

R.O. ENGBRETSSEN

JUN 13 1980



# Union Geothermal Co. of New Mexico

SURVEY DATE: 6-2-80

B-14 5-12 P/T

TITLE BACA #14 SURVEY 12 PIT GRADIENT PRIOR to injectivity Test

TEMP. EL. S/N : 10222 PRESS. EL. S/N : 14191  
 RANGE : 93°-618°F RANGE : 0-4700 PSI  
 CALIBRATED : 11-10-76 CALIBRATED : 1-24-77  
 CLOCK: 12hr HRS. : S/N: 14090 CLOCK: 12hr HRS. : S/N: 14089

WHP AT START OF SURVEY : 1 PSIG @ 0746 hr PSIG  
 WHP AT END OF SURVEY : 0 PSIG @ 0828 hr PSIG  
 OPENED WELL TO ELEMENT : 0746 hr HRS.  
 POH : 0828 hr HRS.

TIME ELAPSED FROM LATEST S. I. TO START OF THIS SURVEY 4/30/80  
1 MOS., 2 DAYS, \_\_\_\_\_ HRS., \_\_\_\_\_ MINS.

DATE AND TIME OF LATEST S. I. (FT. NO. N/A) 0900 HRS. 4/30 1980

Station	Depth	Time at Sta.	TEMPERATURE		PRESSURE			REMARKS
			Defl.	°F	Defl.	Corr. Defl.	PSIG	
1	3000	0751-0806	1.049	414	.302	.298	736	
2	3500	0807-0817	1.091	425	.374	.370	907	
3	3900	0818-0828	1.843	356	.433	.427	1043	

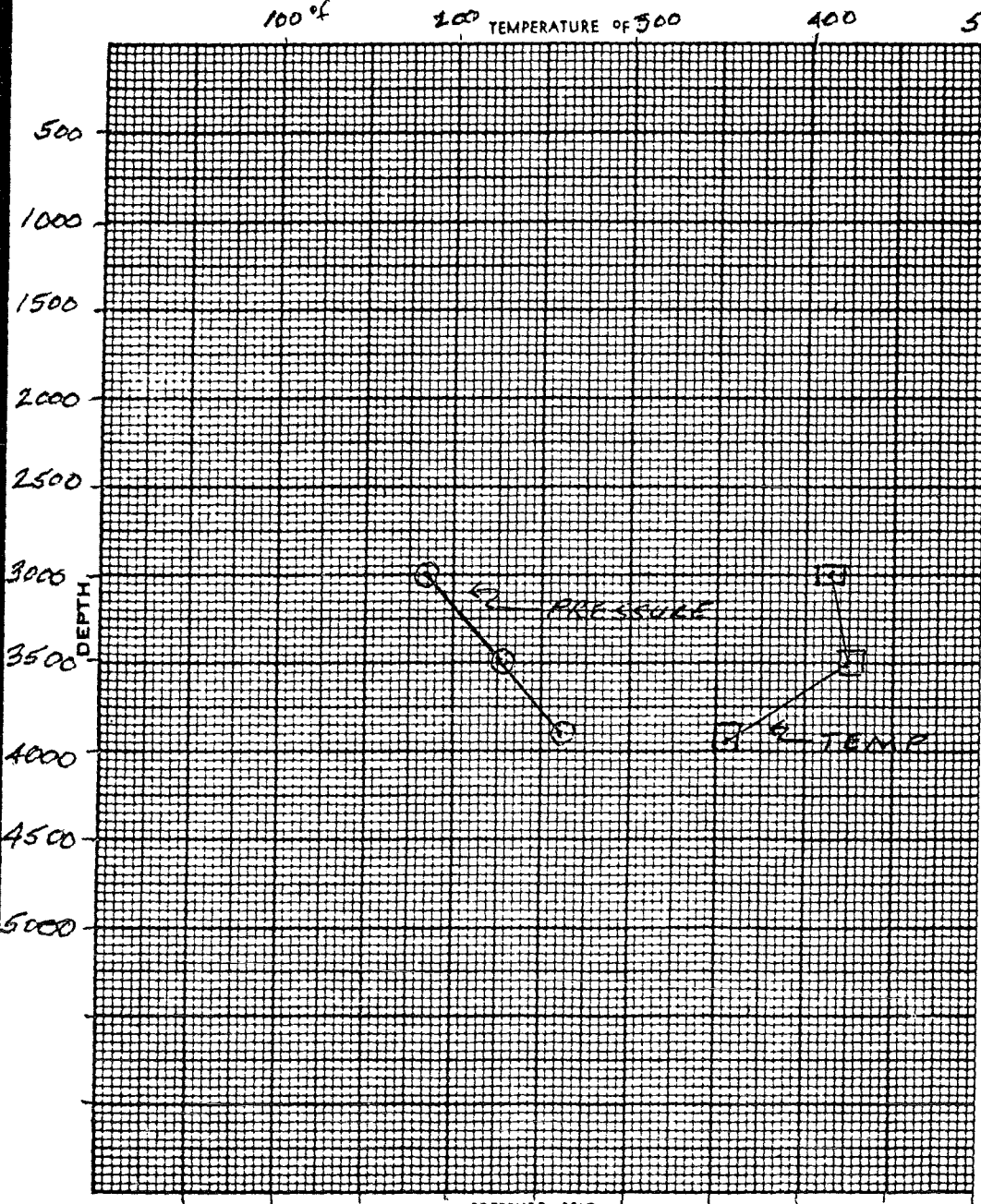
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 J. BOWEN J. THOMSON  
 T. DIESEL

# Union Geothermal Co. of New Mexico

## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

B-14 S-12 PIT

OWNER UNION GEOTHERMAL CO NM FIELD REDONDO WELL NAME BACA #14  
 CASING 13 3/8" AT 0-1052' ELEV. 8605' DATE: 6/2/80  
 LINER DESCRIPTION: 9 5/8" 1371-3074 ZERO POINT 2L+10'  
8 3/4" OPEN hole 3074' TO 5780' DEPTH 5780'  
 HOLE DESCRIPTION: \_\_\_\_\_ SN 14191  
 INSTRUMENT 930-618 of FAHR.  
 SERIAL NO. 10222  
 PURPOSE GRADIENT PRIOR TO INJECTIVITY TEST MAX. TEMP. 425 °F @ 3500  
 REMARKS: \_\_\_\_\_



PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH	TEMP.	PRESS.	GRAD.
3000	414	736	—
3500	425	907	.342
3900	356	1043	.340

⊙ PRESSURE  
 ⊠ TEMPERATURE

BY: J. BOWEN J. THOMSON T. DILL



# Union Geothermal Co. of New Mexico

R.O. ENGBRETSEN

JUN 13 1980

B-14 S-13 P/T

SURVEY DATE: 6-2-80

TITLE BACA #14 SURVEY #13 P/T INJECTIVITY TEST

TEMP. EL. S/N : 10222 PRESS. EL. S/N : 14191  
 RANGE : 93°-618° F RANGE : 0-4700 P.S.I.  
 CALIBRATED : 11-10-76 CALIBRATED : 1-24-77  
 CLOCK: 12 HRS. : S/N: 14090 CLOCK: 12 HRS. : S/N: 14089

WHP AT START OF SURVEY : VACUUM PSIG  
 WHP AT END OF SURVEY : VACUUM PSIG  
 OPENED WELL TO ELEMENT : 0938 HRS.  
 POH : 1948 HRS.

TIME ELAPSED FROM LATEST S. I. TO START OF THIS SURVEY

1 MOS., 3 DAYS, 3 HRS., 4 MINS.

DATE AND TIME OF LATEST S. I. (FT. NO. 114) 0900 HRS. 4/30 1980

Station	Depth	Time at Sta.	TEMPERATURE		PRESSURE			REMARKS
			Defl.	°F	Defl.	Corr. Defl.	PSIG	
1	3850'	1003	.928	380	.419	.414	1012	BEGAN INJ. AT 1025 AT 200 G.P.M.
1	"	1025	.928	380	.419	.414	1012	
1	"	1030	1.029	408	.433	.429	1047	
1	"	1035	1.072	420	.437	.434	1059	
1	"	1040	1.058	416	.438	.434	1059	
1	"	1055	.990	398	.439	.435	1062	
1	"	1110	.851	358	.439	.433	1057	
1	"	1125	.611	288	.440	.431	1052	
1	"	1140	.385	220	.440	.431	1052	
1	"	1210	.254	177	.439	.430	1050	
1	"	1240	.204	161	.439	.430	1050	
1	"	1310	.171	150	.440	.431	1052	
1	"	1410	.135	139	.440	.431	1052	
1	"	1510	.117	133	.440	.431	1052	
1	"	1610	.103	128	.441	.432	1054	
1	"	1810	.087	123	.443	.434	1059	
1	"	1948	.081	121	.444	.435	1062	

J  
S. THOMSON  
G. DIESEL

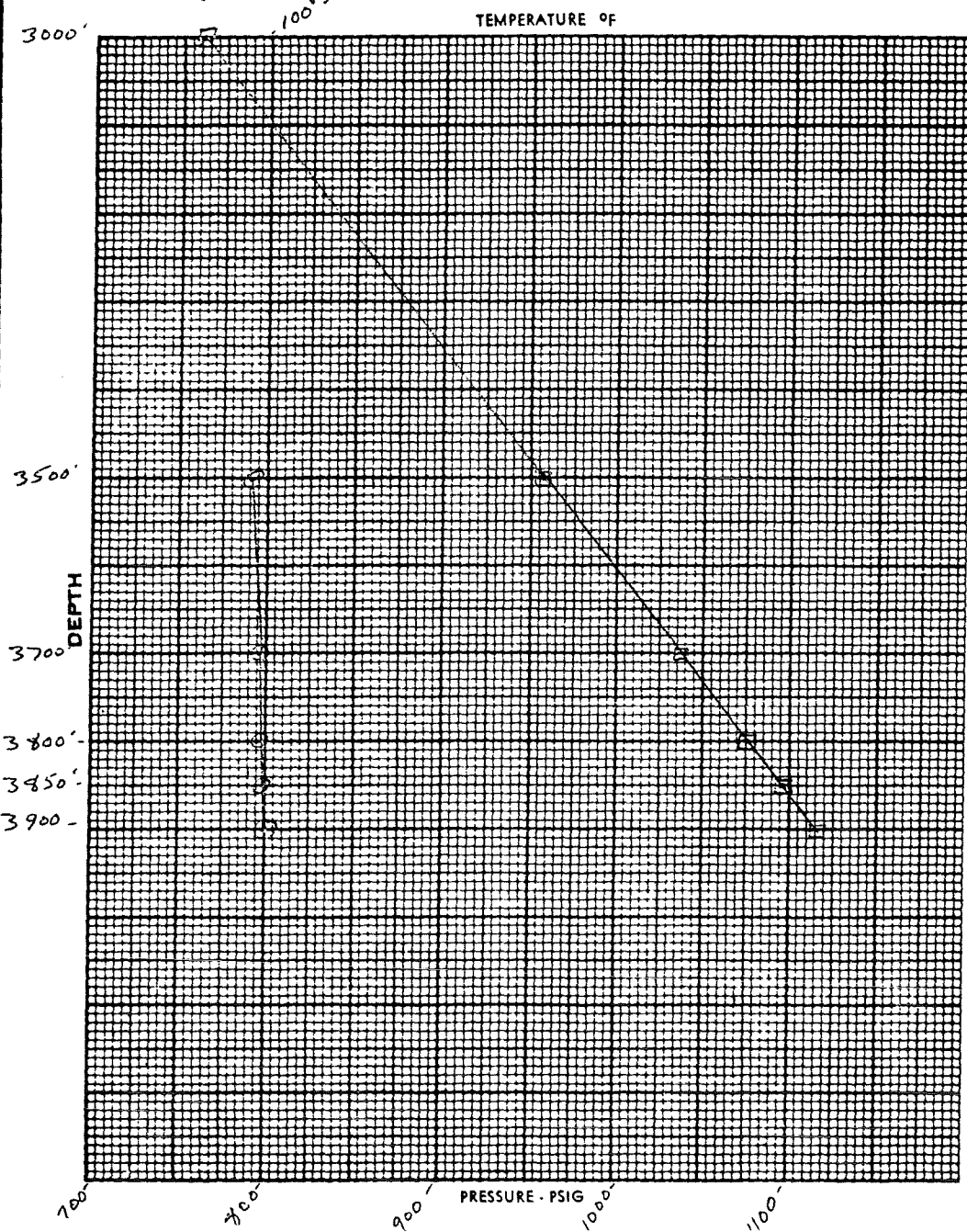


# Union Geothermal Co. of New Mexico 3-14 S-14 P1T

## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

OWNER UNION GEOTHERMAL CO. OF N.M. FIELD REDONDO WELL NAME BACA #14  
 CASING 13 3/8" AT 0-1452' ELEV. 8605' DATE: 6-3-80  
 LINER DESCRIPTION: 9 5/8" 1371-3074 ZERO POINT GL + 10'  
8 3/4" OPEN HOLE 3074'-5780' DEPTH 5780'  
0-4700 PSE  
 HOLE DESCRIPTION: \_\_\_\_\_ SN 14191  
 INSTRUMENT 93°-618° FAHR.  
 SERIAL NO. 10222  
 PURPOSE INJECTIVITY TEST MAX. TEMP. 100 °F @ 3900'  
 REMARKS: Injecting at 200 GPM

STABILIZATION PERIOD \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



PRESSURES	GAUGE	BOMB	
CASING, PSI	<u>Vac.</u>		
DEPTH	TEMP.	PRESS.	GRAD.
3000	<u>NR</u>	<u>762</u>	<u>-</u>
3500	<u>93</u>	<u>957</u>	<u>.390</u>
3700	<u>97</u>	<u>1038</u>	<u>.405</u>
3800	<u>98</u>	<u>1076</u>	<u>.380</u>
3850	<u>99</u>	<u>1097</u>	<u>.420</u>
3900	<u>100</u>	<u>1116</u>	<u>.380</u>

⊙ - Temp.  
 □ - Press.

