

TEMPERATURE GRADIENT
HOLE DATA 1970,
1972-1974 and
LOCATION MAP

BACA PROJECT
DATA AND REPORTS

RESERVOIR

<u>No.</u>	<u>Transfer Date</u>	<u>Release Date</u>	<u>Title</u>
1.	*B	*B	*Temperature gradient hole data 1970, 1972-1974 and location map.
2.	B	B	Baca Project Interim Report of Test Results, A.J. Chasteen, August 1974.
3.	A	A	Special Core Analysis Study for Union Oil Company Baca No. 13 Well, Redondo Creek Field, New Mexico--Core Laboratories, Inc. - 1975.
.	B	C	Baca Reservoir Studies--M.S. Gulati, June 1975.
5.	B	C	Geothermal Reservoir Evaluation of the Redondo Creek Area, New Mexico, J.D. Hartz - November 1976.
6.	B	C	Baca No. 5A - Pressure Falloff and Injection - J.D. Hartz, 1977.
7.	B	C	Baca No. 15 - Production Test and Reservoir Evaluation - J.D. Hartz, 1977.

*Transfer and release predicated upon Union Geothermal Company obtaining permission to disclose the subject data.

1970

Data On Shallow Temperature Holes (100' Deep)

Hole Number	Completed	Dates & Temperatures			
T-1	11A 6-23-70	7-2 43°	7-9 43°		
T-2 (58')	12N 6-24-70	7-2 45°	7-12 45°		
T-3	8P 6-24-70	7-2 45 1/2°	7-13 45 1/2°		
T-4	11A 6-25-70	7-2 45 1/2°	7-8 45 1/2°	7-12 46°	
T-5	12N 6-25-70	7-2 45°	7-8 45°	7-12 44°	
T-6	3P 6-25-70	7-2 44 1/2°	7-8 45°	7-12 45°	
T-7	7P 6-25-70	7-2 43°	7-8 43°	7-12 43°	
T-8	12N 6-26-70	7-2 52°	7-8 52°	7-12 50°	7-29 51°
T-9	5P 6-26-70	7-2 48°	7-8 47°	7-12 48°	
T-10	11A 6-27-70	7-2 46°			
T-11	3P 6-27-70	7-2 44°			
T-12	6P 6-27-70	7-2 44°			
T-13	2P 6-29-70	7-2 46°			
T-14	8P 6-29-70	7-2 46 1/2°			
T-15	6P 6-30-70	7-2 54 1/2°	7-21 57°		
T-16	8P 6-30-70	7-2 58°			
T-17	10A 7-1-70	7-2 53 1/2°			
T-18	12N 7-1-70	7-2 67°	7-9 67°		
T-19	3P 7-3-70	7-6 84 1/2°	7-7 85°		
-20	2P 7-1-70	7-3 104°	7-6 104°	7-7 104°	
T-21 (68')	7P 7-1-70	7-3 74°	7-6 72°	7-7 75°	
T-22	3P 7-6-70	7-7 85°			
T-23	10A 7-2-70	7-3 86°	7-6 87°	7-7 87 1/2°	
T-24	7P 7-2-70	7-3 76°	7-6 74°	7-7 75°	
T-25	9P 7-2-70	7-3 73 1/2°	7-6 73 1/2°	7-7 74°	
T-26	10A 7-6-70	7-7 80°			
T-27	12N 7-6-70	7-7 69 1/2°	7-9 70°		
T-28	9A 7-7-70	7-7 78 1/2°	7-9 82°		
T-29	8P 7-9-70	7-10 88°	7-14 86°		
T-30S (20')	4P 7-9-70	7-10 51°	7-14 50°		
T-31 (100')	2P 7-9-70	7-10 105 1/2°	7-14 104 1/2°	7-22 105 1/2°	
T-31S (20')	3P 7-9-70	7-10 56°	7-14 56°		
T-32S (20')	10A 7-9-70	7-10 53°	7-14 52 1/2°		
T-33S (20')	6P 7-8-70	7-10 44°	7-14 42 1/2°		
T-34	2P 7-11-70	7-12 49°	7-13 49°	7-15 49°	7-29 49°
T-35	4P 7-12-70	7-12 46°	7-13 45°	7-29 45°	
T-36	12N 7-11-70	7-12 48°	7-13 48°	7-29 47°	
T-37	12N 7-14-70	7-16 47°	7-29 45°		
T-38	11A 7-13-70	7-15 44°			
T-39	9A 7-14-70	7-15 57°	7-16 59 1/2°	7-29 58 1/2°	
T-40	5P 7-14-70	7-15 46 1/2°	7-29 58 1/2°		
41	11A 7-15-70	7-16 47°	16 L ₂		
T-42	1P 7-14-70	7-15 46°			
T-43	3P 7-14-70	7-15 46°			
T-44	9A 7-16-70	7-29 52°			

Hole Number	Completed	Dates & Temperatures	
T-45	3P 7-15-70	7-16	47°
T-46	12N 7-16-70	7-17	47°
T-47	10A 7-16-70	7-17	47°
T-48	9A 7-17-70	7-19	50°
T-49	5P 7-17-70	7-20	46°
T-50-D (300' Hole Twin to T-31)			
	8P 7-23-70	7-24	202°
T-51	12N 7-24-70	7-25	97°
T-52	7P 7-24-70	7-25	65°
T-52-D (300' Hole)			
	3P 7-27-70	7-28	107°
T-8-D (300' Hole)			
	11A 7-30-70	7-31	72°
T-53	3P 8-4-70	8-6	54°

7-20 43 1/2°
7-20 50°

7-25 205°
7-28 92°

8-2 114°

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

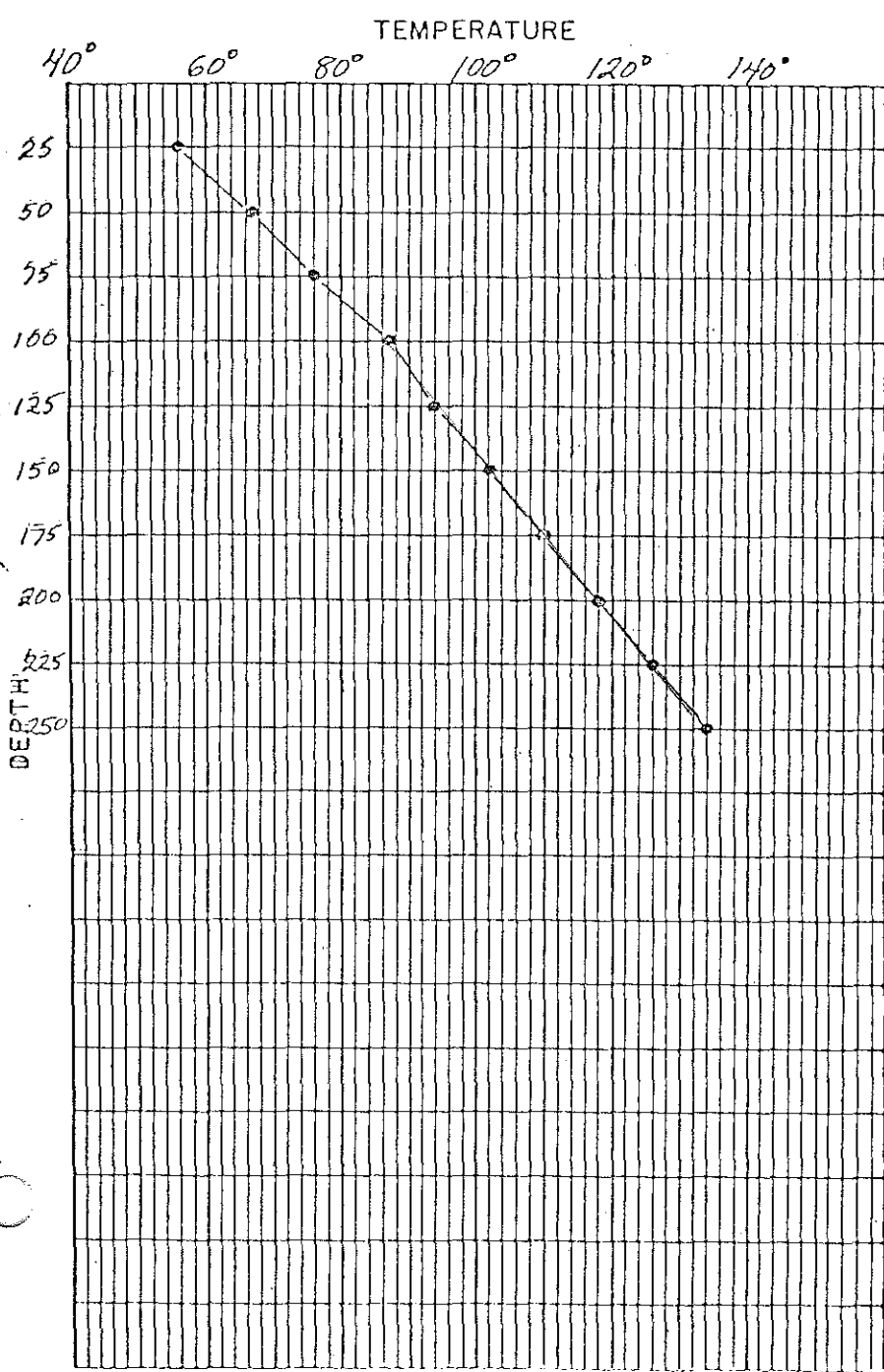
5-23-72 1130
SPUD DATE

5-23-72, 1530
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : J.H. 1 SULPHUR CREEK, TWIN TO DEEP #1, #2
 T.D. : 250' Elevation : COUNTY STATE

Gradient : 32 F°/100 ft. Interval : 150 - 250 ft.
 Temp. : ° at ft.

BH Gradient : 32 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 134 F° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	5-24-72	5-31-72	
	TIME SINCE COMPLETION	1d	8d	
	DEPTH	TEMP.	TEMP.	F°
	7.6 25	60°	56°	
	15.2 50	69°	67°	
	22.9 75	79°	76°	
	30.5 100	87°	87°	
	38.1 125	95°	94°	20.6
	45.2 150	102°	102°	
ALTERED CLAY	53.4 175	110°	110°	
	61.0 200	118°	118°	
	68.6 225	126°	WILL NOT PASS	
	76.2 250	134°	205°	56.7
	275			
	300			
	325			
	350			
ALTERED SAND	375			
	400			
	425			
ALTERED SAND, Pyritic	450			
	475			
	500			

MRT :

Remarks :
DRILLED W/ AIR,
MOIST DUST RETURNS
5-24-72 - BUREAU filled
to within 20' w/ water

Orig. Contractor :

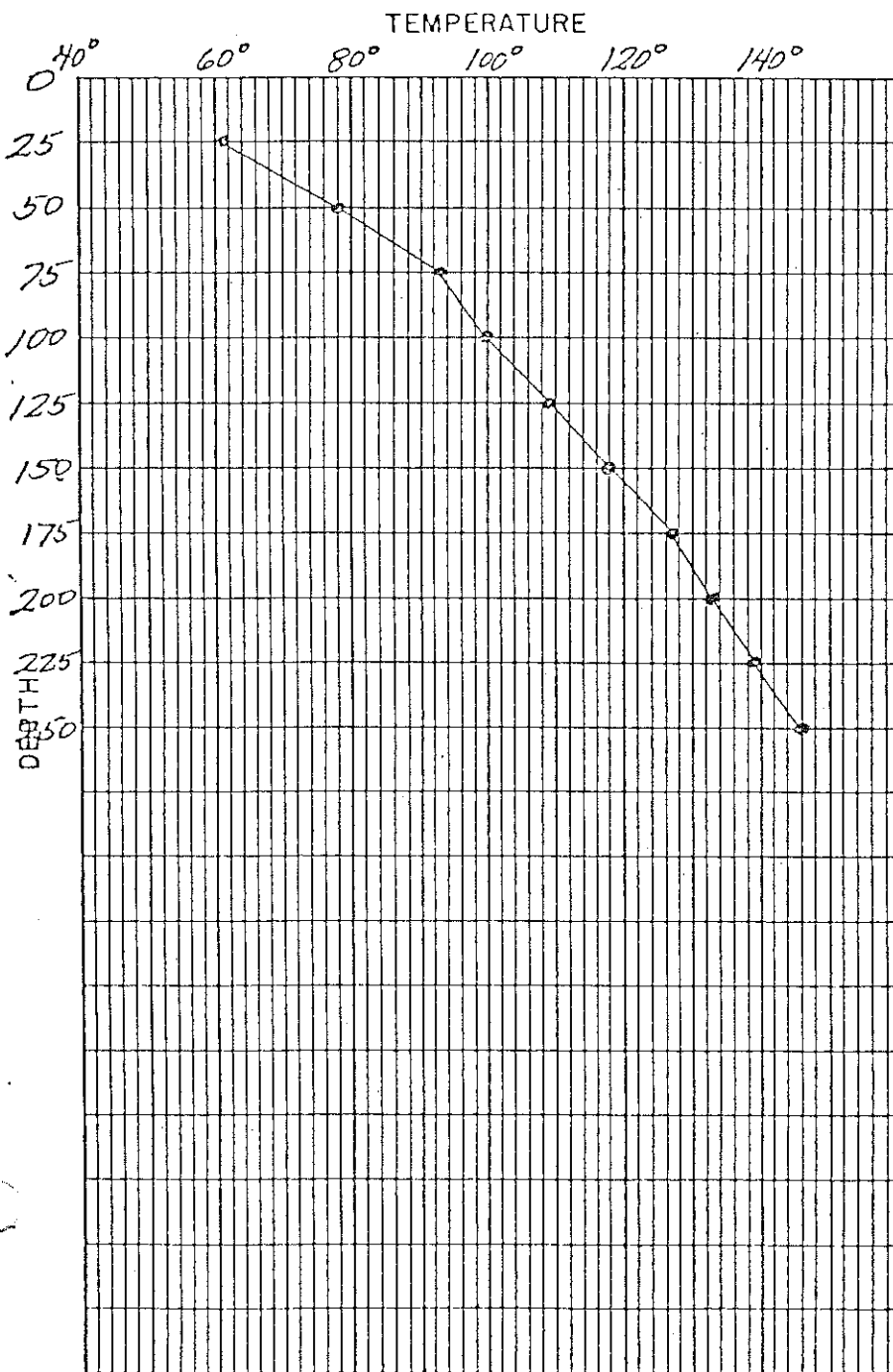
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

5-24-72 1200
SPUD DATE
5-24-72 1530
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 2 ALAMO CANYON, TWIN TO DEEP BACA 2
 T.D. : 250' Elevation : COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 28 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 140° °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	5-25-72	5/31/72
	TIME SINCE COMPLETION	1d	7d
	DEPTH	TEMP.	TEMP.
	25	64°F	61°
	50	80°	78°
	75	92°	93°
	100	98°	100°
	125	107°	109°
	150	116°	118°
SS, WHT. PYRITIC	175	122°	127°
SS, WHT. PYRITIC	200	128°	133°
SS, WHT. PYRITIC	225	137°	139°
SS, WHT. PYRITIC	250	146°	146°
	275		
	300		
	325		
	350		
SS, WHT. PYRITIC	375		
	400		
	425		
	450		
	475		
SS, WHT. PYRITIC	500		

49.8
508.25/14
63.3

MRT :

Remarks :
DILLED w/ mud
as all other
BACA holes.

