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GL03879

Open-File Report # NM/Baca- 19i

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.
6.	B	B	Electric logs for Baca Wells No's 10-14.

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-13 S-13 P/T

OWNER UNION OIL COMPANY FIELD WALLE GRANDE WELL NAME BAAR #13
 CASING 26" AT 215'; 13 3/4" AT 1469' ELEV. 9211' DATE: 4/14/75
 LINER DESCRIPTION: 4 3/8" AT 3380'; ZERO POINT GL + 12'
7" 3380' - 8200'; SLOTS - 4227' - 8106' DEPTH 8200'

TUBING DETAIL:

PURPOSE GRADIENT

REMARKS:

0-4250 PSIG SN 7193 CLOGK-13375-L 15 TURN

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

ENGAGE STYLUS P-0931; T-0926 DISENGAGE STYLUS P-1420; T-1420

WELL HEAD 195 PSIG - BARTON RECORDER 0-1500 PSIG

PICKUP @ 8176' TIME ON BOTTOM 1254-1304 MAX. F 591.1

WELL STATUS STABIL

SHUT IN: 1040 HRS 2/25/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

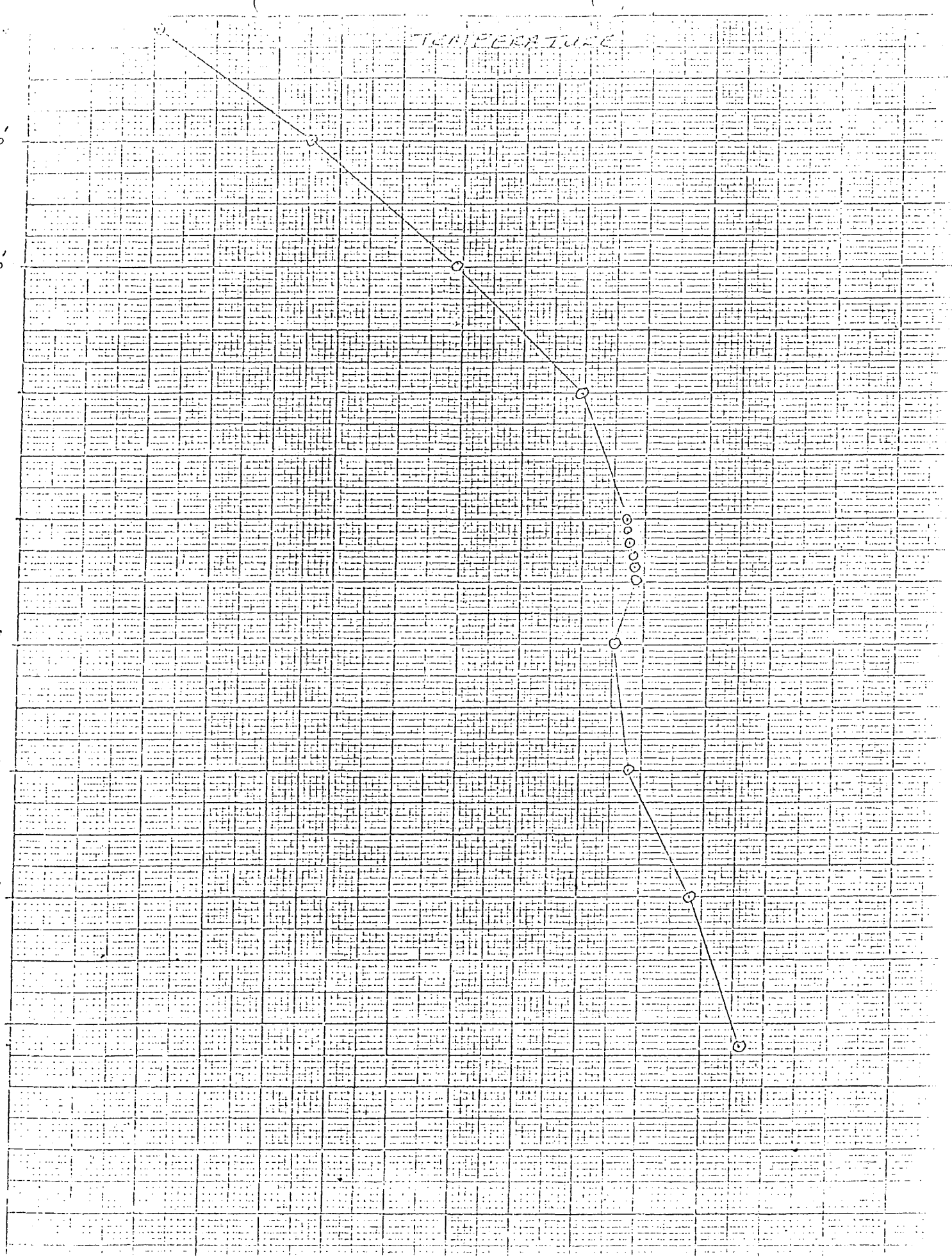
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	0	.057	195.9	0	0	10091009	0	0	0								
	100	.057	195.9	0	0	"	100	.066	103.0								
	1000	.058	198.2	0	0	"	1000	.429	222.6								
	2000	.058	198.2	0	0	"	2000	.918	346.8								
	3000	.238	533.9	.336	-1.001	"	3000	1.139	447.1								
	4000	.405	837.7	.354	0	"	4000	1.269	486.4								
	4100	.425	930.1	.424	+1.002	"	4100	1.273	487.5								
	4200	.441	914.0	.339	+1.007	"	4200	1.276	488.4								
	4300	.456	995.8	.318	+1.002	"	4300	1.288	492.0								
	4400	.472	1029.4	.336	+1.007	"	4400	1.289	492.3								
	4500	.488	1065.0	.236	+1.002	"	4500	1.294	493.7								
	5000	.529	1233.2	.340	+1.005	"	5000	1.234	476.0								
	6000	.731	1574.2	.341	+1.006	"	6000	1.283	490.5								
	7000	.892	1916.3	.341	+1.004	"	7000	1.458	541.5								
	8176	1.074	2302.1	.329	+1.002	"	8176	1.597	591.1								

COMMENTS:

TEMPERATURE

1000'
2000'
3000'
4000'
4100'
4160'
4200'
4300'
4400'
4500'
5000'
6000'
7000'
8000'
8176'

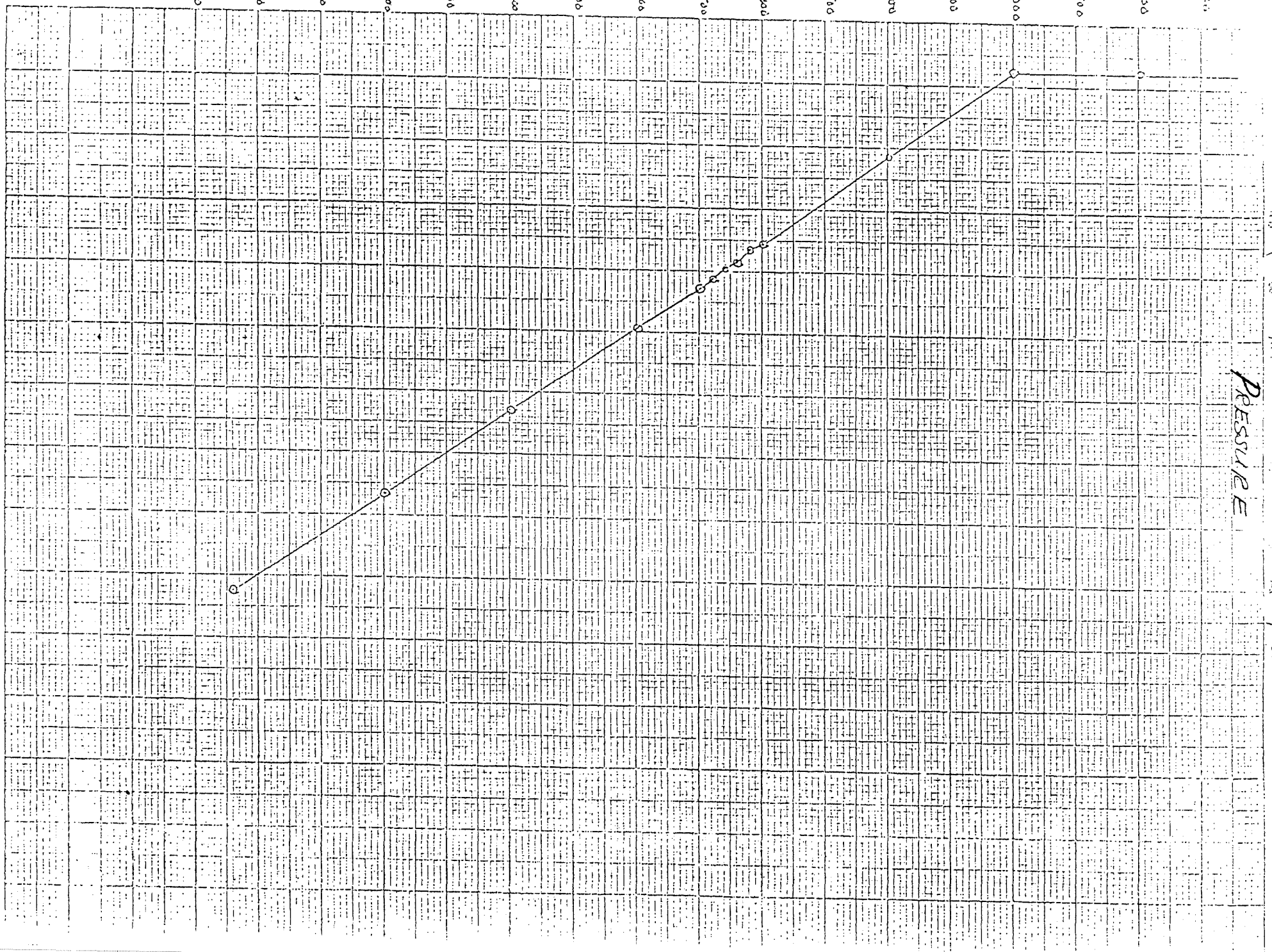
NEUFILL & SISKER CO.



DE

9500 9000 8500 8000 7500 7000 6500 6000 5500 5000 4500 4000 3500 3000 2500 2000 1500 1000 500

PRESSURE



76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BH13-511-P17

OWNER: AMERICAN OIL CO. OILFIELD FIELD: WALL GRADE WELL NAME: BH13-511-P17
 CASING: 7" @ 215' 13 3/8" @ 1536' ELEV. 9311' DATE: 9-28-76
 LINER DESCRIPTION: 9 1/2" @ 5380' ZERO POINT: 66419'
7" @ 5346' - T.D. DEPTH: 3100'

TUBING DETAIL:

PURPOSE:
 REMARKS: RAN SINTER BAR TO 8100' PRIOR TO SURVEY
P.O. - 1150 ESIG 9222 12112 15
 ELEMENT: 166F-792°F SERIAL NO. 10098 CLOCK 12112 15 TURN STABILIZATION PERIOD
 ENGAGE SYLUS P-1300 T-1502 DISENGAGE SYLUS P-2128 T-2129
 WELL HEAD 230
 PICKUP @ 8100 TIME ON BOTTOM 20:36-20:46 MAX. IF 572
 WELL STATUS SHUT IN
 SHUT IN: 1160 HRS - 4/27/76 ON PRODUCTION:
 RATE

PRESSURE TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	CORR.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1537	100	0	0		0	1537	100	0	0								
1546	1000	0	0		0	1546	1000	0	0								
1855	2100	113	292		7104	1855	2100	1157	278								
1904	3000	215	533		-1002	1904	3000	1655	319								
1913	4100	357	873		0	1913	4100	1975	453								
1921	4250	397	962		0	1921	4250	1103	501								
1929	4500	433	1047		0	1929	4500	1119	504								
1937	4750	470	1134		+1001	1937	4750	1103	491								
1945	5100	522	1324		+1001	1945	5100	1107	482								
1953	5250	530	1295		+1001	1953	5250	1105	484								
2001	5500	572	1373		+1001	2001	5500	1103	486								
2009	5750	609	1460		+1001	2009	5750	1107	487								
2017	6100	647	1542		+1001	2017	6100	1105	490								
2026	7100	781	1846		+1001	2026	7100	1161	518								
2033	8100	934	2319		+1001	2033	8100	11317	569								
2046	9100	952	2261		+1001	2046	9100	11321	572								

COMMENTS: NOTE: UNABLE TO CORRECT DUE TO MINIMUM TEMP CORRECTION OF 100°F

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13 540 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BPCA #13
 CASING 20" AT 215', 13 1/8" AT 1336' ELEV. 9311 DATE: 7/7/76
 LINER DESCRIPTION: 9 5/8" AT 3330' ZERO POINT C/L + 12'
 7" AT 5346' - TD DEPTH 8176

TUBING DETAIL:

PURPOSE Tandem PSI RUN

REMARKS:

ELEMENT P₁ - 0-4700 PSI SIN 13012 CL- 12 HR 15 TURN
 ELEMENT P₂ - 0-2950 SERIAL NO. 9235 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P₁ 0829 P₂ 0827 DISENGAGE STYLUS P₁ 1340 P₂ 1350
 WELL HEAD 253 PSIG
 PICKUP @ 8100 TIME ON BOTTOM 1223-1323 MAX. F 570
 WELL STATUS
 SHUT IN: 1100 hrs 4/27/76 ON PRODUCTION:
 RATE

P₁ - 0-4700 PSI P₂ - 0-2950 PSI

TIME	DEPTH	DEFL.	P-T	GRAD.	CORD	TIME	DEPTH	DEFL.	P-T	GRAD.	CORD	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0926	100	.097	249		-007	0926	100	.160	263		-013						
0941	150	.102	261		-003	0941	150	.165	270		-007						
0957	200	.104	266		-002	0957	200	.170	278		-004						
1009	300	.220	540		0	1009	300	.361	563		+001						
1024	400	.365	954		0	1024	400	.589	918		+001						
1040	4250	.461	969		0	1040	4250	.659	1007		+002						
1051	4500	.453	1056		+001	1051	4500	.715	1089		+002						
1102	4750	.473	1159		+001	1102	4750	.772	1173		+003						
1113	5000	.511	1228		+002	1113	5000	.831	1260		+005						
1124	5250	.547	1312		+002	1124	5250	.891	1348		+006						
1136	5500	.583	1397		+002	1136	5500	.950	1434		+006						
1147	5750	.619	1481		+002	1147	5750	1.010	1522		+008						
1153	6000	.657	1570		+002	1153	6000	1.069	1609		+009						
1210	7000	.803	1913		+003	1210	7000	1.306	1959		+008						
1222	8000	.947	2251		+002	1222	8000	1.537	2249		+003						
1223	8100	.962	2286		+002	1223	8100	1.561	2335		+003						
1253	8100	.962	2286		+002	1253	8100	1.561	2335		+003						
1323	8100	.962	2286		+002	1323	8100	1.561	2335		+003						

0-4700 PSI

0-2950 PSI

CALIBRATION CHECK WITH DWT AT 65°F

CALIBRATION CHECK WITH DWT AT 65°F

CLF = 1.043
PSI = 2477

CLF = 1.690
PSI = 2525

NO CORRECTION FOR TEMP. BELOW 100°F

NO CORRECTION FOR TEMP BELOW 100°F

COMMENTS: TEMPERATURES FROM B.13 540 WERE USED FOR CORRECTIONS.

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BH13-544-T

OWNER UNION SUL CC CRUI FIELD VALLE GRANDE WELL NAME BH13
 CASING 7" 215' 13 1/2" 1330 ELEV. 2511 DATE: 7/7/76
 LINER DESCRIPTION: 9 3/4" 25390' ZERO POINT 66+13
7" P 5346' - T.D. DEPTH 5100'

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT T-100 - 7991 SERIAL NO. 10095 CLOCK 12HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS T-1131 DISENGAGE STYLUS T-1910
 WELL HEAD 253
 PICKUP @ 5100 TIME ON BOTTOM 1714-1814 MAX. F 570
 WELL STATUS SHUT IN
 SHUT IN: 1100HR 11/27/76 ON PRODUCTION:
 RATE

TEMPERATURE

IN	DEPTH	DEFL	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1	500	1.11	481														
2	550	1.16	482														
3	600	1.25	486														
4	650	1.31	483														
5	700	1.38	485														
6	750	1.47	487														
7	800	1.57	490														
8	850	1.67	497														
9	900	1.78	500														
10	950	1.87	507														
11	1000	1.97	514														
12	1050	2.08	520														
13	1100	2.19	527														
14	1150	2.30	534														
15	1200	2.41	541														
16	1250	2.52	548														
17	1300	2.63	555														
18	1350	2.74	562														
19	1400	2.85	569														
20	1450	2.96	576														
21	1500	3.07	583														
22	1550	3.18	590														
23	1600	3.29	597														
24	1650	3.40	604														
25	1700	3.51	611														
26	1750	3.62	618														
27	1800	3.73	625														
28	1850	3.84	632														
29	1900	3.95	639														
30	1950	4.06	646														
31	2000	4.17	653														
32	2050	4.28	660														
33	2100	4.39	667														
34	2150	4.50	674														
35	2200	4.61	681														
36	2250	4.72	688														
37	2300	4.83	695														
38	2350	4.94	702														
39	2400	5.05	709														
40	2450	5.16	716														
41	2500	5.27	723														
42	2550	5.38	730														
43	2600	5.49	737														
44	2650	5.60	744														
45	2700	5.71	751														
46	2750	5.82	758														
47	2800	5.93	765														
48	2850	6.04	772														
49	2900	6.15	779														
50	2950	6.26	786														
51	3000	6.37	793														
52	3050	6.48	800														
53	3100	6.59	807														
54	3150	6.70	814														
55	3200	6.81	821														
56	3250	6.92	828														
57	3300	7.03	835														
58	3350	7.14	842														
59	3400	7.25	849														
60	3450	7.36	856														
61	3500	7.47	863														
62	3550	7.58	870														
63	3600	7.69	877														
64	3650	7.80	884														
65	3700	7.91	891														
66	3750	8.02	898														
67	3800	8.13	905														
68	3850	8.24	912														
69	3900	8.35	919														
70	3950	8.46	926														
71	4000	8.57	933														
72	4050	8.68	940														
73	4100	8.79	947														
74	4150	8.90	954														
75	4200	9.01	961														
76	4250	9.12	968														
77	4300	9.23	975														
78	4350	9.34	982														
79	4400	9.45	989														
80	4450	9.56	996														
81	4500	9.67	1003														
82	4550	9.78	1010														
83	4600	9.89	1017														
84	4650	10.00	1024														
85	4700	10.11	1031														
86	4750	10.22	1038														
87	4800	10.33	1045														
88	4850	10.44	1052														
89	4900	10.55	1059														
90	4950	10.66	1066														
91	5000	10.77	1073														
92	5050	10.88	1080														
93	5100	10.99	1087														

COMMENTS:

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13 559 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #13
 CASING 20" AT 215'; 13 3/8" AT 1336 ELEV. DATE: 7/1/76
 LINER DESCRIPTION: 9 5/8" AT 5350' ZERO POINT GL + 12'
7" AT 5346' DEPTH 8176

TUBING DETAIL:

PURPOSE

REMARKS:

ELEMENT - 0-4700 PSI SN 13012 CLOCK 12 HR 15 TURN

ELEMENT 90° - 646° SERIAL NO. 10052 CLOCK 12 HR 15 TURN STABILIZATION PERIOD

ENGAGE SYLUS P- 0900 T 0901 DISENGAGE SYLUS P 1115 T 1116

WELL HEAD 259 PSIG

PICKUP @ 8100 TIME ON BOTTOM 0930 - 1030 MAX. °F 569

WELL STATUS

SHUT IN: ON PRODUCTION:

RATE

PSI					TEMP													
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
0930	8100	.961	2284		1.002	0930	8100	1.315	569									
	8100	.961	2284		1.002	1000	8100	1.315	569									
	8100	.961	2284		1.002	1030	8100	1.315	569									

COMMENTS:

BY: [Signature]

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13-538-P/T

OWNER UNION OIL CO OF CALIF FIELD VALLE GRANDE WELL NAME BARR 13
 CASING 20" @ 915', 13 3/4" @ 1336' ELEV. 9311' DATE: 6/25/76
 LINER DESCRIPTION: 9 5/8" @ 3330', ZERO POINT CL+12'
 7" @ 3346' - T.D. DEPTH 8100'

TUBING DETAIL:

PURPOSE:

REMARKS:

P-0-4700 PSIG. 13012 12hr 15
 ELEMENT T-100-792 SERIAL NO. 10098 CLOCK 12hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1009 T-1005 DISENGAGE STYLUS P-1529 T-1530
 WELL HEAD 259
 PICKUP @ 8100 TIME ON BOTTOM 1416-1516 MAX. T 569
 WELL STATUS SHUT IN.
 SHUT IN: 1100 hrs 4/27/76 ON PRODUCTION:
 RATE

TIME	PSIG					TEMP					TIME	DEPTH	DEFL.	P-T	GRAD.	ID	
	DEPTH	DEFL.	P-T	GRAD.	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.							ID
11	100	102	261		-1007	1132	100	1015	106								
147	1000	103	264		-1003	1144	1000	1016	230								
157	2060	105	269		-1002	1157	2000	1071	255								
205	3060	118	536		0	1208	3000	1056	452								
222	4000	135	854		0	1222	4000	1087	494								
233	4250	140	967		0	1233	4250	1095	496								
244	4510	1437	1054		+1001	1244	4500	1105	500								
255	4750	473	1139		+1001	1255	4750	1060	435								
266	5000	509	1221		+1001	1306	5000	1037	473								
317	5250	545	1308		+1002	1317	5250	1042	479								
323	5300	581	1392		+1002	1328	5300	1050	482								
339	5750	618	1479		+1002	1339	5750	1057	484								
350	6000	657	1570		+1003	1350	6000	1063	486								
403	7000	1804	1912		+1003	1403	7000	1164	519								
415	8000	948	2253		+1002	1415	8000	1211	566								
516	8100	1943	2288		+1002	1516	8100	1316	569								

COMMENTS:

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13 537 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME B13 537
 CASING 20" AT 215' 13 3/8" 1336' ELEV. 9311' DATE: 6/3/76
 LINER DESCRIPTION: 9 5/8" AT 9330' ZERO POINT 62412'
7" AT 3346' DEPTH 8153'

TUBING DETAIL:

PURPOSE backlog

REMARKS:

ELEMENT C-4750 PSI SN 13012 CLOCK 12 HR 15 TURN
 ELEMENT - 52" - 686°F SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0948 T 0953 DISENGAGE STYLUS P-1605 T 1605
 WELL HEAD 310 PSI
 PICKUP @ 5110' TIME ON BOTTOM 1325 - 1525 MAX. °F 561.8
 WELL STATUS
 SHUT IN: 1100 hrs 4/27/76 ON PRODUCTION:
 RATE

PRESSURES

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1000	1100	108	300		-011	1033	100	110	117.2								
1005	1050	115	317		-005	1045	1100	110	251.5								
1057	1000	120	324		-002	1057	2000	103	351.6								
1112	5000	1205	532		0	1112	3000	1125	443.1								
1128	4000	1350	525		+001	1128	4000	1266	485.5								
1140	4150	1385	524		+001	1140	4250	1215	483.1								
1151	4300	1421	1055		+002	1151	4500	1289	492.3								
1203	4750	1457	1141		+003	1203	4750	1226	475.7								
1214	5100	1490	1220		+003	1214	5100	1214	470.1								
1225	5250	1524	1301		+004	1225	5250	1221	472.2								
1230	5300	1521	1359		+004	1236	5300	1231	475.7								
1249	5150	1596	1473		+004	1249	5750	1243	478.8								
1300	6000	1607	1499		+004	1300	6000	1250	480.6								
1312	7000	1775	1870		+005	1312	7000	1367	515.3								
1324	8000	1905	2204		+003	1324	8000	1525	560.0								
1325	8100	1968	2111		+003	1325	8100	1529	561.8								
1355	8100	1968	2121		+003	1355	8100	1529	561.8								
1425	8100	1968	2121		+003	1425	8100	1529	561.8								
1455	8100	1968	2121		+003	1455	8100	1529	561.8								
1525	8100	1968	2121		+003	1525	8100	1529	561.8								