BY: J. Thomson, G. Diesel

BANK 14 SPINNER  
 8-14 5-15 SPINNER  
 6-8-80

R.O. ENGBRESEN  
 JUN 13 1980

B-14 5-15 SPINNER

DEPTH TIME

5000 1052-1054  
 3300 1055-1057  
 3700 1059-1059  
 3800 1101-1102  
 3850 1102-1104  
 3900 1104-1106



NOTE: UNABLE TO COUNT ANY LINES

R.O. ENGBRETSSEN  
 JUN 13 1980



**Union Geothermal Co. of New Mexico**

B-14 S-16 P/T

SURVEY DATE: 6/4/80

TITLE Baca #14 Survey #16 Injectivity Test

TEMP. EL. S/N : 10222 PRESS. EL. S/N : 14191  
 RANGE : 93°-618°F RANGE : 0-4700 psi.  
 CALIBRATED : 11/10/76 CALIBRATED : 1/24/77  
 CLOCK: 12 HRS. : S/N: 14089 CLOCK: 12 HRS. : S/N: 14090

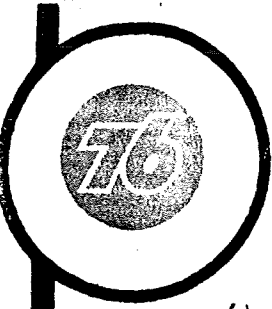
WHP AT START OF SURVEY : Vacuum PSIG  
 WHP AT END OF SURVEY : " PSIG  
 OPENED WELL TO ELEMENT : 0920 HRS.  
 POH : 1051 HRS.

TIME ELAPSED FROM LATEST S. I. TO START OF THIS SURVEY  
1 MOS., 5 DAYS,      HRS.,      MINS.

DATE AND TIME OF LATEST S. I. (FT. NO. N/A) 0900 HRS. 4/30 1980

Station	Depth	Time at Sta.	TEMPERATURE		PRESSURE			REMARKS
			Defl.	°F	Defl.	Corr. Defl.	PSIG	
1	3000	0927-0937	N/R	N/R	.312	N/C	769	Injecting at a rate of 2006PM since 1025 hrs. 6/2/80
2	3500	0938-0948	"	"	.396	"	969	
3	3700	0949-0959	"	"	.431	"	1052	
4	3800	1000-1010	"	"	.448	"	1092	
5	3850	1011-1021	.003	94	.456	"	1111	
5	3850	1021-1041	.003	94	.456	"	1111	
6	3900	1041-1051	.010	96	.463	"	1128	

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JUN 13 1980

# Union Geothermal Co. of New Mexico

## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

B-14 S-16 P/T

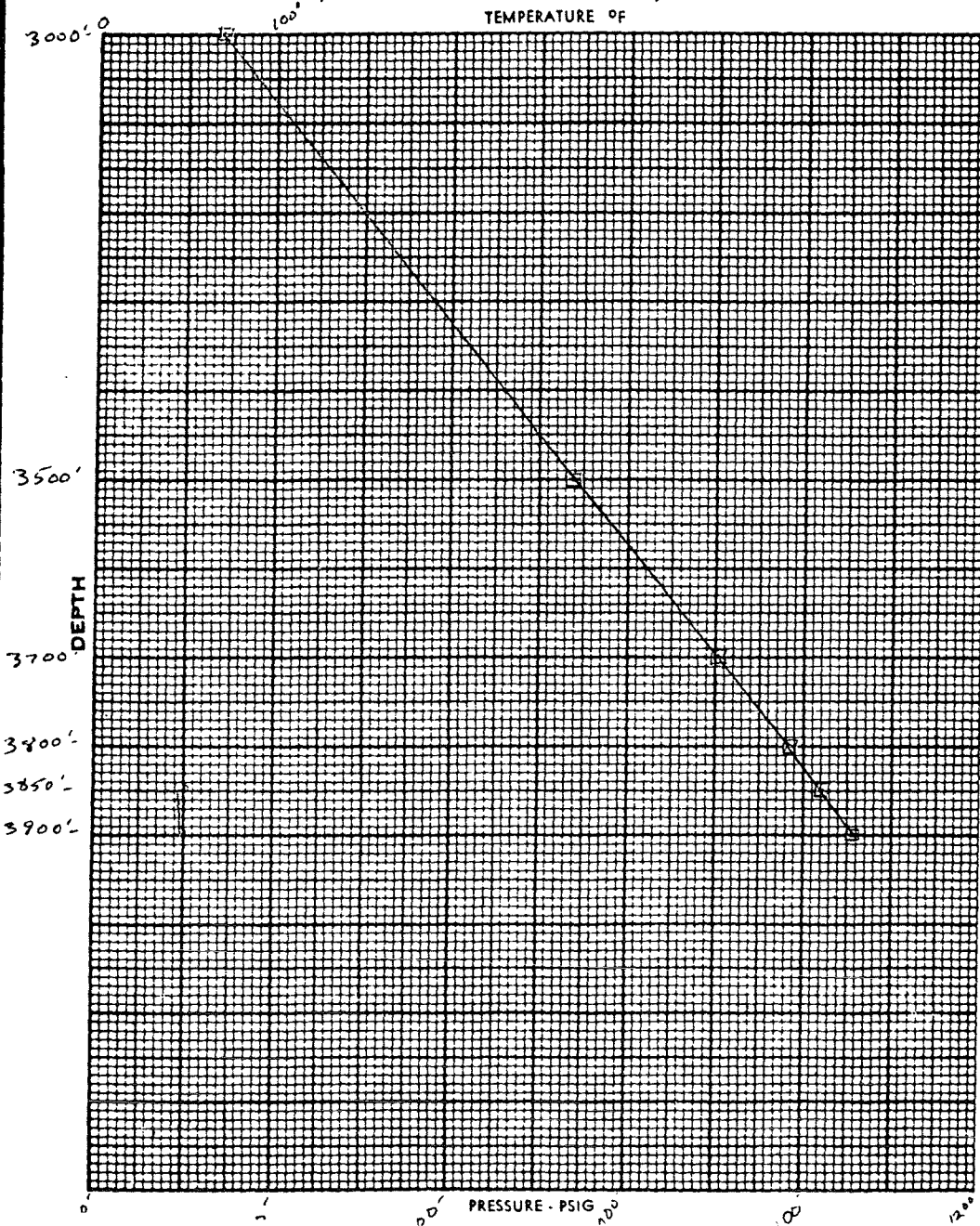
OWNER Union Geothermal Co. - N.M. FIELD Redondo Canyon WELL NAME Baca #14  
 CASING 13 3/4" @ 1452' ELEV. 8605' DATE: 6/14/80  
 LINER DESCRIPTION: 9 5/4" - 1371 to 3074' ZERO POINT 62 + 10'  
8 7/4 open hole 3074-5780' DEPTH 5780'

HOLE DESCRIPTION:

0 - 4700 psi INSTRUMENT 93°-618° FAHR.  
 14191 SERIAL NO. 10222

PURPOSE Gradient Survey MAX. TEMP. \_\_\_\_\_ °F @ \_\_\_\_\_

REMARKS: Injecting @ 200 GPM - began injection 1025 hrs. 6/12/80



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB	
CASING, PSI	<u>Vac.</u>		
DEPTH	TEMP.	PRESS.	GRAD.
3000	<u>NR</u>	<u>769</u>	<u>-</u>
3500	<u>"</u>	<u>969</u>	<u>.400</u>
3700	<u>"</u>	<u>1052</u>	<u>.415</u>
3800	<u>"</u>	<u>1092</u>	<u>.400</u>
3850	<u>94</u>	<u>1111</u>	<u>.380</u>
3900	<u>96</u>	<u>1128</u>	<u>.340</u>

○ - Temp.  
 □ - Press.

BY: J. Thomson, J. Bowler



R.O. ENGBRETSSEN

JUN 13 1980



**Union Geothermal Co. of New Mexico** B-14 S-17 P/T

SURVEY DATE: 6-5-80

TITLE BACA #14 BUILDUP SURVEY #17 Following Injectivity Test

TEMP. EL. S/N : 10222 PRESS. EL. S/N : 14191  
 RANGE : 93°-618° F RANGE : 0-4700 P.S.I.  
 CALIBRATED : 11-10-76 CALIBRATED : 1-24-77  
 CLOCK: 12 HRS. : S/N: 14089 CLOCK: 12 HRS. : S/N: 14090

WHP AT START OF SURVEY : VACUUM PSIG  
 WHP AT END OF SURVEY : 0 PSIG  
 OPENED WELL TO ELEMENT : 0530 HRS.  
 POH : 1537 HRS.

TIME ELAPSED FROM LATEST S. I. TO START OF THIS SURVEY  
1 MOS., 6 DAYS, \_\_\_\_\_ HRS., \_\_\_\_\_ MINS.

DATE AND TIME OF LATEST S. I. (FT. NO. NA) 0900HRS. 4-30-1980

Station	Depth	Time at Sta.	TEMPERATURE		PRESSURE			REMARKS
			Defl.	°F	Defl.	Corr. Defl.	PSIG	
1	3850'	0532	NR	—	.455	.455	1109	SHUT OFF INJECTION AT 0607 AND OPENED WELL TO ATMOSPHERE.
1	"	0607	NR	—	.455	.455	1109	
1	"	0612	NR	—	.454	.454	1107	
1	"	0617	NR	—	.452	.452	1102	
1	"	0622	NR	—	.447	.447	1090	
1	"	0627	NR	—	.446	.446	1088	
1	"	0657	.043	108	.441	.432	1055	
1	"	0727	.088	123	.439	.430	1050	
1	"	0827	.157	146	.437	.428	1045	
1	"	0927	.211	163	.436	.427	1043	
1	"	1027	.256	178	.435	.426	1040	
1	"	1127	.295	191	.434	.425	1038	
1	"	1227	.329	202	.434	.425	1038	
1	"	1327	.361	212	.433	.424	1036	
1	"	1427	.390	221	.432	.423	1033	
1	"	1537	.419	230	.432	.423	1033	

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R.O. ENGBRETTSEN  
 JUN 13 1980



**Union Geothermal Co. of New Mexico** B-14 S-18 P/T

SURVEY DATE: 6-6-80

TITLE BACA #14 GRADIENT SURVEY

TEMP. EL. S/N : 10222 PRESS. EL. S/N : 14191  
 RANGE : 93°-618° E. RANGE : 0-4700 P.S.I.  
 CALIBRATED : 11-10-76 CALIBRATED : 1-24-77  
 CLOCK: 12 HRS. : S/N: 14089 CLOCK: 12 HRS. : S/N: 14090

WHP AT START OF SURVEY : 0 PSIG  
 WHP AT END OF SURVEY : 0 PSIG  
 OPENED WELL TO ELEMENT : 0702 HRS.  
 POH : 0851 HRS.

