 PICKUP @ 3600' TIME ON BOTTOM 1020-1120 MAX. °F 548.2°F
 WELL STATUS shut-in
 SHUT IN: 1400, 4/19/76 ON PRODUCTION:
 RATE

Pressure

TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	INDR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.610	954.3		-0.010	0955	100	.015	105.9								
	1000	.640	979.1		-0-	1008	1000	.445	273.7								
	2000	.661	1010.3	021	+0.004	1019	2000	.777	342								
	3000	.679	1036.7	027	+0.001	1120	3000	1.252	548.2								

COMMENTS:

BY: NR CP

76

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GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#11-594 1/2

OWNER Union Oil Co of Calif. FIELD Valk Clarks WELL NAME Bison #11
 CASING 20" @ 907' - 13 1/2" @ 1334' ELEV. 906.4' DATE: 6/11/76
 LINER DESCRIPTION: 9 3/4" tub. @ 1219' - 9 5/8" @ 3350' ZERO POINT
7" @ 3350' T.D. DEPTH

TUBING DETAIL:

PURPOSE

REMARKS:

Element - C-2450 Big SN- 4255 Clock 12 hr 15 Turn

ELEMENT - 100° - 792° T SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1050 °T- 10.34 DISENGAGE STYLUS P-1436 °T- 14.38

WELL HEAD 923 Big

PICKUP @ 3000' TIME ON BOTTOM 1158 - 1913 MAX. T 550°F

WELL STATUS Shut in

SHUT IN: 1900 9/19/76 ON PRODUCTION:

RATE

TIME	Press				Temp				ID	TIME					ID
	DEPTH	DEFL.	P-T	GRAD.	DEPTH	DEFL.	P-T	GRAD.			DEPTH	DEFL.	P-T	GRAD.	
1125	100	.609	932.5	- .011	1125	100	.650	113.2							
1137	1000	.643	953.6	- .001	1137	1000	.470	251.9							
1152	2000	.672	1078.4	- .006	1152	2000	.777	399							
1913	5000	.691	1051.2	- .001	1913	5000	1.255	550							

COMMENTS:

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GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#11-597-P1T

OWNER UNION OIL CO CALIF FIELD VALLE GRANDE WELL NAME B#11
 CASING 20" @ 267' 13 3/8" @ 133' ELEV. 9064' DATE: 6/11/76
 LINER DESCRIPTION: 9 5/8" TIEBACK 1219'; 9 5/8" @ 3330'; 7" @ 3340' ZERO POINT 66+7'
 DEPTH 3000

TUBING DETAIL:

PURPOSE

REMARKS:

P-C-2950- 9235 12 1/2 15

ELEMENT T-1669-79 1/2 SERIAL NO. 70095 CLOCK 12/12 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1351 T-1351 DISENGAGE STYLUS P-1511 T-1511

WELL HEAD 920

PICKUP @ 3000 TIME ON BOTTOM 1418-1515 MAX. T 545

WELL STATUS SHUT IN

SHUT IN: 1400 HRS 4/19/76 ON PRODUCTION:

RATE

7510 TEMP

TIME	DEPTH	DEFL.	P-T	GRAD.	TEMP	TIME	DEPTH	DEFL.	P-T	GRAD.	TD	TIME	DEPTH	DEFL.	P-T	GRAD.	TD
	100	1.610	9241		5010	1413	100	1.629	111								
	1500	1.93			7.001	1515	3000	1.257	545								

COMMENTS:

BY:

76

Seal UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B11 596 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 2" AT 20', 1 3/8" 1336 ELEV. 9004' DATE: 6/7/72
 LINER DESCRIPTION: 9 5/8 Tuback 1215, 9 5/8 AT 5350 ZERO POINT CL 17'
7" AT 3340' DEPTH

TUBING DETAIL:

PURPOSE

REMARKS:

Element - C-2950 SN 9235 Clock 12 hr 15 T
 ELEMENT 100-792 SERIAL NO. 10095 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P 0957 T 1000 DISENGAGE STYLUS P 1310 T 1310
 WELL HEAD 919 2519
 PICKUP @ 3000 TIME ON BOTTOM 1124-1244 MAX. °F
 WELL STATUS
 SHUT IN: 1400 4/19/72 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
	100	6.08	931		-810	1053	100	0.20	108								
	1000	6.38	970		0	1107	1000	4.70	282								
	2000	6.60	1009		+004	1120	2000	7.77	392								
	3000	6.79	1037		+001	1124	3000	1.250	548								
	3000	6.79	1037		+001	1154	3000	1.250	548								
	3000	6.79	1037		+001	1224	3000	1.250	548								
	3000	6.79	1037		+001	1244	3000	1.250	548								

COMMENTS:

RV: 1 1 1 1

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GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

3#11 S-93 P/T

OWNER Union Oil Co of Calif FIELD Valle Grande WELL NAME Boon #11
 CASING 20 1/2" @ 207'; 15 1/2" @ 1536 ELEV. 906.4' DATE: 5/23/76
 LINER DESCRIPTION: 9 1/2" Fiberglass @ 1219'; 9 1/2" @ 3380 ZERO POINT CL. + 7'
7" - 3380' - T.D. DEPTH 3600'

TUBING DETAIL:

PURPOSE

REMARKS:

Checked 0-2950 Pig S.N. 9235 Clock 12 hr. 15 Turn
 ELEMENT 100° 79.2° F SERIAL NO. 10098 CLOCK 12 hr. 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0911 ° T-0908 DISENGAGE STYLUS P-1230 ° T-1231
 WELL HEAD 920 Pig
 PICKUP @ 3000' TIME ON BOTTOM 1009-1209 MAX. T. 549.2° F
 WELL STATUS shut-in
 SHUT IN: 1400 4/19/76 ON PRODUCTION:
 RATE

Pigs

Temp

DEPTH	DEFL.	P-T	GRAD.	Corr/D	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
100	.113	938.8		-0.11	1002	100	.042	117.4								
1009	16.92	1035.7		1.001	1009	3000	1.255	549.2								
1024	"	"		"	1024	"	"	"								
1039	"	"		"	1039	"	"	"								
1054	"	"		"	1054	"	"	"								
1069	"	"		"	1069	"	"	"								
1084	"	"		"	1084	"	"	"								
1099	"	"		"	1099	"	"	"								
1114	"	"		"	1114	"	"	"								
1129	"	"		"	1129	"	"	"								
1144	"	"		"	1144	"	"	"								
1159	"	"		"	1159	"	"	"								
1174	"	"		"	1174	"	"	"								
1189	"	"		"	1189	"	"	"								
1209	16.92	1035.7		1.001	1209	3000	1.255	549.2								

COMMENTS:

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UNION GEO THERMAL DIVISION

SUBSURFACE SURVEY Field Work Sheet

B11-599-P1T

OWNER UNION OIL CO. CACIE FIELD VALLE GRANDE WELL NAME BAC-11
 CASING 2 1/2" 10.7' 13 1/2" 8' 33' ELEV. 9001' DATE: 5/25/76
 LINER DESCRIPTION: 9 3/8" TYPHOON @ 10.14' 9 3/8" @ 3590' ZERO POINT CL-7'
7" @ 3340' - T.O. DEPTH 3000'

TUBING DETAIL:

PURPOSE

REMARKS:

P-1-2956 P.O. - 9235 12 HR 15

ELEMENT T-116-787' SERIAL NO. 10098 CLOCK 12 HR 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1315 T-1317 DISENGAGE STYLUS P-1240 T-1241

WELL HEAD 925

PICKUP @ 3000 TIME ON BOTTOM 1116-1116 MAX. P. 551

WELL STATUS SHOT IN

SHUT IN: MARCH 25 - 4-19-76 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
1350	111	.658	993		541	1350	111	.658	121								
1412	1100	.565	994		541	1412	1100	.565	994								
1414	1114	.780	993		541	1414	1114	.780	993								
1416	1116	1.259	551		541	1416	1116	1.259	551								
1418	1118	1.259	551		541	1418	1118	1.259	551								
1511	1511	1.259	551		541	1511	1511	1.259	551								
1516	1516	1.259	551		541	1516	1516	1.259	551								
1611	1611	1.259	551		541	1611	1611	1.259	551								

COMMENTS:

BY: The Keys

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UNION

Feb 1976

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B#11 S.90 1/4

OWNER Union Oil Co. of Calif FIELD Valle Grande WELL NAME Baca #11
 CASING 30" @ 107' 13 3/4" @ 1336' ELEV. 901.4' DATE: 5/18/76
 LINER DESCRIPTION: 9 3/4" tie back @ 1219'; 9 3/4" @ 3380' ZERO POINT GL + 7'
7" 3340 - T.D. DEPTH 3000'

TUBING DETAIL:

PURPOSE

REMARKS:

Element - C-2950 Rig 5N-9935 Clock 12 hr 15 TURN
ELEMENT-100-792° F SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
ENGAGE SYLUS P-0900; T-0858 DISENGAGE SYLUS P-1308; T-1329
WELL HEAD 935 Rig
PICKUP @ 3000' TIME ON BOTTOM 1000-1306 MAX. °F 550.5° F
WELL STATUS - shut-in
SHUT IN: 1359 - 4/19/76 ON PRODUCTION:
 RATE

Pressure Temp

TIME	DEPTH	DEFL.	P-T	GRAD.	CO. ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0935	100	.604	933.2		-011	0935	100	.650	100.2								
	1000	.637	1009.4		+002	0949	1000	.500	293.7								
	2000	.682	1041.1		+005	1009	2000	.780	392.0								
	3000	.764	1073.3		+001	1006	3000	1.259	550.5								
						1036											
						1101											
						1136											
						1206											
						1236											
	3000	.764	1073.3		+001	1306	3000	1.259	550.5								

COMMENTS:

BY: C.P., A.D., J.M.

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11-589-P1T

OWNER UNION OIL CO CALIF FIELD VALLE GRANDE WELL NAME BACA 11
 CASING 20" @ 207', 13 3/8" @ 1336', ELEV. 9064' DATE: 5/14/76
 LINER DESCRIPTION: 9 5/8" TIEBACK @ 1219', 9 5/8" @ 3380', ZERO POINT GL+7'
 7" @ 3340' — T.D. DEPTH 3000'

TUBING DETAIL:

PURPOSE

REMARKS:

P-0-2950PSIG. 9235 12HR 15
 ELEMENT T-100°-782°F SERIAL NO. 10098 CLOCK 12HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0951 T-0959 DISENGAGE STYLUS P-1520 T-1521
 WELL HEAD 925 (chart)
 PICKUP @ 3000' TIME ON BOTTOM 1050-1250 MAX. °F 551
 WELL STATUS SHUT IN
 SHUT IN: 1359 HRS 4/19/76, ON PRODUCTION:
 RATE

PSIG.

TEMP

TIME	DEPTH	DEFL.	P-Ø	GRAD.	TEMP.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1050	3100	.703	1072		7.001	1050	3100	1.260	551								
1100	3100	.703	1072		7.001	1120	3100	1.260	551								
1150	3000	.703	1072		7.001	1150	3000	1.260	551								
1200	3000	.703	1072		7.001	1220	3000	1.260	551								
1250	3000	.703	1072		7.001	1250	3000	1.260	551								

COMMENTS:

BY: [Signature]

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11528 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE

WELL NAME BHCA #11

CASING 20" AT 201' 1 1/2" AT 1336' ELEV. 9064'

DATE: 5/10/76

LINER DESCRIPTION: 9 5/8 tieback 1219' ; 9 5/8 AT 3380' ; 7" AT 3340'

ZERO POINT CL 17'

DEPTH 3000'

TUBING DETAIL:

PURPOSE buildup

REMARKS:

Element - 0-2450 PSI SN 7235 CLOCK-12hr 15 TURN

ELEMENT 100" 742°F SERIAL NO. 10098 CLOCK 12hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0942; T-0942 DISENGAGE STYLUS P-1312; T-1312

WELL HEAD 628 PSI

PICKUP @ 3000 TIME ON BOTTOM 1046-1246 MAX. P. 550.5

WELL STATUS

SHUT IN: 1359 hrs 4/19/76 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	.621	951		-011	1020	150	.006	102								
	1000	.657	1004	.059	+002	1032	1070	.502	293.7								
1044	2000	.686	1058	.032	+005	1044	2000	.782	543.7								
1046	3000	.676	1062		+001	1046	3000	1.253	548.5								
1116	3000	.700	1069	.031	+001	1116	3000	1.259	550.5								
1146	3000	.701	1069	"	+001	1146	3000	1.259	550.5								
1216	3000	.701	1069	"	+001	1216	3000	1.259	550.5								
1246	3000	.701	1069	"	+001	1246	3000	1.259	550.5								

COMMENTS:

BY: CD RB JB

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B# 11 S-27 P11

OWNER UNION OIL CO OF CAL FIELD WALK GRADE WELL NAME B# 11
 CASING 20" @ 207'; 13 3/8" @ 136' ELEV. 9064' DATE: 5-6-76
 LINER DESCRIPTION: 9 5/8" @ 1219' 9 5/8" @ 3388' ZERO POINT GL + 7'
7" @ 3340' - TD DEPTH 3000'

TUBING DETAIL:

PURPOSE Buildup

REMARKS:

Element 0-2950 DSP 3N 9235 Clock 12hr 15 Tr

ELEMENT 100° - 292° SERIAL NO. 10082 CLOCK 12hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P1023 T 1019 DISENGAGE STYLUS P 1390 T 1330

WELL HEAD 914

PICKUP @ 300 TIME ON BOTTOM 1058 - 1303 MAX. °F 550

WELL STATUS

SHUT IN: 1400 hrs 4-19-79 ON PRODUCTION:

RATE

Pressure

Temperature

Pressure					Temperature												
TIME	DEPTH	DEFL.	P-T	GRAD.	CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1100	3000	.687	1048		-1.001	1100	3000	1.250	548								
1130	3000	.692	1056		+1.001	1130	3000	1.256	550								
1200	3000	.692	1056		+1.001	1200	3000	1.256	550								
1230	3000	.692	1056		+1.001	1230	3000	1.256	550								
1300	3000	.692	1056		+1.001	1300	3000	1.256	550								

COMMENTS:

BY: *[Signature]*

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11-553-P/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME B11-553
 CASING 20" @ 207'; 15 3/8" @ 1336 ELEV. 9064' DATE: 5/4/76
 LINER DESCRIPTION: 9 7/8" TIEBACK @ 1919'; 9 5/8" @ 3350' ZERO POINT 2147'
 7" @ 3340 - T.D. DEPTH 3000'

TUBING DETAIL:

PURPOSE

REMARKS:

P-C-2950 PSIG - 9235
 ELEMENT T-1001-792° SERIAL NO. 10098 CLOCK - TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0250 T-0252 DISENGAGE STYLUS P-1352, T-1353
 WELL HEAD 905
 PICKUP @ 3000' TIME ON BOTTOM 116-1316 MAX. 'F 546.5
 WELL STATUS SHUT IN
 SHUT IN: 1400 HRS 4/19/76 ON PRODUCTION:
 RATE

PSIG

TEMPERATURE

TIME	DEPTH	DEFL.	P-G	GRAD.	PSIG	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1044	100	110	934		-1.008	1044	100	1070	129								
1153	1000	137	975		+1.602	1153	1100	1236	316								
1113	2000	151	1010		+1.604	1113	2000	1281	393								
1116	3000	167	1052		+1.001	1116	3000	1245	546								
1146	2000	1679	1037		+1.001	1146	3000	1247	546.5								
1216	3000	1630	1038		+1.001	1216	3000	1247	546.5								
1246	3000	1630	1038		+1.001	1246	3000	1247	546.5								
1316	3000	1630	1038		+1.001	1316	3000	1247	546.5								

COMMENTS:

BY: S.M. R.B.

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11 585 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" AT 207, 13 3/8" AT 1336 ELEV. 906.4' DATE: 5/2/76
 LINER DESCRIPTION: 9 5/8" TIEBACK AT 1219, 9 5/8" AT 3380' ZERO POINT GL+7'
7" AT 3340' DEPTH 3000'

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT - 0" 2950 PSI SN 9295 CLOCK 12hr 15 TURN
 ELEMENT - 100" 792' SERIAL NO. 10098 CLOCK 12hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1138 T-1140 DISENGAGE STYLUS P-1642 T-1643
 WELL HEAD 904 PSIG
 PICKUP @ 3000' TIME ON BOTTOM MAX. °F
 WELL STATUS
 SHUT IN: 1359 hrs 4/19/76 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
1235	3000	.666	1018		+ .001	1235	3010	1.179	522.8								
1305	✓	.676	1052		-	1305	✓	1.241	544.5								
1335	✓	.676	1032		-	1335	✓	1.241	544.5								
1405	✓	.676	1052		✓	1405	✓	1.241	544.5								
1435	✓	.676	1052		✓	1435	✓	1.241	544.5								

COMMENTS:

BY: JB CP CD RB

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11 584 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" AT 207'; 13 3/8" AT 1336' ELEV. 9064' DATE: 4/30/76
 LINER DESCRIPTION: 9 5/8" TIGBACK AT 1219'; 9 5/8" AT 3380 ZERO POINT GL+7'
7" AT 3340' DEPTH 3000'
 TUBING DETAIL:

PURPOSE buildup

REMARKS:
 ELEMENT 0-2950 PSI SN 9235 CLOCK 12 hr 15 TURN
 ELEMENT 100' - 792°F SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0929 T-0925 DISENGAGE STYLUS P-1537 T-1536
 WELL HEAD 882 PSIG
 PICKUP @ 3100 TIME ON BOTTOM 1000-1520 MAX. °F 543.5
 WELL STATUS
 SHUT IN: 1359 hrs 4/19/76 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1000	3000	.652	999		+ .001	1000	3000	1.175	522.8								
1100	✓	.667	1019		✓	1030	✓	1.235	542.6								
1100	✓	.667	1019		✓	1100	✓	1.235	542.6								
1130	✓	.667	1019		✓	1130	✓	1.236	542.9								
1200	✓	.667	1019		✓	1200	✓	1.236	542.9								
1230	✓	.667	1019		✓	1230	✓	1.236	542.9								
1300	✓	.667	1019		✓	1300	✓	1.237	543.2								
1330	✓	.667	1019		✓	1330	✓	1.237	543.2								
1400	✓	.667	1019		✓	1400	✓	1.238	543.5								
1430	✓	.667	1019		✓	1430	✓	1.238	543.5								
1500	✓	.667	1019		✓	1500	✓	1.238	543.5								

COMMENTS:

BY: JB CPO

76

Jack [unclear]

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY Field Work Sheet

B11 583 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME SACN #11
 CASING 30" AT 207'; 15 3/8" 1336 ELEV. 9064' DATE: 4/25/76
 LINER DESCRIPTION: 9 5/8" Tuback 1219'; 9 5/8" AT 3380 ZERO POINT 6417'
7" AT 3340' DEPTH 3100'

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT - 0-2950 PSI SN 9255 CLOCK 12 HR 15 TURN
 ELEMENT - 100-792° SERIAL NO. 10098 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1007 T-1010 DISENGAGE STYLUS P-1507 T-1508
 WELL HEAD 863 PSIG
 PICKUP @ 3100 TIME ON BOTTOM 1121-1151 MAX. P. 538.6
 WELL STATUS
 SHUT IN: 1359 hrs 4/19/76 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	
1121	3100	.651	966		1.00'	1121	3000	1.198	538.0									
	✓	.647	990		✓	1151	✓	1.223	538.6									
	✓	.647	990		✓	1221	✓	1.223	538.6									
	✓	.647	990		✓	1251	✓											
1321	✓	.647	990		✓	1321	✓											
1351	✓	.647	990		✓	1351	✓											
1421	✓	.647	990		✓	1421	✓											
1451	✓	.647	990		✓	1451	✓											
1521	✓	.647	990		✓	1521	✓	1.223	538.6									

COMMENTS:

BY: B CP CD

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11 582 P1

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 2.0" AT 207', 13^{3/8} 1336. ELEV. 9064 DATE: 4/27/76
 LINER DESCRIPTION: 9 5/8" TIEBACK 1219'; 9 5/8" 1219 3380' ZERO POINT GL + 7'
7" 3340' - TD DEPTH 3440'

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT - 0-2950 PSI SN 9285 CLOCK - 12 HR 15 TURN
 ELEMENT 150 - 792 °F SERIAL NO. 10098 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0056 T-0059 DISENGAGE STYLUS P-0458 T-0459
 WELL HEAD 856 PSI
 PICKUP @ 3440' TIME ON BOTTOM 0230 - 0430 MAX. °F 539.9
 WELL STATUS
 SHUT IN: 4/19/76 AT 1559 hrs ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0146	100	.566	869		7.008	0146	100	.155	163.5								
0150	100	.570	875		7.008	0150	100	.155	163.5								
0203	1000	.589	903		7.002	0203	1000	.535	306.0								
0207	1000	.593	909		7.002	0207	1000	.535	306.0								
0221	2000	.609	953		7.003	0221	2000	.804	414.5								
0225	2000	.615	959		7.003	0225	2000	.846	415.2								
0230	3000	.625	957		7.001	0230	3000	1.224	538.9								
0234	3000	.629	963		7.001	0234	3000	1.227	539.9								
0238	3000	.625	957		7.001	0238	3000	1.224	538.9								
0242	3000	.629	963		7.001	0242	3000	1.227	539.9								
0426	3000	.625	957		7.001	0426	3000	1.224	538.9								
0430	3000	.629	963		7.001	0430	3000	1.227	539.9								

NO VISIBLE CYCLE

NOTE: TOOLS WERE
 ON BOTTOM FROM
 0230 HRS. TO 0430 HRS
 CYCLES OCCUR
 APPROX EVERY
 3.5 MINUTES.

COMMENTS:

BY: JB CP CD

76

Jack H.P.

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B11 581 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 20" AT 207 13 3/8 1336 ELEV. 9064 DATE: 4/24/76
 LINER DESCRIPTION: 9 5/8" TIEBACK HT 1219'; 9 5/8 1219-3380 ZERO POINT GL+7
7" AT 3340' DEPTH 3000'

TUBING DETAIL:

PURPOSE buildup

REMARKS:

Element- 0-2930 PSI SN 9235 CLOCK 12 HR 15 TURN
 ELEMENT 100-2920 SERIAL NO. 10098 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1355 T-1450 DISENGAGE STYLUS P-1840 T-1845

WELL HEAD 632

PICKUP @ 3000 TIME ON BOTTOM 1430-1830 MAX. T 534.3

WELL STATUS

SHUT IN: 1359 hrs 4/19/76 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE						
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1430	3000	1.12	937		+601	1430	3000	1.202	532.0		
	2800	1.19	948		+601	1530	3000	1.210	534.3		
1630	3000	1.19	948		+601	1630	3000	1.210	534.3		
1730	3000	1.19	948		+601	1730	3000	1.210	534.3		
1830	3000	1.19	948		+601	1830	3000	1.210	534.3		

COMMENTS:

BY: JS 20

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#11 S-80 P17

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME B#11
 CASING 20" @ 207' @ 1356' ELEV. 9064' DATE: 4/25/76
 LINER DESCRIPTION: 1 9/16" Fiberglass @ 1219, 1 1/2" 1219 - 3380' ZERO POINT GL + 7'
7" @ 3340' DEPTH 3000'

TUBING DETAIL:

PURPOSE

REMARKS:

Element - 0.2950 Psiq SN-9235 Clock 12 hr 15 Turn

ELEMENT - SERIAL NO. CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS DISENGAGE STYLUS

WELL HEAD - 5.75 Psiq

PICKUP @ 3000' TIME ON BOTTOM 1120 - 1520 MAX. °F 533.0

WELL STATUS shut in

SHUT IN: 1259, 4/19/76 ON PRODUCTION:

RATE TEMPERATURE

PRESSURE

TIME DEPTH DEF. Temp

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
11	3000	.611	936			1120	3000	1.199	530.7								
1	3000	.617	945			1220	3000	1.206	533.0								
1320	3000	.617	945			1320	3000	1.206	533.0								
1420	3000	.617	945			1420	3000	1.206	533.0								
1520	3000	.617	945			1520	3000	1.206	533.0								

COMMENTS:

BY: JB RB

76

Spk head 3

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B11 579 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BHEA #11
 CASING 20" AT 201' 13 5/8" AT 1336 ELEV. 9064' DATE: 4/22/76
 LINER DESCRIPTION: 9 5/8" TIEBACK AT 1215; 9 5/8" 1219-3380 ZERO POINT 6677'
7" AT 5340 DEPTH 3000'

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT 0-2450 SN 9233 CLOCK 12 hr 15 T
 ELEMENT 100-7924 SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0323 T-0325 DISENGAGE STYLUS P-0750 T-0750
 WELL HEAD SEE ATTACHED SHEET
 PICKUP 0 3000' TIME ON BOTTOM 0423 - 0723 MAX. °F 529.7
 WELL STATUS
 SHUT IN: 4/19/76 1359 hr 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
0355	100	.545	539		-7.009	0355	100	.187	175.9								
0407	1000	.366	541		-7.001	0407	1000	.552	312.2								
0420	2000	.371	518		0	0420	2000	.767	528.5								
0423	3000	.612	937		+7.001	0423	3000	1.191	528.0								
0523	3000	.616	943		+7.001	0523	3000	1.196	529.7								
0623	3000	.616	943		+7.001	0623	3000	1.196	529.7								
0723	3000	.616	943		+7.001	0723	3000	1.196	529.7								

COMMENTS:

BY: JM JB

216

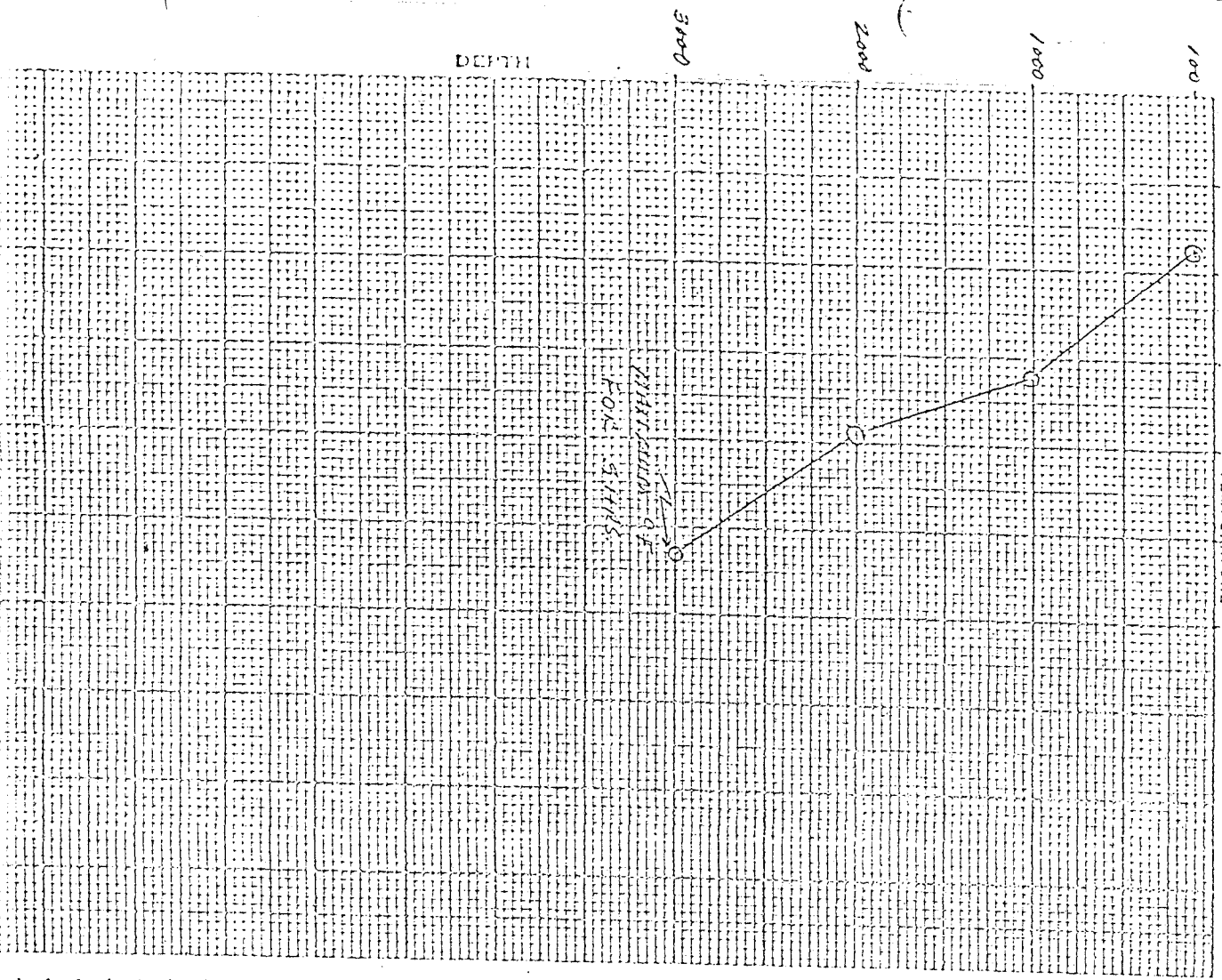
GEOTHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

B11 574 T

OWNER LIBBY OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 20" AT 201, 1338 1336 ELEV. 9664 DATE: 4/22/76
 LINE DESCRIPTION: 9 5/8 3350 ZERO POINT 6 L 4 7
7" 3340 DEPTH. 3000

HOSE DESCRIPTION: _____
 INSTRUMENT 100-792 SERIAL NO 10098
 MAX TEMP. 529.7 @ 3000

PURPOSE: _____
 REMARKS: _____
 STABILIZATION PERIOD _____



MINI-CORR 42
 FOM: 51115

DEPTH	TEMP.	DEPTH	TEMP.
100	529.7		
1338	524.7		
1336	524.7		
201	528.0		
2000	524.7		
3000	524.7		

JD

716

GEOTHERMAL DIVISION
GEO SURFACE PRESSURE SURVEY

B11 579 P

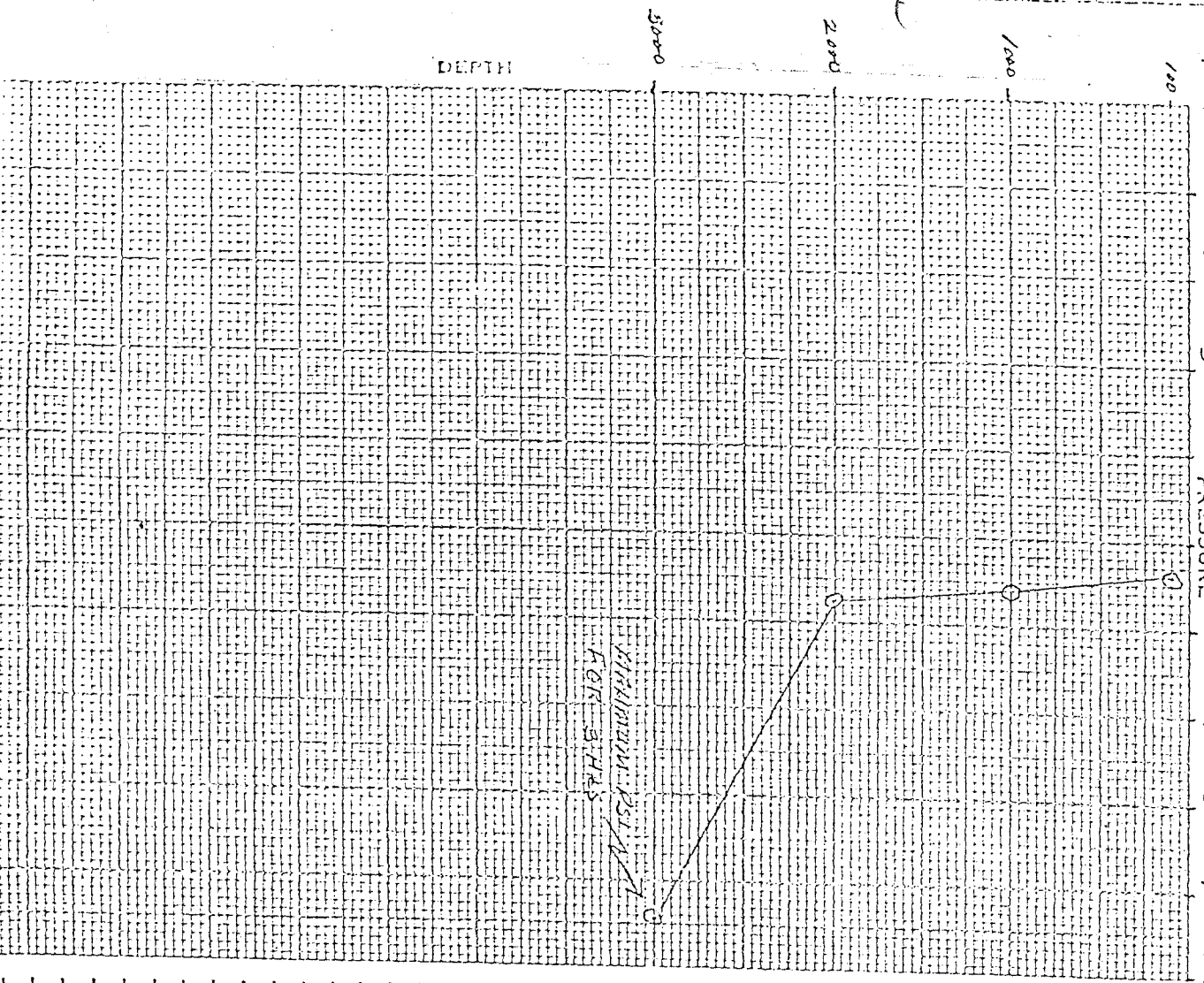
OWNER UNION OIL COMPANY FIELD UPPER GRANDE WELL NAME BUCR #11
 CASING 26" NT 207 DATE 13 3/8 1336 SURV. 9064
 LINE DESCRIPTION: 9 3/8 3380 ZERO POINT GL 17
7" 3340 - TD DEPTH 3340

HOLE DESCRIPTION:

INSTRUMENT 0-2950
 SERIAL NO 9255

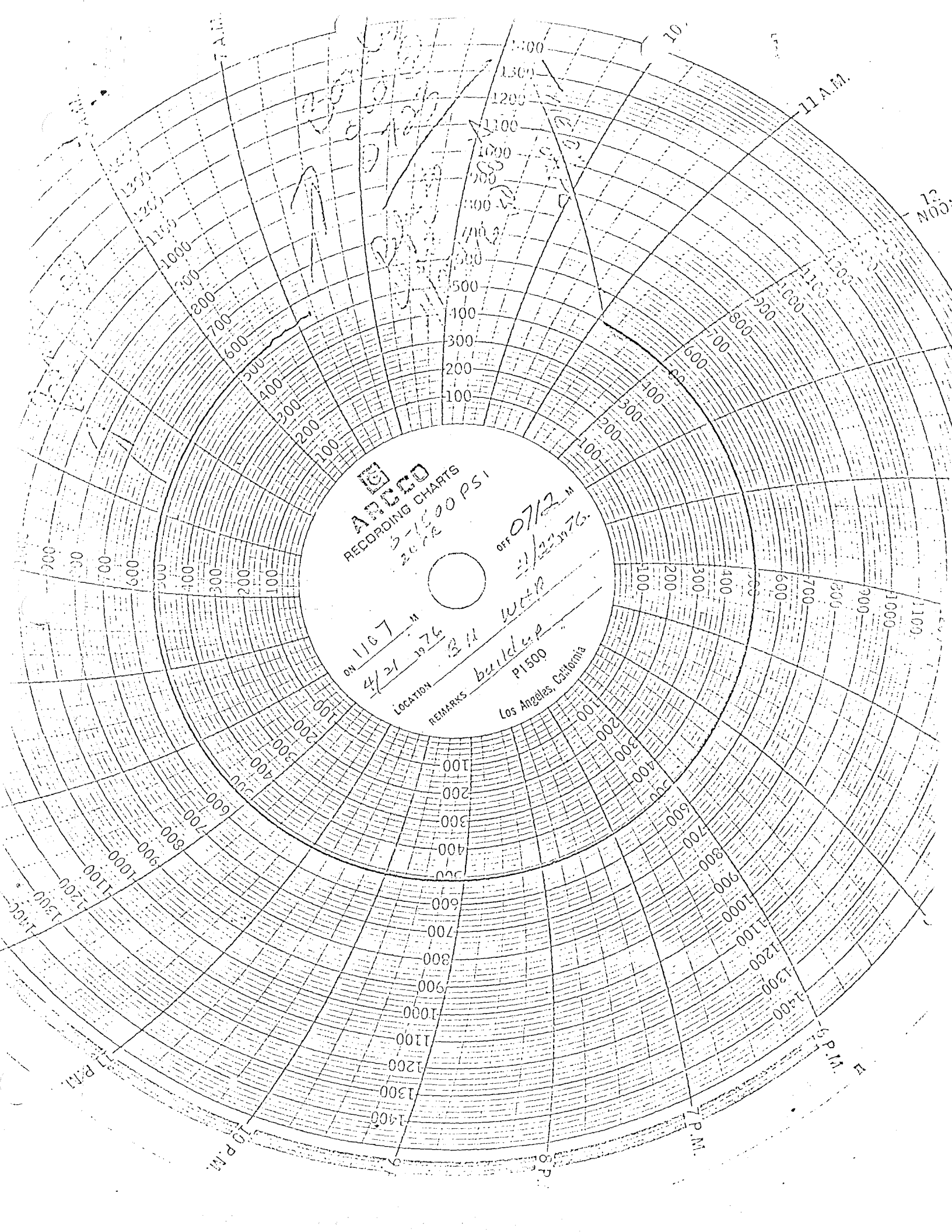
MAX. TEMP _____ °F 95.5, 1

AUGUST _____
 REMARKS: _____



DEPTH	PRESSURE	GRADIENT
1000	561	
2000	573	
3000	613	
3200	613	
3400	643	
3600	643	

JB

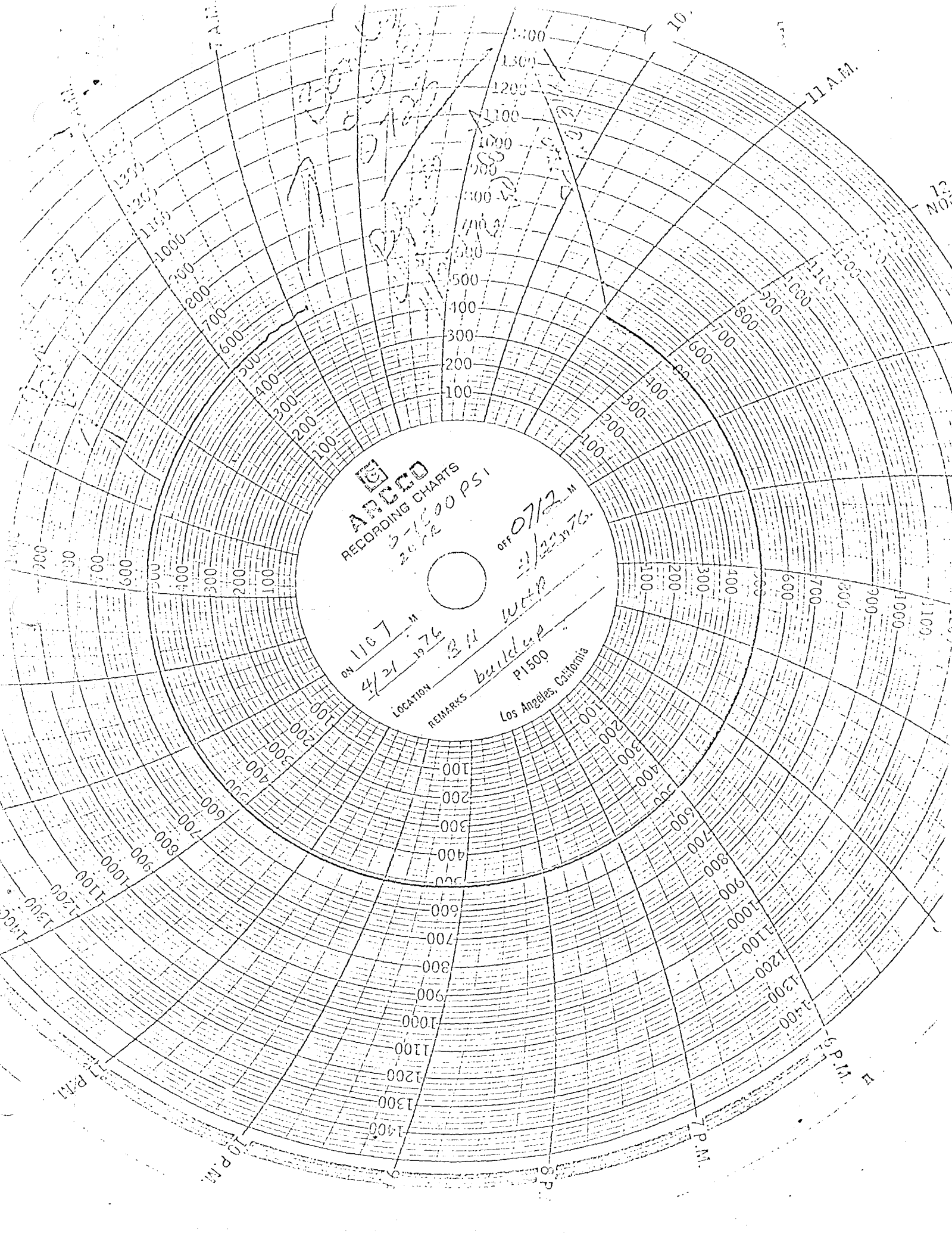


ARCO
RECORDING CHARTS
5-1500 PSI

ON 1107 M
4/21 1976

OFF 0712 M
11/22 1976

LOCATION 311 WHP
REMARKS build up P1500
Los Angeles, California



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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BH 578 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 20" AT 207; 13 3/8" AT 1336' ELEV. 9064' DATE: 4/22/76
 LINER DESCRIPTION: 9 5/8" AT 1219'; 9 5/8" AT 1219'-5380' ZERO POINT 6117'
 7" AT 3540' DEPTH 3110'

TUBING DETAIL:

PURPOSE *buildup*

REMARKS:

ELEMENT- 0-2450 PSI SN 9835 CLOCK 12 1/4 15 TURN

ELEMENT 100-792' SERIAL NO. 10098 CLOCK 12 1/4 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1332 T-1336 DISENGAGE STYLUS P-0250 T-0236

WELL HEAD *SEE ATTACHED SHEET*

PICKUP @ 3110 TIME ON BOTTOM 1400 - 0200 MAX. F 528.7

WELL STATUS

SHUT IN: 1359 HRS. 4/19/76 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
1	3110	.596	913		1.001	1410	3020	1.187	526.7								
10	✓	.612	937		✓	1500	✓	1.193	528.7								
1600	✓	.612	937		✓	1600	✓	1.193	528.7								
1700	✓	.612	937		✓	1700	✓	1.193	528.7								
1810	✓	.612	937		✓	1800	✓	1.193	528.7								
1900	✓	.612	937		✓	1900	✓	1.193	528.7								
2016	✓	.612	937		✓	2000	✓	1.193	528.7								
2110	✓	.612	937		✓	2100	✓	1.193	528.7								
2200	✓	.612	937		✓	2200	✓	1.193	528.7								
2306	✓	.612	937		✓	2300	✓	1.193	528.7								
2400	✓	.612	937		✓	2400	✓	1.193	528.7								
0100	✓	.612	937		✓	0100	✓	1.193	528.7								
0200	✓	.612	937		✓	0200	✓	1.193	528.7								

COMMENTS:

BY: [Signature]

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11 577 A/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACP #11
 CASING 20" AT 207; 13 3/8" AT 1336' ELEV. 9064' DATE: 4/21/76
 LINER DESCRIPTION: 9 5/8" TIEBACK AT 1219; 9 5/8" 1219' - 3380' ZERO POINT CL #7'
 7" AT 3340' DEPTH 3000'

TUBING DETAIL:

PURPOSE *buildup*

REMARKS:

ELEMENT - 0-2950 PSI SN 9235 CLOCK 12hr 15 TURN

ELEMENT 100-792 °F SERIAL NO. 10058 CLOCK 12hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P 2345 - T-2344 DISENGAGE STYLUS P-1242 T-1245

WELL HEAD SEE ATTACHED CHART

PICKUP @ 3000 TIME ON BOTTOM 0007-1207 MAX. °F

WELL STATUS

SHUT IN: 4/19/76 AT 1359 HXSON 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
	3000	1591	906		1.001	0007	3000	1.187	526.7								
	✓	1606	928		✓	0107	✓	1.193	528.7								
0207	✓	1606	928		✓	0207	✓	1.193	528.7								
0307	✓	1606	928		✓	0307	✓	1.193	528.7								
0407	✓	1607	930		✓	0407	✓	1.193	528.7								
0507	✓	1608	931		✓	0507	✓	1.193	528.7								
0607	✓	1609	933		✓	0607	✓	1.193	528.7								
0707	✓	1609	933		✓	0707	✓	1.193	528.7								
0807	✓	1610	934		✓	0807	✓	1.193	528.7								
0907	✓	1610	934		✓	0907	✓	1.193	528.7								
1007	✓	1611	936		✓	1007	✓	1.193	528.7								
1107	✓	1611	936		✓	1107	✓	1.193	528.7								
1207	✓	1611	936		✓	1207	✓	1.193	528.7								

COMMENTS:

BY: JM JB CP RB

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B11576 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BASA # 11
 CASING 20" AT 207'; 13 3/8" AT 1336' ELEV. 9064' DATE: 4/20/76
 LINER DESCRIPTION: 9 7/8 Tieback AT 1219'; 9 5/8" 1219'-3350' ZERO POINT 647'
7" 3340'-TD DEPTH 3070'

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT 0-2950 SN 9235 CLOCK 12 hr 15 TURN
 ELEMENT P-1000 T-1001 SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1000 T-1001 DISENGAGE STYLUS P-2300 T-2301
 WELL HEAD
 PICKUP @ 3000 TIME ON BOTTOM 1020-2220 MAX. °F 529.0
 WELL STATUS
 SHUT IN: 1359 hrs; 4/19/76 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
	3000	1586	899.0		7.001	1020	3000	1.194	529.0								
	3000	.596	913.0		7.001	1120	✓	1.194	529.0								
						1220	✓	1.194	529.0								
NOTE:	PRESSURE	CLOCK				1320	✓	1.194	529.0								
	STOPPED	AFTER				1420	✓	1.194	529.0								
	15 MINUTES	IN				1520	✓	1.194	529.0								
	THE	HOLE				1620	✓	1.194	529.0								
						1720	✓	1.194	529.0								
						1820	✓	1.194	529.0								
						1920	✓	1.194	529.0								
						2020	✓	1.194	529.0								
						2120	✓	1.194	529.0								
						2220	✓	1.194	529.0								

COMMENTS:

BY: 111-103 10-76

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11 S 75 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 20" AT 207'; 13 7/8" AT 1334' ELEV. 9064 DATE: 4/19 + 4/20/76
 LINER DESCRIPTION: 9 5/8" AT 1219'-3330'; 9 5/8" RTBACK AT 1219' ZERO POINT GL + 7'
7" 3340' - TD DEPTH 3000'

TUBING DETAIL:

PURPOSE BUILD UP

REMARKS:

ELEMENT - 0-2450 PSI SN 9235 CLOCK - 12 HR 15 T
 ELEMENT - 100-792 °F SERIAL NO. 10098 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-2218 T 2010 DISENGAGE STYLUS P1010 T 1011

WELL HEAD
 PICKUP @ 3000 TIME ON BOTTOM 2140 - 0940 MAX. °F 529.0 °f

WELL STATUS
 SHUT IN: 1359 4/19/76 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	PRESSURE				TEMPERATURE					TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
		DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.							ID
11	3000	.568	872		+ .001	2140	3000	1.194	529.0								
9	3100	.581	891		+ .001	2240	✓	1.194	529.0								
						2340	✓	1.194	529.0								
						0040	✓	1.194	529.0								
						0140	✓	1.194	529.0								
						0155	✓	1.194	529.0								

COMMENTS: PRESSURE ELEMENT STOPPED RECORDING AFTER 15 MIN. IN HOLE.
CLOCK
TEMP. CLOCK STOPPED AFTER 4 HR + 15 MIN. IN HOLE

BY: JM JB CP RB

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B11-574-P/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BOCAL11
 CASING 20" @ 209', 13 3/8" @ 1336', ELEV. 9064' DATE: 4/19/76
 LINER DESCRIPTION: 9 5/8" PIPE BACK @ 1219'; 9 5/8" @ 1219-3350' ZERO POINT CL+7'
 7" 3.360' - T.D. DEPTH 3000'

TUBING DETAIL:

PURPOSE BUILD UP

REMARKS:

ELEMENT - 0-2450 PSI SN-9235 CLOCK-12 hr 15T

ELEMENT - 100' - 792° SERIAL NO. 10098 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1253 T-1300 DISENGAGE STYLUS P-2050 T-2050

WELL HEAD SEC ATTACHED CHART

PICKUP @ 3000' TIME ON BOTTOM 1404 - 2015 MAX. F 529.4°

WELL STATUS

SHUT IN: 1359 HC 4/19/76 ON PRODUCTION:

RATE

PRESSURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1404	3000	1.489	754		1.001	2004	3000	1.579	885		1.001	1734	3000	1.193	525.7		
		.492	758		✓	2015	✓	.579	888		✓	1804	✓	1.195	529.4		
06	✓	.496	764		✓							34	✓	1.195	529.4		
07	✓	.501	772		✓	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	1904	✓	1.195	529.4		
08	✓	.504	776		✓	TEMPERATURE						34	✓	1.195	529.4		
09	✓	.505	778		✓	1404	3000	1.078	491.0			2004	✓	1.195	529.4		
10	✓	.508	782		✓	05	✓	1.092	495.4			2015	✓	1.195	529.4		
11	✓	.510	785		✓	06	✓	1.103	499.0								
12	✓	.512	788		✓	07	✓	1.117	503.6								
13	✓	.513	790		✓	08	✓	1.125	506.3								
14	✓	.514	791		✓	09	✓	1.132	508.6								
19	✓	.517	796		✓	10	✓	1.138	510.5								
24	✓	.520	800		✓	11	✓	1.144	512.5								
29	✓	.523	805		✓	12	✓	1.147	513.5								
34	✓	.524	806		✓	13	✓	1.150	514.5								
49	✓	.533	819		✓	14	✓	1.152	515.2								
504	✓	.541	831		✓	19	✓	1.160	517.8								
19	✓	.546	839		✓	24	✓	1.163	518.8								
34	✓	.551	846		✓	29	✓	1.164	519.1								
49	✓	.554	851		✓	34	✓	1.165	519.5								
1604	✓	.558	857		✓	49	✓	1.170	521.0								
34	✓	.561	861		✓	1504	✓	1.175	522.8								
1704	✓	.568	872		✓	19	✓	1.178	523.7								
34	✓	.574	881		✓	34	✓	1.180	524.4								
1804	✓	.577	888		✓	49	✓	1.183	525.4								
19	✓	.579	888		✓	1604	✓	1.184	525.7								
34	✓	.579	888		✓	34	✓	1.188	527.0								
34	✓	.579	888		✓	1704	✓	1.192	528.4								

COMMENTS: CALIBRATION CHECK AT 70° WITH DEAD WEIGHT TESTER

def cor c.def c. PSI
 1.325 +.007 1.332 1997.1

BY: JM JB CP RB

76

UNION

Jack

GEO THERMAL DIVISION DEL PYLE

SUBSURFACE SURVEY
Field Work Sheet

OCT 8 1975

B11-573 P/T

OWNER: UNION OIL COMPANY FIELD: WALLE GRANDE WELL NAME: BAJA #11
 CASING: 7" AT 204' 13 3/8" AT 1336' ELEV: 9064' DATE: 9/26/75
 LINER DESCRIPTION: 9 5/8" TUBING AT 1219' 9 5/8" 1219' - 3380' ZERO POINT: 62 + 7'
 TUBING DETAIL: 2 3/4" SURFACE TO 5000' DEPTH: 6605'

PURPOSE

REMARKS:

ELEMENT - 0-4750 PSI SN 7198 CLOCK 12 HR 15 TURN
 ELEMENT 87.0-686.0 SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1010 T-1012 DISENGAGE STYLUS P-1550 T-1355
 WELL HEAD 448 PSIC
 PICKUP @ 4980' TIME ON BOTTOM 1207-1307 MAX. °F 564.9
 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
	150	.468	10210	0	-.006	1117	150	.025	896	0							
	1000	.490	10072	.051	-.005	1124	1000	.550	262.0	.192							
1140	5000	.512	11344	.046	+.002	1140	2000	1.422	531.3	.264							
1153	5000	.517	11259	.011	+.002	1153	3000	1.485	549.2	.018							
1205	4000	.527	11450	.021	+.002	1205	4000	1.505	554.9	.006							
1207	4750	.534	11597	*	+.001	1207	4980	1.531	562.3	*							
1237	4980	.536	11618	*	+.001	1237	4980	1.540	564.9	*							
1307	4980	.536	11618	.017	+.001	1307	4980	1.540	564.9	.010							
* - NO GRADIENT																	

COMMENTS:

BY: JB

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B11 573 P

10

OWNER: WYOMING OIL COMPANY FIELD: WALLE DEANDE WELL NAME BRAM # 11
 CASING DEPTH: 207', 13 3/8" AT 1336' ELEV. 906.4' DATE: 9/26/75
 Casing Description: 9 5/8 Tieback at 1219', 9 5/8 1219'-3380' ZERO POINT 4447'
 DEPTH 4005'

HOLE DESCRIPTION: TUBING SURFACE - 5006'

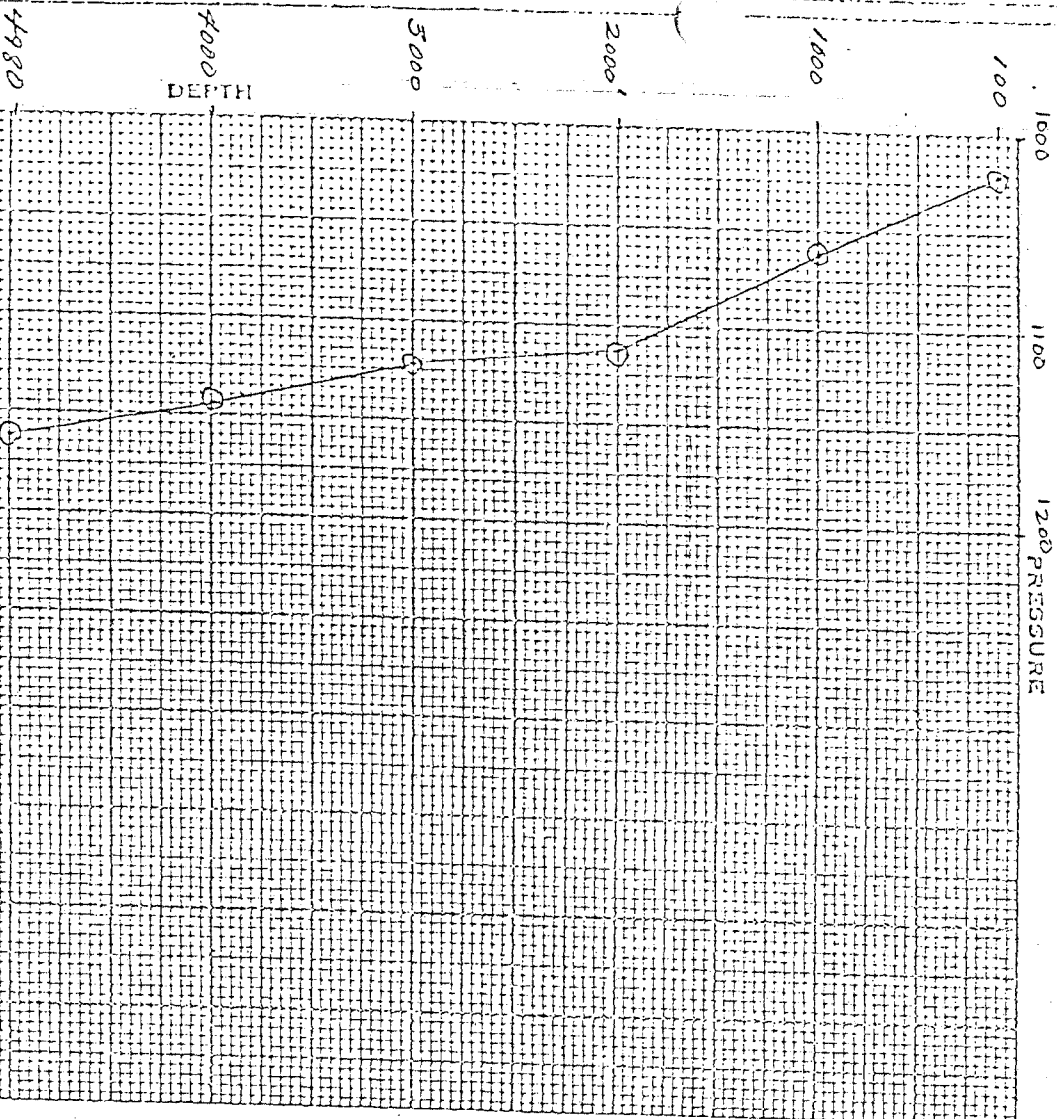
INSTRUMENT Q-4250 PS
 SERIAL NO 7198

MAX. TEMP 564.90F @ 4980

PURPOSE:

STABILIZATION PERIOD

REMARKS:



DEPTH	PRESSURE	GRADIENT
100	1021.0	0
1000	1067.2	.051
2000	1113.4	.046
5000	1123.9	.011
4670	1145.0	.021
4980	1159.7	*A
4980	1161.8	*A
4980	1161.8	.017

* - NO GRADIENT

ALS

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GEO THERMAL DIVISION

SUCCESIVE SURFACE TEMPERATURE SURVEY

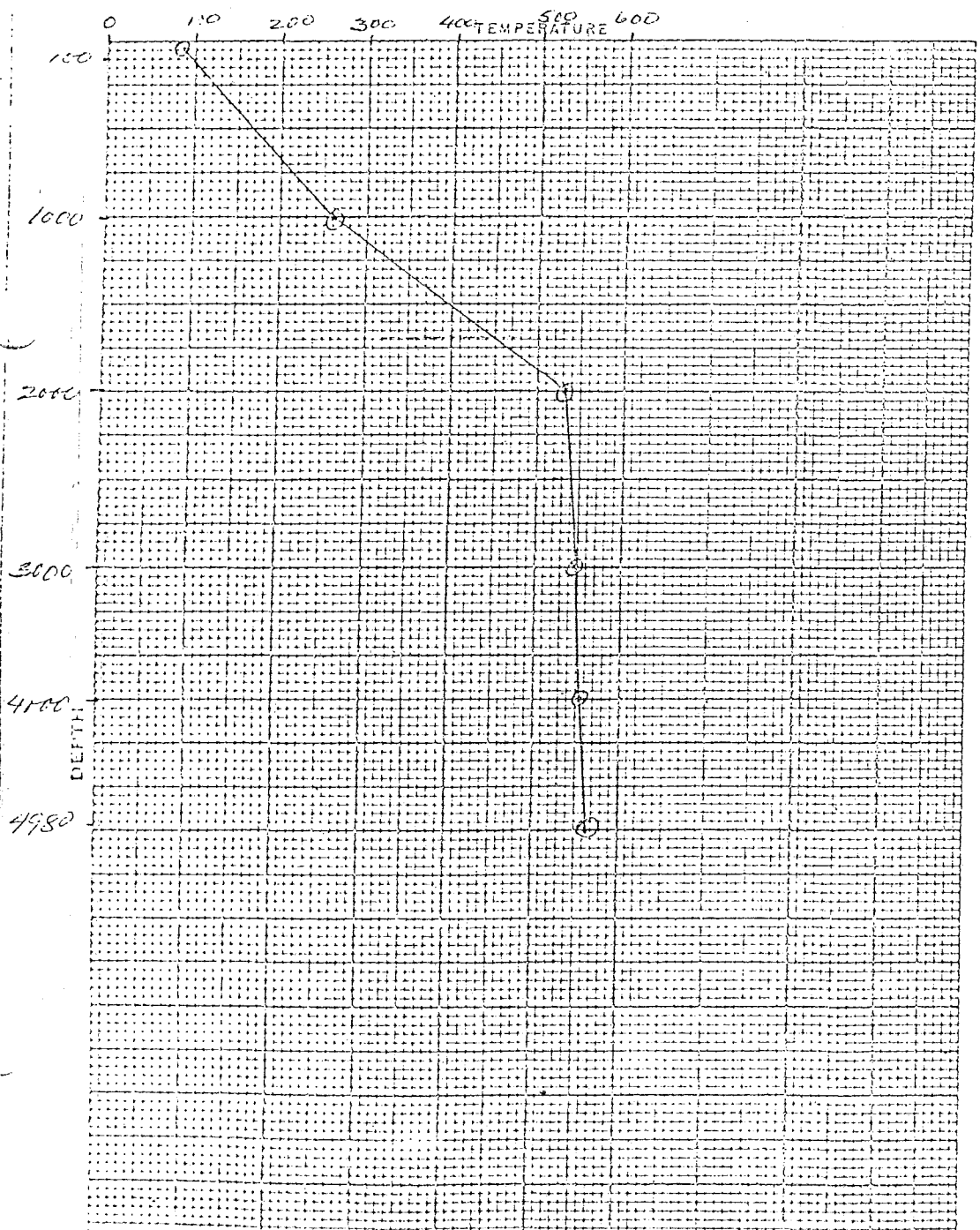
B11 573 T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" AT 207, 13 3/8" AT 1536' ELEV. DATE: 9/26/75
 LINER DESCRIPTION: 9 3/4" TIEBACK AT 1219'; 9 3/8" AT 3350' ZERO POINT 6.6 ± 7'
 DEPTH 6605