SUSPECT AIR FLOW

COMMENTS: CAL. CHK. 1.031 = 2515 COR PSI
 1.026 def
 2490.4 PSI

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13 S 36 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BUCAR #13
 CASING 20" AT 215' 13 3/8" AT 1336' ELEV. 9311' DATE: 5/25/76
 LINER DESCRIPTION: 9 5/8" AT 3350' ZERO POINT CL +12"
 7" AT 3346' DEPTH 8176

TUBING DETAIL:

PURPOSE backlog

REMARKS:

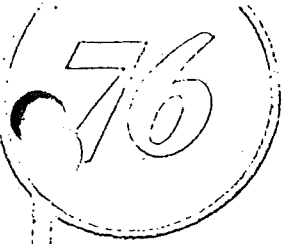
ELEMENT- 0-4750 PSI SN 13012 CL-12 hr 13 TURN
 ELEMENT 100-792 SERIAL NO. 10098 CLOCK 12 hr 13 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1300 T-1301 DISENGAGE STYLUS P 1603 T 1603
 WELL HEAD 320 PSIG
 PICKUP @ 8100 TIME ON BOTTOM 1330-1530 MAX. F 562.7
 WELL STATUS
 SHUT IN: ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1330	8100	.919	2242		1.003	1330	8100	1.296	562.7								
1440	8100	.926	2259		1.003	1440	8100	1.296	562.7								
1430	8100	.926	2259		1.003	1430	8100	1.296	562.7								
1500	8100	.926	2259		1.003	1500	8100	1.296	562.7								
1530	8100	.926	2259		1.003	1530	8100	1.296	562.7								

COMMENTS:



UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13 555 P/T

OWNER: UNION OIL COMPANY FIELD: HALLS GRANDE WELL NAME: BACH #13
 CASING: 20" AT 215' 13 3/4" AT 1536' ELEV. 9311 DATE: 5/24/76
 LINER DESCRIPTION: 4 5/8" AT 3350 ZERO POINT: CL 112'
 7" AT 3346 DEPTH: 8176

TUBING DETAIL:

PURPOSE: buildup

REMARKS:

ELEMENT - D-4750 P519 SN 13012 CLOCK 12 HR 15 TURN

ELEMENT 110 - 792' SERIAL NO. 10098 CLOCK 12 HR 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P 1054 T 1040 DISENGAGE STYLUS P 1635 T 1635

WELL HEAD: 326 P519

PICKUP @ 8100 TIME ON BOTTOM 1411 - 1611 MAX. F 562.7

WELL STATUS

SHUT IN: 1130 HRS 4/27/76 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

T	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	P/T	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
11	100	.119	327		-011	1131	100	.040	11.5								
114	1000	.126	544		-005	1143	1000	.478	254.7								
155	2000	.131	556		-002	1155	2000	.672	555.2		144						
207	3000	.204	534		0	1207	3000	.927	441.9		390						
218	4000	.348	880		+001	1218	4000	1.059	484.9		595						
229	4250	.383	964		+001	1229	4250	1.069	488.1		610						
240	4500	.416	1048		+002	1240	4500	1.083	492.6		640						
251	4750	.453	1131		+003	1251	4750	1.025	474.0		535						
302	5000	.488	1215		+003	1302	5000	1.016	471.1		520						
313	5250	.524	1301		+004	1313	5250	1.023	473.4		530						
324	5500	.510	1387		+004	1324	5500	1.036	477.5		555						
335	5750	.595	1470		+004	1335	5750	1.046	480.7		570						
346	6000	.630	1554		+004	1346	6000	1.052	482.6		580						
357	7000	.774	1897		+005	1357	7000	1.159	517.5		820						
410	8000	.911	2223		+005	1410	8000	1.289	560.4								
411	8100	.926	2259		+005	1411	8100	1.296	562.7								
441	9100	.926	2259		+003	1441	9100	1.296	562.7								
511	9100	.926	2259		+003	1511	9100	1.296	562.7								
541	8100	.926	2259		+003	1541	9100	1.296	562.7								
611	8100	.926	2259		+003	1611	8100	1.296	562.7								

COMMENTS:

76

UNION

GEO THERMAL DIVISION

CORRECTED SUBSURFACE SURVEY
COPY Field Work Sheet

B13-532-P1r

OWNER U.A. LAND CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACH #13
 CASING 3" x 215' 1375' 1330' ELEV. 9.311' DATE: 5/17/74
 LINER DESCRIPTION: 7" x 531/2 TO T.C. ZERO POINT 647.19'
 DEPTH 5174'

TUBING DETAIL:

PURPOSE:

REMARKS:

P-C-1174 P.S.I.C. 13012 12HR 15
 ELEMENT-1107 79251 SERIAL NO. 10095 CLOCK 12HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0920 T-0925 DISENGAGE STYLUS P-1530 T-1170
 WELL HEAD 358
 PICKUP @ 5110 TIME ON BOTTOM 1255-1155 MAX. # 512.7
 WELL STATUS SHUT IN
 SHUT IN: 1/27/76 @ 1130 HRS ON PRODUCTION:
 RATE

P.S.I.C.					TEMP												
TIME	DEPTH	DEFL.	P-Q	GRAD.	P-Q	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1001	100	.174	351		-1.11	1001	100	.160	125								
1016	100	.137	371		-1.04	1016	100	.158	237.5								
1025	200	.142	353		-1.02	1025	200	.177	753.5								
1034	300	.141	524		C	1034	300	.127	442								
1055	400	.143	363		+1.01	1055	400	.154	453.3								
1100	450	.179	454		+1.01	1100	450	.144	486.5								
1117	450	.115	1041		+1.02	1117	450	.179	451.3								
1125	474	.158	1124		+1.05	1125	475	.175	474								
1139	500	.155	1213		+1.05	1139	500	.141	471.1								
1150	525	.153	1298		+1.04	1150	525	.175	471								
1201	525	.155	1354		+1.04	1201	525	.141	475.5								
1212	572	.153	1412		+1.04	1212	572	.163	453								
1228	600	.129	1551		+1.04	1228	600	.141	455.5								
1239	700	.171	1870		+1.04	1239	700	.169	520.4								
1253	800	.190	2201		+1.05	1253	800	.189	500.7								
1255	810	.192	2259		+1.03	1255	810	.196	502.7								
1305	810	.192	2259		+1.03	1305	810	.196	502.7								
1355	810	.191	2259		+1.03	1355	810	.196	502.7								
1425	810	.192	2259		+1.03	1425	810	.196	502.7								
1455	810	.191	2259		+1.03	1455	810	.196	502.7								

COMMENTS:

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B¹¹ 12 5-32 9/11

OWNER UNION Oil Co. of CAL. FIELD Valle Grande
 CASING 20" @ 215'; 13 3/4" @ 1336 ELEV. 9212'
 LINER DESCRIPTION: 9 3/8" @ 3388 7" @ 3386 - TD
 WELL NAME B¹¹ #13
 DATE: 5-13-76
 ZERO POINT CL +12
 DEPTH 8126

TUBING DETAIL:

PURPOSE Buildup

REMARKS:

Element 0-4750 PSI SN 13012 Clock 12 75 Turn

ELEMENT 100' - 792' P SERIAL NO. 10098 CLOCK 12 1/2 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P0910 T0912 DISENGAGE STYLUS P1530 T1530

WELL HEAD 365

PICKUP @ 8100 TIME ON BOTTOM 1000-1430 MAX. F 563°

WELL STATUS

SHUT IN: 4/27/76 @ 1130 hrs ON PRODUCTION:

RATE

Pressure

Temperature

Pressure					Temperature											
TIME	DEPTH	DEFL.	P-T	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1000	8100	.921	2247		1000	8100	1.298	563°								
1100	8100	.921	2247		1100	8100	1.298	563°								
1200	8100	.921	2247		1200	8100	1.298	563°								
1300	8100	.921	2247		1300	8100	1.298	563°								
1430	8100	.921	2247		1430	8100	1.298	563°								

COMMENTS:

/// / /

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B #12 533 - P11

OWNER: UNION Oil Co. OF CALIF. FIELD: Valle Grande
 CASING: 20" @ 215'; 13 3/8" @ 1336' ELEV. 9212'
 LINER DESCRIPTION: 9 1/2" @ 3380'; 7" @ 3386' - TD
 WELL NAME: Boca #12
 DATE: 5-11-76
 ZERO POINT: GL + 12
 DEPTH: 8176

TUBING DETAIL:

PURPOSE: Build-up

REMARKS:

Element O-4750 PSI SN 13012 clock 12hr 15 Turn
 ELEMENT 82°P - 686°P SERIAL NO. 10055 CLOCK 12hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P1030 T1035 DISENGAGE STYLUS P1350 T1350
 WELL HEAD 378
 PICKUP @ 8100 TIME ON BOTTOM 1115 - 1315 MAX. °F
 WELL STATUS
 SHUT IN: 4/27 176 @ 1130 hrs ON PRODUCTION:
 RATE

Pressure

Temperature

TIME	DEPTH	DEFL.	P-T	GRAD.	COEFF	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
5	8100	.914	2230.4		7.003												
5	8100	.918	2234.5		7.003												
1215	8100	.918	2234.4		7.003												
1245	8100	.918	2234.4		7.003												
1315	8100	.918	2234.4		7.003												

COMMENTS: Temperature Element is defective - ~~Read~~
 Read 460°F below normal
 N/A . . .

76

UNION

5/19/76

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

513-539-211

OWNER: UNION OIL CO. OF CALIF. FIELD: VALLE GRANDE WELL NAME: B-1-13
 CASING: 2" @ 210'; 1 1/2" @ 1336' ELEV.: 9212' DATE: 5/19/76
 LINER DESCRIPTION: 9 3/8" @ 3330'; 7" @ 3334' - T.O. ZERO POINT: 6641.2'
 DEPTH: 8176'

TUBING DETAIL:

PURPOSE:

REMARKS:

P-0-4750 RSIC. 5/19 1301.2 12/112 15
 ELEMENT: T-320F-0308F SERIAL NO. 100555 CLOCK 12/112 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0850 T-0855 DISENGAGE STYLUS P-1450 T-1454
 WELL HEAD: 379
 PICKUP @ 3100 TIME ON BOTTOM 1213-1413 MAX. T-557.2
 WELL STATUS: SHUT IN
 SHUT IN: 1/27/76 @ 11:30 hrs 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
0925	100	.112	383		-0.010	0925	100	.191	145								
0937	1000	.156	416.2		-1.004	0937	1000	.636	289								
0950	2000	.155	415		-1.002	0950	2000	.883	325								
1002	3000	.195	512		0	1002	3000	1.052	430								
1015	4000	.241	563		+1.001	1015	4000	1.237	477								
1026	4250	.376	947		+1.001	1026	4250	1.259									483
1037	4500	.412	1033		+1.002	1037	4500	1.273									488
1053	4750	.447	1117		+1.002	1053	4750	1.229									474
1104	5000	.483	1203		+1.003	1104	5000	1.231									475
1115	5250	.518	1284		+1.003	1115	5250	1.262									484
1126	5500	.553	1370		+1.003	1126	5500	1.290									493
1137	5750	.590	1458		+1.004	1137	5750	1.312	499								
1148	6000	.624	1539		+1.004	1148	6000	1.306	497								
1200	7000	.766	1873		+1.004	1200	7000	1.417	530								
1212	8000	.903	2204		+1.003	1212	8000	1.510	556								
1213	8100	.917	2233		+1.003	1213	8100	1.511	557								
1243	8100	.917	2233		+1.003	1243	8100	1.513	557.2								
1313	8100	.917	2233		+1.003	1313	8100	1.513	557.2								
1343	8100	.917	2233		+1.003	1343	8100	1.513	557.2								
1403	8100	.917	2233		+1.003	1403	8100	1.513	557.2								

COMMENTS:

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B15 528 T

OWNER UNION OIL CO. FIELD VALLE GRANDE WELL NAME BACH #15
 CASING 20" AT 215, 13 3/8" AT 1336 ELEV. 9212' DATE: 5/17/76
 LINER DESCRIPTION: 9 5/8" AT 5380 ZERO POINT OIL + 12'
 7" AT 3346 - TD DEPTH 8196

TUBING DETAIL:

PURPOSE *building*

REMARKS:

ELEMENT - 0-4750 SN 13012 CLOCK 12HR 15 TURN
 ELEMENT 82-696⁰⁴ SERIAL NO. 10055 CLOCK 12HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0925 T-0923 DISENGAGE STYLUS P-1540 T-1540
 WELL HEAD 390 PSIG
 PICKUP @ 8100 TIME ON BOTTOM 1500-1510 MAX. T 556.9
 WELL STATUS
 SHUT IN: 4/27/76 1130 HRS ON PRODUCTION:
 RATE

TEMPERATURE PRESSURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1000	150	1.196	144.7														
1000	1000	1.635	289.0														
1031	2000	1.883	351.6														
1042	3000	1.1081	429.7														
1053	4000	1.237	476.9														
1104	4250	1.258	483.1														
1115	4500	1.272	487.2														
1136	4750	1.227	473.7														
1147	5000	1.230	474.8														
1153	5250	1.261	484.0														
1209	5500	1.290	492.6														
1220	5750	1.312	499.0														
1231	6000	1.306	497.3														
1242	7000	1.416	529.6														
1258	8000	1.510	556.4														
310	9100	1.511	556.6														
330	8100	1.512	556.9														
400	8100	1.512	556.9														
450	8100	1.512	556.9														
510	8100	1.512	556.9														

NO SURVEY

COMMENTS:

76

CRION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13 528 Pit

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME B13 #13
 CASING 20" AT 215 13 3/8 H 132 ELEV. 9211 DATE: 5/5/76
 LINER DESCRIPTION: 9 5/8 5380 ZERO POINT C.L. 112
7" 5346 DEPTH 8176

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT - 0-4750 PSI SN 13012 CLOCK 12 hr 15 T

ELEMENT 52-686 1/4 SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0955 T 0958 DISENGAGE STYLUS P-1340 T 1340

WELL HEAD 400 PSIG

PICKUP @ 800 TIME ON BOTTOM 1100 - 1300 MAX. F 555.5

WELL STATUS

SHUT IN: 4/27/76 AT 1130 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
1100	8100	.908	2204		+0.03	1100	8100	1.507	554.6								
1130	8100	.908	2216		+0.03	1130	8100	1.507	555.5								
1200	8100	.908	2216		+0.03	1200	8100	1.507	555.5								
1230	8100	.908	2216		+0.03	1230	8100	1.507	555.5								
1300	8100	.908	2216		+0.03	1300	8100	1.507	555.5								

COMMENTS:

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UNION GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B¹¹ L¹³ S²³ P/T

OWNER: UNION oil co of CAL. FIELD: VALLE GRANDE WELL NAME: R¹² 13
 CASING: 20" @ 215' 13 3/4" @ 1469 ELEV. 9211 DATE: 5-4-76
 LINER DESCRIPTION: 9 7/8" @ 3380 ZERO POINT: GL + 12
7" @ 3346 DEPTH: 8200

TUBING DETAIL:

PURPOSE: Buildup

REMARKS:
Element 0-4750 PSE SN 13012 Clock 12hr 15 TURN

ELEMENT 82-186°P SERIAL NO. 10055 CLOCK 12hr 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0947 T-0952 DISENGAGE STYLUS P-1158 T-1158

WELL HEAD 400

PICKUP @ 8100 TIME ON BOTTOM MAX. °F 554.9

WELL STATUS

SHUT IN: 1130 hrs 4-27-76 ON PRODUCTION:

RATE

Pressure Temperature

TIME	DEPTH	DEFL.	P-T	GRAD.	CORR.	TIME	DEPTH	DEFL.	P-T	GRAD.	IO	TIME	DEPTH	DEFL.	P-T	GRAD.	IO
1130	8100	849	2195		1.003	1130	8100	1.502	554.7								
2'	8100	903	2204		1.003	1200	8100	1.505	554.9								
21	8100	904	2207		1.003	1230	8100	1.505	554.9								
300	8100	904	2207		1.003	1300	8100	1.505	554.9								
333	8100	904	2207		1.003	1330	8100	1.505	554.9								

COMMENTS:

BY: [Signature]

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B# 13 S35 3/1

OWNER Union Oil of Cal. FIELD Valle Grande

WELL NAME B# 13

CASING 30" @ 215' 13 3/8" @ 2167 ELEV. 9211

DATE: 5-3-76

LINER DESCRIPTION: 9 5/8" @ 3330'

ZERO POINT GL + 12'

7" @ 3444'

DEPTH 8200

TUBING DETAIL:

PURPOSE Buildup

REMARKS:

Element 0-4750 DST SN 13012 Clock 12hr 15 Turn

Element 87' - 686' P SERIAL NO. 10055 CLOCK 12hr 15 Turn STABILIZATION PERIOD

ENGAGE SYLUS P0935 T0930 DISENGAGE SYLUS P1360 T1500

WELL HEAD 400

PICKUP @ 8100 TIME ON BOTTOM MAX. F 550

WELL STATUS

SHUT IN: 1130 hrs 4-27-76 ON PRODUCTION:

RATE

Pressure

Temperature

TIME	DEPTH	DEFL.	P-T	GRAD.	COEFF	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
030	8100	.899	2194		1.004	1030	8100	1.480	548								
	↑	.901	2200		↑	1100	↑	1.486	550								
		.901	2200		↑	1130	↑	1.486	550								
200		.901	2200		↑	1200	↑	1.486	550								
230		.902	2202		↑	1230	↑	1.486	550								
300		.902	2202		↑	1300	↑	1.486	550								
330		.902	2202		↑	1330	↑	1.486	550								
400		.903	2204		↑	1400	↑	1.486	550								
430	8100	.903	2204		1.003	1430	8100	1.486	550								

COMMENTS:

RY: [Signature]

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B13 525 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #13
 CASING 20" AT 215' 1 3/8 AT 1469 ELEV. 9211 DATE: 5/2/76
 LINER DESCRIPTION: 9 5/8 AT 3350' ZERO POINT 66 FT 2'
7" AT 3374 DEPTH

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT - 0-4750 PSI SN 13012 CLOCK 12 HR 15 TURN

ELEMENT 82"-6.86" SERIAL NO. 10055 CLOCK 12 HR 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1142; T-1145 DISENGAGE STYLUS P-1047; T-1045

WELL HEAD 402 PSIG

PICKUP @ 8100 TIME ON BOTTOM 1505-1605 MAX. F 549

WELL STATUS

SHUT IN: 1130 hrs 4/27/76 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
1217	100	.154	1112		-7010	1217	100	.255	165								
1218	1000	.162	1132		-7003	1229	1000	.650	294								
1219	2000	.169	1149		-7001	1243	2000	.846	354								
1255	3000	.156	1170		0	1255	3000	1.065	425	325							
1305	4000	.330	1173		+1001	1308	4000	1.220	472	~ 525							
1319	4250	.361	1223		+1001	1319	4250	1.244	479	520							
1330	4500	.403	1012		+1002	1330	4500	1.263	485	-595							
1341	4750	.436	1071		+1002	1341	4750	1.274	487	610							
1352	5100	.471	1174		+1002	1352	5000	1.318	501	695							
1403	5250	.505	1263		+1003	1403	5250	1.332	505	710							
1414	5500	.540	1339		+1003	1414	5500	1.341	508	720							
1425	5750	.574	1126		+1003	1425	5750	1.338	507	*							
1436	6000	.610	1526		+1004	1436	6000	1.343	508								
1450	7000	.718	1535		+1004	1450	7000	1.408	527								
1503	8000	.855	2102		+1004	1503	8000	1.479	548								
1505	8100	.878	2192		+1004	1505	8100	1.482	549								
1535	8100	.878	2192		+1004	1535	8100	1.482	549								
1605	8100	.878	2192		+1004	1605	8100	1.482	549								

COMMENTS:

BY: 2 10 10 20

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BIS 529 PIT

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAC #13
 CASING 20" AT 215' 1 3/8" AT 1469' ELEV. 9211 DATE: 5/1/76
 LINER DESCRIPTION: 9 5/8" AT 5530' ZERO POINT CL +12'
7" AT 5546' DEPTH 8176

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT - 0-4750 PSI SN 13012 CLOCK - 12 HR 15 TURN
 ELEMENT - 82°-686° SERIAL NO. 10055 CLOCK - 12 HR 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1127; T-1125 DISENGAGE STYLUS P-1655; T-1655
 WELL HEAD 400 PSIG
 PICKUP @ 8100 TIME ON BOTTOM 1210-1610 MAX. °F 547.8
 WELL STATUS 1130 HRS 9/27/76
 SHUT IN: ON PRODUCTION:
 RATE:

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	8100	.987	2166		r.004	1210	8100	1.465	543.5								
		.891	2176		-	1240		1.478	547.2								
		.891	2176		-	1310		1.480	547.8								
		.891	2176		-	1340		1.480	547.8								
		.892	2178		-	1410		1.480	547.8								
		.892	2178		-	1440		1.480	547.8								
		.892	2178		-	1510		1.480	547.8								
		.892	2178		-	1540		1.480	547.8								
		.892	2178		-	1610		1.480	547.8								

COMMENTS:

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B# 13 S. 33 0/T

OWNER Union oil of cal. FIELD UNITE GRANDE WELL NAME E# 13
 CASING 20" @ 215 - 13 3/8 @ 1467' ELEV. 9211 DATE: 4-30-76
 LINER DESCRIPTION: 9 5/8 - 3380 - 7" 3346 - 8200 ZERO POINT GL + 12
 DEPTH 8176

TUBING DETAIL:

PURPOSE Buildup

REMARKS:

Element 0-4750 PSP SN 13012 Clock 12hr 15 Turn

ELEMENT 82° - 686' P SERIAL NO. 10055 CLOCK 12h 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS

DISENGAGE STYLUS

WELL HEAD

PICKUP O

TIME ON BOTTOM

MAX. °F 546.1

WELL STATUS

SHUT IN: 1130 hrs 4-27-76 ON PRODUCTION:

RATE

Pressure

Temperature

TIME	DEPTH	DEFL.	P-T	SPAC. ENTRY	GRAD.	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	100	.148	397.6	-0.010		0521	100	.282	173.9								
	1000	.157	419.5	-0.003	.024	0533	100	.661	292.2								
	2000	.164	436.6	-0.002	.013	0544	2000	.839	353.6								
0555	3000	.170	451.2	-0	.014	0555	3000	1.041	415.5								
0606	4000	.302	769.2	+0.001	.313	0606	4000	1.207	468.1								
0617	5000	.444	1109.8	+0.002	.341	0617	5000	1.322	502.0								
0628	6000	.583	1441.5	+0.003	.332	0628	6000	1.340	507.3								
0638	7000	.710	1768.5	+0.004	.327	0639	7000	1.384	510.7								
0640	8100	.867	2123.5	+0.004		0640	8100	1.440	536.4								
0710	8100	.876	2140.1	+0.004	.337	0710	8100	1.458	541.5								
0740	8100	.876	2140.1	+0.004		0740	8100	1.458	541.5								
0810	8100	.877	2142.5	+0.004		0810	8100	1.462	542.7								
0840	8100	.877	2142.5	+0.004		0840	8100	1.466	542.8								
0910	8100	.877	2142.5	+0.004		0910	8100	1.471	545.2								
0940	8100	.877	2142.5	+0.004		0940	8100	1.474	546.1								

COMMENTS:

BY: *[Signature]*

76

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B# 13 - S 22 1/T

OWNER UNION oil of cal. FIELD Valle Grande WELL NAME B# 13
 CASING 20" @ 215 - 1378 @ 1487' ELEV. 9211 DATE: 4-29-76
 LINER DESCRIPTION: 9 5/8" - 3380 7" 3346 - 8200 ZERO POINT GL + 12
 DEPTH 8176