MAXIMUM FHT 98°
Hole nearby blewout
FOR J.B. HARNELL

Drig. Contractor :
 Data by : RFD

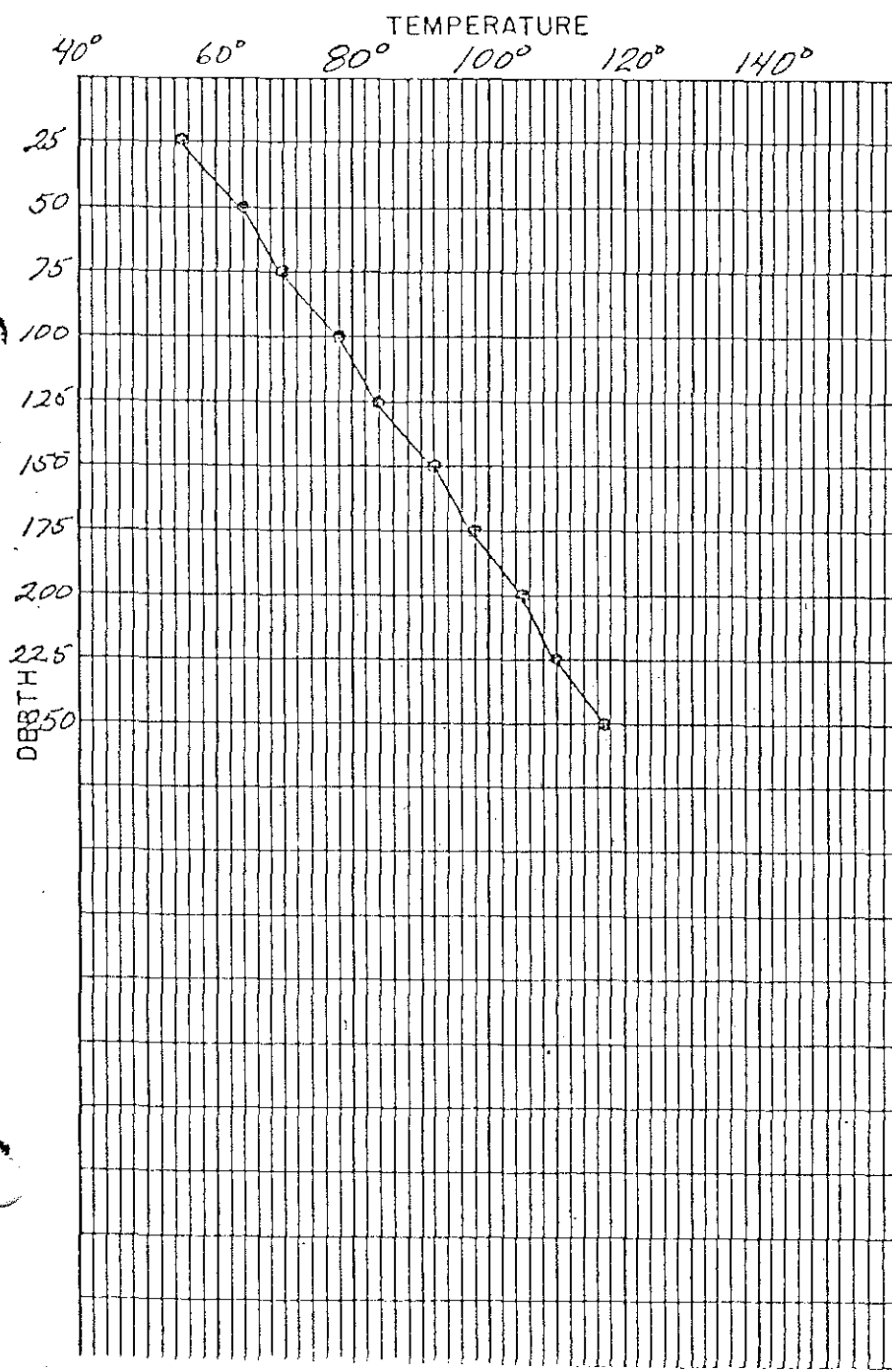
UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

5-25-72 1030
SPUD DATE
5-25-72 1500
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. 3 ALAMO CYN. TWIN TO BONO #1
 T. D. : 250 Elevation : _____ COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 25 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 117 F° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	5/26/72	6-4-72	
	TIME SINCE COMPLETION	1d	12d	
	DEPTH	TEMP.	TEMP.	
	25	62°	55°	12.2 501 47.2
	50	66°	64	
	75	71°	70	
	100	79°	78	
	125	85°	84	
	150	91°	92	
	175	98°	98	
	200	105°	105	
	225	113°	110	
	250	118°	117	
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			

SS, ALTERED
WHITE, SPP
V. PYRITIC

MRT : _____
 Remarks :
DRILLING MUD COOL.

Drg. Contractor : _____
 Date by : RFD

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

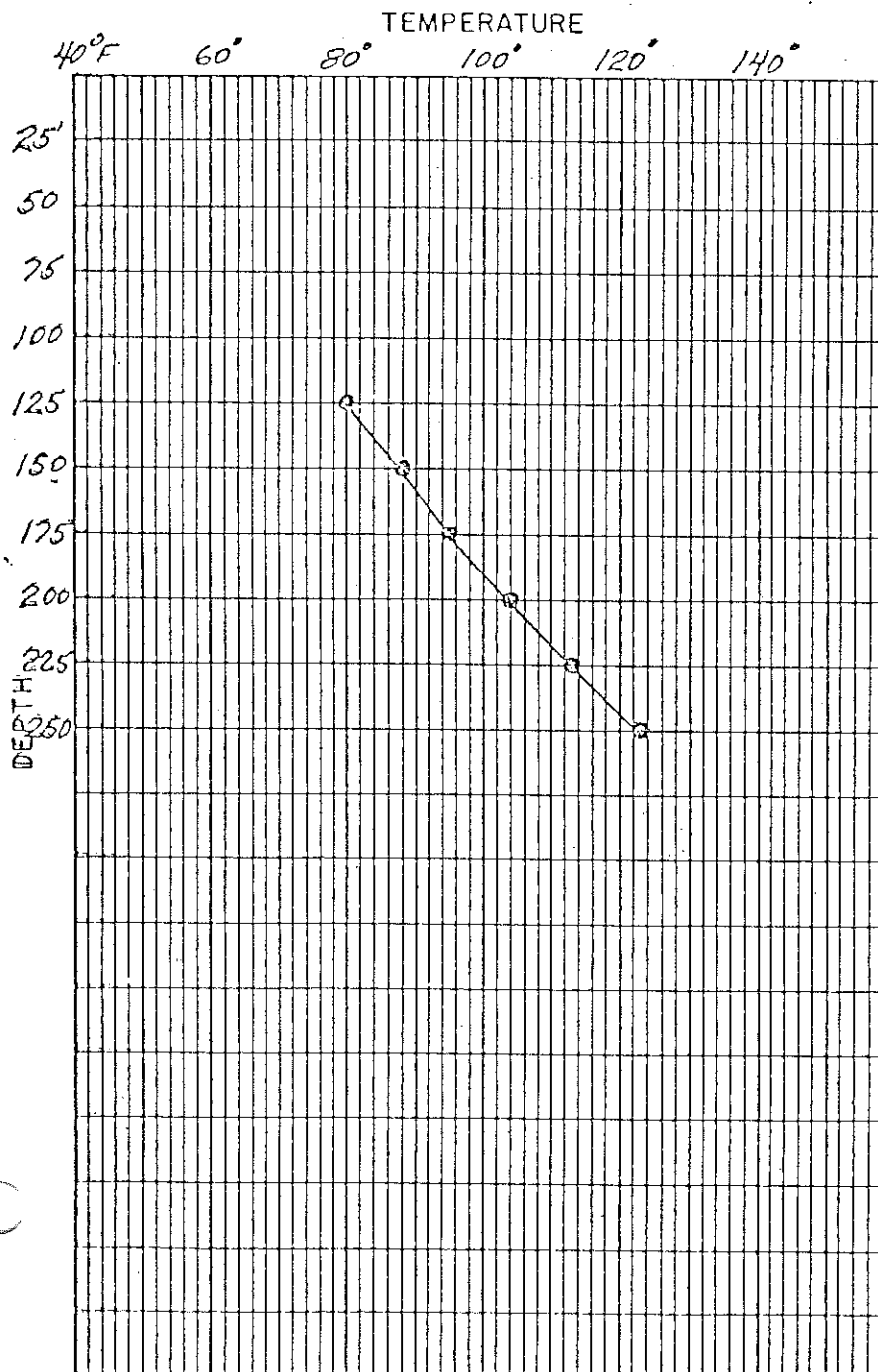
0930 5-26-72
SPUD DATE

1430 5-26-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. 4 WESTERN VALLE SECO @ SULFUR CREEK
 T.D. : 250' Elevation : _____ COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 35 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 123 F° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	5-27	5-31-
	TIME SINCE COMPLETION	72	72
DEPTH	TEMP.	TEMP.	
25			
50			
75			
100	64°		
125	69°	80°	
150	79°	88°	
175	88°	95°	
200	98°	104°	
225	107°	113°	
250	120°	123°	
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

SS, CRS, CLAYBY

SS, VOLC.

SS, white-purple, RA get the No Pyrite

35.0
684.2
50.9

MRT : _____

Remarks :
All loose SAND
SOME GRAY CLAY
AT DEPTH.
No Pyrite seen.
WATER 10 ANNUUS V. DEEP
WATER FALLEN IN PIPE.
EARTHLY COLLAR

Orig. Contractor : _____

Date by : RFD

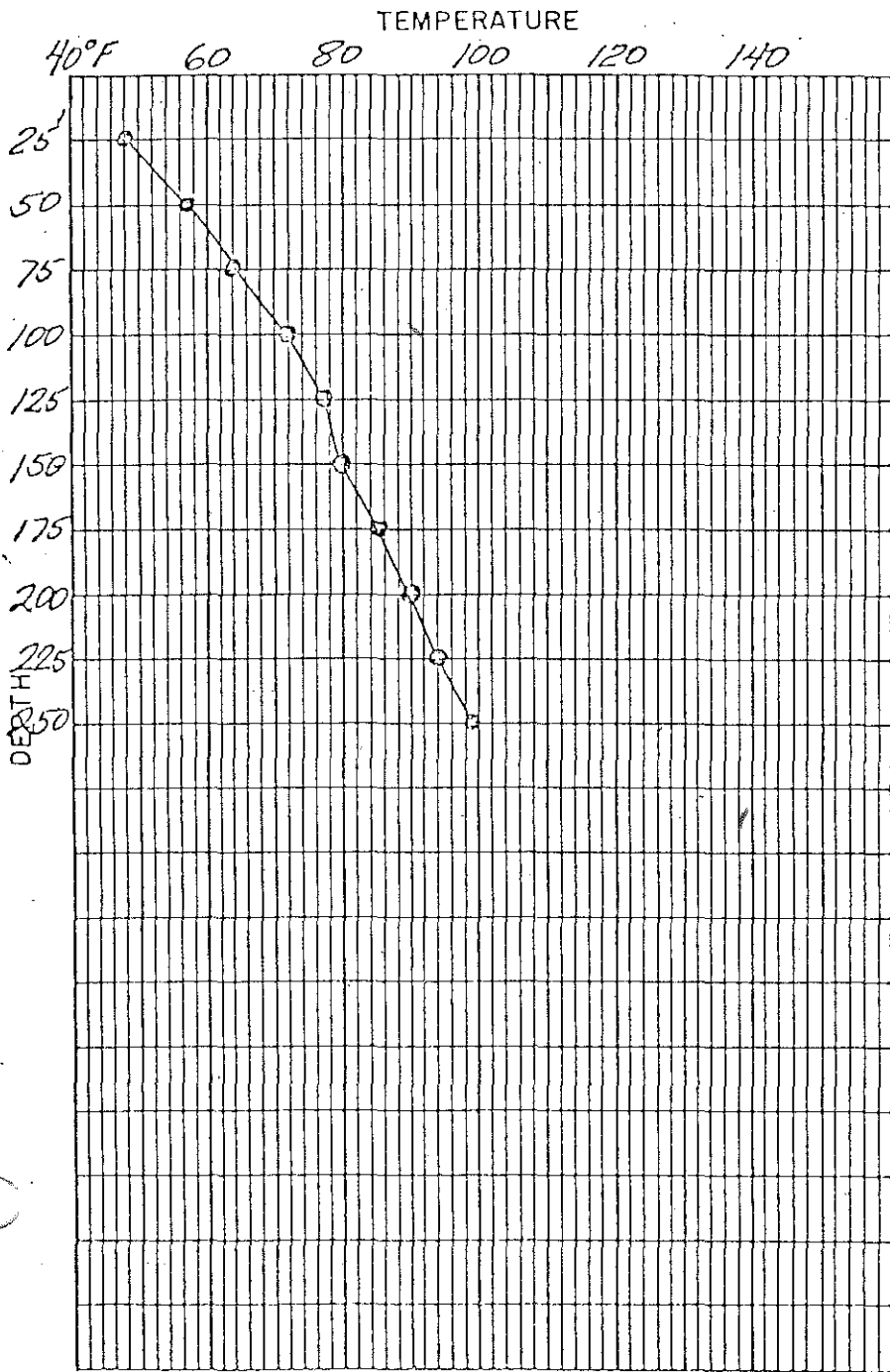
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

5-26-72
SPUD DATE
5-27-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. #5 EASTERN VALLE SECO
 T. D. : 250 Elevation : _____
 COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 19 %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 99 F ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY		
	5/29/72	5-31-72	
	TIME SINCE COMPLETION		
	2 d	5 d	
	DEPTH	TEMP.	TEMP.
	25	50°F	48
	50	59	57
	75	66	64
	100	72	72
	125	78	77
	150	82	80
	175	87	85
	200	91	90
	225	95	94
	250	99	99
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

ANT. Bk. BUFF.
ANT. AND. ASS.
V. P. Y. V. K. C.