HOLE DESCRIPTION: WISING - SURFACE TO 5000'

INSTRUMENT 82°-686°
 SERIAL NO 10055

PURPOSE _____ MAX TEMP. 56.4.9° @ 4980
 REMARKS _____

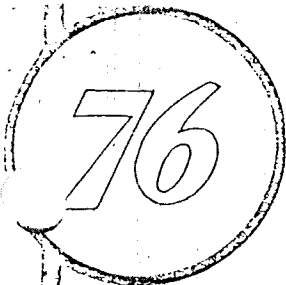


STABILIZATION PERIOD _____

DEPTH	TEMP.	DEPTH	TEMP.
100	89.6	0	
1000	262.0	.192	
2000	531.3	.269	
3000	549.2	.018	
4000	554.9	.006	
4980	562.3	*	
4980	564.9	*	
4980	564.9	.010	

* - NO GRADIENT

J/S



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-11 S-72 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" AT 207; 13 3/8" - 1336' ELEV. 9064' DATE: 5/9/75
 LINER DESCRIPTION: 9 5/8" Tieback AT 1215'; 9 5/8" 12-19' - 3380' ZERO POINT CL + 10'
7" - 3320' - TD DEPTH 6605'

TUBING DETAIL:

PURPOSE

REMARKS:

0-4250 PSI SN 7198 CLOCK 13375 15 TURN

ELEMENT 82° - 686° F SERIAL NO. 10055 CLOCK 13374 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0914; T-0917 DISENGAGE STYLUS P-1325; T-1526

WELL HEAD - Meter 344 PSIG; GAUGE - 341 PSIG; SEE CHART

PICKUP @ 6605 TIME ON BOTTOM 1000 - 1300 MAX. F 593.1

WELL STATUS STATIC

SHUT IN: 1035 hrs 11/17/74 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

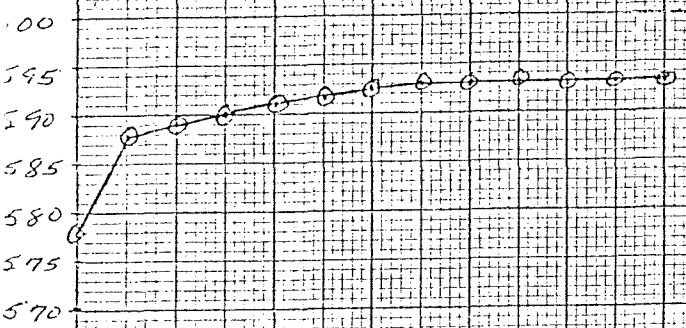
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	6605	.651	1405.5	-	t.001	1000	6605	1.586	578.0								
	6605	.662	1428.6	-	t.001	1015	6605	1.624	588.5								
1030	6605	.687	1481.1	-	t.001	1030	6605	1.628	589.6								
1045	6605	.722	1555.1	-	t.001	1045	6605	1.631	590.4								
1100	6605	.770	1656.8	-	t.001	1100	6605	1.634	591.2								
1115	6605	.820	1762.7	-	t.001	1115	6605	1.636	591.7								
1130	6605	.842	1809.3	-	t.001	1130	6605	1.639	592.5								
1145	6605	.847	1819.9	-	t.001	1145	6605	1.641	593.1								
1200	6605	.847	1819.9	-	t.001	1200	6605	1.641	593.1								
1215	6605	.847	1819.9	-	t.001	1215	6605	1.641	593.1								
1230	6605	.847	1819.9	-	t.001	1230	6605	1.641	593.1								
1245	6605	.847	1819.9	-	t.001	1245	6605	1.641	593.1								
1300	6605	.847	1819.9	-	t.001	1300	6605	1.641	593.1								

COMMENTS: NEW T.D. 6605'

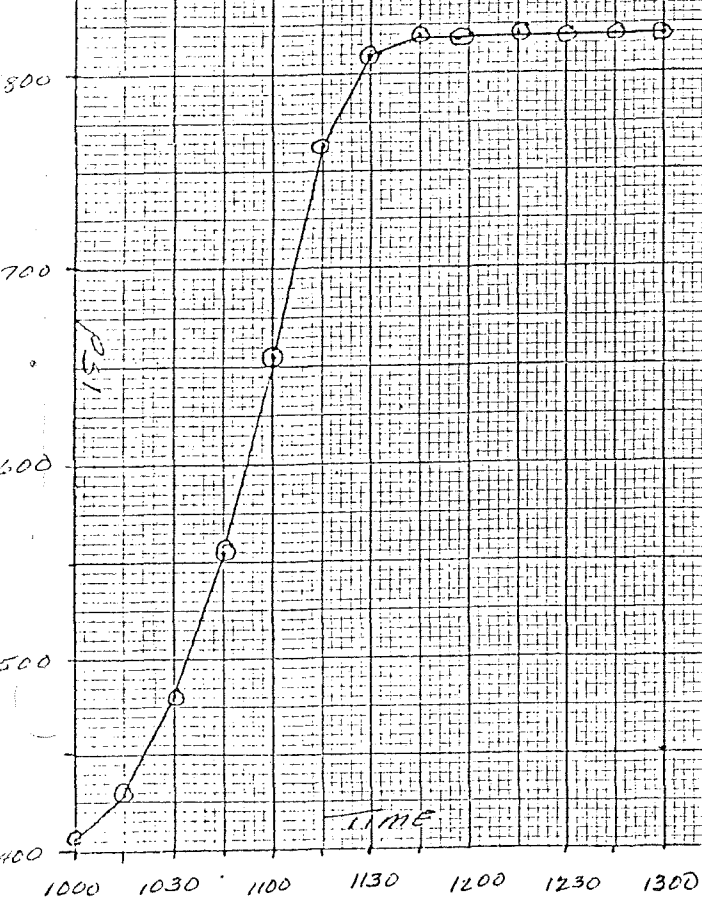
BY: JB

BACA #11 S-72 P/T 5/19/75

TEMPERATURE 82°-686°F
SN 10055



PRESSURE - 0-4250 PSI
SN- 7198



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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-11 S-71 P/T

OWNER: UNION OIL COMPANY FIELD: VALLE GRANDE WELL NAME: BACA #11
 CASING: 26" AT 207'; 15 3/8" AT 1336' ELEV. 9004' DATE: 4/1/75
 LINER DESCRIPTION: 9 5/8" Tublock AT 1219'; 9 5/8" 1219' - 3380' ZERO POINT: C.L. + 10'
 7" - 3320' - TD DEPTH: 6630'

TUBING DETAIL:

PURPOSE:

REMARKS:

0-4250 PSIG; 7198 CLOCK 15375-L 15 TURN

ELEMENT: 82°-686°F SERIAL NO. 10055 CLOCK 13374-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0911; T-0916 DISENGAGE STYLUS P-1628; T-1628

WELL HEAD *

PICKUP 0 TIME ON BOTTOM AT 6000' 0947-1247 MAX. °F 591.7°

WELL STATUS: STATIC

SHUT IN: 1035 HRS 11/17/74 ON PRODUCTION:

RATE

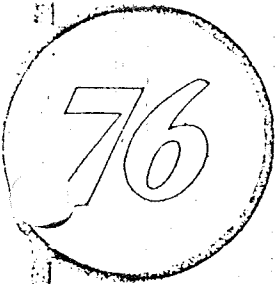
PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
897	6000	.748	1610.2		4.001	8947	6000	1.582	576.9								
	6000	.752	1618.6		"	0957	6000	1.622	587.9								
997	6000	.752	1618.6		"	1007	6000	1.623	588.2								
1017	6000	.752	1618.6		"	1027	6000	1.623	588.2								
1027	6000	.752	1618.6		"	1027	6000	1.624	588.5								
1037	6000	.752	1618.6		"	1037	6000	1.624	588.5								
1047	6000	.752	1618.6		"	1047	6000	1.625	588.7								
1057	6000	.752	1618.6		"	1057	6000	1.626	589.2								
1107	6000	.751	1616.5		"	1107	6000	1.627	589.3								
1117	6000	.751	1616.5		"	1117	6000	1.628	589.6								
1127	6000	.751	1616.5		"	1127	6000	1.630	590.1								
1137	6000	.750	1614.4		"	1137	6000	1.632	590.6								
1147	6000	.750	1614.4		"	1147	6000	1.632	590.6								
1157	6000	.749	1612.3		"	1157	6000	1.634	591.2								
1207	6000	.749	1612.3		"	1207	6000	1.635	591.4								
1217	6000	.736	1584.7		"	1217	6000	1.636	591.7								
1227	6000	.594	1296.2		"	1227	6000	1.583	577.2								
1237	6000	.585	1282.8		"	1237	6000	1.573	574.3								
1247	6000	.582	1280.5		4.001	1247	6000	1.570	573.4								

COMMENTS: 6000 - 297 PSIG AT 0947 HRS }
 * 6000 - 285 PSIG AT 1247 HRS } C-600 T/B

BY: J.B.



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-11 S-71 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" AT 207'; 15 3/8" AT 1336' ELEV. 4064' DATE: 4/11/75
 LINER DESCRIPTION: 9 5/8" Tieback at 1219'; 9 5/8" 1219' - 3380' ZERO POINT CL +10'
7" - 3320' - TD DEPTH 6630

TUBING DETAIL:

PURPOSE

REMARKS:

0-4250 PSIC SN. 7198 CLOCK 13375-L 15 TURN

ELEMENT 82° - 686°F SERIAL NO. 10055 CLOCK 13374-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0911; T-0916 DISENGAGE STYLUS P-1628; T-1628

WELL HEAD ST

PICKUP 0 6630' TIME ON BOTTOM 1248-1548 MAX. °F 597.1

WELL STATUS STATIC

SHUT IN: 1035 HRS 11/17/74 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
1248	6630	653	1469.7		+ .001	1248	6630	1594	581.7								
	6650	664	1492.7		+ .001	1258	6630	1641	593.1								
1308	6650	683	1472.7		+ .001	1308	6630	1644	593.3								
1318	6650	706	1521.2		+ .001	1318	6630	1646	594.4								
1328	6650	737	1586.9		+ .001	1328	6630	1647	594.7								
1338	6650	769	1654.7		+ .001	1338	6630	1649	595.2								
1348	6650	804	1728.5		---	1348	6630	1651	595.7								
1353	6650	828	1779.7		---	1358	6630	1652	596.0								
1408	6650	845	1811.4		---	1408	6630	1653	596.3								
1418	6650	845	1815.7		---	1418	6630	1654	596.6								
1428	6650	845	1815.7		---	1428	6630	1654	596.6								
1438	6650	845	1815.7		---	1438	6630	1654	596.6								
1448	6650	845	1815.7		---	1448	6630	1655	596.9								
1458	6650	845	1815.7		---	1458	6630	1655	596.9								
1508	6650	845	1815.7		---	1508	6630	1656	597.1								
1518	6650	845	1815.7		---	1518	6630	1656	597.1								
1528	6650	845	1815.7		---	1528	6630	1656	597.1								
1538	6650	845	1815.4		---	1538	6630	1656	597.1								
1548	6650	845	1815.7		---	1548	6630	1656	597.1								

COMMENTS: WHP 285 PSIC AT 1248 HRS
WHP 261 PSIC AT 1548 HRS

BY: JB

Production

Specialists

AGNEW and SWEET

3914 Gilmore Avenue
Bakersfield, California 93308

24-Hour Phone: 327-2257

SUBSURFACE SURVEY

Field Work Sheet

11-563-11

OWNER Union Oil Co of Calif FIELD Valle Grande WELL NAME Bacon #11
 CASING 20" x 207' + 4 3/4" fishback @ 1214' ELEV. 406.9 DATE: 3/7/75
 LINER DESCRIPTION: 1 3/4" @ 1236' - 9 5/8" 1249' - 3580' ZERO POINT 61 + 11'
5 1/2" lined 7" hung 3320' - T.D. DEPTH 6630'
 TUBING DETAIL: _____ ZONE _____

PUMP SHOE _____ GAS ANCHOR _____ INTAKE _____
 PURPOSE Bottom hole

REMARKS:
0 - 11-42-58-2510 7198 12 hr 13375 L 15
 ELEMENT 300°-23° = SERIAL NO. 10036 CLOCK 12 hr 13790 L-15 TURN
 ENGAGE STYLUS P-1033 T-1038 DISENGAGE STYLUS P-1521, T-1519
 OBS. TBG. PRESS. 1014 @ 1136 - 3465 OBS. CSG. PRESS. _____
 COR. TBG. PRESS. WHD @ 1436 = 306-2510 COR. CSG. PRESS. _____
 PICKUP @ 6630' TIME ON BOTTOM 11 2/3 - 1436 MAX. °F 594.7°F
 WELL STATUS shut-in CIRCULATED GAS MCF/D _____
 SHUT IN: _____ ON PRODUCTION: _____
 BEAN SIZE _____

Temp Pressure

TIME	DEPTH	DEFL.	PT	GRAD.	/D	TIME	DEPTH	DEFL.	PT	GRAD.	/D	TIME	DEPTH	DEFL.	PT	GRAD.	/D
1136	6630	1.350	596.8			1136	6630	1.071	1495.6								
		1.445	595.1					.722	1555.1								
1200		1.497	594.2					.752	1615.6								
1210		1.448	594.5					.779	1675.3								
1220		1.449	594.7					.814	1730								
1230		1.449	594.7					.835	1794.5								
1236		1.449	594.7					.841	1802.2								
1246		1.449	594.7					.843	1811.4								
1251		1.449	594.7					.843	1811.4								
1300		1.449	594.7					.843	1811.4								
1310		1.449	594.7					.843	1811.4								
1320		1.449	594.7					.843	1811.4								
1330		1.449	594.7					.843	1811.4								
1340		1.449	594.7					.843	1811.4								
1350		1.449	594.7					.843	1811.4								
1400		1.449	594.7					.843	1811.4								
1410		1.449	594.7					.843	1811.4								
1420		1.449	594.7					.843	1811.4								
1430	11.50	1.449	594.7			1430	11.50	.843	1811.4								

COMMENTS:

BY: CP, JB, CD

UNION OIL COMPANY OF CALIFORNIA
GEOHERMAL DIVISION

Foreman's Report for 1-11, 1974

Project: BACA Well No 11 AFE _____ WO _____

Report: Opened up well @ 11:00 AM - 850# SITP

TIME	FTP	SP	ST	
12:31	220 ⁺	97"	327°	See - Pressure Values open
14:31	160	80	310	✓ ✓ ✓ ✓

On Site Readings: Steam 8" 174/60
 W/G 7" 82/81
 2 φ 145/85

Estimated Steam Volume 230,000 #/HR
 COST: _____

Project: _____ AFE _____ WO _____

Report: Well started out showing lot of rocks but has calmed down. Nothing cutting out except end of line near mud floor

Made some repairs on steam meter.

COST: _____

Project: _____ AFE _____ WO _____

Report: _____

COST: _____

BY: J Jones

76

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

665
B#11-565-T/P

OWNER UNION OIL OF CALIF FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" @ 207'; 9 7/8" tieback @ 1219' ELEV. 9064' DATE: 2/11/75
 LINER DESCRIPTION: 13 3/8" @ 1326'; 9 7/8" - 1219' - 3380' ZERO POINT GL+10'
SLOTTED LINER 7" HUNG 3320' - T.D. DEPTH 6630'

TUBING DETAIL:

PURPOSE

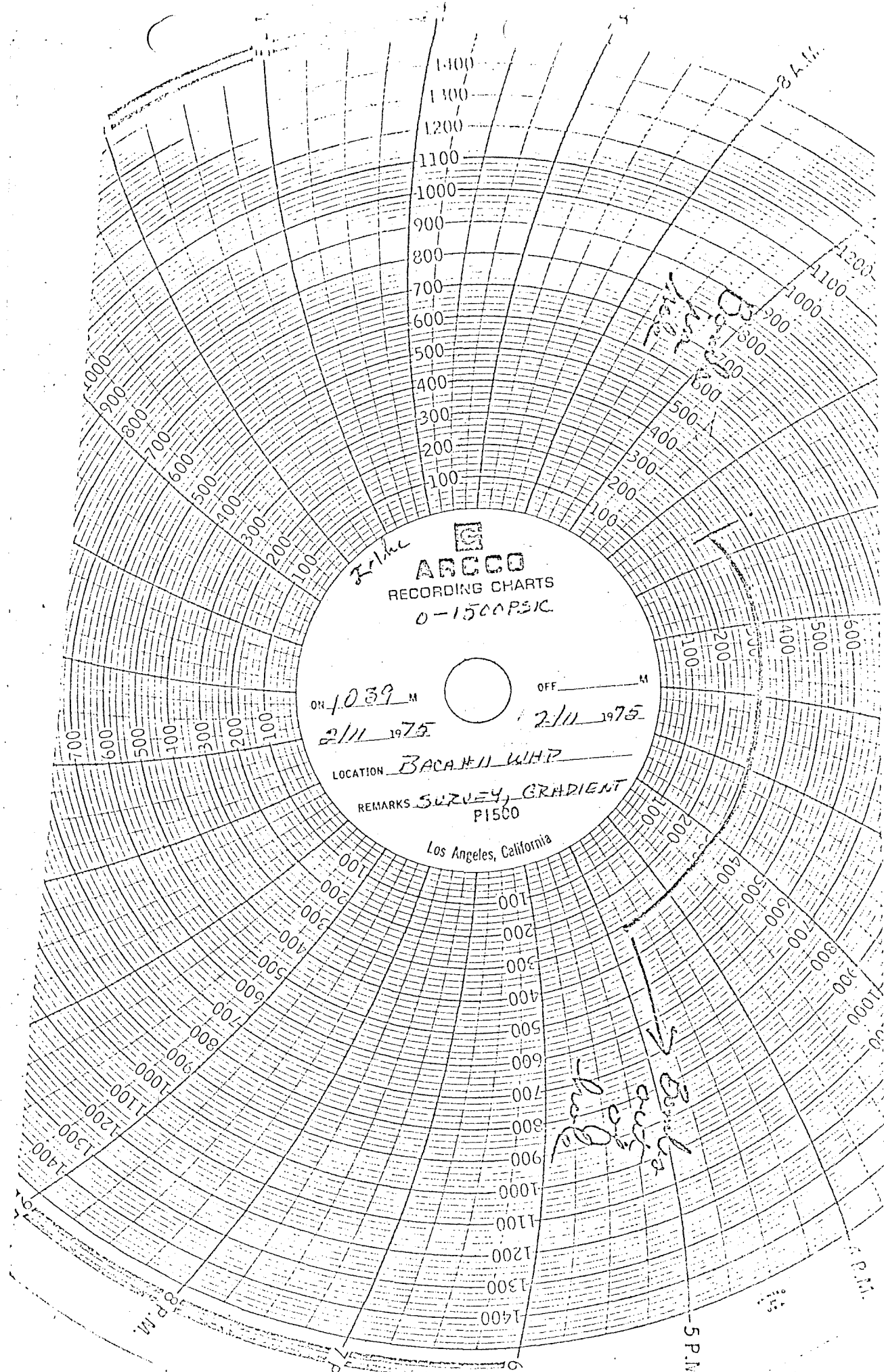
REMARKS:

ELEMENT: 88-698°F SERIAL NO. 10085 CLOCK 12hr 13790L ¹⁵ TURN STABILIZATION PERIOD
 ENGAGE STYLUS T-1017 DISENGAGE STYLUS T-1700
 WELL HEAD 298 PSIG
 PICKUP @ 6630 TIME ON BOTTOM 1621-1631 MAX. F 601.9
 WELL STATUS SHUT IN
 SHUT IN: 103.5 HRS 11/17/74 ON PRODUCTION:
 RATE

TEMPERATURE

ID	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
89-1100	100	.044	102.9	—	—												
90-1100	250	.146	139.1	—	—												
91-1111	5000	.278	184.5	—	—												
92-1124	750	.405	227.6	—	—												
95-1135	1000	.568	279.8	—	—												
96-1146	1250	.673	313.4	—	—												
97-1207	1500	.959	403.0	—	—												
98-1218	1750	1.046	429.3	—	—												
99-1229	2000	1.124	451.1	—	—												
100-1240	2250	1.186	469.9	—	—												
101-1257	2500	1.297	501.0	—	—												
102-1302	2750	1.315	506.8	—	—												
103-1313	3000	1.329	516.8	—	—												
104-1334	3250	1.363	520.5	—	—												
105-1345	3500	1.388	527.6	—	—												
106-1357	3750	1.424	537.7	—	—												
107-1410	4000	1.459	547.5	—	—												
108-1421	4250	1.493	557.0	—	—												
109-1432	4500	1.510	566.9	—	—												
110-1443	4750	1.547	572.2	—	—												
111-1504	5000	1.572	579.2	—	—												
112-1515	5250	1.554	574.1	—	—												
113-1526	5500	1.558	575.2	—	—												
114-1547	5750	1.571	578.9	—	—												
115-1600	6000	1.596	585.9	—	—												
116-1620	6250	1.627	574.4	—	—												
117-1631	6630	1.653	601.9	—	—												

COMMENTS:



ARCCO
RECORDING CHARTS
0-1500 PSIC

ON 1039 M
2/11 1975

OFF _____ M
2/11 1975

LOCATION BACA #11 WHP
REMARKS SURVEY, GRADIENT
P1500

Los Angeles, California

Handwritten notes:
BACA #11
WHP

8 A.M.

1200

1100

1000

900

800

700

600

500

400

300

200

100

100

200

300

400

500

600

700

800

900

1000

1100

1200

1300

1400

5 P.M.

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

66
BACA#11-525-P/H

76

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACA#11
 CASING 20" @ 207'; 9 5/8" TCSRR @ 1210' ELEV. 9064 DATE: 2/11/75
 LINER DESCRIPTION: 13 3/8" @ 1334'; 9 5/8" - 1219' - 3380' ZERO POINT GL+10'
SLOTTED 7" HUNG - 3320 - T.D. DEPTH 6630'

TUBING DETAIL:

PURPOSE

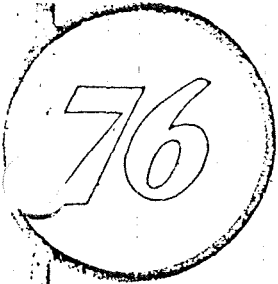
REMARKS:

ELEMENT P- 0-4250 SERIAL NO. 7198 CLOCK 12 hr. 13375L TURN STABILIZATION PERIOD
 ENGAGE STYLUS P- 1012 hrs DISENGAGE STYLUS T- 1700 hrs.
 WELL HEAD 298 PSIG
 PICKUP @ 6630 TIME ON BOTTOM 1621-1631 MAX. F 601.9
 WELL STATUS SHUT IN
 SHUT IN: 1035 hr. 11/17/74 ON PRODUCTION:
 RATE

PRESSURE

TIME	DEPTH	DEFL.	P-#	GRAD.	ID CORR.	TIME	DEPTH	DEFL.	P-#	GRAD.	ID CORR.	TIME	DEPTH	DEFL.	P-#	GRAD.	ID CORR.
	100	.134	301.8	—	0	1324	3250	.333	735.2	—	0	1610	6500	.720	1550.8	—	+1.005
1049	100	.134	301.8	—	0	1334	3250	.333	735.2	—	0	1620	6500	.748	1610.2	—	+1.005
1520	250	.136	306.3	—	0	1335	3500	.372	817.8	—	+1.001	1621	6630	.772	1661.0	—	+1.005
1100	250	.136	306.3	—	0	1345	3500	.372	817.8	—	+1.001	1631	6630	.805	1730.1	—	+1.005
1101	500	.140	315.3	—	0	1346	3750	.412	902.5	—	+1.001						
1111	500	.140	315.3	—	0	1359	3750	.412	902.5	—	+1.001						
1112	750	.145	326.6	—	0	1400	4000	.449	980.9	—	+1.001						
1124	750	.145	326.6	—	0	1410	4000	.449	980.9	—	+1.001						
1125	1000	.150	337.8	—	0	1411	4250	.488	1063.0	—	+1.002						
1135	1000	.150	337.8	—	0	1421	4250	.488	1063.0	—	+1.002						
1136	1250	.150	337.8	—	0	1422	4500	.526	1142.9	—	+1.002						
1146	1250	.150	337.8	—	0	1432	4500	.526	1142.9	—	+1.002						
1147	1500	.156	351.4	—	0	1433	4750	.563	1220.6	—	+1.003						
1157	1500	.156	351.4	—	0	1443	4750	.563	1220.6	—	+1.003						
1207	1500	.156	351.4	—	0	1444	5000	.602	1302.5	—	+1.004						
1208	1750	.200	450.5	—	0	1454	5000	.602	1302.5	—	+1.004						
1218	1750	.200	450.5	—	0	1504	5000	.602	1302.5	—	+1.004						
1219	2000	.237	531.8	—	-1.001	1505	5250	.630	1364.3	—	+1.004						
1229	2000	.237	531.8	—	-1.001	1515	5250	.546	1184.9	—	+1.003						
1230	2250	.270	601.7	—	0	1516	5500	.561	1216.4	—	+1.004						
1240	2250	.265	591.1	—	0	1526	5500	.553	1199.6	—	+1.003						
1244	2500	.293	650.4	—	0	1527	5750	.567	1228.9	—	+1.003						
1251	2500	.286	635.6	—	0	1527	5750	.569	1233.2	—	+1.003						
1252	2750	.307	680.1	—	0	1547	5750	.573	1241.6	—	+1.003						
1257	2750	.298	661.0	—	0	1548	6000	.599	1296.2	—	+1.004						
1258	3000	.311	688.6	—	0	1558	6000	.615	1329.8	—	+1.004						
1259	3000	.304	673.7	—	0	1559	6250	.649	1401.3	—	+1.004						
1314	3250	.273	735.2	—	0	1609	6250	.674	1453.8	—	+1.004						

COMMENTS:



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

65
B-11-5-64 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" @ 207'; 9 5/8" TIEBACK @ 1219' ELEV. 9064' DATE: 1/25/75
 LINER DESCRIPTION: 13 3/8" @ 1336'; 9 5/8" @ 1219' - 3390' ZERO POINT GL + 10'
 SLOTTED LINER - 7" HUNG 3320' - TD DEPTH 6670'
 TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT 0-4250 PSIG SERIAL NO. 7198 CLOCK 1242; 1337.5; 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS 0910 HRS. DISENGAGE STYLUS 1642 HRS.
 WELL HEAD SEE ATTACHED CHART
 PICKUP @ 6630' TIME ON BOTTOM 0940-1610 HRS. MAX. F 602.9
 WELL STATUS SHUT IN
 SHUT IN: 1035 HRS 11/17/74 ON PRODUCTION:
 RATE

PRESSURE

TIME	DEPTH	DEFL.	P-W	GRAD.	ID	TIME	DEPTH	DEFL.	P-W	GRAD.	ID	TIME	DEPTH	DEFL.	P-W	GRAD.	ID
6650	.836	1796.6	-	+0.006	1235	6630	.841	1807.2	-	+0.006	1605	6630	.742	1506.0	-	+0.006	
6700	.839	1525.0	-	"	1240	"	.842	1809.3	-	"	1610	"	.751	1516.5	-	+0.006	
1000	.840	1805.1	-	"	1250	"	.842	1809.3	-	"							
1010	.840	1805.1	-	"	1300	"	.842	1809.3	-	"							
1020	.840	1805.1	-	"	1310	"	.842	1809.3	-	"							
1030	.840	1805.1	-	"	1320	"	.842	1809.3	-	"							
1040	.840	1805.1	-	"	1330	"	.842	1809.3	-	"							
1050	.840	1805.1	-	"	1340	"	.842	1809.3	-	"							
1055	.838	1800.3	-	"	1350	"	.842	1809.3	-	"							
1100	.823	1796.1	-	"	1400	"	.842	1809.3	-	"							
1105	.706	1521.2	-	"	1410	"	.842	1809.3	-	"							
1110	.680	1326.4	-	+0.005	1420	"	.842	1809.3	-	"							
1115	.673	1351.7	-	+0.005	1430	"	.842	1809.3	-	"							
1120	.669	1243.3	-	+0.005	1440	"	.842	1809.3	-	"							
1125	.670	1245.4	-	+0.005	1450	"	.842	1809.3	-	"							
1130	.673	1451.7	-	+0.005	1500	"	.841	1807.2	-	"							
1135	.681	1468.5	-	+0.005	1505	"	.830	1783.9	-	"							
1140	.691	1489.5	-	+0.005	1510	"	.738	1589.0	-	"							
1145	.701	1510.6	-	+0.005	1515	"	.688	1435.2	-	+0.005							
1150	.716	1527.4	-	+0.006	1520	"	.678	1422.2	-	+0.005							
1155	.732	1526.3	-	"	1525	"	.674	1453.3	-	+0.005							
1200	.751	1616.5	-	"	1530	"	.671	1447.5	-	+0.005							
1205	.766	1648.3	-	"	1535	"	.673	1451.7	-	+0.005							
1210	.778	1673.7	-	"	1540	"	.678	1462.2	-	+0.005							
1215	.798	1716.1	-	"	1545	"	.687	1481.1	-	+0.005							
1220	.816	1754.2	-	"	1550	"	.697	1502.1	-	+0.005							
	.826	1775.4	-	"	1555	"	.712	1533.9	-	+0.006							
1200	.836	1796.6	-	"	1600	"	.726	1563.6	-	+0.006							

COMMENTS:

BY: J. Bawson

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-11 5-64 ⁶⁵ P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" @ 207'; 9 5/8" tieback @ 1219' ELEV. 9034' DATE: 1/25/74
 LINER DESCRIPTION: 13 3/4" @ 1336'; 9 5/8" @ 1219' - 3380' ZERO POINT CL +10'
 SLOTTED LINER: 7" HUNG 3320' - TD DEPTH 6640'
 TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT 98° - 698° SERIAL NO. 10055 CLOCK, RHR 13374; 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS - 0903 HRS DISENGAGE STYLUS - 1642 HRS
 WELL HEAD SEE ATTACHED CHART
 PICKUP @ 6630' TIME ON BOTTOM - 0940 - 1410 HRS MAX. °F 602.9
 WELL STATUS - SHUT IN
 SHUT IN: 1035 HRS 11/17/74 ON PRODUCTION:
 RATE

TEMPERATURE

TIME	DEPTH	DEFL.	2-T	GRAD.	ID	TIME	DEPTH	DEFL.	2-T	GRAD.	ID	TIME	DEPTH	DEFL.	2-T	GRAD.	ID
0940	6630	1.658	602.9			1235	6630	1.658	602.9			1605	6630	1.657	602.7	-	-
2	"	1.658	602.9			1240	"	1.658	602.9			1610	"	1.657	602.7	-	-
1005	"	1.658	602.9			1250	"	1.658	602.9								
1010	"	1.658	602.9			1300	"	1.658	602.9								
1020	"	1.658	602.9			1310	"	1.658	602.9								
1030	"	1.658	602.9			1320	"	1.658	602.9								
1040	"	1.658	602.9			1330	"	1.658	602.9								
1050	"	1.658	602.9			1340	"	1.658	602.9								
1055	"	1.658	602.9			1350	"	1.658	602.9								
1100	"	1.657	602.7			1400	"	1.658	602.9								
1105	"	1.656	602.4			1410	"	1.658	602.9								
1110	"	1.655	602.1			1420	"	1.658	602.9								
1115	"	1.654	601.8			1436	"	1.658	602.9								
1120	"	1.653	601.6			1440	"	1.658	602.9								
1125	"	1.652	601.3			1450	"	1.658	602.9								
1130	"	1.651	601.0			1500	"	1.658	602.9								
1135	"	1.652	601.3			1505	"	1.658	602.9								
1140	"	1.652	601.3			1510	"	1.658	602.9								
1145	"	1.653	601.6			1515	"	1.657	602.7								
1150	"	1.654	601.8			1520	"	1.656	602.4								
1155	"	1.654	601.8			1525	"	1.655	602.1								
1200	"	1.655	602.1			1530	"	1.654	601.8								
1205	"	1.655	602.1			1535	"	1.654	601.8								
1210	"	1.656	602.4			1540	"	1.653	601.6								
1215	"	1.657	602.7			1545	"	1.654	601.8								
1220	"	1.657	602.7			1550	"	1.655	602.1								
	"	1.658	602.9			1555	"	1.655	602.1								
	"	1.658	602.9			1600	"	1.656	602.4								

COMMENTS:

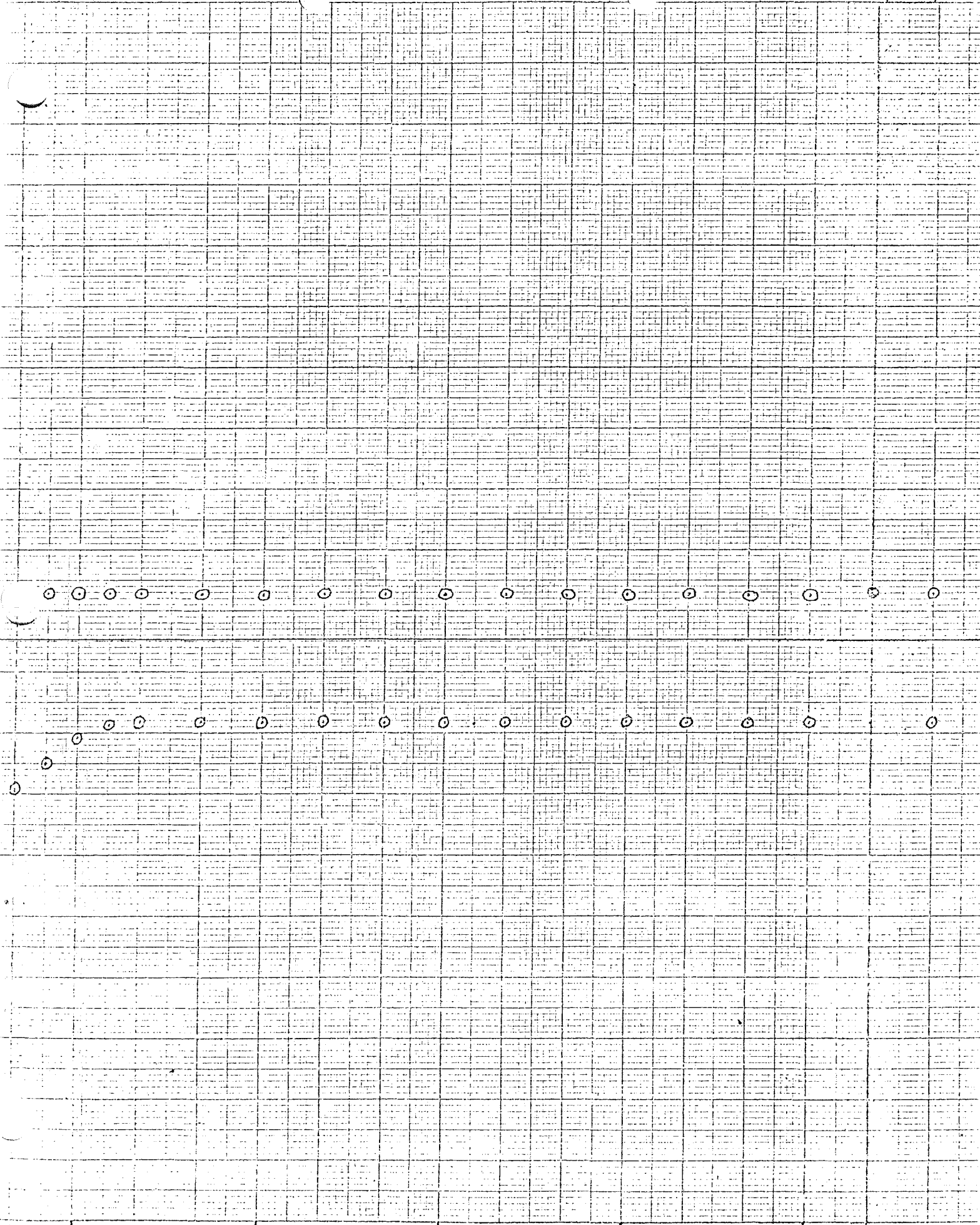
BY: J. Bowen

TEMPERATURE



PRESSURE





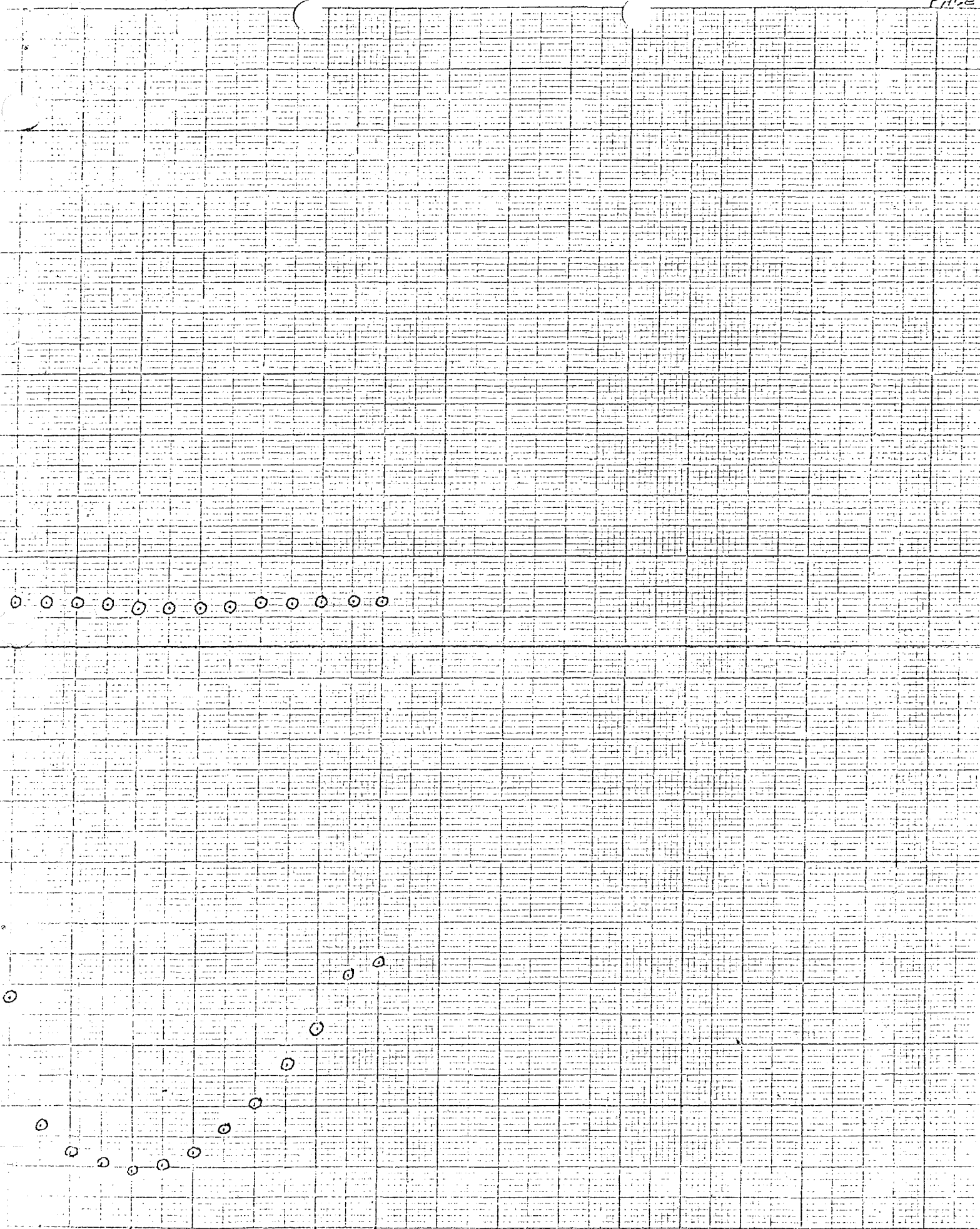
1250

1300

1350

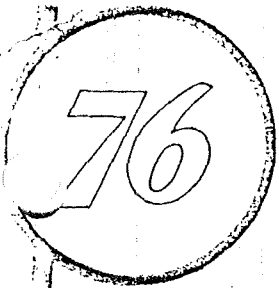
1400

1450



1530

1600



UNION

DEL PYLE

FEB 6 1975

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#11-548-TIT
BICA #11

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME - BACA #11
 CASING 20" @ 207, 9 5/8" @ 1212' TIEBACK ELEV. 9064 DATE: 1/24/75
 LINER DESCRIPTION: 13 3/8" @ 1336 - ; 9 5/8" @ 1212 - 3380' ZERO POINT GLT 10'
 SLOTTED LINER - 7" - HVN9 - @ 3320 - T.D. DEPTH 6630'
 TUBING DETAIL:

PURPOSE

REMARKS:

T₁ 88°F - 698°F 10055 12hr - 13374 15
 ELEMENT T₂ 80°F - 646°F SERIAL NO. 10052 CLOCK 12hr - 13375 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS T₁ - 1426, T₂ 1429 DISENGAGE STYLUS T₁ - 1720 T₂ 1722
 WELL HEAD 310 PSIG
 PICKUP @ 6630 - TIME ON BOTTOM 1554 - 1654 MAX. °F T₁ 221, T₂ 588
 WELL STATUS SHUT IN
 SHUT IN: 1035 hrs - 11/17/74 ON PRODUCTION:
 RATE

T₁ 10055

T₂ - 10052

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.054	106.4	0		"	100	.015	25.2	0							
	1000	.545	272.4	.18		"	1000	.566	255.8	.19							
16-1526	3000	1.363	520.5	.12	213.6	"	3000	1.459	509.3	.13	213.6						
138-1543	4000	1.463	548.6	.02	152.7	"	4000	1.558	535.1	.02	152.7						
14-1654	6630	1.455	602.1	.02	152.7	"	6630	1.767	587.7	.02	152.7						
<p>REFER TO BACA #11 S-33 - T₁/T₂ - 4/4/74 THIS DIFFERENCE IN TEMPERATURE ELEMENTS WAS DETECTED AND THE ELEMENTS WERE SENT IN FOR A CALIBRATION CHECK. THEY WERE OKAY & THE DIFFERENCE IS STILL EVIDENT.</p>																	

COMMENTS:

BY:

J. M.

516

GEO THERMAL DIVISION

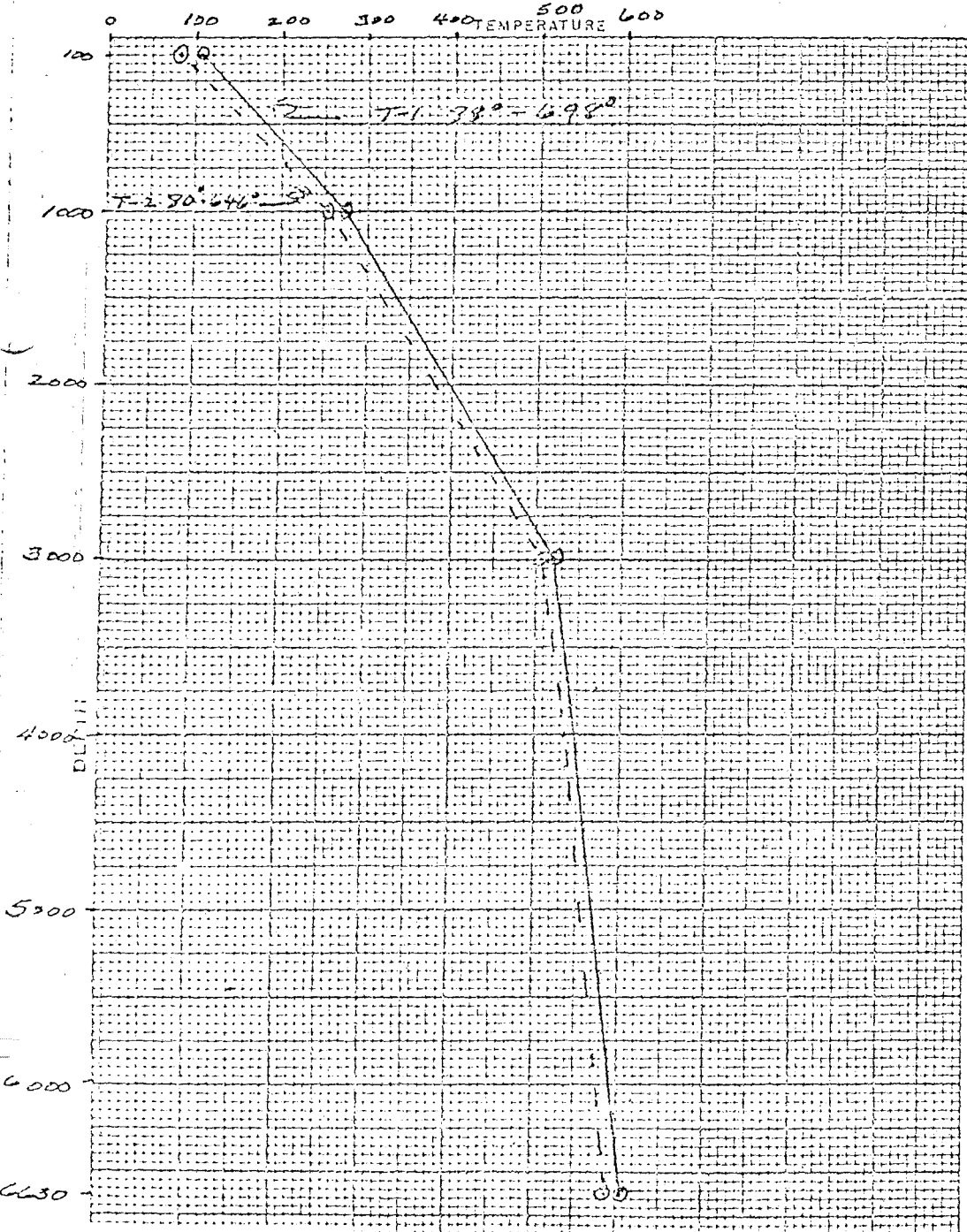
SUBSURFACE TEMPERATURE SURVEY

64
B-11 5-63 T/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" @ 207', 95.7" TUBAGE 1219' ELEV 9064' DATE: 1/24/75
 LINER DESCRIPTION: 1373' AT 1336', 458" - 1219' - 3380' ZERO POINT 62+10'
7' HUNG 3320' - TD DEPTH 6630'

HOLE DESCRIPTION: _____
 INSTRUMENT T-1 88° - 698° FAHR
 SERIAL NO T-2 80° - 646°
T-1 602.1° @ 6630
 MAX TEMP T-2 587.7° @ 6630

PURPOSE _____
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
T-1	88° - 698°		
100	106.4°		
1000	272.4°		
3000	520.5°		
4000	543.6°		
6630	602.1°		

T-2	80° - 646°
100	85.2°
1000	255.8°
3000	509.3°
4000	535.1°
6630	587.7°

76

UNION GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

63
B#11-5763-P/P

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" @ 207' 9 3/8" TIEBACK AT 1212' ELEV 9064 DATE 11/24/75
 LINER DESCRIPTION: 13 7/8" - 13,236' 9 3/8" 1212' - 3380' ZERO POINT C.L. + 10'
SLITTED LINER - 7" hung - 3320 - T.D. DEPTH 6630

HOLE DESCRIPTION:

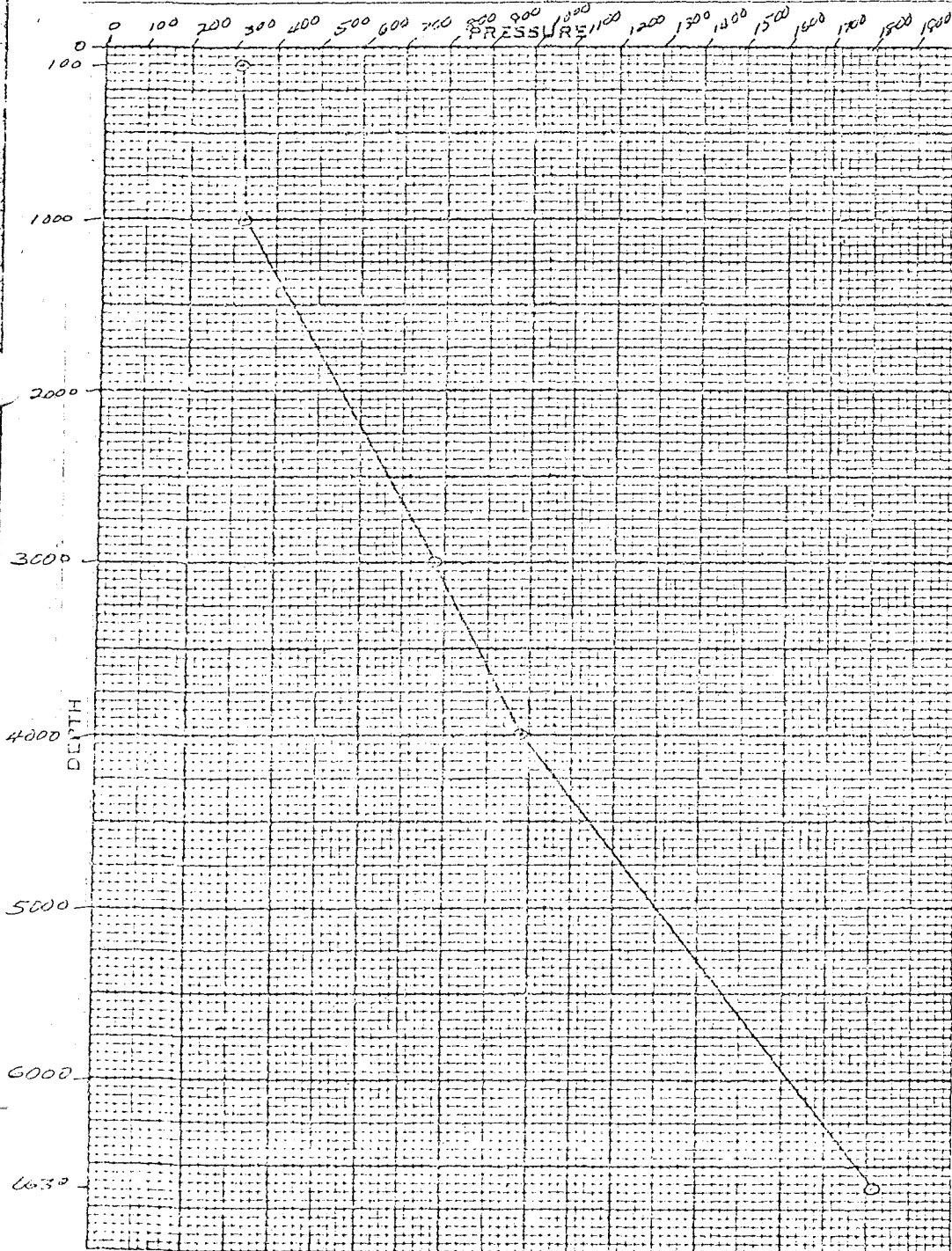
INSTRUMENT 0-4250 PSI
 SERIAL NO 7198

PURPOSE

MAX TEMP 603 °F @ 6630

REMARKS:

STABILIZATION PERIOD



PRESSURE	GAUGE	BONS
CASING, PSI	310	100' 315.3

DEPTH	PRESSURE	GRADIENT
100	315.3	0
1000	324.3	.01
3000	779.6	.23
4000	980.6	.20
6630	1811.4	.32

BY: J.M.

76

UNION GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B#H-567-⁶⁷P/P

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" @ 207, 9 5/8" TIE BCK @ 1219' ELEV 9064 DATE 1/24/75
 LAYER DESCRIPTION: 13 1/2" @ 1330, 9 5/8" @ 1219' - 3380' ZERO POINT GLT @ 1'
SUCCESS UNER - 7" HUNG - @ 3320' - T.P. DEPTH 6630

HOLE DESCRIPTION:

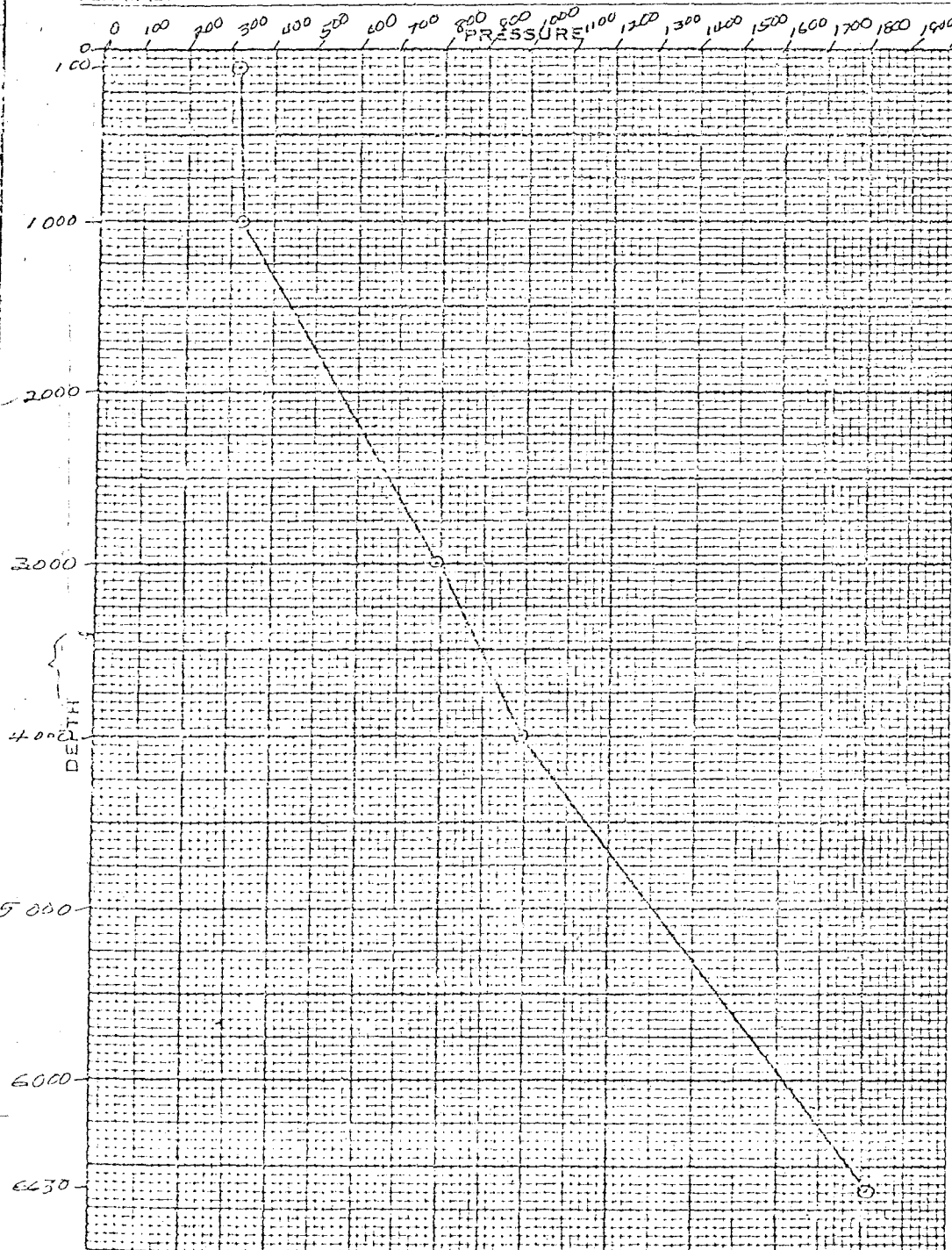
INSTRUMENT D-2950 PSI

SERIAL NO 9235

PURPOSE

MAX TEMP 603 °F @ 6630

REMARKS



PRESSURES	GAUGE	BOMB
CASING PSI	310.	100' 319.3.

DEPTH	PRESSURE	GRADIENT
100	319.3	0
1000	327.1	.012
3000	790.2	.23
4000	992.6	.20
6630	1816.6	.31

BY: J. M.

76

GLOTTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

63
BAM-588-P/P

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 20' @ 207, 9 5/8" TIE BACK @ 1219' ELEV 9064 DATE 1/24/75
 LINER DESCRIPTION: 13 3/8" @ 1326, 9 5/8" @ 1219' - 3380' ZERO POINT GLT 10'
SLOTTED LINER - 7" HUNG - @ 3320' - T.D. DEPTH 6630

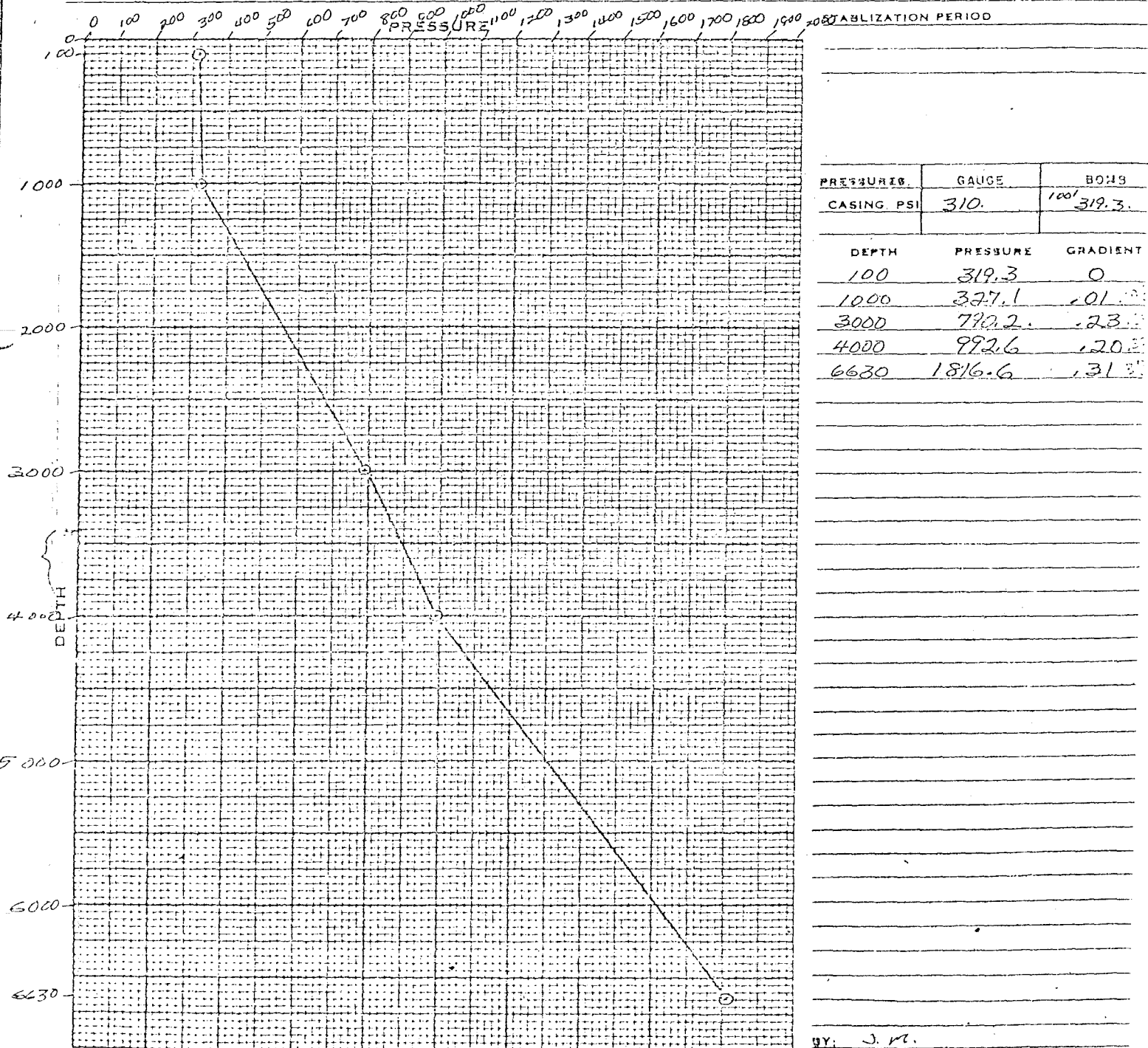
HOLE DESCRIPTION:

INSTRUMENT D-2950 PSIG
 SERIAL NO 9235

PURPOSE

MAX TEMP 603 °F @ 6630

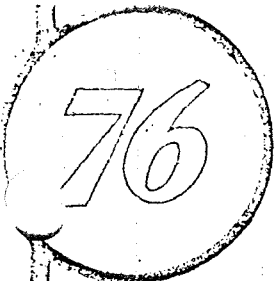
REMARKS:



PRESSURE	GAUGE	BOHS
CASING PSI	310	100' 319.3

DEPTH	PRESSURE	GRADIENT
100	319.3	0
1000	377.1	.01
3000	770.2	.23
4000	992.6	.20
6630	1816.6	.31

BY: J.M.



GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

61
B-11 5-46 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BRA # 11
 CASING 20" AT 204' ; 9 5/8 Tieback AT 1215' ELEV. 9064' DATE: 12/22/74
 LINER DESCRIPTION: 13 3/8 AT 1336' ; 9 5/8 1215' - 3380' ZERO POINT CL + 10'
SLOTTED LINER - 7" HUNG 3320' - TD DEPTH 6640'
 TUBING DETAIL:

 PURPOSE _____
 REMARKS:
 ELEMENT 0-4250 PSIG SERIAL NO 7198 CLOCK-12HR 13374-L 15 TURN
 ELEMENT 88° - 698° SERIAL NO. 10055 CLOCK 12HR 13790-L 15 TURN STABILIZATION PERIOD _____
 ENGAGE STYLUS P-1154 HAS T-1159 HAS DISENGAGE STYLUS P-1648 HAS T-1644
 WELL HEAD 247 PSIG 0-400 T/C
 PICKUP @ 6630' TIME ON BOTTOM 1240 - 1610 MAX. 'F 596.9
 WELL STATUS STATIL
 SHUT IN: 1035 HRS 11/17/74 ON PRODUCTION: _____
 RATE _____

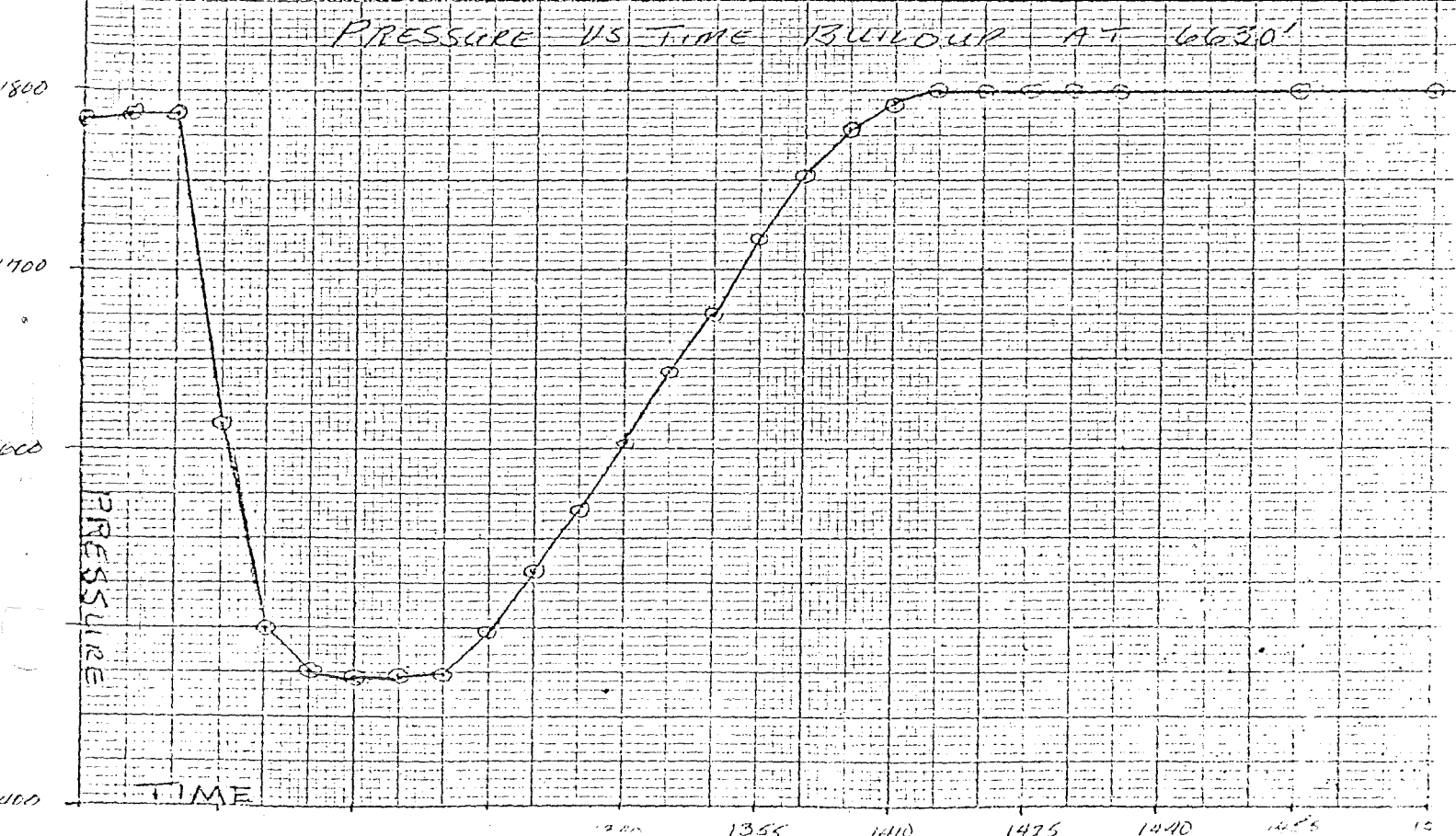
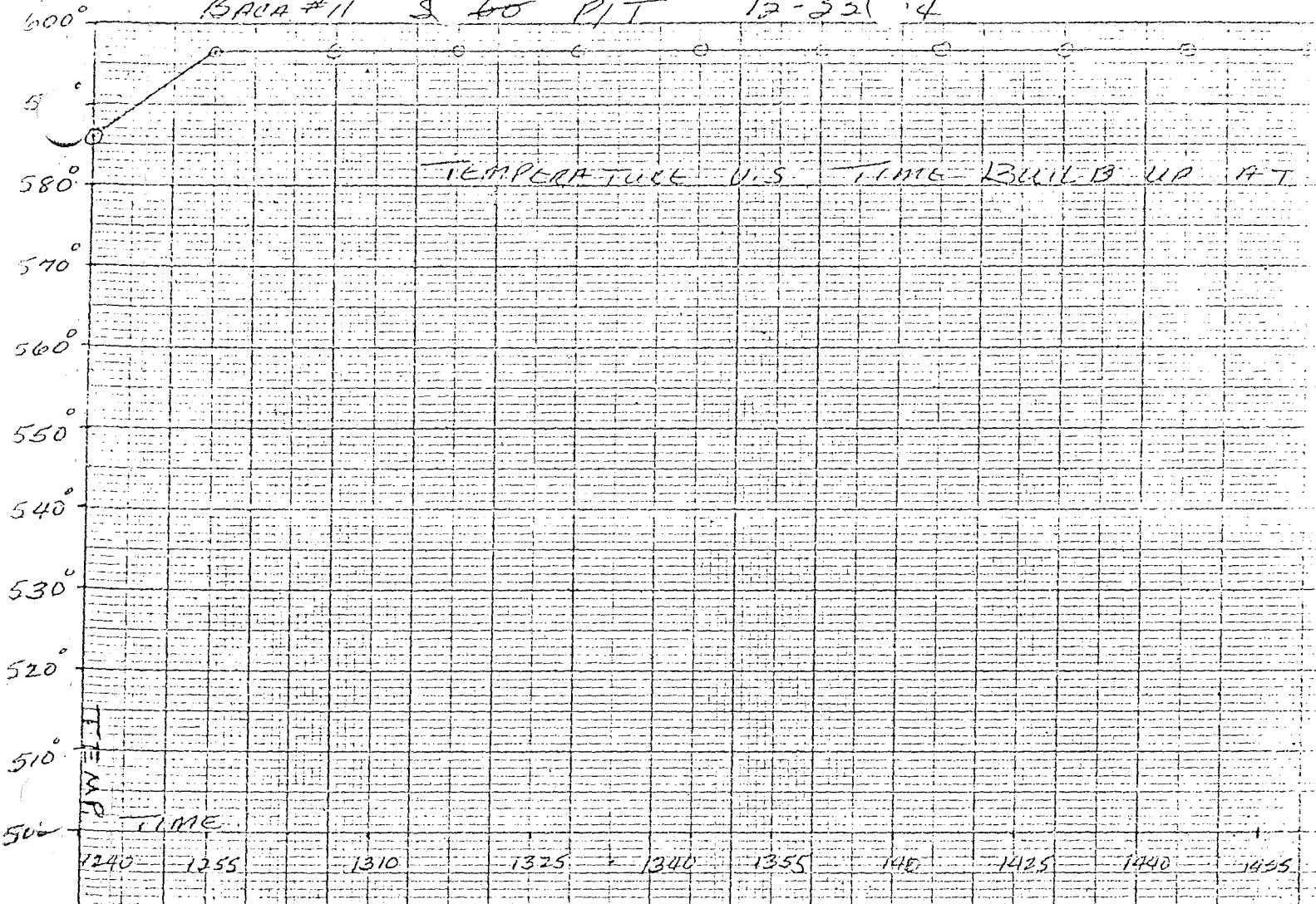
PRESSURE						PRESSURE						TEMPERATURE					
TIME	DEPTH	DEFL.	P-I	GRAD.	ID	TIME	DEPTH	DEFL.	P-I	GRAD.	ID	TIME	DEPTH	DEFL.	B-T	GRAD.	ID
1155	100	.111	250.0	—	—	1525	6630	.832	1800.0	—	1.006	1215-1225	100	.053	106.1	—	—
	6630	.824	1735.9	—	1.006	1540	"	"	1800.0		"	1240	6630	1.595	585.6		
1215	"	.826	1735.1	—	"	1555	"	"	1800.0		"	1255	"	1.636	596.9		
1255	"	.826	1735.1		"	1610	"	"	1800.0		"	1310	"	"	"		
1255	"	.743	1612.3		"							1325	"	"	"		
1300	"	.690	1580.0		"							1340	"	"	"		
1305	"	.679	1476.9		"							1355	"	"	"		
1310	"	.677	1472.7		"							1410	"	"	"		
1315	"	.677	1472.7		"							1425	"	"	"		
1320	"	.678	1474.8		"							1440	"	"	"		
1325	"	.689	1497.9		"							1455	"	"	"		
1330	"	.705	1531.5		"							1510	"	"	"		
1335	"	.721	1565.7		"							1525	"	"	"		
1340	"	.740	1605.9		"							1540	"	"	"		
1345	"	.758	1644.1		"							1555	"	"	"		
1350	"	.773	1675.8		"							1610	"	"	"		
1355	"	.773	1718.2		"												
1400	"	.809	1752.1		"												
1405	"	.827	1777.5		"												
1410	"	.829	1794.5		"												
1415	"	.832	1800.0		"												
1420	"	.832	1800.0		"												
1425	"	.832	1800.0		"												
1430	"	.832	1800.0		"												
1435	"	.832	1800.0		"												
1440	"	.832	1800.0		"												
	"	.832	1800.0		"												
	"	.832	1800.0		"												

COMMENTS:

BY: J. Bowen

61

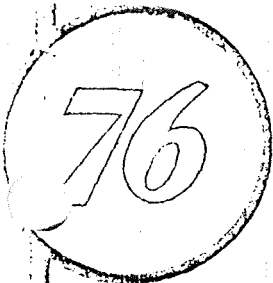
BACA #11 & 60 PIT 12-22-14



630'

1510 1525 1540 1555 1610

1525 1540 1555 1610



UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

61
B-11 S-46 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BALA # 11

CASING 20" AT 207'; 9 5/8 Tieback AT 1215 ELEV. 9060' DATE: 12/22/74

LINER DESCRIPTION: 13 3/8 AT 1336'; 9 5/8 1219' - 3380' ZERO POINT CL + 10'

SLOTTED LINER - 7" HUNG 3380' - TD DEPTH 6640'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT 0-4250 PSIG SERIAL NO 7198 CLOCK-12 Hz 13374-L 15 TURN

ELEMENT 88° - 698° SERIAL NO. 10055 CLOCK 12 Hz 13790-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1154 HRS T-1159 HRS. DISENGAGE STYLUS P-1648 HRS T-1644

WELL HEAD 247 PSIG 0-400 T/C

PICKUP @ 6630' TIME ON BOTTOM 1240 - 1610 MAX. F 596.9

WELL STATUS STATIL

SHUT IN: 1035 HRS 11/12/74 ON PRODUCTION:

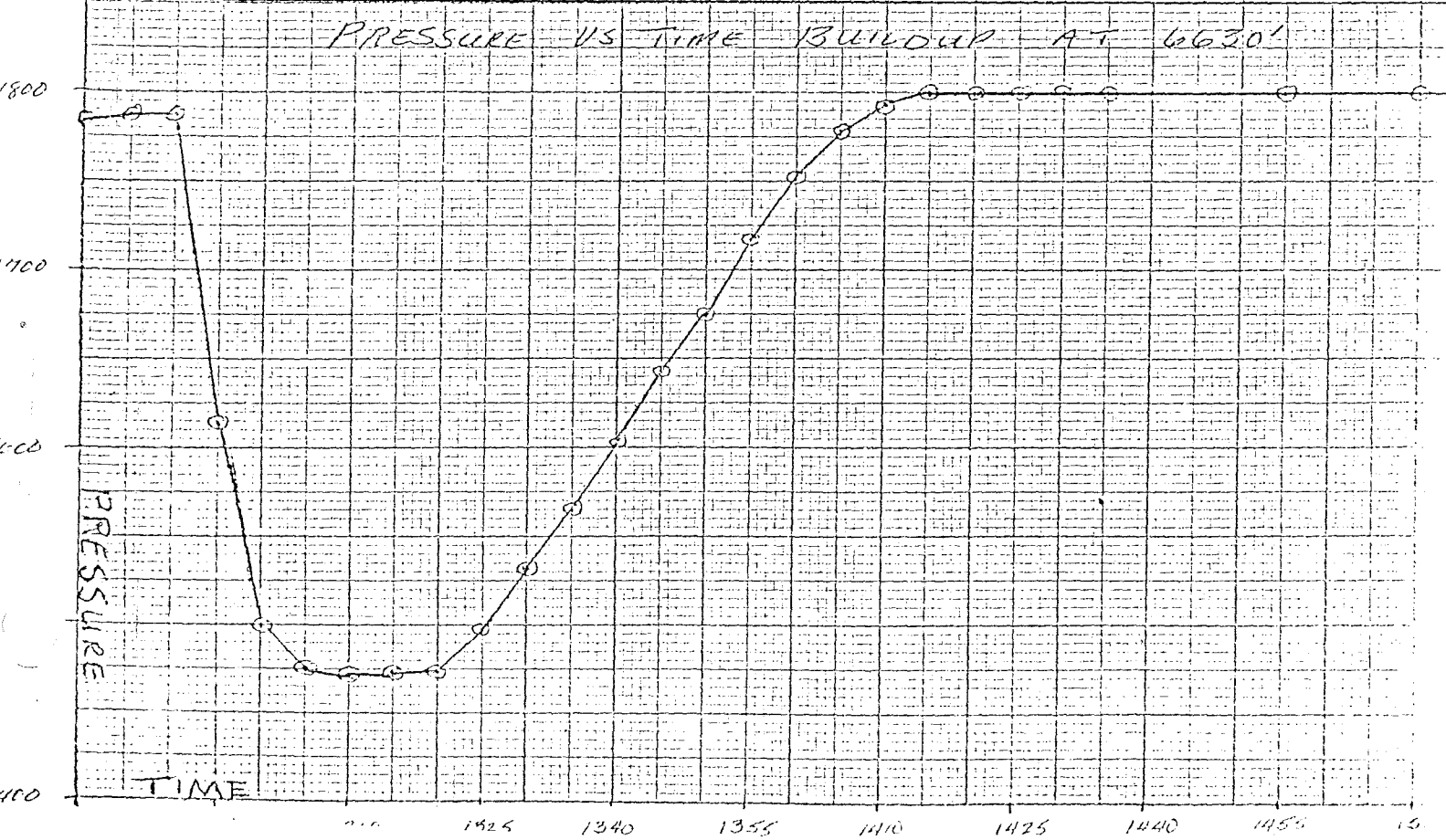
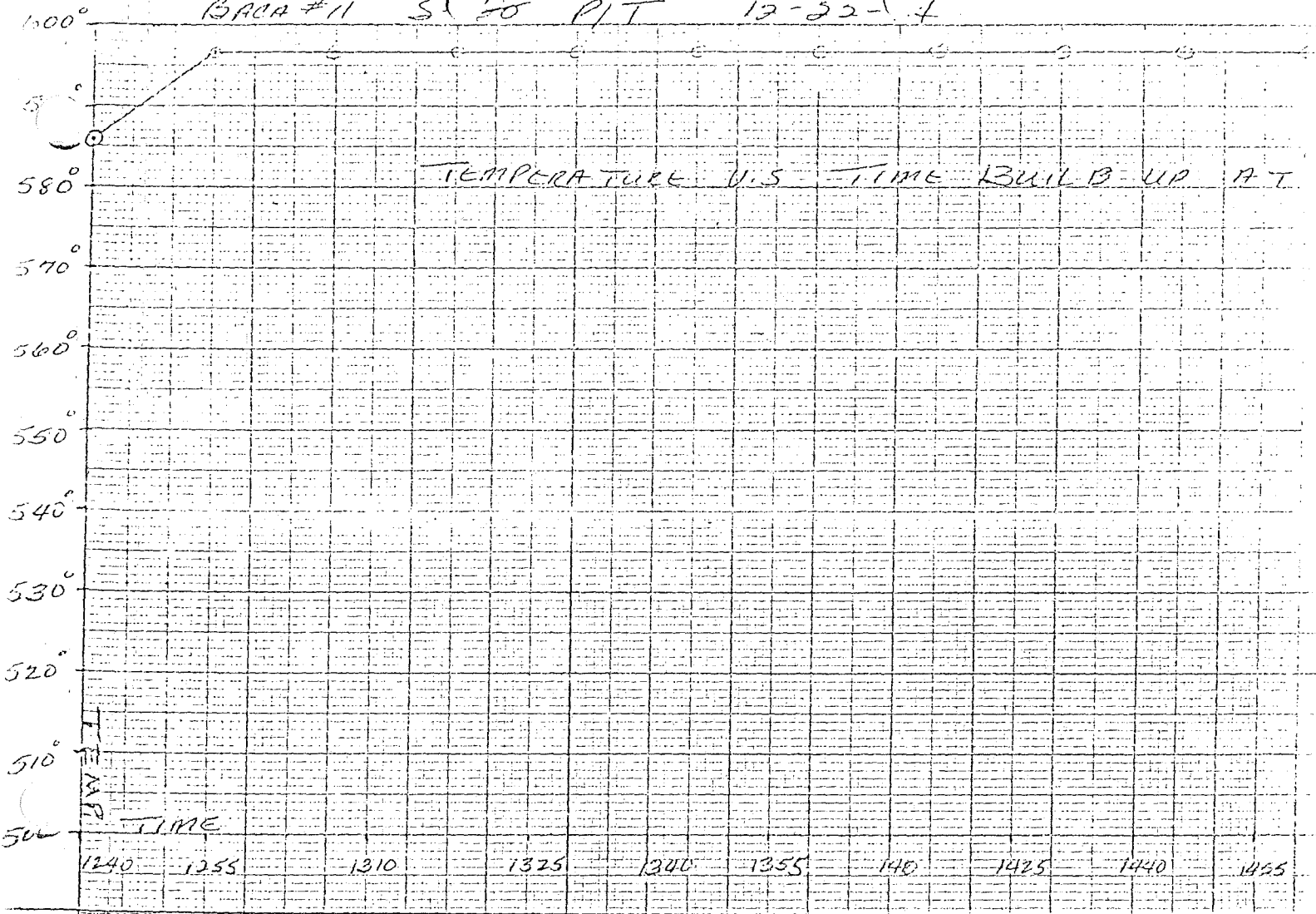
RATE

PRESSURE						PRESSURE						TEMPERATURE					
TIME	DEPTH	DEFL.	P-#	GRAD.	ID	TIME	DEPTH	DEFL.	P-#	GRAD.	ID	TIME	DEPTH	DEFL.	T	GRAD.	ID
1225	100	.111	250.0	-	-	1225	6630	.832	1800.0	-	7.006	1215-1225	100	.053	106.1	-	-
	6630	.824	1783.9	-	7.006	1240	"	"	1800.0		"	1240	6630	1.595	585.6		
1275	"	.826	1783.1	-	"	1255	"	"	1800.0		"	1255	"	1.636	596.9		
1250	"	.826	1783.1		"	1610	"	"	1800.0		"	1310	"	"	"		
1255	"	.743	1612.3		"							1325	"	"	"		
130	"	.690	1510.0		"							1340	"	"	"		
1305	"	.679	1475.9		"							1355	"	"	"		
1310	"	.677	1472.7		"							1410	"	"	"		
1315	"	.677	1472.7		"							1425	"	"	"		
1320	"	.678	1474.8		"							1440	"	"	"		
1325	"	.689	1497.9		"							1455	"	"	"		
1330	"	.705	1531.8		"							1510	"	"	"		
1335	"	.721	1565.7		"							1525	"	"	"		
1370	"	.740	1605.9		"							1540	"	"	"		
1395	"	.758	1644.1		"							1555	"	"	"		
1350	"	.775	1675.8		"							1610	"	"	"		
1355	"	.793	1718.2		"												
140	"	.809	1752.1		"												
145	"	.827	1777.5		"												
140	"	.829	1774.5		"												
145	"	.832	1800.0		"												
170	"	.832	1800.0		"												
125	"	.832	1800.0		"												
131	"	.832	1800.0		"												
135	"	.832	1800.0		"												
140	"	.832	1800.0		"												
	"	.832	1800.0		"												
	"	.832	1800.0		"												

COMMENTS:

BY: J. Bowen

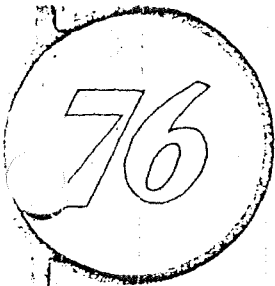
BACA #11 S⁶¹ 50 PIT 12-22-4



630'

1510 1525 1540 1555 1610

1525 1540 1555 1610



union

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACA 11-5-61 PRESS.

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" AT 207'; 9 5/8" Tieback AT 1219' ELEV. 9064' DATE: 1-4-75
 LINER DESCRIPTION: 13 3/8" AT 1336'; 9 5/8" 1219' - 3380' ZERO POINT GL + 10'
 SLOTTED LINER - 7" HUNG 3320' - TD DEPTH 6640'
 TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT 0-4250 PSIG SERIAL NO. 7199 CLOCK 12:39:15 T TURN 12:39:15 STABILIZATION PERIOD
 ENGAGE STYLUS 0926 HRS DISENGAGE STYLUS 1733 HRS
 WELL HEAD
 PICKUP 0 @ 230' TIME ON BOTTOM 1000 - 1700 HRS MAX. P 599.1
 WELL STATUS STATIC
 SHUT IN: 1035 HRS 11/17/74 ON PRODUCTION:
 RATE

PRESSURE

TIME	DEPTH	DEFL.	P-S	GRAD.	CORR	TIME	DEPTH	DEFL.	P-S	GRAD.	CORR	TIME	DEPTH	DEFL.	P-S	GRAD.	CORR
	6630	.831	1786.0		+0.06	1300	6630	.838	1802.8		+0.06	1635	6630	.777	1671.6		+0.06
		.834	1792.4			1310		.839	1802.9			1640		.795	1702.7		
020		.838	1800.8			1320		.839	1802.9			1645		.811	1743.6		
030		.838	1800.8			1330		.839	1802.9			1650		.825	1773.3		+0.06
040		.838	1800.8		+0.06	1340		.839	1802.9		+0.06	1655		.835	1794.5		
050		.838	1800.8			1350		.839	1802.9			1700	6630	.839	1802.9		+0.06
060		.838	1800.8			1400		.839	1802.9								
070		.838	1800.8			1410		.839	1802.9								
080		.838	1800.8			1420		.839	1802.9								
090		.836	1796.6		+0.06	1430		.839	1802.9		+0.06						
100		.829	1781.8			1440		.839	1802.9								
110	6630	.735	1582.6			1450	6630	.839	1802.9								
120		.690	1437.4			1500		.839	1802.9								
130		.679	1464.3		+0.06	1510		.839	1802.9								
140		.677	1460.1			1520		.839	1802.9								
150		.677	1460.1			1530		.838	1800.8		+0.06						
160		.679	1464.3		+0.06	1535		.750	1614.4								
1605		.685	1476.9			1540		.697	1502.1								
170		.693	1493.7			1545		.683	1472.7								
175		.707	1522.3			1550		.678	1462.2								
180		.723	1557.2			1555		.678	1462.2		+0.06						
185		.740	1593.2			1600		.683	1472.7								
190		.759	1633.5		+0.06	1605		.683	1483.2								
195		.773	1663.1			1610		.697	1506.4								
200		.788	1697.9			1615		.710	1529.7		+0.06						
		.808	1737.3			1620		.727	1565.7								
		.822	1766.9			1625		.747	1608.1								
205	6630	.532	1782.1		+0.06	1630	6630	.765	1646.2		+0.06						

COMMENTS:

BY: (Brunner) / J. M

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACH #11 5-61 TEMP

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 20' AT 207'; 9 5/8 TIEBACK 1219' ELEV. 9064' DATE: 1-4-75
 LINER DESCRIPTION: 15 3/8 AT 1336'; 9 5/8" 1219' - 3380' ZERO POINT CL +10'
 SLOTTED LINER - 7" HUNG 3320' - TD DEPTH 6640'
 TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT 89° - 698° SERIAL NO. 10055 CLOCK 12 hr 12889 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS 0921 HRS DISENGAGE STYLUS 1736 HRS
 WELL HEAD
 PICKUP @ 6630' TIME ON BOTTOM 1000 - 1700 HRS MAX. T 599.1
 WELL STATUS STATIC
 SHUT IN: 1035 HRS 11/17/74 ON PRODUCTION:
 RATE

TEMPERATURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1000	6630	1.570	598.6	-	-	1700	6630	1.643	599.5	-	-						
	"	1.642	598.5														
1030	"	1.642	598.5														
1045	"	1.642	598.5														
1100	"	1.642	598.5														
1115	"	1.641	598.3														
1130	"	1.640	598.0														
1145	"	1.639	597.4														
1200	"	1.638	597.4														
1215	"	1.640	598.0														
1230	"	1.641	598.3														
1245	"	1.642	598.5														
1300	"	1.642	598.5														
1315	"	1.643	598.8														
1330	"	1.643	598.8														
1345	"	1.643	598.8														
1400	"	1.643	598.8														
1415	"	1.643	598.8														
1430	"	1.643	598.8														
1445	"	1.643	598.7														
1500	"	1.643	598.8														
1515	"	1.644	599.1														
1530	"	1.644	599.1														
1545	"	1.644	599.1														
1600	"	1.639	597.7														
1615	"	1.639	597.7														
1630	"	1.641	598.3														
1645	"	1.642	598.5														

COMMENTS:

BY: J. Bowen / John M.

WELL HEAD PRESSURE DATA

1-4-75

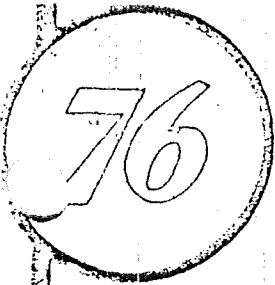
TIME	WHP BACA #13	WHP BACA #11				
10 00	68	270				
10 15	65	270				
10 30	61	267				
10 45	70	267				
11 00	80	267				
11 15	75	267				
11 30	78	270				
11 45	70	280				
12 00	70	280				
12 15	67	285				
12 30	65	285				
12 45	60	285				
13 00	65	285				
13 15	77	285				
13 30	75	280				
13 45	77	275				
14 00	70	270				
14 15	68	267				
14 30	68	267				
14 45	66	265				
15 00	60	265				
15 15	66	265				
15 30	76	267				
15 45	73	270				
16 00	77	275				
16 15	72	280				
16 30	72	283				
16 45	70	283				
17 00	70	280				

B#11 WELL HEAD
METER - 0-1500 B/R

B#13 WELL HEAD
METER - 0-500 B/R

DATA TAKEN FROM WELL HEAD PRESSURE
CHARTS DURING 1000 HRS TO 1700 HRS.

J. BOWEN / J.M.



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

60
B-11-5-4 MIT

OWNER: ... FIELD: ... WELL NAME: ...
CASING: ... ELEV.: ... DATE: ...
LINER DESCRIPTION: ... ZERO POINT: ...
SUSPENDED: ... DEPTH: ...
TUBING DETAIL:

PURPOSE

REMARKS:

...

ELEMENT: ... SERIAL NO.: ... CLOCK: ... STABILIZATION PERIOD

ENGAGE STYLUS: ... DISENGAGE STYLUS: ...

WELL HEAD: ...

PICKUP @: ... TIME ON BOTTOM: ... MAX. F: ...

WELL STATUS: ...

SHUT IN: ... ON PRODUCTION:

RATE

DEPRESSURE TEMPERATURE

Table with columns: TIME, DEPTH, DEFL., P-T, GRAD., /D. Contains multiple rows of data points.

COMMENTS:

BY: [Signature]

2000
1950

12-19-74

B-11 S-74 17
60

1900

PRESSURE (TIME) 1500 FT 2150'

1800

1700

1600

1500

1400

1225 HRS 1305 HRS 1425 HRS 1525 HRS 1625 HRS

TEMPERATURE (TIME) 1500 FT 2150'

600°

590°

580°

570°

560°

550°

540°

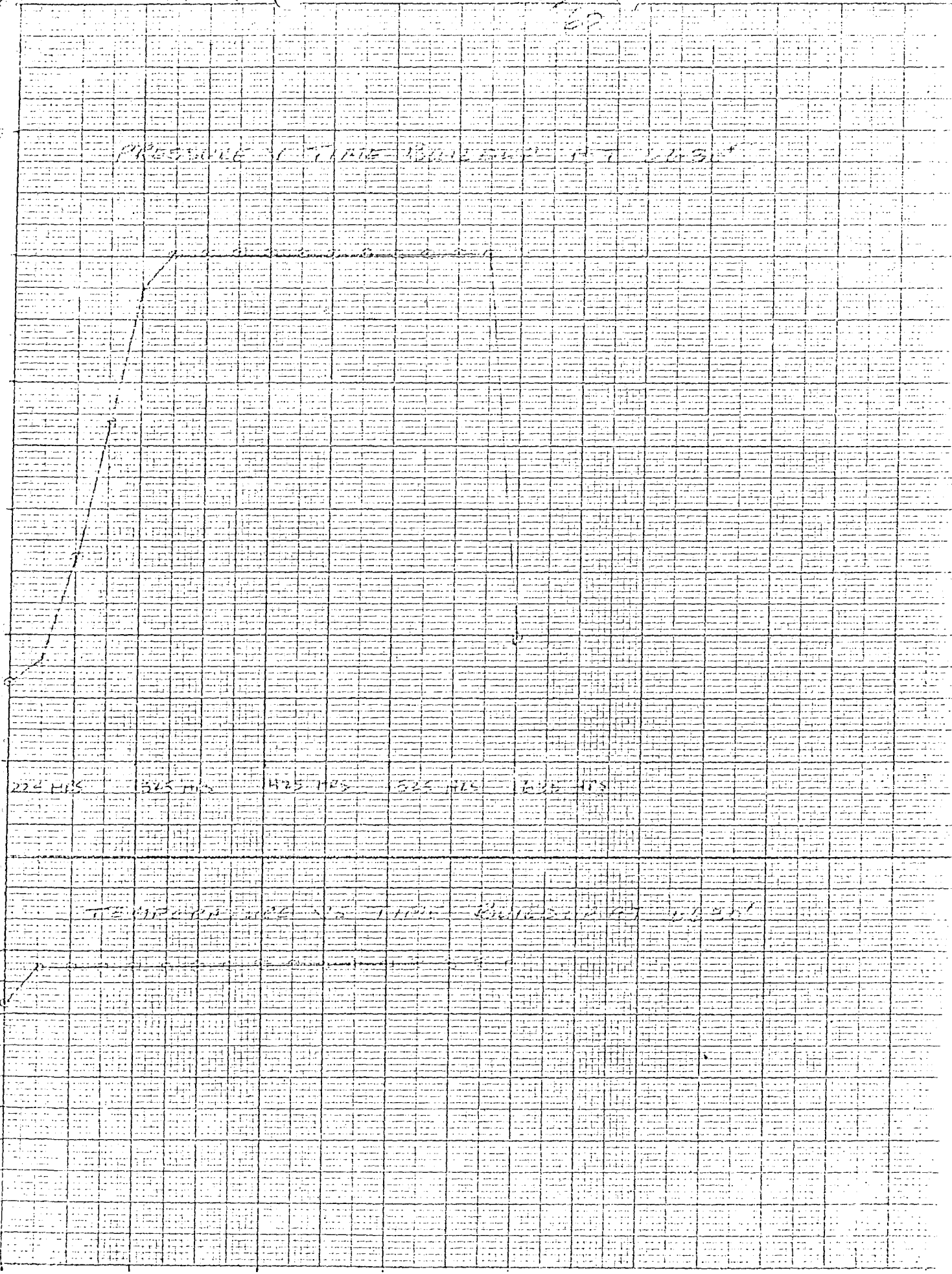
530°

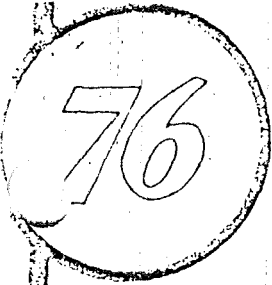
520°

510°

500°

1525 HRS 1625 HRS





UNION 76

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

59
B-11 3-28 P17

OWNER UNION PACIFIC RAILROAD FIELD WELL 13774-2 WELL NAME BLANK #11
 CASING 1 1/2" TUBING AT 1377 ELEV. 7000' DATE: 12-15-74
 LINER DESCRIPTION: 1378 AT 1380' 1 1/2" HUBB 2320' TID ZERO POINT COL 1 10
 TUBING DETAIL:

PURPOSE

REMARKS:

WELL 13774-2 P.W. 5/17/74 CLOCK 13774-2 15 TURN

ELEMENT 50-695' SERIAL NO. 10055 CLOCK 13774-2 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1027 HBT 1032 483 DISENGAGE STYLUS P-1251 T-1252

WELL HEAD 246' D-420 T/B

PICKUP @ 10030 TIME ON BOTTOM 1143-1213 MAX. 'F 545.2

WELL STATUS ON PRODUCTION

SHUT IN: 10320 FR 11/17/74 ON PRODUCTION:

RATE

PRESSURE

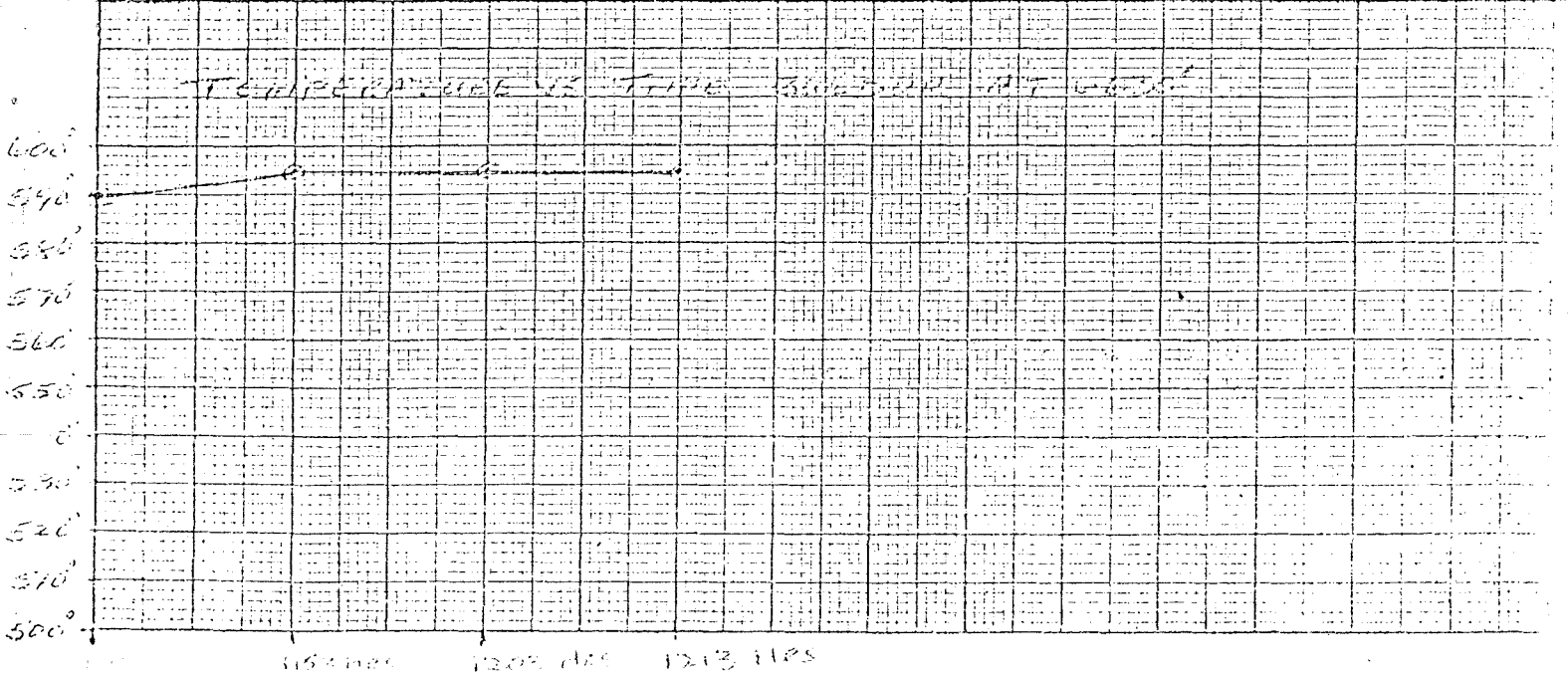
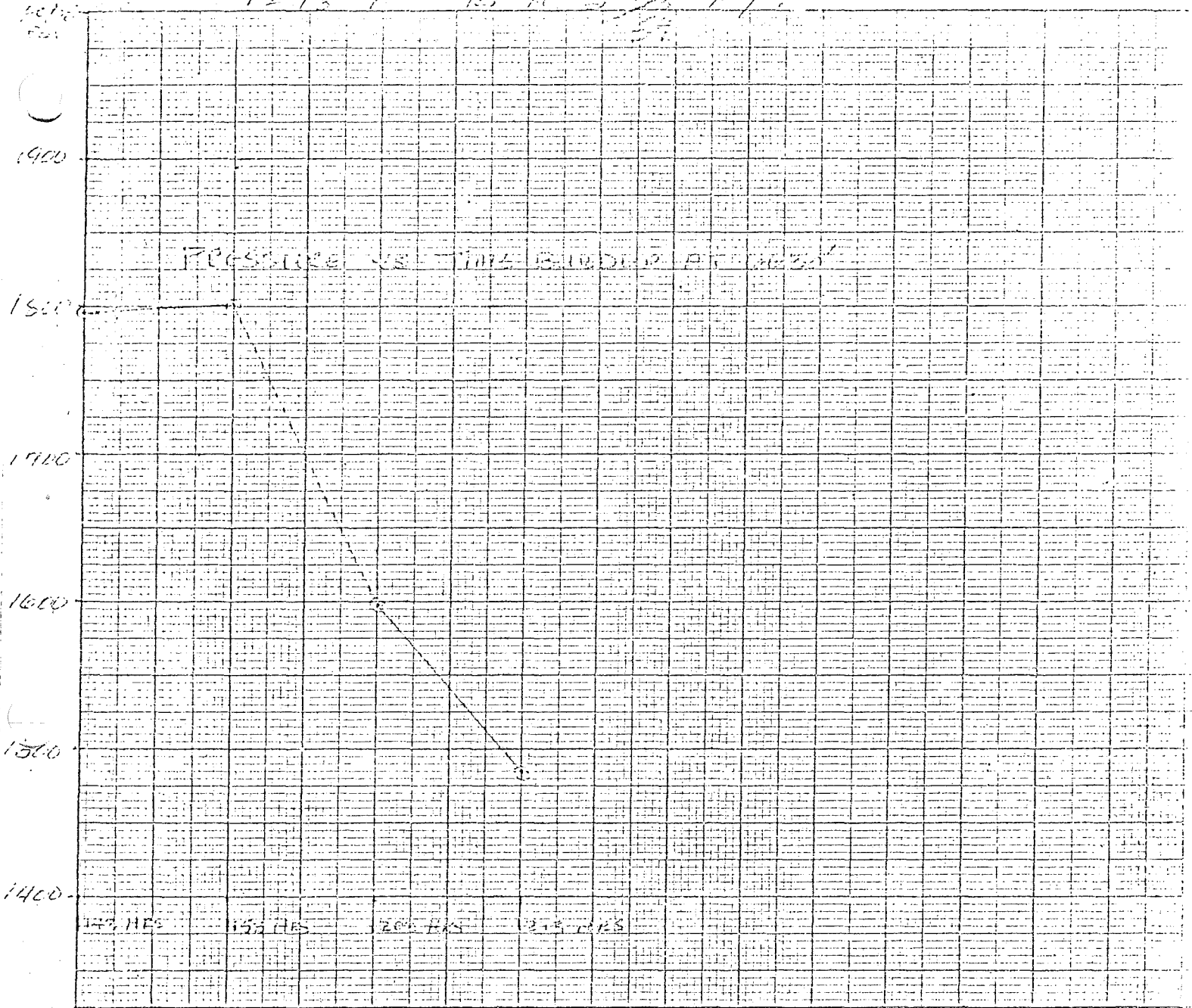
TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	111	250.0	---	---		100	678	116.5	---	---						
	100	114	250.5	---	---		100	674	250.1	---	---						
	100	78	450.5	---	1.001		100	1487	504.2	---	---						
	100	137	1750.0	---	1.006		100	1520	500.0	---	---						
	100	137	1500.0	---	1.000		100	1630	500.0	---	---						
	100	174	1030.0	---	1.006		100	1630	500.0	---	---						
	100	100	1000.0	---	1.000		100	1630	500.0	---	---						

COMMENTS:

BY: J. B. ...

12-15-7 B-11 S-11 10/1



76

UNION 76

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

58
B-11 S-37 PIT

OWNER: Union Oil Company of California FIELD OFFICE: LA BARRON WELL NAME: B-11 S-37 #11
 CASING: 10-707 5/8" STUB CEMENT ELEV.: 9064' DATE: 12/18/74
 LINER DESCRIPTION: 1 3/4" HT 1500' 400 1219-3310 ZERO POINT: BL + 10
1 1/2" ID 1000' 7" HT 1500 3320-710 DEPTH: 6640'
 TUBING DETAIL:

PURPOSE

REMARKS:

Element P-1035 SERIAL NO. 10055 CLOCK 13740-16 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1035 T-1035 DISENGAGE STYLUS P-1303 T-1303
 WELL HEAD: 934 PSIG 10-400 17' ID
 PICKUP @ 6630 TIME ON BOTTOM 12:00-12:50 MAX. 'F 593.9
 WELL STATUS: ST-110
 SHUT IN: 1035 462 11/17/74 ON PRODUCTION:
 RATE

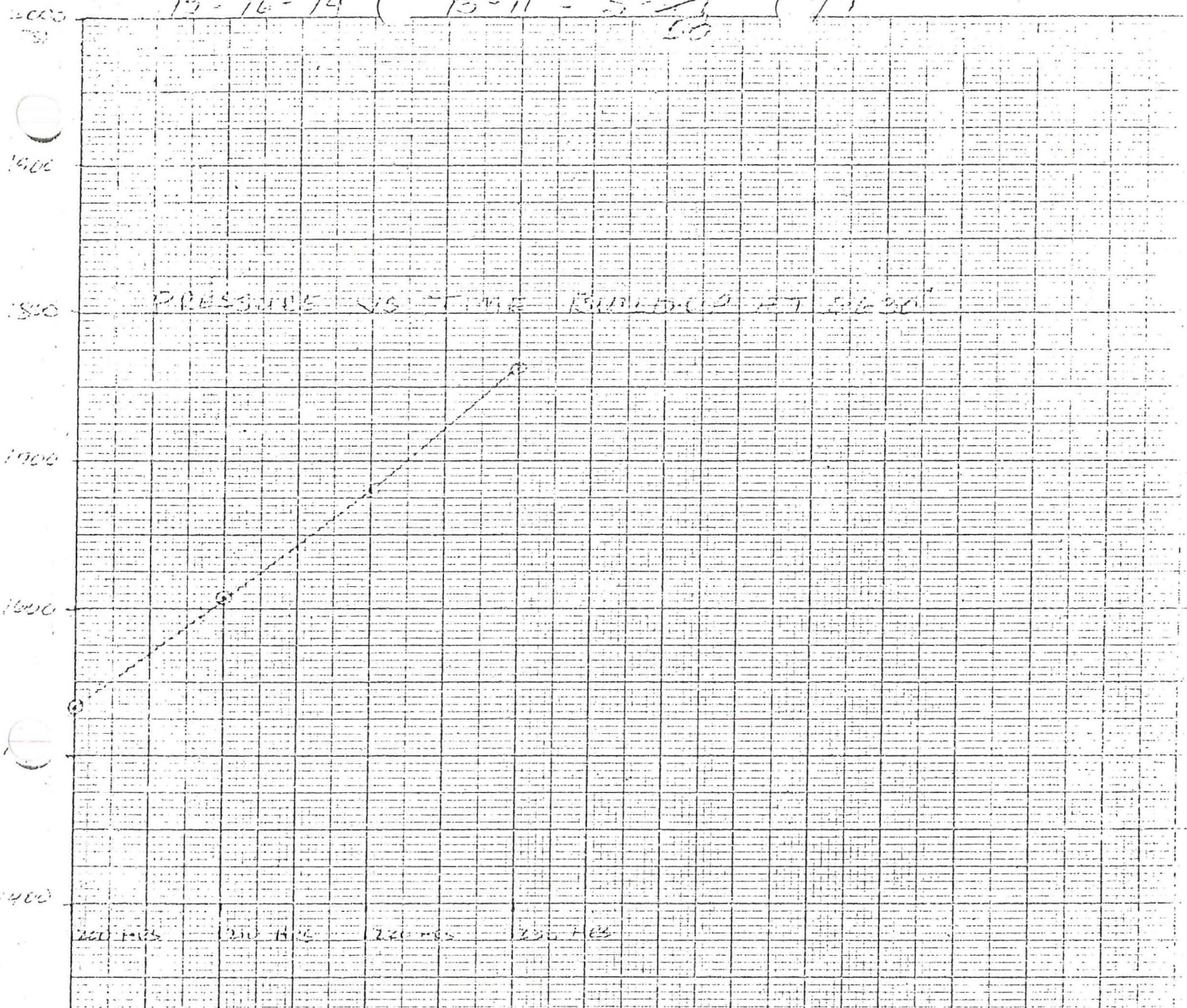
PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D
	100	1.65	25.0	-	-	"	100	1.67	41.1	-	-						
	1000	1.71	24.7	-	-	"	1000	1.580	41.30	-	-						
	4000	1.55	45.5	-	1000	"	4000	1.470	53.01	-	-						
	5000	1.58	45.0	-	1000	"	5000	1.550	53.51	-	-						
	6000	1.64	44.5	-	1000	"	6000	1.625	53.43	-	-						
	6500	1.70	44.5	-	1000	"	6500	1.725	53.53	-	-						
	6600	1.75	44.5	-	1000	"	6600	1.775	53.59	-	-						

COMMENTS:

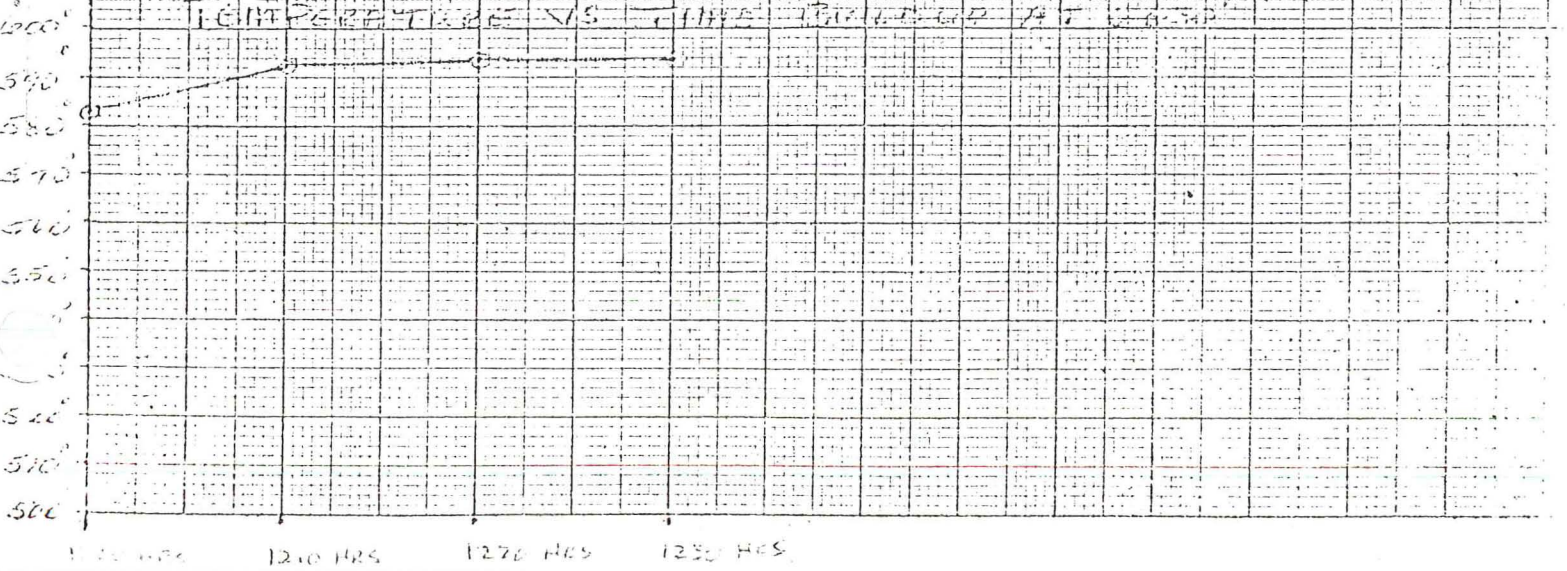
BY: J. B...

17-16-74 (13-11-5-21) (17)

PRESSURE VS TIME BUREAU AT 5600'



TEMPERATURE VS TIME BUREAU AT 5600'



76

UNION

Tony

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

57
B-11-5-76 P/T

OWNER: UNION OIL COMPANY FIELD: VALLE GRANDE WELL NAME: BACA #11
 CASING: 20" AT 20' 9 3/8" TIEBACK AT 1219 ELEV. @ 9064' DATE: 12-9-74
 LINER DESCRIPTION: 13 3/8" - 1336' ; 9 5/8" 1219 - 3380' ZERO POINT: CL + 16
SLOTTED LINER 7" HUNG 3320 - TD DEPTH: 6640

TUBING DETAIL:

PURPOSE:

REMARKS:

ELEMENT: Q-2950 PSIG SERIAL NO. 9233 CLOCK 12 HR 13374-L 15 TURN
 ELEMENT: 55°-698° F SERIAL NO. 10055 CLOCK 12 HR 13790-L 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS: P-1105 ; T-1102 DISENGAGE STYLUS: P-1327 ; T-1329
 WELL HEAD: 250 PSIG 0-400 TIC *
 PICKUP @: 6630 TIME ON BOTTOM: 1215 - 1248 MAX. °F: 592.5
 WELL STATUS: STATIC
 SHUT IN: 103.5 HRS 11/17/74 ON PRODUCTION:
 RATE:

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE					
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
10:15	100	.172	207.9	0	0	"	100	.082	116.5	0	
10:17	1000	.173	209.5	.002	0	"	1000	.582	254.2	1186	
10:21	2000	.646	433.2	.238	+ .002	"	2000	1.445	543.6	1086	
10:25	4000	1.201	1803.3	.313	+ .006	"	4000	1.594	585.3	0.19	
10:25	6630	1.204	1807.7	-	+ .007	"	6630	1.619	592.2	-	
10:35	6630	1.204	1821.7	-	+ .007	"	6630	1.620	592.5	-	
10:48	6630	1.205	1809.2	-	+ .007	"	6630	1.620	592.5	-	

COMMENTS: * PSIG suspect due to frozen well head riser

BY: SB

UNION

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

57
B-11 S-36 T

76

OWNER UNION OIL COMPANY

FIELD VALLE GRANDE

WELL NAME BACA #11

CASING _____

ELEV 9064

DATE 12-9-74

LINER DESCRIPTION: _____

ZERO POINT CL + 10

DEPTH 6640

HOLE DESCRIPTION: _____

INSTRUMENT 88° - 698° FAHF

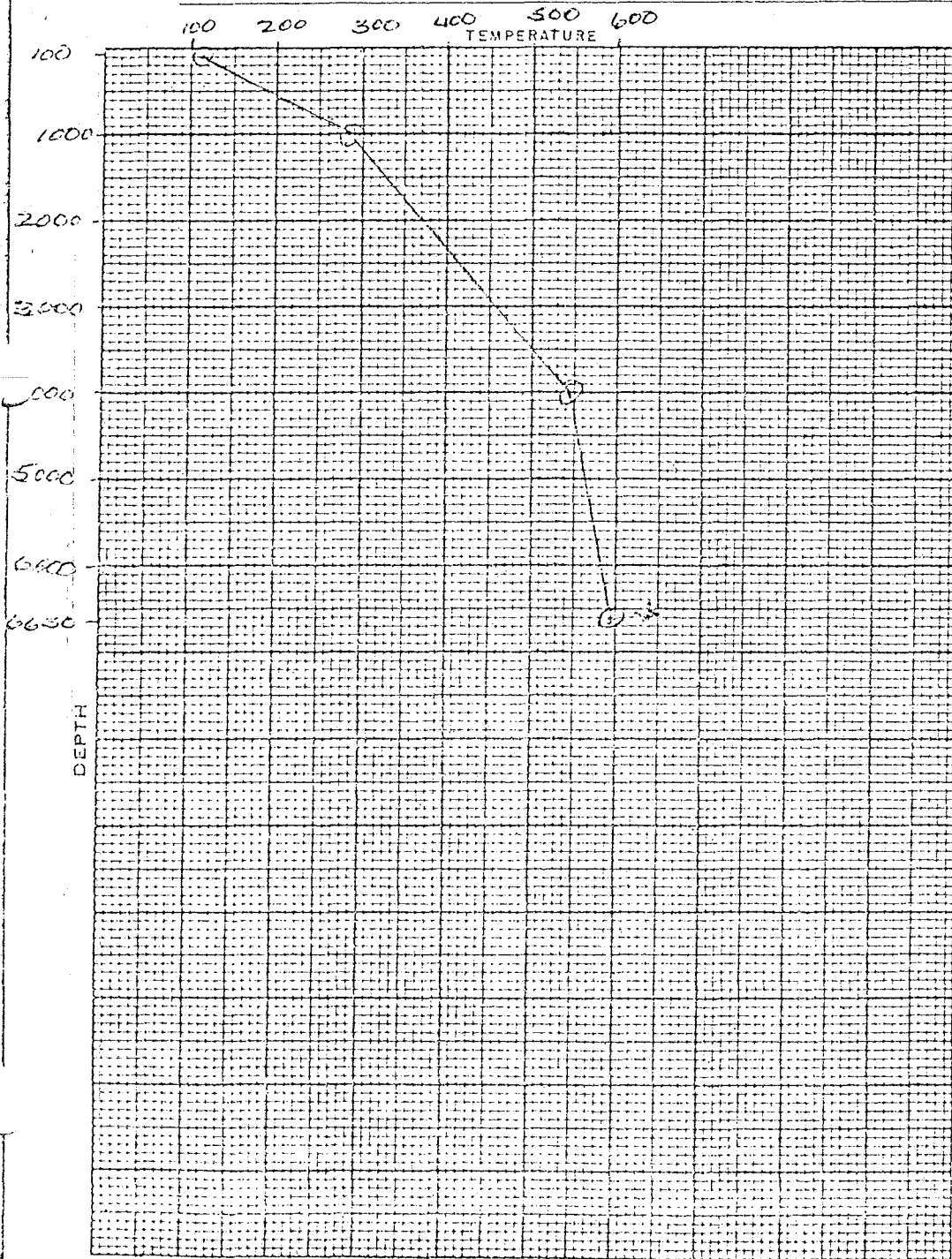
SERIAL NO 10055

PURPOSE _____

MAX TEMP 592.5 °F @ 6630

REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	TEMP.	DEPTH	TEMP.
100	116.5		
1000	284.2		
4000	543.6		
6630	585.3		
6630	592.2		
6630	592.5		
6630	592.5		

* MAXIMUM OF _____

BY: [Signature]

76

UNION

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

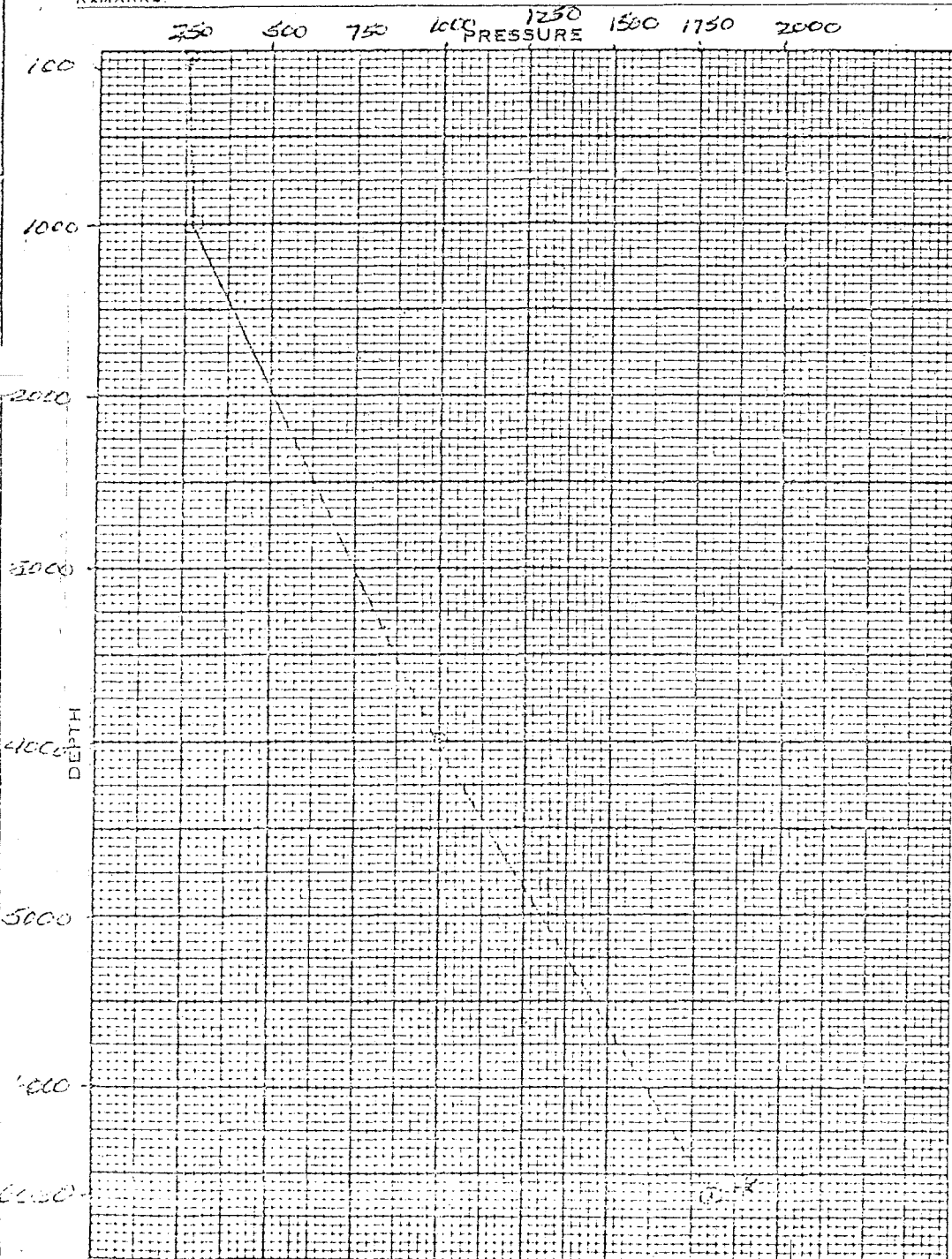
13-11-5-56 P

OWNER UNION OIL COMPANY FIELD VALLE BLANDE WELL NAME BACA #11
 CASING _____ ELEV 9064 DATE 12-9-74
 LINER DESCRIPTION: _____ ZERO POINT CL +10
 _____ DEPTH 6630

HOLE DESCRIPTION: _____ INSTRUMENT 0-2950 PSIC
 _____ SERIAL NO 100 9235

PURPOSE _____ MAX TEMP 592.5 °F @ 6630

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	267.9	0
1000	269.5	1.002
4000	953.6	1.238
6630	1503.3	1.313
6630	1507.7	-
6630	1507.7	-
6630	1509.2	-

* MAXIMUM PSIC

BY: JB

Production

Specialists

AGNEW and SWEET

Well Files

3914 Gilmore Avenue
Bakersfield, California 93308

24-Hour Phone: 327-2267

SUBSURFACE SURVEY

Field Work Sheet

Base #11-554-P1T

OWNER Union Oil of Calif. FIELD Little Blaine WELL NAME Base #11
 CASING 28" @ 201, 9 7/8" @ 1219 ELEV. 9064' DATE: 11/21/74
 LINER DESCRIPTION: 13 3/8" @ 133', 9 7/8" @ 1219 - 3380' ZERO POINT 10' + CL.
7" Motor Line Survey 3270 - T.D. DEPTH 6640
 TUBING DETAIL: _____ ZONE _____

PUMP SHOE _____ GAS ANCHOR _____ INTAKE _____
 PURPOSE _____
 REMARKS:
P-0-29512510 - 9235 12 hr. 13374 L 15
 ELEMENT T-55-6950 SERIAL NO. 10055 CLOCK 12 hr. 13375 L 15 TURN
 ENGAGE STYLUS P-1238, T-1240 DISENGAGE STYLUS P-1526, T-1527
 OBS. TBG. PRESS. _____ OBS. CSG. PRESS. _____
 COR. TBG. PRESS. _____ COR. CSG. PRESS. _____
 PICKUP " 6640 TIME ON BOTTOM 1337-1435 MAX. °F 567.7
 WELL STATUS 3 hr. T.W.
 SHUT IN: 10:35 hrs 11/17/74 ON PRODUCTION: _____
 STABILIZATION PERIOD _____
 GROSS OIL RATE B/D _____
 NET OIL RATE B/D _____
 FORMATION GAS MCF/D _____
 GOR CFT/BBL _____
 CIRCULATED GAS MCF/D _____
 OIL DRY GRAVITY °API _____
 BEAN SIZE _____

Press.