TUBING DETAIL:

PURPOSE Buildup

REMARKS:
 Element T-0-4750 PSP SN 13012 clock 12 hr 15 TURN
 ELEMENT 82°-686° P SERIAL NO. 10055 CLOCK 12 hr 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P 1347 T 1345 DISENGAGE STYLUS P 0315 T 0315
 WELL HEAD S&C ATTACHED CHARTS
 PICKUP @ 8100 TIME ON BOTTOM 1415 - 0215 MAX. °F 542.4
 WELL STATUS 1130 hrs 4-27-76 SHUT IN
 SHUT IN: → ON PRODUCTION:

Pressure Temperature

TIME	DEPTH	DEFL.	P-T	GRAD.	CDP	TIME	DEPTH	DEFL.	T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
415	8100	857	2095.0		+0.005	1415	8100	1.405	526.4								
445	↑	862	2106.4		+0.004	1445	↑	1.450	539.3								
515		863	2109.3		↑	1515		1.451	539.5								
545		864	2111.6		↑	1545		1.451	539.5								
615		864	2111.6		↑	1615		1.452	539.8								
645		865	2114.0		↑	1645		1.452	539.8								
715		865	2114.0		↑	1715		1.453	540.1								
745		866	2116.4		↑	1745		1.453	540.1								
815		867	2118.8		↑	1815		1.454	540.4								
845		867	2118.8		↑	1845		1.454	540.4								
915		868	2121.1		↑	1915		1.455	540.7								
945		869	2123.5		↑	1945		1.456	541.0								
1015		870	2125.9		↑	2015		1.456	541.0								
1045		870	2125.9		↑	2045		1.457	541.2								
1115		870	2125.9		↑	2115		1.457	541.2								
1145		871	2128.3		↑	2145		1.458	541.5								
1215		871	2128.3		↑	2215		1.459	541.8								
1245		872	2130.6		↑	2245		1.459	541.8								
1315		873	2130.6		↑	2315		1.459	541.8								
1345		873	2133.0		↑	2345		1.460	542.1								
1415		873	2133.0		↑	2415		1.460	542.1								
1445		874	2135.4		↑	2445		1.460	542.1								
1515		875	2137.8		↑	2515		1.460	542.1								
1545	↓	876	2140.1		↓	2545	↓	1.460	542.1								
215	8100	876	2140.1		+0.004	2215	8100	1.461	542.4								

COMMENTS:

BY: *[Signature]*

ARCO
RECORDING CHARTS
0-1500 PSI
5000 PSI

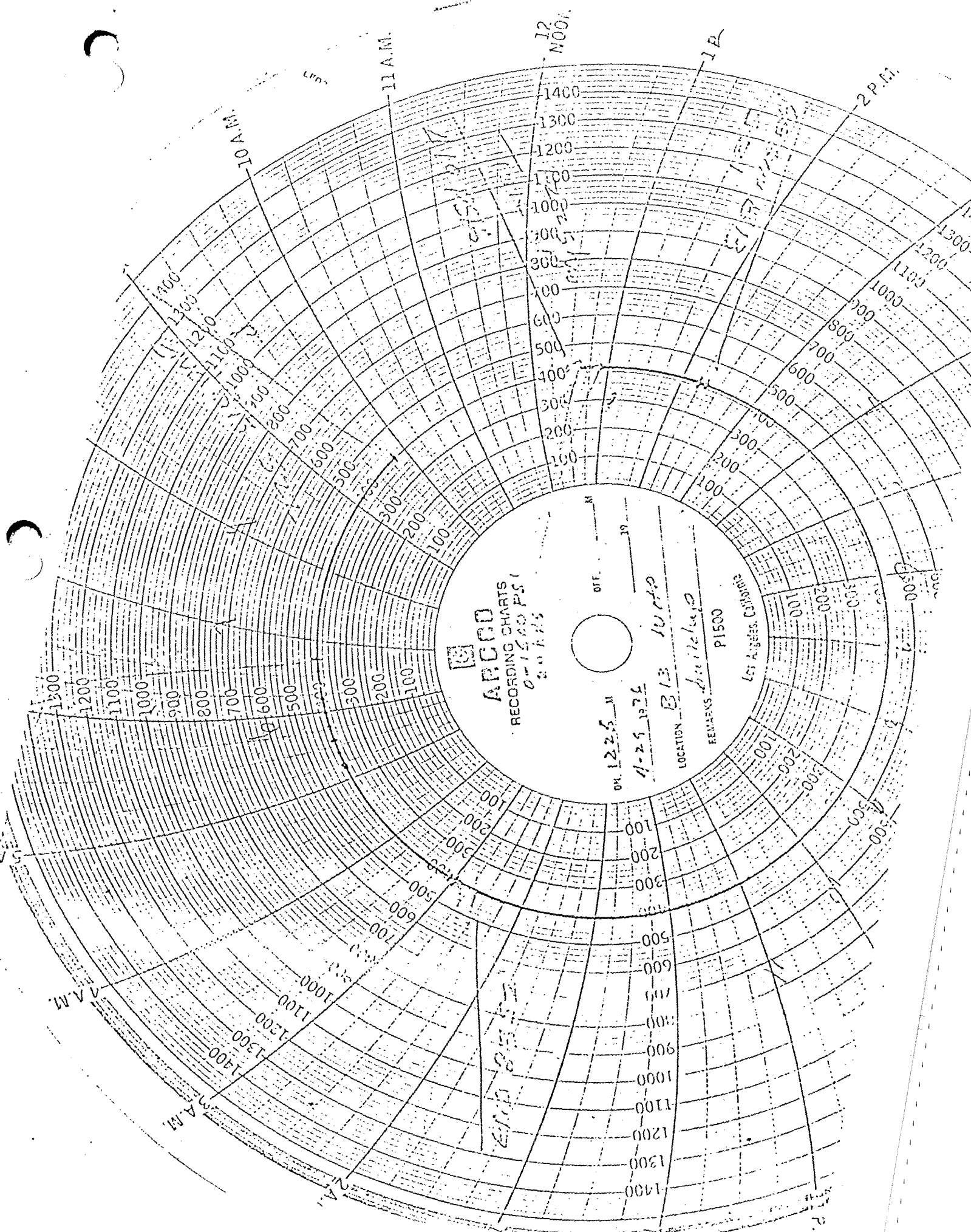
DATE 12-25-11 TIME 11:25

LOCATION B-13 10th St

REMARKS Pressure

LET A SERIES CHANGE
PI500

END 8:55



76

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B#13 S 24 B/1

OWNER Union Oil Co of Cal. Field Uvalle Grande
 CASING 20" @ 215 - 13 3/4 @ 1169 ELEV. 9211
 LINER DESCRIPTION: 4 3/4 3380 - 7" 3346' - 8200'

WELL NAME B#13
 DATE: 4-29-76
 ZERO POINT GL + 12
 DEPTH 8176

TUBING DETAIL:

PURPOSE Buildup

REMARKS:

Element - 0-4750 SN 13012 Clock 12 hr 15 T

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

ENGAGE STYLUS P 2353 T 2355 DISENGAGE STYLUS P 1309 T 1310

WELL HEAD

PICKUP @ 8100 TIME ON BOTTOM 0025 - 1225 MAX. *F 539.8

WELL STATUS

SHUT IN: 1130 hrs 4-27-76 ON PRODUCTION:

RATE

Pressure

Temperature

TIME	DEPTH	DEFL.	P-T	GRAD.	COY	TIME	DEPTH	DEFL.	T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0025	8100	.831	2033.3		7.005	0025	8100	1.405	526.4								
	↑	.833	2038.0		7.004	0055	↑	1.443	537.3								
		.836	2045.1			0125		1.444	537.5								
0155		.837	2047.5			0155		1.444	537.5								
0225		.839	2052.3			0225		1.445	537.8								
0255		.840	2054.6			0255		1.445	537.8								
0325		.841	2057.0			0325		1.445	537.8								
0355		.841	2057.0			0355		1.445	537.2								
0425		.841	2057.0			0425		1.446	538.1								
0455		.842	2059.4			0455		1.446	538.1								
0525		.843	2061.7			0525		1.446	538.1								
0555		.844	2064.1			0555		1.446	538.1								
0625		.845	2066.0			0625		1.446	538.1								
0655		.847	2071.3			0655		1.447	538.4								
0725		.849	2076.0			0725		1.447	538.4								
0755		.851	2080.8			0755		1.448	538.7								
0825		.852	2083.1			0825		1.448	538.7								
0855		.853	2085.5			0855		1.449	539.0								
0925		.854	2087.9			0925		1.449	539.0								
0955		.855	2090.3			0955		1.449	539.0								
1025		.856	2092.6			1025		1.449	539.0								
1055		.857	2095.0			1055		1.450	539.3								
1125		.858	2097.4			1125		1.451	539.5								
1155		.859	2099.8			1155		1.451	539.5								
1225	8100	.860	2102.1		7.004	1225	8100	1.452	539.2								

COMMENTS:

BY: *[Signature]*

76

UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B# 13-S-20-P/T

OWNER UNION OIL CO OF CAL. FIELD VALLE GRANDE WELL NAME B# 13
 CASING 20" @ 215' - 13 3/4" @ 1469' ELEV. 9211 DATE: 4-28-76
 LINER DESCRIPTION: 7 3/8" @ 3380 ZERO POINT CL + 12'
7" 3346 - 8200' DEPTH 8176

TUBING DETAIL:

PURPOSE Buildup

REMARKS:
Element - 0-4750 PSI SN 13012 Clock 12hr 15 Turn
Element 82' - 686' F SERIAL NO. 10065 CLOCK 12hr 15 Turn STABILIZATION PERIOD
ENGAGE STYLUS P20843 - T 0849 DISENGAGE STYLUS P22250 T2250

WELL HEAD
 PICKUP @ 8100 TIME ON BOTTOM 0945 - 2145 MAX. F 537.8

WELL STATUS
 SHUT IN: 1130 hrs - 4-27-76 ON PRODUCTION:

RATE

Pressure

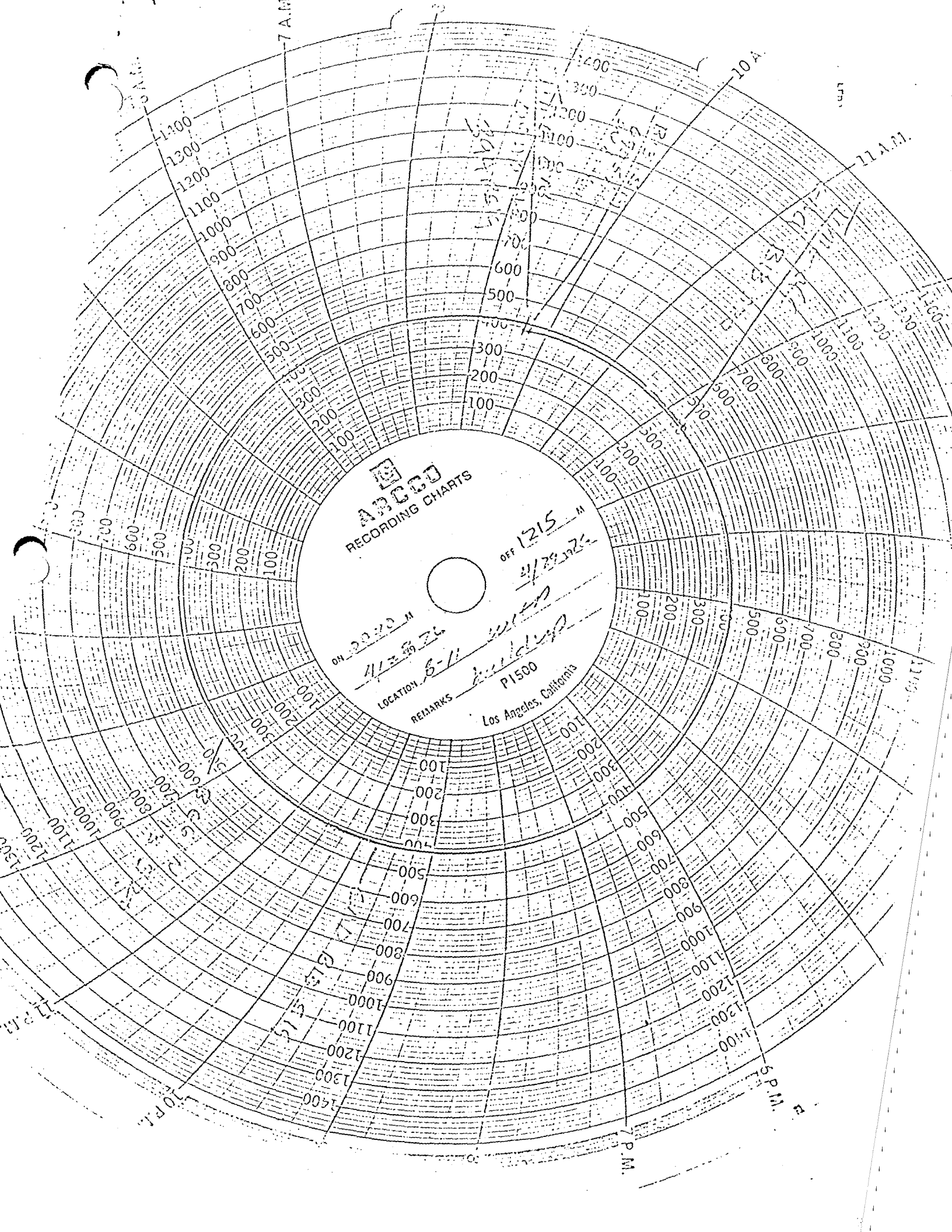
Temperature

TIME	DEPTH	DEFL.	P-T	GRAD.	COMP	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0945	8100	.789	1937.2		7.005	0945	8100	1.378	518.5								
		.794	1945.1		7.004	1015		1.433	534.4								
		.794	1945.1			1045		1.433	534.4								
		.797	1952.3			1115		1.434	534.7								
		.797	1952.3			1145		1.435	535.0								
		.801	1961.8			1215		1.436	535.3								
		.801	1966.6			1245		1.436	535.3								
		.803	1966.6			1315		1.437	535.5								
		.804	1969.0			1345		1.437	535.5								
		.806	1973.7			1415		1.439	536.1								
		.807	1976.1			1445		1.440	536.4								
		.810	1983.3			1515		1.442	536.9								
		.810	1983.3			1545		1.445	537.8								
		.813	1990.5			1615		1.445	537.8								
		.814	1992.8			1645		1.445	537.8								
		.815	1997.6			1715		1.445	537.8								
		.818	2002.4			1745											
		.819	2004.7			1815											
		.822	2011.9			1845											
		.824	2016.6			1915											
		.825	2019.8			1945											
		.826	2021.4			2015											
		.827	2023.8			2045											
		.828	2026.1			2115											
2145	8100	.828	2026.1		7.004	2145	8100										

Checked Stillwell

COMMENTS:

BY: *[Signature]*



ABECO
RECORDING CHARTS

ON 1215 M

4/23/52

LOCATION 8-11

REMARKS

PI500
Los Angeles, California

OFF 1215 M

4/23/52

PI500

PI500

GEOTHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

613 518
613 518 PIT

OWNER <u>UNION OIL COMPANY FIELD VALLE GRANDE</u>	WELL NAME <u>BAC11 #13</u>
CASING <u>20" AT 215; 13 3/8 - 1469' ELEV. 9211</u>	DATE: <u>4/25/76</u>
LINER DESCRIPTION: <u>9 5/8 3380</u>	ZERO POINT <u>C.L. +12'</u>
<u>7" 3346 - 8200'</u>	DEPTH <u>8176 8176</u>

TUBING DETAIL:

PURPOSE buildup

REMARKS:

ELEMENT - 0-4750 PSI SN 13012 CLOCK - 12 hr. 15 TURN

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

ENGAGE STYLUS P-1845 T-1850 DISENGAGE STYLUS P-0815 T-0815

WELL HEAD SEE ATTACHED CHARTS

PICKUP @ 8100 TIME ON BOTTOM 1915 hr - 0715 MAX. °F 531.6

WELL STATUS

SHUT IN: 1130 hrs 4/27/76 ON PRODUCTION:

RATE

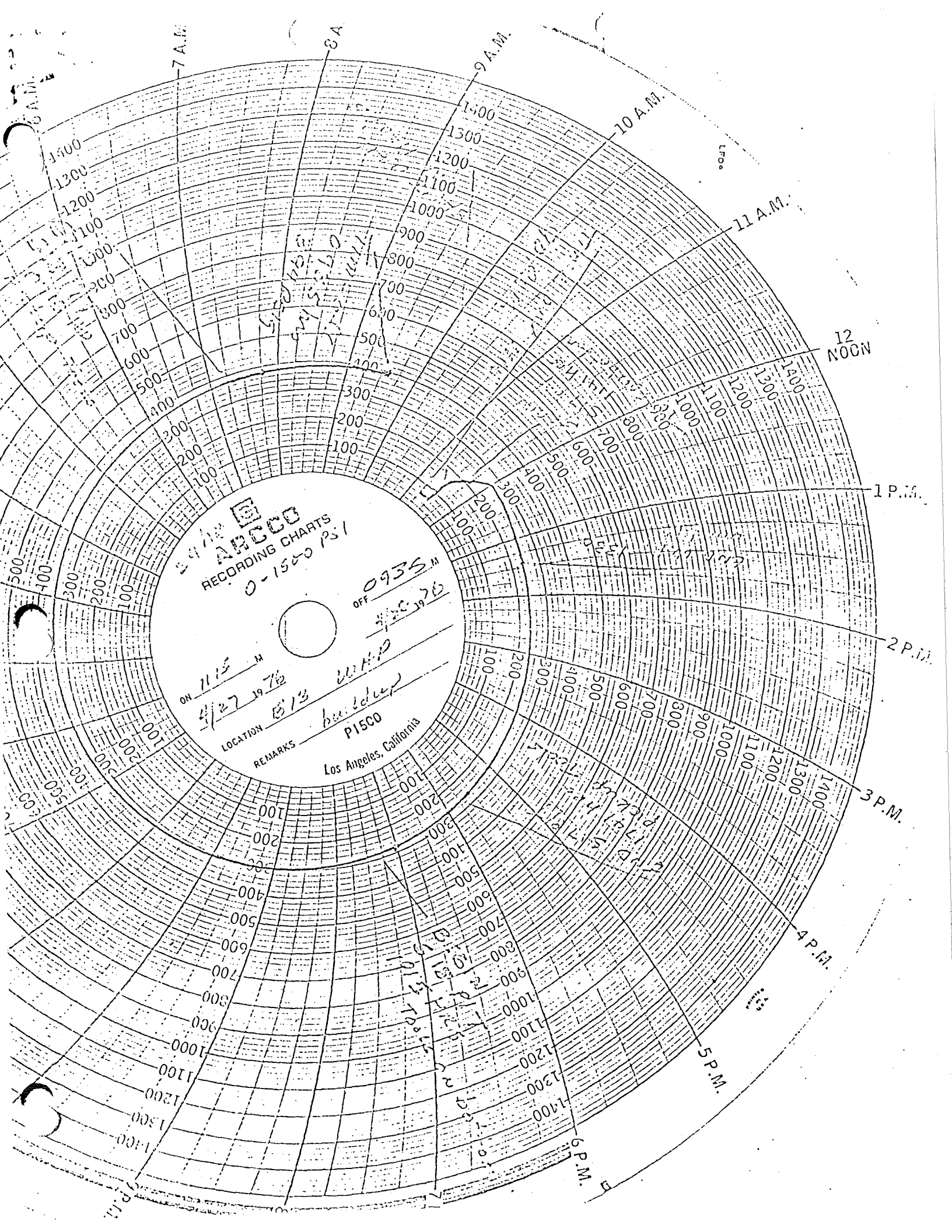
PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1915	8100	.715	1757		7.004	1915	8100	1.340	507.3								
	✓	.724	1778		✓	45	✓	1.396	523.8								
2015	✓	.727	1785		✓	2015	✓	1.598	524.4								
45	✓	.729	1790		✓	45	✓	1.401	525.3								
2115	✓	.731	1795		✓	2115	✓	1.401	525.3								
45	✓	.754	1802		✓	2145	✓	1.403	525.6								
2215	✓	.738	1811		✓	2215	✓	1.405	526.4								
45	✓	.742	1821		✓	2245	✓	1.407	527.0								
2315	✓	.745	1828		✓	2315	✓	1.408	527.3								
45	✓	.749	1838		✓	45	✓	1.410	527.9								
0015	✓	.752	1845		✓	0015	✓	1.412	528.4								
45	✓	.755	1852		✓	45	✓	1.412	528.4								
0115	✓	.759	1861		✓	0115	✓	1.414	529.0								
45	✓	.762	1868		✓	45	✓	1.414	529.0								
0215	✓	.765	1876		✓	0215	✓	1.416	529.6								
45	✓	.767	1881		✓	45	✓	1.416	529.6								
0315	✓	.769	1885		✓	0315	✓	1.418	530.1								
45	✓	.771	1890		✓	0345	✓	1.418	530.1								
0415	✓	.774	1897		✓	0415	✓	1.420	530.7								
45	✓	.776	1902		✓	45	✓	1.420	530.7								
0515	✓	.778	1907		✓	0515	✓	1.422	531.3								
45	✓	.780	1911		✓	45	✓	1.422	531.3								
0615	✓	.782	1916		✓	0615	✓	1.423	531.6								
45	✓	.784	1921		✓	45	✓	1.423	531.6								
0715	✓	.786	1926		✓	0715	✓	1.423	531.6								

COMMENTS:

BY: IR PR



6 A.M.

7 A.M.

8 A.M.

9 A.M.

10 A.M.

11 A.M.

12 NOON

1 P.M.

2 P.M.

3 P.M.

4 P.M.

5 P.M.

6 P.M.

ARCO
RECORDING CHARTS
0-1500 PSI

ON 11:15 M
4/27 1976

OFF 09:35 M
4/28 1976

LOCATION B13
REMARKS
PI500
Los Angeles, California

Handwritten notes in the upper left quadrant of the chart.

Handwritten notes in the upper right quadrant of the chart.

Handwritten notes in the middle right quadrant of the chart.

Handwritten notes in the lower right quadrant of the chart.

Handwritten notes in the lower left quadrant of the chart.