26.67
346
37.22

MRT : _____
 Remarks :
ALL CALDBRA FILL.
WATER DROPPING
RAPIDLY IN ANNULUS
 Drig Contractor : _____
 Data by : R. F. D.

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

5-28-72
SPUD DATE

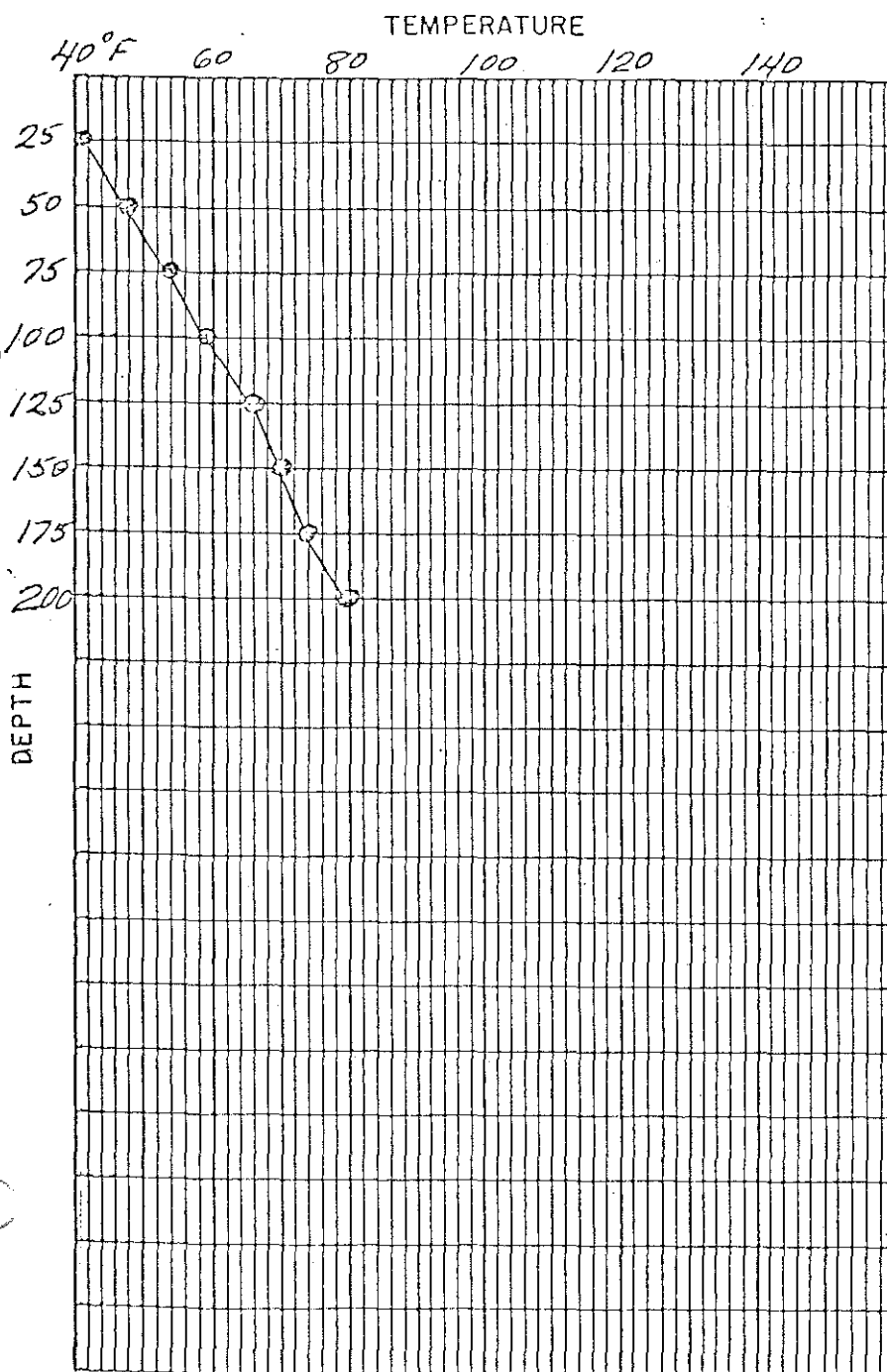
5-29-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. # 7
 T.D. : 250 Elevation : _____ JARAMILLO CR. SAN LUIS CR.
 210' COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 20 F°/100 ft. Interval : 150 - 200 ft.
 Max. Temp. : 81 °F at 200 ft.

SAMPLE LOG	DATE OF SURVEY	6-15-72	6-25-74
	TIME SINCE COMPLETION	18d	2y
	DEPTH	TEMP.	TEMP.
	25	46°F	41°
	50	51°	48°
	75	56°	54°
	100	62°	59°
	125	67°	66°
	150	72°	70°
Querc, Fresh, Sp. 26.7	175	76°	74°
	200	81°	80°
	225		
	250		
	275		
	300		
	325		
	350		
Querc, Fresh HARD	375		
	400		
	425		
	450		
	475		
	500		



MRT : _____

Remarks : 5 Querc
V. SANDY, FAST TO 190'
V. HARD, Querc 190'-T.D.

Drig. Contractor : _____

Data by : RFD

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

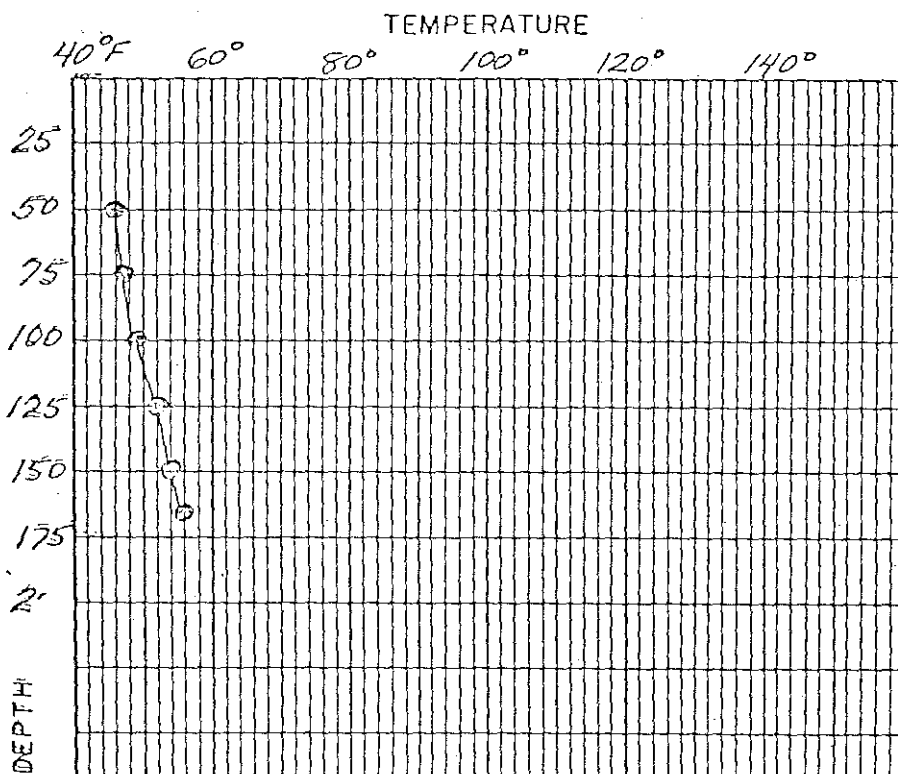
5-29-72
SPUD DATE

COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. #8 DIVIDE BETWEEN VALLE SERRA PLANO CO.
 T. D. : 125' 165' Elevation : _____ AND SAN LUIS CRUIER.
 _____ NORTHEAST END OF SMITH'S RESERVE
 COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 10 F°/100 ft. Interval : 100 - 150 ft.
 Max. Temp. : 56° °F at 175 ft.



SAMPLE LOG	DATE OF SURVEY	6-6-72	6-15-72
	TIME SINCE COMPLETION	8d	17d
DEPTH	TEMP.	TEMP.	
25	42°F	DRY	
50	45°	46°	
75	47°	47°	
100	50°	49°	
125	52°	52°	
150	Probe	54°	
175	Struck	56°	165'
200			
225			
250			
275			
300			
350			
375			
400			
425			
450			
475			
500			

Q.P. v. Pyritic

TPA (BOULDER) v. Pyritic

MRT : _____
 HARD ROCK Hole
 Remarks :
 Soft GEF 0-90'
 TUFF OR SAND 90-140'
 HARD, ALTERED 140'-T.D.
 VOLCANIC

Hole is 100 yds FROM
 LO FLOW H₂S SEEP

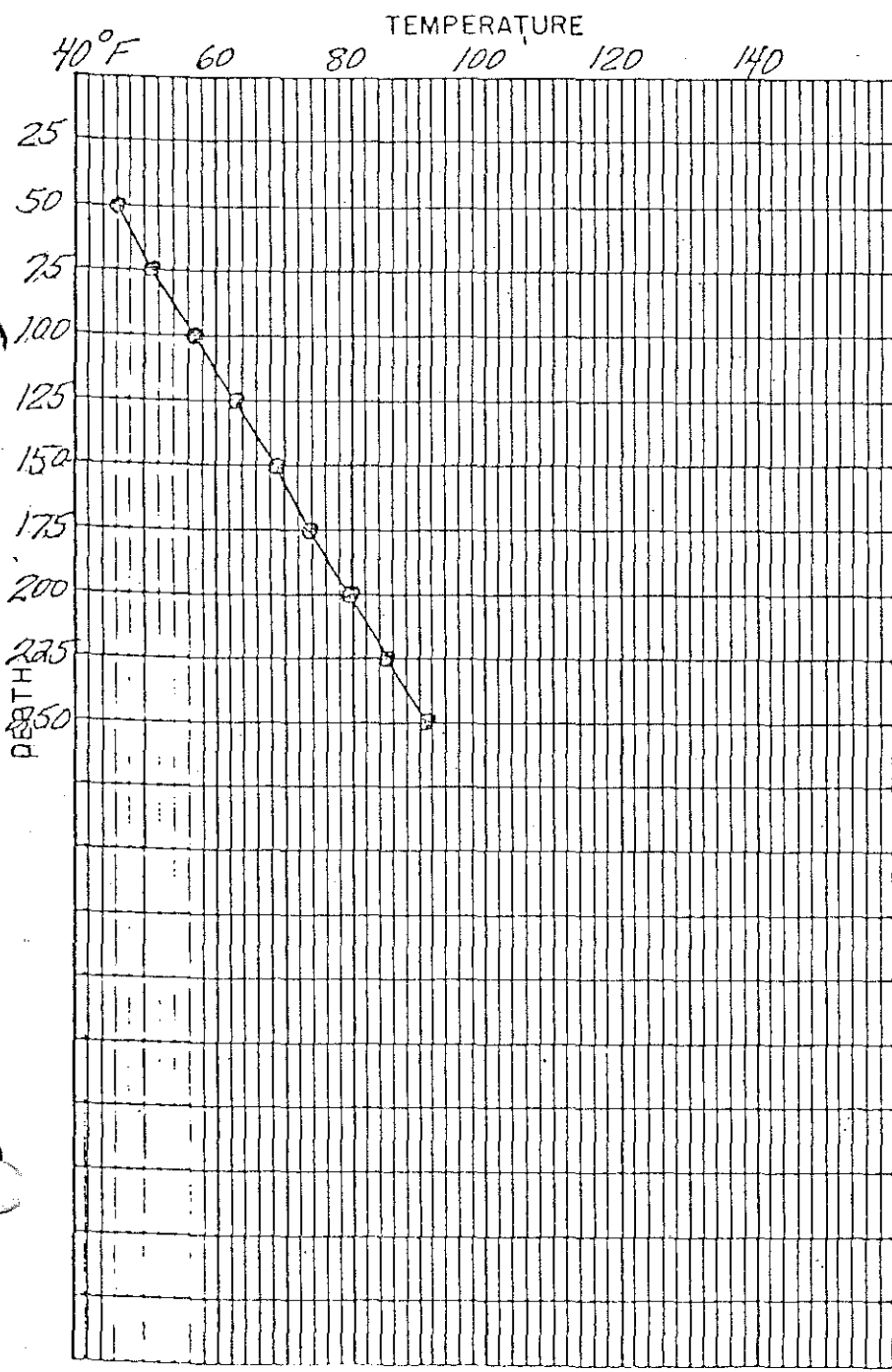
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