Temp.

TIME	DEPTH	DEFL.	P.W.	CHAD.	C.C.P.R.	TIME	DEPTH	DEFL.	PT	GRAD.	/D	TIME	DEPTH	DEFL.	PT	GRAD.	/D
12:13	160	1224	166.2	0		"	160	1224	166.2	0							
30	166	1234	166.9	0.26		"	166	1234	166.9	0.26							
33	166	1247	167.4	0.62		"	166	1247	167.4	0.62							
37	166	1256	168.3	0.80		"	6640	1256	168.3	0.80							
12:47	166	1255	168.5	0		"	"	1255	168.5	0							
13:37	166	1253	168.1	0		"	"	1253	168.1	0							
14:27	166	1254	168.2	0		"	"	1254	168.2	0							
14:47	166	1253	168.1	0		"	"	1253	168.1	0							
14:57	166	1251	167.7	0		"	"	1251	167.7	0							
15:37	166	1251	167.7	0		"	"	1251	167.7	0							

COMMENTS:

WHP fluctuating from 660 → 667 P516

BY: J.M.

BANA #11-554 P/T

PSIG
1350
1300
1250
1200
1150
1100
1050
1000
950

O = 1337 1/23
IN = 1437 1/23

(WHP) FLUCTUATING
BETWEEN 660-667 PSIG

0 MIN 10 MIN 20 MIN 30 MIN 40 MIN 50 MIN 1 Hr

650
625
600
575
550
525
500

O = 1337 1/23
IN = 1437 1/23

0 MIN 10 MIN 20 MIN 30 MIN 40 MIN 50 MIN 1 Hr

76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

BH11-554-D

OWNER UNION OIL CO OF CALIF FIELD VALLE GRANDE WELL NAME BACH #11
 CASING 2 1/2" 9 5/8" TUBING @ 1219' ELEV 9664' DATE 11/21/74
 LINER DESCRIPTION 1 3/8" @ 1336', 9 5/8" 1319' - 3380' ZERO POINT 10' + 0.0
SLOTTED LINER - 7" HUNG - 3320' - T.D. DEPTH 6640'

WELL DESCRIPTION:

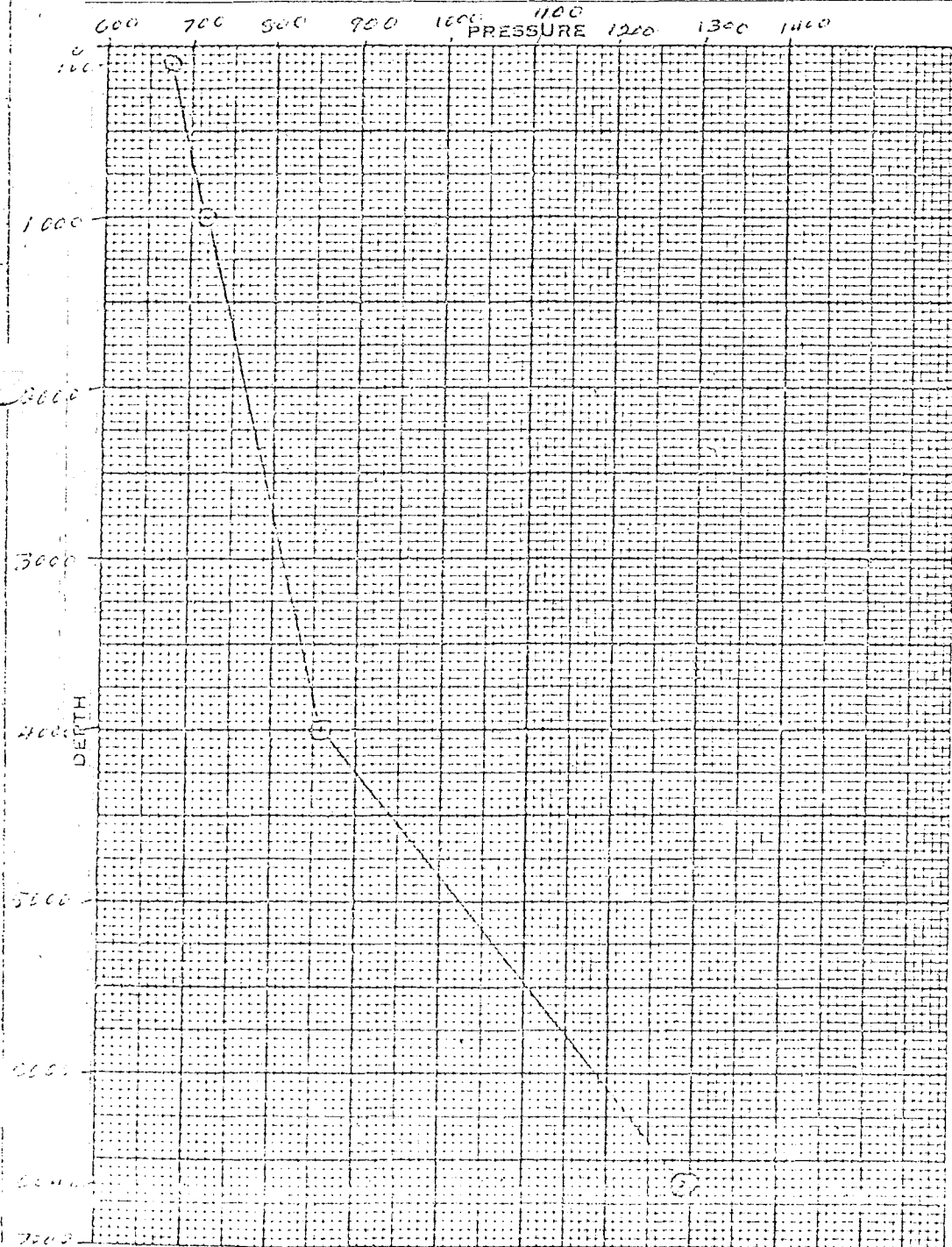
INSTRUMENT 0-2950
 SERIAL NO 9235

PURPOSE

MAX TEMP 567.7 °F @ 6640'

REMARKS:

STABILIZATION PERIOD



PRESSURES	GAUGE	BONG
CASING, PSI	660-667	

DEPTH	PRESSURE	GRADE
100	675.6	0
1000	717.3	0.49
4000	540.1	0.47
6640	1290.6	1.57

BY:

76

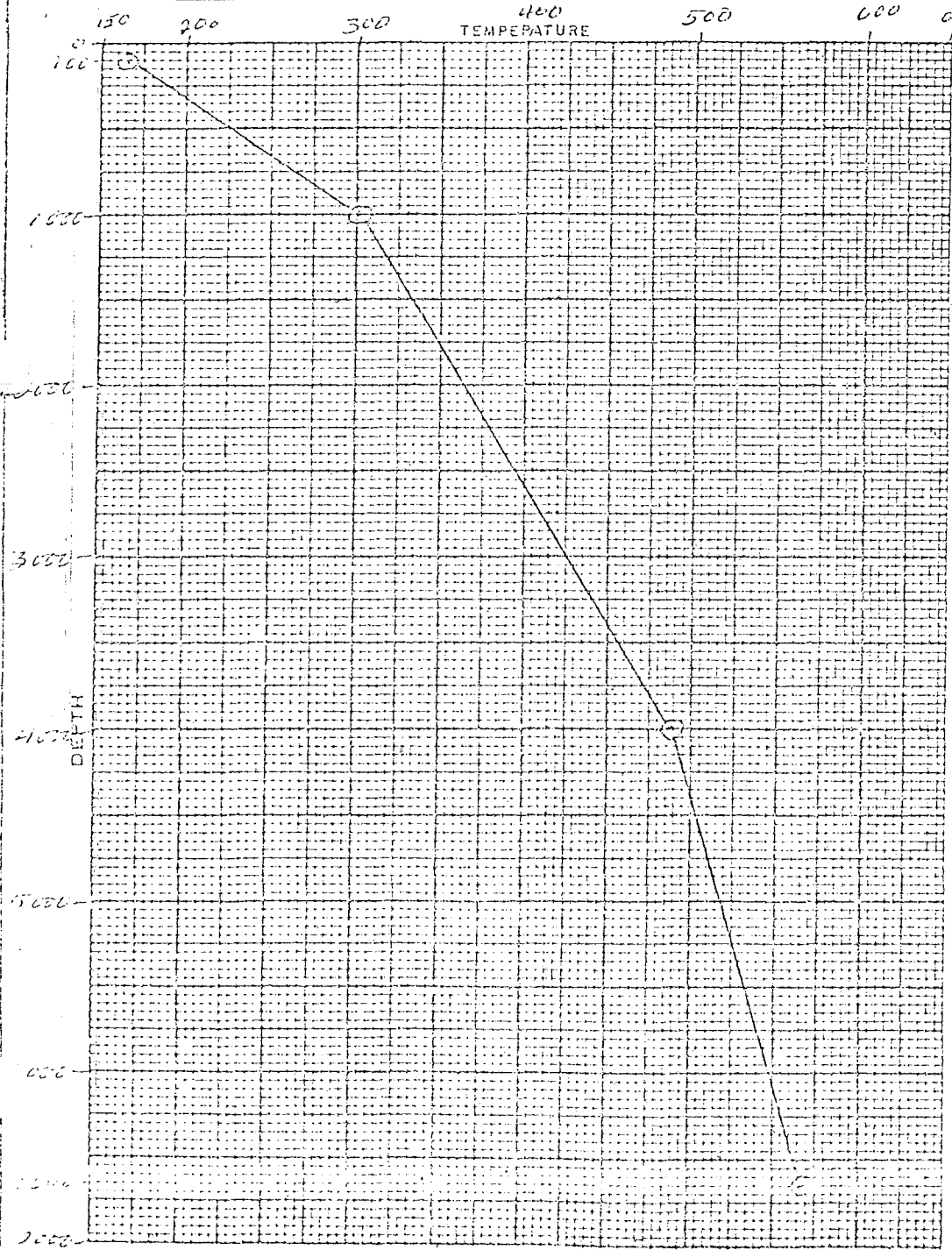
U111211
 GEOTHERMAL DIVISION
 SUBSURFACE TEMPERATURE SURVEY

BH-11-554-T

OWNER VALLEY CIL. OF CALIF. FIELD VALLE GRANDE WELL NAME BQA#11
 CASING 20" @ 207, 9 7/8" TIE BACK 6' @ 194 ELEV 9664 DATE 11/21/74
 LINER DESCRIPTION 13 7/8" @ 1354, 9 7/8" 1210' - 3350' ZERO POINT 10' + 6'
SLOTTED LINER - 7" HUNG - 3320' - T.D. DEPTH 6640

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

PURPOSE _____ MAX TEMP 567.7 °F @ 6640
 REMARKS _____



PRESSURES	GAUGE	DOGS	
CASING PSI	<u>666-667</u>		
DEPTH	TEMP.	DEPTH	TEMP.
<u>100</u>	<u>166.2</u>		
<u>1000</u>	<u>300.9</u>		
<u>4000</u>	<u>487.4</u>		
<u>6640</u>	<u>567.7</u>		

BY: J.M.

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

BAH # 11 553 - P/T

OWNER: UNION OIL COMPANY OF CALIF. FIELD: HALL CLEAVE
 CASING: 20" 2201'; 9 5/8" Tub. back @ 1219' ELEV. 9064'
 LINER DESCRIPTION: 13 3/8" @ 1330'; 9 5/8" 1219' - 3330'
 SLOTTED LINER - 7" HUN. - 3330' - TD
 WELL NAME: BACH # 11
 DATE: 11/19/74
 ZERO POINT: 02+10
 DEPTH: 6640'

TUBING DETAIL:
 PURPOSE:
 REMARKS:

P-C-2950 PSIG - SN 9235 12 HL - SN 13374-L 15 TURN
 ELEMENT # 83-698² SERIAL NO. 10055 CLOCK 12 HR 13375L 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1121 T-1128 DISENGAGE STYLUS P-1430 T-1432
 WELL HEAD 620 - 530 PSIG - FLUCTUATING
 PICKUP @ 6640 TIME ON BOTTOM 1/HR 1 MIN MAX. °F 552.3
 WELL STATUS SHUT IN
 SHUT IN: 1035 hrs - 11/19/74 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	TD	TIME	DEPTH	DEFL.	P-T	GRAD.	TD	TIME	DEPTH	DEFL.	P-T	GRAD.	TD	
	100	.407	627.9	0	-0.010	←	READING TAKEN AT 1209 HR →					1159-1209	100	.285	186.9	0	—	
	1110	.472	650.3	.025	-0.004	←	" " " 1223 HR →					1213-1223	1000	.697	321.0	.149	—	
	1242	.456	649.4	.016	+0.001	←	" " " 1242 HR →					1232-1242	4000	1.323	525.6	.063	—	
	1240	.678	1030.9	.126	+0.003							1249	6640	1.472	551.2	.016	—	
	1240	.680	1033.9	—	+0.003							1259	6640	1.474	551.7	—	—	
	1240	.681	1035.4	—	+0.003							1309	6640	1.475	552.0	—	—	
	1240	.681	1035.4	—	+0.003							1319	6640	1.477	552.6	—	—	
	1240	.681	1035.4	—	+0.003							1329	6640	1.477	552.6	—	—	
	1240	.681	1035.4	—	+0.003							1339	6640	1.478	552.8	—	—	
	1240	.682	1032.9	—	+0.003							1350	6640	1.478	552.8	—	—	

COMMENTS: WHP - 620 PSIG @ 1200 HRS
 WHP - 679 PSIG @ 1315 HRS
 WHP - 622 PSIG @ 1400 HRS

BY: G B.

BACD-117 553 P/T

O = 1249 hr
Ihr = 1350 hr

1150
1100
1050
1000
950
900

P51C

1000
950
900
850
800

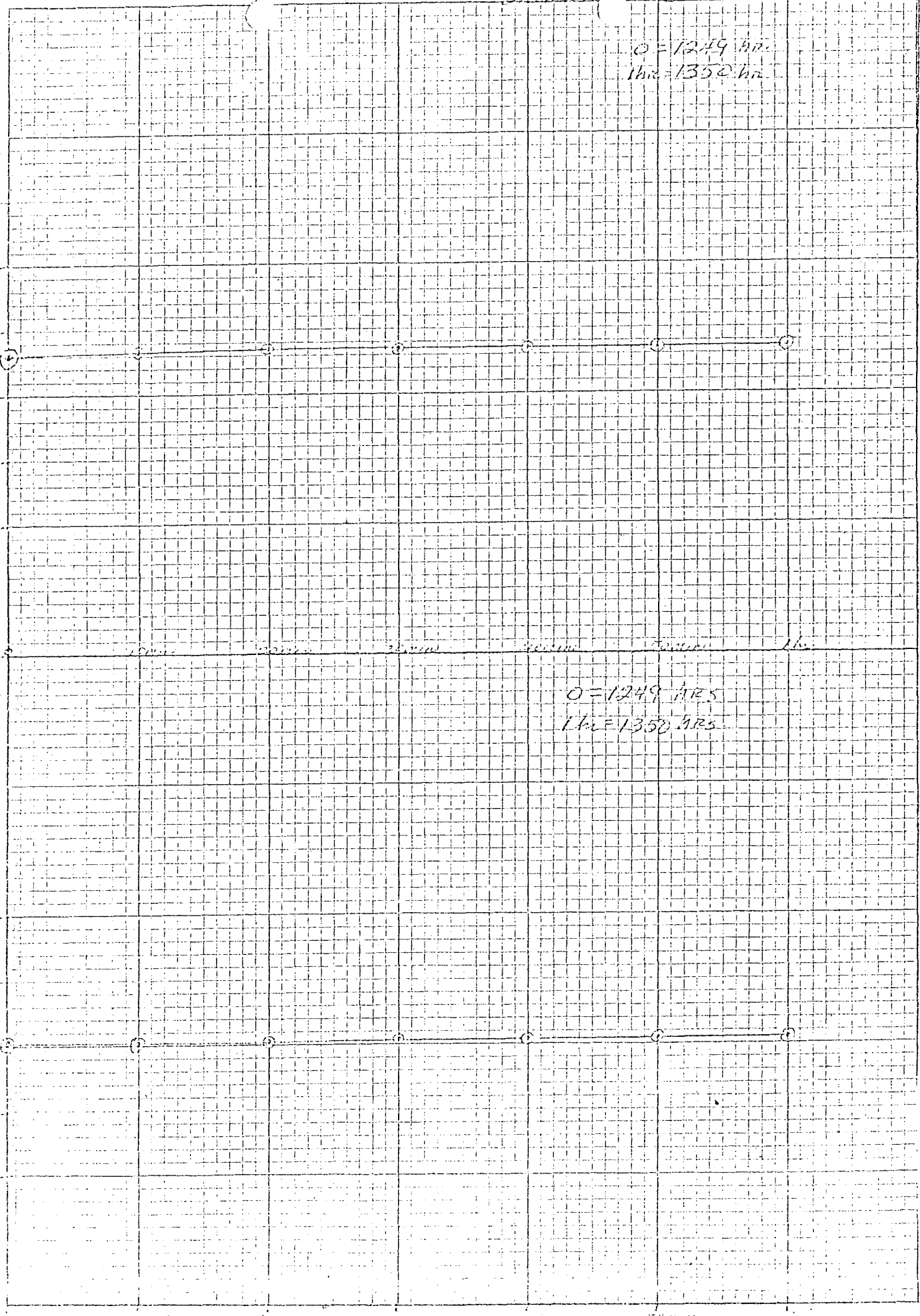
O = 1249 hrs
Ihr = 1350 hrs

10min 20min 30min 40min 50min 1hr

10min 20min 30min 40min 50min 1hr

EACH LINE = 1 MINUTE

1-31



UNION

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

BTH-553 (17)

76

OWNER UNION OIL CO. CALIF. FIELD VALLE GRANDE WELL NAME BTH 171
 CASING 20" C. J. C. 9 3/8" TILDEN 1212 ELEV 5064 DATE 11/19/74
 LINER DESCRIPTION 1 3/8" E. J. C. 9 3/8" H. I. 1 - 3350 ZERO POINT 10' + 0.6
SLOTTED LINER 7" H. I. C. - 3320 - T. D. DEPTH 6640'

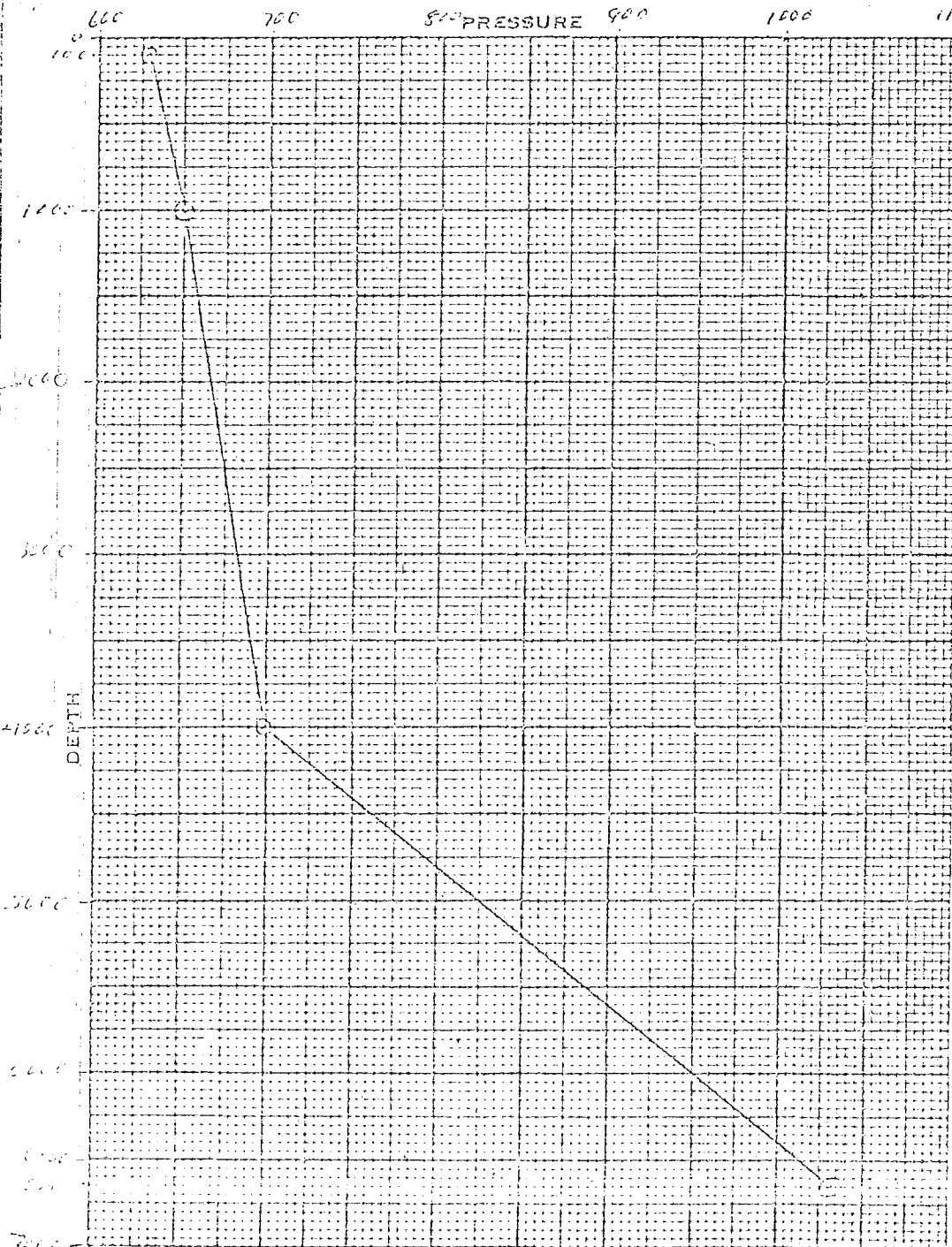
WELL DESCRIPTION:

INSTRUMENT C-2950
 SERIAL NO 9235

PURPOSE

MAX TEMP 557.5 - 6640

REMARKS



PRESSURE	GAUGE	DEPTH
CASING PSI	620-686	627.9

DEPTH	PRESSURE	GRADIENT
100	627.9	0
1000	650.3	0.25
4600	699.4	0.16
6640	910.36	1.26

MAXIMUM

BY: J. M.

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BH11-553-TP

76

OWNER United Oil Co. of Calif. FIELD Valle Grande WELL NAME BH11-553-TP
 CASING 10" O.D. 9 7/8" I.D. @ 1219' ELEV 9004' DATE 11/19/74
 LINER DESCRIPTION 13 7/8" @ 1330', 8 1/2" @ 1315' - 335' ZERO POINT 6471.0'
17" SLEEVED LINER FROM 3320' - TD DEPTH 6646'

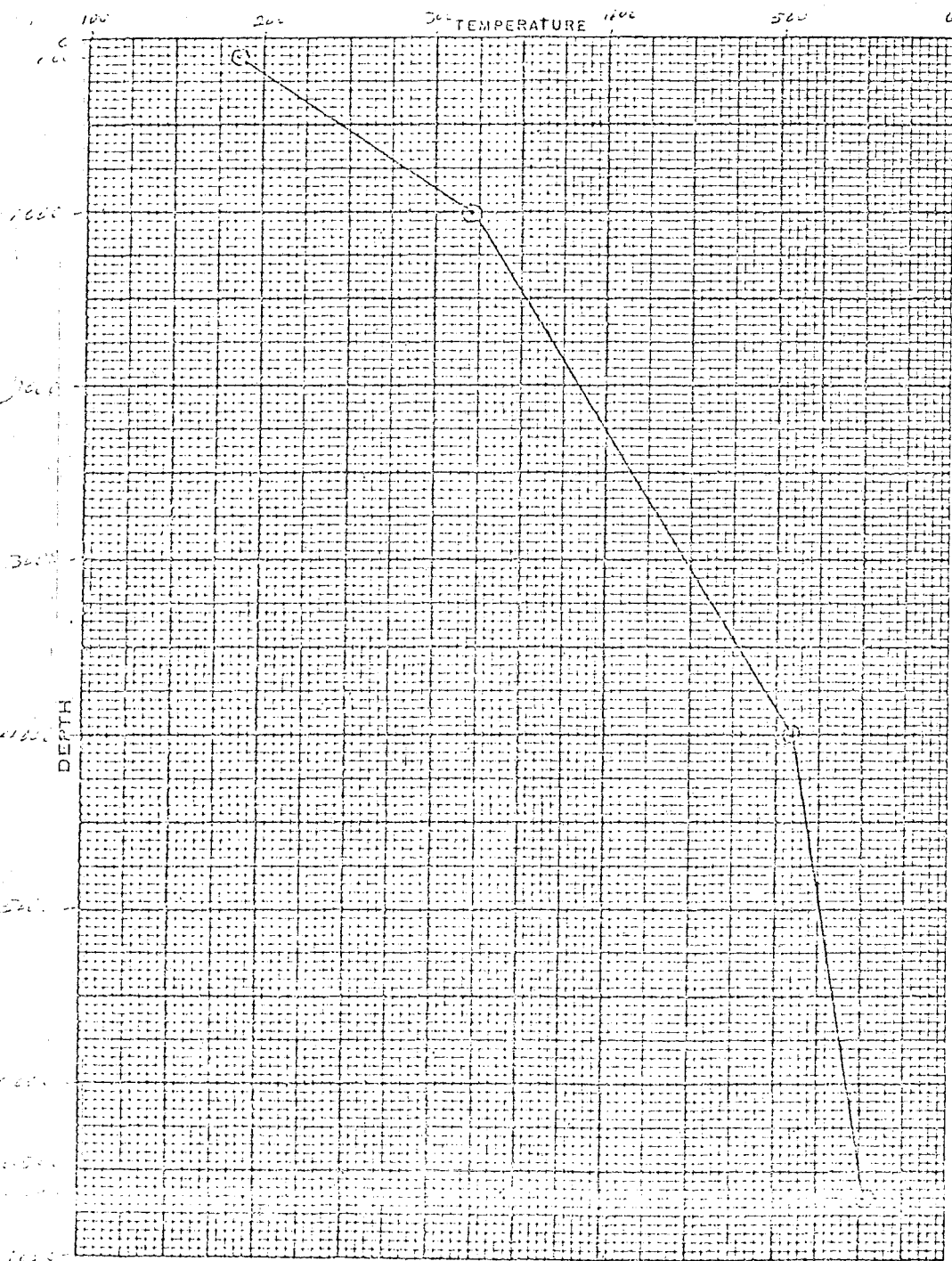
HOLE DESCRIPTION:

INSTRUMENT 58° - 0.88°C FAHF
 SERIAL NO 10055

PURPOSE

MAX TEMP 557.8 °F @ 6646'

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	NO. 13	
CASING PSI	<u>600 - 650</u>	<u>627.9</u>	
DEPTH'	TEMP.	DEPTH	TEMP
<u>100</u>	<u>134.9</u>		
<u>1000</u>	<u>321.6</u>		
<u>4000</u>	<u>505.6</u>		
<u>6646</u>	<u>557.8</u>	<u>- MAXIMUM</u>	

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B#11-552-7/8

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA 11
 CASING 20" AT 207, 9 5/8" JIC back 1217' ELEV. 9064' DATE: 11-18-74
 LINER DESCRIPTION: 13 7/8" AT 1330, 9 5/8" 1217-3320' ZERO POINT GLTD
 SLOTTED LINER: 7" HUNG-3320' - TD DEPTH 6640'

TUBING DETAIL:

PURPOSE BOTTOM HOLE BUILD UP

REMARKS Temp

58-698°F RTB-10055 12 hr, 14139-15
 ELEMENT 2950 PSI SERIAL NO. 9235 CLOCK 13790L-7/2 STABILIZATION PERIOD

ENGAGE STYLUS 0942 DISENGAGE STYLUS 1327

WELL HEAD 520 PSI

PICKUP @ 6640' TIME ON BOTTOM 2 hr MAX. °F 538.6°F

WELL STATUS Shut in

SHUT IN: 1035, 11/17/74 ON PRODUCTION:

RATE

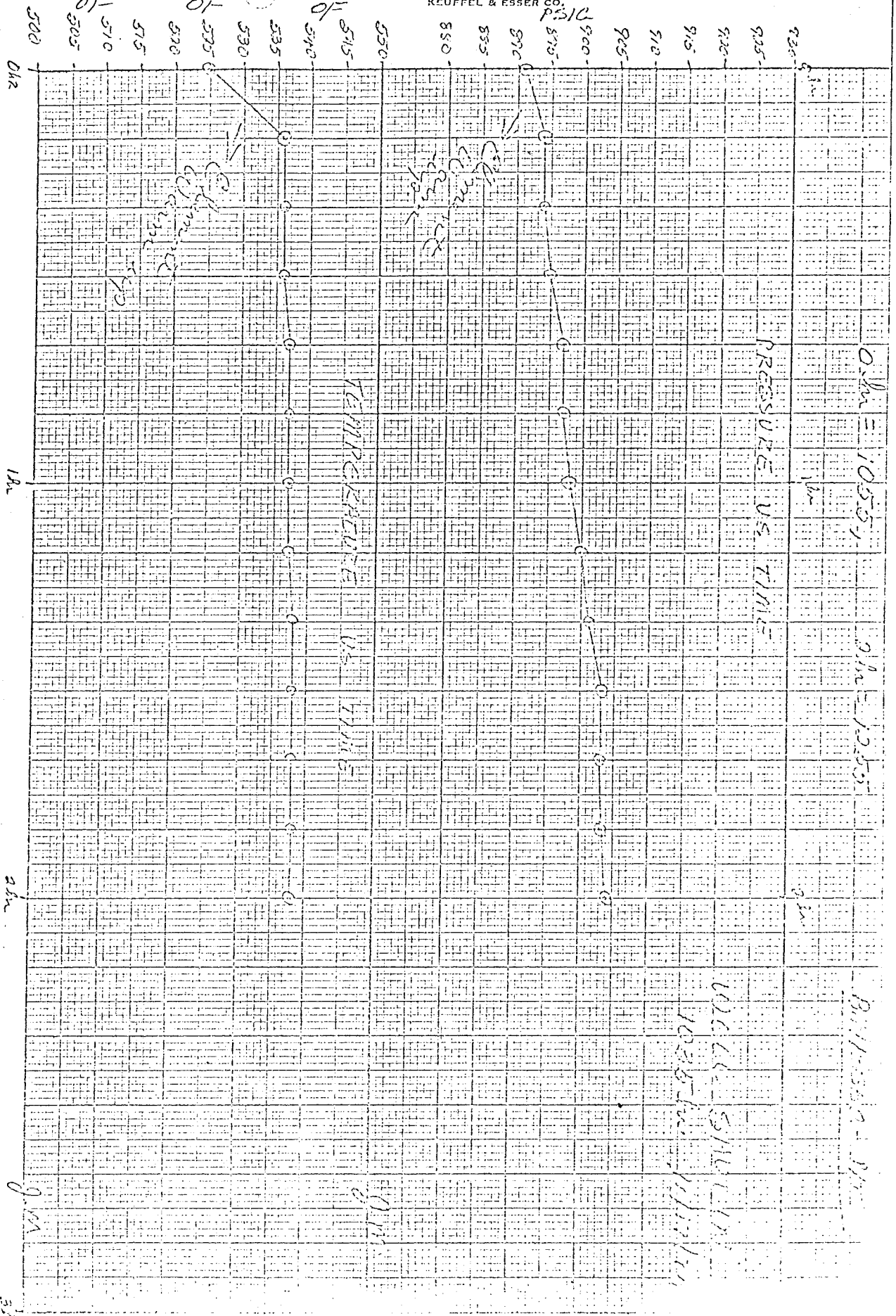
TIME	DEPTH	DEFL.	P-T	GRAD.	Pressure		Temp		GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
					ID	TIME	DEPTH	DEFL.								
	6640	584	891.4		+0.01	1035	6640	1379	535							
		586	894.4			1105		1417	536.3							
		586	894.4			1115		1420	536.6							
		587	896.8			1125		1421	536.9							
		588	897.3			1135		1423	537.4							
		588	897.3			1145		1423	537.4							
		589	898.8			1155		1424	537.4							
		590	900.3			1205		1424	537.4							
		591	901.8			1215		1425	538.0							
		592	903.3			1225		1425	538.0							
		592	903.3			1235		1426	538.3							
		592	903.3			1245		1426	538.3							
		595	904.8		+0.01	1255		1427	538.6							

COMMENTS:

BY:

PD

KEUFFEL & ESSER CO.



Pressure vs. Time
Temperature vs. Time
0hr 1hr 2hr 3hr
P.S.I.
TEMPERATURE

76

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B#11-SS1-97
BUILDUP

OWNER Union Oil Co. FIELD Valla Grande WELL NAME B#11
 CASING 20" AT 207' 9 3/8 TIEBACK @ 1219' ELEV. 9064' DATE: 11/17/70
 LINER DESCRIPTION: 13 7/8" AT 1336'; 9 5/8" 1219'-3380' ZERO POINT 191' + 10'
 SLOTTED LINER - 7" HUNG - 3320' - T.D. DEPTH 6690'
 TUBING DETAIL:

PURPOSE Bottom hole build-up

ELEMENT 2950 PS10 SERIAL NO. 9255 CLOCK 13790 15 TURN
 ENGAGE STYLUS 10:15 HRS DISENGAGE STYLUS 1727 HRS
 WELL HEAD
 PICKUP @ 6640' TIME ON BOTTOM 6 hrs MAX. # 509.9
 WELL STATUS
 SHUT IN: ON PRODUCTION:
 RATE

Pressure

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	6640	1.343	6071		+0.01	1338	6640	1.460	706.9		+0.01						
1	"	1.395	610.1		"	1353	"	1.463	711.3		"						
2	"	1.398	614.6		"	1638	"	1.415	714.3		"						
3	"	1.401	619.1		"	1623	"	1.418	718.8		"						
4	"	1.402	626.5		"	1638	"	1.470	721.7		"						
5	"	1.404	623.5		"	1653	"	1.471	723.2		"						
6	"	1.405	626.5		"												
7	"	1.409	631.0		"												
8	"	1.410	632.0		"												
9	"	1.413	635.4		"												
10	"	1.415	637.9		"												
11	"	1.414	638.4		"												
12	"	1.416	641.4		"												
13	"	1.420	647.3		"												
14	"	1.424	653.3		"												
15	"	1.425	659.2		"												
16	"	1.431	663.7		"												
17	"	1.434	668.2		"												
18	"	1.437	672.6		"												
19	"	1.440	677.1		"												
20	"	1.443	681.6		"												
21	"	1.446	686.0		"												
22	"	1.449	690.5		"												
23	"	1.451	693.5		"												
24	"	1.453	696.4		"												
25	"	1.456	702.4		"												
26	"	1.458	703.9		"												

COMMENTS:

BY: *[Signature]*

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B#11-551-PIT
Buildup

OWNER UNION OIL OF CALIF. FIELD VALLE GRANDE WELL NAME BAGA #11

CASING 2 7/8" 200' 4-1/2" 13790' 1919' - 3350' ELEV. DATE: 11/17/74

LINEAR DESCRIPTION: 13790' 1919' - 3350' ZERO POINT 46110'
LINEAR 7" 1/2" 3320' TO 5640' DEPTH 6640'

TUBING DETAIL:

PURPOSE Buildup bottom hole
REMARKS: P. 2950' 1919' 9235' 12 ho - 13790' 6.6' 7 1/2" 1919'

ELEMENT 180° 140° F SERIAL NO. 10054 CLOCK 1-240 14134 TURN 7 1/2 STABILIZATION PERIOD

ENGAGE STYLUS P-1015 T-1013 DISENGAGE STYLUS D-1227T-1225

WELL HEAD 5 1/2" BUILD-UP CHART
PICKUP 6640' TIME ON BOTTOM 6.62 MAX. °F 589.9° F

WELL STATUS Shut in

SHUT IN: 10:35 AM, 11/17/74 ON PRODUCTION:

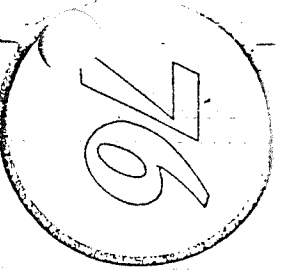
RATE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	1150'	1.205	470.9			1534	6640'	1.513	516.7								
	"	1.232	483.1			1538	"	1.516	517.1								
1538	"	1.240	485.9			1608	"	1.519	517.9								
1538	"	1.242	486.0			1623	"	1.522	518.5								
1538	"	1.243	486.3			1638	"	1.520	518.5								
1538	"	1.244	486.5			1653	"	1.520	518.9								
1538	"	1.245	486.5														
1538	"	1.246	487.1														
1538	"	1.247	487.4														
1538	"	1.249	488.0														
1538	"	1.250	488.0														
1538	"	1.251	488.5														
1538	"	1.253	488.1														
1538	"	1.255	488.5														
1538	"	1.262	491.7														
1538	"	1.266	492.8														
1538	"	1.271	494.0														
1538	"	1.275	495.9														
1538	"	1.280	496.8														
1538	"	1.283	497.9														
1538	"	1.284	498.1														
1538	"	1.293	500.5														
1538	"	1.296	501.9														
1538	"	1.300	502.5														
1538	"	1.313	503.9														
1538	"	1.327	505.5														
1538	"	1.341	508.1														

COMMENTS:

BY: (Signature)



UNION

GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B-11-5-50 P/T

OWNER UNION OIL COMPANY FIELD NAME BACH #11

CASING 20" 20T, 9 5/8" Tie @ 1219' ELEV 9064' DATE 10-16-74

LINER DESCRIPTION 13 7/8" @ 1536', 9 5/8" 1219' - 5380' ZERO POINT GL T 10

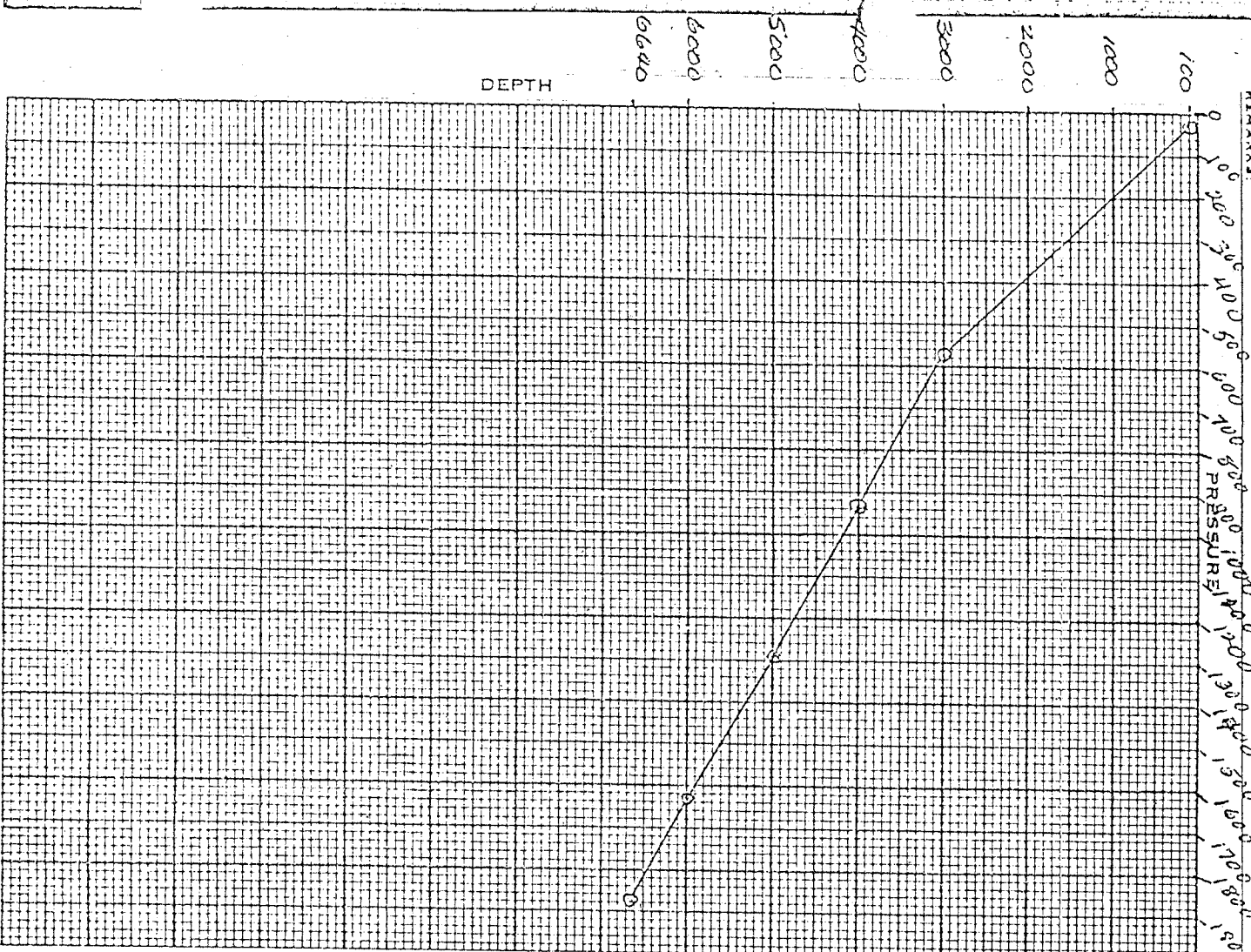
SLOTTED LINER - 7" HANG - 5320' - TD DEPTH 6640'

HOLE DESCRIPTION: _____

INSTRUMENT 2950 PSIG PSIG
SERIAL NO 9235

PURPOSE GRADIENT MAX TEMP 570.2 OF @ 6640

REMARKS: _____ STABILIZATION PERIOD _____



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

DEPTH	PRESSURE	GRADIENT
100	246.9	0
5000	577.4	.191
4200	938.9	.362
5000	1292.0	.353
6000	1637.6	.345
6640	1877.2	.350

DY. J.M.

UNION

GLO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B-11 S-50 P/T

76

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 20" @ 207'; 9 5/8" Tieback @ 1219' ELEV 9064' DATE 10-16-74
 LINER DESCRIPTION: 13 7/8" @ 1336'; 9 5/8" - 1219' - 3350' ZERO POINT CL + 10'
SLOTTED LINER - 7" HUNG - 3320' - TD DEPTH 6640'

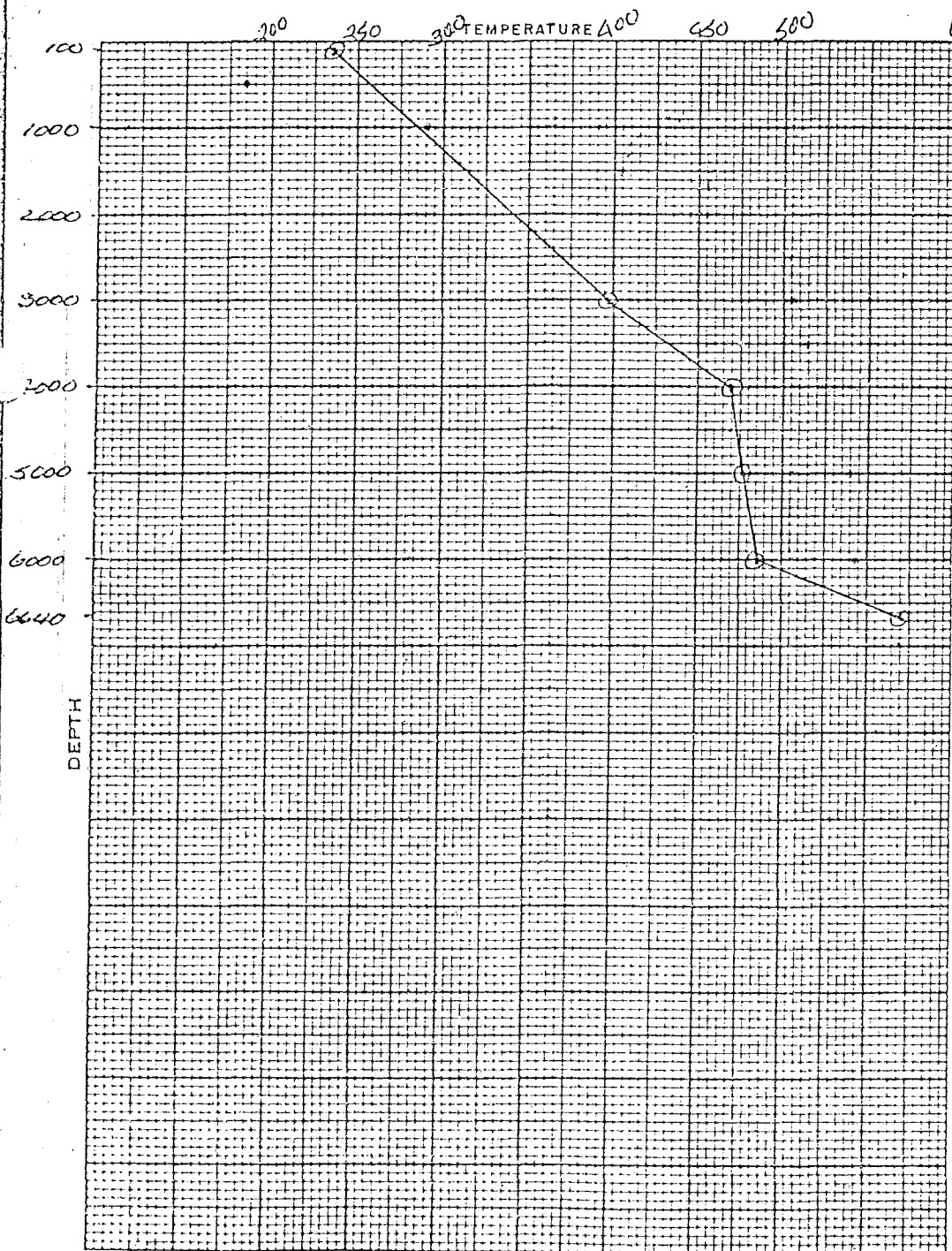
HOLE DESCRIPTION:

INSTRUMENT 80-646° FAH:
 SERIAL NO 10052

PURPOSE GRADIENT

MAX TEMP 570.2 °F @ 6640'

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	BOWS	
CASING, PSI	<u>20 WHP</u>		
DEPTH	TEMP.	DEPTH	TEMP.
<u>100</u>	<u>236.0</u>		
<u>3000</u>	<u>398.7</u>		
<u>4000</u>	<u>469.4</u>		
<u>5000</u>	<u>475.9</u>		
<u>6000</u>	<u>486.4</u>		
<u>6640</u>	<u>570.2</u>		

BY:

76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B-11-549 Press

OWNER/CLIENT: THE OREGON COMPANY OF CALIF. FIELD: VALLE GRANDE WELL NAME: BAGGA #1
 CASING: 2 1/2" TO 3 1/2" TIE BACK AT 1214'-3350' ELEV: _____ DATE: 9/19/70
 LNER-DESCRIPTION: 13 7/8" AT 1350' ZERO POINT: GL+10
7" HUNG 3320-6920' (3420'-42+5)(4220-4417)(4049-6920) DEPTH: 3209'

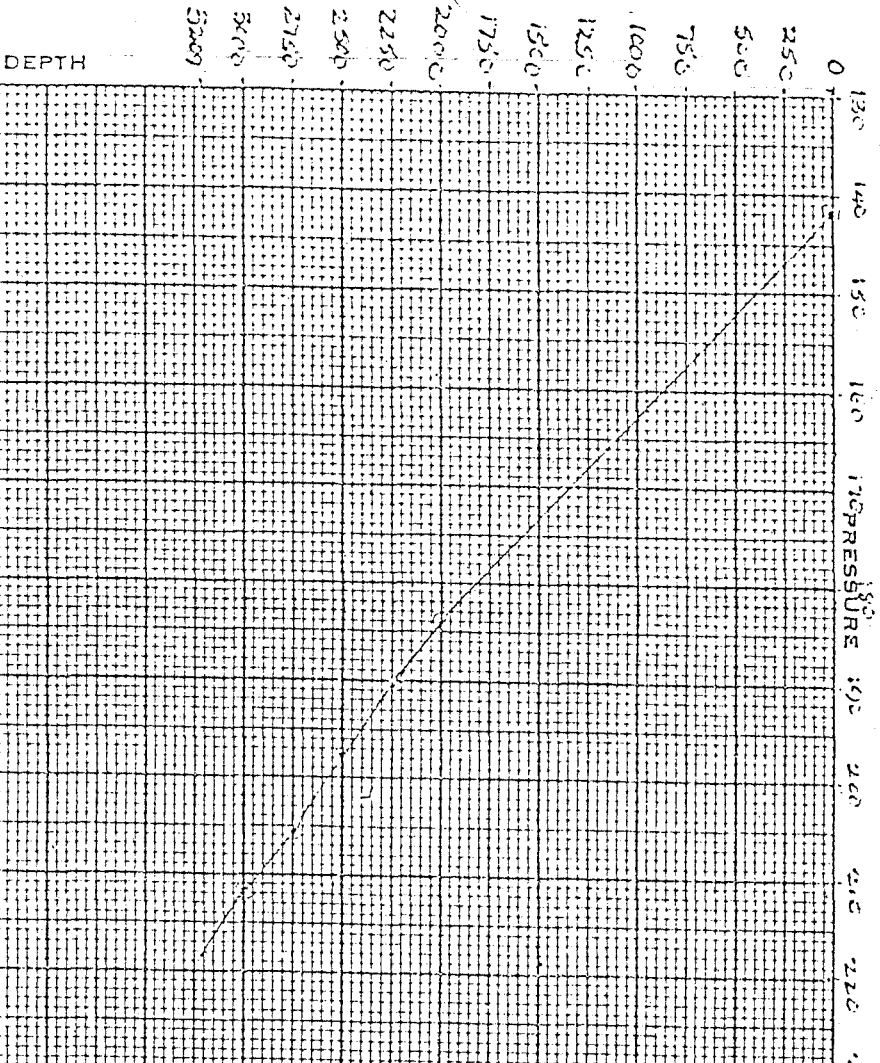
HOLE DESCRIPTION:

INSTRUMENT: KPG 2950 PS
 SERIAL NO: 9235

PURPOSE: Flowing Survey (log, geo, total mass flow) MAX TEMP: 397.4 °F @ 3209'

REMARKS:

STABILIZATION PERIOD



PRESSURES	GAUGE	DEPTH
	142	141.74

DEPTH	PRESSURE	GRADIENT
0	141.74	0
2000	183.86	.021
2250	190.03	.024
2500	197.82	.031
2750	205.61	.031
3000	211.84	.025
3209	218.01	.029

BY: _____

76

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B-11-5-49-TEMP

OWNER LION OIL COMPANY OF CALIF FIELD VALLE GRANDE WELL NAME BACA #11
 CASING 2 1/2" TO 207'; 9 3/8" TIE BACK AT 1215' ELEV 906.4 DATE: 9/19/74
 LNER DESCRIPTION: TO 3380'; 13 3/8" AT 1330' ZERO POINT CL + 10
 LNER DESC: 7" HUNG. 3320-6926; (3485-4245)(4286-6617)(6619-6926) DEPTH 3209'

HOLE DESCRIPTION: _____

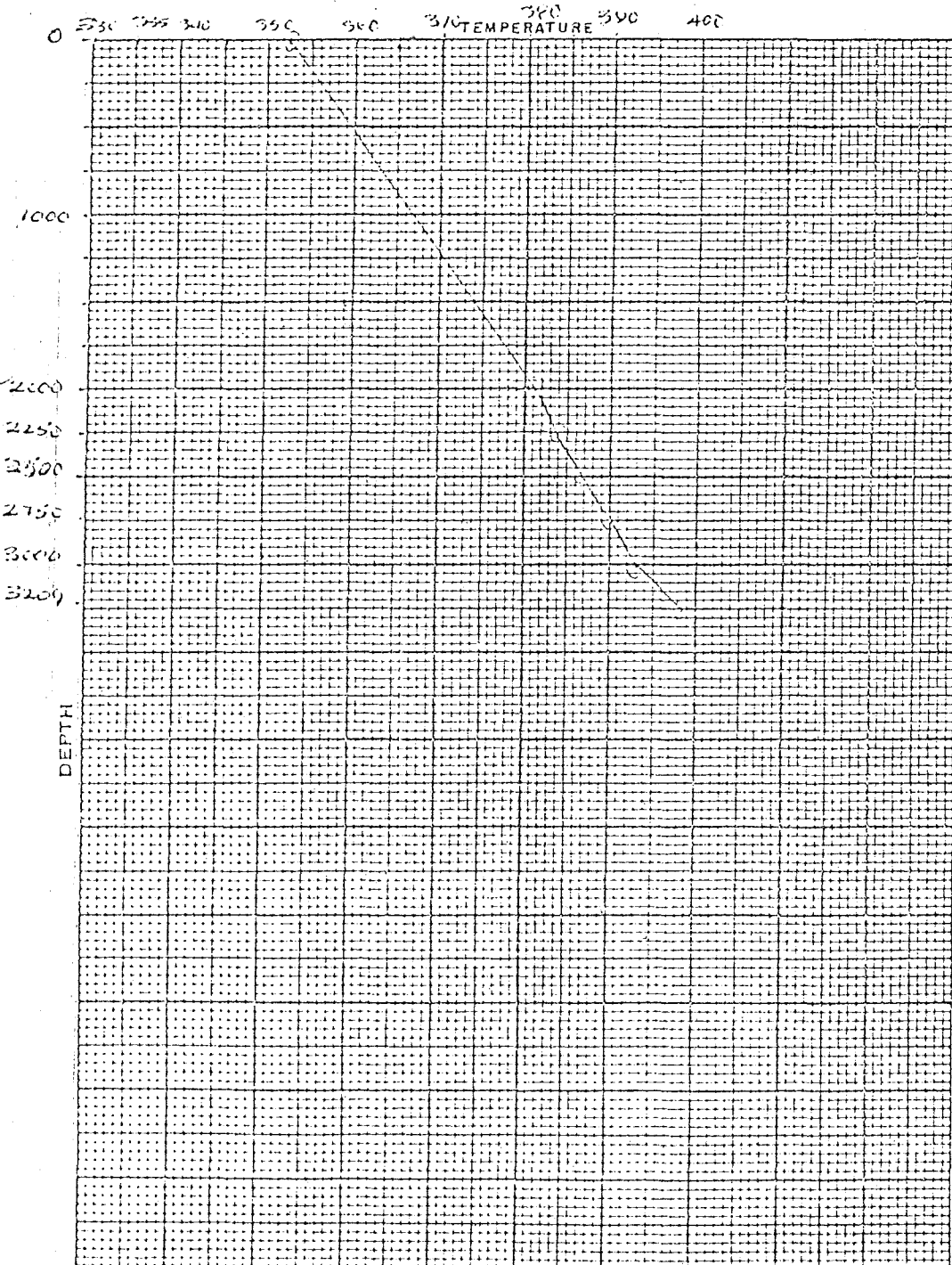
INSTRUMENT KTC 88-698' E.P.
 SERIAL NO 10055

PURPOSE FLOWING SURVEY (166,600 TOTAL MASS FLOW)

MAX TEMP 397.4 °F @ 3209'

REMARKS: _____

STABILIZATION PERIOD _____



PRESSURE	GAUGE	DEPTH	
CASING. PSI	142	141.74	
DEPTH	TEMP.	DEPTH	TEMP.
0	352.4		
2000	381.0		
2250	383.8		
2500	386.5		
2750	390.0		
3000	393.1		
3209	397.4		

BY: JB

76

UOIL 76 11

GEOTHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

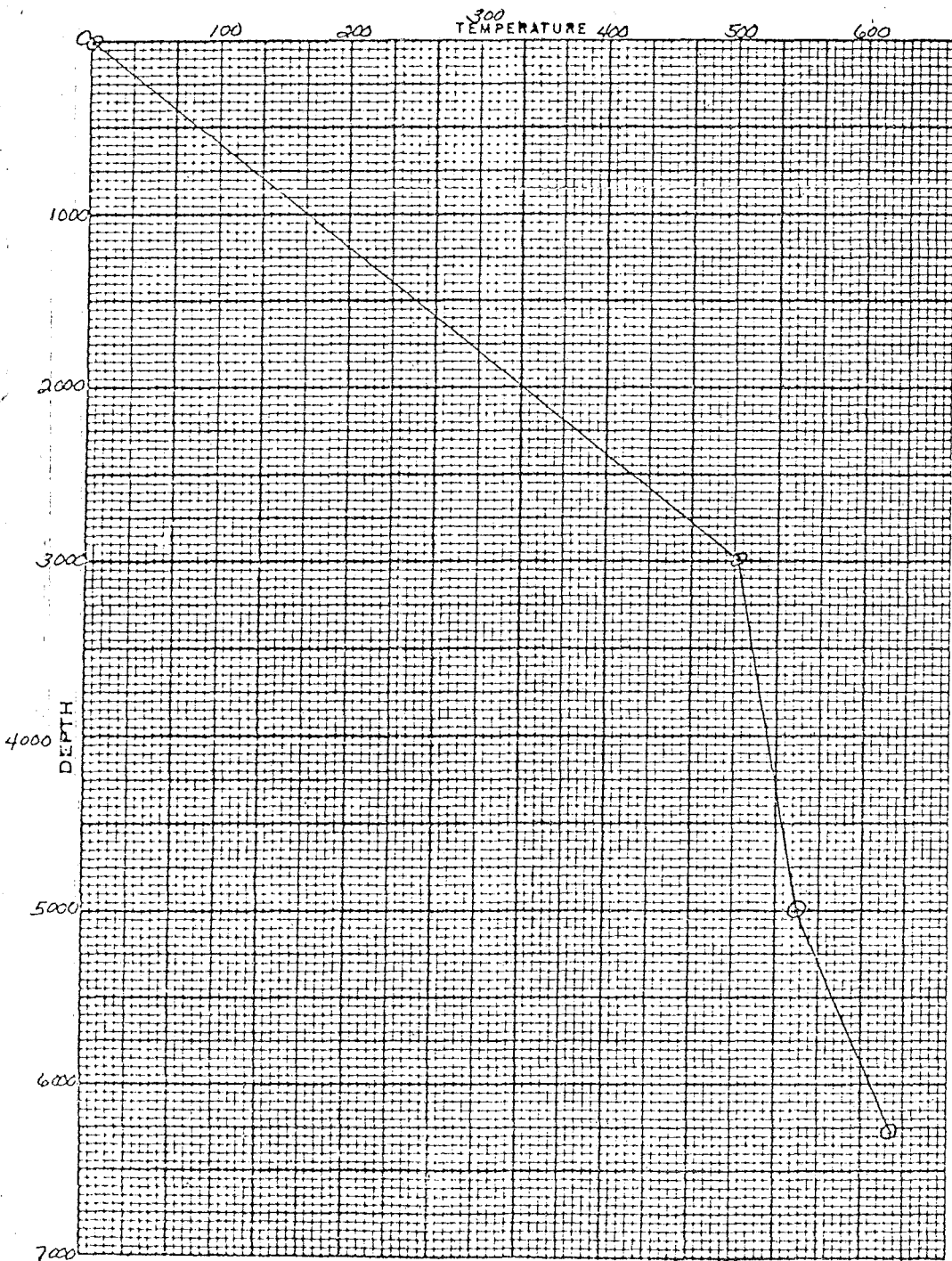
B11-548-PT

OWNER Union Oil Co. FIELD Valles WELL NAME BACA #11
 CASING _____ ELEV _____ DATE 5/22/74
 LINER DESCRIPTION: _____ ZERO POINT 10 ft Above G.L.
 _____ DEPTH 6666'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAH
 _____ SERIAL NO _____

PURPOSE _____ MAX TEMP 62 °F @ _____
 REMARKS: _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEM
0	0		
3000	504		
5000	550		
6654	626		

BY: _____

76

UNION

BH-547-P

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

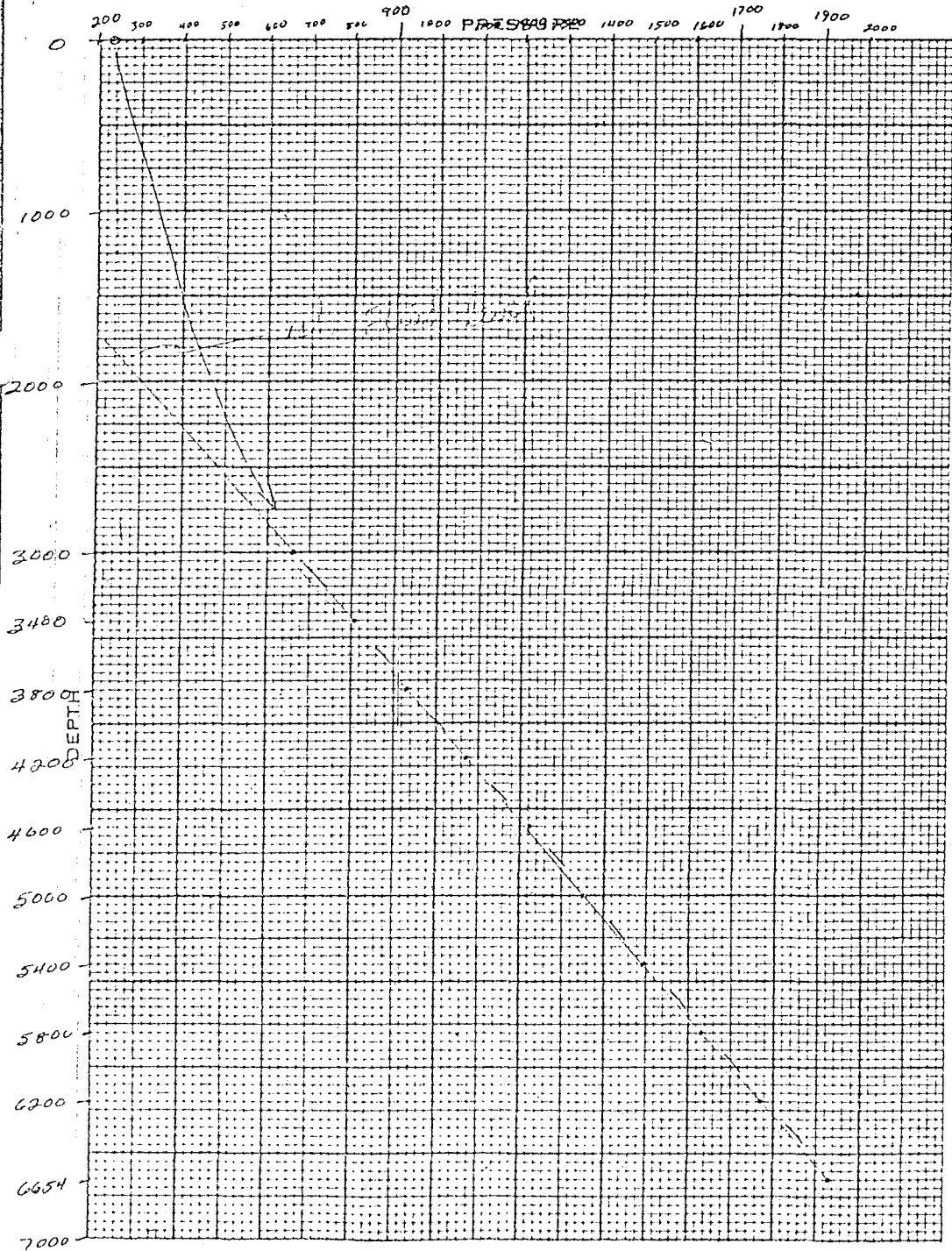
OWNER Union Oil of Calif FIELD Valle Grande WELL NAME BCH-11
 CASING _____ ELEV 8660 DATE 5/14/74
 LINER DESCRIPTION _____ ZERO POINT 10' Above GL
 DEPTH 6666

HOLE DESCRIPTION: _____ INSTRUMENT H250 PS
 SERIAL NO 7198

PURPOSE _____ MAX TEMP 62.7 °F @ _____

REMARKS _____

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BONE
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
0	237	
3000	660	0.141
3400	806	.325
3800	937	.328
4200	1074	.353
4600	1225	.378
5000	1354	.322
5400	1498	.328
5800	1636	.342
6200	1773	.342
6654	1932	.353

BY: J.M.