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GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B #13 - S 18 PIT

OWNER: UNITED OIL CO. OF CAL. FIELD OFFICE GRANDE

WELL NAME: B #13

CASING: 2 1/2" @ 215' - 13 3/8" @ 1469' ELEV. 9211

DATE: 4-27-76

LINER DESCRIPTION: 9 5/8" @ 3380, 7" 3380' - 8200'

ZERO POINT: CL + 12'

DEPTH: 8176

TUBING DETAIL:

PURPOSE:

REMARKS:

PSI - 0 - 4750 SN 13012 12 hr 15 T

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

ENGAGE STYLUS P 1024 T 1057 DISENGAGE STYLUS P 1814 - T - 1814

WELL HEAD: See Attached Charts

PICKUP @ 8100 TIME ON BOTTOM 1141 - 1741 MAX. °F 521.8

WELL STATUS:

SHUT IN: 1130 hrs 4-27-76 ON PRODUCTION:

RATE:

Temperature						Temperature						Pressure					
TIME	DEPTH	DEFL.	Y-T	GRAD.	ID.	TIME	DEPTH	DEFL.	Y-T	GRAD.	ID.	TIME	DEPTH	DEFL.	P-7	GRAD.	COR.
1141	8100	1.271	486.9			1741	8100	1.387	521.8			1141	8100	.384	966.3		+ .002
1142	^	1.300	495.5				^					1142	^	.392	985.6		+ .002
1143		1.325	502.9									1143		.400	1004.8		+ .002
1144		1.336	506.1									1144		.410	1028.6		+ .002
1145		1.339	507.0									1145		.417	1045.3		+ .002
1146		1.342	507.9									1146		.426	1066.8		+ .002
1147		1.346	509.1									1147		.434	1085.9		+ .003
1148		1.347	509.5									1148		.443	1107.4		+ .003
1149		1.348	509.7									1149					
1150		1.349	510.0														
1151		1.349	510.0														
1156		1.352	510.8														
1201		1.353	511.1														
1206		1.353	511.1														
1211		1.353	511.1														
1226		1.354	511.4														
1341		1.355	511.7														
1356		1.358	512.6														
1311		1.359	512.9														
1326		1.359	512.9														
1341		1.360	513.2														
1411		1.366	515.0														
1441		1.368	515.6														
1511		1.371	516.4														
1541		1.373	517.0														
1611		1.378	518.5														
1700		1.385	520.6			8100						1741	8100	.721	1700.9		+ .004

COMMENTS: Calibration check w/ D.W.I. def. 1.816 CORRECTION BASED ON 100° AT 75 °F COR. +.002 C def. .818 C PSI = 2002.0

BY: AB PAB

4 27 75

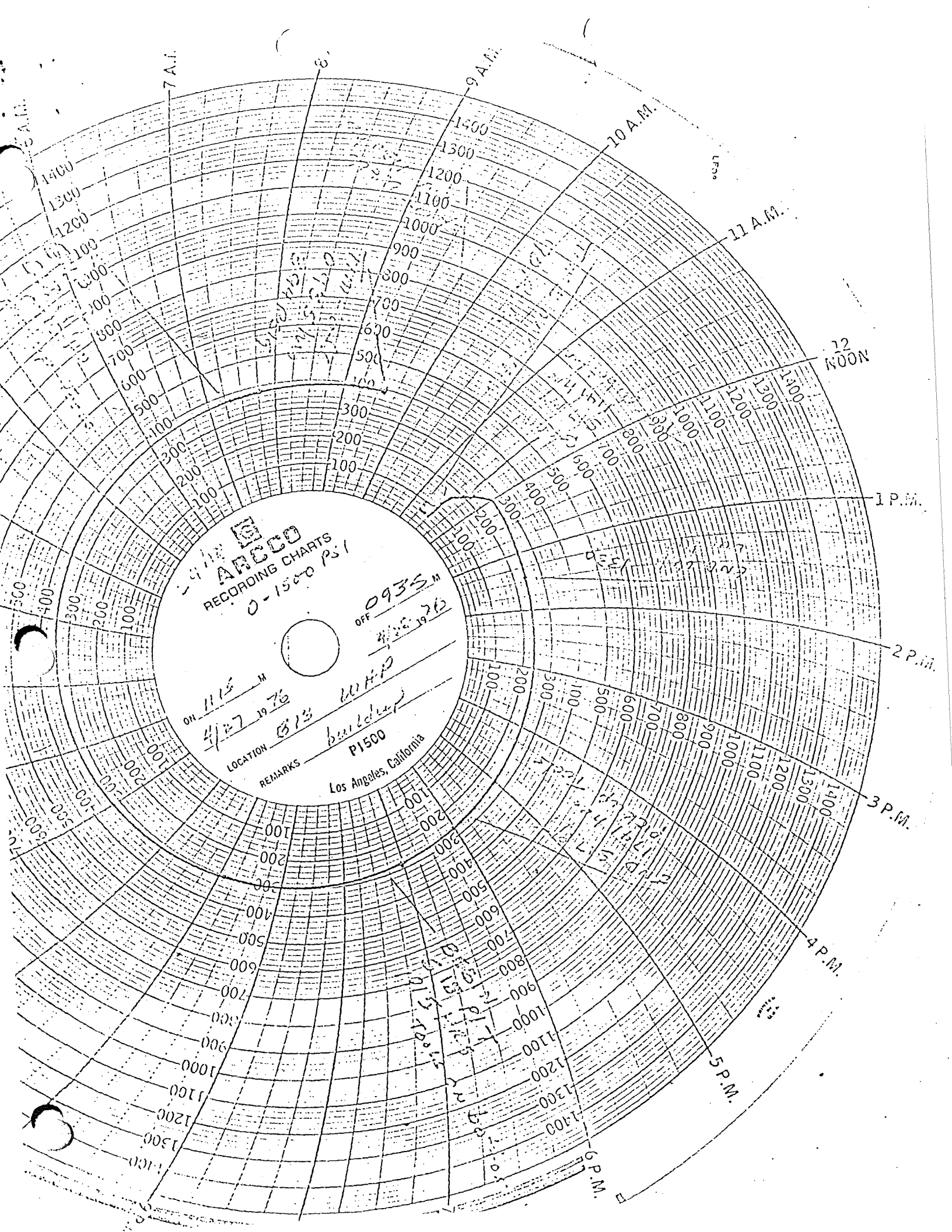
WELL HEAD PRESSURE BUILD UP

WELL: BACA #13

DATE: 4/27/75

TIME SHUT IN: 1130 HRS.

TIME	Pwh
HRS: MIN	PSIG
11:30	93
11:31	129
11:32	157
11:33	168
11:34	174
11:35	177
11:36	180
11:37	184
11:38	189
11:39	194
11:40	197
11:45	212
11:50	232
11:55	253
12:00	261
12:05	270
12:10	270
12:15	268
12:20	266
12:25	264
12:30	260
12:45	256
13:00	243
13:15	246
13:30	243



ARCO
RECORDING CHARTS
0-1500 PSI

ON 11:15 M
4/27 1976
OFF 0935 M
4/28 1976
LOCATION B13 WHIP
REMARKS P1500
Los Angeles, California

Handwritten notes:
Circuit
No. 1
10/10/76

Handwritten notes:
Peak
at 3:05

Handwritten notes:
10:15
10:20
10:25
10:30
10:35
10:40
10:45
10:50
10:55
11:00
11:05
11:10
11:15
11:20
11:25
11:30
11:35
11:40
11:45
11:50
11:55
12:00

Handwritten notes:
0:15
0:20
0:25
0:30
0:35
0:40
0:45
0:50
0:55
1:00
1:05
1:10
1:15
1:20
1:25
1:30
1:35
1:40
1:45
1:50
1:55
2:00

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UNION

GEOHERMAL DIVISION

JOHN D. HARTZ
DEL PYLE
OCT 6 1975
OCT 8 1975

SUBSURFACE SURVEY
Field Work Sheet

BACA#13-516-P/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE
WELL NAME BACA#13
CASING 20" @ 215' 13 3/8" - 1469' ELEV. 9211' DATE: ~~4/22/75~~ 9/27/75
LINER DESCRIPTION: 9 5/8" - 3380', 7" - 3380' - 8200' ZERO POINT 6L+12'
DEPTH 8176'

TUBING DETAIL:

PURPOSE

REMARKS:

P-O-1050 - 7198 12hr 13375L 15

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

ENGAGE STYLUS P-0910 T-0905 DISENGAGE STYLUS P-1398 - T-1398

WELL HEAD 6.5 PSIG

PICKUP @ 8176' TIME ON BOTTOM 1117-1247 MAX. °F 584.7

WELL STATUS SHUT IN

SHUT IN: 1040 HRS - 2/25/75 ON PRODUCTION:

RATE

PRESSURE TEMPERATURE

TIME	PRESSURE					TEMPERATURE					ID	TIME	TEMPERATURE					ID
	DEPTH	DEFL.	P-T	GRAD.	CO ₂	DEPTH	DEFL.	P-T	GRAD.	DEPTH			DEFL.	P-T	GRAD.	DEPTH	DEFL.	
10	100	.030	676	0	0	-	100	.020	88.1									
10	1000	.025	56.3	0	0	-	1000	.616	283									
1036	2000	.079	177.3	.121	0	-	2000	.834	352									
1038	3000	.250	557.5	.382	0	-	3000	1.185	462.3									
1053	4000	.411	900.4	.341	+0.01	-	4000	1.322	502									
1105	5000	.569	1233.2	.333	+0.04	-	5000	1.247	480									
1115	6000	.734	1582.5	.347	+0.06	-	6000	1.292	493.1									
1131	7000	.891	1913.1	.333	+0.03	-	7000	1.474	546.1									
1144	8000	1.047	2240.1	.327	+0.01	-	8000	1.603	583									
1217	8176	1.066	2255.1	.261	+0.01	-	8176	1.611	585									
1217	8176	1.066	2255.1	"	"	-	8176	1.611	585									
1247	8176	1.066	2255.1	"	"	-	8176	1.611	585									

COMMENTS:

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BA13-SK-2H

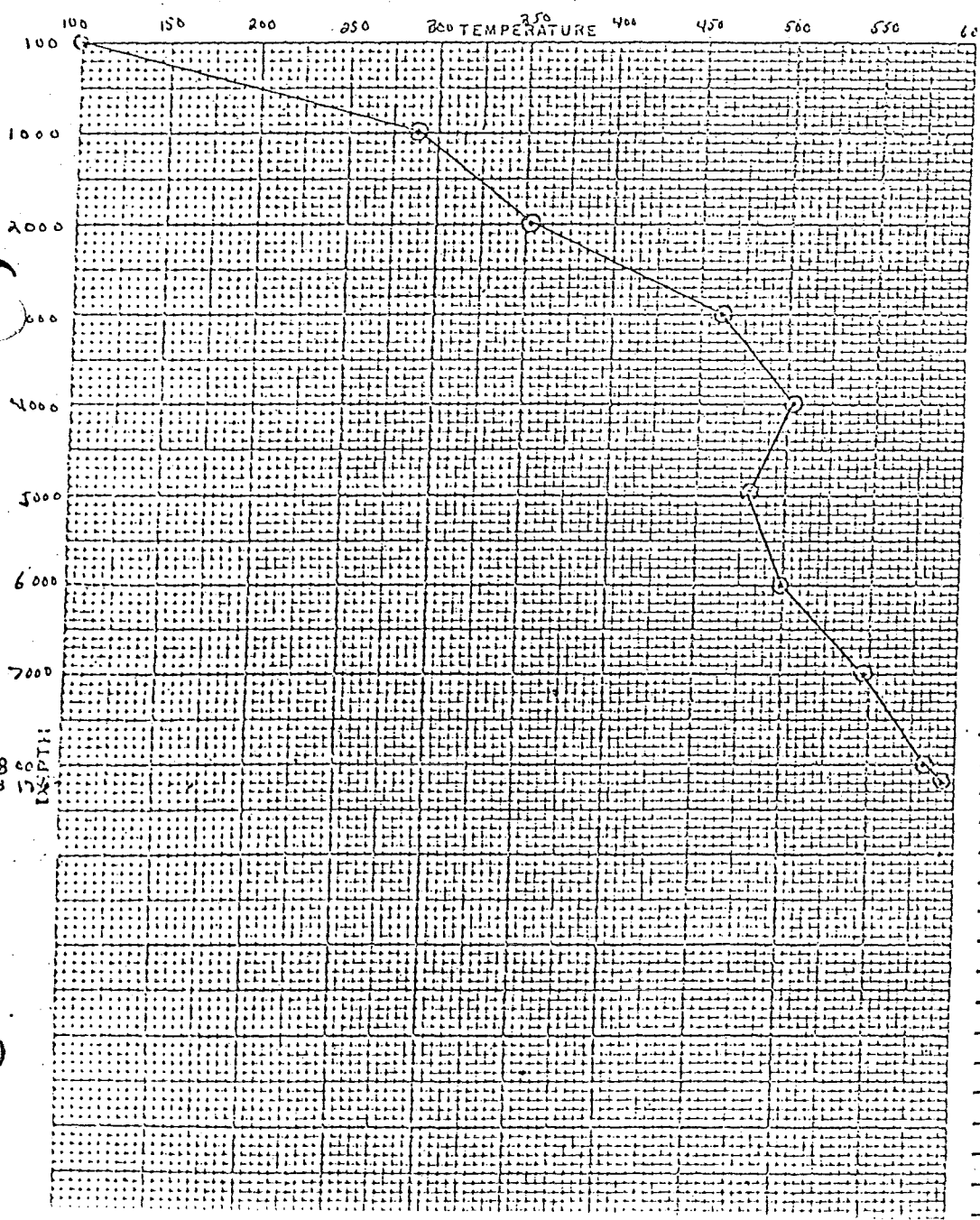
316

OWNER UNION OIL CO. OF CALIF FIELD UHLLE GYHWD WELL NAME BACH #13
 CASING 20" @ 215' - 13 1/2" - 1469 ELEV. _____ DATE: 9-27-75
 LINER DESCRIPTION: 9 1/2" - 3380 - 7" 3380 - 8200' ZERO POINT GL + 12'
 DEPTH: 8176

HOLE DESCRIPTION: _____ INSTRUMENT 82° to 686° F.S. _____
 SERIAL NO 10055

PURPOSE _____ MAX TEMP. 585 °F @ 8176

REMARKS: _____



STABILIZATION PERIOD _____

PRESSURES	GAUGE	DEPTH
CASING, PSI	<u>65</u>	<u>66 @ 12</u>

DEPTH	TEMP.	DEPTH	TEMP.
<u>100</u>	<u>88.1</u>		
<u>1000</u>	<u>283</u>		
<u>2000</u>	<u>352</u>		
<u>3000</u>	<u>462</u>		
<u>4000</u>	<u>502</u>		
<u>5000</u>	<u>480</u>		
<u>6000</u>	<u>493</u>		
<u>7000</u>	<u>546</u>		
<u>8000</u>	<u>583</u>		
<u>8176</u>	<u>585</u>		
<u>8176</u>	<u>585</u>		
<u>8176</u>	<u>685</u>		

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-13-5-15 P/T

OWNER: UNION OIL COMPANY FIELD: VALLE GRANDE WELL NAME: BACA # 13
 CASING: 20" - 215' ; 13 3/8" - 1469' ELEV. 9211' DATE: 4/25/75
 LINER DESCRIPTION: 4 5/8" - 3380' ZERO POINT: CL + 12'
 7" - 3380' - 8200' DEPTH: 8200'

TUBING DETAIL:

PURPOSE:

REMARKS:

0-4750 PSIG SN-7198 CLOCK 13375-L 15 TURN

ELEMENT 82° 6.86° F SERIAL NO. 10055 CLOCK 13374-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1114 ; T-1118 DISENGAGE STYLUS P-1355 ; T-1338

WELL HEAD 141

PICKUP @ 8176' TIME ON BOTTOM 1245-1255 MAX. F 532.5

WELL STATUS: STATIC

SHUT IN: 1040 hrs 2/25/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE											
DEPTH	DEFL.	P. #	GRAD.	ID	TIME	DEPTH	DEFL.	P. T.	GRAD.	ID	TIME	DEPTH	DEFL.	P. T.	GRAD.	ID
150	0.610	148.6		-	"	150	1.050	497.8								
1-1231	6.250	175.6	1584.7	1.026	"	6250	1.287	491.7								
3-1243	70.50	189.3	1917.3	1.023	"	7150	1.453	540.1								
5-1255	8176	1.075	2302.0	1.002	"	8176	1.602	532.5								

COMMENTS:

716

GEOHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

B-15 S-15 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #13
 CASING 20" - 215' ; 13 3/8" - 1469' ELEV. 9211' DATE: 4/25/75
 LINER DESCRIPTION: 9 3/8" - 5380' ZERO POINT CL + 17'
7" - 3380' - 8200' DEPTH 8200'

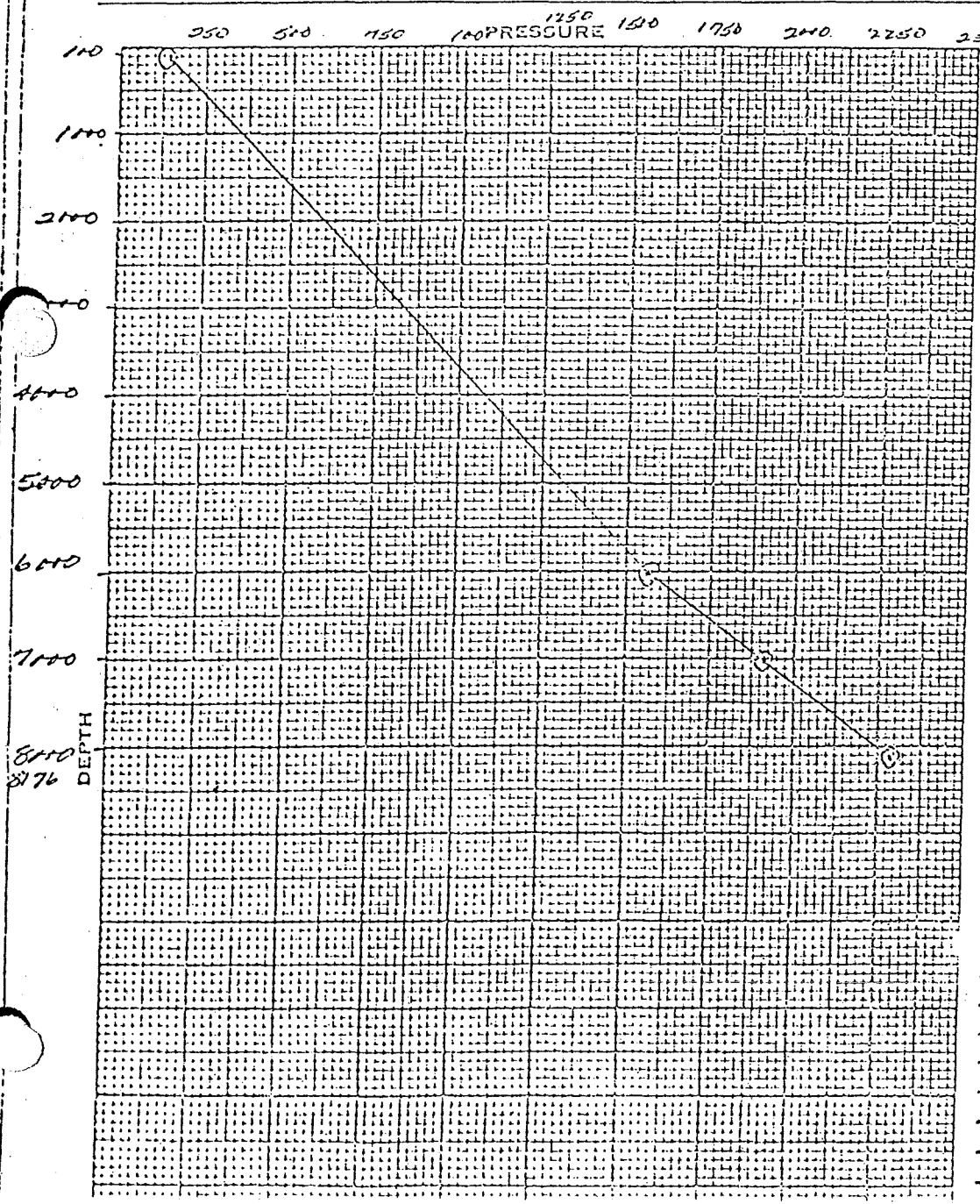
HOLE DESCRIPTION:

INSTRUMENT 0-4250 PS.
 SERIAL NO. 7198

PURPOSE

MAX TEMP 582.5 °F @ 8176'

REMARKS:



STABILIZATION PERIOD

PRESSURE	GAUGE	BOMB
CASING, PSI		

DEPTH	PRESSURE	GRADIENT
100	148.1	
6000	1584.7	
7000	1917.8	
8176	2300.0	

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

B-13 -5-14 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BARA #13
 CASING 20" AT 215', 13 3/8" AT 1469' ELEV. 9211' DATE: 4/15/75
 LINER DESCRIPTION: 9 7/8" AT 3385' ZERO POINT CL + 12'
7" 5380 - 8200 - DEPTH 8200'

TUBING DETAIL:

PURPOSE GRADIENT

REMARKS:

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

ELEMENT 32" - 686° SERIAL NO. 10055 CLOCK 13374-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0904; T-0909 DISENGAGE STYLUS P-1500; T-1500

WELL HEAD 158 PSIG - 0-1500 PSIG BRATON RECORDER

PICKUP @ 8176' TIME ON BOTTOM 1154-1214 MAX. F 582.3

WELL STATUS STATIC

SHUT IN: 1040 H.L. 2/25/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

PRESSURE						TEMPERATURE											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	0	.071	1591	0	-	"	0	0	0								
4500	.495	1099.7	.204	F. 002	"	4500	1.310	495.5									
4750	.535	1161.8	.530	F. 002	"	4750	1.293	493.4									
5000	.576	1247.9	.344	F. 003	"	5000	1.245	479.3									
5250	.617	1334.0	.344	F. 004	"	5250	1.256	482.5									
5500	.658	1420.2	.345	F. 005	"	5500	1.272	487.2									
5750	.699	1506.4	.345	F. 006	"	5750	1.284	490.8									
6000	.739	1591.1	.339	F. 006	"	6000	1.293	493.4									
6250	.778	1673.7	.330	F. 005	"	6250	1.342	509.1									
6500	.817	1756.4	.331	F. 005	"	6500	1.380	519.1									
8176	1.078	2310.6	.331	F. 002	"	8176	1.601	582.3									

COMMENTS:

BY: SM/JB

GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

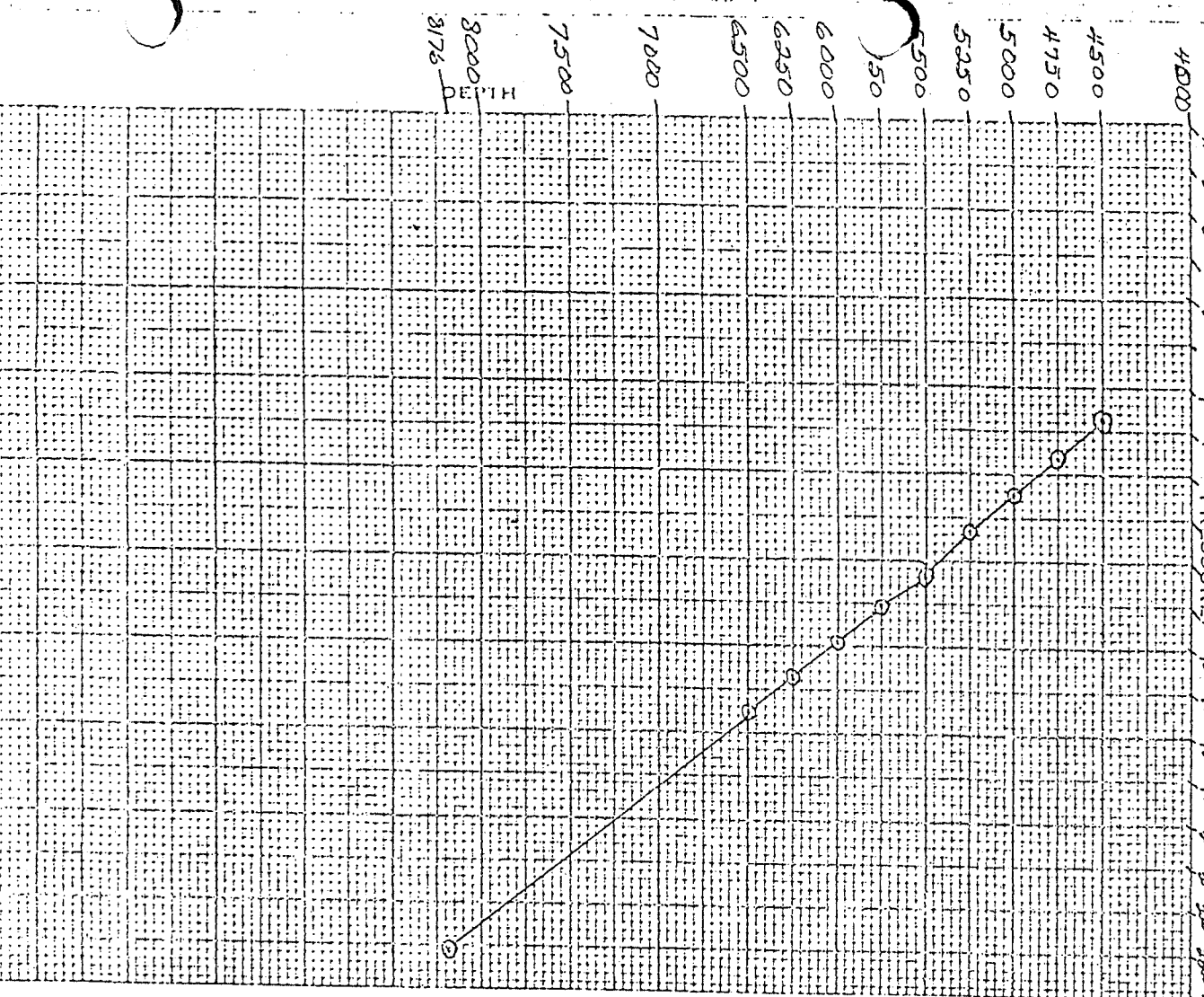
B#13-S14-711

110

OWNER: UNION OIL CO. OF CALIF. FIELD: UNLE GRANDE WELL NAME: BACA #13
 Casing: 20" (24.5'), 13 3/8" (24.45'), 9 5/8" (23.50') DATE: 4/15/73
 LINE DESCRIPTION: 7" - 3350' - 8176' ZERO POINT: 647.2'
51075 - 4227 - 8176' DEPTH: 8176'