5-
1030 37-72
SPUD DATE
1430 5-31-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H. #9 VALLE SECO, north of pond
T. D. : 250' Elevation : _____ COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 22 F°/100 ft. Interval : _____ ft.
Max. Temp. : 91 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	6-6-72	6-27-74
	TIME SINCE COMPLETION	6 d	2 y
	DEPTH	TEMP.	TEMP.
	25	47°F	DRY
	50	50°	46°
	75	54°	51°
	100	59°	57°
	125	65°	63°
	150	70°	69°
	175	76°	74°
	200	81°	80°
	225	86°	85°
	250	91°	91°
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

RHYOLITE DEBRIS
FRESH

MRT : _____
Remarks : _____

Dwg. Contractor : _____
Data by : RED

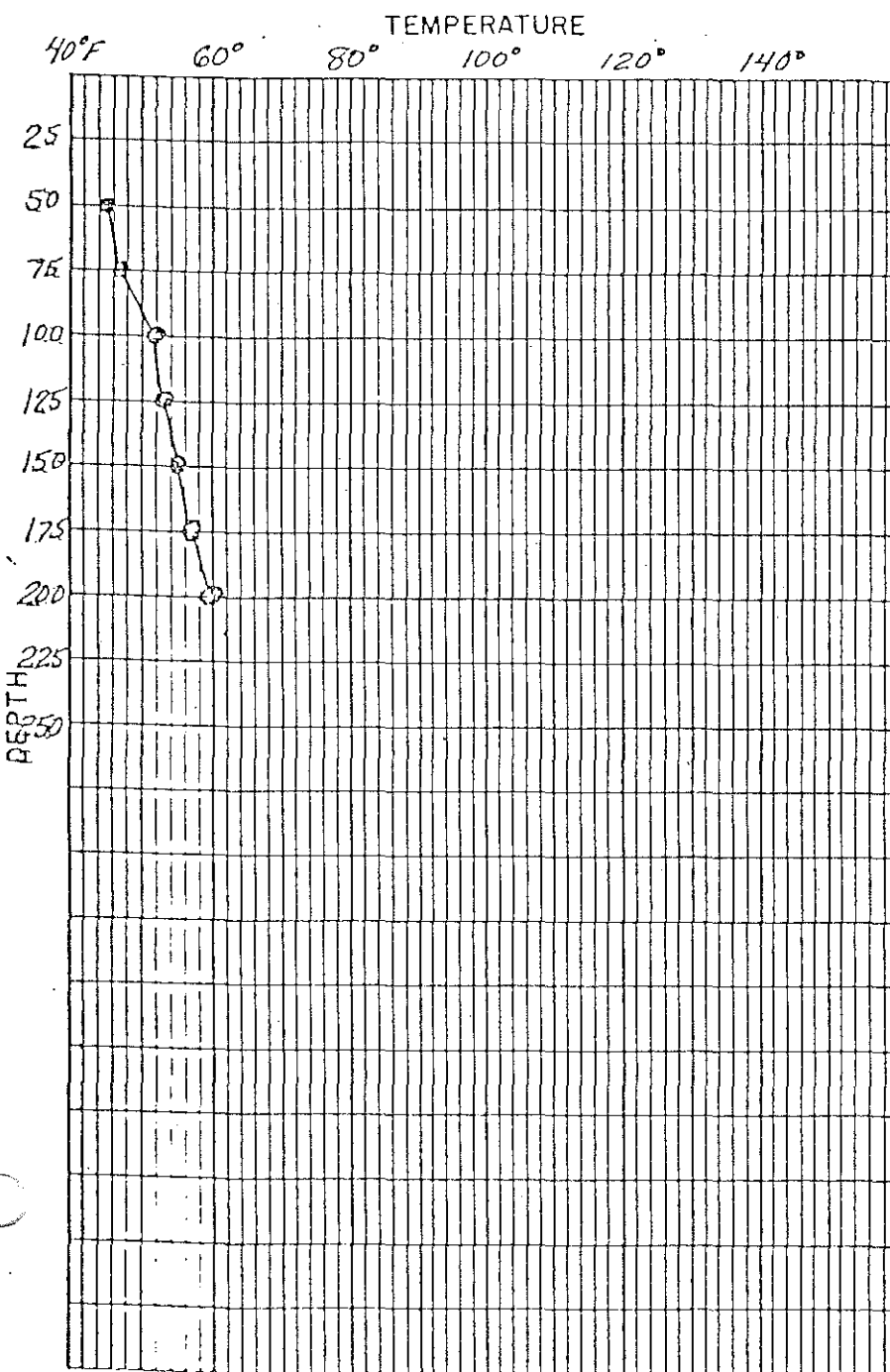
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

5-31-72
SPUD DATE
6-1-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H. #10 DIVIDE BETWEEN SULLIVAN CREEK AND
T. D. : 200' Elevation : _____ VALLE SAN ANTONIO
COUNTY _____ STATE _____

Gradient : _____ % / 100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 10 F° / 100 ft. Interval : 150' - 250' ft.
Max. Temp. : 60° °F at 200' ft.



SAMPLE LOG	DATE OF SURVEY	6-6-72	6-22-72
	TIME SINCE COMPLETION	5d	20d
	DEPTH	TEMP.	TEMP.
	25	46°	DRY
	50	47°	45°
	75	48°	47°
	100	52°	52°
	125	54°	53°
	150	56°	55°
	175	58°	57°
	200	61°	60°
	225		
	250		
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

QVRS-
HARD, FRESH
QVRS
HARD, FRESH

MRT : _____

Remarks: HARD ROCK HOLE
HARD DRILLING IN
FRESH RHYOLITE

Orig. Contractor: _____

Date by: RFD

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

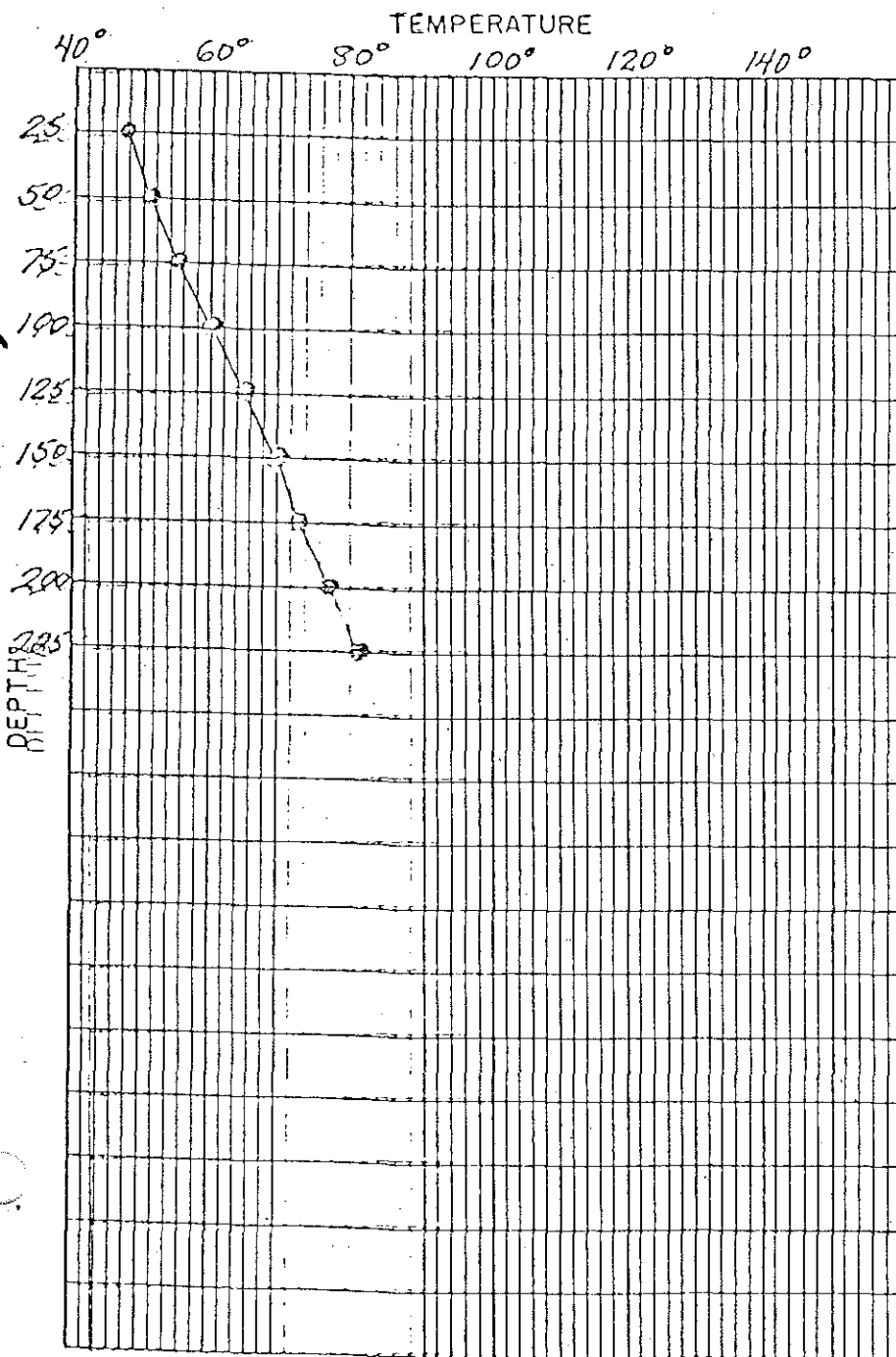
6-3-72
SPUD DATE

6-4-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 12 EAST END OF ALAMO CR., 1 mi E of
 T. D. : 240' Elevation : T.H. #3
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 16 F %/100 ft. Interval : 125 - 225 ft.
 Max. Temp. : 81 °F at 225 ft.



SAMPLE LOG	DATE OF SURVEY		
	<u>6-18-72</u>		
	TIME SINCE COMPLETION		
	<u>14 d</u>		
	DEPTH	TEMP.	TEMP.
	25	48°	
	50	57°	
	75	55°	
	100	60°	
	125	65°	
	150	70°	
	175	73°	
	200	77°	
	225	81°	
	250	Probe	
	275	Broke	
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

QBT, HARD
Pyritic, Fresh
68'

QBT, ALTS
HARD, Pyritic

A/A

27-22

MRT :

Remarks :
HARD ROCK HOLE
Soft to 96'
HARD QBT to T.D.

J.B. HARRELL HOLE
NEAR HERE IS
74° @ 100'

Orig. Contractor :

Date by : RFD

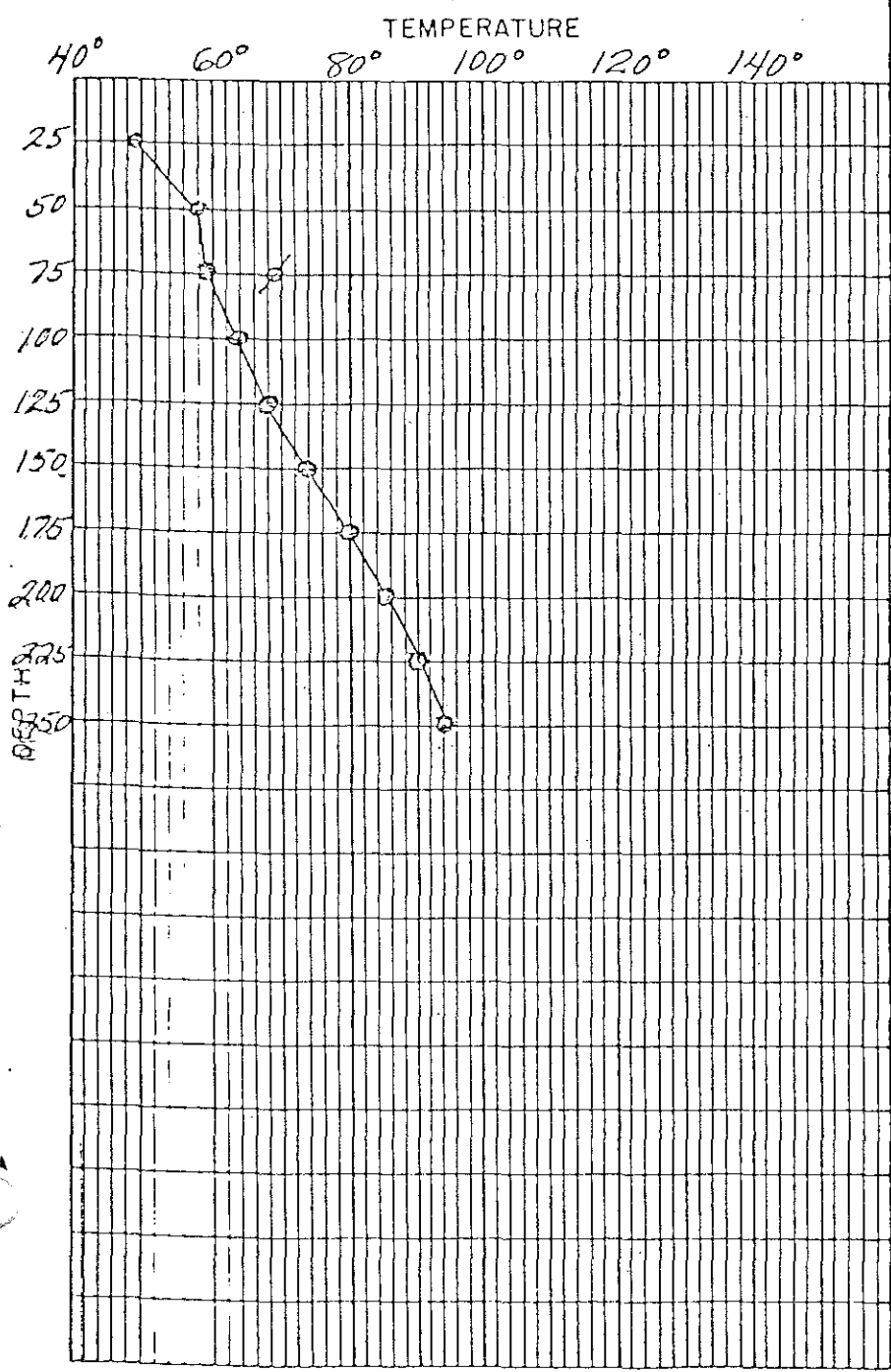
UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

6-6-72
SPUD DATE
6-8-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 13 *Twid to Deep BACA 5-A*
 T.D. : 260' Elevation : COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 20 F%/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 94 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	6-15-72
	TIME SINCE COMPLETION	7d
DEPTH	TEMP.	TEMP.
25	49°F	
50	58°	
75	59°	
100	64°	
125	68°	
150	74°	
175	80°	
GBT, WEATHERED 200	85°	
225	90°	
76. 250	94°	
275		
300		
325		
350		
GOF, WEATHERED 375		
400		
425		
450		
475		
GOF, WEATHERED 500		

MRT :

Remarks : GRAVELLY, MUCH
LOST CIRC.