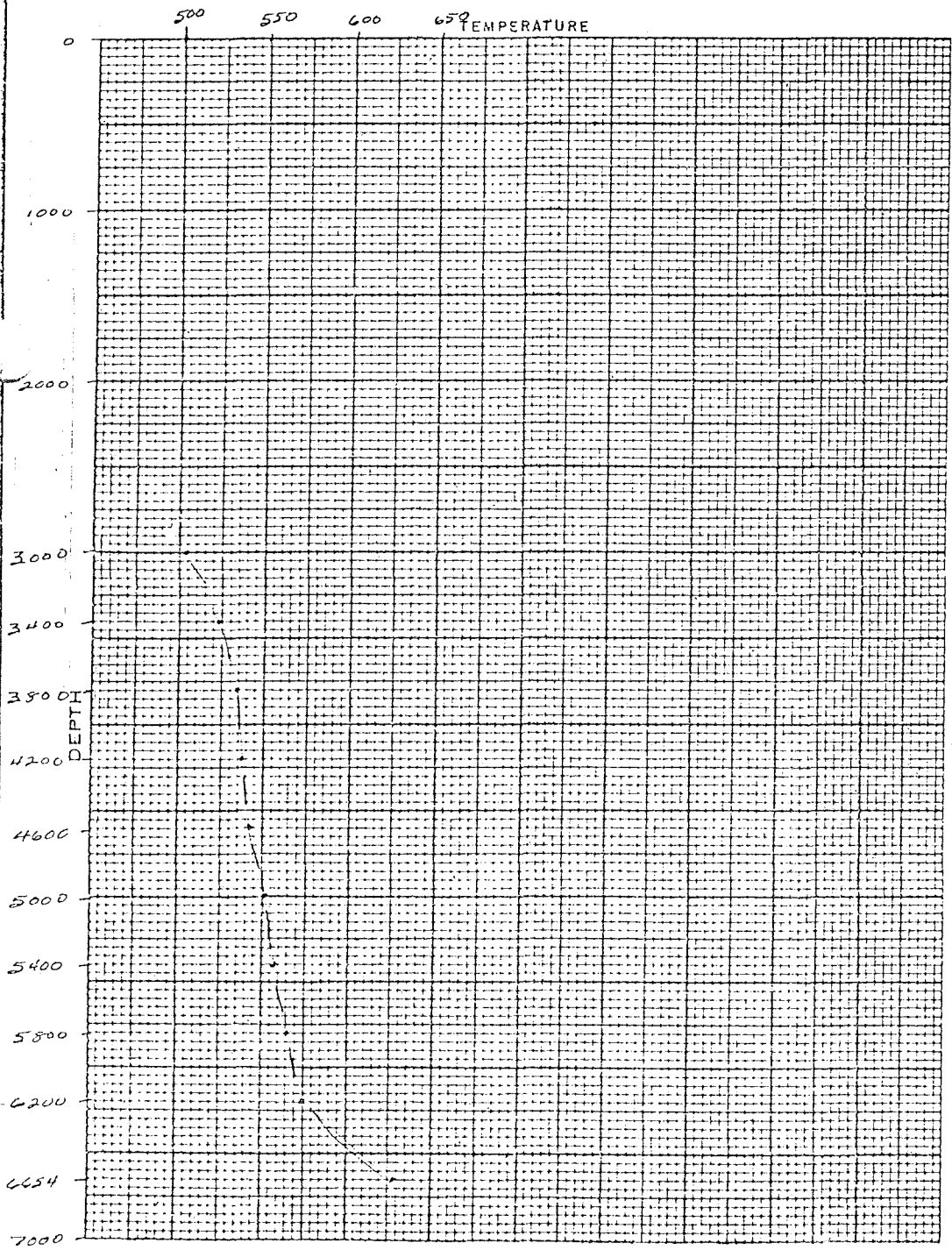
76

UNION 76

DH 541-1

GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil of Calif FIELD Vall Grande WELL NAME BACA II
 CASING _____ ELEV 8660 DATE: 5/14/74
 LINER DESCRIPTION _____ ZERO POINT 10' Above GL
 _____ DEPTH 6666
 HOLE DESCRIPTION: _____ INSTRUMENT 102°F - 718°F FAHR
 _____ SERIAL NO 10055
 PURPOSE _____ MAX TEMP 627 °F @ 6654
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
3000	504		
3400	524		
3800	534		
4200	537		
4600	543		
5000	551		
5400	558		
5800	566		
6200	574		
6654	627		

BY: J.M.

76

UNION

B11-546-PT

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil of Calif FIELD VALLE GRANDE WELL NAME BACA II
 CABING _____ ELEV. _____ DATE 5/10/74
 LINER DESCRIPTION: _____ ZERO POINT OID. 1242
 _____ DEPTH 6666

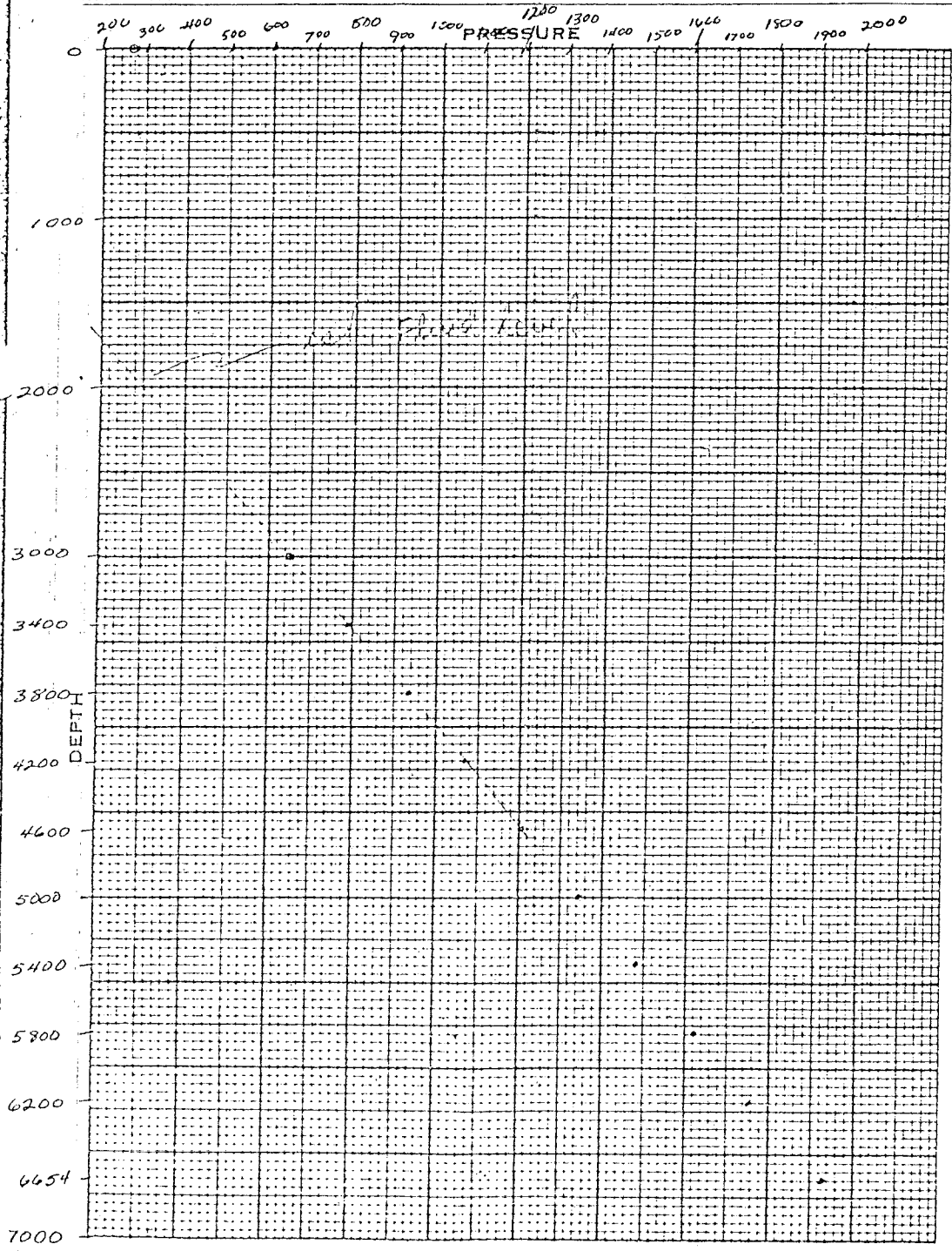
HOLE DESCRIPTION: _____

 _____ INSTRUMENT H250
 _____ SERIAL NO 0825

PURPOSE _____ MAX TEMP 675 °F @ _____

REMARKS:

STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOND
CASING PSI		

DEPTH	PRESSURE	GRADIENT
0	272	PSI/F
3000	650	.124
3400	795	.1363
3800	939	.136
4200	1065	.1323
4600	1206	.1345
5000	1343	.1343
5400	1481	.1341
5800	1621	.135
6200	1756	.133
6654	1834	.132

BY: J.M.

76

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

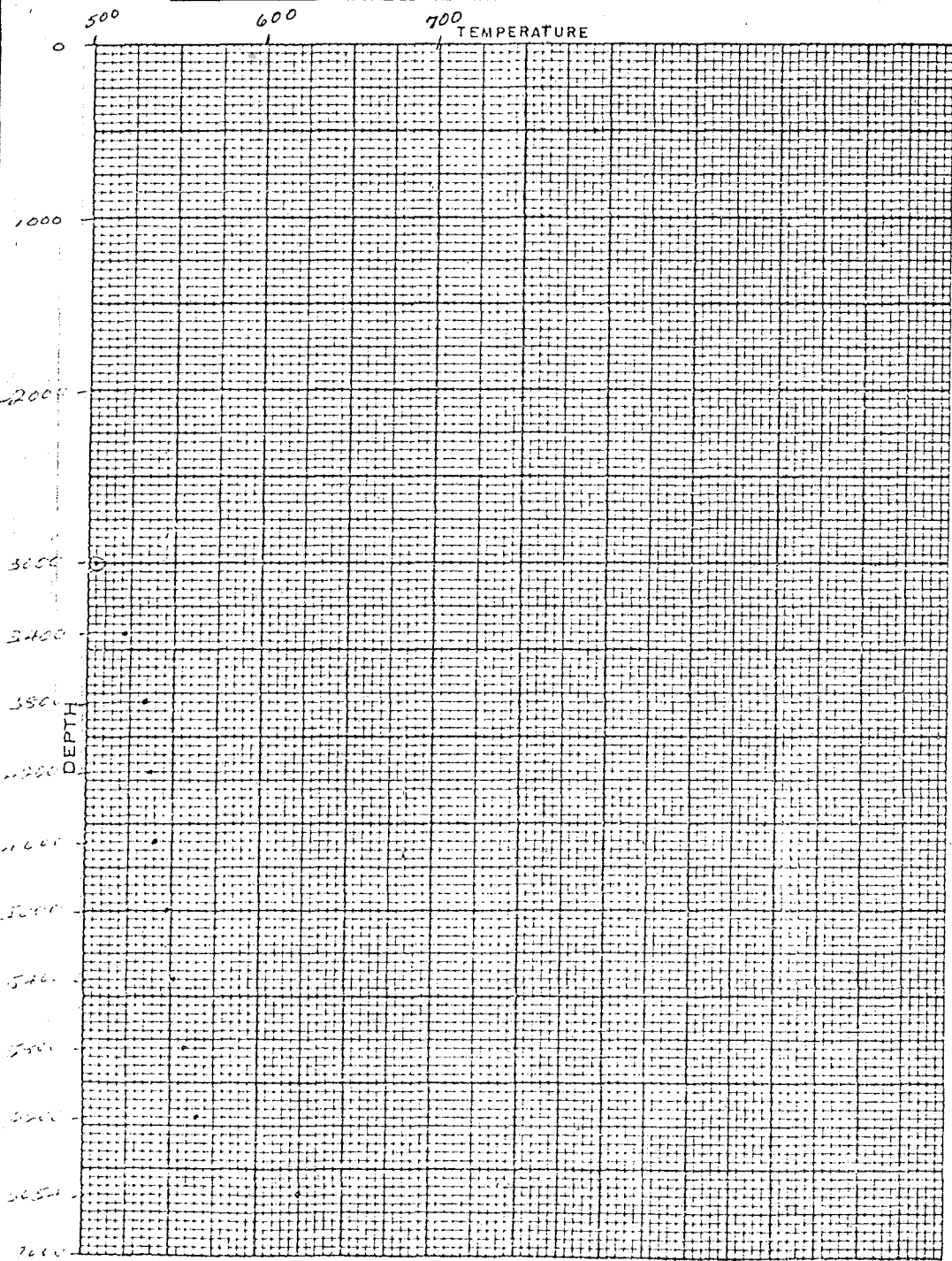
B11-546-PT

OWNER Union Oil of Calif FIELD Valle Grande WELL NAME BACA 11
 CASING _____ ELEV _____ DATE 5/10/74
 LINER DESCRIPTION: _____ ZERO POINT Old Adouc
 _____ DEPTH 666

HOLE DESCRIPTION: _____

 INSTRUMENT 102°F - 718 FAH
 SERIAL NO 10055

PURPOSE _____ MAX TEMP 625 °F @ _____
 REMARKS: _____



STABILIZATION PERIOD _____

PRESSURE	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
3000	505		
3400	522		
3800	530		
4200	537		
4600	540		
5000	547		
5400	551		
5800	558		
6200	565		
6657	625		

BY: J-M.

76

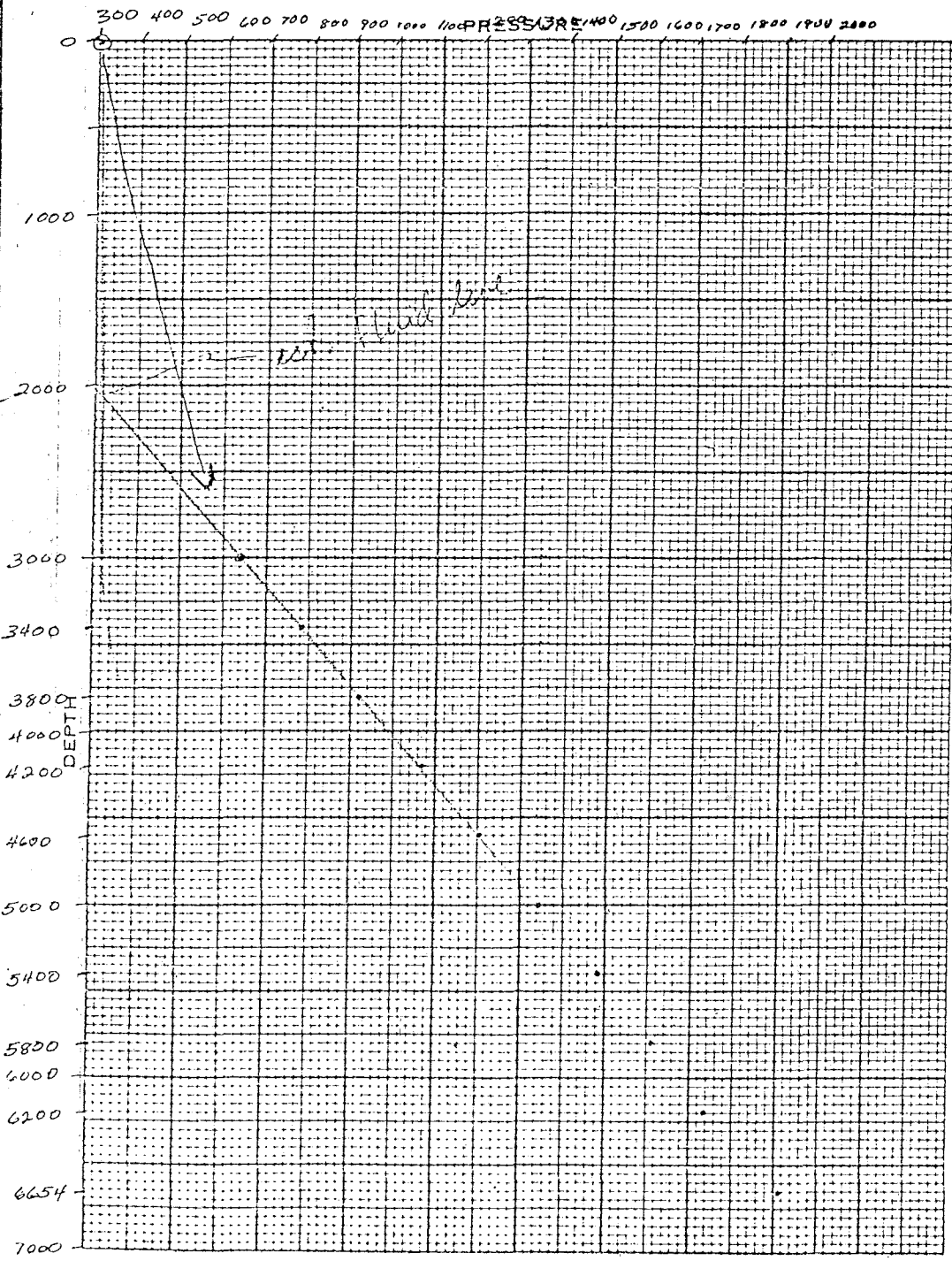
UNION

GEO THERMAL DIVISION

B-11-544-A

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil of Calif FIELD Ulle Grande WELL NAME BACA 11
 CASING _____ ELEV 8650 DATE 5/31/74
 LINER DESCRIPTION: _____ ZERO POINT 15 ft Above G
 _____ DEPTH 6656'
 HOLE DESCRIPTION: _____
 _____ INSTRUMENT 4250 PS
 _____ SERIAL NO 7198
 _____ PURPOSE _____ MAX TEMP 624 °F @ _____
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	PRESSURE	GRADIENT
0	300	PS/ft
3000	623	.1142
3400	785	.352
3800	920	.332
4200	1072	.38
4600	1206	.352
5000	1345	.348
5400	1481	.34
5800	1614	.333
6200	1734	.313
6654	1915	.358

BY: J.M.

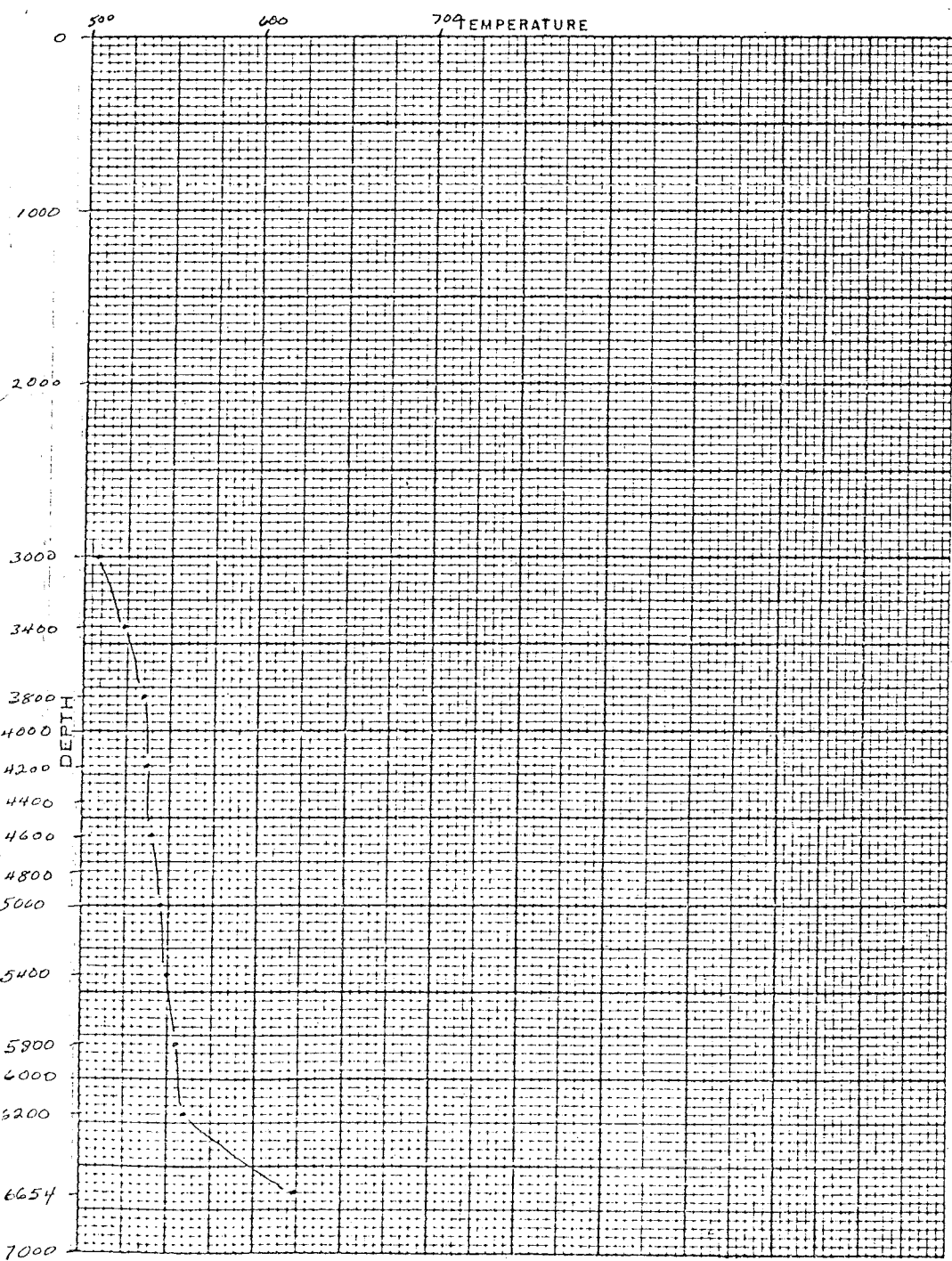
76

UNION

B11-544-PT

GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil of Calif FIELD Valle Grande WELL NAME BACH 11
 CASING _____ ELEV 8660 DATE 5/15/74
 LINER DESCRIPTION: _____ ZERO POINT 10 FT ABOVE CL
 _____ DEPTH 6666
 HOLE DESCRIPTION: _____ INSTRUMENT 102°F-718°F FA
 _____ SERIAL NO 17055
 PURPOSE _____ MAX TEMP 624 °F @
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOHB	
CASING, PSI			
DEPTH	TEMP.	DEPTH	TEMP.
0	0		
3000	500		
3400	524		
3800	537		
4200	540		
4600	545		
5000	550		
5400	555		
5800	560		
6200	560		
6654	624		

BY: J.M.

76

UNION

GLOTTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B11-543-PT

OWNER UNION OIL Co. of Calif. FIELD Valle Grande WELL NAME Boca # 11

CASING _____ DATE 5-2-74

LINER DESCRIPTION: _____ ZERO POINT 10' AGL

DEPTH 6665-6654

HOLE DESCRIPTION: _____ INSTRUMENT 4250 PSI

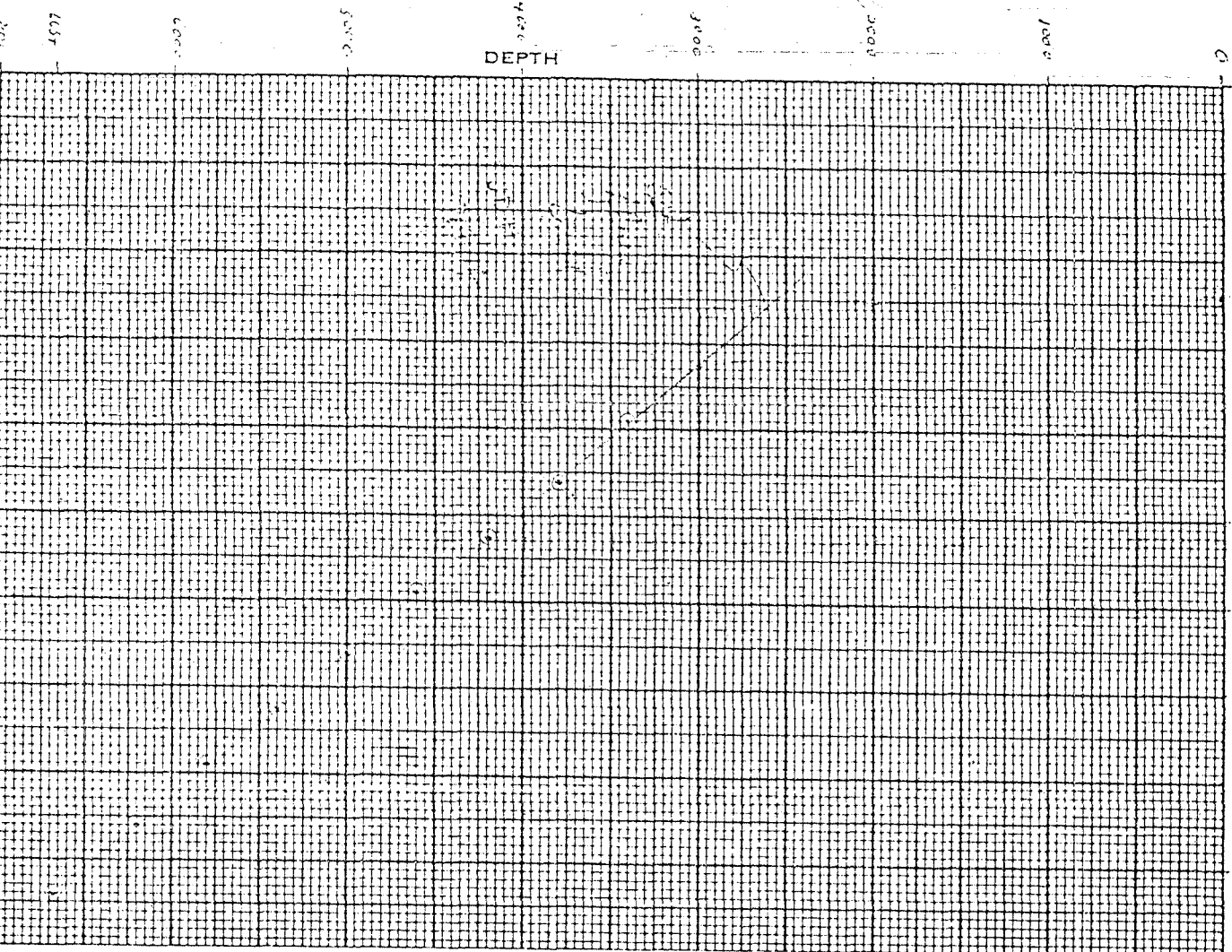
SERIAL NO 7198

MAX TEMP _____ °F @ _____

PURPOSE Gradient Survey

REMARKS:

0 200 400 600 800 1000 1200 1400 1600 1800 2000 PRESSURE STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB
CASING, PSI	482	454

DEPTH	PRESSURE	GRADIENT
0	484	PSI/FT
3000	656	0.573
3400	783	0.318
3800	922	0.348
4200	1053	0.328
4600	1186	0.325
5000	1322	0.34
5400	1458	0.34
5800	1593	0.325
6200	1720	0.325
6654	1892	0.358

BY: S A D

76

UNION

GEOTHERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

B11-54a-P1

OWNER UNION OIL Co of Calif FIELD Well + Grade Bacc H 11

CASING _____ DATE 5-1-74

LINER DESCRIPTION: _____ ZERO POINT 10' AGL

DEPTH 666 S-CCS4

HOLE DESCRIPTION:

INSTRUMENT 4250 PSI
SERIAL NO 7198

MAX TEMP _____ °F @ _____

PURPOSE Point Survey

REMARKS: _____ PRESSURE _____ STABILIZATION PERIOD _____



PRESSURES.	GAUGE	BOMB
CASING PSI	550	550.0

DEPTH	PRESSURE	GRADIENT
0		
664	1832	

BY: S.A.P.

76



GEOTHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

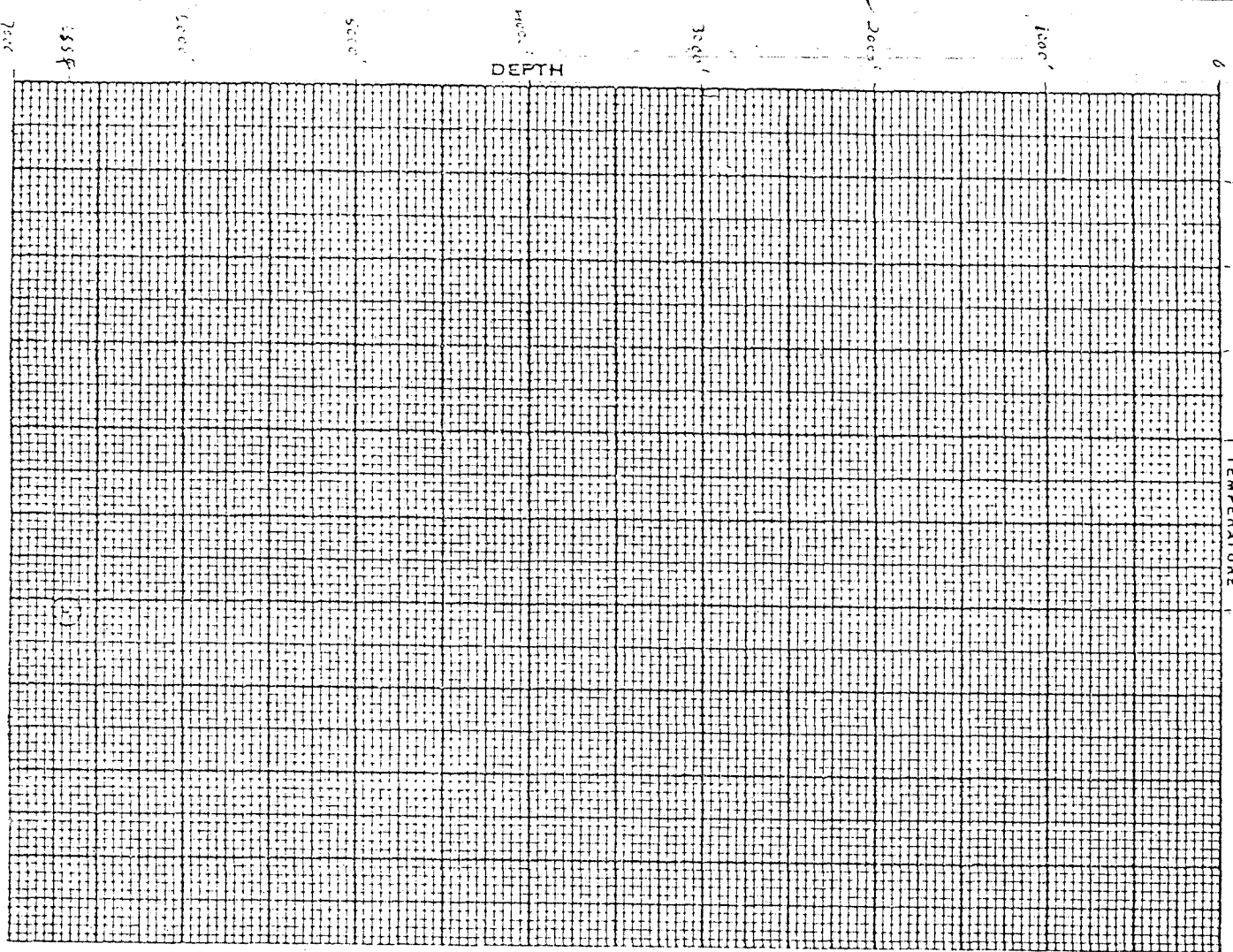
B11-S42-PT

OWNER Union Oil Co of Calif FIELD Valle Grande WELL NAME Bocca # 11

CASING _____ DATE 5-1-74
LINER DESCRIPTION _____ ZERO POINT 10' AGL
DEPTH _____ DEPTH 666' 5.65 ft

HOLE DESCRIPTION: _____
INSTRUMENT 100'-718' FATH
SERIAL NO 10055

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



STABILIZATION PERIOD _____

PRESSURER.	GAUGE	BOB
CASING. PSI	550	550.6

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
664	61.8		

HT. SAND

76

UNION

GEO THERMAL DIVISION

B11-540-PT

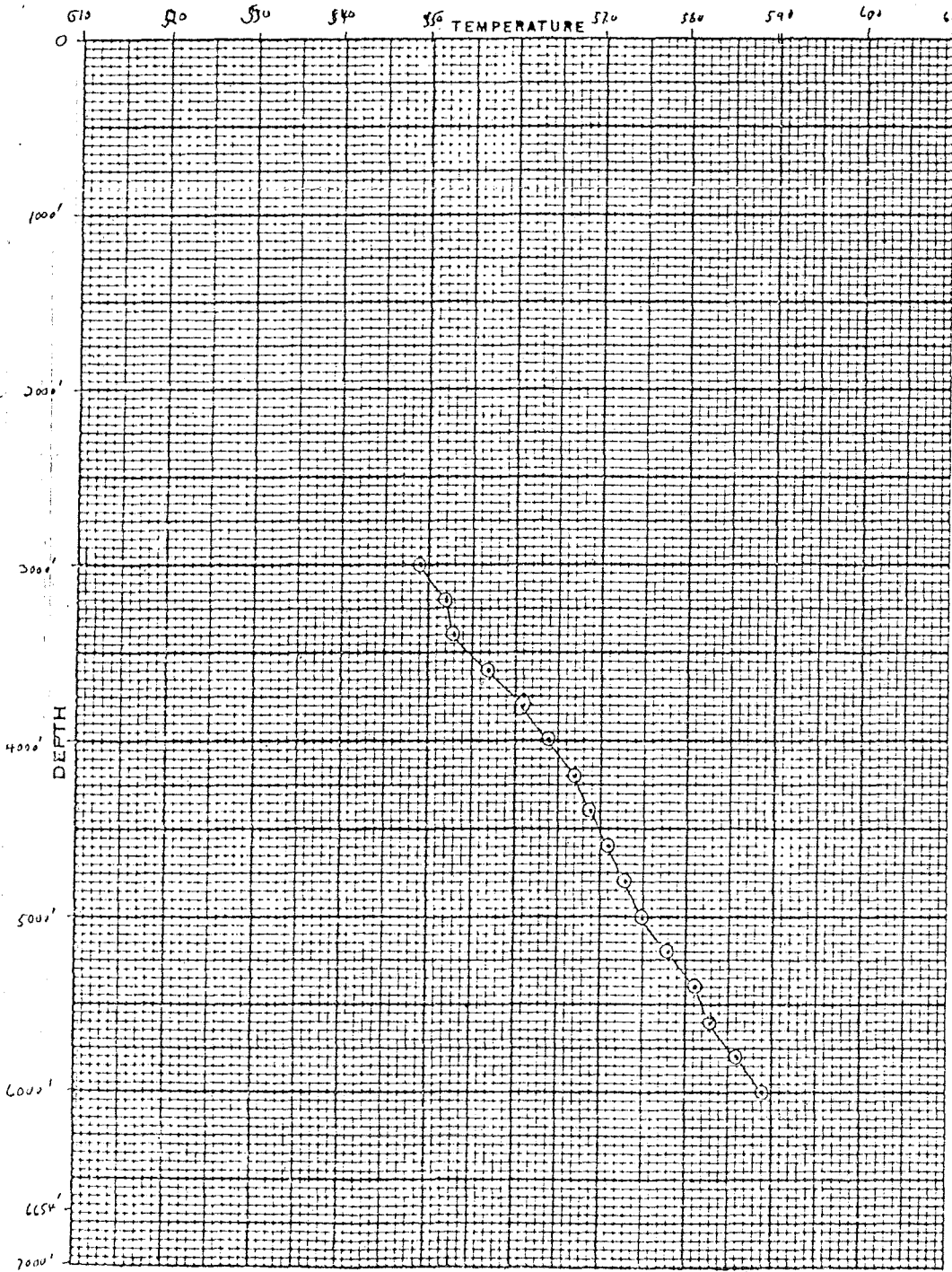
SUBSURFACE TEMPERATURE SURVEY

OWNER UNION OIL CO of Calif FIELD Valle Grande WELL NAME Baca #11
 CASING _____ ELEV 8600 DATE 4-26-74
 LINER DESCRIPTION: _____ ZERO POINT 10' AGL
 _____ DEPTH 6666 S-6654

HOLE DESCRIPTION: _____ INSTRUMENT 10055 FAH
 _____ SERIAL NO 102-718 F

PURPOSE Gradient Survey MAX TEMP _____ °F @ _____

REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING. PSI	855	854

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
3000	574		
3200	575		
3400	576		
3600	577		
3800	578		
4000	579		
4200	580		
4400	581		
4600	583		
4800	584		
5000	585		
5200	586		
5400	588		
5600	590		
5800	593		
6000	596		
6200	-		
6400	-		
6654	-		

} (Lockr stopped)

BY: S.A.O.

76

GEO THERMAL DIVISION SUBSURFACE PRESSURE SURVEY

UNRECORDED

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca #11

CASING 16' AG L DATE 4-26-74

LINER DESCRIPTION: 666 5-6654 ZERO POINT 666 5-6654

HOLE DESCRIPTION: _____ DEPTH 666 5-6654

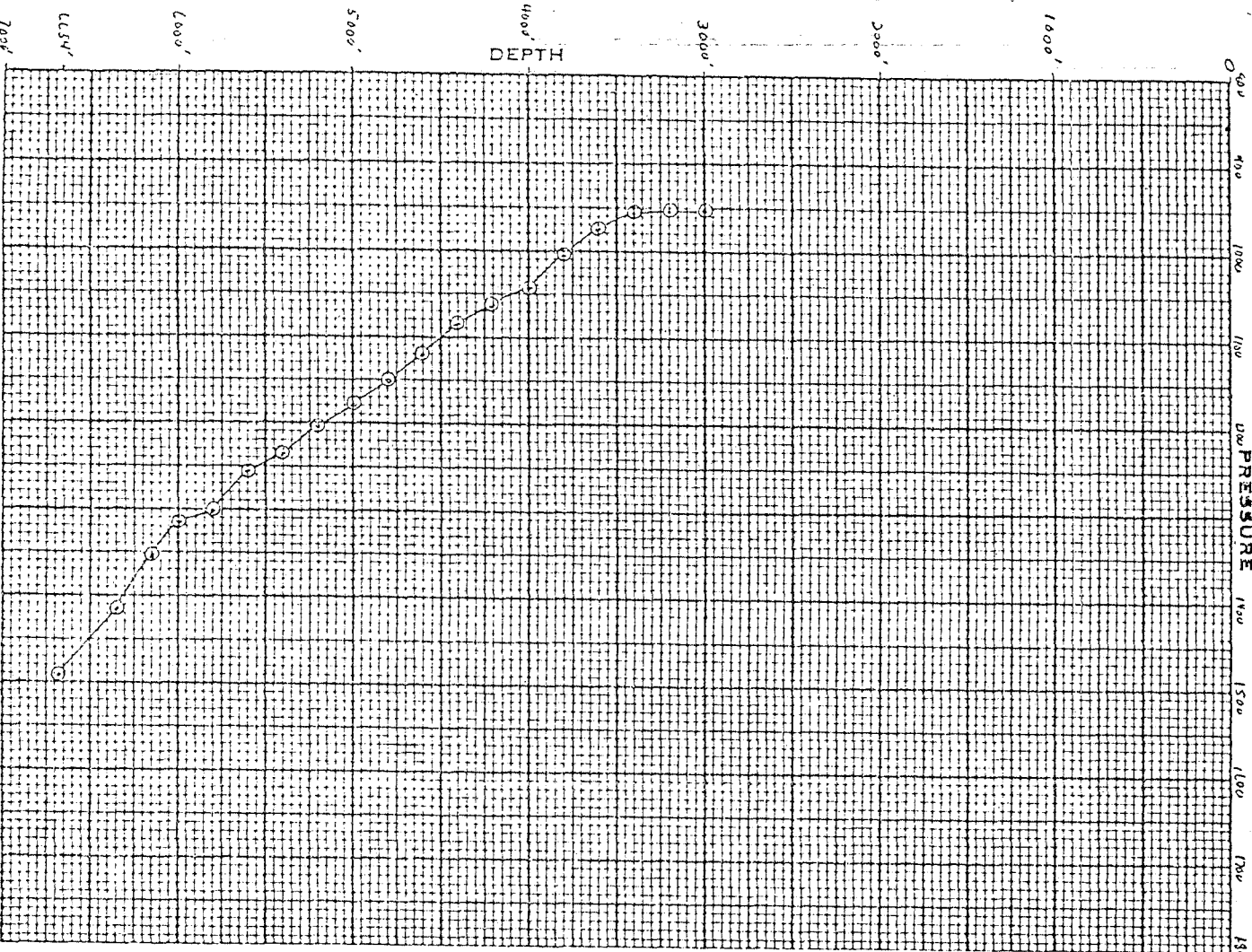
INSTRUMENT 7250 PSI

SERIAL NO 7198

PURPOSE Gradient Survey MAX TEMP _____ °F @ _____

REMARKS: Walt Seal sent from NM. Assume weather corrected for wt gradients. 11

STABILIZATION PERIOD _____



PRESSURE	GAUGE	BOMB
CASING PSI	854	854

DEPTH	PRESSURE	GRADIENT
0	854	Psi/Ft
3000	1034	.0333
3300	1114	.0000
3400	1194	.028
3600	1274	.095
3800	1354	.155
4000	1434	.18
4200	1514	.1
4400	1594	.12
4600	1674	.165
4800	1754	.145
5000	1834	.15
5200	1914	.125
5400	1994	.15
5600	2074	.16
5800	2154	.17
6000	2234	.085
6200	2314	.18
6400	2394	.315
6600	2474	.295
6800	2554	.295

REV. 5AD

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

76

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca #11
 CASING _____ ELEV _____ DATE 4-22-74
 LINER DESCRIPTION _____ ZERO POINT 10' AGL
 _____ DEPTH 6661' 5-654

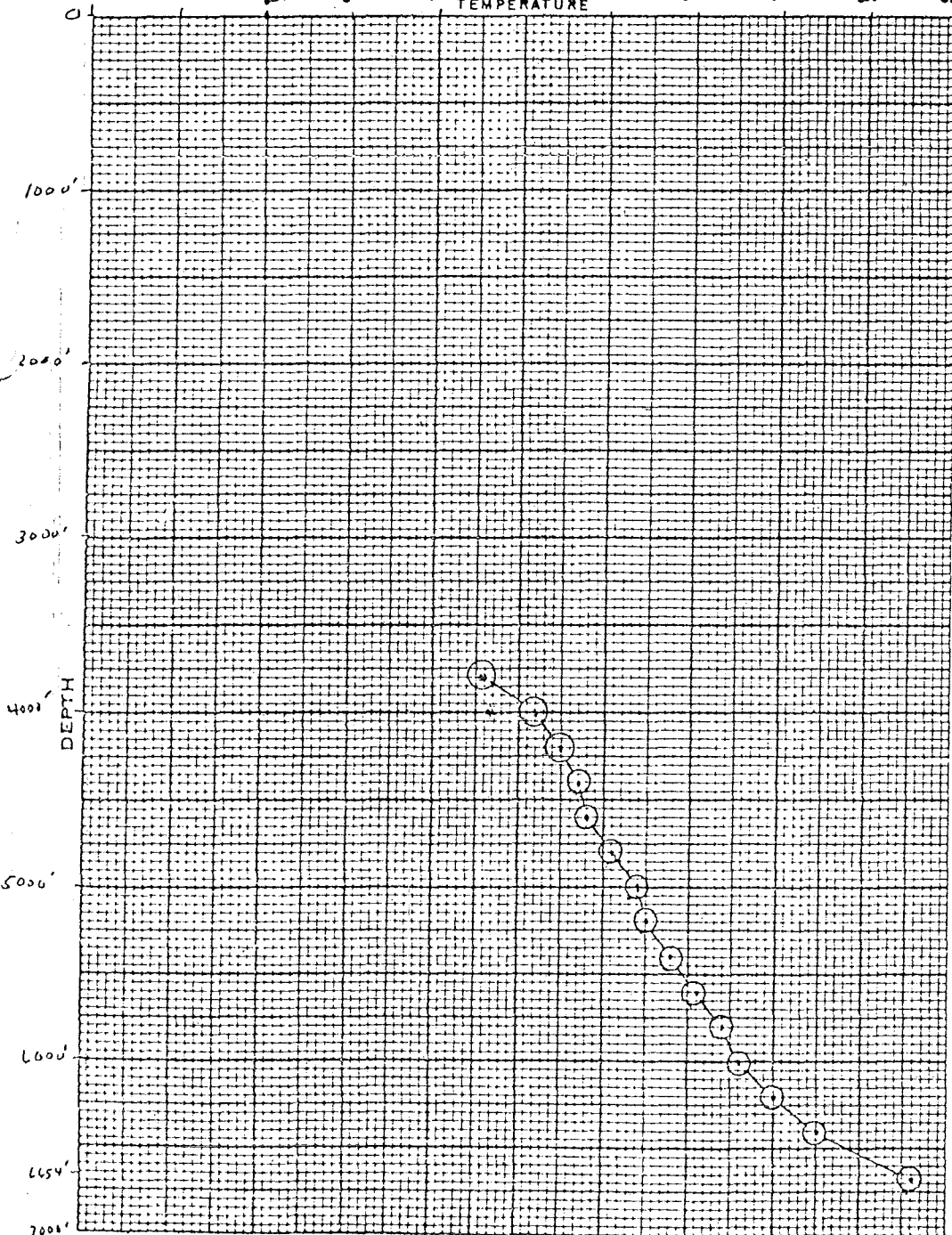
HOLE DESCRIPTION: _____

 INSTRUMENT 102-719' FAH
 SERIAL NO 10058

PURPOSE Gradient Survey MAX TEMP 606 °F @ 6654

REMARKS:

511' 520 530 540 550 TEMPERATURE 570 580 590 600 610 STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
3800	556		
4000	562		
4200	565		
4400	567		
4600	569		
4800	571		
5000	574		
5200	575		
5400	578		
5600	581		
5800	584		
6000	586		
6200	590		
6400	595		
6654	606		

BY: S.A.D.

76

U1117611
 GEOTHERMAL DIVISION
 SUBSURFACE PRESSURE SURVEY

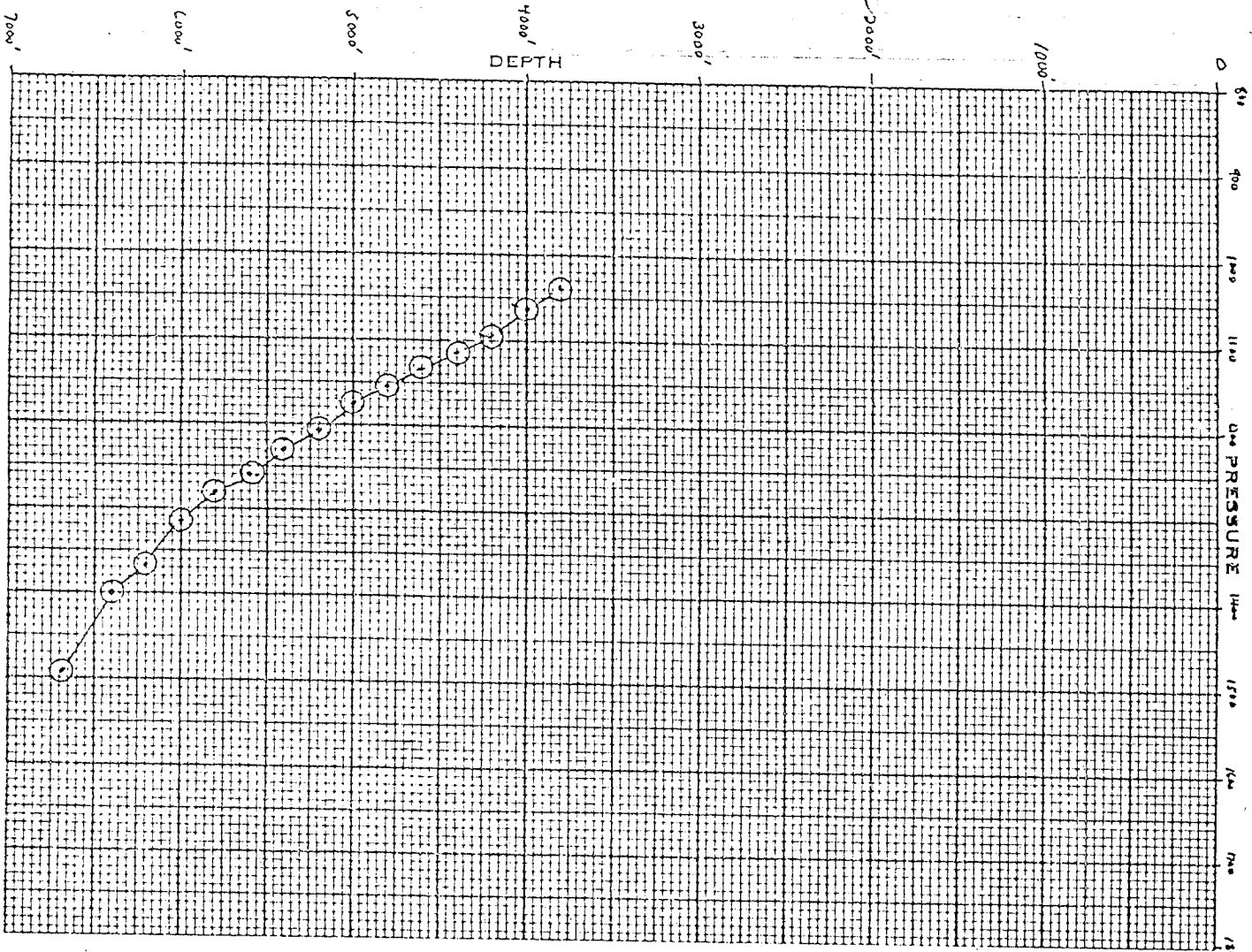
B11-539-P7

OWNER: UNION OIL Co of Calif
 CABING: _____
 LININ DESCRIPTION: _____
 HOLE DESCRIPTION: _____
 PURPOSE: Gradient Survey
 REMARKS: _____

FIELD: Valle Grand
 WELL NAME: Baggs # 11
 DATE: 4-22-74
 ZERO POINT: 10' AGL
 DEPTH: 666 S-665 4

INSTRUMENT: 4250
 SERIAL NO: 7198
 MAX TEMP: 60.6 °F @ 6654

STABILIZATION PERIOD: _____



PRESSURE	GAUGE	BOMB
3800	1038.1	.138
4000	1065.7	.15
4200	1093.3	.165
4400	1120.9	.18
4600	1148.5	.195
4800	1176.1	.21
5000	1203.7	.225
5200	1231.3	.24
5400	1258.9	.255
5600	1286.5	.27
5800	1314.1	.285
6000	1341.7	.3
6200	1369.3	.315
6400	1396.9	.33
6654	1424.5	.345

DR. S. AD

76

GLO THERMAL DIVISION

B11-538-PT

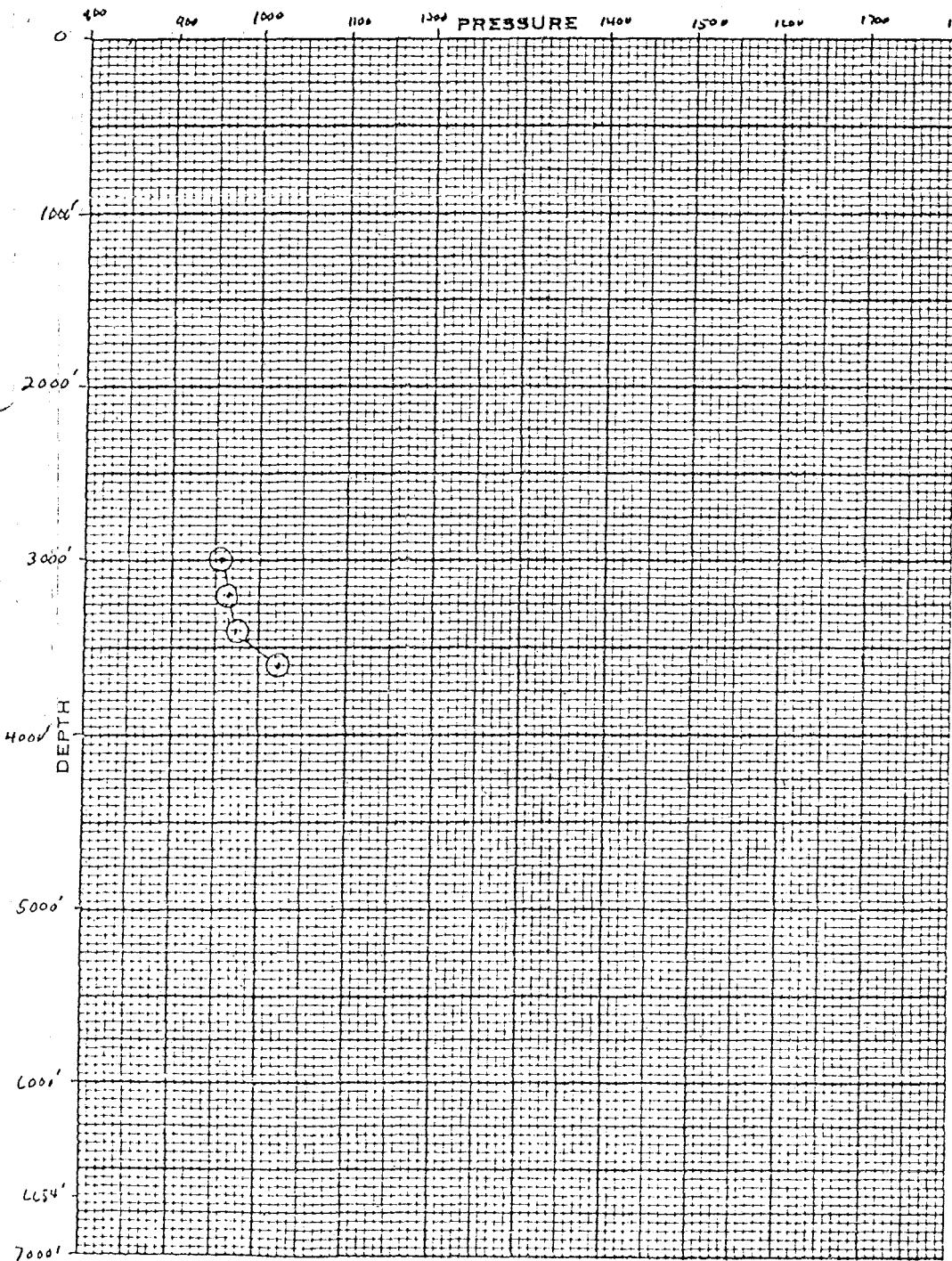
SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL Co of Calif. FIELD Valle Grande WELL NAME Baca #11
 CASING _____ ELEV _____ DATE 4-21-74
 LINER DESCRIPTION: _____ ZERO POINT 10' ACL
 _____ DEPTH 6666 5-6654

HOLE DESCRIPTION: _____ INSTRUMENT 4250 PSI
 _____ SERIAL NO 7198

PURPOSE Gradient Survey MAX TEMP 606 °F @ 6654

REMARKS: _____ STABILIZATION PERIOD _____



PRESSURES	GAUGE	BOMB
CASING PSI	857	846

DEPTH	PRESSURE	GRADIENT
0	845.9	PSI/FT
3000	957.8	.0373
3200	966.2	.042
3400	976.8	.053
3600	1025.4	.243

↓ clock stopped

BY: S.A.D.

GEOHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

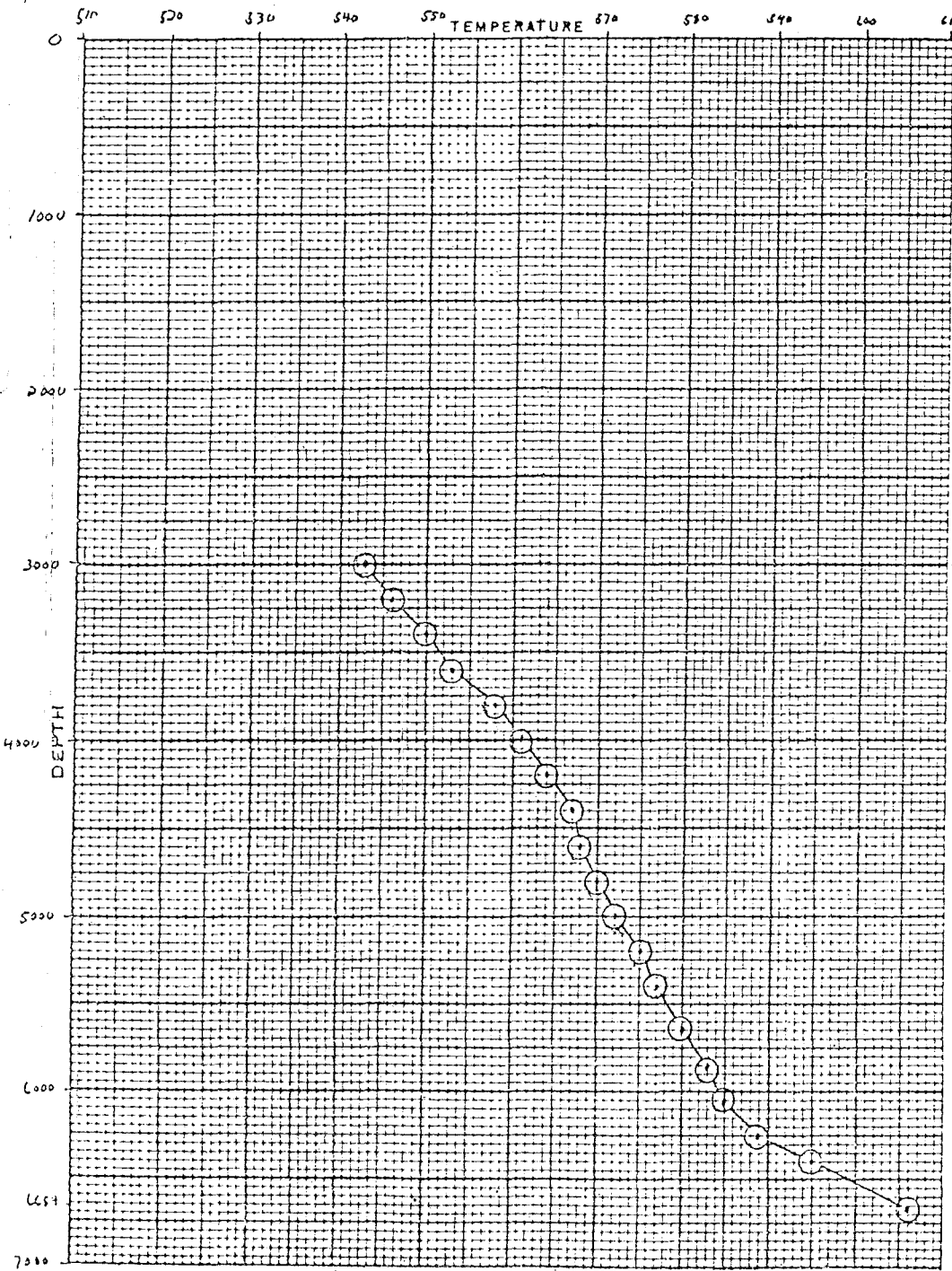
76

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca # 11
 CASING _____ ELEV _____ DATE 4-20-74
 LINER DESCRIPTION: _____ ZERO POINT 10' AGL
 _____ DEPTH 6665-6654

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAH
 _____ SERIAL NO _____

PURPOSE Gradient Survey MAX TEMP _____ °F @ _____

REMARKS: _____



STABILIZATION PERIOD _____

PRESURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
3000	54.9		
3200	54.6		
3400	55.0		
3600	55.3		
3800	55.8		
4000	56.1		
4200	56.4		
4400	56.7		
4600	56.9		
4800	57.0		
5000	57.2		
5200	57.5		
5400	57.7		
5600	58.0		
5800	58.3		
6000	58.5		
6200	58.9		
6400	59.5		
6654	60.6		

BY: SAD.

76

UNION

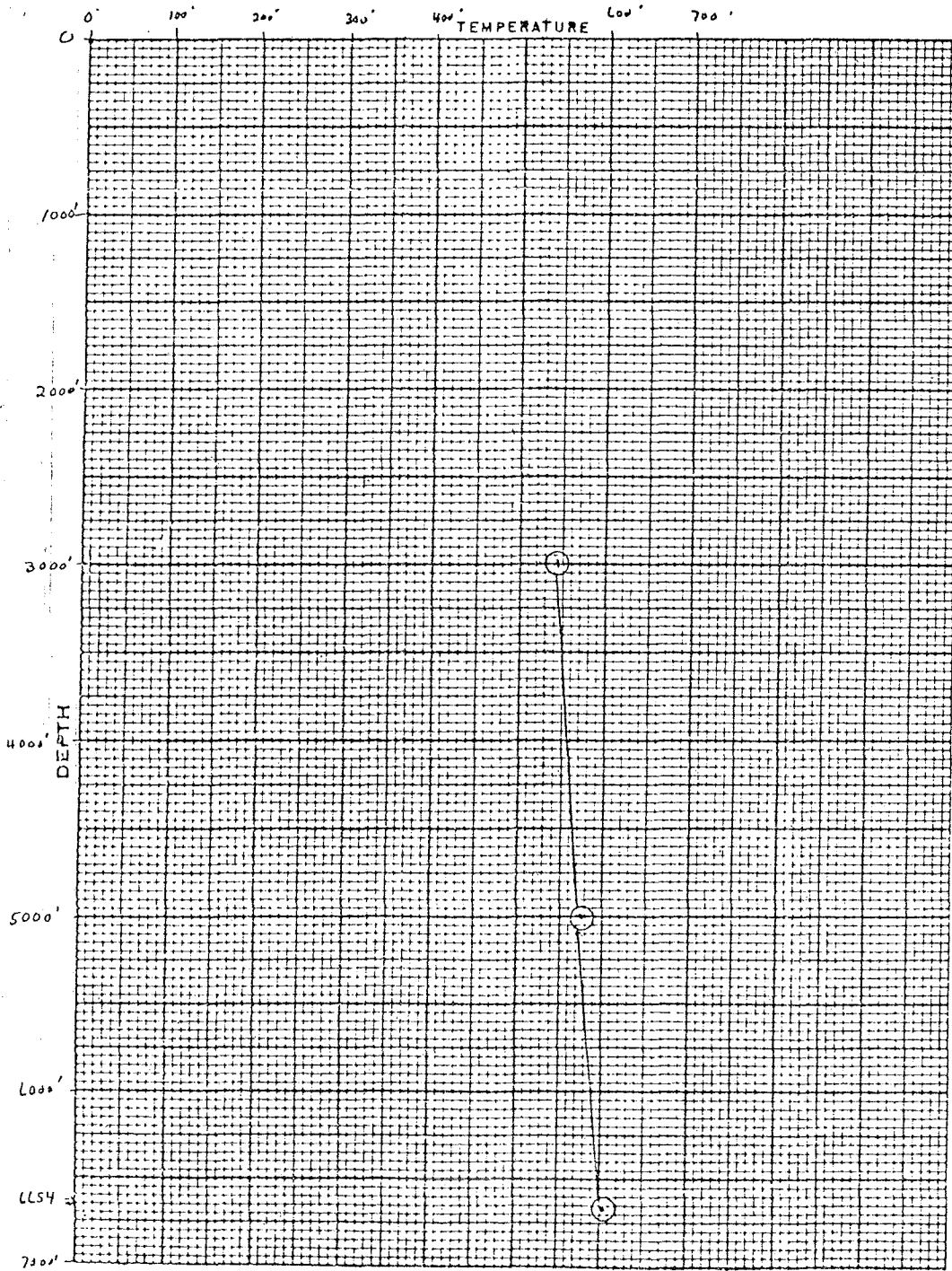
B11-537-PT

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

OWNER UNION OIL Co of Calif. FIELD Valle Grande WELL NAME Baca # 11
 CASING _____ ELEV _____ DATE 4-19-74
 LINER DESCRIPTION: _____ ZERO POINT 10' AGL
 _____ DEPTH 6666 5-6654
 HOLE DESCRIPTION: _____ INSTRUMENT 165'-718' FAH
 _____ SERIAL NO 10055
 PURPOSE Gradient Survey MAX TEMP _____ °F @ _____

REMARKS _____



STABILIZATION PERIOD _____

PRESSURE	GAUGE	BOMB	
CASING, PSI	846	858	
DEPTH	TEMP.	DEPTH	TEMP.
0	0		
3000'	543		
5000'	570.7		
6654'	603.1		

BY: S.A.D.

U1117011

B11-537-PT

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

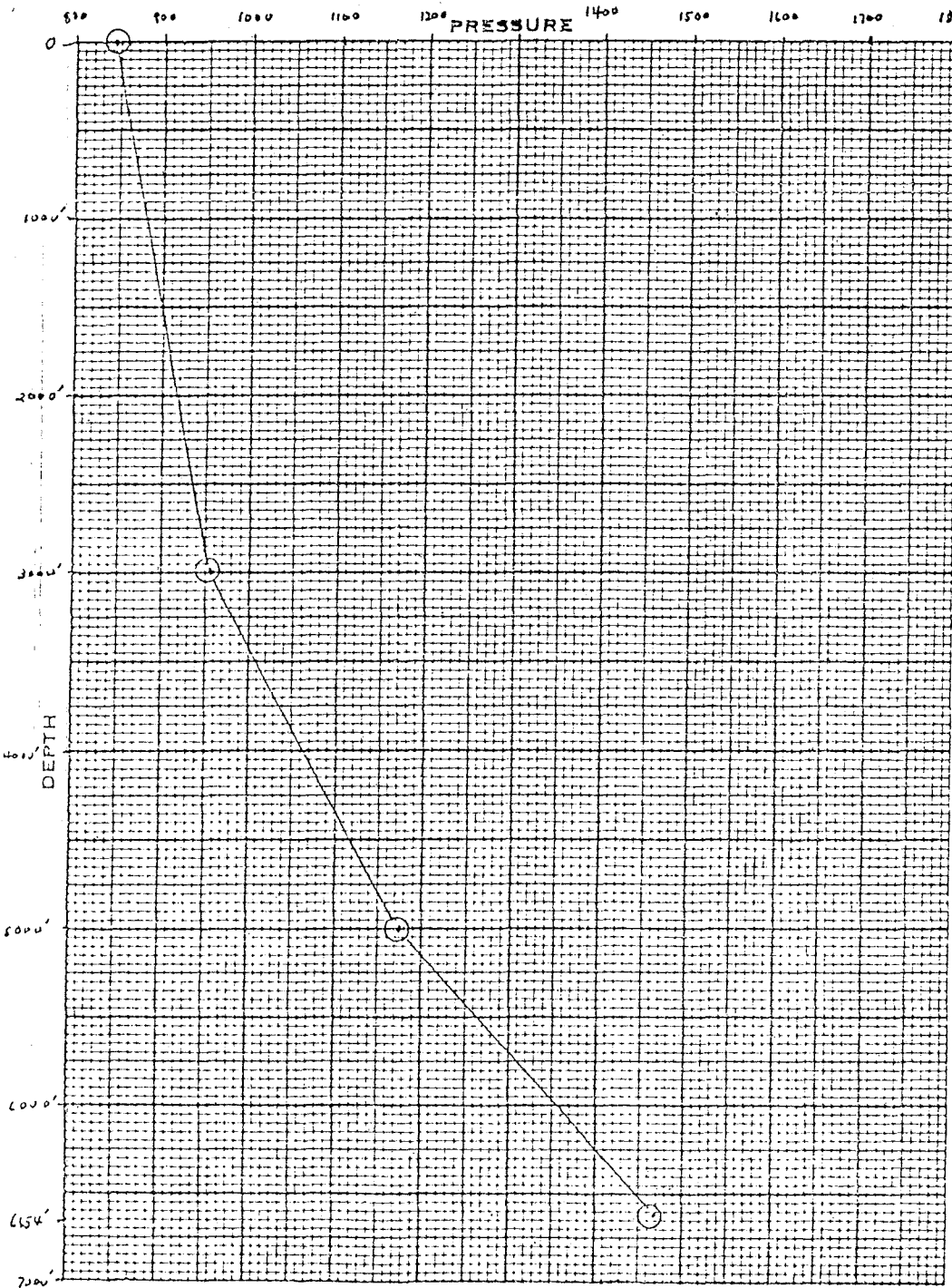
76

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca #11
 CABING _____ ELEV _____ DATE 4-18-74
 LINER DESCRIPTION: _____ ZERO POINT 10' AGL
 _____ DEPTH 6666 S-6654

HOLE DESCRIPTION: _____ INSTRUMENT 4250 PSI
 _____ SERIAL NO 7198

PURPOSE Gradient Survey MAX TEMP 603 °F @ 6654'

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING PSI	<u>878</u>	<u>854</u>

DEPTH	PRESSURE	GRADIENT
<u>0</u>	<u>845.99</u>	<u>PSI/F</u>
<u>3000</u>	<u>955.7</u>	<u>.0365</u>
<u>5000</u>	<u>1175.85</u>	<u>.11009</u>
<u>6654</u>	<u>1468.2</u>	<u>.17675</u>

BY: SAP

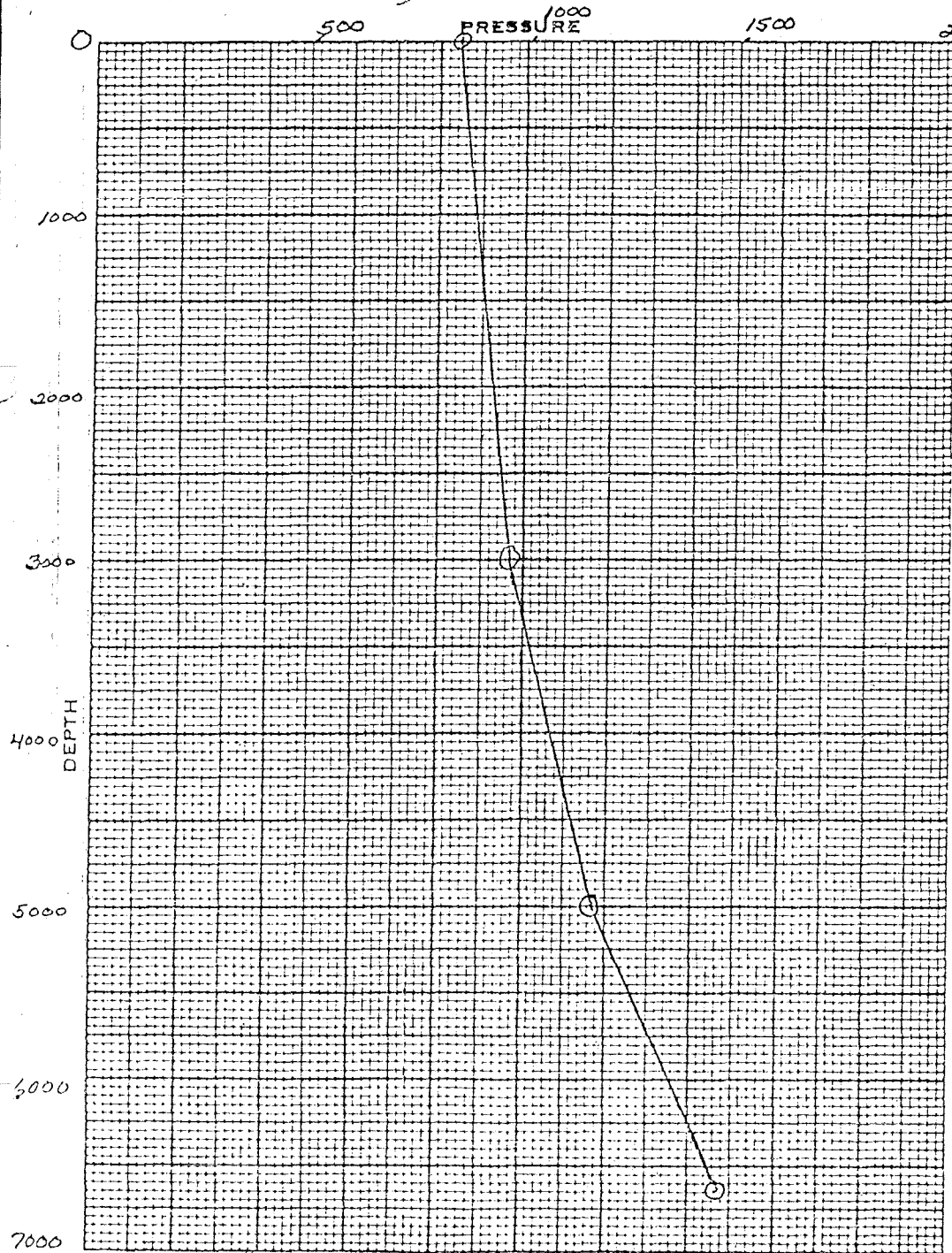
76

GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B11 5-36- P17

OWNER Union Oil Company FIELD Valle Grande WELL NAME B #11
 CASING _____ ELEV 8600' DATE 4/11/74
 LINER DESCRIPTION: _____ ZERO POINT GL+10'
 _____ DEPTH 6654 Survey
 HOLE DESCRIPTION: _____ INSTRUMENT _____ PSI
 _____ SERIAL NO 7198
 PURPOSE BUILDUP MAX TEMP 602.5 °F @ 6654'
 REMARKS: (Shut in well)



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING. PSI	858	

DEPTH	PRESSURE	GRADIENT
0	864.9	
3000	970.4	.035
5000	1177.9	.104
6654	1463.9	.173

BY: _____

76

UNION

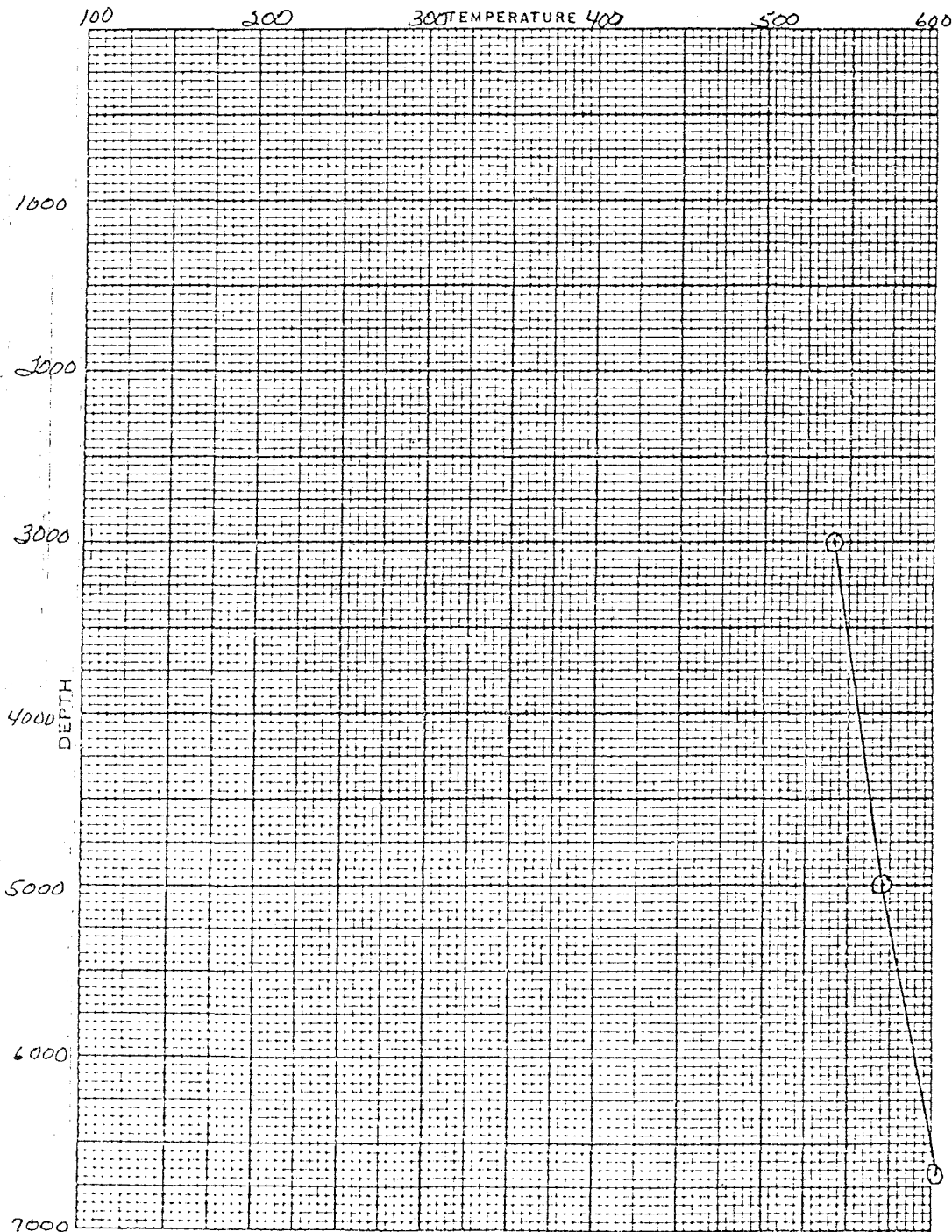
GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

S-36

OWNER UNION DIA CO. OF CALIF FIELD Valle Grande WELL NAME B11
 CASING _____ ELEV 8600' DATE 4/11/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 10'
 _____ DEPTH 6654' survey

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAULT _____
 _____ SERIAL NO 10055

PURPOSE _____ MAX TEMP 602.5 °F @ 6654
 REMARKS _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	DEPTH	TEMP
CASING PSI	858	0	0
		3000	540.9
		5000	570.7
		6654	602.5

BY: _____

U111326111

GEO THERMAL DIVISION

B11-535/101

SUBSURFACE PRESSURE SURVEY

76

OWNER Union Air Co. of Calif

FIELD Valle Grande

WELL NAME B11

CASING

ELEV 8600'

DATE 4/8/74

LINER DESCRIPTION:

ZERO POINT 5474.10'

DEPTH 6666'

SOLE DESCRIPTION:

INSTRUMENT 7198

PSI

PURPOSE

Buildup

MAX TEMP 608.4 °F @ 6654'

REMARKS:

(Well Shut In)

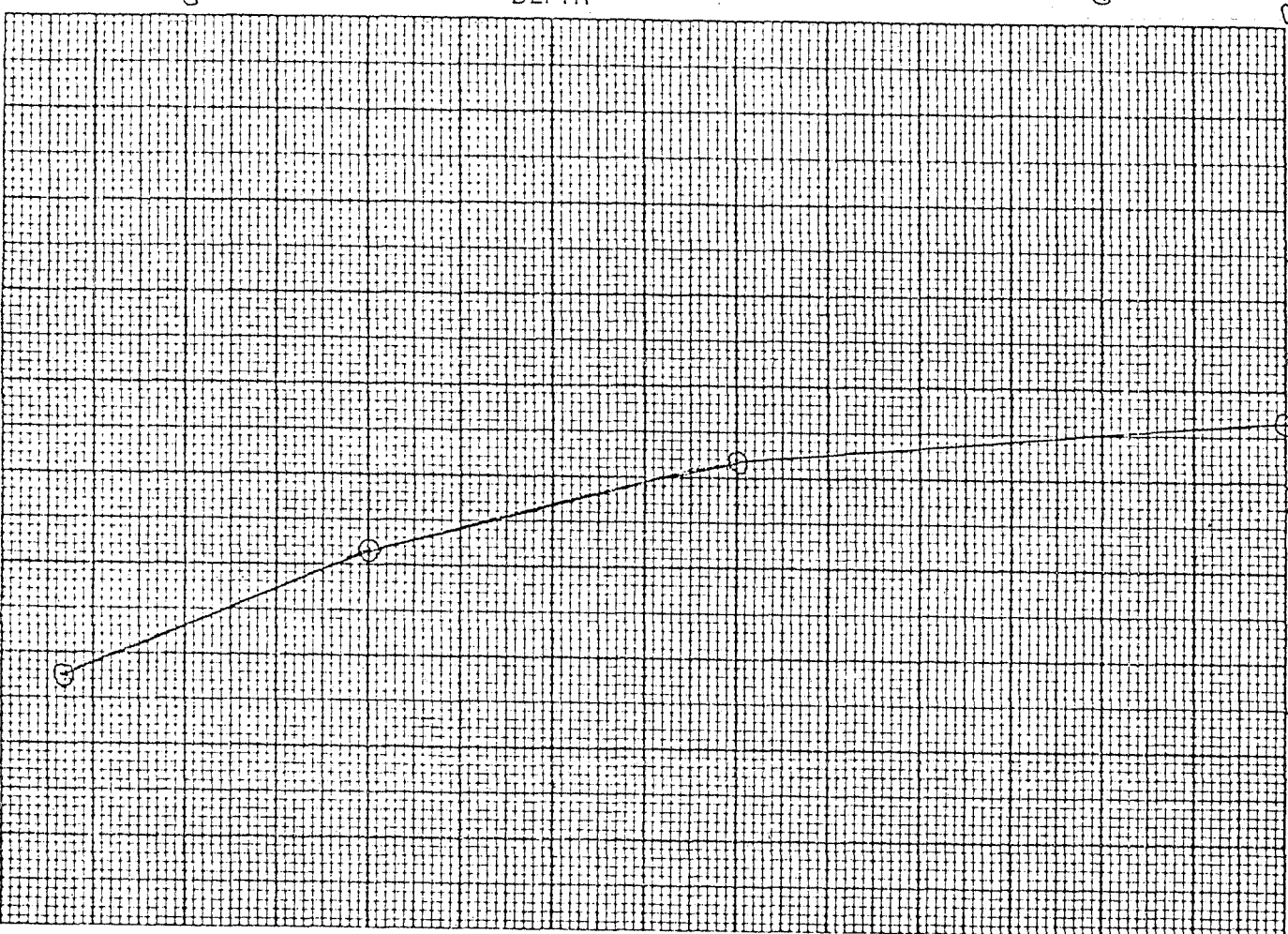
500

PRESSURE

1500

2000

STABILIZATION PERIOD



PRESSURE	GAUGE	BOMB
CASING, PSI	860	

DEPTH	PRESSURE	GRADIENT
0	867	
3000	966	.033
5000	1175	.104
6654	1456	.171

BY _____

DATE _____

76

76

GEO THERMAL DIVISION

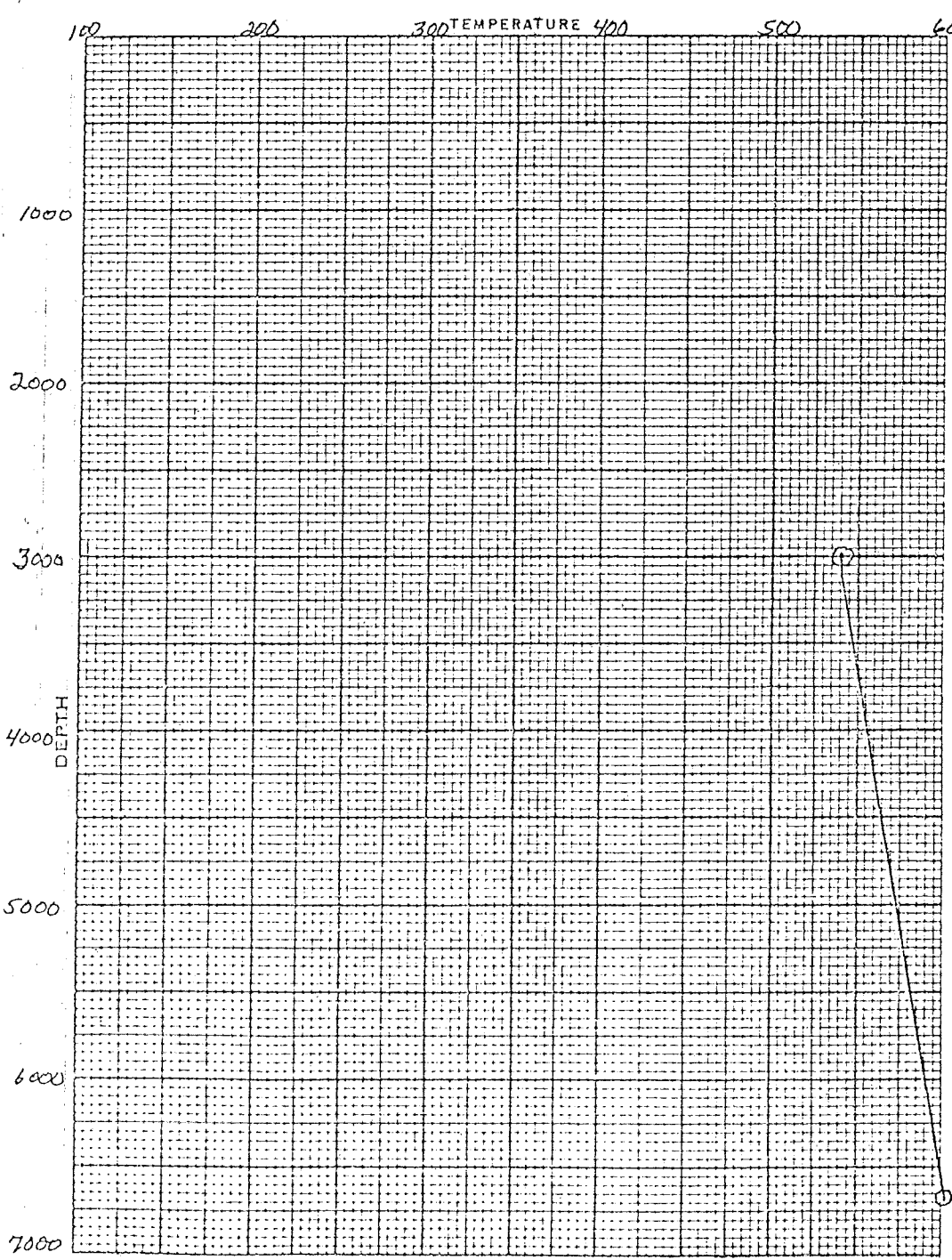
SUBSURFACE TEMPERATURE SURVEY

B11-535/P1T

OWNER Union Oil Co. of CALIF. FIELD Valle Grande WELL NAME B11
 CASING _____ ELEV 8600' DATE 4/8/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 10'
 _____ DEPTH 6666

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAH
 _____ SERIAL NO 10055

PURPOSE BUILDUP MAX TEMP 602.4 °F @ 6654'
 REMARKS: (Well Shot In)



STABILIZATION PERIOD

PRESSURES	GAUGE	DOSE
CASING, PSI	<u>860</u>	
DEPTH	TEMP.	DEPTH
<u>0</u>	<u>0</u>	
<u>3000</u>	<u>541.2</u>	
<u>5000</u>	<u>Clocked Stopped</u>	
<u>6654</u>	<u>602.4</u>	

BY: _____

U117611

76

GEO THERMAL DIVISION

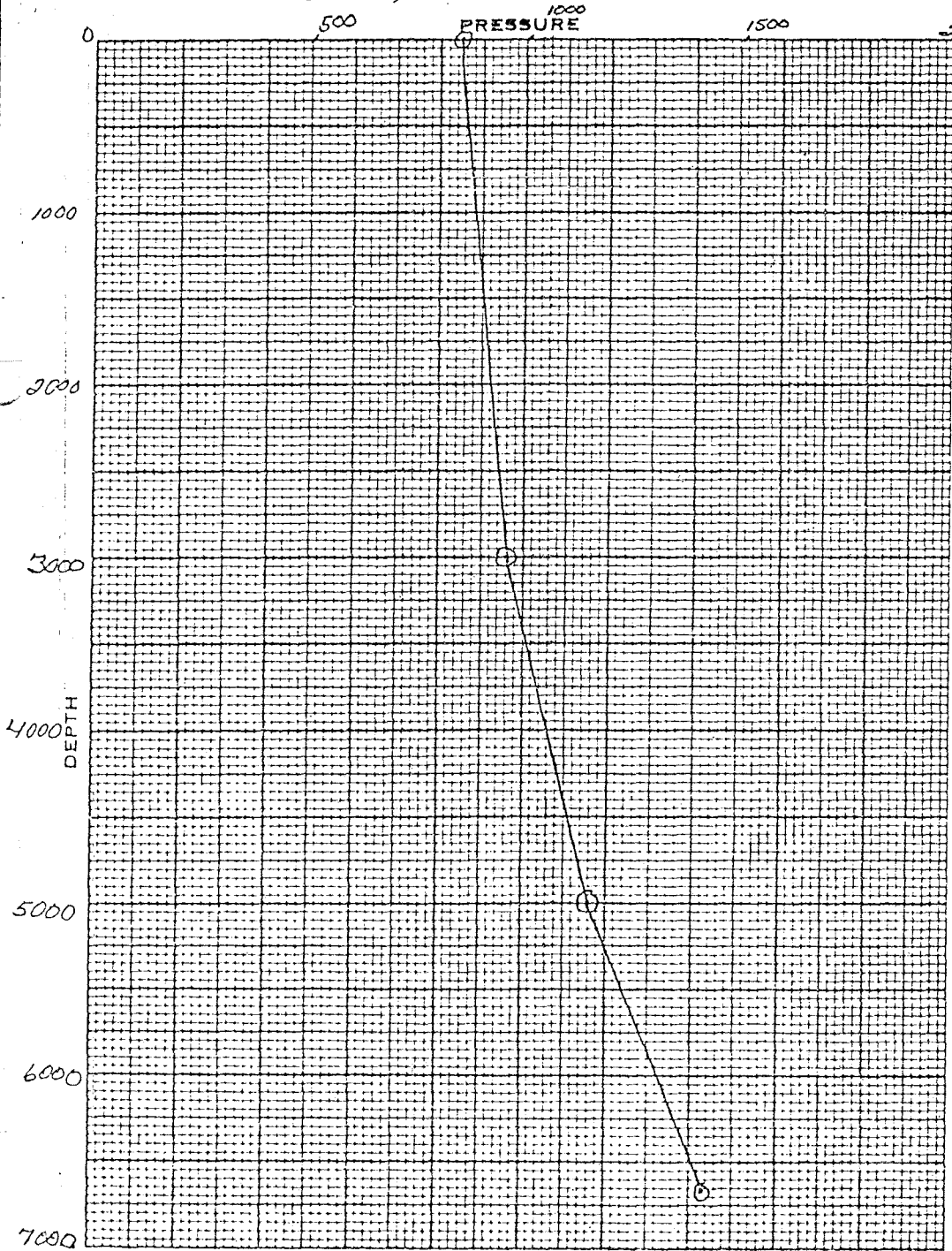
SUBSURFACE PRESSURE SURVEY

B11/534-PJT

OWNER Union Oil Company FIELD Valle Grande WELL NAME B11
 CASING _____ ELEV 8600' DATE 4/1/74
 LINER DESCRIPTION: _____ ZERO POINT GL+10'
 _____ DEPTH 6666'

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSIC
 _____ SERIAL NO 7198

PURPOSE BUILDUP MAX TEMP 603 PF @ 6654'
 REMARKS: (Well shut in)



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING PSI	<u>856</u>	

DEPTH	PRESSURE	GRADIENT
<u>0</u>	<u>856.5</u>	
<u>3000</u>	<u>962</u>	<u>.035</u>
<u>5000</u>	<u>1159</u>	<u>.099</u>
<u>6654</u>	<u>1434.3</u>	<u>.166</u>

BY: _____

UNION OIL COMPANY OF CALIFORNIA
GEOHERMAL DIVISION

Foreman's Report for 4/1/74, 1974

Project: _____ AFE _____ WO _____

Report: B 11 - S 30 - P/P

7198

9235

6654'

1423[#]

1313.9[#]

COST:

Project: _____ AFE _____ WO _____

Report: B 11 - S 31 - T/T

10055

10036

6654'

601.9°

539.1°

COST:

Project: _____ AFE _____ WO _____

Report: B 11 - S 32 - P/P

7198

10055

6654'

1423[#]

602.2°

Will have P/T GRADIENT COST #/4/74 off

By: J.M.

UNION

1511 20 171

76

GEO THERMAL DIVISION

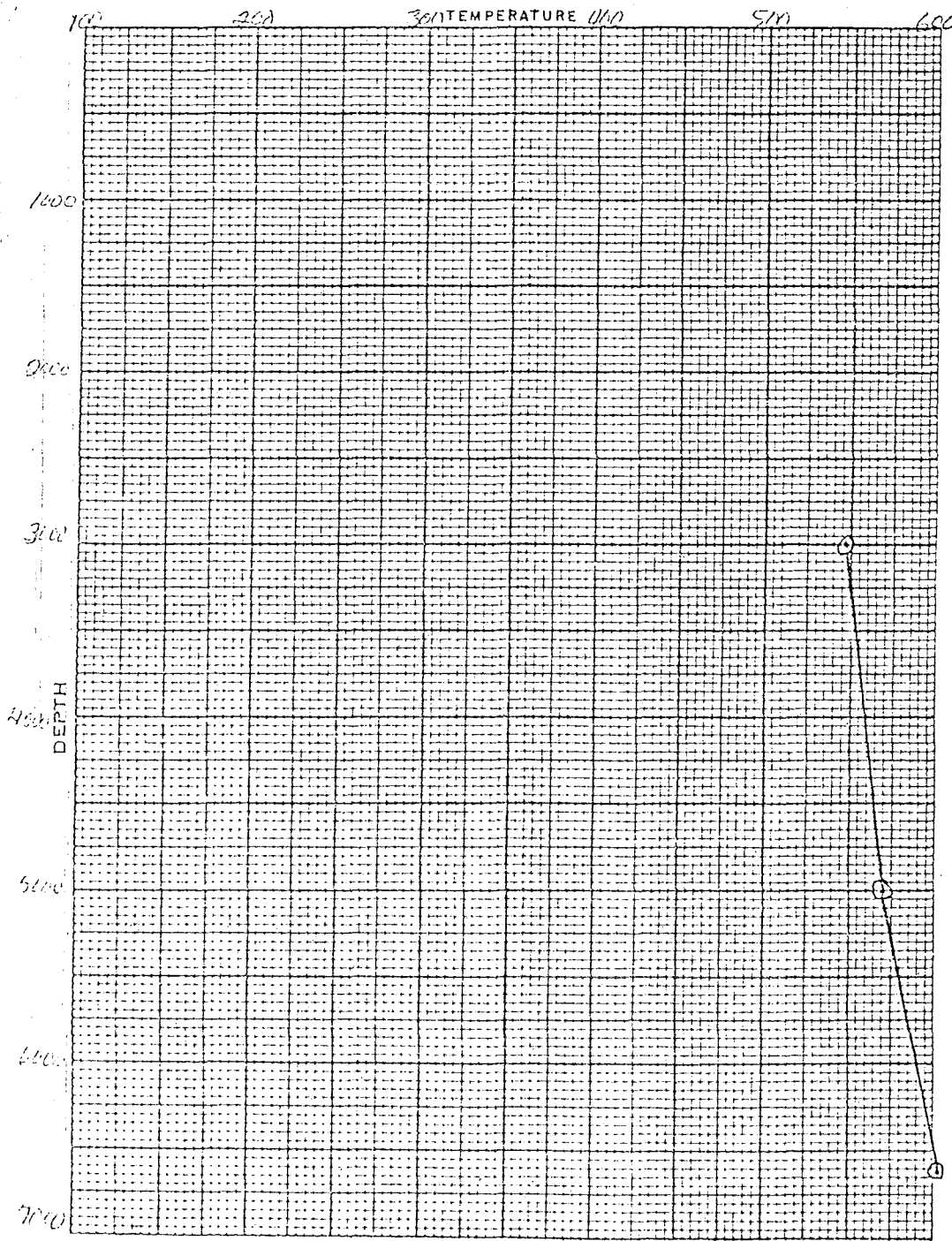
SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME B-11
 CABING _____ ELEV 8600' DATE: 3/30/54
 LINER DESCRIPTION _____ ZERO POINT BL+10'
 _____ DEPTH 6666

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAH
 SERIAL NO 10055

PURPOSE Buildup MAX TEMP 603 °F @ 6654'
 REMARKS: (Well Shut in.)

STABILIZATION PERIOD



PRESSURES.	GAUGE	DEPTH	TEMP.
CASING. PSI	854	0	0
		3000	548
		5000	570
		6654	603

By: John M.

76

UNION

011-520-P1T

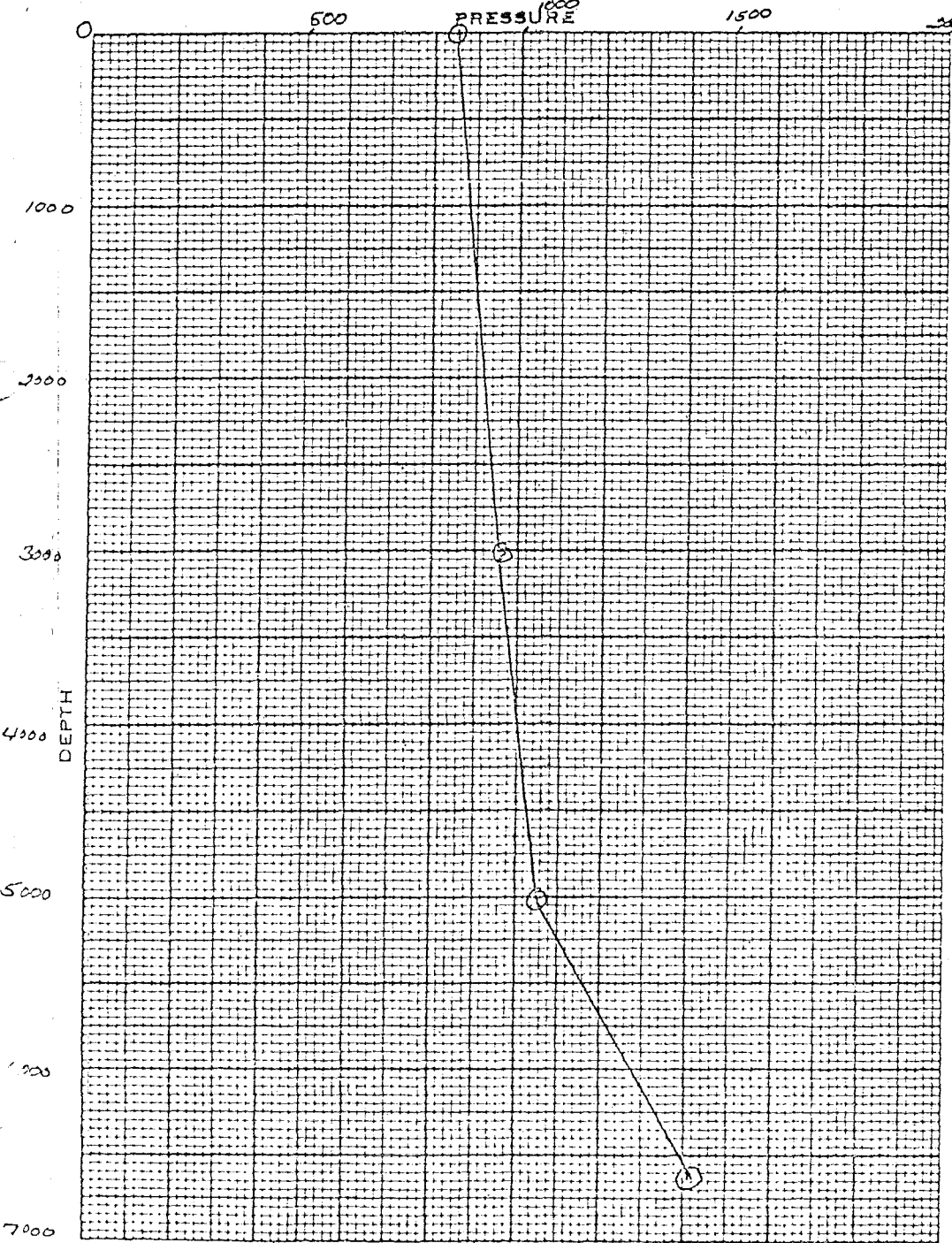
GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Yalle Grande WELL NAME B 11
 CASING _____ ELEV 8600' DATE 3/30/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 10'
 _____ DEPTH 6666'

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSI
 _____ SERIAL NO 7198

PURPOSE BUILDUP MAX TEMP _____ °F @ _____
 REMARKS: (Shot In Well)



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI	854	

DEPTH	PRESSURE	GRADIENT
0	858	
3000	962	.0347
5000	1146	.092
6654	1408	.1584

BY: John M.

76

UNION 76

3/28/74

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

OWNER UNION OIL OF CALIF FIELD Valle Grande WELL NAME R11
 CASING _____ ELEV. 8670 DATE: 3/28/74
 LINER DESCRIPTION: _____ ZERO POINT 10' Above GL
 _____ DEPTH 6666'

TURING DETAIL: _____

PURPOSE _____
 REMARKS: _____

ELEMENT P-425D-7198 SERIAL NO. _____ CLOCK 10460 TURN _____ STABILIZATION PERIOD _____
 ENGAGE STYLUS P-1150 In. DISENGAGE STYLUS T-1340 In.
 WELL HEAD 850 PSIG
 PICKUP @ 6654' TIME ON BOTTOM _____ MAX. °F _____
 WELL STATUS SHUT IN
 SHUT IN: _____ ON PRODUCTION: _____
 RATE _____

PRESS

TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D
0	0	.395															
	3000	.43															
	5000	.52															
	6654	.63															
READINGS																	

COMMENTS:

BY: J. M.

76

UNIT 76

GEO THERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

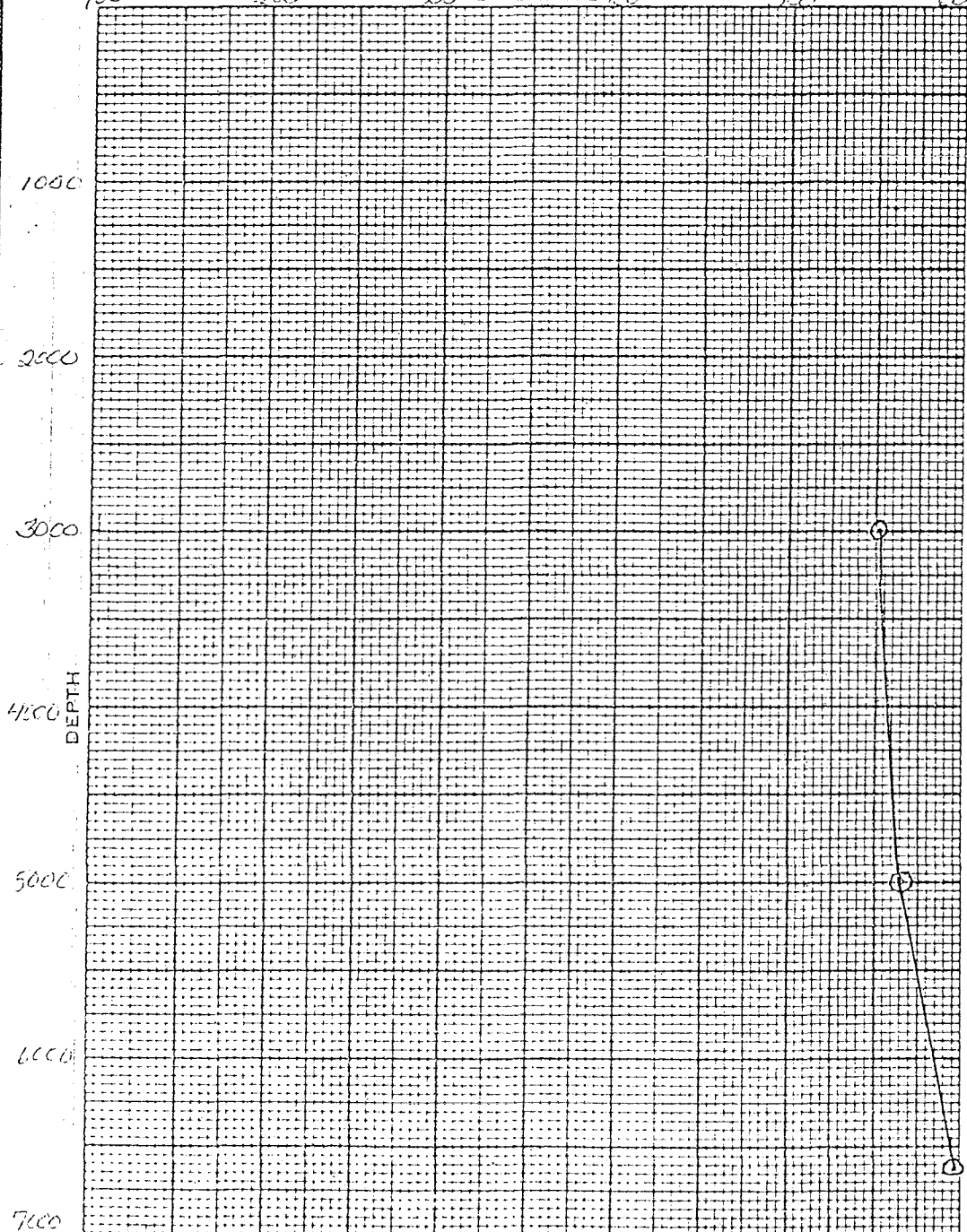
S 29

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME B 11
 CASING _____ ELEV 8600' DATE: 3/28/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 10'
 _____ DEPTH 6666'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FA: _____
 SERIAL NO 7198

PURPOSE Temperature Bomb Check MAX TEMP 599.0 °F @ 6654
 REMARKS: Tandem Temperature (clock did not operate on first test)

100 200 300 TEMPERATURE 400 500 600
 STABILIZATION PERIOD _____



PRESSURES.	GAUGE	BOMB
CASING, PSI		
DEPTH	TEMP.	DEPTH
0	0	0
3000	551.2	.184
5000	556.8	.003
6654	599.0	.026

Dr. John M

76

UNION

B11 - S 26 - T/T

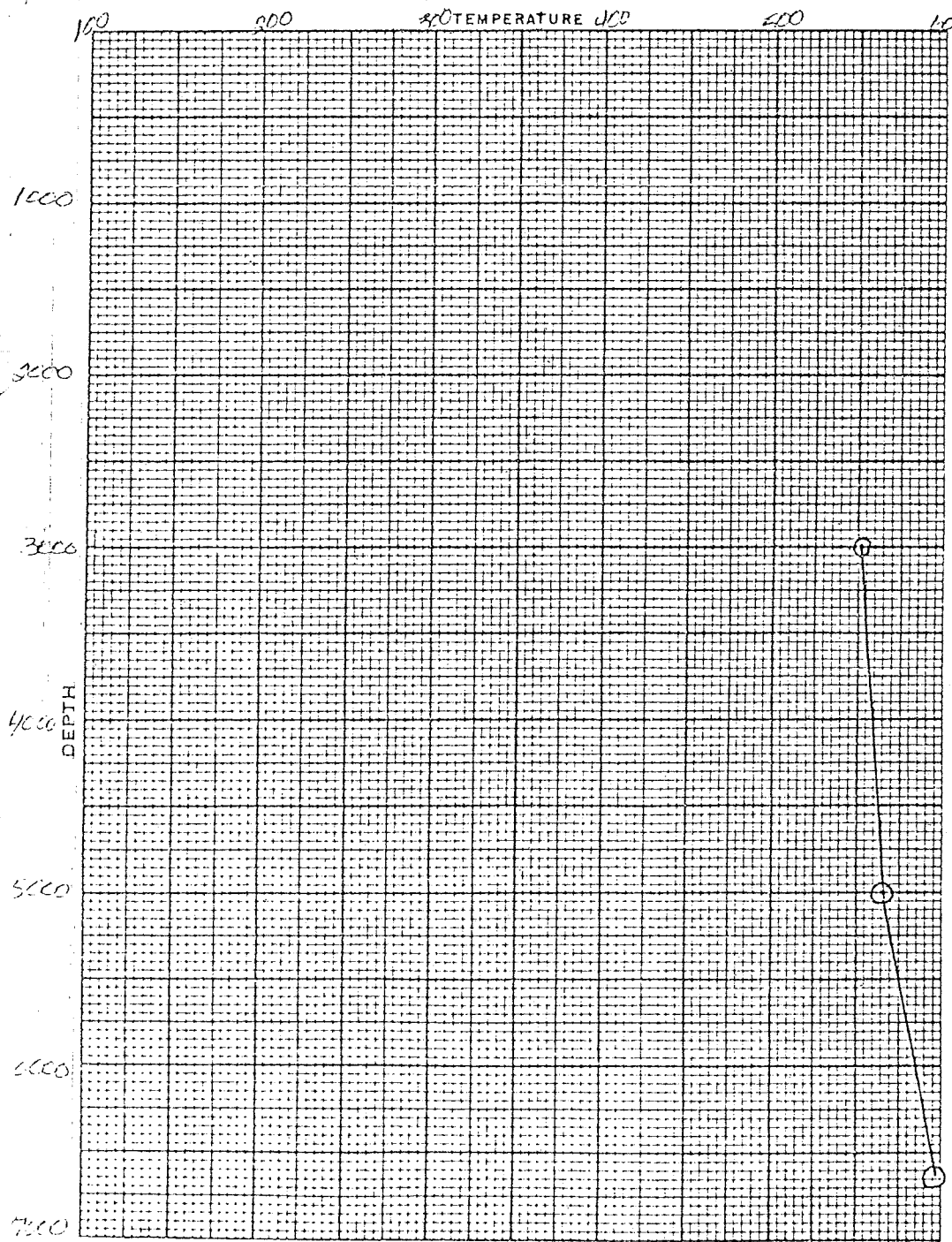
GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME B11
 CASING _____ ELEV 8600' GL DATE: 3/27/74
 LINER DESCRIPTION: _____ ZERO POINT GL +10'
 _____ DEPTH 6666'

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAH
 _____ SERIAL NO T10036

PURPOSE Temperature Bomb Check MAX TEMP 596.9 °F @ 6654'
 REMARKS: Tandem Temperature



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOUND
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
		Grad	
0	0	0	
3000	551.5	.184	
5000	565.1	.007	
6654	596.9	.019	

BY: _____

76

U1117911

GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B11-525-P/P

OWNER Union Oil Co. of Calif.

FIELD Valle Grande

WELL NAME B11

CASING

ELEV

8600'

DATE

3/26/74

LINER DESCRIPTION:

ZERO POINT

GLT-10

DEPTH

6666

HOLE DESCRIPTION:

INSTRUMENT 4850 PSI
SERIAL NO 7198

PURPOSE Pressure Bomb Check (Well Shut in)

MAX TEMP 1254.43°F @ 6654

REMARKS: Tandem Pressure

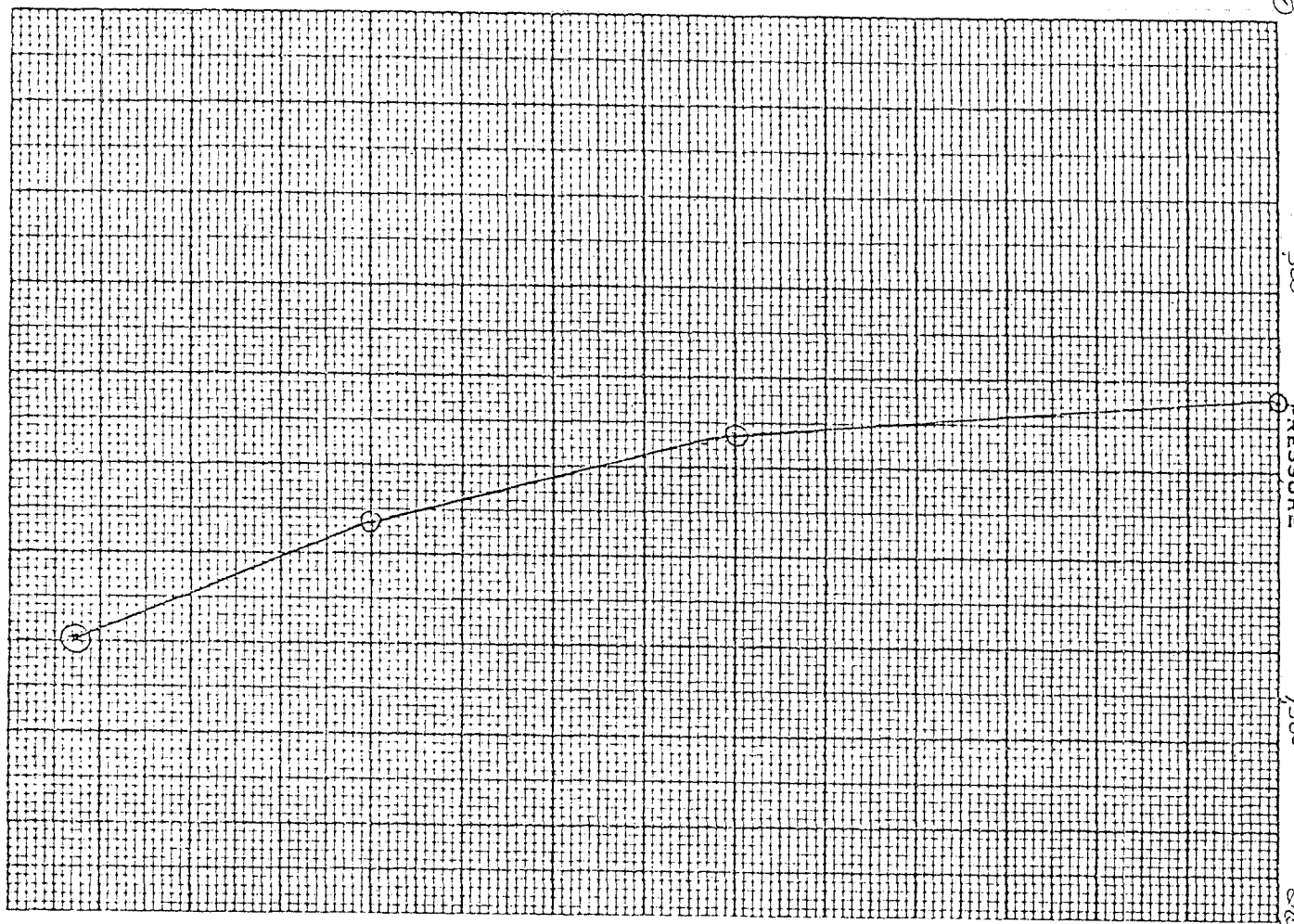
500

PRESSURE (psi)

1500

3000

STABILIZATION PERIOD



PRESSURE	GAUGE	BOMB
CASING PSI	850	

DEPTH	PRESSURE	GRADIENT
0	941.77	
3000	934.49	.0302
5000	1125.0	.0963
6654	1389.83	.1601

BY: John M.