WELL DESCRIPTION: _____
 INSTRUMENT: 0-6839-0 P.S. _____
 SERIAL NO: 7198
 MAX TEMP: 582.3 °F @ 8176'

PURPOSE: _____
 REMARKS: _____
 STABILIZATION PERIOD: _____



DEPTH	PRESSURE	GRADIENT
0	159.1	0
4750	1077.7	.204
5000	1161.8	.336
5000	1247.8	.344
5250	1334.0	.344
5500	1420.2	.345
5750	1506.4	.345
6000	1596.1	.339
6250	1675.7	.330
6500	1756.4	.331
8176	2310.6	.331

76

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B#13-S14-P1r

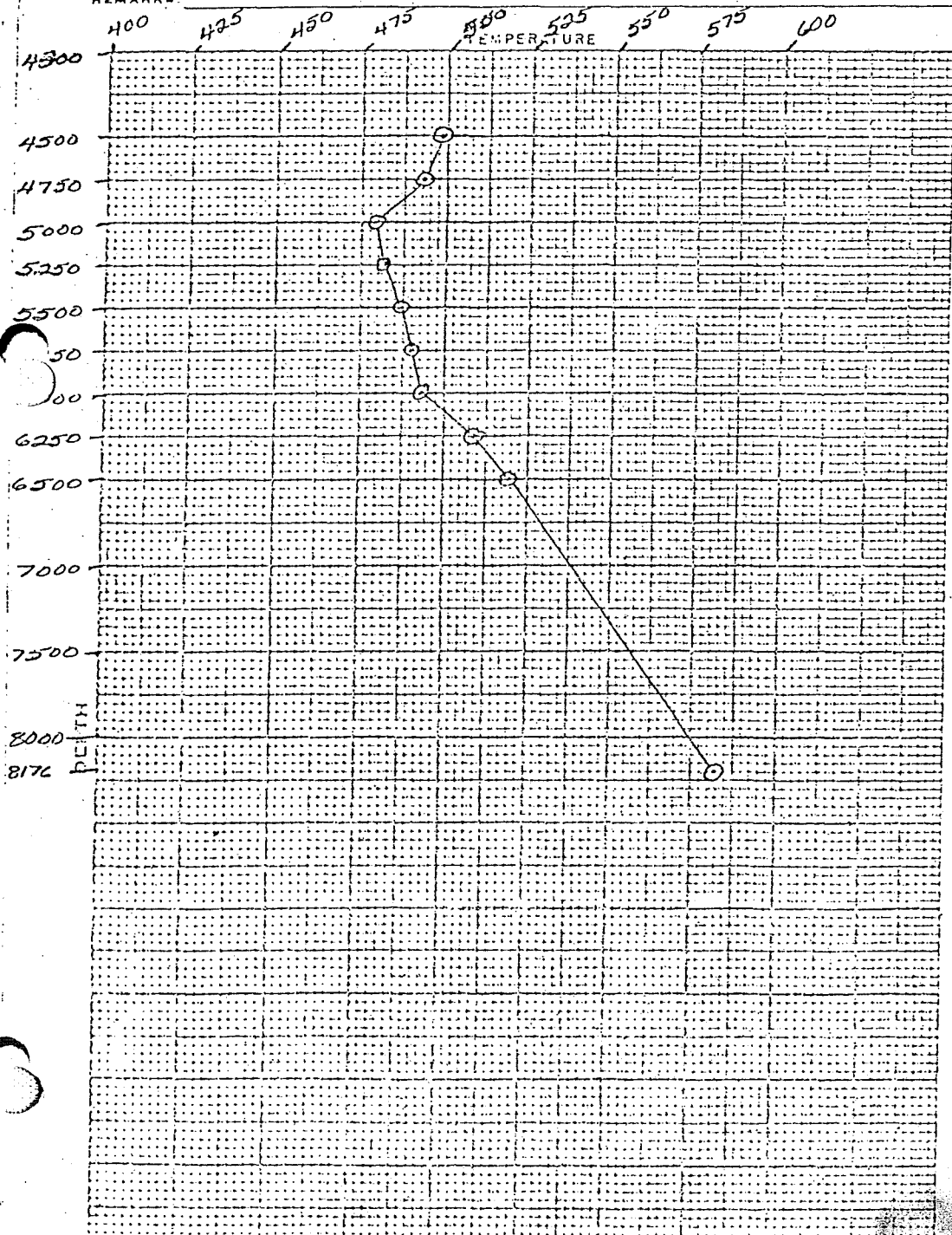
OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BAMA#13
 CAGING 20" @ 215', 13 3/8" @ 1469', 9 5/8" @ 3380' ELEV 9211' DATE 4/15/75
 LINER DESCRIPTION: 7" @ 3380' - 8176' ZERO POINT GL+12'
SLOTS - 4227' - 8176' DEPTH 8176'

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

PURPOSE _____ MAX TEMP 582.3 °F @ 8176'

REMARKS:

STABILIZATION PERIOD



PRESSURES	GAUGE	CORR
CASING, PSI	158	159.1

DEPTH	TEMP.	DEPTH	TEMP.
0	0		
4500	499.5		
4750	493.4		
5000	479.3		
5250	482.5		
5500	487.2		
5750	490.8		
6000	493.4		
6250	509.1		
6500	519.1		
8176	582.3		

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-13 S-13 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAR #13
 CASING 26" AT 315'; 13 3/4" AT 1465' ELEV. 9211' DATE: 4/4/75
 LINER DESCRIPTION: 9 3/8" AT 3380'; ZERO POINT G.L. +12'
7" 3380' - 8200'; SLOTS - 4227' - 8106' DEPTH 8200'

TUBING DETAIL:

PURPOSE GRADIENT

REMARKS:

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

ELEMENT 82"-686" SERIAL NO. 10055 CLOCK-15374-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-0931; T-0926 DISENGAGE STYLUS P-1420; T-1420

WELL HEAD 195-PSIG - BARTON RECORDER 0-1500 PSIG

PICKUP @ 8176' TIME ON BOTTOM 1254-1304 MAX. °F 581.1

WELL STATUS STATIC

SHUT IN: 1040 HRS 2/25/75 ON PRODUCTION:

RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	Q-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
	0	.097	195.9	0	0	1003.000	0	0	0								
	100	.097	195.9	0	0	"	100	.066	103.0								
	1000	.685	198.2	0	0	"	1000	.424	222.6								
	2000	.085	198.2	0	0	"	2000	.818	346.8								
	3000	.238	533.9	.336	-0.01	"	3000	1.139	447.1								
	4000	.405	837.7	.354	0	"	4000	1.269	486.4								
	4100	.425	930.1	.424	+0.02	"	4100	1.273	487.5								
	4200	.441	964.0	.339	+0.02	"	4200	1.276	488.4								
	4300	.456	995.9	.318	+0.02	"	4300	1.288	492.0								
	4400	.472	1029.4	.335	+0.02	"	4400	1.289	492.3								
	4500	.488	1065.0	.236	+0.02	"	4500	1.294	493.7								
	5000	.519	1233.2	.340	+0.03	"	5000	1.234	476.0								
	6000	.731	1574.2	.341	+0.06	"	6000	1.233	490.5								
	7000	.872	1915.3	.341	+0.04	"	7000	1.458	541.5								
	8176	1.074	2352.1	.329	+0.02	"	8176	1.597	581.1								

COMMENTS:

8000
5174

7000

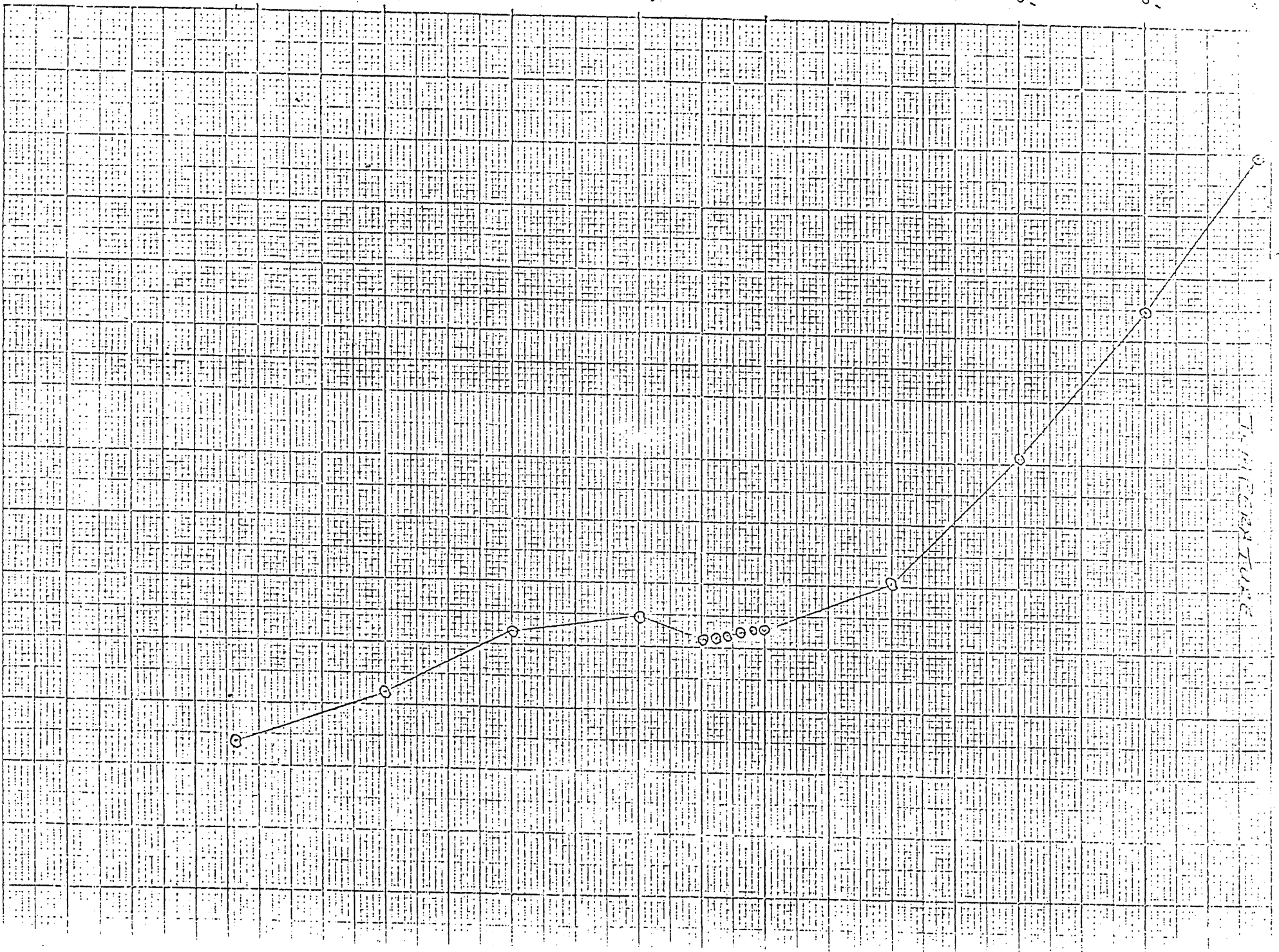
6000

4000
4100
4200
4300
4400
4500

5000

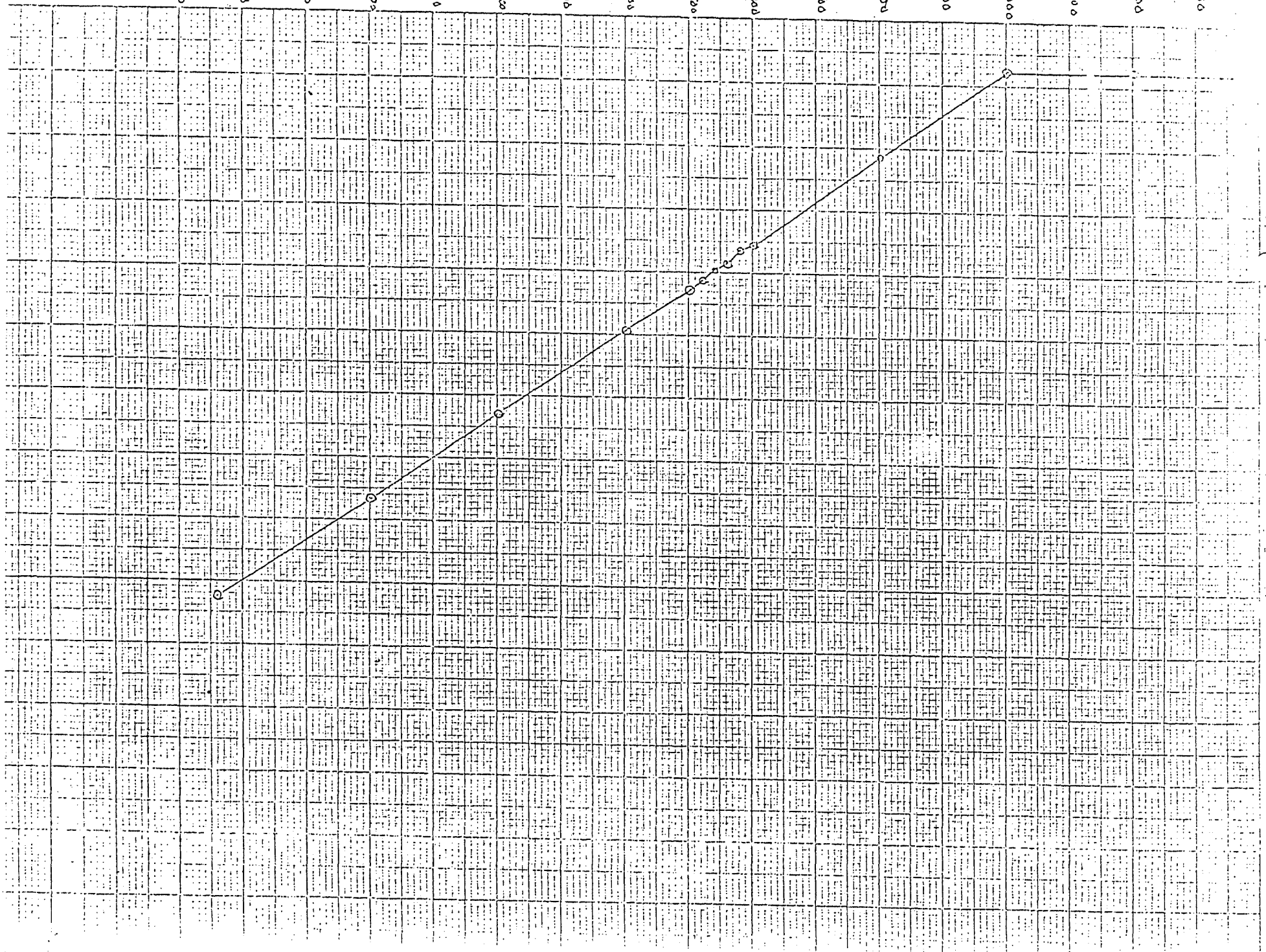
2000

1000



DEPT

8500 8000 7500 7000 6500 6000 5500 5000 4500 4000 3500 3000 2500 2000 1500 1000 500



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GEO THERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

BACA#13-S12-P/T

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BACA#13
 CASING 20" @ 215'; 13 3/8" @ 1469'; 9 7/8" @ 3380' ELEV. 9211' DATE: 3/23/75
 LINER DESCRIPTION: 7" - 3380' - 8200' ZERO POINT GLT-12'
 DEPTH 8176'

TUBING DETAIL:

PURPOSE BUILD UP

REMARKS:

P-0-4250 PSIG - 7198 12 1/2 13375L - 15
 ELEMENT T-800-6460F SERIAL NO. 10052 CLOCK 12HR - 13374L 15TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-0734HR - T-0738 DISENGAGE STYLUS P-1037 - T-1037
 WELL HEAD 370 PSIG
 PICKUP @ 8176' TIME ON BOTTOM 1003 - 1025 MAX. °F 573.5
 WELL STATUS SHUT IN
 SHUT IN: 1040 hrs - 2/25/75 ON PRODUCTION:
 RATE

PRESSURE TEMPERATURE

DEPTH	DEFL.	P-°	GRAD.	ID CORR	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
0	.167	376.1	0	0	"	"	.004	81	-	-						
500	.170	352.9	0	0	"	"	.380	198.9	-	-						
1000	.170	382.9	0	0	"	"	.523	242.9	-	-						
1500	.172	387.4	0	0	"	"	.647	279.9	-	-						
2000	.172	387.4	0	0	"	"	.853	341.8	-	-						
2500	.172	387.4	0	0	"	"	1.036	373.3	-	-						
3000	.244	546.6	.318	-1.001	"	"	1.196	432.9	-	-						
3500	.326	720.3	.346	0	"	"	1.333	475.9	-	-						
4000	.409	896.2	.352	+1.001	"	"	1.349	480.2	-	-						
4500	.488	1063.2	.334	+1.002	"	"	1.374	487.0	-	-						
5000	.568	1231.1	.336	+1.003	"	"	1.333	475.9	-	-						
5500	.649	1401.3	.340	+1.005	"	"	1.385	489.9	-	-						
6000	.729	1570.0	.338	+1.006	"	"	1.417	498.4	-	-						
6500	.807	1735.2	.330	+1.004	"	"	1.515	523.9	-	-						
7000	.884	1898	.326	+1.003	"	"	1.585	542.1	-	-						
7500	.961	2062	.328	+1.003	"	"	1.649	558.2	-	-						
8176	1.064	2281	.324	+1.002	"	"	1.710	573.5	-	-						
8176	1.064	2281	-	+1.002	"	"	1.710	573.5	-	-						
8176	1.064	2281	--	+1.002	"	"	1.710	573.5	-	-						

COMMENTS:

276

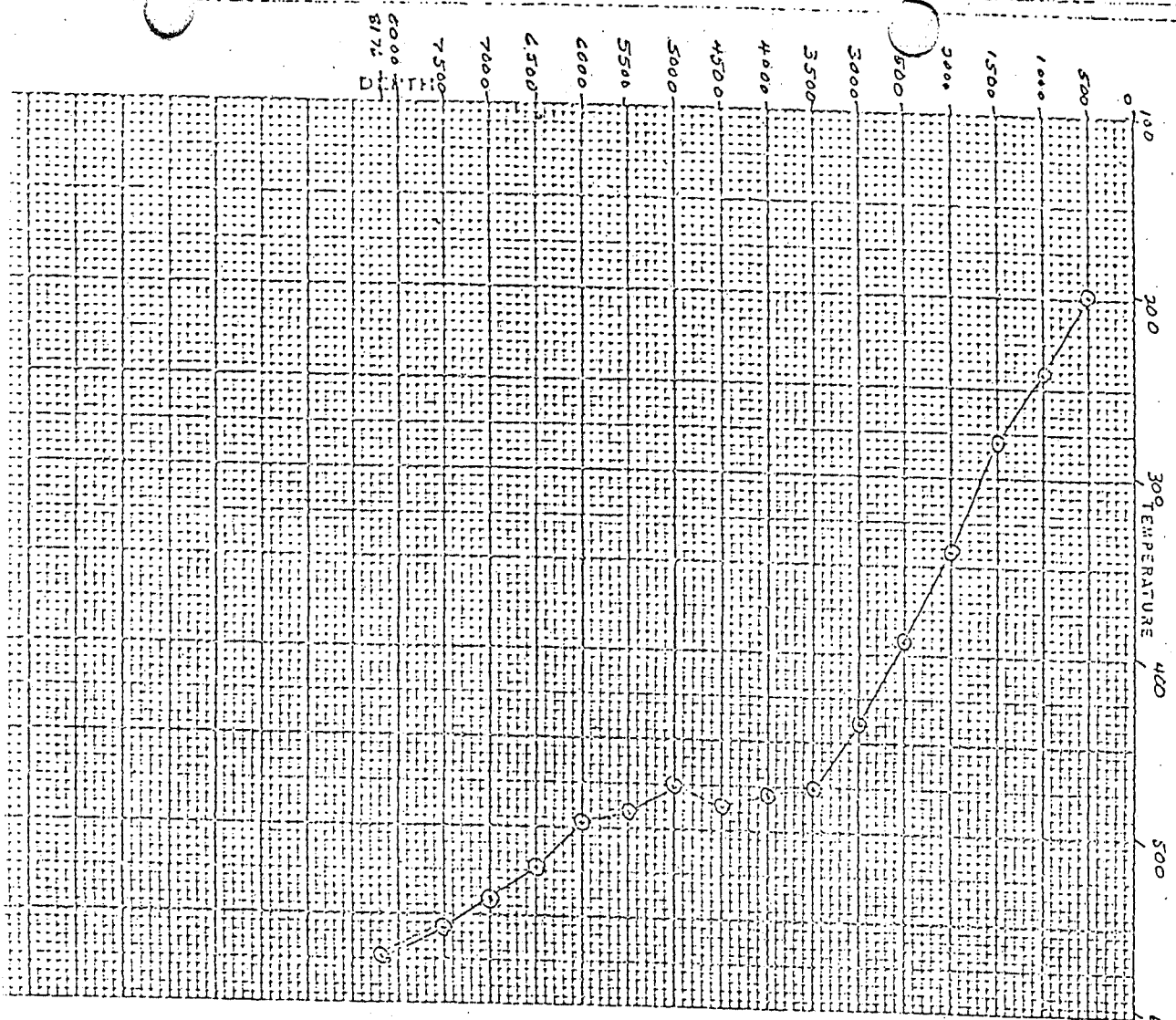
GEOHERMAL DIVISION SUBSURFACE TEMPERATURE SURVEY

8666P15-513-TEMP

OWNER UNION OIL CO. OF CALIF. FIELD WALE GRANDE WELL NAME BACC #13
 CASING 30" @ 215', 13 3/4" @ 449', 8 3/4" @ 530' ELEV. 9311' DATE: 3/22/75
 LINER DESCRIPTION: 7" @ 530' - 8200' ZERO POINT 0.67121'
 DEPTH: 8173'

HOLE DESCRIPTION: _____
 INSTRUMENT 209-64895 FA: _____
 SERIAL NO 10052

PURPOSE BUILD UP MAX. TEMP. 573.5 °F @ 8173'
 REMARKS: _____



DEPTH	TEMP.	DEPTH	TEMP.
0	81		
500	199		
1000	243		
1500	250		
2000	342		
2500	393		
3000	439		
3500	476		
4000	480		
4500	487		
5000	476		
5500	490		
6000	498		
6500	524		
7000	542		
7500	558		
8173	574		