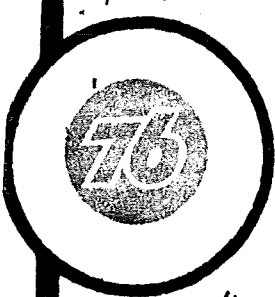
TIME ELAPSED FROM LATEST S. I. TO START OF THIS SURVEY  
     MOS.,      DAYS, 14 HRS., 2 MINS.

DATE AND TIME OF LATEST S. I. (FT. NO. NA ) 1700 HRS. 6-5 1980

Station	Depth	Time at Sta.	TEMPERATURE		PRESSURE			REMARKS
			Defl.	°F	Defl.	Corr. Defl.	PSIG	
1	3000	0708-0718	.630	294	.299	.289	714	
2	3500	0729	.636	295	.375	.366	898	
3	3800	0740	.652	300	.422	.413	1009	
4	3850	0751	.638	296	.429	.420	1026	
4	3850	0841	.638	296	.429	.420	1026	
5	3900	0851	.593	283	.438	.429	1047	

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R.D. ENGBRETSEN

# Union Geothermal Co. of New Mexico

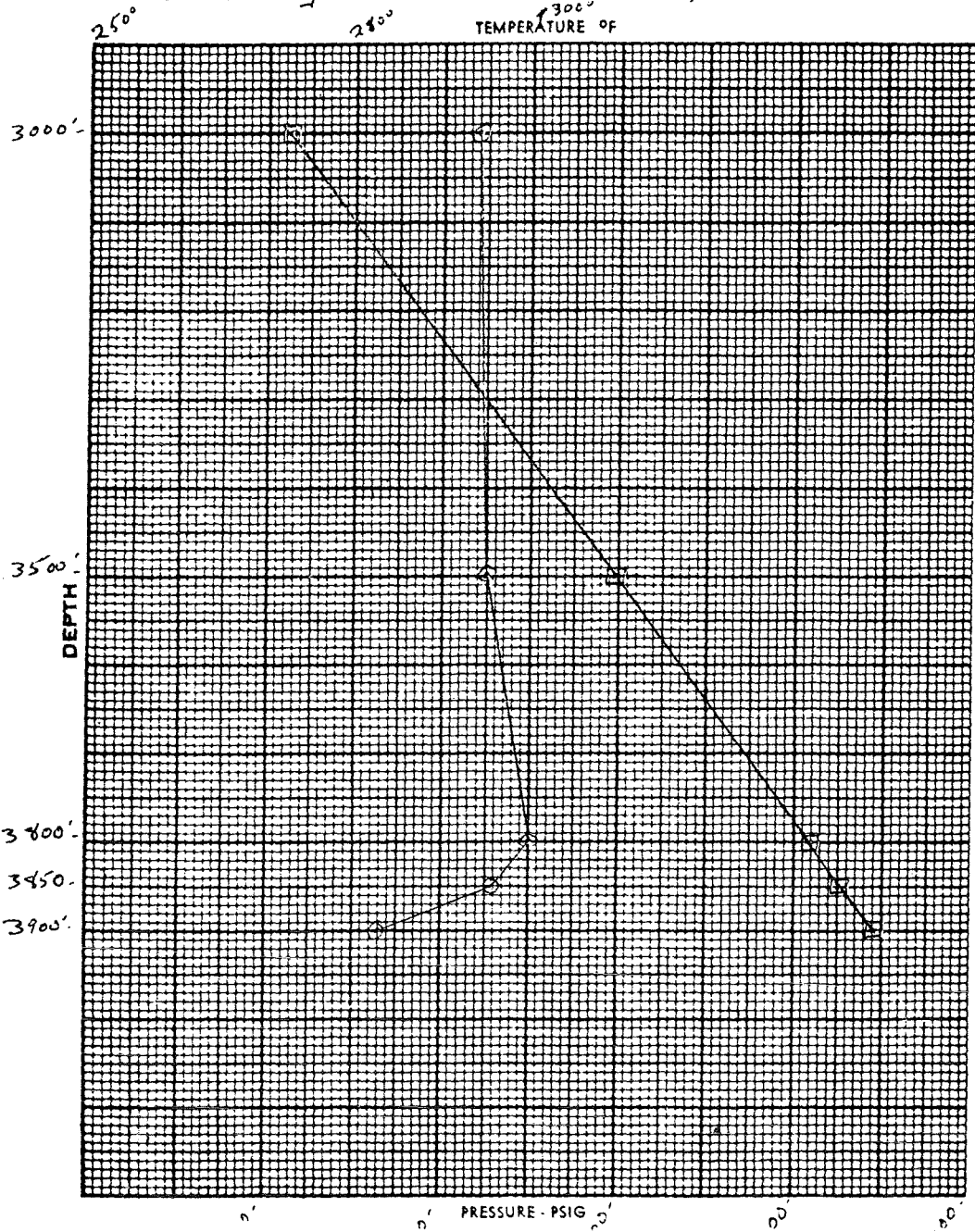
JUN 13 1980  
B-14 S-18 7/T

## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

OWNER Union Geothermal Co. of N.M. FIELD Redondo Canyon WELL NAME Baca #14  
 CASING 1 3/4" @ 1452' ELEV. 8605' DATE: 6/6/80  
 LINER DESCRIPTION: 9 3/4" 1371-3074 ZERO POINT 62+10'  
8 3/4" open hole 3074'-5780' DEPTH 5780'

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_ 0-4700 psi INSTRUMENT 93°-618° FAHR.  
 \_\_\_\_\_ 14191 SERIAL NO. 10222

PURPOSE Gradient Survey MAX. TEMP. 300 °F @ 3800'  
 REMARKS: ended injection 0607 hrs. 6/5/80; shut well in 1700 hrs. 6/5/80



STABILIZATION PERIOD \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PRESSURES	GAUGE	BOMB	
CASING, PSI	0		
DEPTH	TEMP.	PRESS.	GRAD.
3000	294	714	—
3500	295	898	.368
3800	300	1009	.370
3850	296	1026	.340
3900	283	1047	.420

- Temp  
 - Press.

BY: J. Thomson, G. Diesel



# Union Geothermal Co. of New Mexico

R.O. ENGBRETSSEN

JUN 17 1980

B-14 S-20 2/T

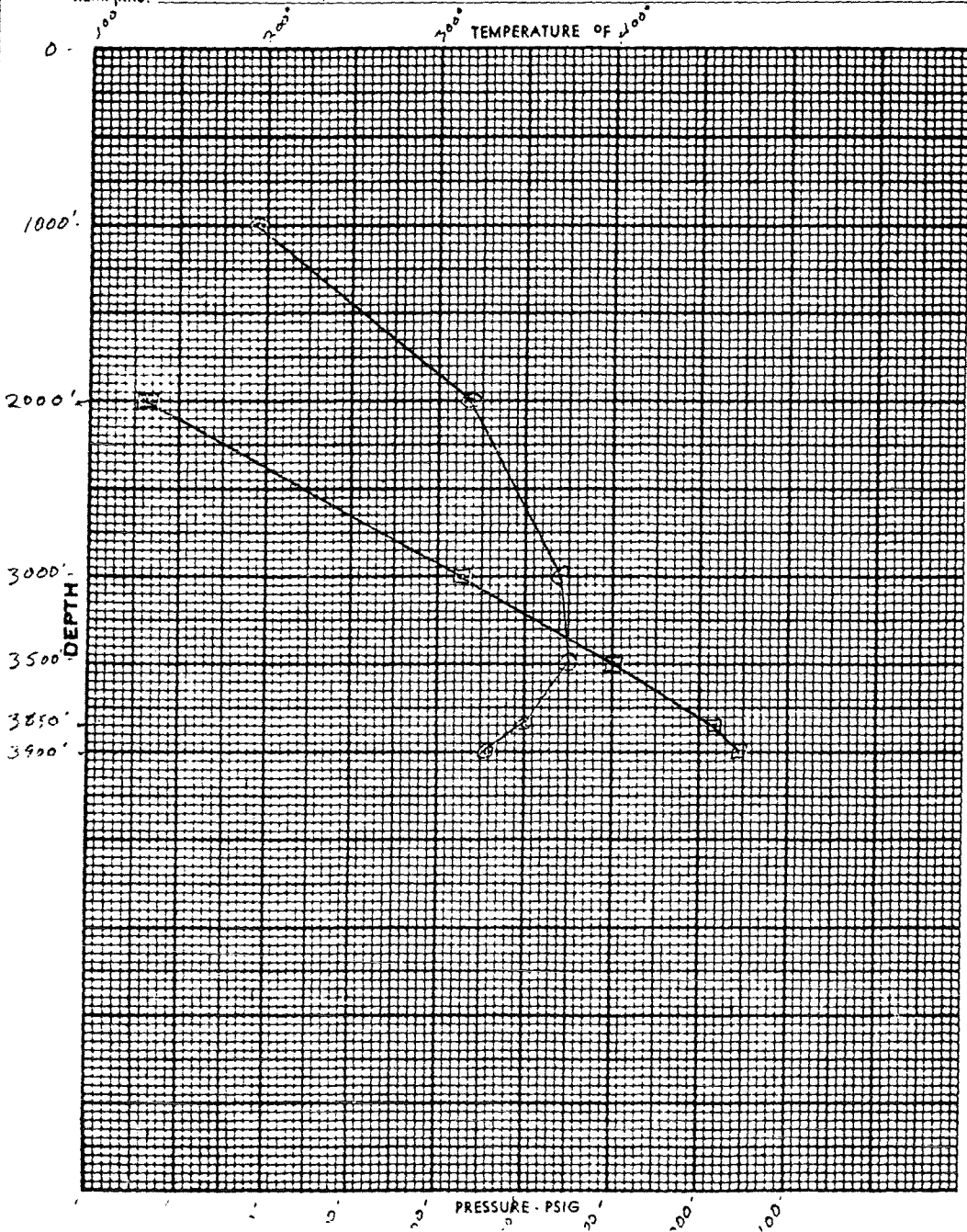
## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

OWNER Union Geothermal Co. of N.M. FIELD Redonda Canyon WELL NAME Bugs #14  
 CASING 13 3/8 0-1452' ELEV. 8605' DATE: 6/9/80  
 LINER DESCRIPTION: 9 5/8" 1371-3074' ZERO POINT 62 + 10'  
8 3/4" open hole 3074'-5780' DEPTH 5780'

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_ 0-4700 psi INSTRUMENT 93°-618° FAHR.  
 \_\_\_\_\_ 14191 SERIAL NO. 10222

PURPOSE Gradient Survey MAX. TEMP. 375° F @ 3500'

REMARKS: \_\_\_\_\_



STABILIZATION PERIOD

PRESSURES	GAUGE	BOMB
CASING, PSI	0	

DEPTH	TEMP.	PRESS.	GRAD.
1000	195	NR	-
2000	318	364	-
3000	371	729	.365
3500	375	902	.346
3850	350	1017	.329
3900	328	1047	.600

○ - Temp.  
 □ - Press.

BY: Thomson G. Diesel

JUN 17 1980



**Union Geothermal Co. of New Mexico** B-14 5-21 P/T

SURVEY DATE: 6-16-80

TITLE BACA #14 SURVEY # 21 GRADIENT SURVEY

TEMP. EL. S/N : 10222 PRESS. EL. S/N : 14191  
 RANGE : 93°-618° F. RANGE : 0-4700 P.S.I.  
 CALIBRATED : 11-10-76 CALIBRATED : 1-24-77  
 CLOCK: 12 HRS. : S/N: 14089 CLOCK: 12 HRS. : S/N: 14090

WHP AT START OF SURVEY : 0 PSIG  
 WHP AT END OF SURVEY : 0 PSIG  
 OPENED WELL TO ELEMENT : 0854 HRS.  
 POH : 1007 HRS.

TIME ELAPSED FROM LATEST S. I. TO START OF THIS SURVEY  
0 MOS., 9 DAYS, 15 HRS., 54 MINS.