GEOHERMAL DIVISION

B11-525-PIP

SUBSURFACE PRESSURE SURVEY

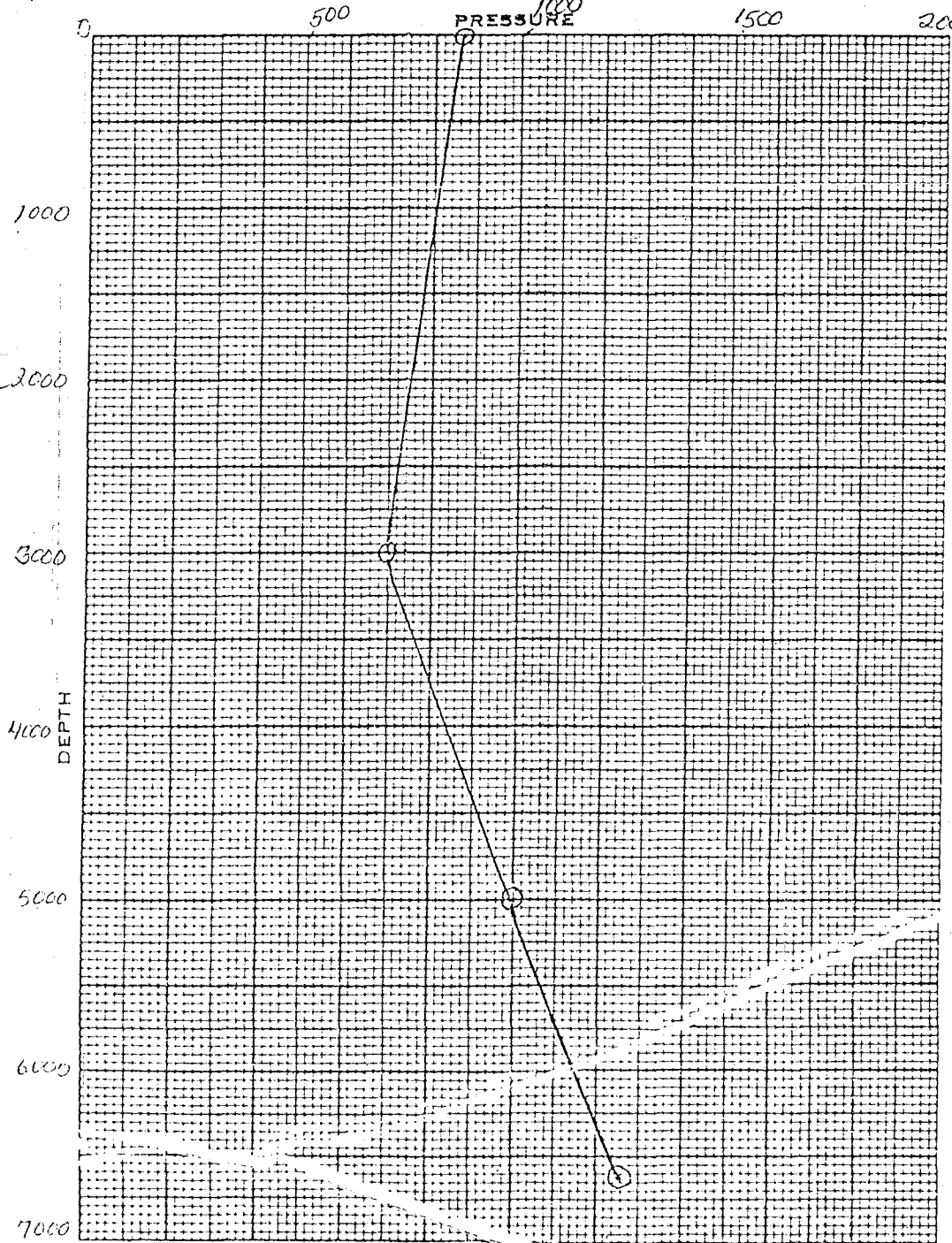
76

OWNER Union Oil Co. of Calif FIELD Valle Grande WELL NAME B 11
 CAGING _____ ELEV 8600 DATE 3/26/74
 LINER DESCRIPTION: _____ ZERO POINT GL+10
 _____ DEPTH -6666

HOLE DESCRIPTION: _____

 INSTRUMENT 4250 PSIC
 SERIAL NO 9235

PURPOSE Pressure Bomb Check MAX TEMP _____ °F @ _____
 REMARKS: Tandem Pressure (Well Shut in)



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI	850	

DEPTH	PRESSURE	GRADIENT
0	861.68	
3000	789.49	-0.240
5000	994.92	.1027
6654	1254.43	.1569

BY: John M.

76

UNION 76

GEO THERMAL DIVISION

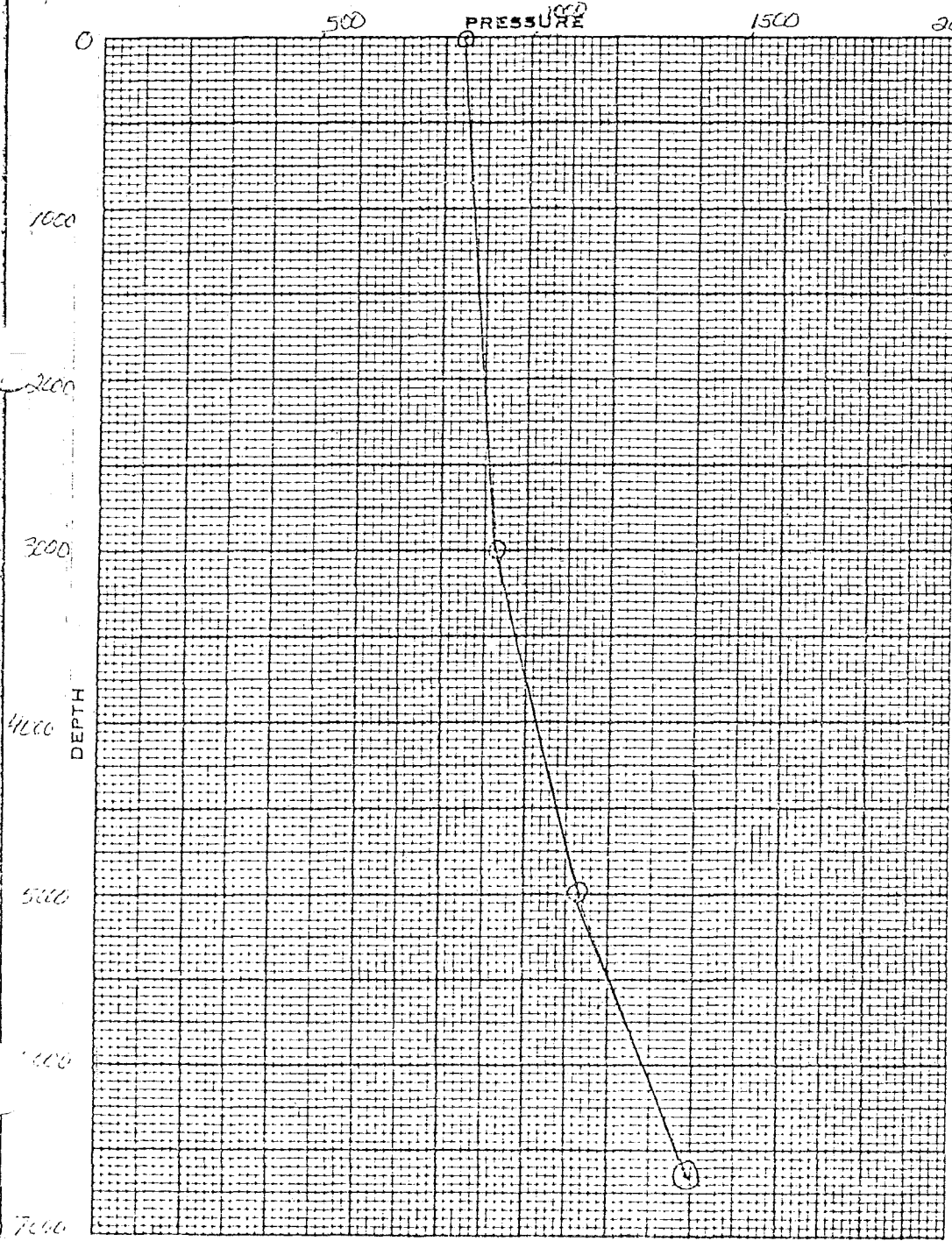
SUBSURFACE PRESSURE SURVEY

B-11-524- P/T

OWNER UNION OIL of CALIF. FIELD Valle Grande WELL NAME BACA #11
 CASING _____ ELEV 8600 GL DATE 3/26/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 10'
 _____ DEPTH 6666

HOLE DESCRIPTION: _____ INSTRUMENT _____ PSIC _____
 _____ SERIAL NO 7198

PURPOSE Bottom Hole Shut in Pressure MAX TEMP 596.9 °F @ 6654'
 REMARKS: _____



BY: John M.

76

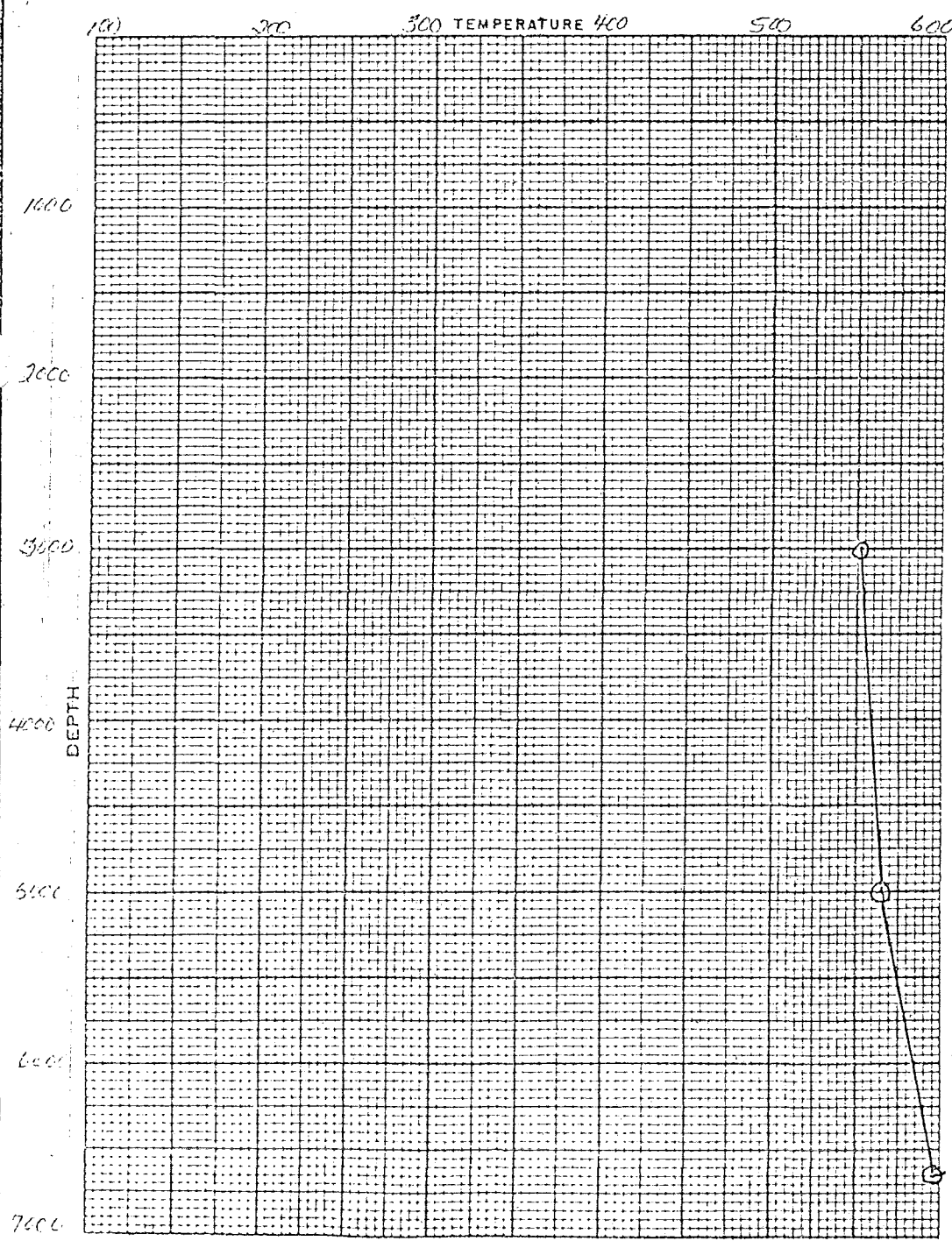
UNION

GEOTHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

B11-524-PIT

OWNER Union Oil Co. of California FIELD Valle Grande WELL NAME B 11
 CASING _____ ELEV 8600 DATE 3/26/74
 LINER DESCRIPTION: _____ ZERO POINT GL + 10
 _____ DEPTH 6666
 HOLE DESCRIPTION: _____ INSTRUMENT _____
 _____ SERIAL NO _____
 PURPOSE Build Up MAX TEMP 596.9 °F @ 6654'
 REMARKS: _____

STABILIZATION PERIOD



PRESSURES	GAUGE	SOUND
CASING PSI	850	

DEPTH	TEMP.	DEPTH	T.S.
3000	551.8		Grad.
5000	565.9		.0071
6654	596.9		.0187

BY: John M.

76



GEOHERMAL DIVISION S-22

S-23

SUBSURFACE SURVEY

Field Work Sheet

(#13)

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca #11
 CASING 94'-20', 9 7/8" From 1215'-3310' ELEV. DATE: 3-20-74
 LINER DESCRIPTION: 7" Slotted Liner 3320' - 6920' ZERO POINT GL + 7'
Perfs 3488' - 4245', 4288' - 6617', 6699' - 6928' DEPTH 6664' S-6654

TUBING DETAIL:

PURPOSE TAN Pressure & Temperature Gradient comparison

REMARKS: SM signifies first run SN signifies second run

ELEMENT	SM P	SN P	SERIAL NO.	CLOCK	TURN	STABILIZATION PERIOD
ENGAGE STYLUS	SN P-1322	SM P-0936	DISENGAGE STYLUS	SN P-1453	SM P-1233	

WELL HEAD SN-950PSIG

PICKUP 0 TIME ON BOTTOM SN-13M:11 MAX. *F

WELL STATUS Static

SHUT IN: 1430 hrs 2-25-74 ON PRODUCTION:

RATE :

PRESS B-11-SN-TP

TEMP. B-11-SM-TP

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
1338	0'	.349	.001	.755,27*								1045	0	0*				
	300'	.432	.002	.930,39*		B-11 SM-TP	3-20-74					1012	1000	0*				
	5000'	.524	.002	1.125,00*		Pressure Chart Burnt Up, Not Available						1029	2000	.262*				
1435	6654'	.643	.001	1.377,12*								1040	3000	1.160*				
						B-11 SN-TP	3-20-74					1052	4000					
						Pressure chart information. Temp. Chart Can not Be Found in						1111	5000					
						worthless without temp with rest of charts, information						1125	6000					
						information. No temp data Not Available						1135	6000					
						available within reasonable						1135	6000					
						time proximity to apply						1135	6000					
						* Press. correction temps taken from												
						Survey FL on 3-16-74 This is the												
						only temp info. available,												
						= Using these temps for												
						correction the results are												
						very doubtfully not accurate												
						* I did not graph these results												

COMMENTS: IMPOSSIBLE to make any reasonable correlations from the given data

BY: S.A. Davies

76

UNION 76

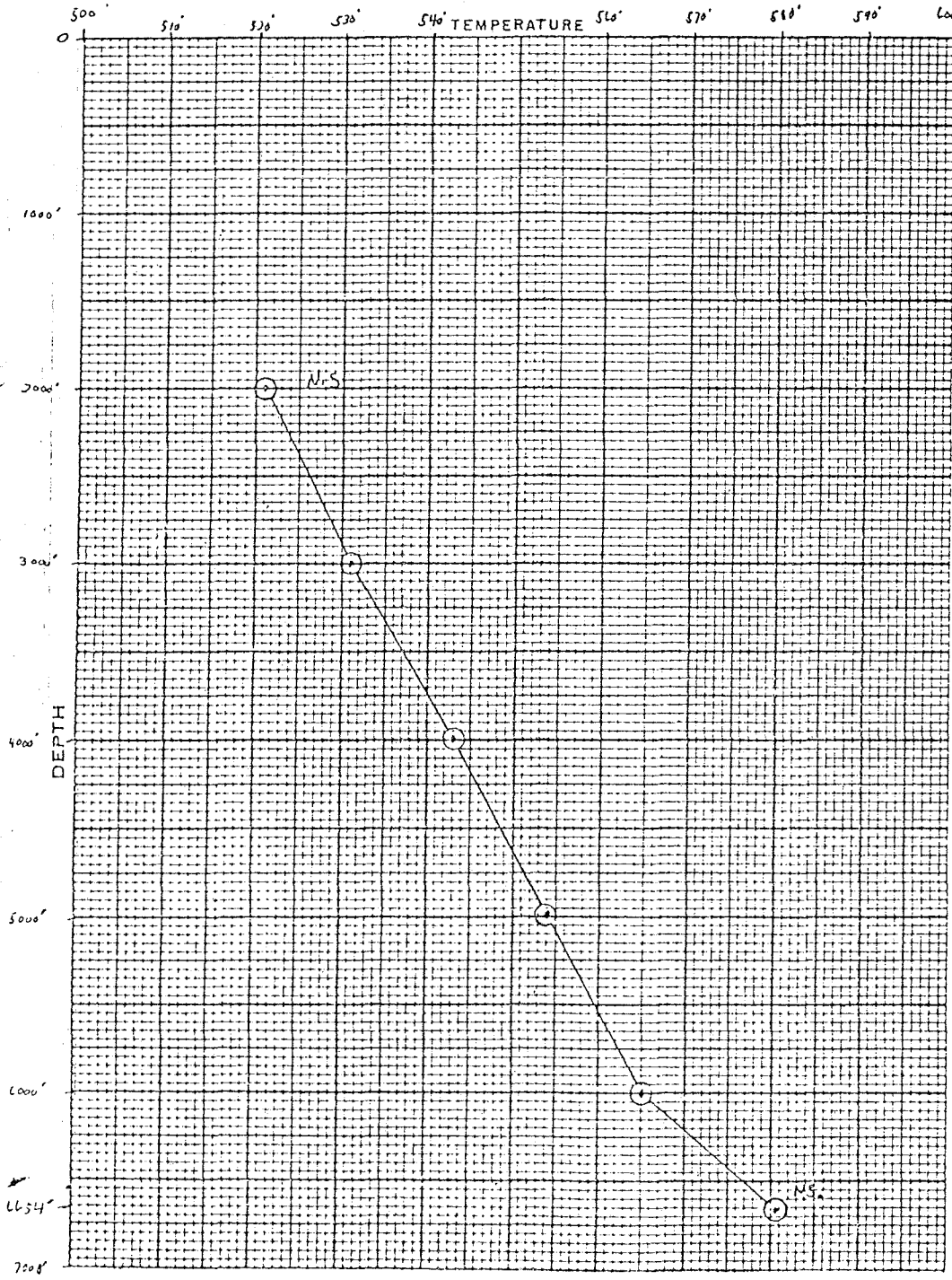
GEOHERMAL DIVISION
SUBSURFACE TEMPERATURE SURVEY

B11-521-PT

OWNER UNION OIL Co of Calif. FIELD Valle Grande WELL NAME Baca # 11
 CASING 94'-20", 9 1/2" from the back 1218'-3350' ELEV 9064 DATE: 3-16-74
 LINER DESCRIPTION: 7" Slotted Liner 3320'-6926' ZERO POINT GL + 7'
Perfs 3493'-4245'; 4288'-4417', 4499'-4928' DEPTH 6654 Survey 6654

HOLE DESCRIPTION: _____
 INSTRUMENT 300'-730' F FAH: _____
 SERIAL NO 10036

PURPOSE Gradient Survey MAX TEMP. 580.4 °F @ 6654'
 REMARKS: Cannot extrapolate Backwards on graph (temp at 0' is Ambient)



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING PSI	849	

DEPTH	TEMP. °F	DEPTH	TEMP.
0	AMBIENT		
1000	NS		
2000	521.4 NS		
3000	531.3		
4000	543.5		
5000	553.9		
6000	565.1		
6654	580.4 NS		

NS. Not Stable

BY: S. A. Davies

76

UNION

GEO THERMAL DIVISION

B11-521-PT

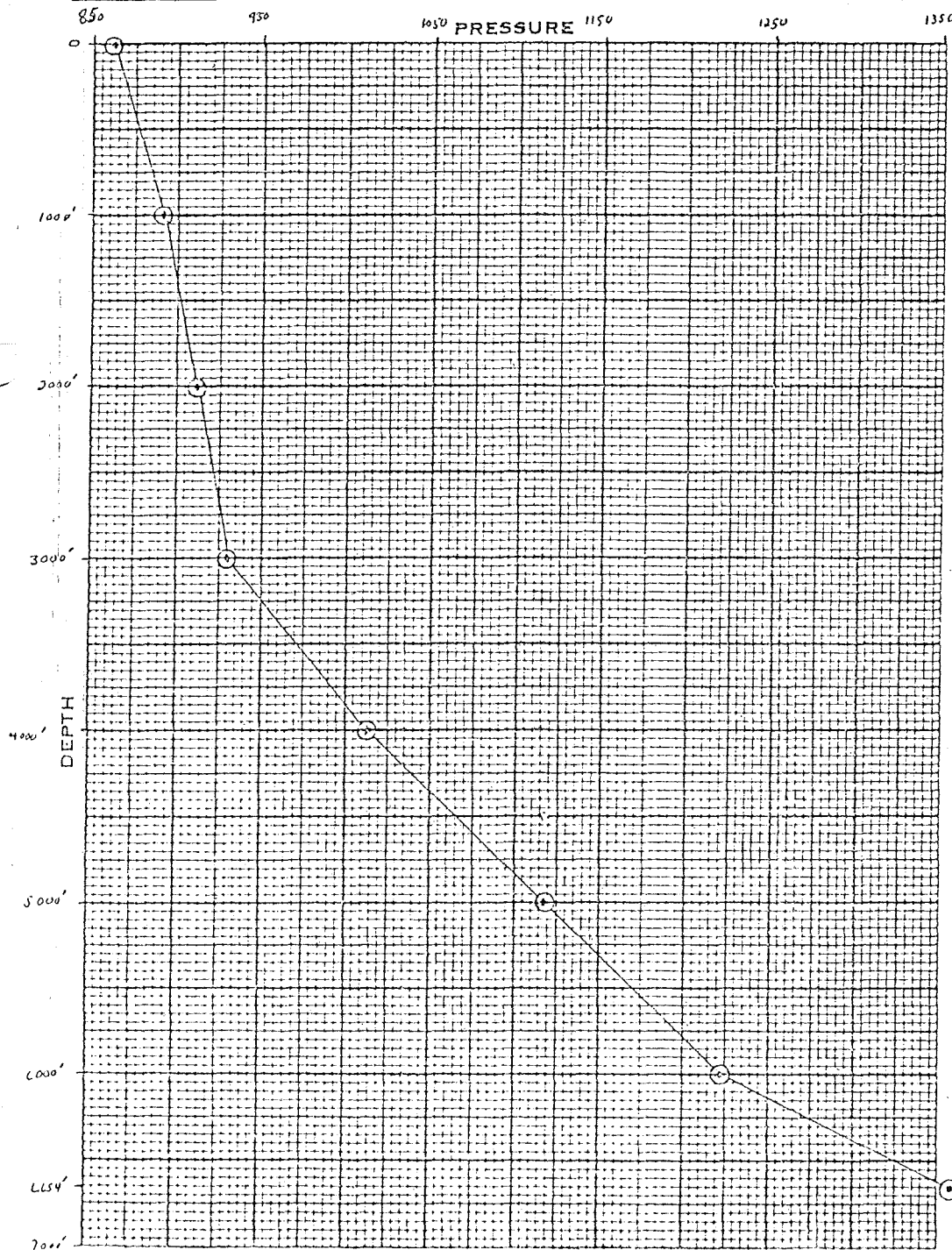
SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca # 11
 CASING 94'-20", 9 5/8" frontieback, 12 1/8"-3360' ELEV 9064 DATE 3-16-74
 LINER DESCRIPTION: 7" Slotted Liner 3320'-6926' ZERO POINT GL +7'
Perfs 3459'-4245', 4259'-6617', 6699'-6928' DEPTH 6654 Survey 6654

HOLE DESCRIPTION: _____
 INSTRUMENT 2550 PSI
 SERIAL NO 9235

PURPOSE Gradient Survey MAX TEMP 580.4 °F @ 6654

REMARKS: _____
 STABILIZATION PERIOD S.I. 1430 hrs 2-25-74



PRESSURE	GAUGE	BOMB
CASING, PSI	849	861.68

DEPTH	PRESSURE	GRADIENT
		PSI/FT
0	861.68	
1000	892.13	.03045
2000	912.44	.02031
3000	930.20	.01776
4000	1013.92	.0827
5000	1116.46	.1025
6000	1222.0	.1055
6654	1365.82	.1438

BY: S.A. Davis

76

UNION OIL
GEO THERMAL DIVISION B11-520-P1

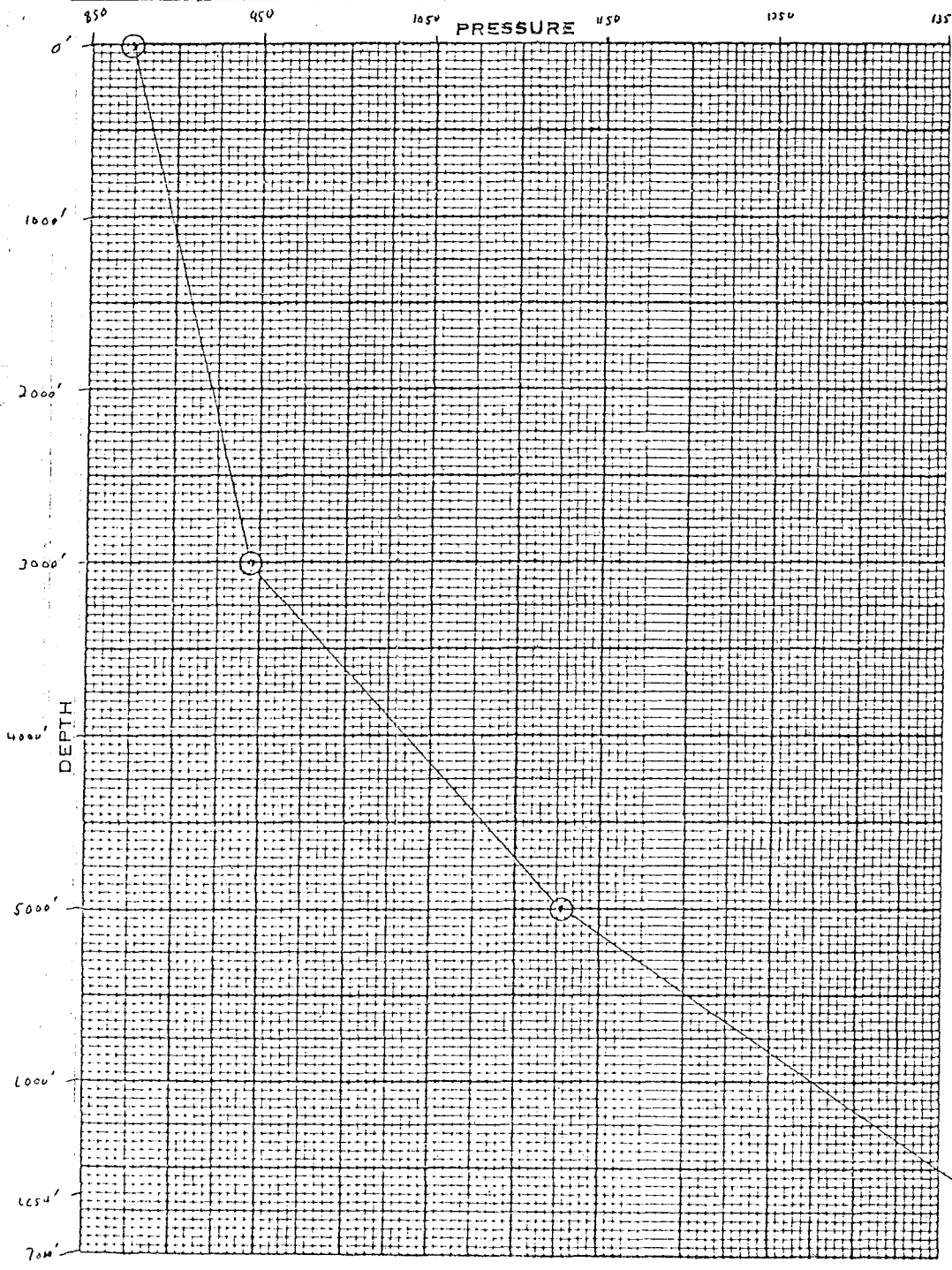
SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL Co of Calif. FIELD Valle Grande WELL NAME Baca # 11
 CASING 94'-20", 9 5/8" from tie back 1215'-3380' ELEV 9064' DATE 3-15-74
 LINER DESCRIPTION: 7" Slot + 0 Liner 3320'-6920' ZERO POINT GL + 7
Perfs 2485'-4245', 4285'-6617', 6690'-6925' DEPTH 6664 5-6654

HOLE DESCRIPTION: _____

 INSTRUMENT 2550 PSI
 SERIAL NO 9235

PURPOSE Gradient Survey MAX TEMP _____ °F @ _____
 REMARKS: Temp. for Press. corrections taken from Survey PL on 3-16-74



STABILIZATION PERIOD		
PRESSURES.	GAUGE	BOMB
CASING, PSI	849	974
DEPTH	PRESSURE	GRADIENT
0'	874.37	Psi/ft
3000'	945.43	.07106
5000'	1127.85	.1824
6654'	1374.75	.2519

BY: S.A. Davies

76

UNION

GEO THERMAL DIVISION

B11-58-T

SUBSURFACE SURVEY

Field Work Sheet

(#10)

OWNER Union Oil Co. of Calif FIELD Valle Grande WELL NAME Baca #11
 CASING ELEV. 9264' DATE: 3-14-74
 LINER DESCRIPTION: ZERO POINT GL + 7'
 DEPTH 6664 S-6654

TUBING DETAIL:

PURPOSE

REMARKS: Gradient survey

ELEMENT 300°-736° SERIAL NO. 10036 CLOCK 12 hr - 12889 TURN STABILIZATION PERIOD
 ENGAGE STYLUS 1048 DISENGAGE STYLUS 1548
 WELL HEAD 847 PSIG
 PICKUP @ 1511 hrs - 6654' TIME ON BOTTOM 1 hr. MAX. °F
 WELL STATUS Static
 SHUT IN: 1430 hr 2/25/74 ON PRODUCTION:
 RATE

TEMP.

TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	
0-1120	0'																	
2-71200																		
4-29200																		
2-1234	3200																	
14-1214	4000																	
15-1340	5200																	
2-1425	6000																	
1-1511	6654																	

Ch. not
 no
 good

COMMENTS: Stylus did not react properly.

BY: [Signature]

76

GEOTHERMAL DIVISION

B11-S18-P

SUBSURFACE PRESSURE SURVEY

OWNER UNION Oil Co. of Calif FIELD Valle Grande WELL NAME Baca #11
 CASING 94'-20", 9 5/8" front/back 1215'-3360' ELEV 9064 DATE 3-13-74
 LINER DESCRIPTION: 7" Slotted Liner 3320'-C926' ZERO POINT 7' a.g.l.
Perfs 3488'-4245', 4285'-4417', 4699'-C926' DEPTH 6664 Survey 6654

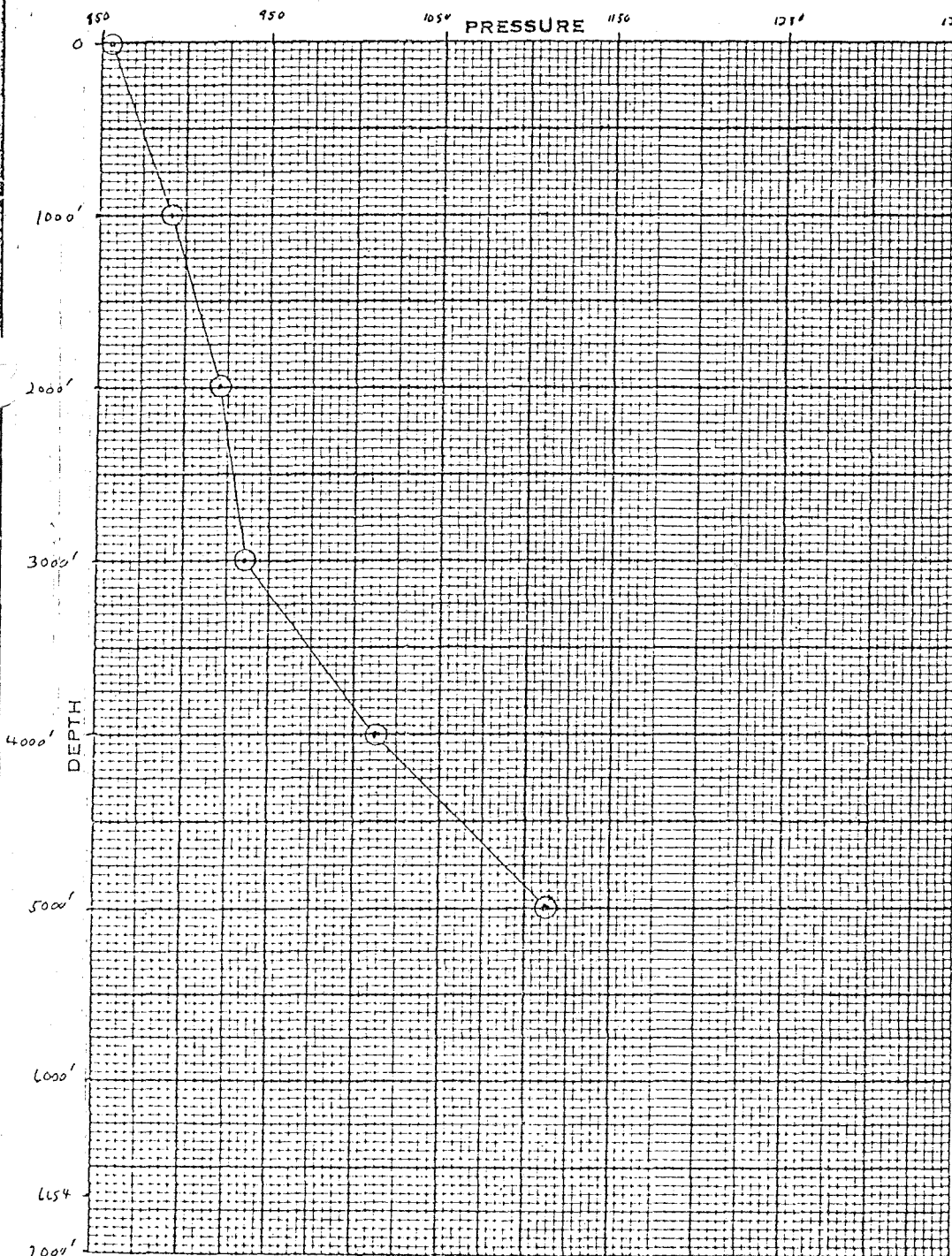
HOLE DESCRIPTION:

INSTRUMENT 2550 PS
 SERIAL NO 9235

PURPOSE Static Stabilization - Pressure Correlation

MAX TEMP _____ °F @ _____

REMARKS:



PRESSURES.	GAUGE	BOMB
CASING, PSI	846	

DEPTH	PRESSURE	GRADIENT
0'	955.33	Psi/Ft
1000'	892.13	.0368
2000'	820.05	.0279
3000'	736.55	.0165
4000'	613.90	.0771
5000'	415.19	.1012

BY: S.A. Davies

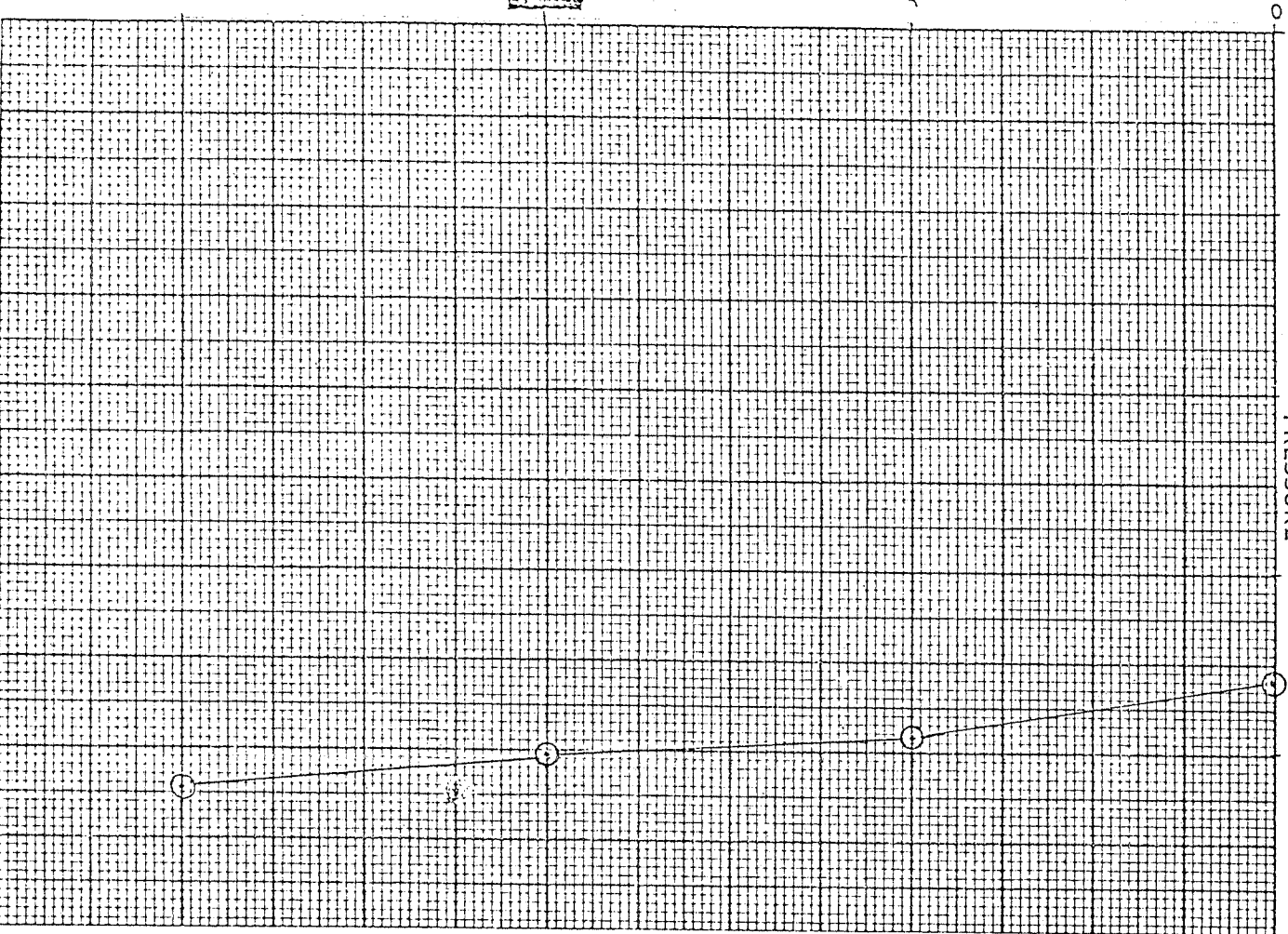
76

UNION
GEOHERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

B11-S15-P

OWNER UNION OIL Co of Calif. FIELD Valle Grande WELL NAME Bacca #11
 CASING 9 7/8" from top back 4218'-5380' ELEV 3306'-6926' DATE 2-28-74
 LINER DESCRIPTION: 7" Steelrod Liner ZERO POINT 10' A.G.L.
P.c.f.s 3485'-4245', 4355'-4417', 4699'-4928' DEPTH 5-6650
 HOLE DESCRIPTION: _____
 INSTRUMENT P-4250 7519 PSI
I-300F-2267E
 SERIAL NO P-7198 T-10036
 MAX TEMP 510.8 °F @ 6650'
 STABILIZATION PERIOD 3 hrs

PURPOSE Bottom hole build up @ 6550'
 REMARKS: _____



PRESSURES.	GAUGE	BOMB
CASING. PSI	696	
TIME	PRESSURE	GRADIENT
0	1072.03	0
1 hr	1074.39	6.36
2 hr	1080.51	7.12
3 hr	1084.25	7.24

BY: S.A. Davies

76

UNION

GEOTHERMAL DIVISION

B11-514-PT

SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL Co of Calif. FIELD Valle Grande WELL NAME Baca # 11
 CASING 9 1/2" - 20', 9 5/8" From tie back DIS 1218' - 3380' ELEV 9300' DATE 2-27-74
 LINER DESCRIPTION: 7" Slotted Liner 3320' - 6963' ZERO POINT 10' AGL
Perfs 3488' - 4245', 4388' - 6617', 6699' - 6928' DEPTH Sur - 6650'

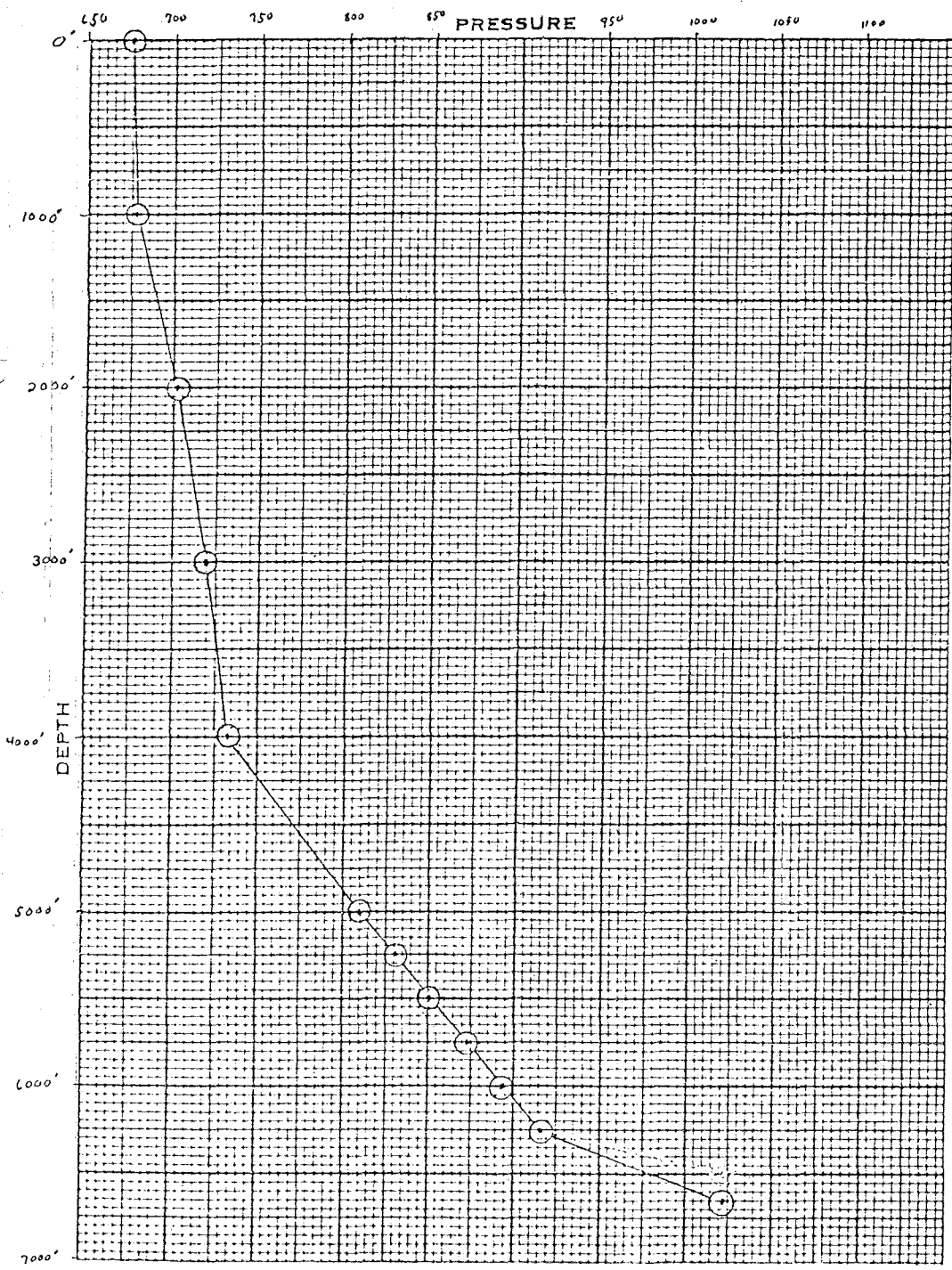
HOLE DESCRIPTION: _____

INSTRUMENT 4250 PSI
 SERIAL NO 7198

PURPOSE Gradient Survey

MAX TEMP 508.4 °F @ 5660' - TD

REMARKS: Deviation for 1st 2 stops taken from top of Survey S-D 2-27-74



STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI	675	-

DEPTH	PRESSURE	GRADIENT
0	675 gauge	lb/Ft
1000	702.53	.0020
2000	719.41	.0025
3000	734.18	.0160
4000	750.13	.0147
5000	763.22	.0759
5250	780.21	.0840
5750	813.42	.0912
6000	844.51	.0984
6250	875.61	.0984
6650	1021.19	.261

BY: S. A. Davies

76

UNION

GEOHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

B11-514-PT

OWNER UNION OIL Co of Calif FIELD Valle Grande WELL NAME Baca #11
 CASING 94'-20", 9 1/2" from tie back 1215'-3390' ELEV 9300' DATE 2-27-74
 LINER DESCRIPTION: 7" Slotted Liner 3320'-6926' ZERO POINT 10' AGL
Perfs 3485'-4245', 4259'-6617', 6699'-6926' DEPTH 5-6650'

HOLE DESCRIPTION:

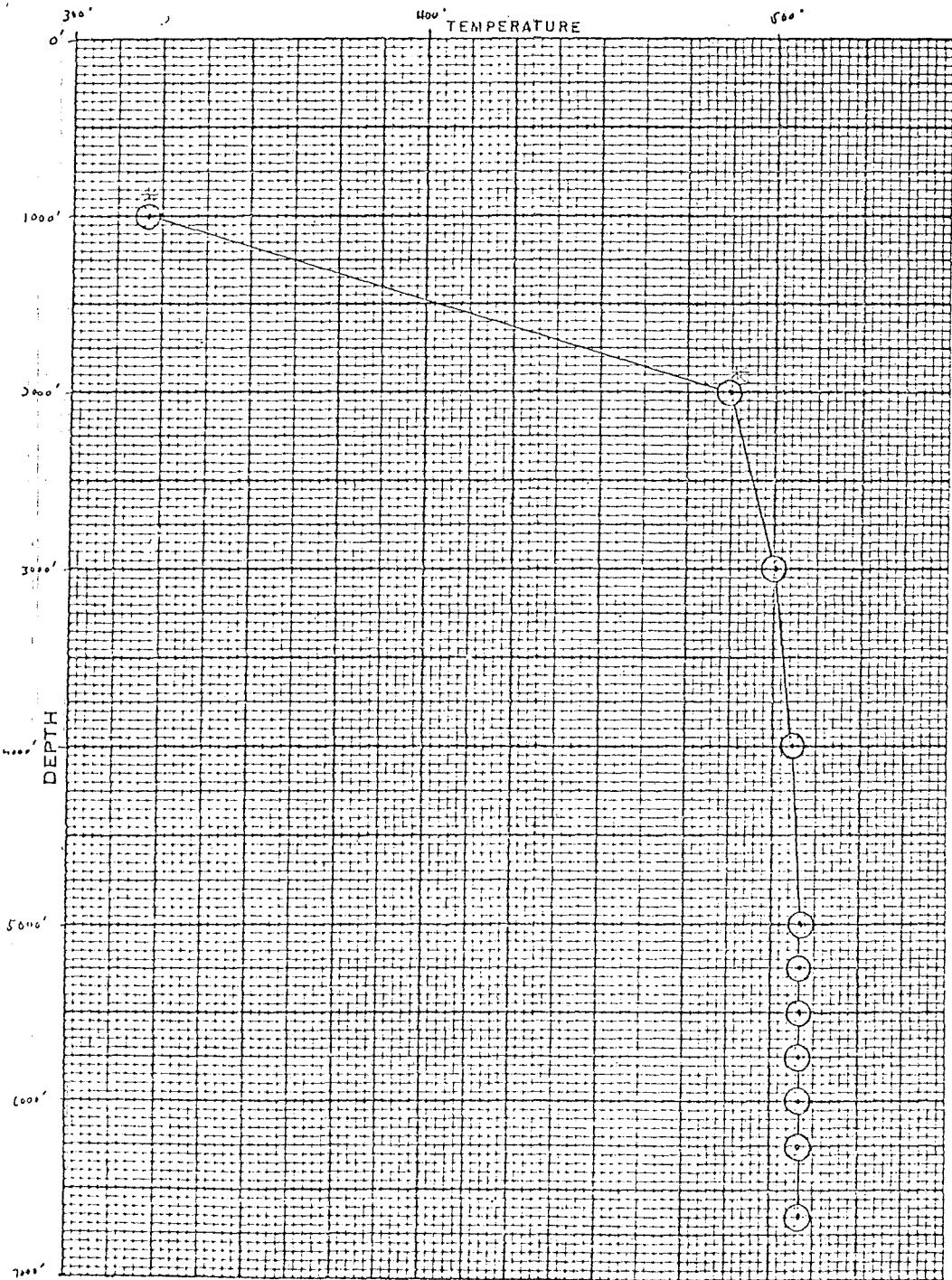
INSTRUMENT 300'-736' FAH
 SERIAL NO 10036

PURPOSE Gradient Survey

MAX TEMP 508.4 °F @ 6000'-7 D

REMARKS: * First two steps taken from Survey S-D 2-27-74

STABILIZATION PERIOD



PRESSURES	GAUGE	BOMB
CASING PSI	475	

DEPTH	TEMP.	DEPTH	TEMP.
1000	321.0		
2000	467.1		
3000	500.6		
4000	505.8		
5000	508.4		
5350	508.2		
5500	508.2		
5750	508.4		
6000	508.4		
6250	508.4		
6650	508.4		

BY: S. A. Davies

76

GEO THERMAL DIVISION

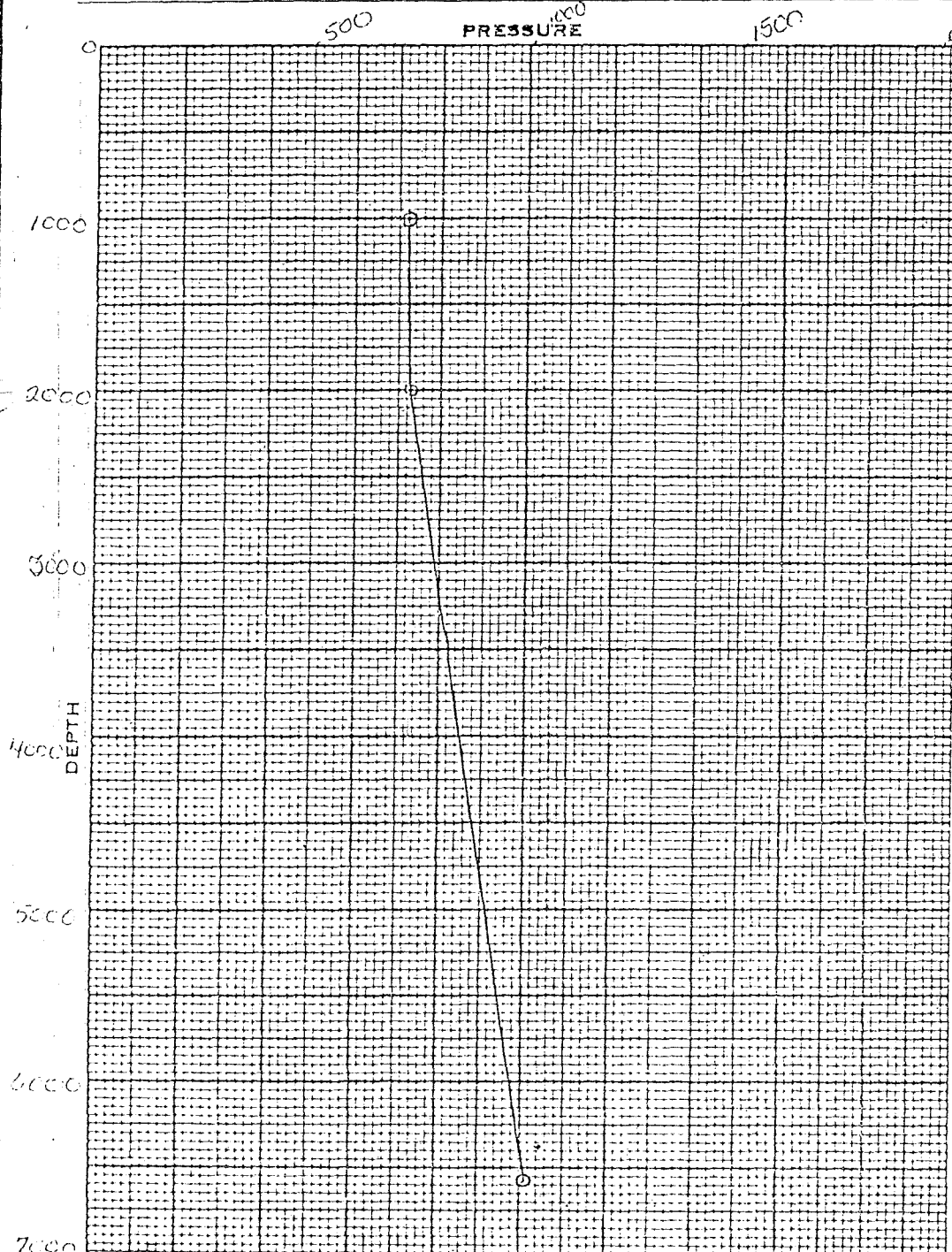
SUBSURFACE PRESSURE SURVEY

B11-5137

OWNER Union Oil Co. FIELD _____ WELL NAME BACA #11-D
 CASING 20" @ 207' 13 3/4" @ 1336' 9 5/8" @ 3320' ELEV 9065 GL DATE 2-27-74
 LINER DESCRIPTION: 7" @ 3320'-6926' ZERO POINT GL+9
 DEPTH 6650 Survey

HOLE DESCRIPTION: _____ INSTRUMENT _____ PS
 SERIAL NO 7198

PURPOSE Static Gradient Survey MAX TEMP 508.9 °F @ 6650'
 REMARKS: _____



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING PSI		

DEPTH	PRESSURE	GRADIENT
1000	735.74	
2000	727.85	.002
3000		} Clock
4000		
5000		} Stopped
6000		
6650	1016.95	.062

BY: Tam MINETTE

76

UNIT 76

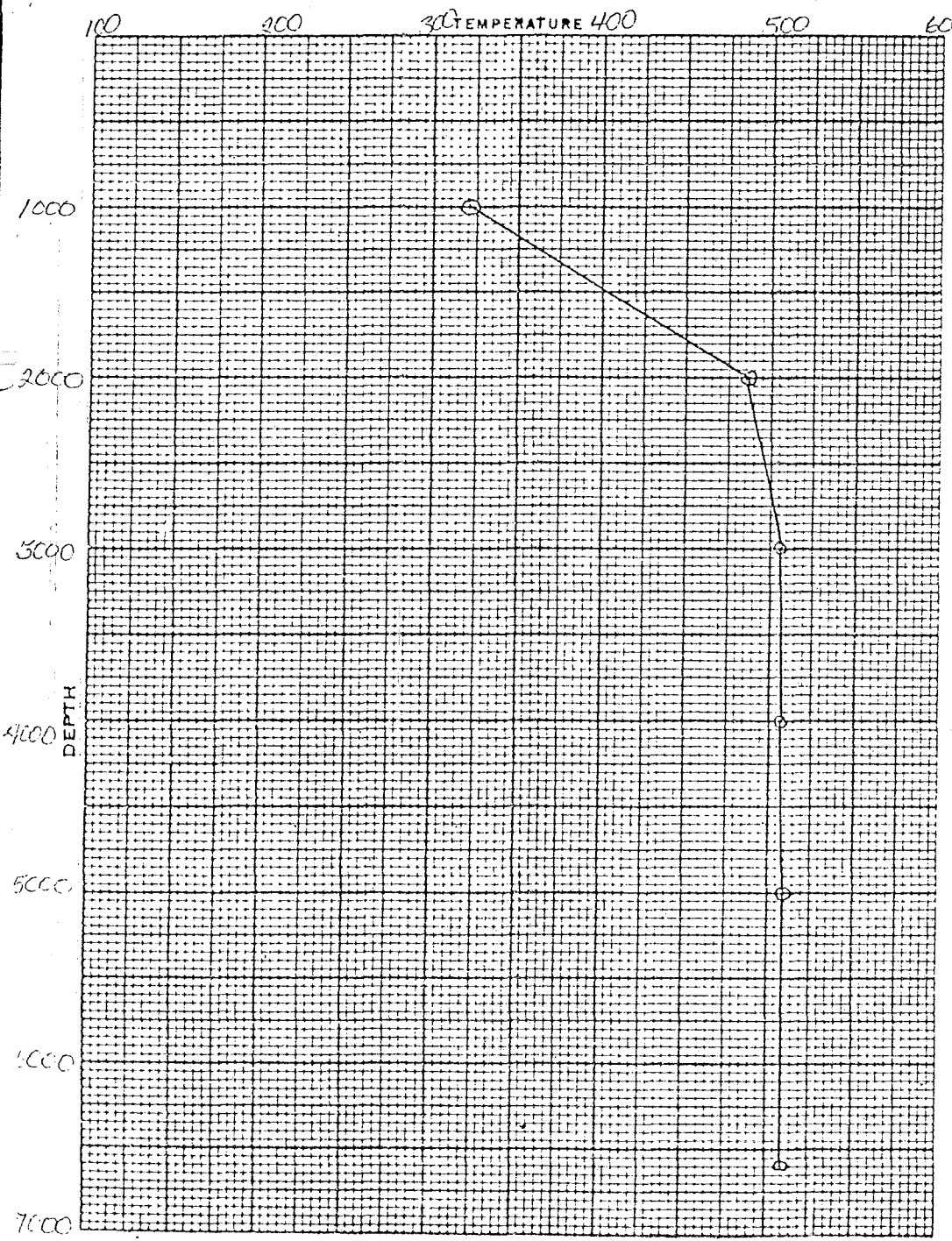
GEO THERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

B11-513 T

OWNER UNION OIL COMPANY FIELD _____ WELL NAME BACA #11-D
 CASING 20" @ 201', 13 3/8" @ 1330', 9 5/8" @ 3350' ELEV 9065' GL DATE 2/27/74
 LINER DESCRIPTION: 7" @ 3320'-1926' ZERO POINT GL + 9
 DEPTH 6650 Survey

HOLE DESCRIPTION: _____ INSTRUMENT _____ FAH: _____
 SERIAL NO 10036

PURPOSE Static Gradient Survey MAX TEMP 508.9 °F @ 6650'
 REMARKS: _____

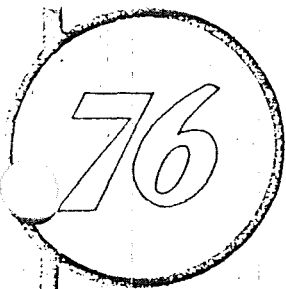


STABILIZATION PERIOD _____

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
1000	321.5		
2000	486.6		
3000	504.0		
4000	507.9		
5000	508.2		
6000	clock Stopped		
6650	508.9		

BY: Tom Minette



UNION

B11-¹²~~SC~~-TA
BH

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

(#3)

OWNER Union Oil Co. of Calif. FIELD Valle Grande WELL NAME Baha # 11
 CASING ELEV. 9300 DATE: 2-26-74
 LINER DESCRIPTION: ZERO POINT 10' AGL
 DEPTH 6666 - 542 - 6650

TUBING DETAIL:

PURPOSE Bottom hole Build-up

REMARKS:

ELEMENT T-330*-736 SERIAL NO. T-10036 CLOCK T-10535 TURN
P-4150 SERIAL NO. P-773 CLOCK P-12290 TURN

ENGAGE STYLUS P-1645 T-1635 DISENGAGE STYLUS P-610 T-0615

WELL HEAD 577 PSL

PICKUP @ 6650 - 0530 hrs TIME ON BOTTOM 12 hrs MAX. °F

WELL STATUS Shut-in - static

SHUT IN: 1430 hrs - 2/25/74 ON PRODUCTION:

RATE

TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D
<p>CHARTS</p> <p>BURNT UP</p>																	

COMMENTS:

BY: AM.