Drlg. Contractor :
 Date by : R.F.D.

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

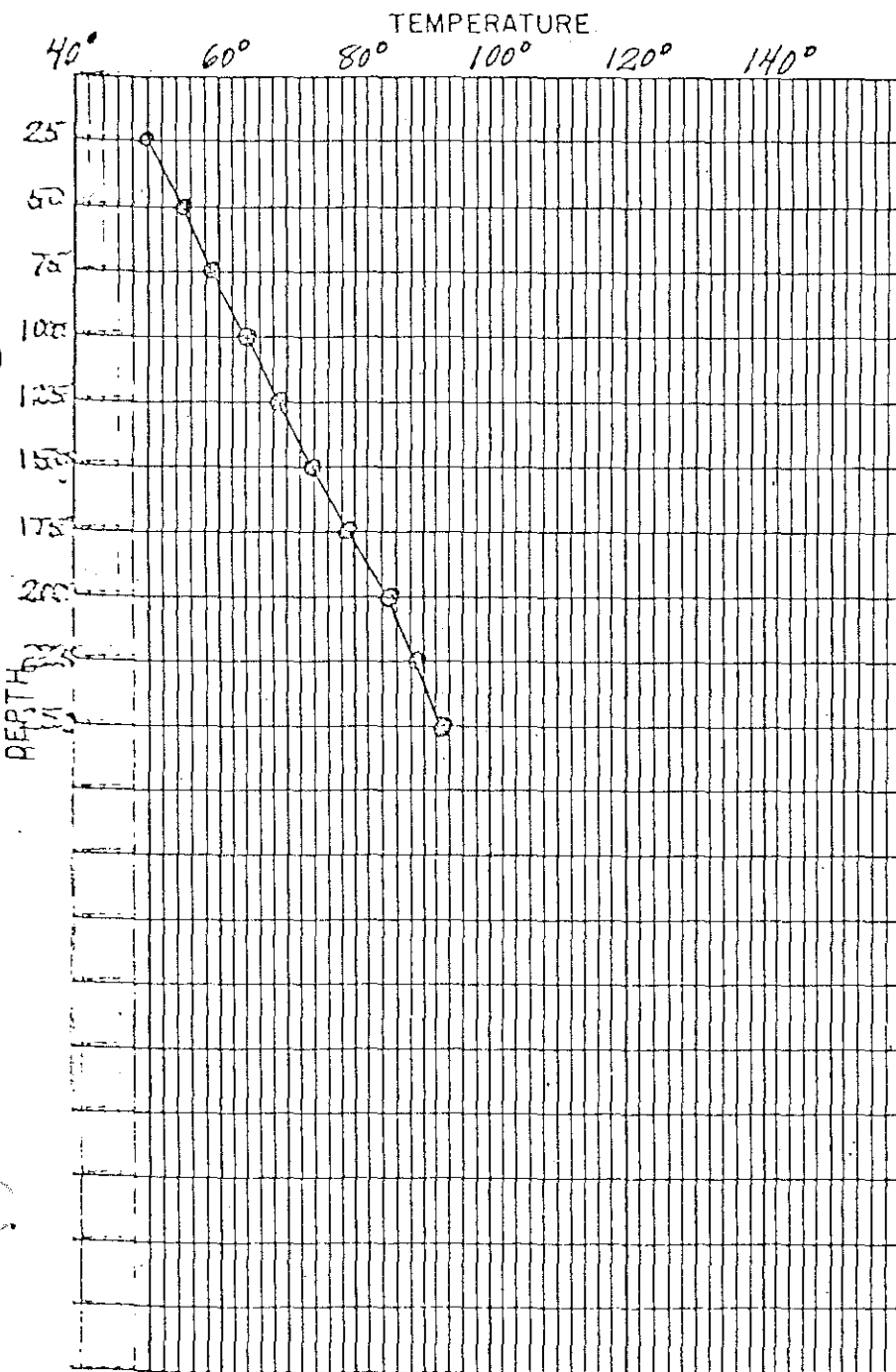
6-12-72
SPUD DATE

6-13-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. # 14 $\frac{1}{2}$ WAY BETWEEN DEEP BACA #4 - #5
 T.D. : 250 Elevation :
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 19 F %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 93 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY		
	6-15-72		
	TIME SINCE COMPLETION		
	2 d		
	DEPTH	TEMP.	TEMP.
	25	50°	
	50	55°	
	75	59°	
	100	64°	
	125	69°	
	150	74°	
	175	79°	
	200	85°	
	225	89°	
	250	93°	
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

REF. WEATHERED

A/A

A/A

MRT :

Remarks :

Drg. Contractor :

Data by : RFD

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

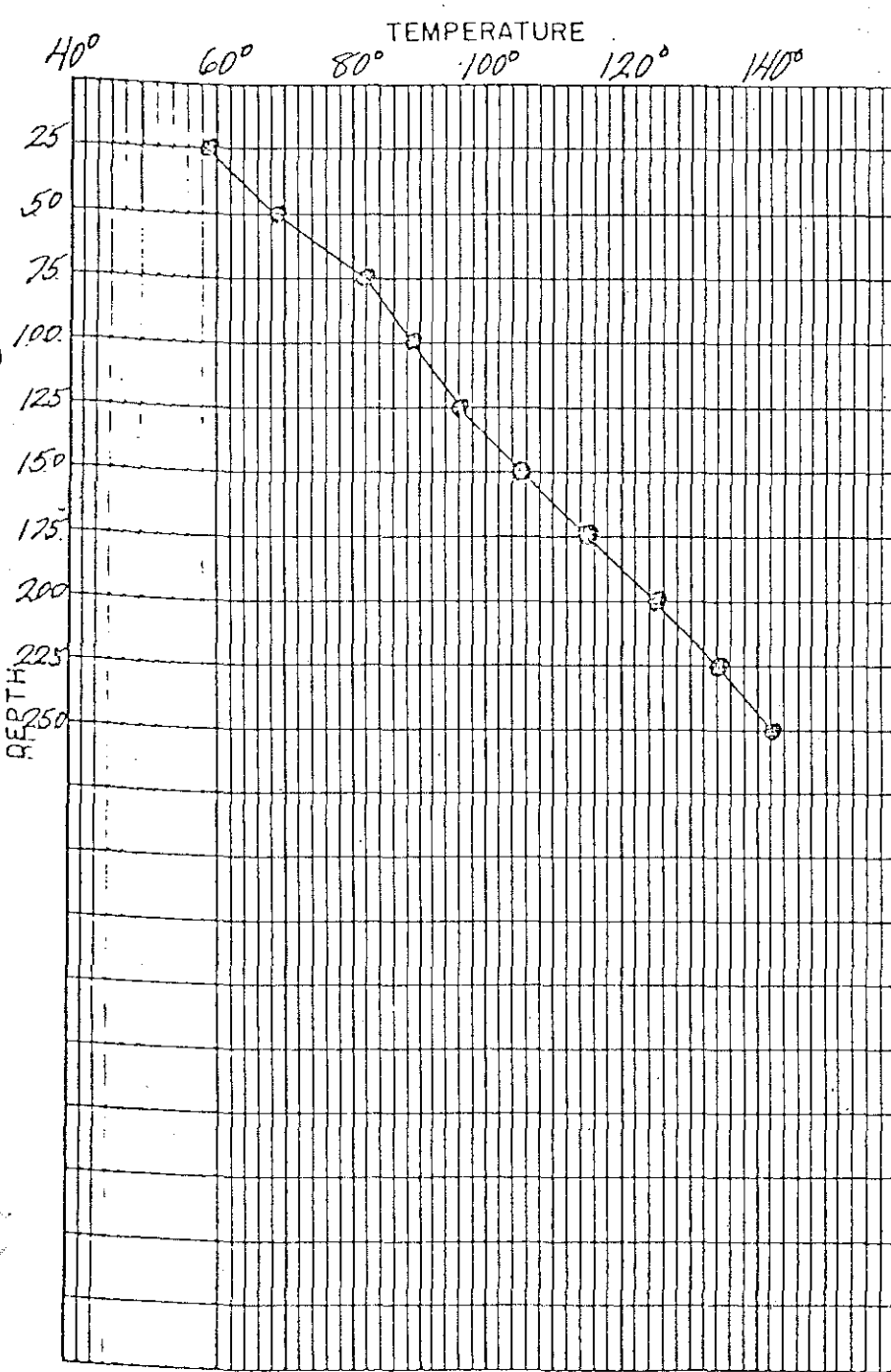
6-13-72
SPUD DATE

6-14-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. 15 Twin to DEEP BACA #4
 T.D. : _____ Elevation : _____ COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 37 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 142 ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	72		
	TIME SINCE COMPLETION	2d		
	DEPTH	TEMP.	TEMP.	
	25	59°		
	50	69°		
	75	82°		
	100	89°		
	125	96°		
	150	105°		
	175	115°		
	200	125°		
	225	134°		
	250	142°		
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			

90% ss

20% V. Pyritic

50% V. Pyritic

MRT : _____

Remarks :
MOOT LOST CIRCUIT
USED 16 SX MD,
3 SX HULLS

High

Drlg. Contractor : _____

Date by : RFD

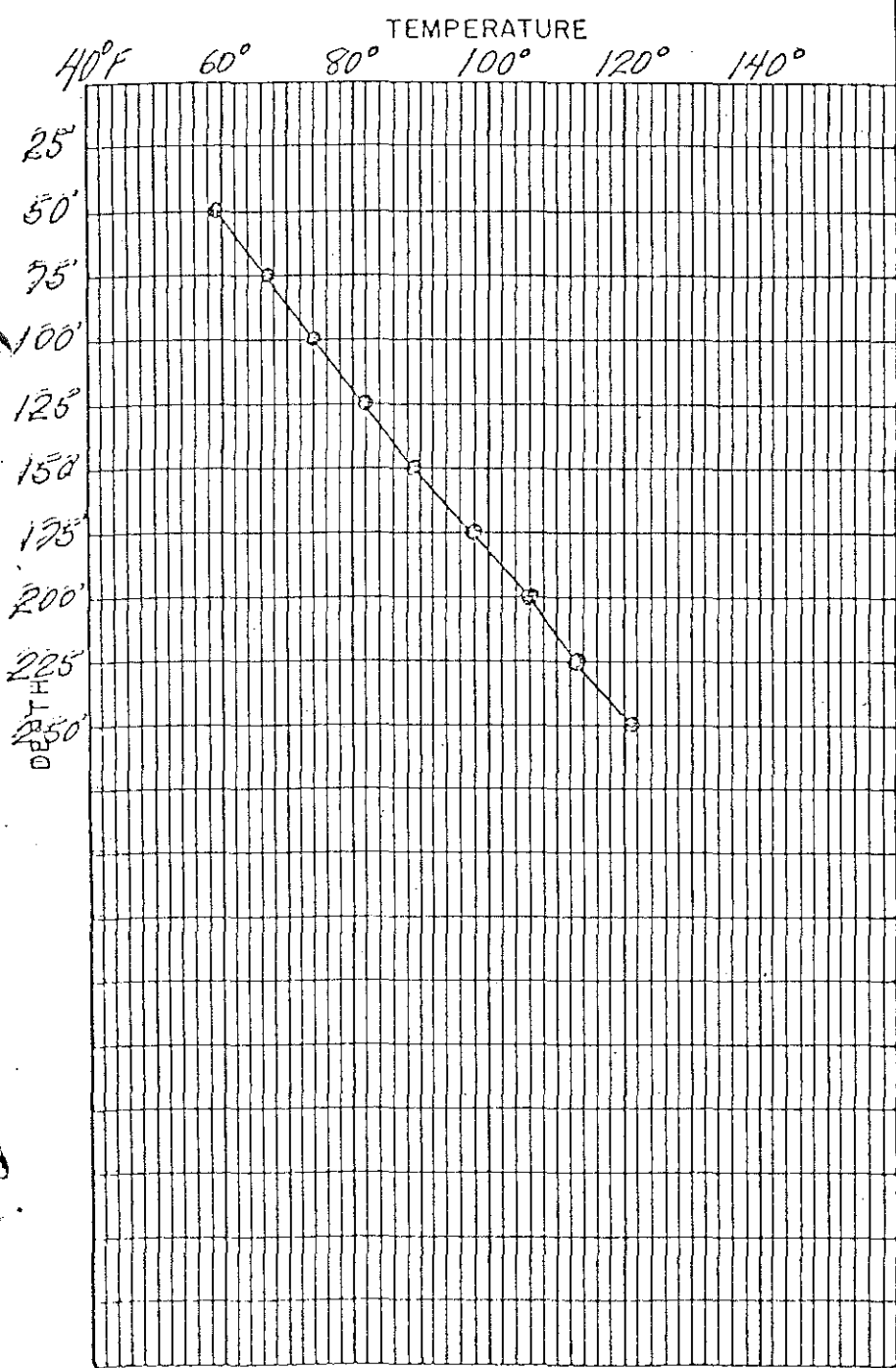
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-14-72
SPUD DATE
6-15-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. 16 Redondo Cr. 0.5 mile N of Deep BACA #
 T.D. : 260' Elevation : AT Wye in Road
 COUNTY STATE