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GEOTHERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

FORM B-512-PRESS

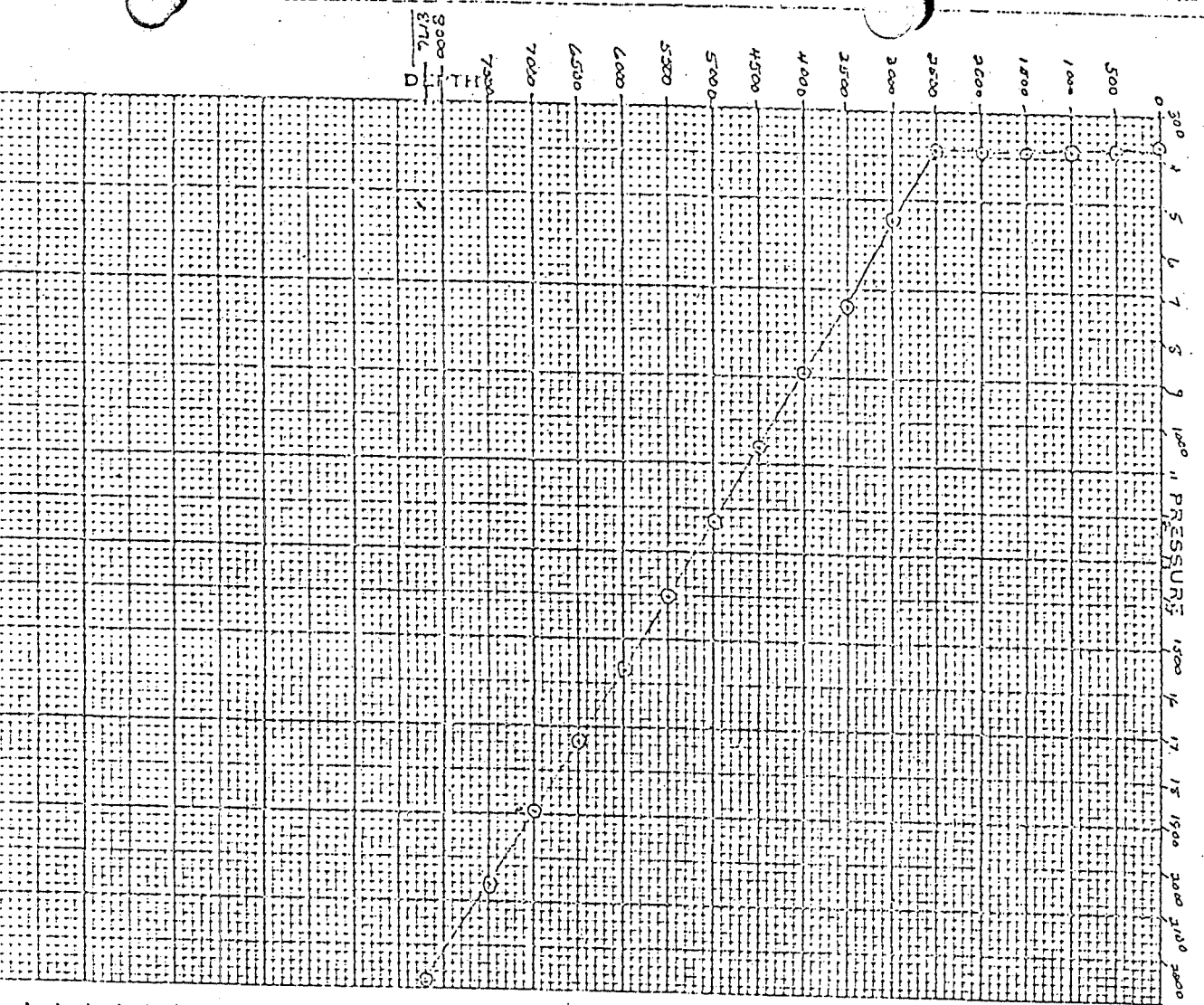
OWNER UNION OIL CO. OF CALIF. FIELD WELL GRADE WELL NAME BACR#13
 CASING 20" @ 25", 13 3/8" @ 116.9', 9 5/8" @ 3550' ELEV. 9211 DATE: 5/21/75
 LINER DESCRIPTION: 7" @ 3550'-5226' ZERO POINT 6472'
 DEPTH 8178'

HOLE DESCRIPTION:

INSTRUMENT 0-4250
 SERIAL NO 7195

PURPOSE BUILDUP MAX TEMP 573.5 °F @ 8178'

REMARKS:



DEPTH	PRESSURE	GAGE	COIL
0	376.1		0
500	382.9		0
1000	382.9		0
1500	387.4		0
2000	387.4		0
2500	387.4		0
3000	387.4		0
3500	387.4		0
4000	387.4		0
4500	387.4		0
5000	387.4		0
5500	387.4		0
6000	387.4		0
6500	387.4		0
7000	387.4		0
7500	387.4		0
8000	387.4		0
8178	573.5		0



GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACA#13-S11-P17

76

OWNER UNION OIL CO OF CALIF FIELD VALUE GRANDE WELL NAME BACA#13
 CASING 20" @ 215'; 13 3/8" @ 1469' ELEV. 9211' DATE: 3/20/75
 LINER DESCRIPTION: 7 5/8" @ 3380'; 7" - 3380' - 8200' ZERO POINT GLT12'
 DEPTH 8176'

TUBING DETAIL:

PURPOSE BUILD UP

REMARKS:

P - 0-4250 PSIG 7198 12 HR 13375 L 15
 ELEMENT T-100-730°F SERIAL NO. 10036 CLOCK 12 HR - 13790 & TURN'S STABILIZATION PERIOD
 ENGAGE STYLUS P-1028 HRS - T-1026 1/2 DISENGAGE STYLUS P-1534 HRS T-1534 HRS
 WELL HEAD 372 PSIG - 0-1700 3/2 - 0-600 7/6
 PICKUP @ 8176' TIME ON BOTTOM 1415-1445 MAX. °F 578.1
 WELL STATUS SHUT IN
 SHUT IN: 1040 HRS 2/25/75 ON PRODUCTION:
 RATE

PRESSURE TEMPERATURE

TIME	DEPTH	DEFL.	P - P	GRAD.	ID CORR	TIME	DEPTH	DEFL.	Q - T	GRAD.	ID	TIME	DEPTH	DEFL.	P - T	GRAD.	ID
0	0	0	0	0	0	"	"	0	0	-							
3	520	0	0	0	0	"	"	0	0	-							
4	1000	0	0	0	0	"	"	0	0	-							
35-1145	1500	.168	378.4	0	0	"	"	0	0	-							
36-1156	2000	.170	383	0	0	"	"	.544	355.3	-							
37-1207	2500	.170	383	0	0	"	"	.729	405.8	-							
38-1218	3000	.232	521.2	.276	0	"	"	.896	450.9	-							
39-1229	3500	.315	697	.352	0	"	"	1.010	480.6	-							
40-1240	4000	.401	879	.364	+1.001	"	"	1.028	485.3	-							
41-1256	4500	.418	915.3*	.073	+1.001	"	"	1.056	492.6	-							
47-1307	5000	.558	1206	.531	+1.003	"	"	1.010	480.6	-							
48-1318	5500	.637	1376.1	.340	+1.004	"	"	1.076	497.8	-							
49-1330	6000	.717	1544.5	.337	+1.005	"	"	1.108	506.1	-							
51-1341	6500	.798	1716.1	.344	+1.004	"	"	1.205	531.3	-							
42-1352	7000	.874	1872.1	.322	+1.003	"	"	1.271	548.5	-							
43-1403	7500	.951	2040.4	.326	+1.002	"	"	1.333	564.6	-							
44-1414	8000	1.027	2202.1	.324	+1.001	"	"	1.381	577.1	-							
5-1445	8176	1.054	2260	.330	+1.001	"	"	1.385	578.1	-							
"	8176	1.054	2260	-	+1.001	"	"	1.385	578.1	-							
"	8176	1.054	2260	-	+1.001	"	"	1.385	578.1	-							

RANGE OF TEMP - ELEMENT DID NOT COVER THESE DEPTHS.

COMMENTS:

* NOTE - THIS STOP IS SUSPECT - DEPTH IS QUESTIONABLE,

The first three stops

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

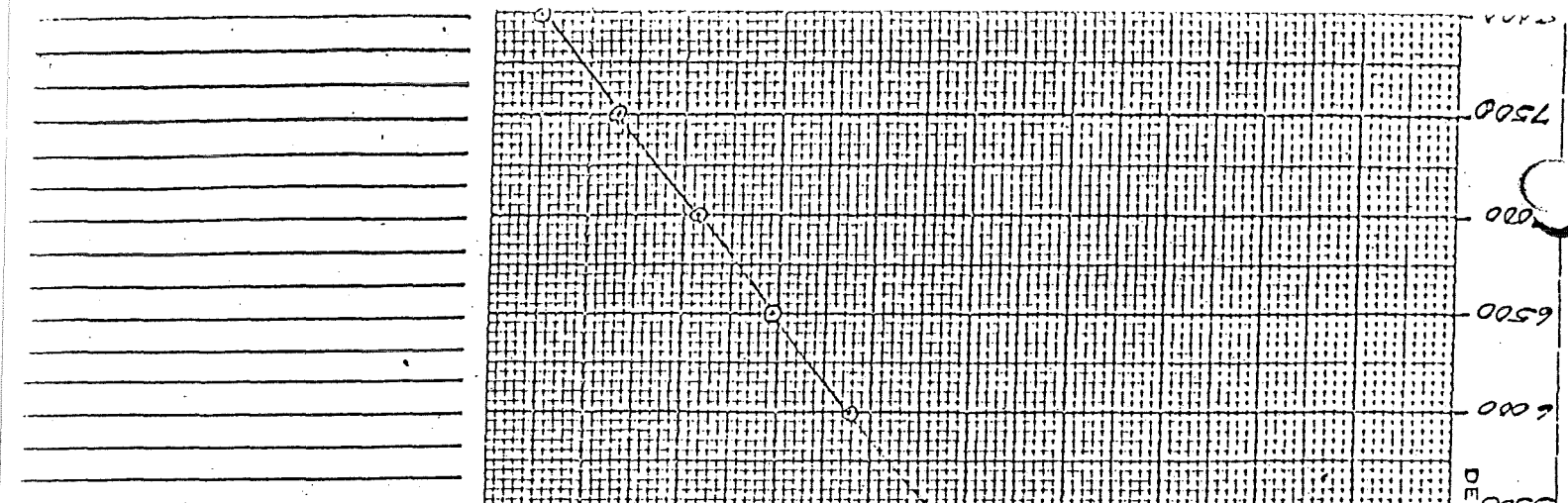
76

BCH#13-511-Temp

OWNER: LINDON OIL CO. OF ORELA
 FIELD: WALLE GRANDE
 WELL NAME: BCH#13
 DATE: 3/20/75
 LINE DESCRIPTION: CASING 20" @ 215', 13 3/8" @ 1469', 9 5/8" @ 3380'
 INSTRUMENT: 0-4250
 SERIAL NO.: 7198
 PURPOSE: BUILD UP
 MAX TEMP: 578.1 °F @ 8176'

DEPTH	PRESSURE	GRADIENT
1500	378.4	0
2000	383	0
2500	383	0
3000	397	0.276
3500	407	0.353
4000	429	0.364
4500	453	0.273
5000	486	0.581
5500	537	0.346
6000	544.5	0.337
6500	571.1	0.314
7000	577.1	0.222
7500	590.4	0.326
8000	592.1	0.304
8176	598.0	0.330

DEPTH	PRESSURE	GRADIENT
1500	378.4	0
2000	383	0
2500	383	0
3000	397	0.276
3500	407	0.353
4000	429	0.364
4500	453	0.273
5000	486	0.581
5500	537	0.346
6000	544.5	0.337
6500	571.1	0.314
7000	577.1	0.222
7500	590.4	0.326
8000	592.1	0.304
8176	598.0	0.330



Production

Specialists

AGNEW and SWEET

3914 Gilmore Avenue
Bakersfield, California 93308

24-Hour Phone: 327-2267

SUBSURFACE SURVEY

Field Work Sheet

5#13 5-10 %

OWNER Union Oil Co of Calif. FIELD Valle Grande WELL NAME BACH #13
 CASING 20" AT 215' 13 3/8" AT 1469' ELEV. 9211' DATE: 5/16/75
 LINER DESCRIPTION: 9 5/8" AT 3390' 7" - 3550' - 8200' ZERO POINT 31' +12'
 DEPTH 8176'
 TUBING DETAIL: _____ ZONE _____

PUMP SHOE _____ GAS ANCHOR _____ INTAKE _____
 PURPOSE _____
 REMARKS: _____

O-4250 PSIG SN 7198 C-13375-L 15 TURN
 ELEMENT 82°-646° SERIAL NO. 10052 CLOCK 13790-L 15 TURN STABILIZATION PERIOD _____
 ENGAGE STYLUS P-1142; T-1139 DISENGAGE STYLUS P-1605; T-1601 GROSS OIL RATE B/D _____
 OBS. TBG. PRESS. _____ OBS. CSG. PRESS. 725 NET OIL RATE B/D _____
 COR. TBG. PRESS. _____ COR. CSG. PRESS. _____ FORMATION GAS MCF/D _____
 PICKUP @ 8176' TIME ON BOTTOM 1255 - 1459 MAX. °F 566.7 GOR CFT/BBL. _____
 WELL STATUS STATIC CIRCULATED GAS MCF/D _____
 SHUT IN: 1040 HRS 1-25-75 ON PRODUCTION: _____ OIL DRY GRAVITY °API _____
 BEAN SIZE _____

PRESSURE

TEMPERATURE

PRESSURE					TEMPERATURE												
TIME	DEPTH	DEFL.	PSI	GRAD.	1/D	TIME	DEPTH	DEFL.	°F	GRAD.	1/D	TIME	DEPTH	DEFL.	PSI	GRAD.	1/D
1255	8176	1.017	2180.9	-	1.003	1255	8176	1.666	562.5	-							
10	8176	1.020	2187.2	-	"	1310	8176	1.683	566.7	-							
35	8176	1.020	2187.2	-	"	25	8176	1.683	566.7	-							
40	8176	1.020	2187.2	-	"	40	8176	1.683	566.7	-							
55	8176	1.020	2187.2	-	"	55	8176	1.683	566.7	-							
1459	8176	1.020	2187.2	-	"	1410	8176	1.683	566.7	-							
25	8176	1.020	2187.2	-	"	25	8176	1.683	566.7	-							
40	8176	1.020	2187.2	-	"	40	8176	1.683	566.7	-							
55	8176	1.020	2187.2	-	"	55	8176	1.683	566.7	-							
59	8176	1.020	2187.2	-	"	59	8176	1.683	566.7	-							

COMMENTS: WHP - 615 PSIG AT 1255 HRS
WHP - 613 PSIG AT 1459 HRS

BY: JLS

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-15-5-9 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACH #13
 CASING 20" AT 215'; 13 3/4" AT 1469' ELEV. 9211' DATE 3/3/75
 LINER DESCRIPTION: 9 5/8" AT 3380'; 7" - 3380 - 8200' ZERO POINT GL+12
 DEPTH 8176'

TUBING DETAIL:

PURPOSE BUILDUP

REMARKS:

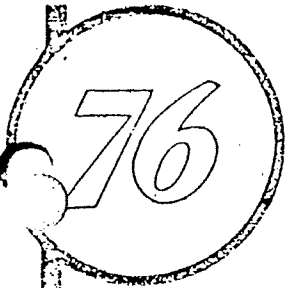
0-4250 PSIG SN- 7198 CLOCK 13375-L 15T
 ELEMENT SC-646 °F SERIAL NO. 10052 CLOCK 13790-L 15TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1115; T-1111 DISENGAGE STYLUS P-1610; T-1610
 WELL HEAD 658 PSIG - 0-14604 7/8
 PICKUP @ 8176' TIME ON BOTTOM 1200 - 1530 HRS MAX. °F
 WELL STATUS STATIC
 SHUT IN: 1040 HRS 2/25/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	S-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1200	8176	.977	2095.7	—	7.002	1200	8176	1.676	562.5								
15	"	.980	2102.1	—	"	15	"	1.676	565.0								
30	"	.980	2102.1	—	"	30	"	1.677	565.2								
45	"	.980	2102.1	—	"	45	"	1.677	565.2								
1300	"	.980	2102.1	—	"	1300	"	1.677	565.2								
15	"	.980	2102.1	—	"	15	"	1.678	565.5								
30	"	.981	2104.3	—	"	30	"	1.678	565.5								
45	"	.981	2104.3	—	"	45	"	1.678	565.5								
1400	"	.982	2106.4	—	"	1400	"	1.678	565.5								
15	"	.982	2106.4	—	"	15	"	1.678	565.5								
30	"	.982	2106.4	—	"	30	"	1.678	565.5								
45	"	.983	2108.5	—	"	45	"	1.678	565.5								
1500	"	.983	2109.5	—	"	1500	"	1.678	565.5								
15	"	.983	2108.5	—	"	15	"	1.678	565.5								
30	"	.984	2110.6	—	"	30	"	1.678	565.5								

COMMENTS:



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BRCA#15-58-117

OWNER UNION OIL CO. OF CALIF FIELD VALLE GRANDE WELL NAME BRCA #13
 CASING 20" @ 215'; 13 1/8" @ 1469' ELEV. 9011' DATE: 2/28/75
 LINER DESCRIPTION: 9 7/8" @ 3350'; 7" 3350-8200' SLOTS 4227-8166 ZERO POINT GL+12'
 DEPTH 8176'

TUBING DETAIL:

PURPOSE BUILD UP

REMARKS:

P-0-4250-8316 7187 1245-133754 15
 ELEMENT T-80°F-646°F SERIAL NO. 10052 CLOCK 12 hr - 137921-15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1036 hrs T-1035 hrs; DISENGAGE STYLUS P-1526 hrs T-1526 hrs.
 WELL HEAD 698 PSIG - 0-1000 7/8 - 0-1500 1 1/8 @ 1113 hrs
 PICKUP @ 8176 TIME ON BOTTOM 1315 hrs - 1445 hrs MAX. °F 558.7
 WELL STATUS SHUT IN
 SHUT IN: 1040 hrs - 2/25/75 ON PRODUCTION:
 RATE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P - °	GRAD.	IP CORR	TIME	DEPTH	DEFL.	° - T	GRAD.	TIME	DEPTH	DEFL.	P - T	GRAD.	ID
1100	1000	.325	718.2	0	-0.008	"	1000	.715	299.9	0						
1116	2000	.340	750.0	-0.02	-0.003	"	2000	.897	353.1	.053						
1123-1130	3000	.351	773.3	.023	0.00	"	3000	1.185	435.7	.083						
1132-1139	4000	.361	794.5	-0.21	+0.001	"	4000	1.357	482.4	.047						
1142-1152	5000	.401	879.2	.084	+0.001	"	5000	1.461	509.9	.028						
1154-1201	6000	.551	1195.4	.316	+0.003	"	6000	1.522	525.7	.016						
1204-1212	7000	.703	1514.8	.319	+0.003	"	7000	1.592	543.9	.018						
1215	8176	.881	1891.9	.386	+0.002	"	8176	1.630	553.5	.010						
1236	"	.881	1891.9	-	+0.002	"	"	1.649	558.2	-						
1245	"	.882	1894.1	-	+0.002	"	"	1.650	558.5	-						
1300	"	.882	1894.1	-	+0.002	"	"	1.650	558.5	-						
1315	8176	.884	1892.3	-	+0.002	"	8176	1.650	558.5	-						
1330	"	.884	1892.3	-	+0.002	"	"	1.650	558.5	-						
1345	"	.884	1892.3	-	+0.002	"	"	1.650	558.5	-						
1400	"	.885	1900.4	-	+0.002	"	"	1.650	558.5	-						
1415	"	.885	1900.4	-	+0.002	"	"	1.651	558.7	-						
1430	"	.885	1900.4	-	+0.002	"	"	1.651	558.7	-						
1445	8176	.885	1900.4	-	+0.002	"	8176	1.651	558.7	-						

COMMENTS:

THE WELL DID NOT FLUCTUATE AT ALL DURING THE ENTIRE SURVEY.

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-13 S-7 P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #13
 CASING 20" AT 215' ; 13 3/8" AT 1469' ELEV. 9211' DATE: 2/26/75
 LINER DESCRIPTION: 9 5/8" AT 3380' ; 7" 3380 - 8200 ; SLOTS-4227-8144 ZERO POINT CLT 12
 DEPTH 8200'

TUBING DETAIL:

PURPOSE BUILDUP

REMARKS:

0-4250 PSIC 7198 ; CLOCK 13775-L 15 TURN

ELEMENT 500° - 756° SERIAL NO. 10036 CLOCK 13790-L 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1140 ; T-1136 DISENGAGE STYLUS P-1542 ; T-1542

WELL HEAD SEE CHARTS

PICKUP @ 8200' TIME ON BOTTOM 1215 - 1500 HRS MAX. °F 545.6

WELL STATUS STATIC

SHUT-IN: 1040 HRS 2/25/75 ON PRODUCTION:

RATE

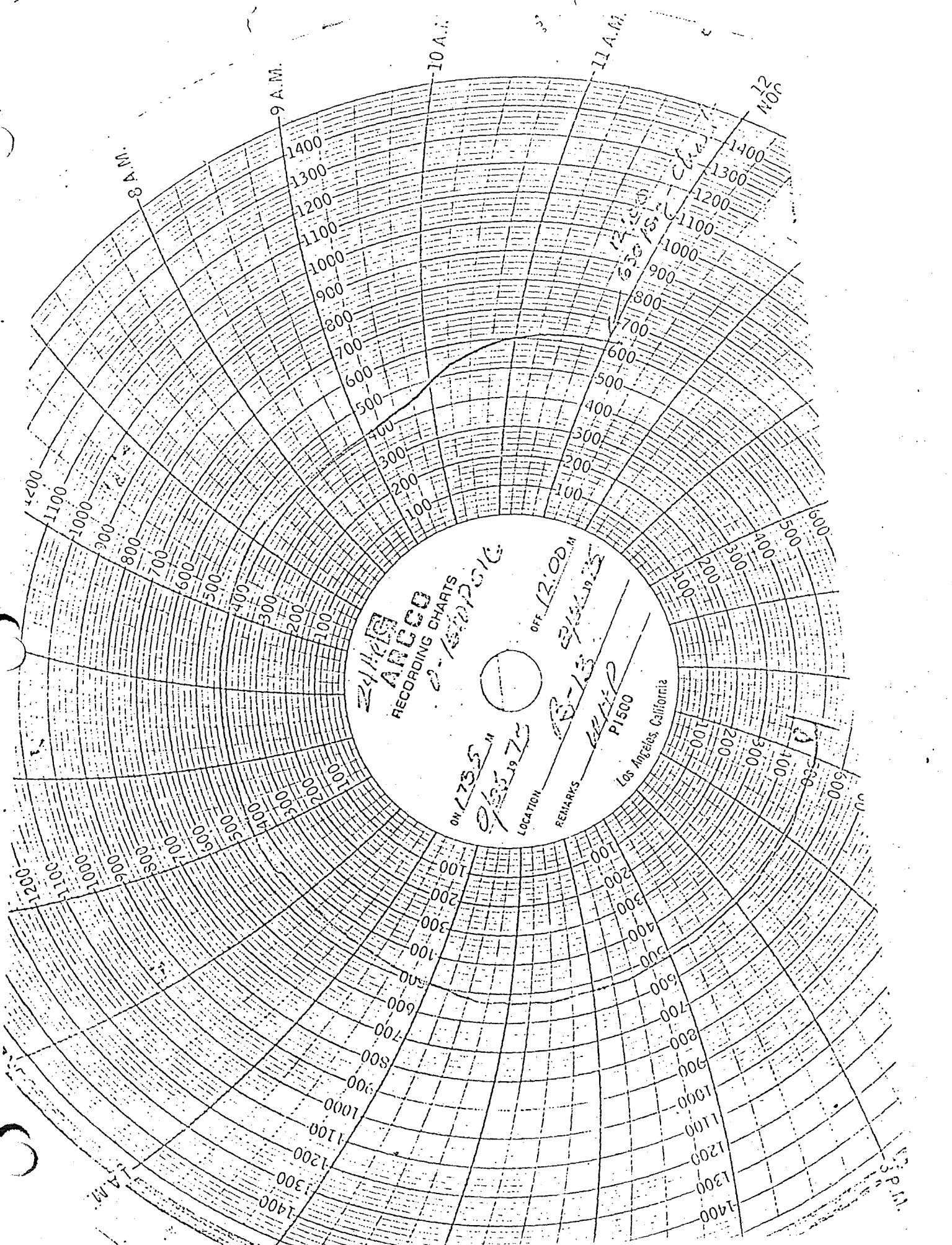
PRESSURE

PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P-#	GRAD.	ID	TIME	DEPTH	DEFL.	P-#	GRAD.	ID	TIME	DEPTH	DEFL.	P-#	GRAD.	ID
	8200	.806	1725.1			1435	8200	.771	1658.9			1215	1246	542.0	8200'		
	"	.819	1760.6			40	"	.778	1675.7			1225	1252	543.5	"		
25	"	.817	1756.4			45	"	.792	1703.4			35	1.253	543.8	"		
30	"	.796	1711.9			50	"	.808	1737.3			45	1.253	543.8	"		
35	"	.791	1701.3			55	"	.819	1760.6			55	1.253	543.8	"		
40	"	.779	1675.8			1500	"	.824	1771.2			1305	1.255	544.3	"		
45	"	.767	1650.4									15	1.255	544.3	"		
50	"	.766	1648.3									25	1.255	544.3	"		
55	"	.775	1667.4									35	1.255	544.3	"		
1300	"	.789	1697.0									45	1.255	544.3	"		
05	"	.806	1753.1									55	1.257	544.8	"		
10	"	.817	1760.6									1405	1.257	544.8	"		
15	"	.821	1764.8									15	1.257	544.8	"		
20	"	.809	1759.4									25	1.257	544.8	"		
25	"	.796	1711.9									35	1.258	545.1	"		
30	"	.791	1701.3									45	1.259	545.3	"		
35	"	.785	1688.6									55	1.259	545.3	"		
40	"	.774	1665.3									1500	1.260	545.6	"		
45	"	.772	1661.0														
50	"	.779	1675.8														
55	"	.791	1701.3														
1400	"	.807	1735.2														
05	"	.819	1760.6														
10	"	.824	1771.2														
15	"	.810	1741.5														
20	"	.797	1712.0														
25	"	.783	1684.3														
30	"	.772	1661.0														