DATE AND TIME OF LATEST S. I. (FT. NO. N/A) 1700 HRS. 6-5 1980

Station	Depth	Time at Sta.	TEMPERATURE		PRESSURE			REMARKS
			Defl.	°F	Defl.	Corr. Defl.	PSIG	
1	1000'	0901-0911	.309	195	NR	NC	NR	
2	2000'	0913-0923	.821	349	.146	.146	367	
3	3000'	0925-0935	1.016	405	.297	.293	724	
4	3500'	0936-0946	1.048	413	.367	.363	890	
5	3850'	0947-0957	.908	374	.420	.415	1014	
6	3900'	0957-1007	.817	348	.431	.425	1038	

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R.D. ENGBRETSSEN

JUL 09 1980



**Union Geothermal Co. of New Mexico** B-14 S-22 9/15

SURVEY DATE: 7-9-80

TITLE Baca #14 Survey #22 Gradient

TEMP. EL. S/N : 10222 PRESS. EL. S/N : 14191  
 RANGE : 93°-618°F RANGE : 0-4700 psi.  
 CALIBRATED : 11-10-76 CALIBRATED : 1-24-77  
 CLOCK: 12 HRS.: S/N: 14090 CLOCK: 12 HRS.: S/N: 14089

WHP AT START OF SURVEY : 0 PSIG  
 WHP AT END OF SURVEY : 0 PSIG  
 OPENED WELL TO ELEMENT : 1319 HRS.  
 POH : 1430 HRS.

TIME ELAPSED FROM LATEST S. I. TO START OF THIS SURVEY  
1 MOS., 3 DAYS, 20 HRS., 19 MINS.

DATE AND TIME OF LATEST S. I. (FT. NO. N/A) 1700 HRS. 6-5 1980

Station	Depth	Time at Sta.	TEMPERATURE		PRESSURE			REMARKS
			Defl.	°F	Defl.	Corr. Defl.	PSIG	
1	1000'	1324-1334	.309	195	0	0	0	
2	2000'	1346	.904	373	.152	.152	382	
3	3000'	1358	1.108	430	.304	.301	743	
4	3500'	1409	1.155	443	.368	.365	895	
5	3850'	1420	.980	395	.421	.417	1019	
6	3900'	1430	.876	365	.431	.425	1038	

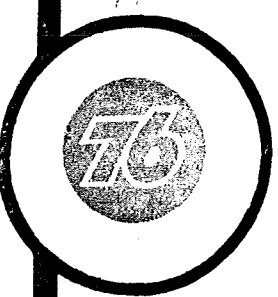
J. Thomson  
G. Diesel

R.O. ENGBRETSSEN

# Union Geothermal Co. of New Mexico

JUL 09 1980  
8-74 5-72 P/T

## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

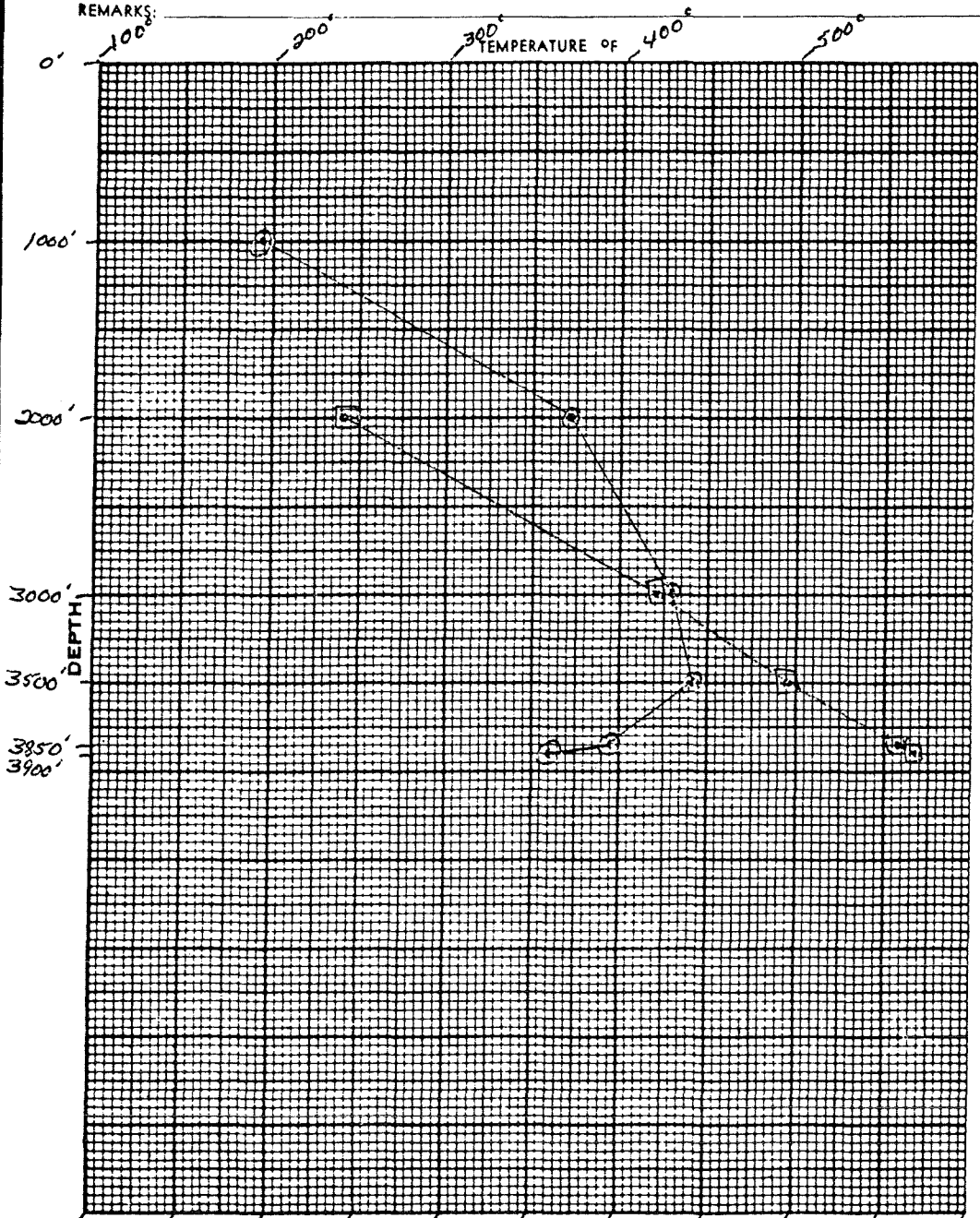


OWNER UNION GEOTHERMAL CO. OF NEW MEXICO FIELD REDONADO CANYON WELL NAME BACA #14  
 CASING 13 7/8" 0'-1453' ELEV. 8605' DATE: 7-9-80  
 LINER DESCRIPTION: 9 5/8" 1371'-3074' ZERO POINT 66 ± 10'  
8 3/4" OPEN HOLE 3074'-5780' DEPTH 5780'

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_ 0-4700 PSI INSTRUMENT 93°-618° FAHR.  
 \_\_\_\_\_ 14191 SERIAL NO. 10222

PURPOSE GRADIENT SURVEY MAX. TEMP. 443 °F @ 3500'

REMARKS: \_\_\_\_\_ STABILIZATION PERIOD 10 MIN.

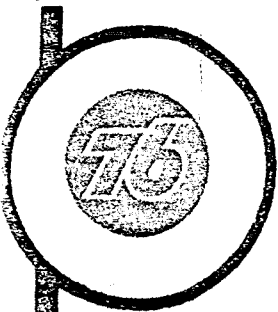


DEPTH	TEMP.	PRESS.	GRAD.
1000'	195°	0	—
2000'	373°	382	.382
3000'	430°	743	.361
3500'	443°	895	.304
3850'	395°	1019	.354
3900'	365°	1038	.380

○ - TEMP.  
 □ - PRESS.

BY: J THORSON, G DIESEL





# Union Geothermal Co. of New Mexico

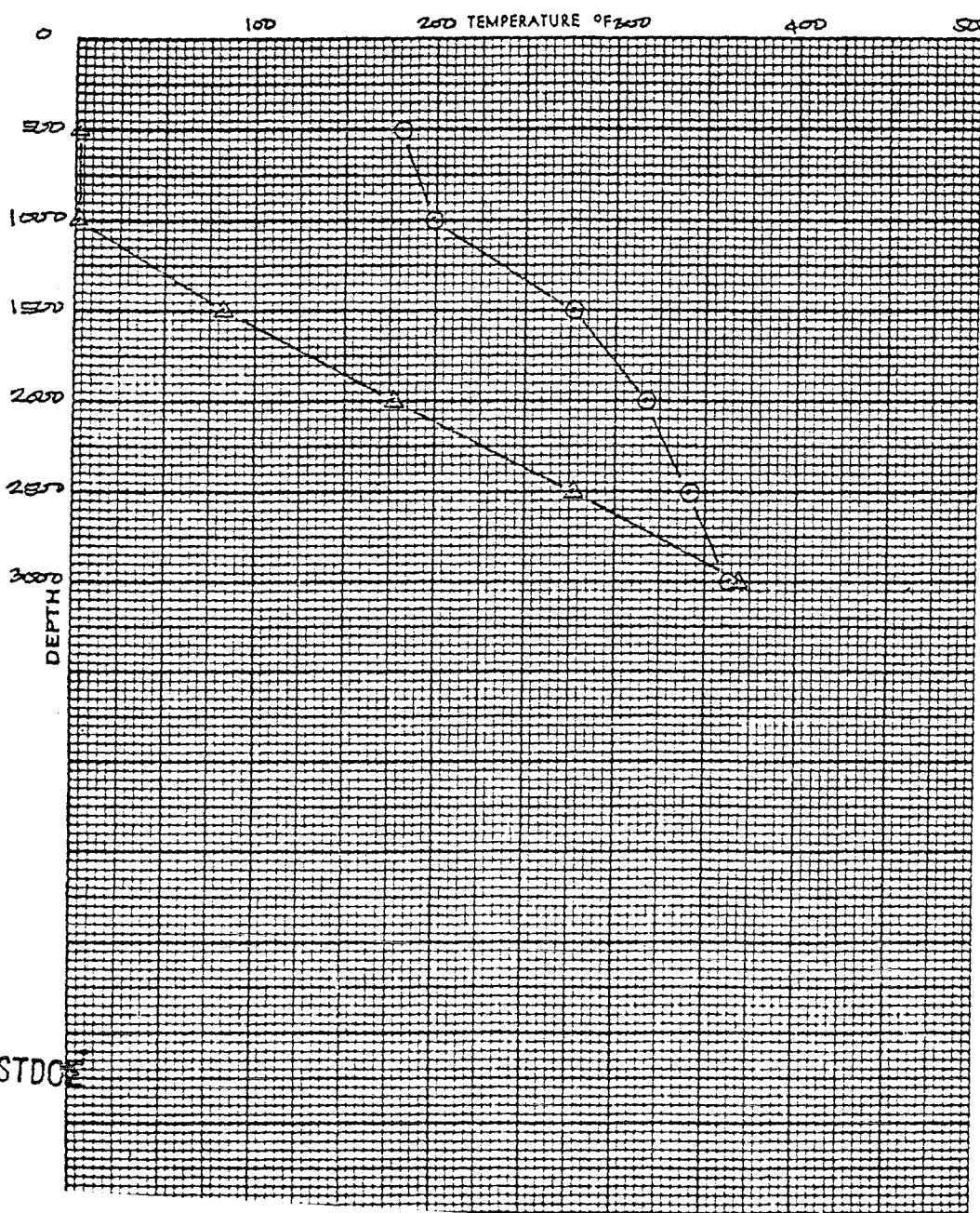
## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

R. O. ENGBREITSEN  
MAY 17 1981

OWNER UNION GEOTHERMAL CO. OF N.M. FIELD REDONDO CREEK WELL NAME BACA #14  
 CASING 20" @ 193'; 13 3/8" @ 1453 FT. ELEV. 8604 FT. DATE: 5-15-81  
 LINER DESCRIPTION: 9 5/8" @ 1371 FT TO 3074' ZERO POINT KB DEPTH 3074 FT.