Gradient : _____ % / 100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 32 F % / 100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 122 F ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	6/13/72	6/26/72	
	TIME SINCE COMPLETION	1d.	11d.	5wks
	DEPTH	TEMP.	TEMP.	
	25	DRY	DRY	
	50	59°F		
	75	67°	66°	
	100	74°	74°	
	125	82°		
	150	89°	90°	87°
	175	98°		
	200	106°	108°	
	225	113°		
	250	121°	122°	115°
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			

QVRC,
QBT,
QCF
UNALT

QCF, P-T,
PYRITE

QOP, SMOY
NO PYRITE

MRT : _____
 Remarks : _____

Drlg. Contractor : _____
 Date by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

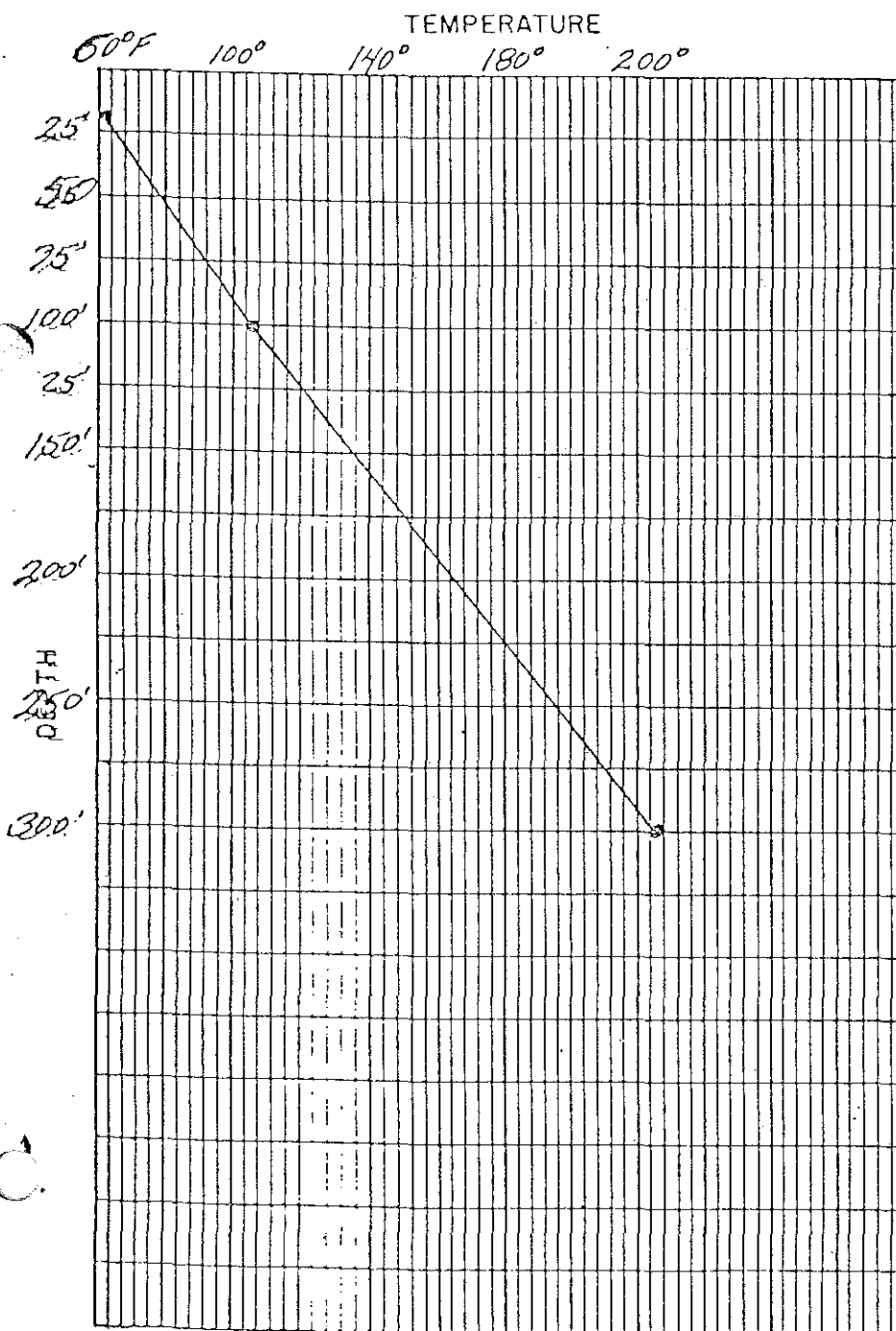
6-16-72
SPUD DATE
6-16-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H. 17 REDONDO CREEK, NEXT TO CREEK
T.D. : 20' Elevation : AT DEEP #6 LOCATION
COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 49 F %/100 ft. Interval : 100 - 300 ft.
Max. Temp. : 205° ° at 300 ft.

NOTE SCALE



SAMPLE LOG	DATE OF SURVEY	6-20-72	
	TIME SINCE COMPLETION		
	DEPTH	TEMP.	TEMP.
	25	62° @ 20'	
	50		
	75		
	100		
	125		
	150		
	175		
	200		
	225		
	250		
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

MRT : _____

Remarks :
COULD NOT MAKE
FAST CONNECTION
@ 40'. COMPLETE
W/ 20' P.V.C.
OTHER DATA FROM
J.B. HARRIS SURVEY
1970

Drlg. Contractor : _____

Date by : RFD

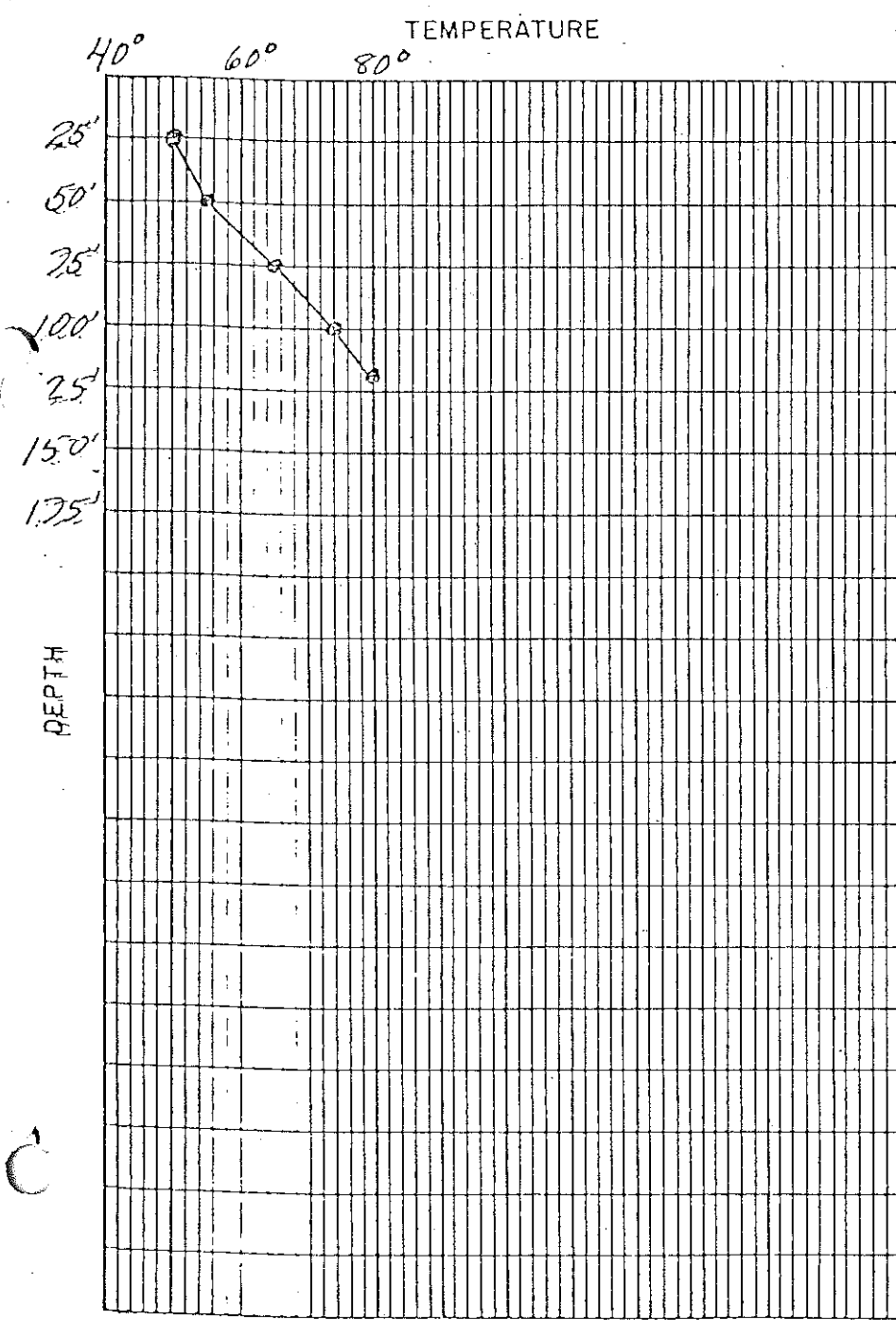
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-16-72
SPUD DATE
6-18-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 18 REDONDO CREEK, TWIN TO
 T. D. : Elevation : DEEP BACA #12
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 30 F %/100 ft. Interval : 100 - 120 ft.
 Max. Temp. : 80 F ° at 120 ft.



SAMPLE LOG	DATE OF SURVEY	6-72	
	TIME SINCE COMPLETION	SEVERAL DAYS	
	DEPTH	TEMP.	TEMP.
	25	50°	
	50	55°	
	75	65°	
	100	74°	
	125	80° @ 120'	
	150		
	175		
QBT WEATHERED	200		
	225		
	250		
	275		
	300		
	325		
QBT WEATHERED	350		
	375		
	400		
	425		
	450		
	475		
	500		

MRT :

Remarks :
 COULD NOT DRILL
 IN GRAVEL @ 180'
 COMP. WI 120' PVC,
 rest of hole fell
 in.
 COMPARE TO T.H. #49

Drlg. Contractor :
 Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

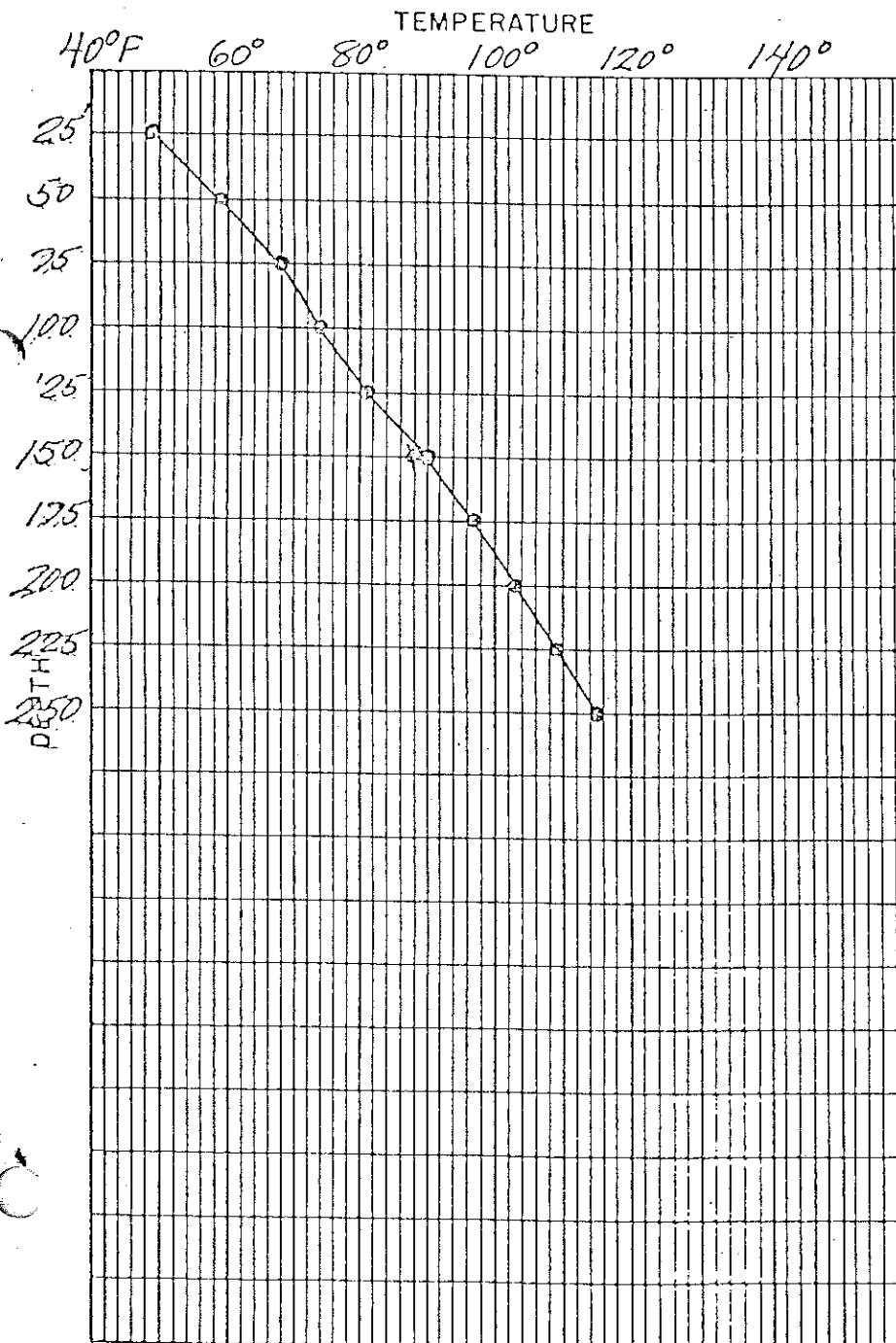
6-19-72
SPUD DATE
6-19-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H.# 19 REDONDO CR. - QUARRY
T. D. : _____ Elevation : WEST OF HENRY DARNELLS
COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 27 F%/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 117 F° at 250 ft.