COMMENTS:



ARCO
RECORDING CHARTS
ON 1735 M
OFF 12:00 M
LOCATION B-13
REMARKS WWP
PI500
Los Angeles, California

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SR Copy

UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B# 13-SC-P17

OWNER UNION OIL CO OF CALIF FIELD VALLE GRANDE WELL NAME BACA #13
 CASING 20" @ 216'; 13 1/2" @ 1469' ELEV. 9211' DATE: 2-25-75
 LINER DESCRIPTION: 9 5/8" - 3380', ZERO POINT C.L. + 12'
 SLOTTED LINER - 7" - 3280' - 8200' SLOTS - 4227 - 8166' DEPTH 8200'

TUBING DETAIL:

PURPOSE BOTTOM HOLE BUILD UP

REMARKS:

P-0-4250 PSIG 7198 12hr - 13375 L 15
 ELEMENTS P-726°F SERIAL NO. 10036 CLOCK 12hr - 13790 L 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1648 T-1646. DISENGAGE STYLUS P-2246 T-2246
 WELL HEAD SEE CHART
 PICKUP @ P-200 TIME ON BOTTOM 1723 - 2203 MAX. F 533.4
 WELL STATUS SHUT IN
 SHUT IN: 1040 hrs - 2/25/75 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	
1723	8200	.763	1641.9	"	+0.06	1943	8200	.711	1531.8	"	+0.06	2203	8200	.792	1703.4	"	+0.06	
1731	"	.749	1612.3	"	"	1948	"	.726	1563.6	"	"							
1733	"	.739	1591.1	"	"	1953	"	.750	1614.4	"	"							
1738	"	.730	1592.0	"	"	1958	"	.769	1654.7	"	"							
1743	"	.711	1531.8	"	"	2003	"	.786	1690.7	"	"							
1748	"	.701	1510.6	"	"	2008	8200	.791	1701.3	"	"							
1753	"	.705	1519.1	"	"	2013	"	.776	1668.5	"	"							
1758	"	.724	1559.3	"	"	2018	"	.760	1635.6	"	"							
1803	"	.749	1612.3	"	"	2023	"	.746	1606.0	"	"							
1808	8200	.771	1658.9	"	"	2028	"	.727	1565.7	"	"							
1813	"	.983	1684.3	"	"	2033	"	.714	1538.1	"	"							
1818	"	.779	1675.8	"	"	2038	"	.709	1527.5	"	+0.06							
1823	"	.763	1641.9	"	"	2043	8200	.724	1559.3	"	"							
1828	"	.747	1608.1	"	+0.06	2048	"	.746	1606.0	"	"							
1833	"	.733	1578.4	"	"	2053	"	.767	1650.4	"	"							
1838	"	.715	1540.3	"	"	2058	"	.784	1686.4	"	"							
1843	"	.703	1514.8	"	"	2103	"	.793	1705.5	"	"							
1848	"	.707	1523.3	"	"	2108	"	.783	1684.3	"	"							
1853	8200	.725	1561.4	"	"	2113	"	.766	1648.3	"	"							
1858	"	.747	1608.1	"	"	2118	8200	.753	1620.9	"	"							
1903	"	.768	1652.5	"	"	2123	"	.735	1582.7	"	"							
1908	"	.784	1686.4	"	"	2128	"	.721	1573.0	"	"							
1913	"	.786	1690.7	"	"	2133	"	.716	1562.4	"	+0.06							
1918	"	.771	1658.9	"	"	2138	"	.728	1567.8	"	"							
1923	"	.753	1620.8	"	"	2143	"	.746	1606.0	"	"							
1928	"	.737	1586.9	"	"	2148	"	.768	1652.5	"	"							
"	"	.721	1553.0	"	"	2153	"	.786	1690.7	"	"							
8200	.708	1525.4	"	+0.06	2158	8200	.796	1711.9	"	"	"							

COMMENTS:

BY:

1 M / 1.0 11 N

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B#B-SC-P/T

OWNER UNION OIL CO. OF CALIF. FIELD VALLE GRANDE WELL NAME BACH-413
 CASING 20" @ 215' 13 3/8" @ 1469 ELEV. 9211' DATE: 2/25/75
 LINER DESCRIPTION: 9 7/8" 3380' ZERO POINT 61+12'
 SLOTTED LINER - 7" - 3380' - 8200 SLOTS - 4227 - 8166' DEPTH 8200'

TUBING DETAIL:

PURPOSE BOTTOM HOLE BUILD UP

REMARKS:

P-O-4250 PSIG - 7198 124R 13375 L 15

ELEMENT T-200-736°F SERIAL NO. 10036 CLOCK, 2HR-13790L 15TURN STABILIZATION PERIOD

ENGAGE STYLUS P-1648, T-1648 DISENGAGE STYLUS P-2246, T-2246

WELL HEAD SEE CHART

PICKUP @ 8200' TIME ON BOTTOM 1723-2203 MAX. 'F 533.4

WELL STATUS SHUT IN.

SHUT IN: 1040 hrs - 2/25/75 ON PRODUCTION:

RATE

TEMPERATURE

TIME	DEPTH	DEFL.	B-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
17	8200	1.185	526.1														
17	"	1.190	527.4														
1753	"	1.190	527.4														
1808	"	1.193	528.2														
1823	"	1.194	528.4														
1838	"	1.194	528.4														
1853	"	1.196	529.0														
1908	"	1.200	530														
1923	"	1.200	530														
1937	"	1.200	530														
1953	"	1.203	530.8														
2008	8200	1.206	531.6														
2023	"	1.206	531.6														
2037	"	1.206	531.6														
2053	"	1.209	532.3														
2108	"	1.210	532.6														
2123	"	1.210	532.6														
2138	"	1.211	532.9														
2153	"	1.213	533.4														
2203	8200	1.213	533.4														

COMMENTS:

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UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

63
B#11-562-PIP

OWNER UNION OIL OF CALIF. FIELD VALLE GRANDE WELL NAME BACA #13
 CASING 20" AT 207'; 9 5/8" DISCARD @ 119' ELEV. 9064' DATE: 1/24/75
 LINER DESCRIPTION: 13 7/8" @ 1236'; 9 7/8" 1219-3380' ZERO POINT GLT 10'
 SLOTTED LINER - 7" HUNG @ 3320 - T.D. DEPTH 6630'

TUBING DETAIL:

PURPOSE

REMARKS:

P1 - 0-4250 PSIG 7198 12hr - 12891 15

ELEMENT P2 - 0-2950 PSIG SERIAL NO. 9235 CLOCK 12hr - 12889 15 TURN STABILIZATION PERIOD

ENGAGE STYLUS P1 - 1002 P2 1004 DISENGAGE STYLUS P1 - 1300, P2 - 1258

WELL HEAD 310 PSIG

PICKUP @ 6630 TIME ON BOTTOM 1116 - 1221 hrs MAX. *F 602.9

WELL STATUS SHUT IN

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

RATE

P1 - 7198

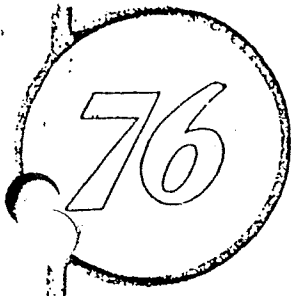
CORE

P2 - 9235

TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
23-10-33	100	.140	315.3	0	0	"	100	.205	319.3	0	0						
15	1000	.144	324.3	.01	0	"	1000	.210	327.1	.01	0						
3	3000	.354	779.6	.23	T.001	"	3000	.516	790.2	.23	T.001						
1-1111	4000	.449	980.9	.20	T.002	"	4000	.652	992.6	.20	T.002						
4-1231	6630	.843	1811.4	.32	T.007	"	6630	1.210	1816.6	.31	T.008						

COMMENTS:

BY: a.m.



UNION

GEOHERMAL DIVISION

SUBSURFACE SURVEY
Field Work Sheet

84
B#11-568-TIT

OWNER UNION OIL Co. OF CALIF FIELD VALLE GRANDE WELL NAME BACF #13
 CASING 20" @ 207, 9 5/8" @ 1219' TIEBACK ELEV. 9064 DATE: 1/24/75
 LINER DESCRIPTION: 13 1/8" @ 1336 - 9 7/8" @ 1219 - 5380' ZERO POINT GLT 10'
 SLOTTED LINER - 7" - 4UN9 - @ 3320 - T.D. DEPTH 6630'
 TUBING DETAIL:

PURPOSE
 REMARKS:
 T₁ - 28°F - 679°E 10055 12hr - 13374 15
 ELEMENT T₂ - 80°F - 646°E 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 - 602.1, T₂ - 588
 WELL STATUS SHUT IN
 SHUT IN: 1035 hrs - 11/17/74 ON PRODUCTION:
 RATE

T ₁ 10055						T ₂ 10052											
TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID	TIME	DEPTH	DEFL.	P-T	GRAD.	ID
1035	100	.054	166.4	0		"	100	.015	85.2	0							
1035	1000	.545	272.4	.18		"	1000	.566	255.8	.19							
1035	3000	1.363	520.5	.12	255	"	3000	1.459	509.3	.13	231						
1035	4000	1.463	548.6	.02	135	"	4000	1.558	535.1	.02	97						
1035	6630	1.655	602.1	.02	135	"	6630	1.767	587.7	.02	110						
<p>REFER TO Bore #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.

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UNION

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

BACA #13 S-5 P/T

OWNER: UNION OIL COMPANY FIELD: VALLE GRANDE WELL NAME: BACA #13
 CASING: 2 1/2" AT 215'; 1 3/4" AT 1400' ELEV. 9291' DATE: 11-29-74
 LINER DESCRIPTION: 4 5/8" AT 3500' ZERO POINT: CLT 12
 7" SLOTTED LINER - 3380' - 8200' DEPTH: 8200'
 TUBING DETAIL: SLOTS - 4227' - 8100'

PURPOSE: PRESSURE / TEMPERATURE GRADIENT

REMARKS:

ELEMENT - 0-4750 PSIG SERIAL NO. 7198 CLOCK - 12 HR 13314 - L 15 TURN
 ELEMENT - 880 - 699 °F SERIAL NO. 10055 CLOCK - 12 HR 13335 - L 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1134 HRS; T-1139 HRS DISENGAGE STYLUS P-1421 HRS; T-1424 HRS
 WELL HEAD ISI PSIG: 0-200 T/C
 PICKUP @ 7700' TIME ON BOTTOM 1323 - 1326 HRS MAX. °F 588.1
 WELL STATUS: STATIC
 SHUT IN: 11-27-74 AT 1510 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
	100	.051	182.4	0	0	12:55:15	100	.050	185.0	0							
	1000	.052	194.7	.002	0	"	1000	.454	243.3	.153							
	2000	.054	188.2	.004	0	"	2000	.747	357.0	.093							
	3000	.245	348.7	.359	7.001	"	3000	1.085	440.6	.103							
	4000	.412	402.5	.353	7.002	"	4000	1.239	485.1	.004							
	5000	.573	424.0	.339	7.003	"	5000	1.274	485.1	.010							
	6000	.730	458.7	.343	7.006	"	6000	1.353	517.6	.022							
	7000	.895	492.6	.330	7.007	"	7000	1.493	557.0	.039							
	8200	1.007	515.0	.340	7.007	"	7700	1.604	588.1	.044							

COMMENTS:

BY: [Signature]

GEO THERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

BACA #13 S.S. P/T

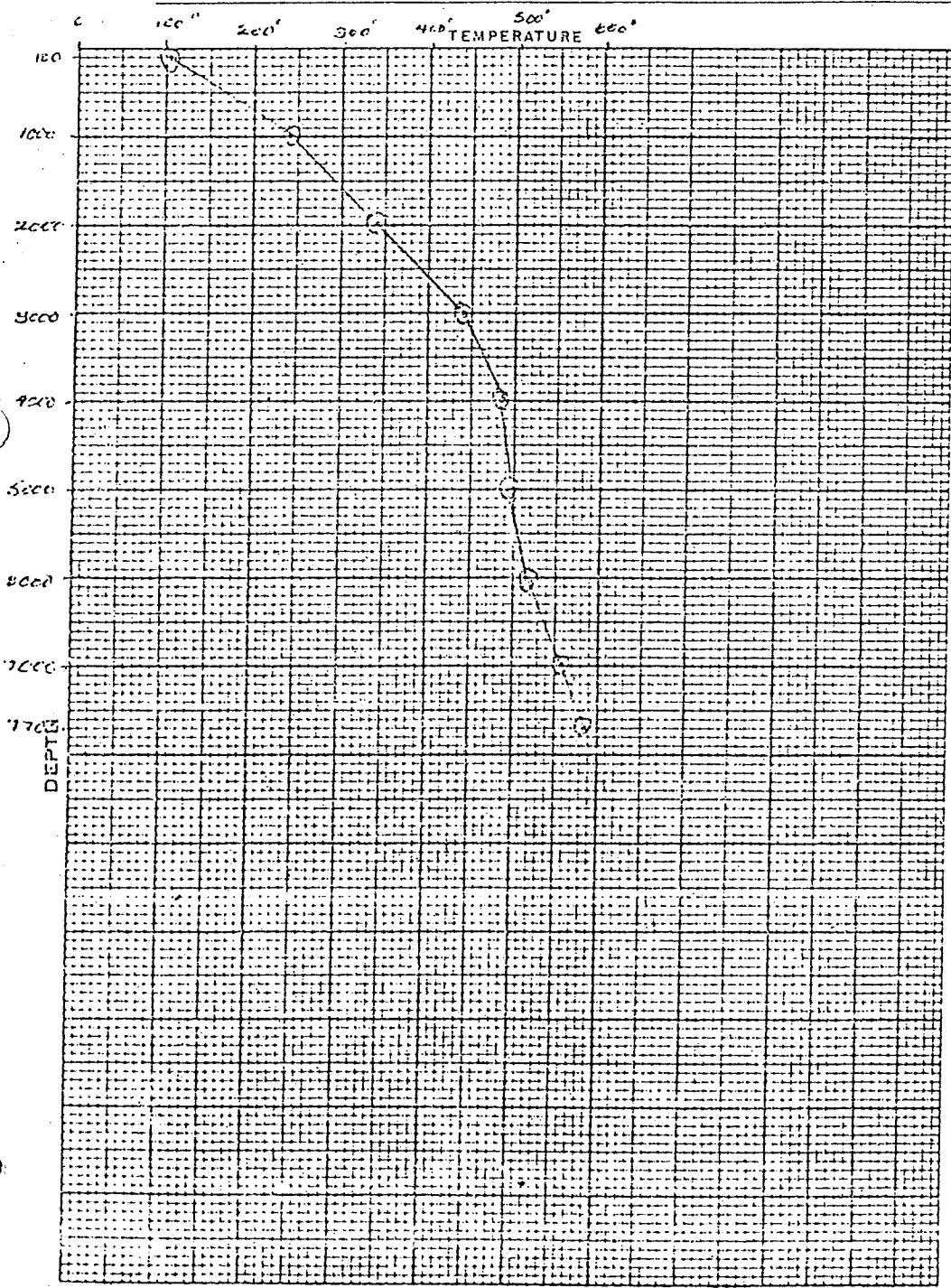
76

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #13
 CASING 20" AT 215'; 13 3/8" AT 1469' ELEV 9291' DATE 11-29-74
 LINER DESCRIPTION: 9 5/8" AT 3500' ZERO POINT GL + 12'
7' SLOTTED LINER - 3350' - 8200' DEPTH 8200'
SLOTS - 4227' - 8100'

HOLE DESCRIPTION: _____ INSTRUMENT S30-6950 FAH:
 SERIAL NO 10055

PURPOSE PRESSURE / TEMPERATURE GRADIENT MAX TEMP 588.1 °F @ 7700'

REMARKS:



STABILIZATION PERIOD

PRESSURES	GAUGE	ROCK
CASING, PSI	181	

DEPTH	TEMP.	DEPTH	TEMP.
100	105.0		
1000	243.3		
2000	337.0		
3000	440.6		
4000	455.1	4.15%/100'	
5000	495.1	1.0%/100'	
6000	517.6	2.25%/100'	
7000	557.0	3.94%/100'	
7700	588.1	1.59%/100'	

27. *[Signature]*

76

U1117011

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

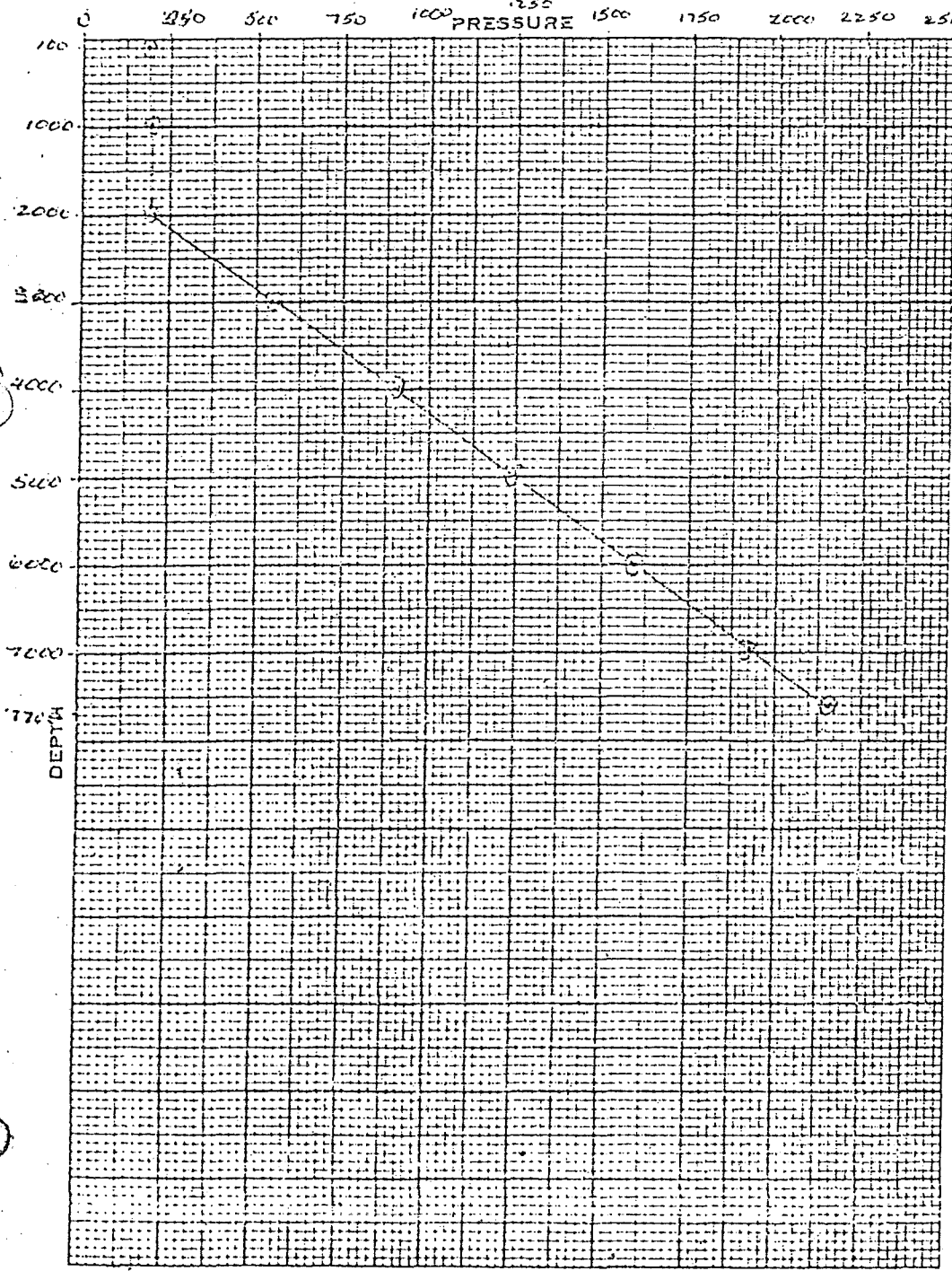
BAHA #13 S-S P/I

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BAHA #13
 CASING 20" AT 215' 13 3/8" AT 1469' ELEV 9291' DATE 11-29-74
 LINER DESCRIPTION: 4 1/2" AT 3500' ZERO POINT CL 12
7" SLOTTED LINER - 3350' - 8200' DEPTH 8200'
SLOTS - 4227' - 8100'

HOLE DESCRIPTION: _____ INSTRUMENT 0.4250 PSI
 SERIAL NO 7198

PURPOSE PRESSURE / TEMPERATURE GRADIENT MAX TEMP 588.1°F @ 7700'

REMARKS:



STABILIZATION PERIOD

PRESSURE	GAUGE	BOMB
CASING, PSI	181	

DEPTH	PRESSURE	GRADIENT
100	182.4	-
1000	184.7	.003
2000	189.2	.015
3000	548.7	.520
4000	902.5	.352
5000	1241.6	.339
6000	1584.7	.343
7000	1921.6	.337
7700	2159.6	.317

8200 2116 2528.5

BY: [Signature]