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_ KPG 9235 INSTRUMENT 93-618 FAH  
 \_\_\_\_\_ 2750 PSI SERIAL NO. KTB 10222

PURPOSE TEMP/PRESS GRADIENT SURVEY TO 3000 FT. MAX. TEMP. 363 °F @ 3000'  
 REMARKS: PRIOR TO SPERRY-SUN INSTALLATION



STABILIZATION PERIOD \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

PRESSURES	GAUGE	BOMB
CASING, PSI		

DEPTH FT.	TEMP. °F	PRESS. PSIC	GRAI
500	181	5	
1000	198	5	
1500	217	166	0.3
2000	237	255	0.3
2500	241	563	0.3
3000	363	737	0.3

○ TEMPERATURE  
 △ PRESSURE

CSTDC

BY: JPR





# Union Geothermal Co. of New Mexico

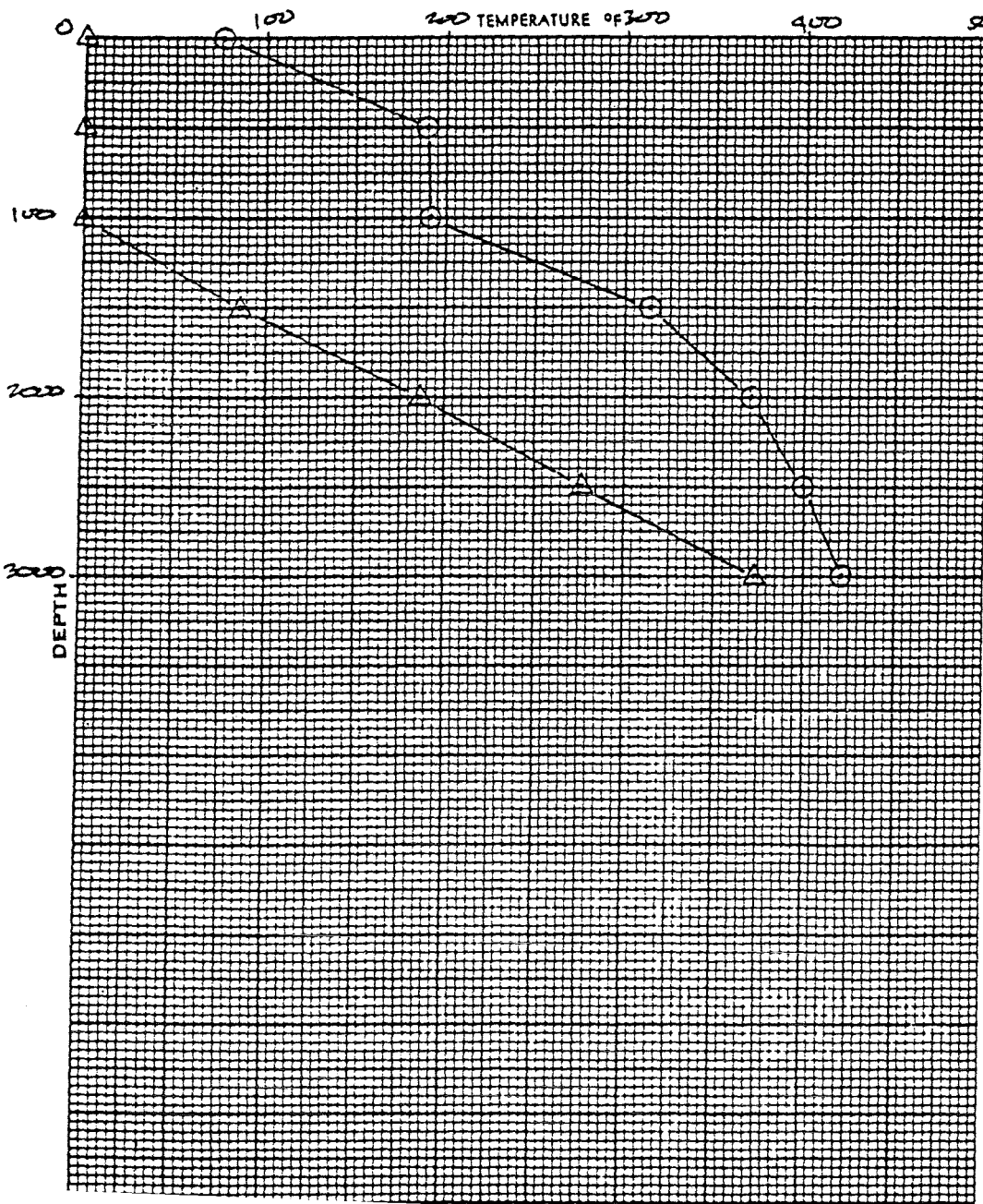
## SUBSURFACE TEMPERATURE AND PRESSURE SURVEY

B14-S25 P/T

OWNER UNION GEOTHERMAL CO. OF N.M. FIELD REYNOLDO CREEK WELL NAME BACA # 14  
 CASING 20" @ 193' ; 13 1/2" @ 1453' ELEV. 8604' DATE: 5-25-82  
 LINER DESCRIPTION: 9 5/8" @ 1371' TO 3074' ZERO POINT KB  
 DEPTH 3074'

HOLE DESCRIPTION: \_\_\_\_\_  
 \_\_\_\_\_ 4600 INSTRUMENT 1 - G80 OF FAHR.  
 \_\_\_\_\_ KFC 9222 SERIAL NO. KTB 23338

PURPOSE TEMP/PRESS GRADIENT SURVEY TO 3000' MAX. TEMP. 422 °F @ 3000'  
 REMARKS: \_\_\_\_\_



STABILIZATION PERIOD \_\_\_\_\_

DEPTH FT.	TEMP.	PRESS.	GRAD.
0	76	N.R.	-
500	184	"	-
1000	192	"	-
1500	314	172	-
2000	371	373	0.402
2500	400	554	0.362
3000	422	746	0.384

○ TEMP  
 △ PRESS

BY: \_\_\_\_\_



















Prepared by	Checked by	Date	Sheet
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Title: **BACA No. 14 WATER INJECTION** W.O. / A.F.E. no.

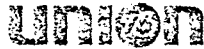
DATE	DAILY TOTAL GALS	CUMULATIVE GALS	REMARKS
			<i>Continued injection from B-20</i>
10-1-80	118,322	118,322	
2	117,642	235,964	
3	337,168	573,132	
4	102,641	675,773	
5	21,600	697,373	<i>Reserve pit shut in 12 hrs</i>
6	100,694	798,067	
7	57,076	855,143	
8	49,686	904,829	
9	40,320	945,149	
10	40,320	985,469	
11	40,320	1,025,789	
12	37,728	1,063,517	
13	34,992	1,098,509	
14	40,656	1,139,165	
15	41,952	1,181,117	
16	44,266	1,225,383	
17	44,510	1,269,893	
18	54,946	1,314,839	
19	46,260	1,361,099	
20	42,229	1,403,328	
21	34,992	1,438,320	
22	37,913	1,476,233	
23	44,622	1,520,855	
24	50,334	1,571,189	
25	48,294	1,619,483	
26	48,888	1,668,371	
27	48,702	1,717,073	
28	45,216	1,762,289	
29	49,254	1,811,543	
30	52,488	1,864,031	
31	53,034	1,917,065	<i>October 1980 Total: 1,917,065 gals Continued injection</i>



Prepared by	Checked by	Date	Sheet
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Title	W.C. / A.S.E. no.
BACA No. 14 WATER INJECTION	

DATE	DAILY TOTAL GALS	CUMULATIVE GALS	REMARKS
			Continued injection from R-20
11-1-80	55,140	55,140	
2	49,680	104,820	
3	50,928	155,748	
4	49,680	205,428	
5	53,892	259,320	
6	57,168	316,488	
7	57,168	373,656	
8	53,892	427,548	
9	51,240	478,788	
10	52,332	531,120	
11	54,360	585,480	
12	56,472	641,952	
13	61,860	703,812	
14	69,984	773,796	
15	64,188	837,984	
16	66,018	904,002	
17	64,680	968,682	
18	34,950	1,003,632	Began injection from R-20 & R-21, 1400 hrs
19	35,730	1,039,362	
20	57,168	1,096,530	
21	57,168	1,153,698	
22	57,168	1,210,866	
23	57,168	1,268,034	
24	57,168	1,325,202	
25	57,168	1,382,370	
26	57,168	1,439,538	
27	57,168	1,496,706	
28	58,813	1,555,519	
29	58,800	1,614,319	
30	67,776	1,682,095	November 1980 Total: 1,682,095 gals Continued injection



Prepared by	Checked by	Date	Sheet
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Title: **BACA No. 14 WATER INJECTION** W.O. / A.F.E. no.

DATE	DAILY TOTAL GALS	CUMULATIVE GALS	REMARKS
			<i>Continued injection from B-20 &amp; B-21</i>
12-1-80	57,168	57,168	
2	58,032	115,200	
3	57,168	172,368	
4	58,320	230,688	
5	63,132	293,820	
6	71,628	365,448	
7	71,790	437,238	
8	63,966	501,204	
9	63,792	564,996	
10	60,624	625,620	
11	62,604	688,224	
12	58,560	746,784	<i>Began injection from B-20 only, 0900 hrs</i>
13	57,624	804,408	
14	60,744	865,152	
15	59,376	924,528	
16	57,132	981,660	
17	59,652	1,041,312	
18	57,168	1,098,480	
19	61,584	1,160,064	
20	57,168	1,217,232	
21	57,168	1,274,400	
22	57,168	1,331,568	
23	51,984	1,383,552	
24	53,604	1,437,156	
25	53,748	1,490,904	
26	48,960	1,539,864	
27	50,318	1,590,182	
28	52,782	1,642,964	
29	50,328	1,693,292	
30	52,842	1,746,132	
31	54,672	1,800,806	<i>December 1980 Total: 1,800,806 gals Continued injection</i>





Prepared by	Checked by	Date	Sheet
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Title: **BACA No. 14 WATER INJECTION** W.O. / A.S.E. no.

DATE	DAILY TOTAL GALS	CUMULATIVE GALS	REMARKS
7-1-81	199313	199313	Start injection (B-24)
2	471138	670452	
3	481419	1151871	
4	515511	1667382	
5	498683	2166065	
6	425695	2591761	
7	220714	2812475	Stop injection
7-17-81	181598	2994073	Start injection
18	406901	3400974	
19	357951	3758925	
20	357513	4116438	
21	381771	4498209	
22	466997	4965206	
23	485353	5450559	
24	428536	5879095	
25	339922	6219017	
26	325172	6544189	
27	163023	6707212	
28	262672	6969884	
29	256553	7226437	
30	274909	7501346	
31	222463	7723809	

R.O. ENGBRETSSEN

AUG 07 1981

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 Checked by: \_\_\_\_\_  
 Date: / /  
 Sheet: 1 of 2

Title: BACA No 14 WATER INJECTION  
 W.O. / A.F.E. no. \_\_\_\_\_

DATE	EXACT TIME HRS.	Δ H "W.C.	RATE GPM	DAILY TOTAL GALS.	CUMULATIVE GALS	REMARKS
8-1-81	0000 - 1604	11.19	207.41		199,944	INJECTION LINE
	1604 - 2400	12.5	219.24	304,300	304,300	F 6"
8-2-81	0000 - 0922	12.41	218.46		427,073	ORIFICE = 4"
	0922 - 2400	12.5	219.24	315,262	619,562	COEFF. = 62
8-3-81	0000 - 1338	9.31	189.22		774,343	
	1338 - 2400	7.95	174.83	263,522	883,085	WATER PRODUCED
8-4-81	0000 - 1338	9.63	192.43		1,040,496	FROM BACA 24
	1338 - 2400	11.48	210.07	288,077	1,171,161	
8-5-81	0000 - 2400	8.28	178.43	256,945	1,428,106	
8-6-81	0000 - 1420	9.95	195.53		1,596,260	
	1420 - 2400	9.9	195.04	281,280	1,709,387	
8-7-81	0000 - 1340	9.11	187.15		1,862,852	
	1340 - 2400	10.31	199.08	276,896	1,986,283	
8-8-81	0000 - 1305	10.49	200.80		2,143,914	
	1305 - 2400	10.49	200.80	289,173	2,275,456	
8-9-81	0000 - 1245	10.26	198.6		2,427,386	
	1245 - 2400	10.04	196.5	284,569	2,560,024	
8-10-81	0000 - 1129	9.48	190.92		2,691,566	R.O. ENGBREITSEN
	1129 - 2400	9.14	187.42	272,292	2,832,316	SEP 01 1981
8-11-81	0000 - 1144	9.76	193.7		2,968,681	
	1144 - 2400	9.45	190.64	276,676	3,108,993	
8-12-81	0000 - 1310	8.97	185.66		3,255,662	
	1310 - 2400	9.08	186.86	268,126	3,377,119	
8-13-81	0000 - 1320	7.22	166.62		3,510,415	
	1320 - 2400	21.9	290.14	318,989	3,696,108	
8-14-81	0000 - 1030	12.7	220.97		3,835,323	
	1030 - 2400	12.17	216.26	314,385	4,010,493	
8-15-81	0000 - 0915	12.1	215.68		4,130,196	
	0915 - 2400	12.82	221.96	316,139	4,326,632	
8-16-81	0000 - 0900	12.27	217.21		4,443,923	
	0900 - 2400	5.78	149.08	251,464	4,578,096	
8-17-81	0000 - 1239	7.1	165.22		4,703,499	
	1239 - 2400	11.96	214.4	271,415	4,849,511	
8-18-81	0000 - 1105	11.51	210.3		4,989,384	
			220.65	310,877	5,160,388	