NOTE
3



SAMPLE LOG	DATE OF SURVEY	7-27-72	9-20-73	6-26-74	6-20-72
	TIME SINCE COMPLETION	3M	15M	2Y	18 h.
	DEPTH	TEMP.	TEMP.	TEMP.	TEMP.
	25	51°	49°	49°	57°
	50	58	58	59°	62°
	75	68	66	68	70°
	100	73	73	74	75°
	125	81	82	84	81°
	150	90	88	90	88°
	175	95	95	97	95°
QCF, QCBF WEATH. No Pyrite	200	101	101	103	100°
742	225	108	107	109	106°
	250	117	115	117	115°
	275				
	300				
	325				
	350				
A/A	375				
	400				
	425				
	450				
A/A	475				
	500				

MRT : _____

Remarks :

Drlg. Contractor :

Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

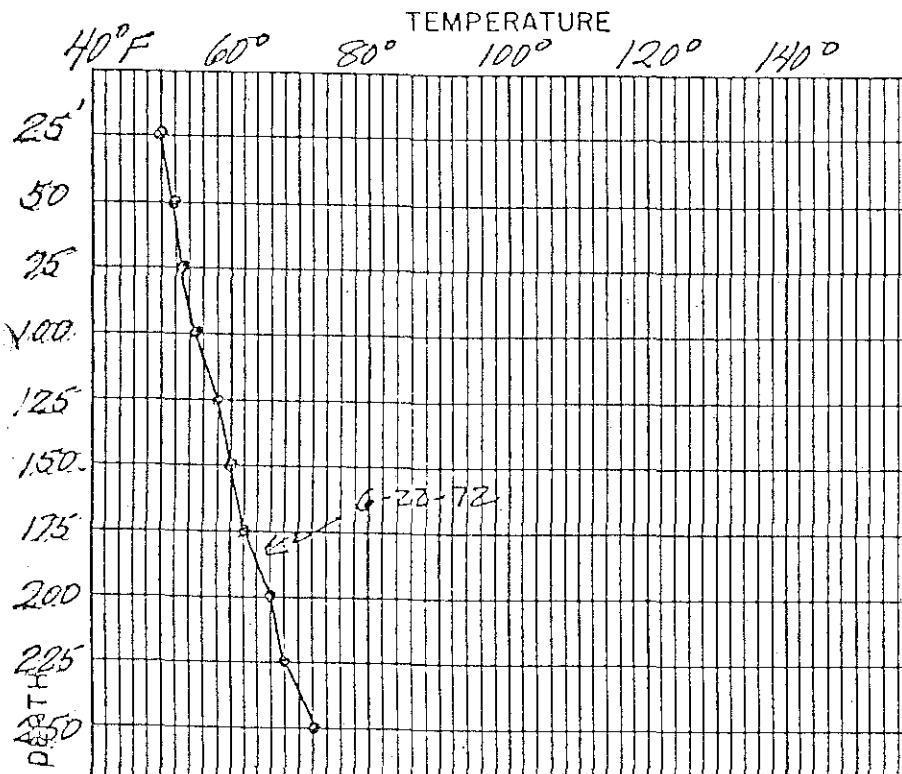
6-20-72
SPUD DATE

6-20-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. #20 REDONDO CREEK - QUARRY
 T.D. : 250' Elevation : EAST OF HENRY'S
 COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 12 F %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 72 F ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	6-22-72	7-13-73
	TIME SINCE COMPLETION	2 d	13 m
	DEPTH	TEMP.	TEMP.
	25	50°F	46
	50	52	48
	75	53	51
	100	55	53
	125	58	55
	150	60	58
	175	62	60
QBT WEATH'D	200	66	63
	225	68	66
	250	72	70
	275		
	300		
	325		
	350		
QBT, QURS, WTR'D	375		
	400		
	425		
	450		
	475		
A/A	500		

MRT : _____

Remarks :
WATER ONLY 5'
DOWN IN ANNULUS.
MOST HOLES ARE
>> 25' TO WATER

Drig. Contractor : _____
 Date by : R.F.D.

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-20-72

SPUD DATE

6-21-72

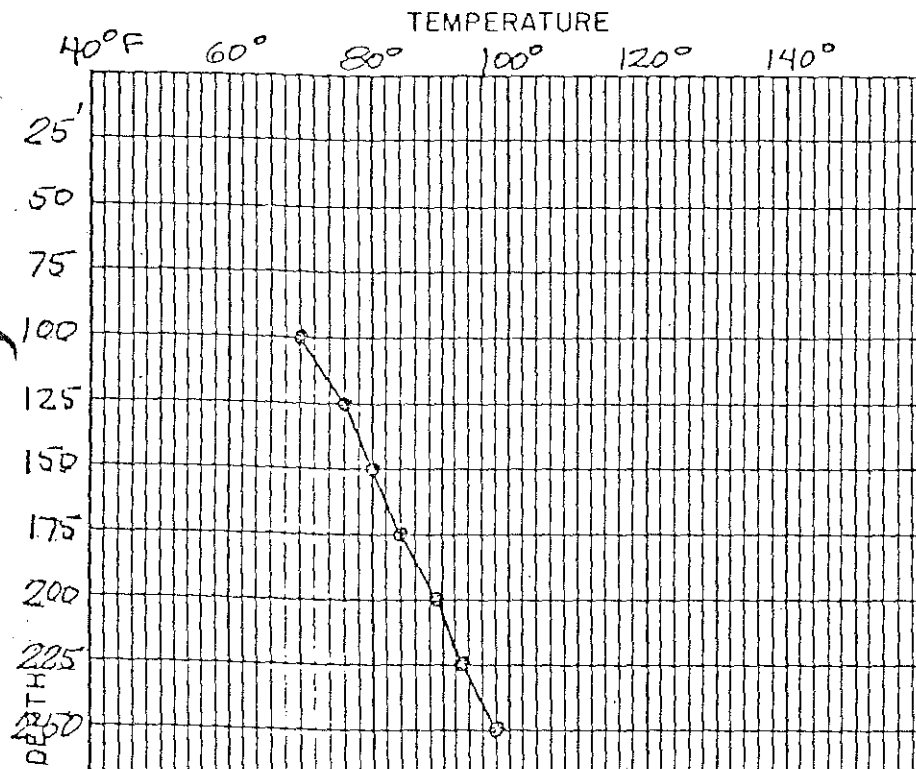
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H.# 21 REDONDO CR, 1/2 mile
 T.D. : 250 Elevation : E. OF RANCH ENTRANCE
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 18 F %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 98 F ° at 250 ft.

SAMPLE LOG	DATE OF SURVEY	6/20/72	9/10/73	6/15/74
	TIME SINCE COMPLETION	5d	15m	2y
	DEPTH	TEMP.	TEMP.	
	25	DRY		
	50	DRY		
	75	DRY		
	100	70°F	69	70
	125	74	74	76
	150	80	78	80
	175	85	83	84
	200	89	87	89
	225	94	92	93
	250	100	97	98
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			



QB5, QURC
WTHRD

QBT, QCF,
QURC
WTHRD

A/A

MRT :

Remarks :

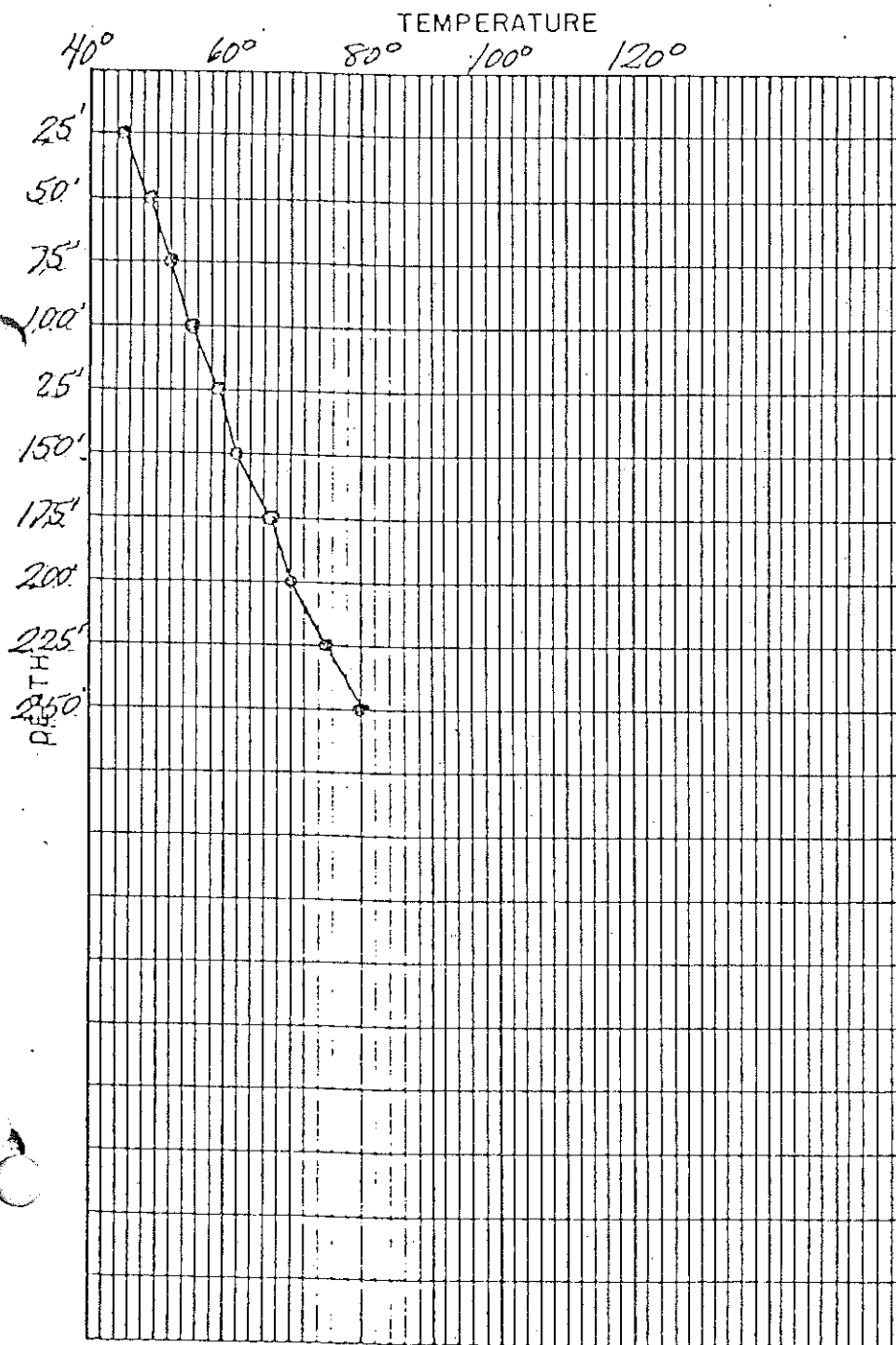
Orig. Contractor:

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-22-72
SPUD DATE
6-22-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
Hole No. : T.H. 22 VALLE SAN ANTONIO
T. D. : 260 Elevation : 1/2 mile S. OF MAIN ROAD ON LOGGING ROAD TO VALLE SECO
Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 18 F %/100 ft. Interval : _____ ft.
Max. Temp. : 80 F ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	6-24-72	6-26-72
	TIME SINCE COMPLETION	2d	4d
	DEPTH	TEMP.	TEMP.
	25	45°F	
	50	49	
	75	52	
	100	55	54
	125	59	
	150	62	62
	175	67	
	200	70	
	225	75	
	250	80	80
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

RHYOLITE
DEBRIS

GRC -
Rhy. Granite
LEO DEBRIS

MRT : _____

Remarks :
WATER IN ANNULUS TO < 2' FROM SURFACE

Drilled & Completed in 3 HRS!