76

UNION

SR Company

GEO THERMAL DIVISION

SUBSURFACE SURVEY

Field Work Sheet

B-13 S-5-P/T

OWNER UNION OIL COMPANY FIELD VALLE GRANDE WELL NAME BACA #13
 CASING 20' AT 25'; 13 7/8" AT 146' ELEV. 9211' DATE: 2/25/75
 LINER DESCRIPTION: 9 5/8 AT 3380' ZERO POINT GL + 12
 7" SLOTTED LINER 3380' - 8200' ; SLOTS - 4227 - 8166' DEPTH 8200'
 TUBING DETAIL:

PURPOSE PRESSURE TEMPERATURE BUILD UP

REMARKS:

ELEMENT: P-0-4250 PSIG ; 7198 CLOCK-13375-6 15 T.
 ELEMENT: T-300-4220 SERIAL NO. 10036 CLOCK-13790-6 15 TURN STABILIZATION PERIOD
 ENGAGE STYLUS P-1005 HFS T-1009 HFS DISENGAGE STYLUS P-1610 HFS T-1614 HFS
 WELL HEAD SEE ATTACHED CHARTS
 PICKUP @ 8200' TIME ON BOTTOM 1100 - 1530 HRS MAX. °F 523.5
 WELL STATUS - STATIC
 SHUT IN: 1040 HRS 2/25/75 ON PRODUCTION:
 RATE

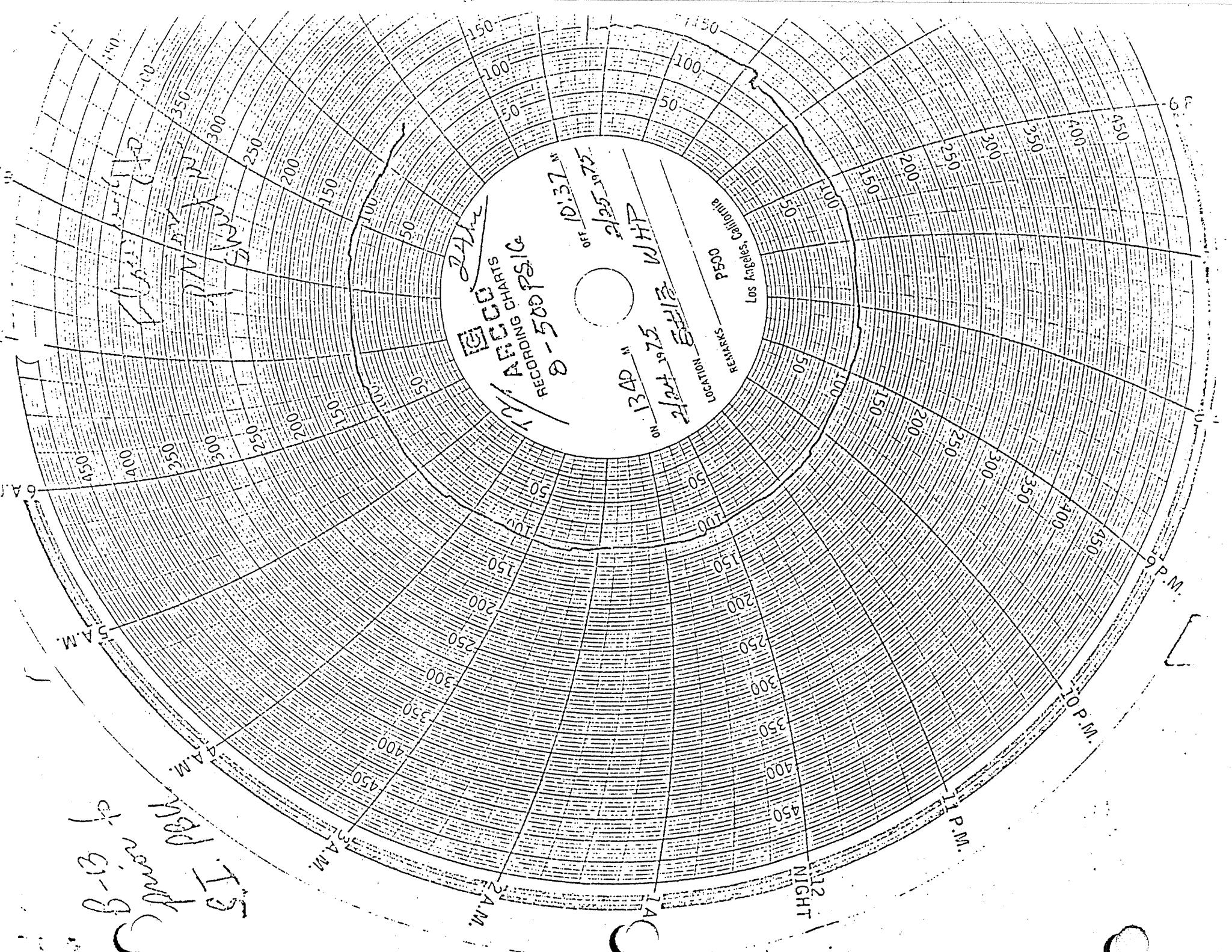
PRESSURE

TEMPERATURE

TIME	DEPTH	DEFL.	P - F	GRAD.	ID	TIME	DEPTH	DEFL.	P - T	GRAD.	ID	TIME	DEPTH	DEFL.	P - T	GRAD.	ID
1100	8200	.525	1140.6	7.004		1100	8200	1.123	510.0								
1105	"	.564	1222.7	7.005		1105	"	1.127	511.6								
1110	"	.601	1300.4	7.005		1110	"	1.130	511.8								
1115	"	.641	1384.5	7.006		1115	"	1.132	512.3								
1120	"	.678	1462.2	7.006		1120	"	1.134	512.8								
1125	"	.708	1525.4	"		1125	"	1.136	513.4								
1130	"	.730	1572.0	"		1130	"	1.137	513.6								
1135	"	.740	1592.2	"		1135	"	1.138	513.9								
1140	"	.743	1599.6	"		1140	"	1.140	514.4								
1145	"	.743	1599.6	"		1145	"	1.141	514.7								
1150	"	.743	1599.6	"		1150	"	1.141	514.7								
1155	"	.743	1599.6	"		1155	"	1.143	515.2								
1200	"	.743	1599.6	"		1200	"	1.144	515.4								
1215	"	.747	1608.1	"		1215	"	1.146	516.0								
1230	"	.740	1595.2	"		1230	"	1.149	516.7								
1245	"	.738	1589.0	"		1245	"	1.151	517.3								
1300	"	.738	1589.0	"		1300	"	1.154	518.0								
1315	"	.738	1589.0	"		1315	"	1.156	518.6								
1330	"	.738	1589.0	"		1330	"	1.160	519.6								
1345	"	.738	1589.0	"		1345	"	1.162	520.1								
1400	"	.733	1578.4	"		1400	"	1.164	520.6								
1415	"	.730	1572.0	"		1415	"	1.166	521.2								
1430	"	.742	1597.5	"		1430	"	1.168	521.7								
1445	"	.731	1574.2	"		1445	"	1.169	521.9								
1500	"	.696	1500.0	"		1500	"	1.170	522.2								
1515	"	.755	1623.0	"		1515	"	1.174	523.2								
1530	"	.763	1641.9	"		1530	"	1.175	523.5								

COMMENTS:

BY: SM/JB /SH/

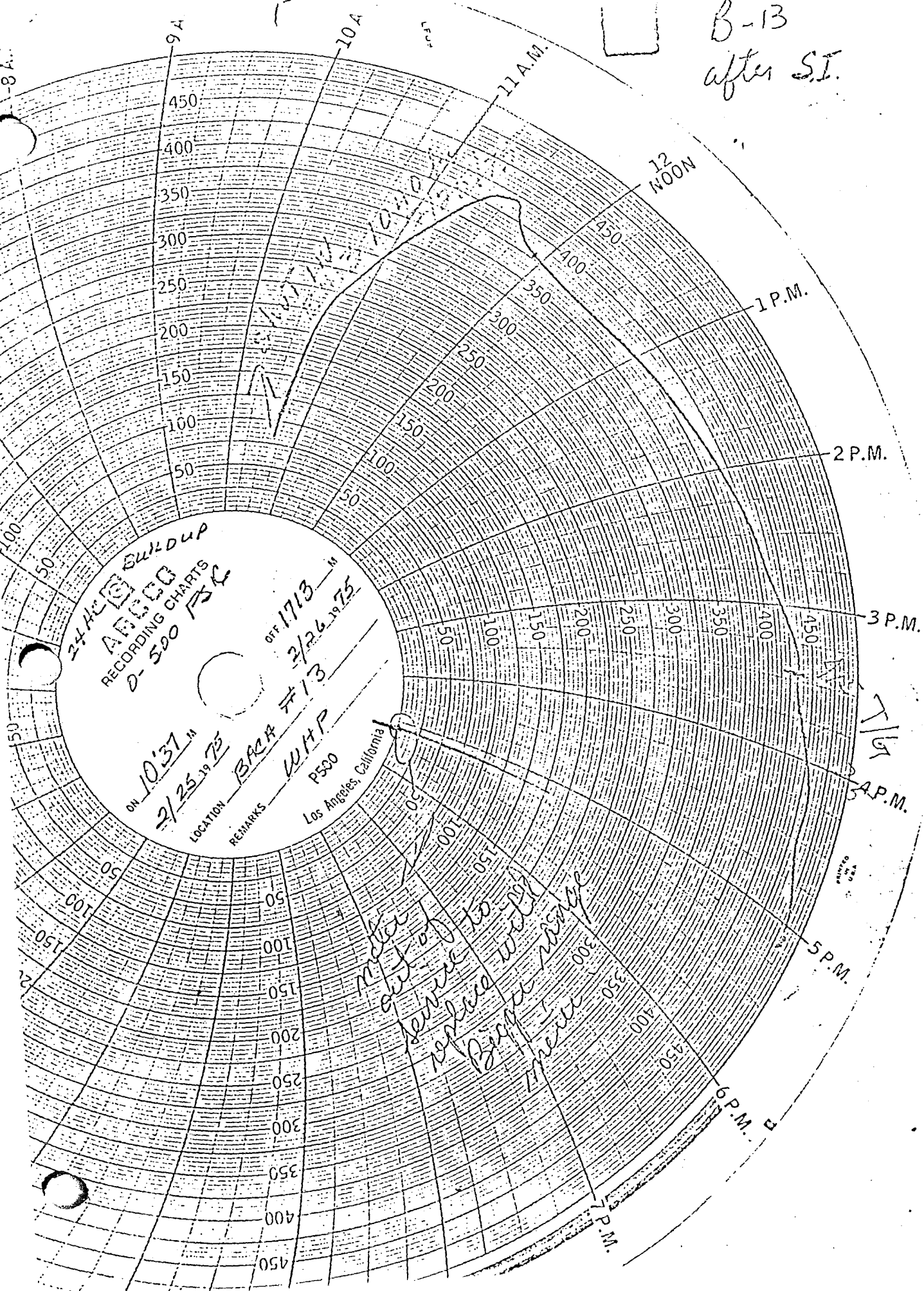


RECORDING CHARTS
 8-500PSIG
 24hr
 OFF 10:37 AM
 2/25/75
 NO 1340 WHP
 2/24/75 WHP
 LOCATION: PSC30
 REMARKS: 107 ANGERS, CALIFORNIA

6-9
 of new
 10
 11
 12

10
 11
 12

B-13
after S.I.



24 Hr. Backup
AFCCO
RECORDING CHARTS
0-500 PSC

ON 10:37 AM
2/25 1975

OFF 1713
3/26 1975

LOCATION BARR #13

REMARKS WHP

P550
Los Angeles, California

Meter
out of
service to
replace with
Barr #13
there

PRINTED
IN
U.S.A.

AGNEW and SWEET

3914 Gilmore Avenue
Bakersfield, California 93308

DEL' PYLE

24-Hour Phone: 327-2267

DEC 19 1974

W#15-24-14

SUBSURFACE SURVEY

Field Work Sheet

Production

Specialists

OWNER Union Oil of Calif. FIELD Walk Grande WELL NAME Bore #13
 CASING 20" @ 213, 13 3/4" @ 1969 ELEV. 9291' DATE: 11/26/74
 LINER DESCRIPTION: 9 5/8" @ 3380 ZERO POINT Cal. + 1.2'
7" slotted liner 3339'-3350' DEPTH 8200'
 TUBING DETAIL: slats - 4227' - 8146' ZONE

PUMP SHOE _____ GAS ANCHOR _____ INTAKE _____
 PURPOSE _____
 REMARKS: P. C. 4250 PSIG 5M 7198 12 hr 13374L 15 turn
 ELEMENT: SR 698 F SERIAL NO. 12053 CLOCK 12 hr 13575L TURN STABILIZATION PERIOD _____
 ENGAGE STYLUS P-1319 F-1311 DISENGAGE STYLUS P-1537, T-1535 GROSS OIL RATE B/D _____
 OBS. TBG. PRESS. _____ OBS. CSG. PRESS. _____ NET OIL RATE B/D _____
 COR. TBG. PRESS. _____ COR. CSG. PRESS. _____ FORMATION GAS MCF/D _____
 PICKUP @ 3942' TIME ON BOTTOM 1440-1445 MAX. °F 496.8 F GOR CFT/BBL. _____
 WELL STATUS shut-in CIRCULATED GAS MCF/D _____
 SHUT IN: _____ ON PRODUCTION: _____ OIL DRY GRAVITY °API _____
WHP - 36.7 PSIG BEAN SIZE _____

Pressure						Temp					
TIME	DEPTH	DEFL.	P-T	GRAD.	TD	TIME	DEPTH	DEFL.	P-T	GRAD.	TD
12:52	100	.169	352.2	0	0	"	100	.017	93.6	0	
12:59	100	.171	352.1	.005	0	"	100	.392	96.3	.125	
13:09	200	.172	394.1	.009	0	"	200	.685	317.2	.111	
13:17	300	.174	546.6	.123	7.001	"	300	1.031	426.9	.110	
13:24	400	.115	908.9	.362	7.001	"	400	1.212	477.4	.051	
13:32	500	.275	1254.2	.345	7.001	"	500	1.230	482.5	.005	
13:40	5942	.733	1578.4	.344	7.006	"	5942	1.230	498.8	.015	

COMMENTS: Unable to get past 5942', plug in hole, sample included.
Jerry Jones

BY:

UNITED

GEO THERMAL DIVISION

SUBSURFACE PRESSURE SURVEY

1313-54 D

76

OWNED Union Oil Co. of Calif. FIELD Valle Grande WELL NAME BAIN #1/3
 CASING 2 1/2" 215' 13 1/2" ID 1909, 9 1/2" 3510' ELEV 9291' DATE 11/21/74
 LINER DESCRIPTION 7" Liner - 3438' - 8200' ZERO POINT GL. +12'
5145 - 4227 - 9166' DEPTH 5200'

HOLE DESCRIPTION:

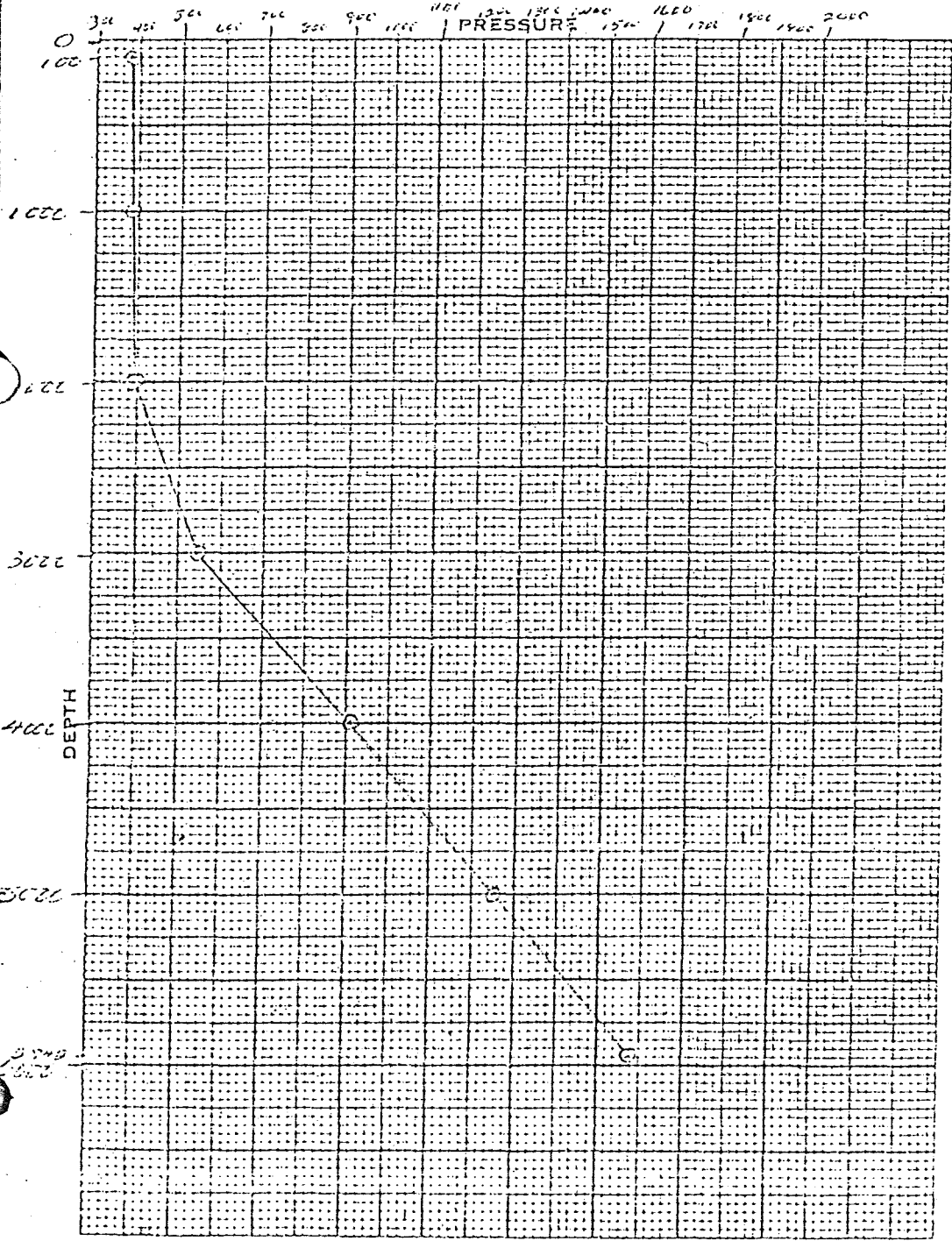
INSTRUMENT 4250
 SERIAL NO 7193

PURPOSE

MAX TEMP 496.8 549.2'

REMARKS:

STABILIZATION PERIOD



PRESSURES.	GUAGE	SCALE
CASING, PSI	367	

DEPTH	PRESSURE	GRAD
1000	386.6	0
2000	385.1	0.0015
3000	384.1	0.009
4000	346.6	0.53
5000	905.9	0.362
5200	1254.2	0.345
5492	1578.4	0.344

BY: J. W.

UNITED

GEOHERMAL DIVISION

SUBSURFACE TEMPERATURE SURVEY

B#13-54-T

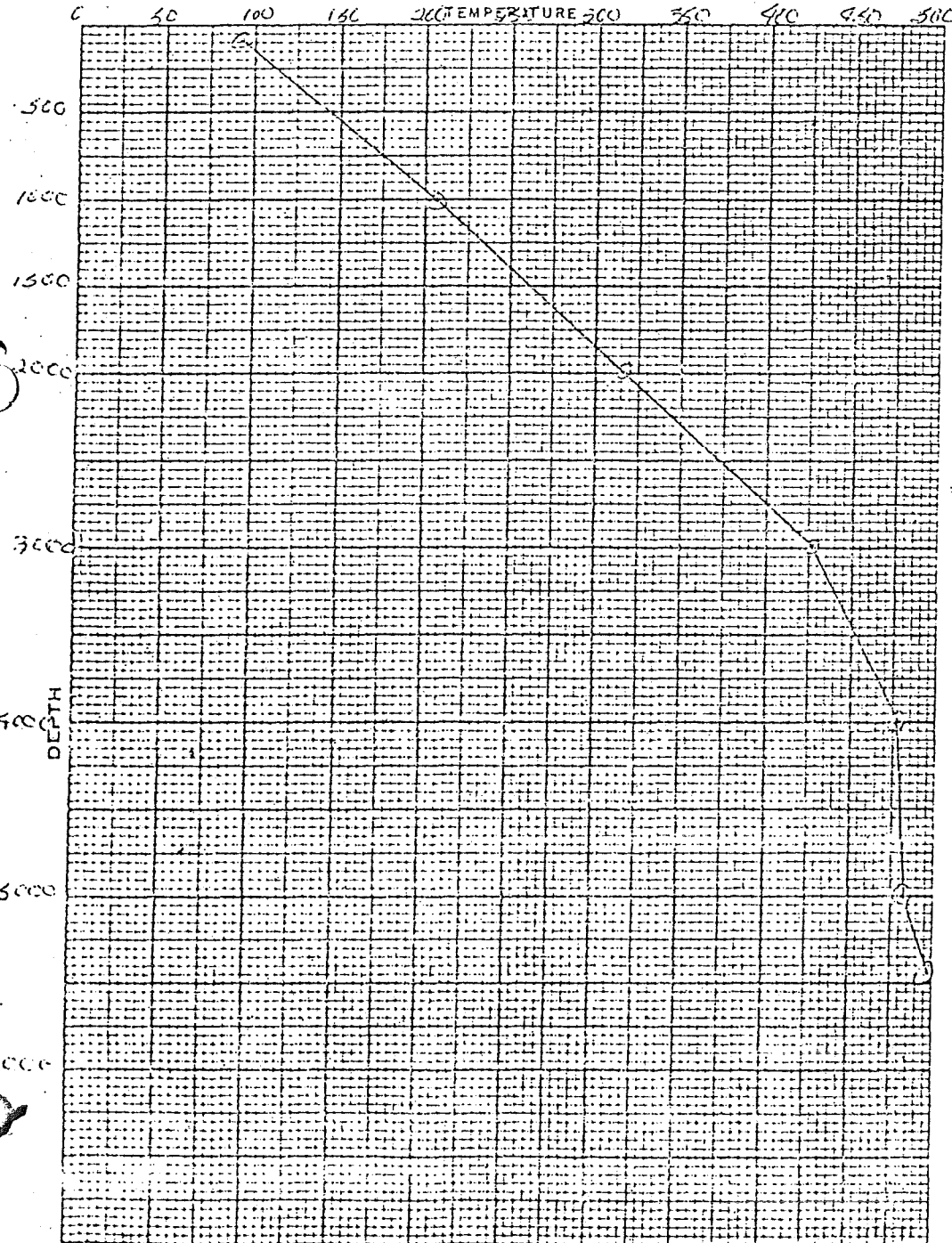
76

OWNER UNION CIL OF CALIF FIELD VALLE GRANDE WELL NAME BOP#13
 CASING 20" @ 215, 13 3/4" @ 1469, 9 3/4" @ 5200 ELEV 9291' DATE 11/20/74
 LINER DESCRIPTION: 2" 5335' - 8200 ZERO POINT 64+12'
SLOTS - 3227' - 3166' DEPTH 8200'

HOLE DESCRIPTION: _____
 INSTRUMENT 85-698 FAH.
 SERIAL NO 10055

PURPOSE _____ MAX TEMP 496.8 °F @ 5992'
 REMARKS _____

STABILIZATION PERIOD



PRESSURE	GAUGE	ROW	
CASING, PSI			
<u>W.H.D.</u>	<u>3671510</u>		
DEPTH	TEMP.	DEPTH	TEMP.
<u>100</u>	<u>93.6</u>		
<u>1000</u>	<u>206.3</u>		
<u>2000</u>	<u>317.2</u>		
<u>3000</u>	<u>426.4</u>		
<u>4000</u>	<u>477.4</u>		
<u>5000</u>	<u>492.5</u>		
<u>5992</u>	<u>496.8</u>		

BY: [Signature]