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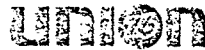
Prepared by JFR	Checked by	Date / /	Sheet 1 of 1
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Title BACA No 14 WATER INJECTION	W.O. / A.F.E. no.
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DATE	EXACT TIME HRS.	A H "W.C.	RATE GPM	DAILY TOTAL GALS.	CUMULATIVE GALS	REMARKS
9-1-81	0000 - 0821	11	205.7		103,041	WATER PRODUCED
	0821 - 2400	11.97	214.6	304,519	304,519	FROM BACA No 24
9-2-81	0000 - 0804	16.4	251.4		426,196	
	0804 - 2400	11.6	210.9	323,374	627,393	INJECTION LINE = 6"
9-3-81	0000 - 0817	11.8	213.1		733,785	ORIFICE BORE = 4"
	0817 - 2400	12.0	214.8	308,466	936,359	COEFFICIENT = 62
9-4-81	0000 - 0827	11.3	208.8		1,042,250	
	0827 - 2400	5.97	151.6	247,299	1,183,658	
9-5-81	0000 - 0900	15.2	241.6		1,314,104	
	0900 - 2400	13.4	227.0	334,774	1,518,432	
9-6-81	0000 - 0844	13.4	227.		1,637,477	
	0844 - 2400	12.6	219.7	320,305	1,838,736	
9-7-81	0000 - 0907	12.6	220		1,959,316	
	0907 - 2400	13.5	228	324,251	2,162,987	
9-8-81	0000 - 0829	13.4	227		2,278,525	
	0829 - 2400	12.9	223	322,935	2,485,923	
9-9-81	0000 - 0842	12.6	220		2,601,022	
	0842 - 2400	13.5	227.6	324,032	2,809,954	
9-10-81	0000 - 0839	9.8	194		2,910,803	
	0839 - 2400	12.4	218	301,670	3,111,624	
9-11-81	0000 - 0840	21.2	285.4		3,260,047	
	0840 - 2400	12.6	219.95	350,778	3,462,402	
9-12-81	0000 - 1045	12.04	215.15		3,601,179	
	1045 - 2400	12.16	216.2	310,658	3,773,060	
9-13-81	0000 - 0943	12.07	215.5		3,898,683	
	0943 - 2400	12.36	217.95	312,412	4,085,472	
9-14-81	0000 - 0840	11.51	210.4		4,194,871	
	0840 - 2400	12.1	215.7	307,808	4,393,230	
9-15-81	0000 - 1110	11.1	206.15	138,119	4,531,399	SHUT-IN INJECTIO
GSTDOE						@ 110 hrs.
						9-15-81

R.O. ENGBRETSSEN  
SEP 21 1981





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Title **BACA No. 14 WATER INJECTION** W.O. / A.F.E. no. \_\_\_\_\_

DATE	DAILY TOTAL GALS	CUMULATIVE GALS	REMARKS
			Start injection from R-13, 1400 HRS 3-5-81
3-5-81	128,536	128,536	
6	336,900	465,436	
7	362,526	827,962	
8	372,126	1,200,088	
9	359,148	1,559,236	
10	361,728	1,920,964	
11	355,224	2,276,188	
12	341,370	2,617,558	
13	309,162	2,926,720	
14	357,120	3,283,840	
15	357,120	3,640,960	
16	350,274	3,991,234	
17	184,350	4,175,584	Shut in R-13 0935 on 3-17 to 1035 on 3-18
18	265,320	4,440,904	
19	446,874	4,887,778	
20	186,450	5,074,228	Shut in R-13 1140 on 3-20 to 840 on 3-22
21	0	5,074,228	
22	338,820	5,413,048	
23	426,384	5,839,432	
24	318,732	6,158,164	
25	370,116	6,528,280	
26	352,854	6,881,134	
27	345,744	7,226,878	
28	343,344	7,570,222	
29	345,744	7,915,966	
30	345,744	8,261,710	
31	172,872	8,434,582	March 1981 Total: 8,434,582 gals Stopped injection









R.O. ENGBRETSSEN

JUL 09 1981

Calculation Record  
Union Oil Company of California

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Title BACA NO 14 WATER INJECTION DATA (FROM B24 PRODUCTION)      W.O. / A.F.E. NO.

DATE	TIME HRS.	WHP "Hg. vac.	IVHT °F	AH "W.C.	RATE GPM	CUMULATIVE GALS.	REMARKS
							INJECTION LINE = 6"
7-1-81	1030	10.5		38	380.96	380.96	ORIFICE — 4"
7-2-81	1000	10.5		39	385.94	537,154	COEFF. — 01.8
	1900	10.5		38	380.96	745,561	
	2200	10.5		39	385.94	814,134	
7-3-81	0300	12.5		38	380.96	929,916	
	0900	12.20	H2S.			1,067,062	NO INJECTION
	1220	12.5		37	375.91	1,067,062	START INJECTION
	1420	12.5		36	370.8	1,112,171	
	1610	12.5		35	365.61	1,152,959	
	1830	12.5		34	360.35	1,204,144	
7-4-81	0830	12.5		34	360.35	1,506,838	
	1300	12.5		33	355.01	1,604,133	
	1800	12.5		32	349.59	1,710,636	
7-5-81	0730	13.0		32	349.59	1,993,804	
	1900	13.0		31.75	348.22	2,235,021	
	2000	13.0	"	31.6	347.4	2,255,914	
	2200	13.00		31.5	346.85	2,297,602	
	2315					2,323,616	NO INJECTION
7-6-81	0245					2,323,616	START INJECTION
	0445	12.5		29.0	332.8	2,363,552	
	0800	12.5		28.0	327	2,368,544	
	0835					2,438,849	NO INJECTION
	1110					2,438,849	START INJECTION
	1200	12.5		32	349.59	2,456,328	
	1900	12.5		31.75	348.22	2,603,156	
7-7-81	2400	12.5		30	338.49	2,707,622	
	1000	16.5		31	344.1	2,910,716	SHUT-IN B24 @ 093
	1045	16.5		32	349.59	2,926,200	
	1120					2,938,436	SHUT-IN INJECTION

R.O. ENGBRETSSEN

DEC 01 1981

Calculation Record  
Union Oil Company of California

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W.O. / A.F.E. no.	W. Q. / A. F. E. no.
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BACA No 14 WATER INJECTION

DATE	EXACT TIME #RS.	A H "W.C.	RATE GPM	DAILY TOTAL GALS.	CUMULATIVE GALS	REMARKS
11-01-81	0000 - 0956	18.1	263.7		157,193	WATER PRODUCED
	0956 - 2400	17.3	258.2	375,114	375,114	FROM BACA #13/20
11-02-81	0000 - 1008	17.1	256.7		531,210	
	1008 - 2400	16.9	255.1	368,317	743,431	INJECTION LINE = 6"
11-03-81	0000 - 1052	11.9	213.5		882,646	ORIFICE BORE = 4"
	1052 - 2400	18.7	268.2	350,559	1,093,990	COEFFICIENT = 62
11-04-81	0000 - 1110	16.6	252.9		1,263,460	
	1110 - 2400	16.1	248.6	360,863	1,454,853	
11-05-81	0000 - 1015	10.3	199.3		1,577,407	
	1015 - 2400	15.5	244.5	324,251	1,779,104	
11-06-81	0000 - 1015	26.5	319.4		1,975,540	
	1015 - 2400	15.3	242.4	396,380	2,175,434	
11-07-81	0000 - 0945	10.65	202.4		2,293,871	
	0945 - 2400	13.6	228.9	314,166	2,489,650	
11-08-81	0000 - 1100	0	—		"	NO INJECTION
	1100 - 2400	0.77	54.5	42,532	2,532,182	
11-09-81	0000 - 1020	21.3	286.1		2,709,544	SHUT-IN BACA No 20
	1020 - 1530	NO	INJECTION			@ 0837 hrs. 11-09-81
	1530 - 2400	27.3	324.1	342,666	2,874,848	
11-10-81	0000 - 0715	13.9	231.3		2,975,478	
	0715 - 1905	NO	INJECTION			
	1905 - 2400	20.1	340.4	301,669	3,075,888	
11-11-81	0000 - 0935	13.9	231.1		3,208,745	
	0935 - 2155	NO	INJECTION			
	2155 - 2400	10.8	203.5	158,288	3,234,176	
11-12-81	0000 - 0920	20.0	277.6		3,389,615	
	0920 - 1615	NO	INJECTION			
	1615 - 2400	47.0	425.3	353,190	3,587,366	
11-13-81	0000 - 0945	17.6	260.5		3,739,736	
	0945 - 1950	13.8	230.5	291,804	3,879,170	
	1950 - 2400	NO	INJECTION			
11-14-81	0000 - 0150					
OSTDNE	0150 - 1225	23.5	300.4		4,069,906	
			217.0	341,570	4,220,741	



Prepared by JPR Checked by \_\_\_\_\_ Date 1 / 1 Sheet 2 of 3

BACA No 14 WATER INJECTION

W.O. / A.F.E. no. \_\_\_\_\_

DATE	EXACT TIME #RS.	Δ H "W.C.	RATE GPM	DAILY TOTAL GALS.	CUMULATIVE GALS	REMARKS
11-15-81	0000-1015	15.1	241		4,368,944	WATER PRODUCED
	1015-2400	14.4	235	342,009	4,562,750	FROM BACA No 13
11-16-81	0000-0620	14.6	237		4,652,637	
	0620-1315	- NO INJECTION				INJECTION LINE = 6"
	1315-2400	25.1	310	270,050	4,852,799	ORIFICE BORE = 4"
11-17-81	0000-0630	13.8	230		4,942,467	COEFFICIENT = 62
	0630-1640	- NO INJECTION				
	1640-2400	28.8	386	259,576	5,112,375	
11-18-81	0000-0640	15.4	243		5,209,716	
	0640-1600	- NO INJECTION				
	1600-2400	38.4	384	281,719	5,394,094	
11-19-81	0000-0720	14.4	234.9		5,525,636	
	0720-1700	- NO INJECTION				
	1700-2400	15.8	246.3	205,425	5,599,519	
11-20-81	0000-0620	15.9	247.5		5,693,571	
	0620-0728	- NO INJECTION				
	0728-1020	11.56	210.8	105,014	5,704,533	
	1020-2400	- NO INJECTION				
11-21-81	0000-0745	"	"			
	0745-1850	25.9	315.4	171,881	5,876,414	
	1850-2400	- NO INJECTION				
11-22-81	0000-0745	"	"			
	0745-1105	41.9	401.2		5,956,655	
	1105-2400	27.8	326.7	333,459	6,209,873	
11-23-81	0000-1530	- NO INJECTION				
	1530-2400	38.9	386.9	197,313	6,407,186	
11-24-81	0000-0615	14.15	233.3		6,494,661	
	0615-1515	- NO INJECTION				
	1515-2400	28.7	331.9	261,768	6,668,954	
11-25-81	0000-0630	12.8	221.5		6,755,333	
	0630-1405	- NO INJECTION				
	1405-2400	35.3	368.5	305,615	6,974,569	
11-26-81	0000-0500	15.1	241.2		7,046,918	
		- NO INJECTION				

Calculation Record  
 Union Oil Company of California



Prepared by JPR	Checked by	Date / /	Sheet 3 of 3
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BACA No 14 WATER INJECTION

W.O. / A.F.E. no.