76

UNION 76.11

B11-S11-PT

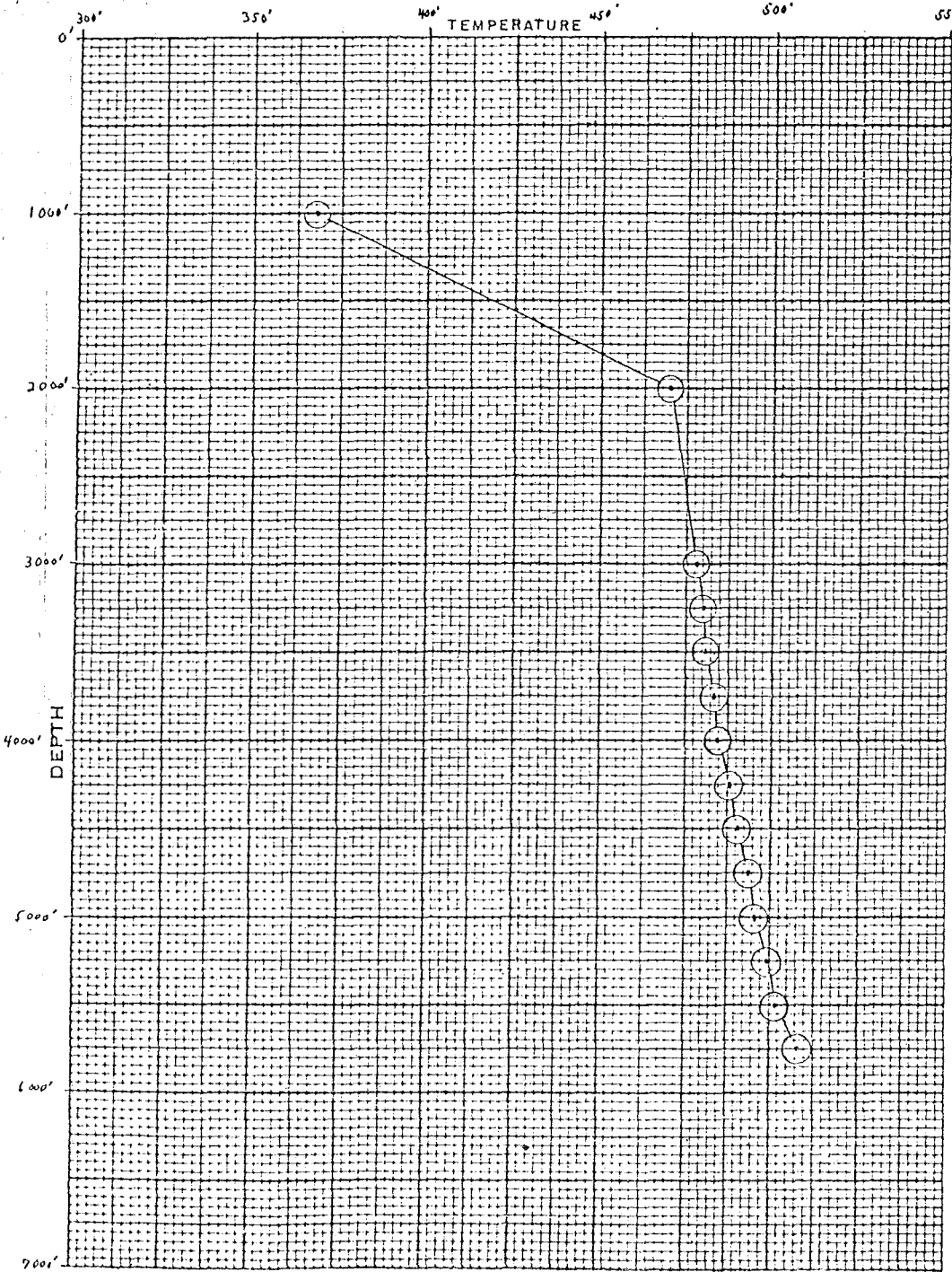
GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

OWNER UNION OIL Co. of Calif. FIELD Valle Grande WELL NAME Baca # 11
 CASING 94'-30" - 9 5/8" from tie back 1216'-3360' ELEV. DATE: 2-26-74
 LINER DESCRIPTION: 7' Slotted Liner 3320'-6926' ZERO POINT 10' AGL
Perfs 3488'-4245', 4288'-4417', 6699'-6925' DEPTH 6666'
Survey 6650

HOLE DESCRIPTION: _____
 INSTRUMENT 300'-736' FAH: _____
 SERIAL NO 10036

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



PRESSURES		GAUGE	BOMB
CASING, PSI		542	-

DEPTH	TEMP.	DEPTH	TEMP.
0'	-		
1000'	367.9		
2000'	470.5		
3000'	479.3		
3250'	486.8		
3500'	481.3		
3750'	483.5		
4000'	484.8		
4250'	488.1		
4500'	490.8		
4750'	494.0		
5000'	496.3		
5250'	499.2		
5500'	502.3		
5750'	504.9		
6000'	508.0		

BY: S.A. Davies

76

GEO THERMAL DIVISION

B11-511-PT

SUBSURFACE PRESSURE SURVEY

OWNER UNION OIL Co. of Calif FIELD Valle Grande WELL NAME Baca # 11
 CASING (94'-20') 9 1/4 From tie back 1214'-3380' ELEV. 9300 DATE 2-26-74
 LINER DESCRIPTION: 7' Slotted Liner 3320'-6920' ZERO POINT 10' A.G.L.
Perfs 3485'-4245', 4288'-6617', 6699'-6928' DEPTH 6666'
Survey 6650'

HOLE DESCRIPTION:

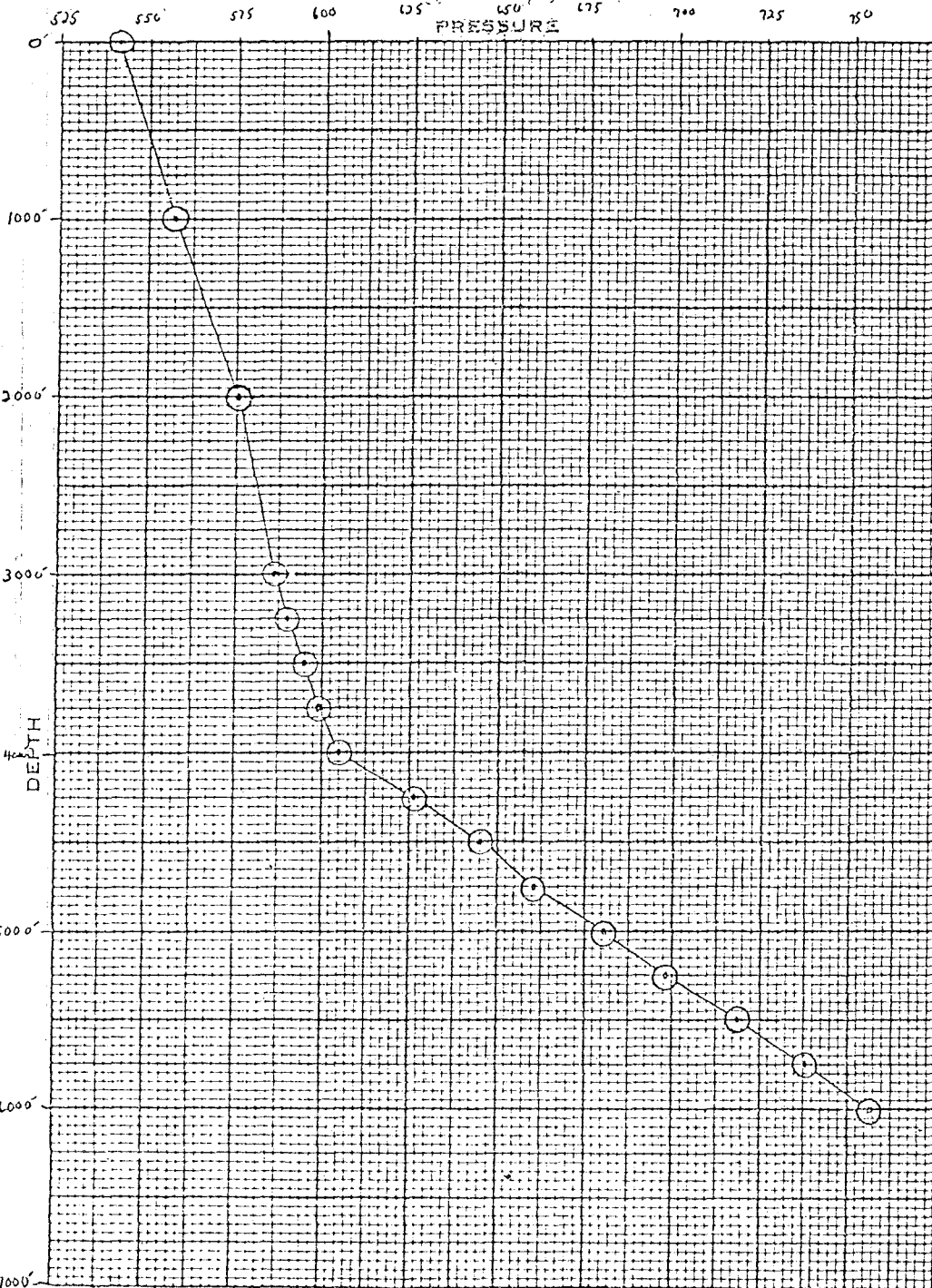
INSTRUMENT 4250 PSI
 SERIAL NO 7198

PURPOSE Gradient Survey

MAX TEMP _____ °F @ _____
 WHP 542 PSIG

REMARKS:

(PSI)



STABILIZATION PERIOD

PRESSURES.	GAUGE	BOMB
CASING, PSI	542	

DEPTH	PRESSURE	GRADIENT
Surface	542	lb/ft
1000'	559.07	.01707
2000'	575.95	.01689
3000'	596.50	.01655
3250'	590.72	.01699
3500'	594.94	.01688
3750'	599.16	.01689
4000'	605.49	.02532
4250'	626.59	.02436
4500'	645.57	.02591
4750'	660.34	.02600
5000'	681.43	.02434
5250'	698.31	.0275-
5500'	719.41	.02440
5750'	738.40	.02596
6000'	757.38	.02512

BY: S. A. Davies

76

UNION

GEOHERMAL DIVISION S-10

SUBSURFACE SURVEY
Field Work Sheet

(#1)

OWNER UNION OIL Co. of Calif. FIELD VALLE GRANDE WELL NAME Boca # 11
 CASING 94'-20" 9 (5/8) From (tie back) ¹²⁴¹⁻³³⁸⁰ ELEV. 9300 DATE: 2/25/74
 LINER DESCRIPTION: 7" Slotted Liner - 3320'-6926'; Perf's - 3488-4245, ZERO POINT 10' above G.L.
 4288'-6617', 6699'-6928'. DEPTH 6650 - Survey
 TUBING DETAIL:

PURPOSE Bottom hole survey Post Boca # 11 shut in

REMARKS:

(1430-1720)

ELEMENT ^{P-4250 P516-9188} SERIAL NO. P 7198 ^{P-1242-12891} CLOCK T-1242-10535 TURN STABILIZATION PERIOD 3 hrs
 ENGAGE STYLUS P-1652, T-1658 DISENGAGE STYLUS P-0845, T-0850
 WELL HEAD 410 PSIG CSG. Press.
 PICKUP @ 6650 @ 0700 TIME ON BOTTOM ²⁻²⁵⁻⁷⁴ 1720 ²⁻²⁶⁻⁷⁴ 0700 MAX. 'F.
 WELL STATUS Shut IN 1430
 SHUT IN: 1430 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	
5:74	6650					2-25-74												
	"	.305		662.45														
	"	.309		670.89														
7:20	"	.312		677.22														
8:00	"	.315		683.54														
8:12	"	.319		691.98														
8:20	"	.322		698.31														
8:30	"	.326		706.75														
6:77						2-26-74												
8:20	6650	.329		713.08														
8:30	"	.332		719.41														
8:40	"	.335		725.74														
8:50	"	.338		732.07														
9:00	"	.342		740.51														
clock	stopped																	

No corrections

Clock Ran Faulty

COMMENTS: The clock stopped @ ran faulty on Temp Bomb this made it impossible to read this survey with any accuracy. Ball Park figures could be plotted but they would have a high percentage error for each point.

BY: S. A. DAVIES

UNION OIL COMPANY OF CALIFORNIA
GEOHERMAL DIVISION

Foreman's Report for 1/26/74, 1974

Project: BACA #11 TEST AFE _____ WO _____

Report: _____

DEPTH	°F	#	GRAD
1000	507.2	713	-
2000	473.8	745	0.032
3000	474.5	762	0.017
3250	474.6	767	0.028
3500	474.4	776	0.022
3750	473.9	784	0.032 COST:

Project: _____ AFE _____ WO _____

Report: _____ 3900 CONTACT POINT

4000	474.0	797	0.028
4250	473.8	823	0.104
4500	473.7	850	0.068
4750	473.2	862	0.12%
5000	472.9	909	0.108
5250	473.0	934	0.100
5500	473.0	960	0.104
5750	473.0	987	0.104 COST:

Project: _____ AFE _____ WO _____

Report: _____ 6380 CONTACT POINT

6000	473.1	1018	0.132
6250	473.0	1047	0.116
6500	472.7	1106	0.236
6650	472.1	1157	0.340

1625 1/26/74

SPLIT IN 1045 1/24/74 53.67 HRS.

TEMP. RECORDER IS SUSPECT COST:

By: F. M.

76

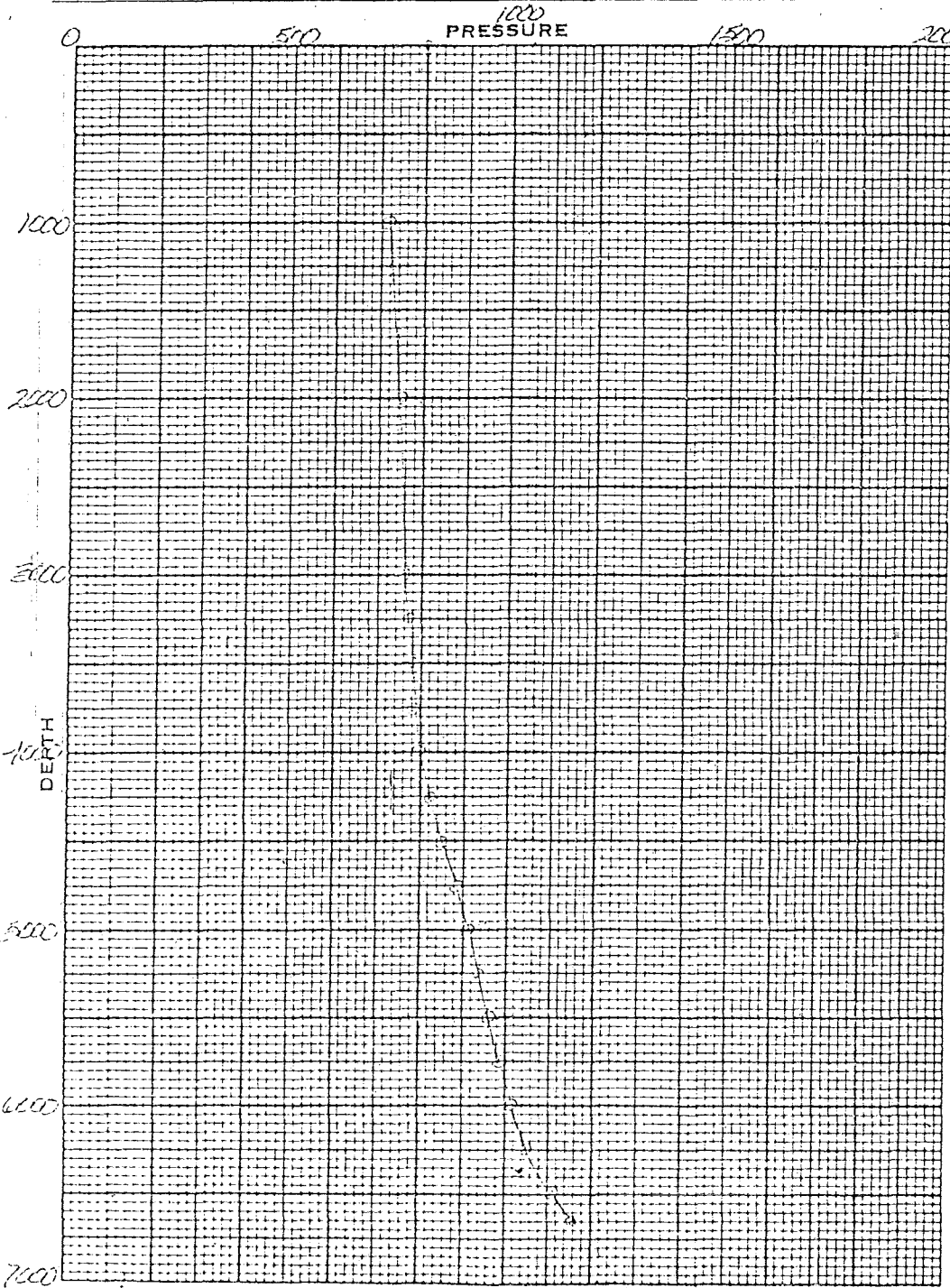
UNION GEO THERMAL DIVISION

B 11-59 PT

SUBSURFACE PRESSURE SURVEY

OWNER Union Oil FIELD _____ WELL NAME BACC No. 11
 CASING _____ ELEV 9064' GL DATE 1-26-74
 LINER DESCRIPTION: _____ ZERO POINT GL + 9'
 _____ DEPTH 6650'
 HOLE DESCRIPTION: _____ INSTRUMENT 4250 PSI
 _____ SERIAL NO KPG-7198
 PURPOSE Press GRAD following Test B11-2 MAX TEMP 474.6 °F @ 3250'
 REMARKS: _____

STABILIZATION PERIOD
SI 1045 - #1-24-74



PRESSURES	GAUGE	BOMB
CASING, PSI	750	

DEPTH	PRESSURE	GRADIENT
1000	713	
2000	745	.037
3000	762	.017
3250	769	.028
3500	776	.028
3750	784	.037
4000	791	.028
4250	823	.104
4500	850	.068
4750	882	.125
5000	919	.108
5250	939	.100
5500	960	.104
5750	987	.103
6000	1018	.132
6250	1047	.116
6500	1126	.236
6650	1157	.345

BY: TJM

76

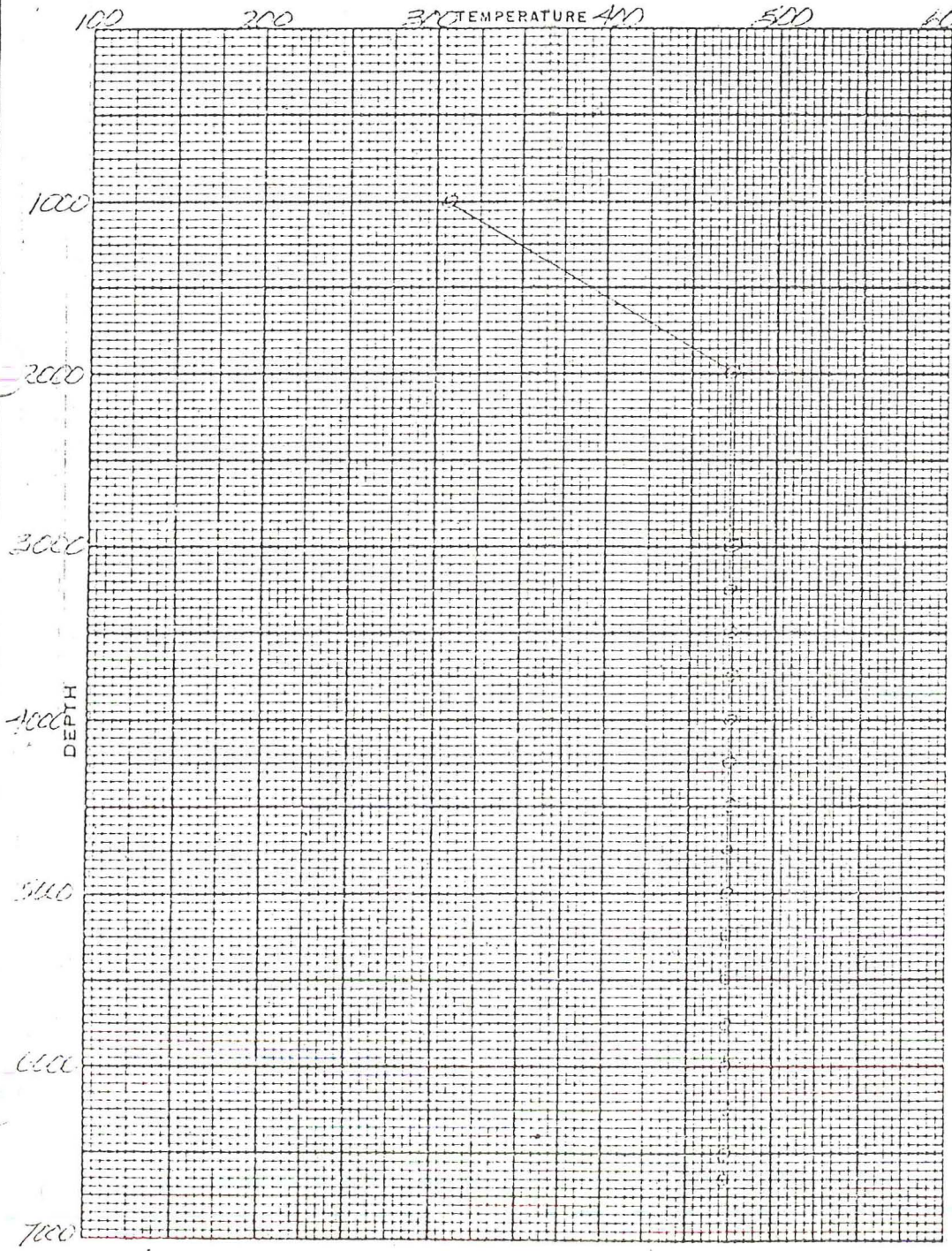
GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B 11-59PT

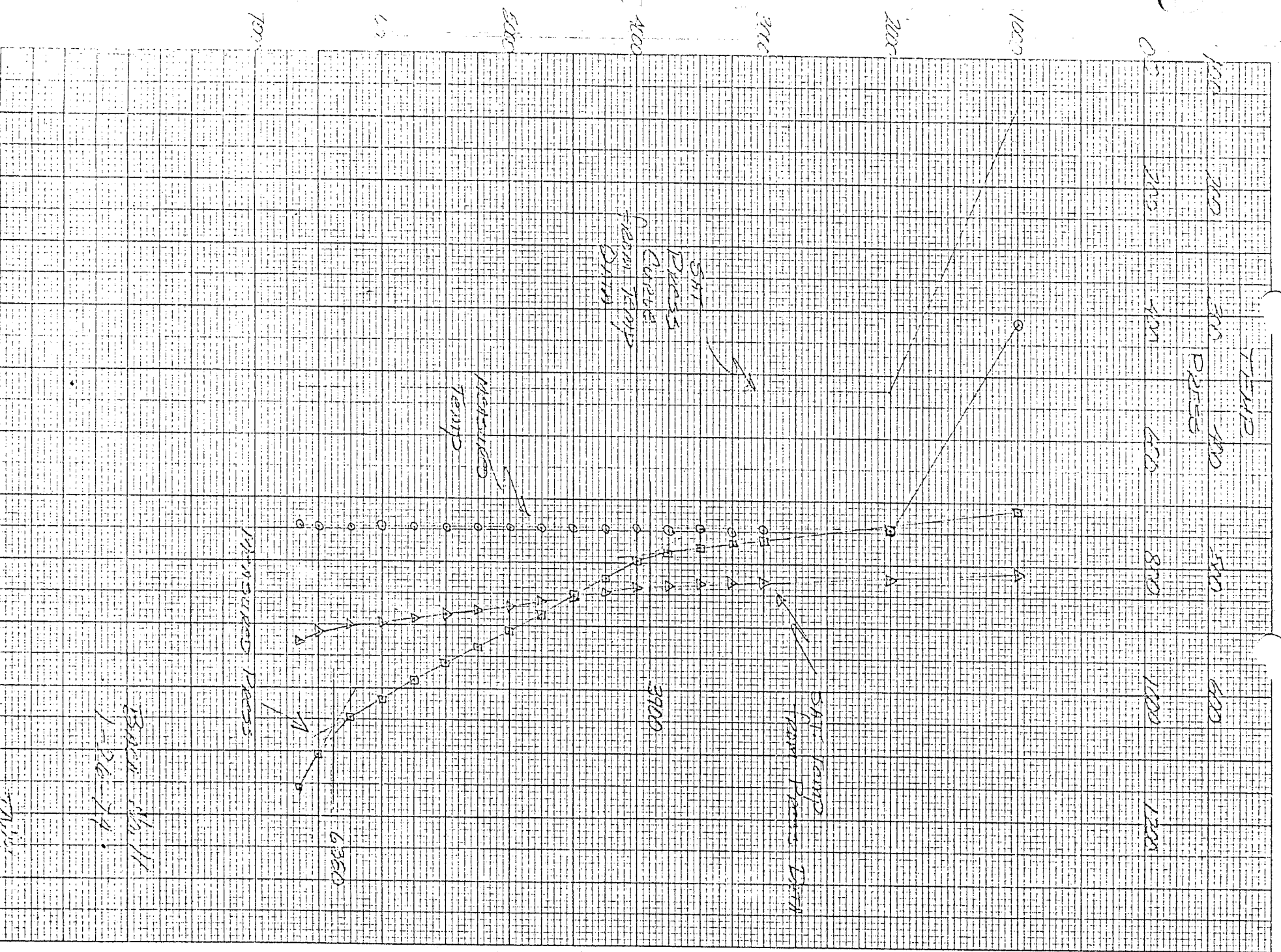
OWNER Union Col FIELD _____ WELL NAME BACA No. 11
 CASING _____ ELEV 9264' GL DATE 1-26-79
 LINER DESCRIPTION _____ ZERO POINT GL + 9'
 _____ DEPTH 6650' SURVEY
 HOLE DESCRIPTION: _____ INSTRUMENT 80-646 FAHR
 _____ SERIAL NO KTB-10052
 PURPOSE _____ MAX TEMP 474.6 °F @ 3250
 REMARKS: _____

STABILIZATION PERIOD
SI 1045 1-29-79



PRESSURES.	GAUGE	BOMB	
CASING. PSI	750		
DEPTH	TEMP.	DEPTH	TEMP.
1000	474.6		
3000	473.8		
3000	474.5		
3250	474.6		
3300	474.4		
3750	473.9		
4000	474.0		
4250	473.8		
4500	473.7		
4750	473.2		
5000	473.9		
5250	473		
5500	473		
5750	473		
6000	473.1		
6250	473		
6500	472.7		
6650	472.1		

BY: TRM



Branch No. 11
1-26-74

SHI

76

UNION

GEOHERMAL DIVISION B11-58 PT

MISRUN

SUBSURFACE SURVEY

Field Work Sheet

OWNER Union Oil Co FIELD _____ WELL NAME B11-58 PT
 CASING _____ ELEV. 906.4' GL DATE: 1-25-74
 LINER DESCRIPTION: _____ ZERO POINT GL + 9'
 _____ DEPTH 6666' 6650' SURF

TUBING DETAIL:

PURPOSE

REMARKS: Bombs dropped when pulling from hole @ 400'
100-702°F KTB-10053

ELEMENT 9592 SERIAL NO. 2500 CLOCK 13376 TURN _____ STABILIZATION PERIOD _____
13372
 ENGAGE STYLUS T-0943 P-1430 DISENGAGE STYLUS _____

WELL HEAD

PICKUP @ _____ TIME ON BOTTOM _____ MAX. °F _____

WELL STATUS

SHUT IN: _____ ON PRODUCTION: _____

RATE

TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D
<p><u>Bombs lost in</u></p> <p><u>hole</u></p>																	

COMMENTS:

BY: TMM

76

UNION
GEO THERMAL DIVISION

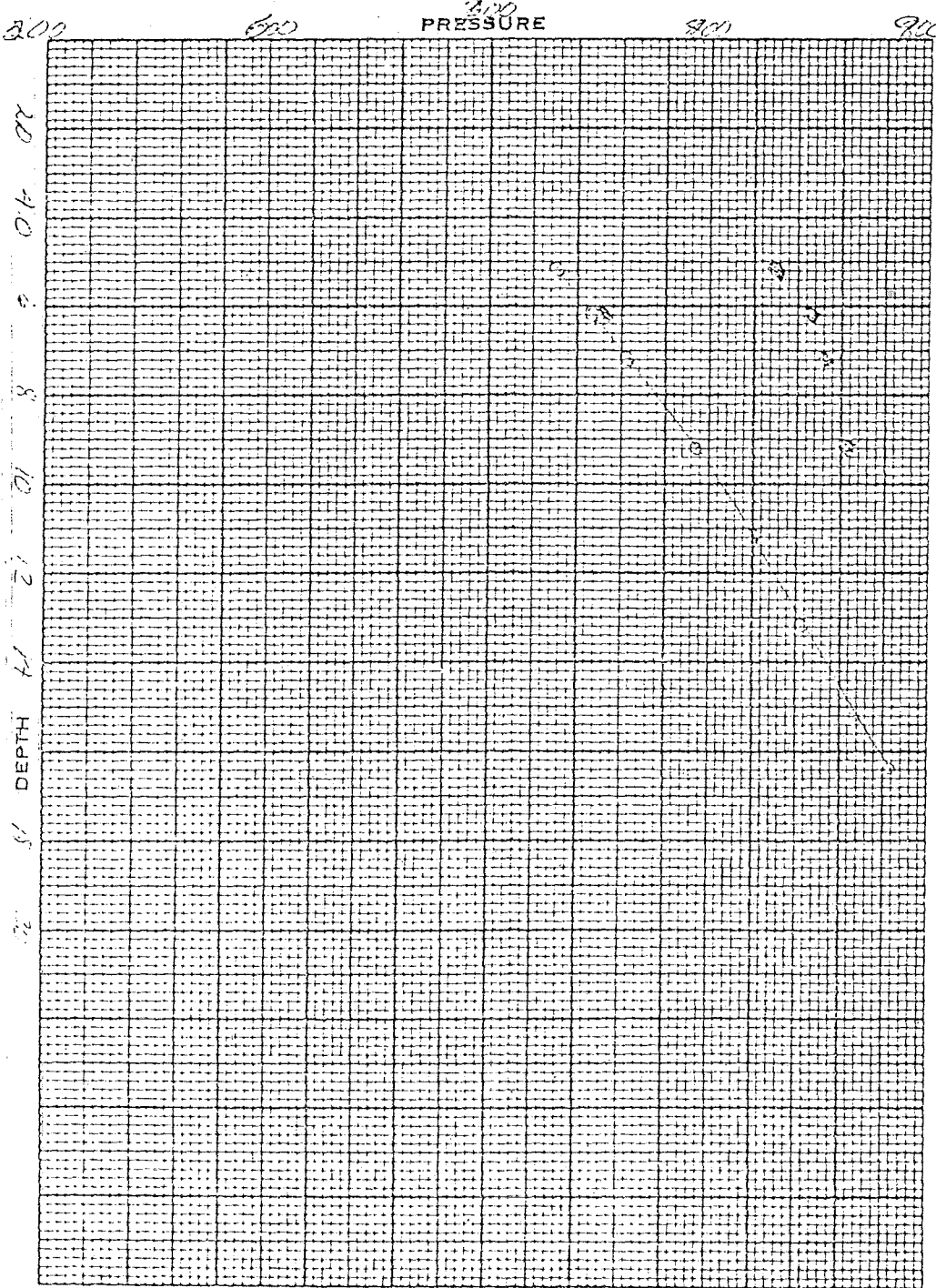
SUBSURFACE PRESSURE SURVEY

B11-57PT

OWNER Union Oil Co FIELD _____ WELL NAME BACA No. 11
 CASING _____ ELEV 9064' O.L. DATE 1-29-79
 LINER DESCRIPTION: _____ ZERO POINT GLT 9'
 _____ DEPTH 6666' 6650' SURV.
 HOLE DESCRIPTION: _____ INSTRUMENT 2500 PSI
 _____ SERIAL NO 9595
 PURPOSE P/T Buildup following test B11-57PT MAX TEMP 387.2 °F @ 6650
 REMARKS: _____

STABILIZATION PERIOD

SI	1045	1-29-79
----	------	---------



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
TIME	SI TIME	PRESS
1535	5.17 hrs	730
1655	6.17	746
1755	7.17	762
1955	9.17	794
2155	11.17	820
2355	13.17	842
0155	15.17	866
0312	16.42	883

SI TIME - Hours

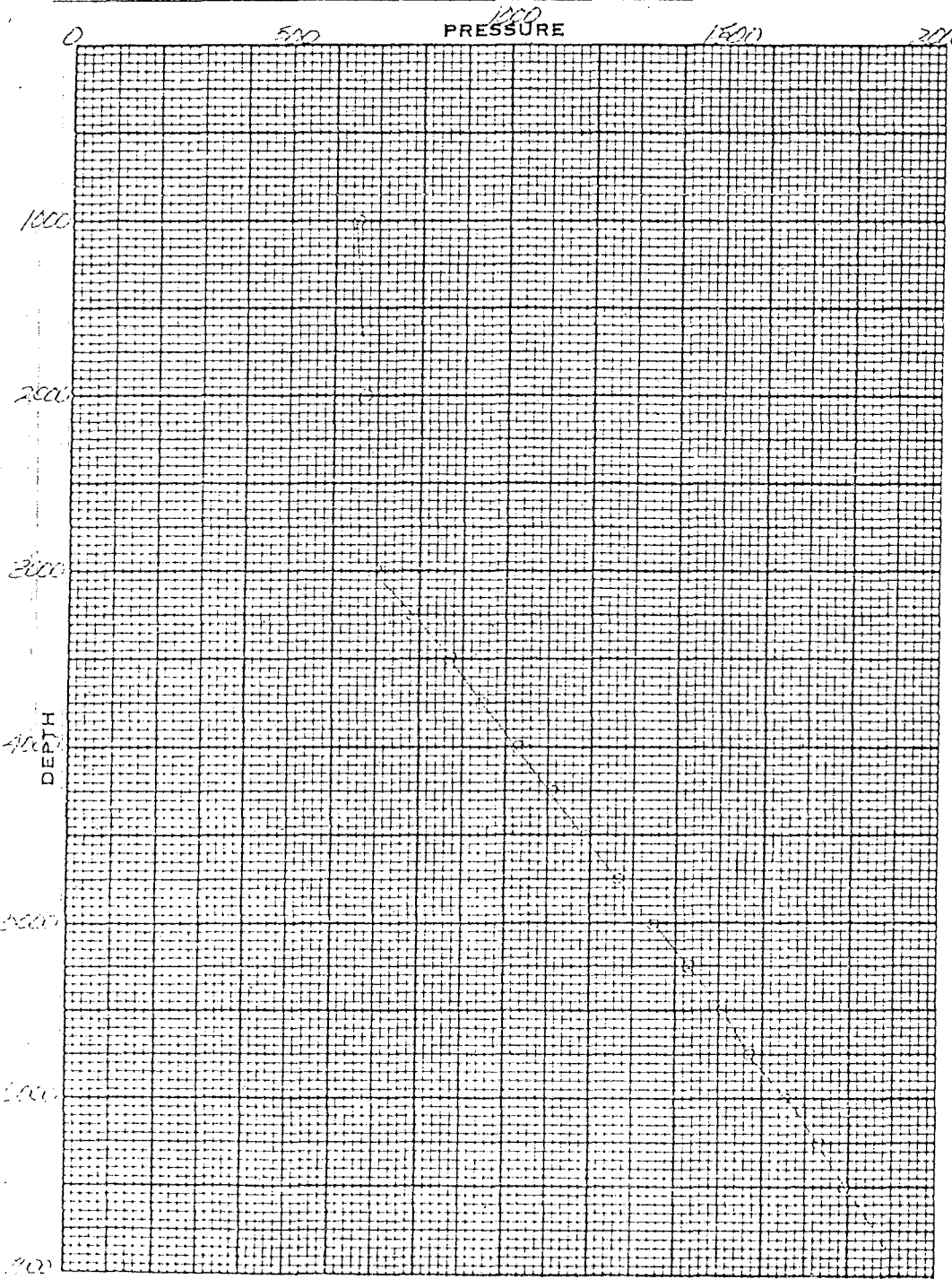
BY: T.M.

76

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY B11-54PT

OWNER Union Oil Co FIELD _____ WELL NAME Bach No. 11
 CASING _____ ELEV 9064' GL DATE 12-29-73
 LINER DESCRIPTION: _____ ZERO POINT GL+9'
 _____ DEPTH 6666'
 HOLE DESCRIPTION: _____ INSTRUMENT 2400 PSI
 _____ SERIAL NO KPC-6604N
 PURPOSE _____ MAX TEMP 548.5 °F @ 6650'
 REMARKS: _____



STABILIZATION PERIOD
New Well

PRESSURES	GAUGE	BOMB
CASING, PSI	<u>600</u>	

DEPTH	PRESSURE	GRADIENT
1000	649.8	0.218
2000	668	0.018
3000	695	0.030
3260	783	0.390
3500	865	0.390
3180	944	0.304
4000	1027	0.332
4250	1109	0.325
4500	1188	0.316
4740	1266	0.312
5000	1347	0.324
5250	1427	0.32
5500	1508	0.324
5740	1577	0.256
6000	1659	0.328
6250	1738	0.296
6500	1794	0.264
6650	No Reading	
6650	1835	extrap.

BY: TAM

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B 11-34 PT

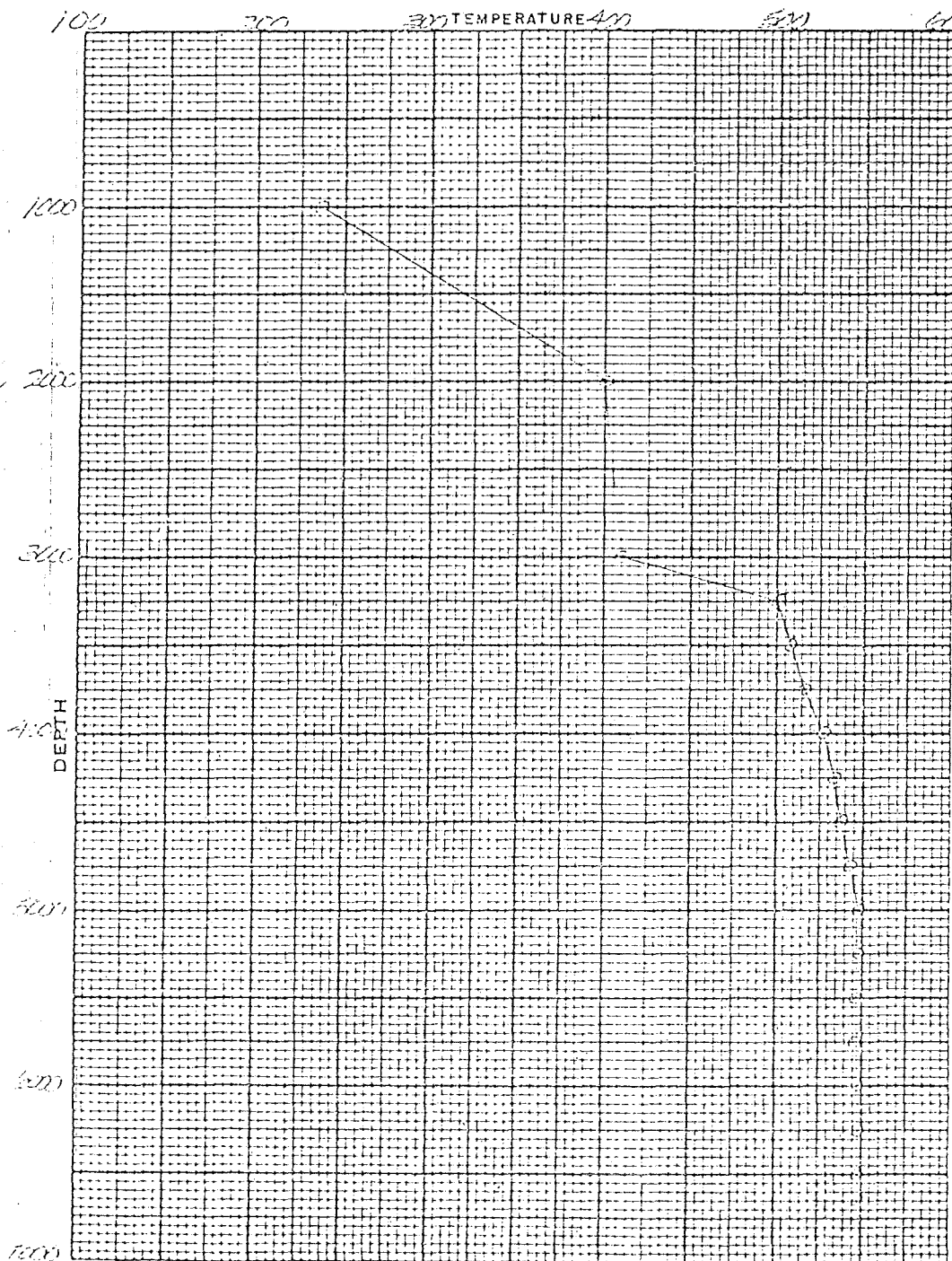
76

OWNER Dunbar Oil Co FIELD _____ WELL NAME BACP No. 11
 CASING _____ ELEV 906.9' GL DATE 12-29-73
 LINER DESCRIPTION: _____ ZERO POINT GL + 9'
 DEPTH 66.46' (66.50' GL)

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

PURPOSE _____ MAX TEMP 548.5 °F @ 66.50
 REMARKS: _____

STABILIZATION PERIOD
11:20 11:21



PRESSURES.	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
1000	236.9		
2000	400.7		
3000	410.1		
3250	506.5		
3400	509.3		
3750	516.9		
4000	521.5		
4250	533.8		
4500	537.9		
4750	542.4		
5000	545.2		
5250	548		
5500	541		
5750	546.2		
6000	547.7		
6250	548.2		
6500	548.2		
6650	548.5		

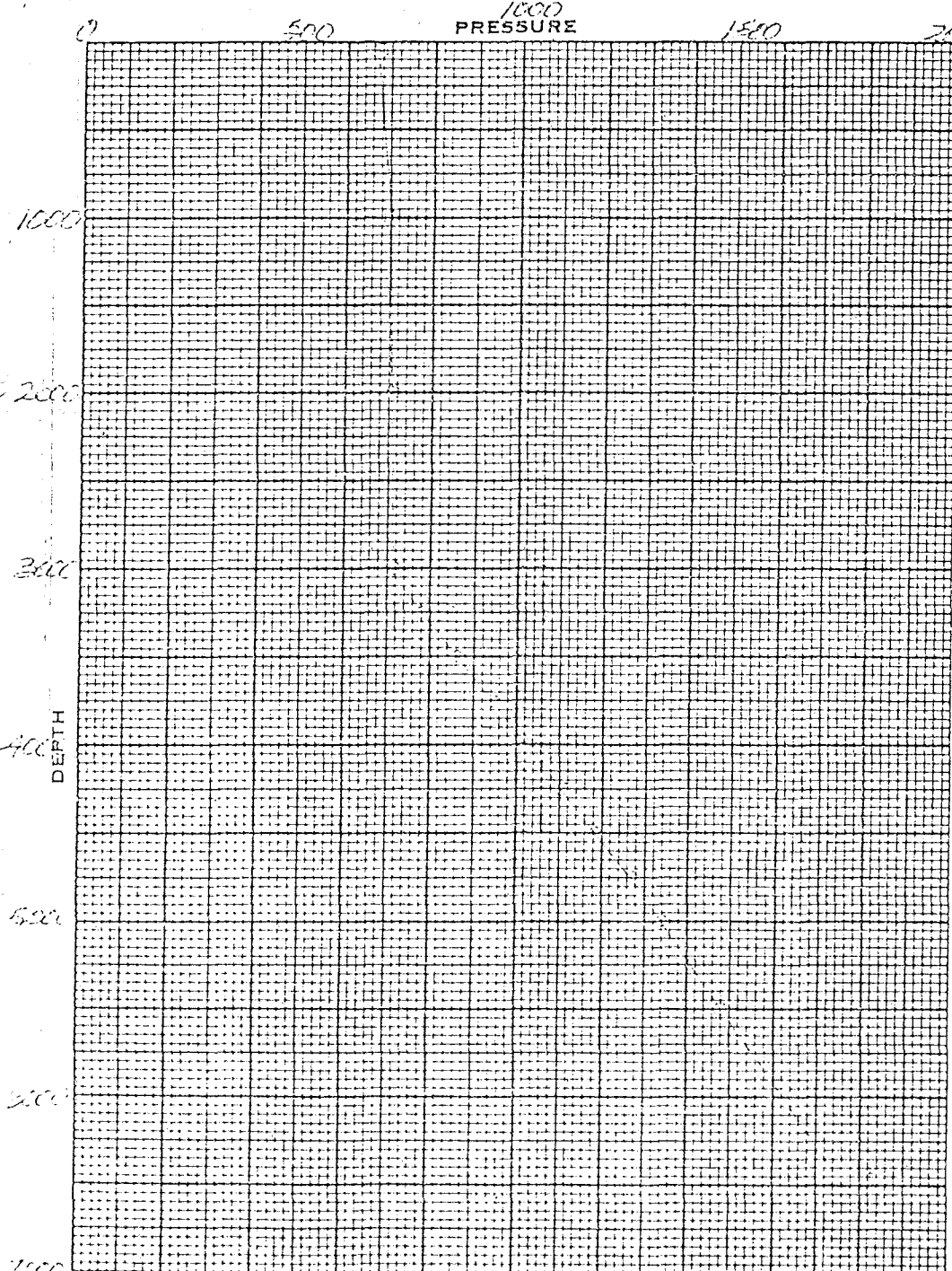
BY: TMM

76

UNION
 GEOTHERMAL DIVISION 311-53 PT
 SUBSURFACE PRESSURE SURVEY

OWNER Union Oil Co. FIELD - WELL NAME Bran No. 11
 CASING - ELEV 9064 SL DATE 12-22-73
 LINER DESCRIPTION: - ZERO POINT GH + 9'
 DEPTH 6666' 6650' SURF
 HOLE DESCRIPTION: -
 INSTRUMENT 2400 PSIC
 SERIAL NO 66604 N
 PURPOSE - MAX TEMP 589.5 °F @ 6650
 REMARKS: -

STABILIZATION PERIOD
New Well



PRESSURES.	GAUGE	BOMB
CASING. PSI	675	669

DEPTH	PRESSURE	GRADIENT
50	669	-
1000	702	.034
2000	708	.007
3000	716	.005
3250	781	.260
3500	864	.332
3750	944	.32
4000	1035	.324
4250	1104	.316
4500	1185	.324
4750	1268	.332
5000	1337	.284
5250	1405	.276
5500	1480	.288
5750	Clock stopped	
6000		
6250		
6500		
6650	1805	extrapolated

BY: 77/77

76

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

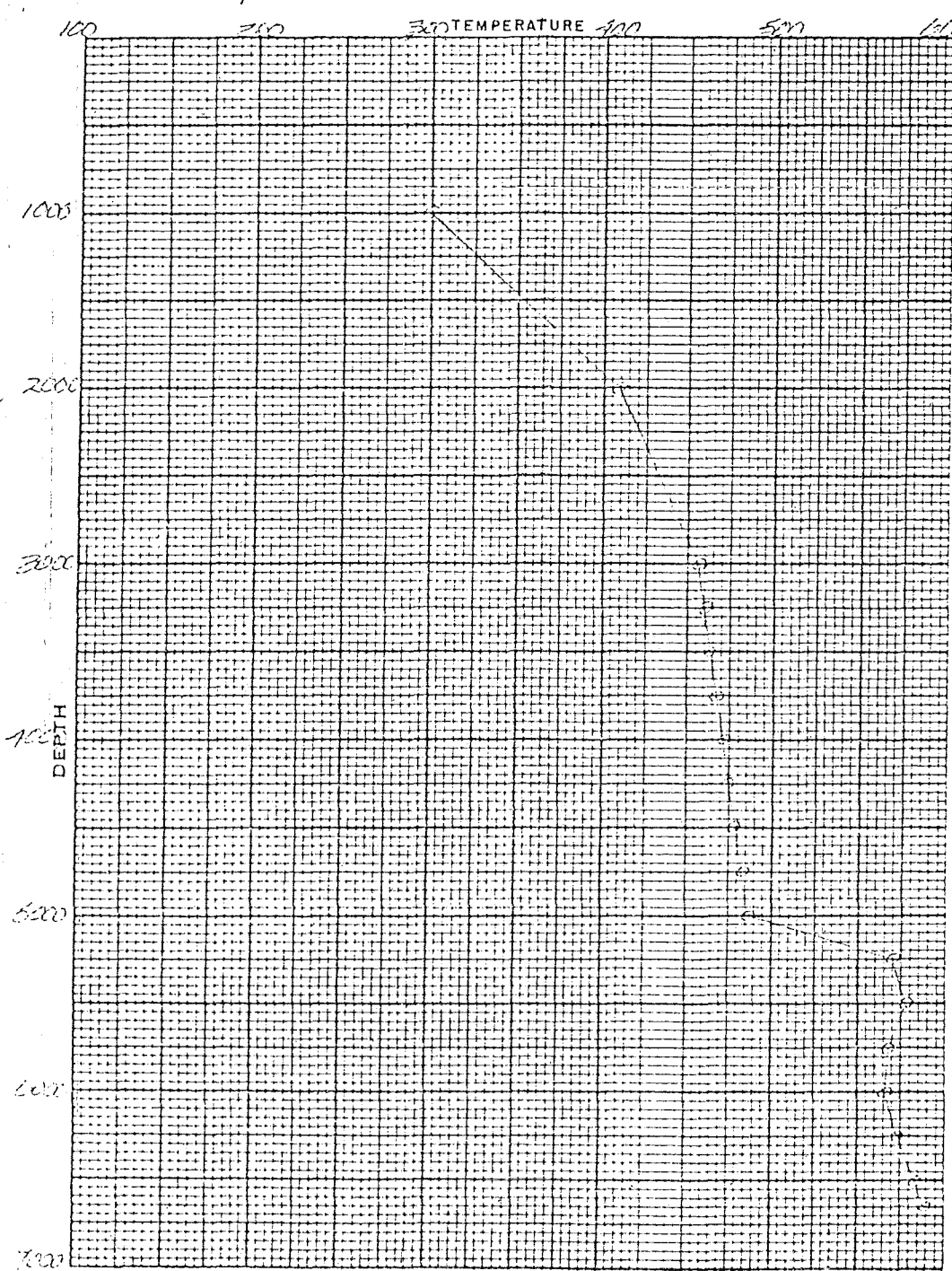
B 11-53 FT

OWNER Union Oil Co FIELD _____ WELL NAME Bach No. 11
 CASING _____ ELEV 906.9' G.L. DATE 12-22-74
 LINER DESCRIPTION: _____ ZERO POINT G.L. + 9'
 _____ DEPTH 6666 6650' SURF.

HOLE DESCRIPTION: _____ INSTRUMENT 300-736 FAH:
 _____ SERIAL NO KTB-10036

PURPOSE _____ MAX TEMP 589.5 °F @ 6650'
 REMARKS: Jump @ 5000' is due to instrument. Data above 5000' is suspect.

STABILIZATION PERIOD
New Well



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
50	?		
1000	300		
2000	403.2		
3000	432.4		
3250	460.3		
3500	463.1		
3750	467.6		
4000	471.5		
4250	474.6		
4500	477.7		
4750	483.2		
5000	486.2		
5250	570.5		
5500	571.3		
5750	568.6		
6000	566.9		
6250	573.3		
6500	582.9		
6650	589.5		

BY: TMM

76

UNION

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B11-S1-T/P

OWNER UNION ORR OF CALIF FIELD Valle Grande WELL NAME B3-11

CASING _____ DATE 12/17/73

LINER DESCRIPTION: _____ ELEV 9064' GL ZERO POINT GL+9

DEPTH 666.65

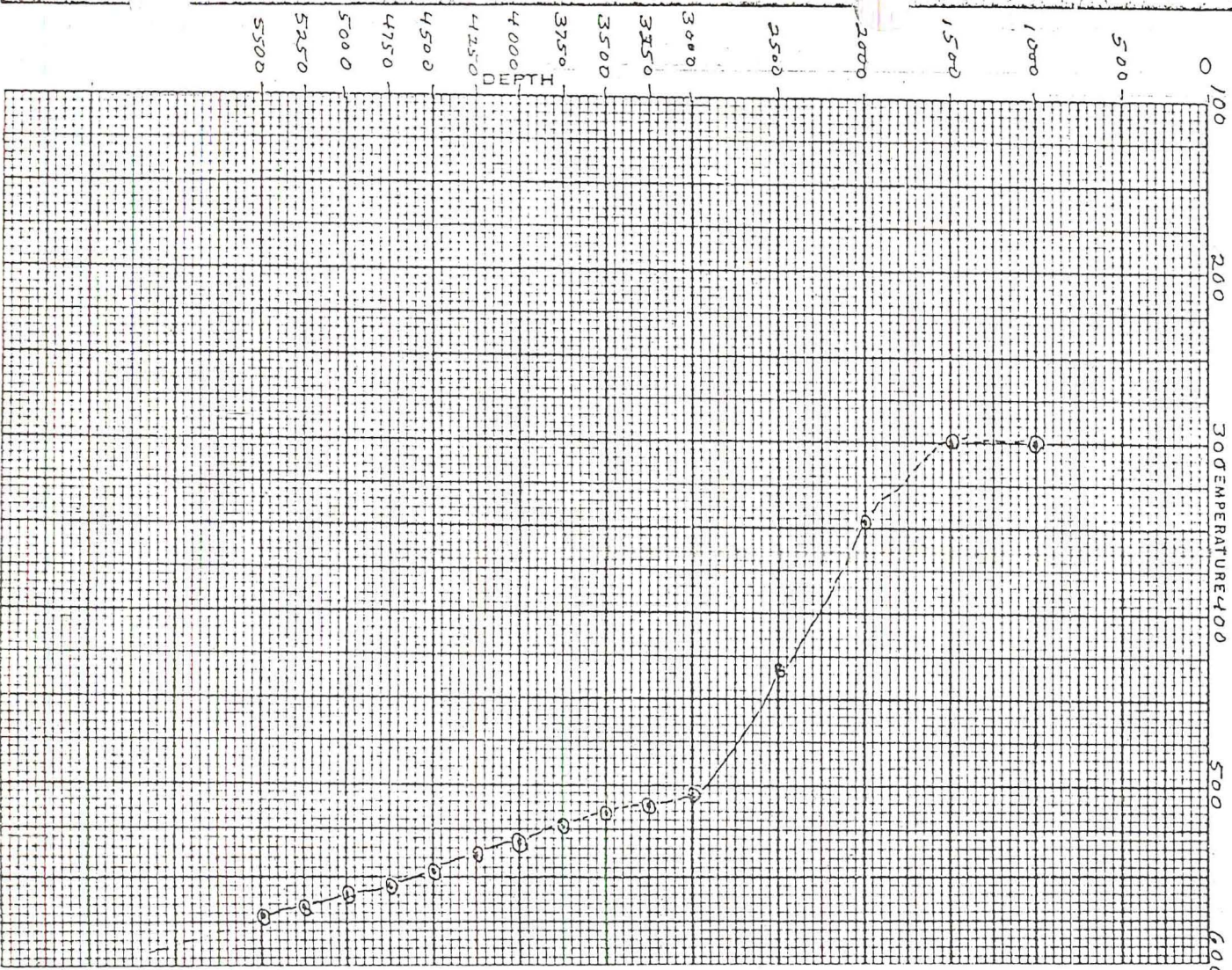
HOLE DESCRIPTION:

INSTRUMENT 300°-736° F FAH
SERIAL NO 1KTB-1003C

MAX TEMP 573.7 °F @ _____

PURPOSE TEMP LINE NOT CLEAR - TEMP NOT EXACT

STABILIZATION PERIOD NEW WELL



PRESSURES	GAUGE	BOIERS
CASING, PSI		

DEPTH	TEMP.	DEPTH	TEMP.
0	150.0		
500	150.0		
1000	150.0		
1500	150.0		
2000	150.0		
2500	150.0		
3000	150.0		
3250	150.0		
3500	150.0		
3750	150.0		
4000	150.0		
4250	150.0		
4500	150.0		
4750	150.0		
5000	150.0		
5250	150.0		
5500	150.0		
666.65	573.7		

97: _____

76

GEOTHERMAL DIVISION
SUBSURFACE PRESSURE SURVEY

B11-51-1224

OWNER Union Oil of Calif FIELD Little Grande WELL NAME B-11
 CASING 13-3/8" O.D. 1295, 9-5/8" O.D. 3380' ELEV 3380 906.4' G.L. DATE 12/17/73
 LINER DESCRIPTION 7" SLOTTED LINER 3321-6922 ZERO POINT about 3200'
 DEPTH 6000

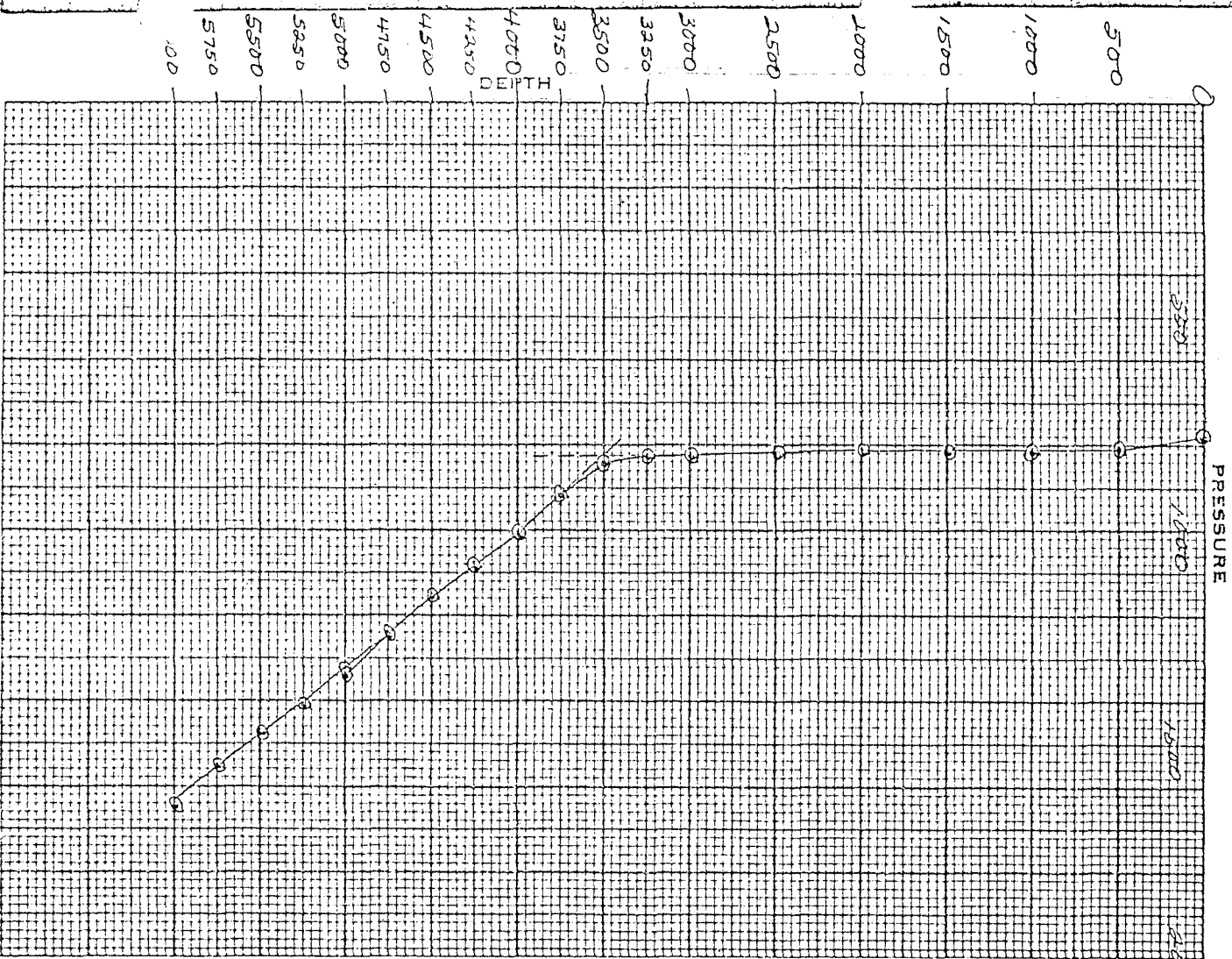
HOLE DESCRIPTION: TD 6922

PURPOSE: Press/Temp prior to flow test

INSTRUMENT 42250 SERIAL NO KPG 7198 MAX TEMP 555.2 OF @
 PSIC

REMARKS:

STABILIZATION PERIOD 2300'
New Well



PRESSURE, CASING, PSI	GAUGE	BOMB
0	796	796
500	802	.012
1000	804	.004
1500	808	.008
2000	810	.004
2500	819	.013
3000	822	.005
3250	822	-
3500	843	.084
3750	925	.328
4000	1007	.328
4250	1087	.320
4500	1167	.320
4750	1244	.308
5000	1325	.324
5250	1401	.304
5500	1478	.308
5750	1558	.320
6000	1632	.296

BY: J. Kuhn