DATE	EXACT TIME #RS.	Δ H "W.C.	RATE GPM	DAILY TOTAL GALS.	CUMULATIVE GALS	REMARKS
11-26-81	1830 - 2400	NO INJECTION		142,381	7,117,950	WATER PRODUCED
11-27-81	0000 - 0345	"	"			FROM BACA No 13
	0345 - 1017	31.7	348.9		7,254,754	
	1017 - 1840	14.0	232.3		7,371,607	INJECTION LINE = 6"
	1840 - 2400	NO INJECTION		253,657	7,371,607	ORIFICE EDGE = 4"
11-28-81	0000 - 0145	"	"			COEFFICIENT = 62
	0145 - 0950	14.8	238.7		7,487,364	
	0950 - 2145	17.7	260.8		7,673,868	
	2145 - 2400	NO INJECTION		302,261	7,673,868	
11-29-81	0000 - 1135	"	"			
	1135 - 1955	33.9	360.9		7,854,300	
	1955 - 2400	NO INJECTION		180,432	7,854,300	
11-30-81	0000 - 0115	"	"			
	0115 - 0315	4.9	137.0		7,870,742	
	0315 - 1515	NO INJECTION				
	1515 - 2400	47.4	426.8	240,502	<u>8,094,802</u>	

CSTDOE

R. O. ENGBREITSEN

JAN 04 1982

Calculation Record  
Union Oil Company of California

union

Prepared by JPR	Checked by	Date / /	Sheet 1 of 1
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BACA No 14 WATER INJECTION

W.O. / A.P.E. No.

DATE	EXACT TIME HRS.	A H "W.C."	RATE GPM	DAILY TOTAL GALS.	CUMULATIVE GALS	REMARKS
12-01-81	0000 - 0715	21.8	289.8		126,061	WATER PRODUCED
	0715 - 1445	NO INJECTION			"	FROM BACA NO 13
	1445 - 2400	18.2	264.3	272,730	272,730	
12-02-81	0000 - 0630	12.5	219.2		358,232	INJECTION LINE = 6"
	0630 - 1505	NO INJECTION			"	ORIFICE BORE = 4"
	1505 - 2400	19.96	277	233,706	506,436	COEFFICIENT = 62
12-03-81	0000 - 0625	12.83	222.1		591,939	
	0625 - 1530	NO INJECTION			"	
	1530 - 2400	37.7	380.4	279,527	785,963	
12-04-81	0000 - 0945	13.7	229.7		920,355	
	0945 - 2400	13.1	224.1	326,005	1,111,967	
12-05-81	0000 - 0720	3.54	116.6		1,163,269	
	0720 - 1135	NO INJECTION			"	
	1135 - 2400	27.01	322.2	291,365	1,403,333	
12-06-81	0000 - 0815	12.4	217.9		1,511,197	
	0815 - 1050	NO INJECTION			"	
	1050 - 1320	26.4	318.6		1,558,991	
	1320 - 1525	NO INJECTION			"	
	1525 - 1850	25.5	313.3		1,623,227	
	1850 - 2400	NO INJECTION		219,894	"	
12-07-81	0000 - 0250				"	
	0250 - 0635	43.4	408.3		1,715,087	
	0635 - 1500	NO INJECTION			"	
	1500 - 2400	44.9	415.3	316,137	1,939,366	
12-08-81	0000 - 0650	17.4	258.8		2,045,476	
	0650 - 1510	NO INJECTION			"	
	1510 - 2400	28.8	332.9	282,595	2,221,961	
12-09-81	0000 - 0635	13.7	229.8		2,312,725	
	0635 - 1545	NO INJECTION			"	
	1545 - 2400	26.5	318.9	248,614	2,470,575	
12-10-81	0000 - 0630	13.2	224.9		2,558,270	
	0630 - 1530	NO INJECTION			"	
CSTDOE	1530 - 2400	23.55	300.9	241,161	2,711,736	



R.O. ENGBRETSSEN

FEB 03 1982

Calculation Record  
 Union Oil Company of California

Union

Prepared by: JPR  
 Checked by: \_\_\_\_\_  
 Date: / / 1982

BACA No. 14 WATER INJECTION

DATE	EXACT TIME HRS.	Δ H "W.C.	RATE GPM	DAILY TOTAL GALS.	CUMULATIVE GALS	REMARKS
1-11-82	1115 - 1530	40.5	304.6		100,630	WATER FROM GEOFORMIX
	1530 - 2400	NO INJECTION		100,630	"	
1-12-82	0000 - 0720	"	"		"	RESOURCE, INC.
	0720 - 1120	30.4	341.6		182,624	
	1120 - 1515	25.9	315.3		256,726	INJECTION LINE = 6'
	1515 - 2400	NO INJECTION		156,096	"	ORIFICE PORE = 4'
1-13-82	0000 - 1020	"	"		"	COEFFICIENT = 62
	1020 - 1540	10.3	198.7	63,579	320,305	START INJECTION
	1540 - 2400	NO INJECTION			"	@ 1115 HRS. 1-11-82
1-14-82	0000 - 2400	"	"		"	SHUT INJECTION
1-15-82	0000 - 0730	"	"		"	@ 1540 HRS. 1-13-82
	0730 - 1545	17.16	256.9	127,157	447,462	START INJECTION AGAIN
	1545 - 2400	NO INJECTION			"	@ 0730 HRS. 1-15-82
	NO INJECTION SINCE 1-15-82 @ 1545 HRS.					
	TO 1-25-82 @ 0912 HRS.					
1-25-82	0912 - 1500	7.2	166.32	57,878	505,340	START INJECTION @ 0912 HRS.
	1500 - 2400	NO INJECTION			"	1-25-82
1-26-82	0000 - 0715	NO INJECTION			"	
	0715 - 0910	7.49	169.7		524,852	
	0910 - 1530	21.05	284.4		632,936	
	1530 - 2400	NO INJECTION		127,596	"	
1-27-82	0000 - 0720	NO INJECTION			"	
	0720 - 0925	5.5	145.6		651,133	
	0925 - 1540	7.95	174.8		716,684	
	1540 - 2400	NO INJECTION		83,748	"	
1-28-82	0000 - 0720	NO INJECTION			"	
	0720 - 0935	32.9	355.6		764,697	
	0935 - 1550	15.5	244.4	139,654	856,338	SHUT-IN INJECTION
	@ 1550 HRS. 1-28-82					
	FROM 1-28-82 @ 1550 HRS. TO 1-31-82 @ 2400 HRS. - NO INJECTION					







**BACA 14 INTERFERENCE PRESSURE DATA**  
(p. 1 of 2)

DATE TIME PRESSURE

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06/19/81	1300	526.971	
06/22/81	1135	528.420	
06/23/81	1500	528.486	
06/25/81	1330	529.850	
06/26/81	1240	529.140	
06/29/81	1420	532.056	
06/30/81	1525	532.293	
07/01/81	1450	598.841	INJECT WATER @ 1030
07/02/81	0830	619.321	
07/03/81	1250	595.389	
07/04/81	1450	627.048	
07/05/81	1215	634.173	
07/06/81	1315	617.325	
07/07/81	1100	629.707	SHUTIN B24 @0937/S.I. INJECTION @1120
07/10/81	1105	533.958	
07/12/81	1750	529.064	
07/13/81	1449	528.571	SHUTIN B4 @1446
07/14/81	1214	528.865	
07/15/81	1356	530.144	
07/16/81	1030	541.543	
07/17/81	1450	509.509	INJECTED FROM B24
07/20/81	1215	593.869	
07/21/81	1141	580.194	
07/22/81	1158	652.601	INJECTION IN PROGRESS
07/23/81	1455	678.043	
07/28/81	1445	583.601	
07/29/81	1026	586.630	

Baca 14 INTERFERENCE PRESSURE DATA  
(p. 2 of 2)

07/31/81 1404 523.666

08/04/81 1035 531.365

08/05/81 1530 554.444

08/06/81 1515 561.911

08/10/81 1430 557.870

08/11/81 1430 556.394

08/12/81 1455 552.730

08/13/81 1405 524.611 INJECTION STOP

08/14/81 1135 554.389 INJECTION IN PROGRESS

08/17/81 1300 551.920

08/18/81 1345 551.885

08/19/81 1445 556.592

08/20/81 1505 552.312

08/21/81 1455 552.312

Interference Pressure Data - 14 (p 2 of 3)

07/31/81 1404 528.666  
08/04/81 1035 531.365  
08/05/81 1530 554.444  
08/06/81 1515 561.911  
08/10/81 1430 557.870  
08/11/81 1430 556.394  
08/12/81 1455 552.730  
08/13/81 1405 524.511 INJECTION STOP  
08/14/81 1135 554.389 INJECTION IN PROGRESS  
08/17/81 1300 551.920  
08/18/81 1345 551.885  
08/19/81 1445 556.592  
08/20/81 1505 552.312  
08/21/81 1455 552.312  
08/26/81 1225 560.675  
08/27/81 1450 555.186  
08/28/81 1515 558.927  
08/31/81 1505 553.325  
09/02/81 1120 550.913  
09/03/81 1415 552.756  
09/04/81 1340 552.550  
09/08/81 1415 559.132  
09/09/81 1600 558.146  
09/10/81 1330 530.551 SHUT OFF INJECTION  
09/11/81 1320 558.118  
09/14/81 1420 554.870  
09/15/81 1530 524.948 SHUT-IN INJ. TOTALLY @1100  
09/16/81 1400 525.123  
09/17/81 1545 521.130  
09/18/81 1445 524.940

Interference Pressure Data - 14 (p 3 of 3)

09/21/81 1435 516.190

09/24/81 1015 520.540

09/25/81 1110 520.109



Interference Pressure Data - 14 (1 of 1)

DATE        TIME    PRESSURE

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09/28/81 1500 524.511

09/29/81 1340 520.997

09/30/81 1520 515.776

10/01/81 1335 520.775

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Interference Pressure Data 14

DATE	TIME	PRESSURE
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10/05/81	1510	513.212
10/06/81	1310	516.117
10/07/81	1345	517.678
10/08/81	1630	518.648
10/09/81	1550	499.774 START INJ @1210



Interference Pressure Data Baca 14 (p 1 of 1)  
DATE TIME PRESSURE

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10/12/81	1300	503.054	
10/13/81	1325	578.207	
10/14/81	1335	528.268	SHUT OFF INJ @ 1210
10/15/81	1505	518.943	
10/16/81	1510	518.450	

INTERFERENCE PRESSURE DATA  
BACA 14

DATE TIME PRESSURE

-----  
10/19/81 1045 506.152

10/20/81 1430 516.221

10/22/81 1440 519.123

10/23/81 1140 522.290

10/27/81 1020 574.610 START INJ @1615 10/26/81

10/28/81 1355 570.765 WATER INJ IN PROGRESS

10/29/81 1415 571.095

10/30/81 1500 572.575

BACA 14

DATE      TIME    PRESSURE

-----  
11/02/81 1430 572.810 WATER INJ IN PROGRESS

11/03/81 1450 528.922

11/04/81 1440 568.286

11/05/81 1505 532.690

11/06/81 1500 532.227

INTERFERENCE PRESSURE DATA  
BACA 14

DATE TIME PRESSURE

11/09/81 1045 534.707 WATER INJ IN PROGRESS

11/10/81 1045 534.707

11/11/81 1450 523.853

11/12/81 1400 520.214

11/13/81 1405 520.019

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NOV 17 1981

INTERFERENCE PRESSURE DATA  
BACA 14

DATE TIME PRESSURE

11/16/81 1425 576.889 ROGS. TAKEN WHILE INJ IN PROGRESS

11/17/81 1015 534.347

11/18/81 1355 532.196

11/19/81 1435 534.054

11/20/81 1415 531.583

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DATE TIME PRESSURE

11/23/81 1330 533.230

11/24/81 1430 532.192

11/25/81 1405 523.446

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INTERFERENCE PRESSURE DATA  
BACA 14

DATE            TIME    PRESSURE  
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11/30/81 1430 530.674

12/01/81 1500 526.665

12/02/81 1530 498.437

12/03/81 1440 529.469

12/04/81 1200 625.054 INTERMITTENT INJ IN PROGRESS/PURGED TUBING W/NITRO@1

END OF DATA

INTERFERENCE PRESSURE DATA

BACA 14

DATE TIME PRESSURE

12/05/81 1115 526.544 INTERMITTENT INJ IN PROGRESS

12/07/81 1430 536.675

12/08/81 1410 534.858

12/09/81 1435 534.673

12/10/81 1510 537.754

12/11/81 1440 507.823

R.O. ENGBRETSSEN

DEC 13 1981



INTERFERENCE PRESSURE DATA  
BACA 14

DATE TIME PRESSURE

1  
2 12/14/81 1500 642.070  
3  
4 12/15/81 1410 631.322  
5  
6 12/16/81 1450 631.341  
7  
8 12/17/81 1405 630.589  
9  
10 12/18/81 1340 140.139 SHUTIN B13 @ 0930  
11  
12 12/21/81 1500 132.950 SHUTIN B4 @ 0945  
13  
14 12/22/81 1440 523.370 PURGED @ 1145  
15  
16 12/25/81 1520 522.400 PUMPED AMMONIA INTO WELL @ 1400  
17  
18 12/29/81 1515 513.951  
19  
20 12/30/81 1445 517.330  
21  
22 12/31/81 1415 517.980  
23  
24 01/05/82 0930 525.692  
25  
26 01/06/82 1020 525.137  
27  
28 01/07/82 1410 525.769  
29  
30 01/08/82 1510 523.419  
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R.O. ENGBRETSSEN

JAN 11 1982

# UNION GEOTHERMAL CO. OF NEW MEXICO

## PRESSURE INTERFERENCE DATA

WELL NAME: BACA # 14  
 TRANSDUCER: PAROSCIENTIFIC  
 MODEL #: 73K-002  
 SERIAL #: 11105      3000 PSIA

CHAMBER SETTING: 2,500' KB

DATE	TIME HRS.	AMBIENT TEMP. °F	TRANSR. RDGS.		WHP	WHT	INITIALS	REMARKS
			PRESS.	FREQ.				
12-30-81	1445	30	517.880	27.42720	0			
21	1415	31	517.980	27.42191	0			
1-5-82	0930	27	525.692	27.42880	0			
6	1020	31	526.137	27.42728	0			
7	1410	29	525.768	27.42889	0			
8	1510	44	523.418	27.42641	0			
11	1325	38	800.426	27.7354	VAC.			@ 1115 HRS. INJECT COLD
12	1400	32	629.061	27.53852	"			WATER INTO THE WELL.
13	1120	26	524.062	27.4207	"			RDGS. TAKEN WHILE STILL
14	1405	52	502.058	27.40390	"			INJECTING.
15	1450	52	594.472	27.50169	"			1-13-82 @ 1540 HRS. SHUT OFF
18	1400	42	512.910	27.41532	0			INJECTION.
19	1535	39	515.717	27.41829	0			1-15-82 @ 0730 HRS. START
20	1515	42	516.278	27.41887	0			INJECTION. SHUT-IN INJECTION
21	1415	40	518.279	27.42100	0			@ 1545 HRS. 1-15-82.
22	1430	25	522.185	27.42512	0			
25	1350	62	618.506	27.52732	VAC.			START INJECTION AGAIN @ 0912 HRS.
26	1500	54	588.671	27.42594	"			1-25-82

# UNION GEOTHERMAL CO. OF NEW MEXICO

## PRESSURE INTERFERENCE DATA

WELL NAME: BACA # 14  
 TRANSDUCER: PAROSCIENTIFIC  
 MODEL #: 73K - 002  
 SERIAL #: 1105      3000 PSIA

CHAMBER SETTING: 2,500 FT.

DATE	TIME HRS	AMBIENT TEMP. °F	TRANSR. RDGS.		WHP PSIC	WHT	INITIALS	REMARKS
			PRESS.	FREQ.				
1-27-82	1335	44	553.783	27.45850	0			
28	1555	36	558.269	27.46325	VAC.			S.I. INJECTION @ 1555 HRS.
29	1535	43	499.768	27.47149	VAC.			
2-1-82	1545	30	515.804	27.41838	0			
2	1445	25	516.288	27.41889	0			
3	1400	27	562.126	27.46734	VAC.			START INJECTION @ 0845 HRS.
4	1415	26	506.399	27.40848	"			S.I. " " 1615 HRS.
5	1515	38	512.245	27.41476	0			
8	1410	27	518.640	27.42138	0			
9	1335	37	519.095	27.42180	0			
10	1305	32	520.128	27.42293	0			PURGED TUBING w/ NITROGEN @ 0950 HRS.
11	0940	29	522.022	27.42494	0			
12	1520	49	520.005	27.42281	0			
15	1310	55	520.517	27.42336	0			
16	1135	48	520.801	27.42366	0			START B-18 INJECTION @ 1500 HRS.
17	1400	59	522.223	27.42514	0			
18	1120	34	526.108	27.42926	0			
19	1245	60	523.853	27.42690	0			

} 2-3-8

# UNION GEOTHERMAL CO. OF NEW MEXICO

## PRESSURE INTERFERENCE DATA

WELL NAME: BACA Nº 14  
 TRANSDUCER: PAROSCIENTIFIC  
 MODEL#: 73K-002  
 SERIAL#: 11105      3000 PSIA

CHAMBER SETTING: 2,500' @ KB

DATE	TIME HRS	AMBIENT TEMP. °F	TRANSR. RDGS.		WHP PSIG	WHT	INITIALS	REMARKS
			PRESS.	FREQ.				
2-20-82	1155	64	522.480	27.42542	1			
21	1035	65	522.790	27.42440	1			
22	1330	62	524.820	27.42789	0			
23	0930							PURGED TUBING w/ NITROGEN
"	1435	50	526.488	27.42968	0			
24	1130	53	527.602	27.43092	0			
25	1010	30	531.412	27.43487	0			
26	1100	58	529.045	27.43236	0			
"	1300							PURGED TUBING w/ NITROGEN
"	1355	56	527.861	27.43110	0			
27								NO DATA TAKEN
28	1025	54	529.642	27.43297	0			
3-01-82	1030	57	529.822	27.43317	0			
02	1500	49	530.068	27.43338	0			
03	1415	42	531.374	27.43485	0			
04	1520	38	530.731	27.43411	0			
05	1410	32	533.476	27.43704	0			
06	1022	36	534.612	27.43818	0			

UNION GEOTHERMAL CO. OF NEW MEXICO  
PRESSURE INTERFERENCE DATA

WELL NAME: BACA # 14  
 TRANSDUCER: PAROSCIENTIFIC  
 MODEL #: 73K - 002  
 SERIAL #: 1105      3000 PSIA

CHAMBER SETTING: 2500' CKB

DATE	TIME HRS	AMBIENT TEMP. °F	TRANSR. RDGS.		WHP PSIC	WHT	INITIALS	REMARKS
			PRESS.	FREQ.				
03-07-82	1045	54	532.227	27.43571	0			
"	1130							PURGED w/ N <sub>2</sub>
"	1205	62	529.575	27.43291	0			
08	1100	48	531.062	27.43449	0			
09	1210	56	530.091	27.43346	0			
10	1000	55	532.873	27.43428	0			
11	1005	42	532.955	27.43647	0			
12	1530	47	530.740	27.43419	0			
13	1035	41	534.725	27.43836	0			
14	1040	50	534.886	27.43857	0			
15	1505	40	535.700	27.43936	0			
16	0945	54	536.050	27.43976	0			
17	1245	55	533.287	27.43682	0			
18	1145	48	534.517	27.43813	0			
19	1325	29	536.666	27.44040	1" Hg	VAC.		
20	1140	51	535.010	27.43866	0			
21	1110	57	535.293	27.43898	0			
22	1135	44	534.593	27.43822	0			

# UNION GEOTHERMAL CO. OF NEW MEXICO

## PRESSURE INTERFERENCE DATA

WELL NAME: BACA № 14  
 TRANSDUCER: PAROSCIENTIFIC  
 MODEL #: 73K - 002  
 SERIAL #: 11105      3000 PSIA

CHAMBER SETTING: 2500' eKB

DATE	TIME #RS	AMBIENT TEMP. °F	TRANSR. RDGS.		WHP PSIC	WHT	INITIALS	REMARKS
			PRESS.	FREQ.				
3-23-82	1040	50	534.839	27.43847	0			
24	1010	48	535.511	27.43918	0			
25	1105	45	534.546	27.43818	0			
26	1020	34	536.987	27.44074	0			
27	0925	46	537.952	27.44173	0			
28	1025	50	535.833	27.43852	0			
29	1450	31	538.851	27.44271	0			
30	1245	38	538.965	27.44282	0			
31	0850	48	539.854	27.44375	0			
4-1-82	0922	54	537.309	27.44107	0			
2	1415	40	537.810	27.44160	0			purced @ 1425 hrs. 4-1-82
3	0955	47	537.517	27.44144	0			
4	1220	60	536.230	27.43994	0			
5	0900	42	537.867	27.44167	0			
6	0950	40	538.482	27.44235	0			
7	1010	41	538.737	27.44260	0			
8	1033	44	538.775	27.44264	0			
9	0926	44	537.920	27.44382	0			

# UNION GEOTHERMAL CO. OF NEW MEXICO

## PRESSURE INTERFERENCE DATA

WELL NAME: BACA # 14  
 TRANSDUCER: PAROSCIENTIFIC  
 MODEL #: 73K - 002  
 SERIAL #: 1105      3000 PSIA

CHAMBER SETTING: 2500' CKB

DATE	TIME HRS	AMBIENT TEMP. °F	TRANSR. RDGS.		WHP PSIC	WHT	INITIALS	REMARKS
			PRESS.	FREQ.				
4-10-82	1115	60	537.356	27.44114	0			
11	1350	60	536.790	27.44055	0			
12	0705	58	537.782	27.44160	0			
13	0650	32	535.747	27.43945	1# VAC			SHOT-IN BAA 18 @ 0850 HRS
13	1307	60	535.2	27.43894	0			
14	1015	58	536.73	27.44110	0			
14	1245	50	535.701	27.43900	0			
15	1240	52	535.965	27.43969	0			
16	1115	63	536.760	27.44052	0			
17	1215	63	536.817	27.44056	0			
18	1115	62	536.790	27.44010	0			
19	1415	61	536.987	27.44079	0			
20	1130	42	539.440	27.44332	0			PUREED N <sub>2</sub> @ 1350 HRS.
20	1430	48	538.114	27.44192	0			
21	1020	42	538.775	27.44262	0			
22	1145	36	538.530	27.44237	0			
23	1020	36	539.410	27.44332	0			
24	1220	51	538.406	27.44224	0			

# UNION GEOTHERMAL CO. OF NEW MEXICO

## PRESSURE INTERFERENCE DATA

WELL NAME : BACA № 14  
 TRANSDUCER : PAROSCIENTIFIC  
 MODEL# : 73K - 002  
 SERIAL# : 1105      3000 PSIA

CHAMBER SETTING : 2500' @ KB

DATE	TIME #RS	AMBIENT TEMP. °F	TRANSR. RDGS.		WHP PSIC	WHT	INITIALS	REMARKS
			PRESS.	FREQ.				
4-26-82	0912	60	537.243	27.44123	0			
26	1250	64	535.890	27.43958	0			
27	1320	68	534.054	27.43763	0	FORCED	N <sub>2</sub> @	1240 #RS.
28	0915	52	538.132	27.44196	0			
29	1440	72	539.423	27.43802	0			
30	1333	66	531.423	27.43804	0			
5-1-82	1150	66	536.646	27.44040	0			
2	1105	56	538.444	27.44241	0			
3	1125	62	536.940	27.44069	0			
4	1025	64	536.845	27.44060	0			
5	1335	52	538.898	27.44278	0			
6	1055	50	539.580	27.44350	0			
7	1240	60	537.233	27.44098	0			
8	0910	58	538.110	27.44125	0			
9	1031	50	538.283	27.44211	0			
10	1010	62	538.425	27.44226	0			
11	1036	55	538.766	27.44263	0			
12	1345	39	540.014	27.44395	0			