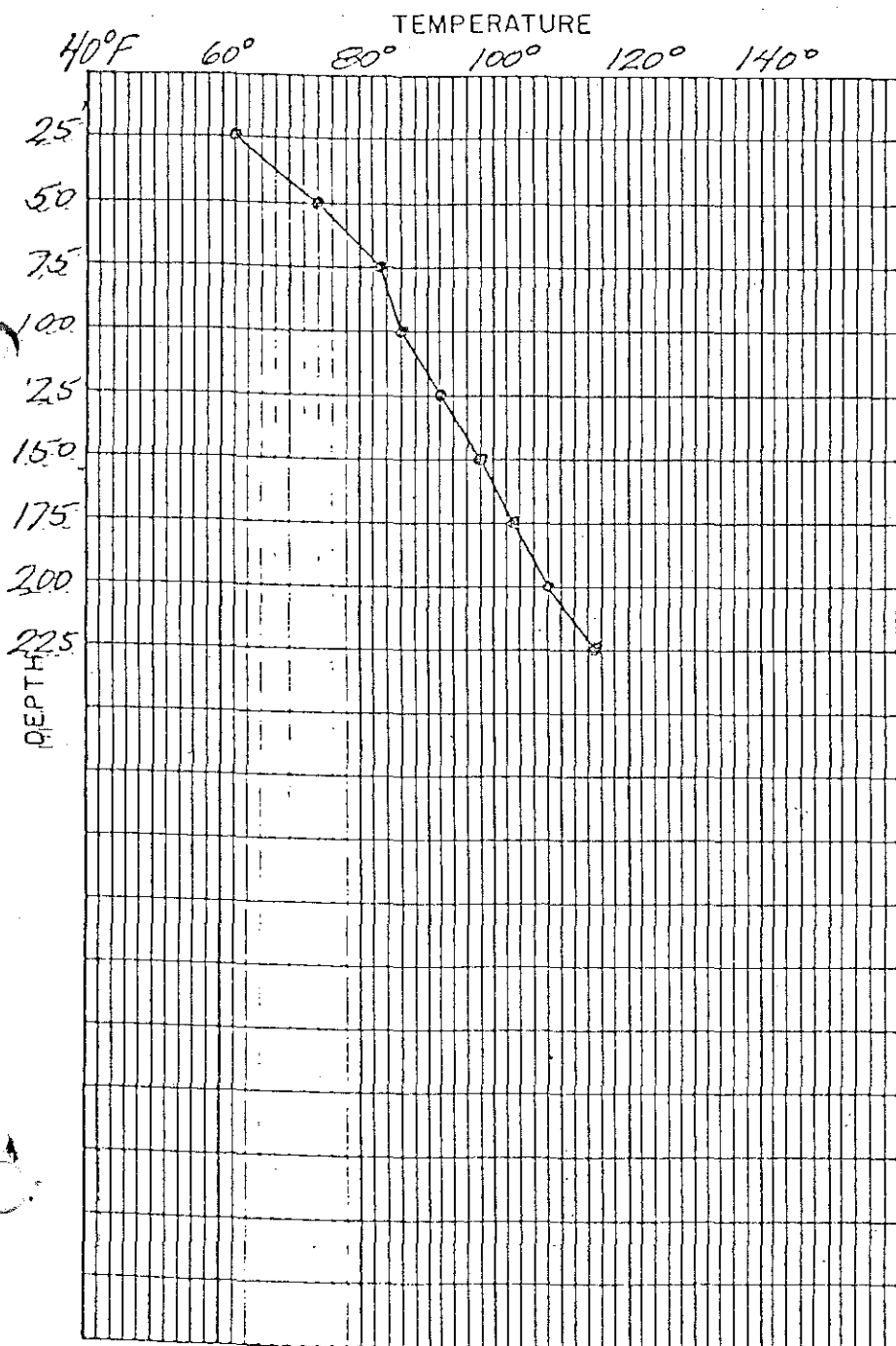
Drig. Contractor : _____
Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-22-72
SPUD DATE
6-23-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 23 VALLE SAN ANTONIO
 T.D. : 230' Elevation : near WEST RANCH BORDER,
 COUNTY STATE
JUST WEST OF S.A. Creek
 Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 23 F %/100 ft. Interval : 150 - 225' ft.
 Max. Temp. : 115 F° at 225 ft.



SAMPLE LOG	DATE OF SURVEY	6-26-72		
	TIME SINCE COMPLETION	3d		
	DEPTH	TEMP.	TEMP.	
	25	62°F		
	50	74		
	75	83		
	100	86		
	125	92		
	150	98		
	175	103		
	200	108		
	225	115		
	250			
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			

Volc. DEBRIS
 140' TOP RED BEDS
 TAB ?
 + RED BEDS
 250' - ALL RED BEDS UNALTERED

MRT :
 Remarks :
Drilled to 260'
Hole CAVED
NOTE RED BED WITH.

Orig. Contractor :
 Done by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-23-72

SPUD DATE

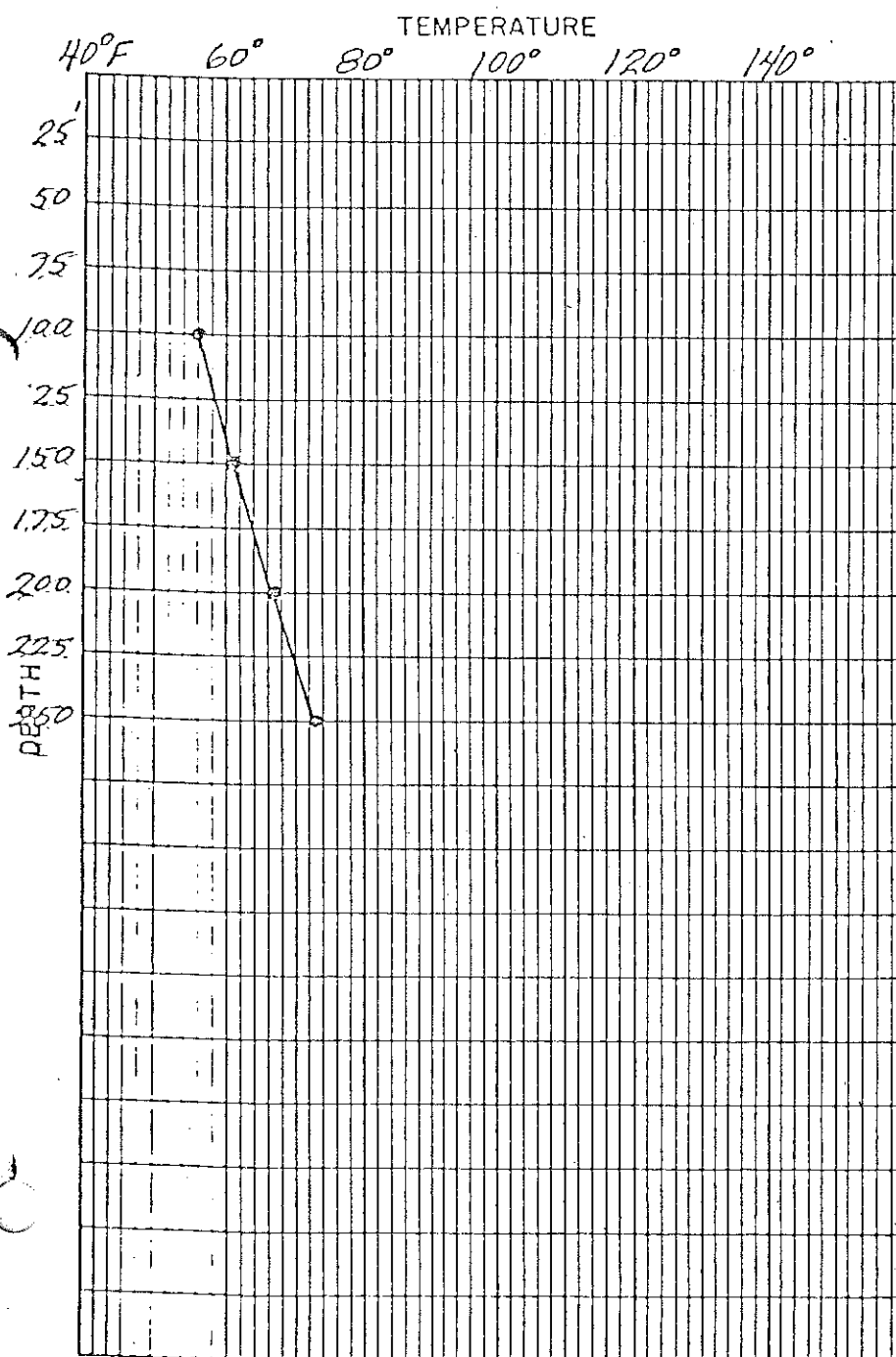
6-23-72

COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 24 VALLE SAN ANTONIO 1mi W.
 T.D. : 260' Elevation : OF BATH HOUSE ON HILL SOUTH
 OF S.A. Creek COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 12 F %/100 ft. Interval : 150' - 250' ft.
 Max. Temp. : 73 F° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	6-24-72	6-26-72
	TIME SINCE COMPLETION	1d	3d
	DEPTH	TEMP.	TEMP.
	25	49°F	
	50	57	
	75	58	
	100	55	56
	125	57	
	150	59	61
	175	62	
	200	66	67
	225	68	
	250	71	73
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

Rhyo Debris UNALT. (at 175-200 ft)

Rhyo, ss, s/s. (at 375 ft)

Plutonic Rhyo Debris (at 500 ft)

MRT :

Remarks :

Orig. Contractor :

Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-24-72
SPUD DATE

6-24-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____

Hole No. : T.H. #25 VALLE SAN ANTONIO, CO

T.D. : 240' Elevation : MAIN ROAD 1/4 MILE WEST OF
S.A. BATHHOUSE SPRING
COUNTY STATE

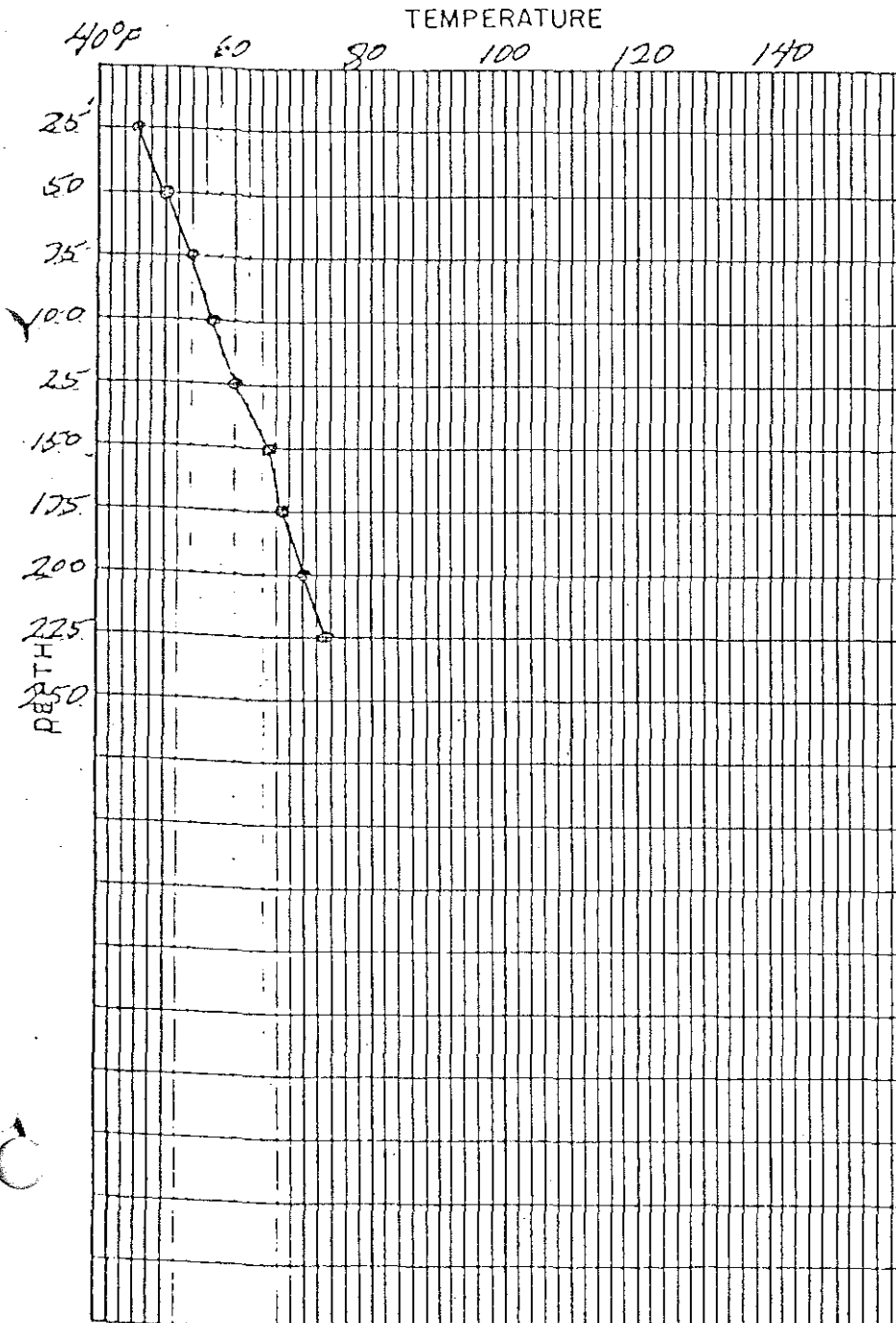
Gradient : _____ %/100 ft. Interval : _____ ft.

Temp. : _____ ° at _____ ft.

BH Gradient : 12 F°/100 ft. Interval : 175 - 225 ft.

Max. Temp. : 73 F° at 225 ft.

SAMPLE LOG	DATE OF SURVEY		
	2-26-72		
	TIME SINCE COMPLETION		
	2 d		
	DEPTH	TEMP.	TEMP.
	25	46°F	
	50	50	
	75	54	
	100	57	
	125	60	
	150	65	
	175	67	
	200	70	
	225	73	
	250		
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		



MRT : _____

Remarks :
Drilled Depth 260'
Hole Cased, Completed
@ 240'

Orig. Contractor : _____

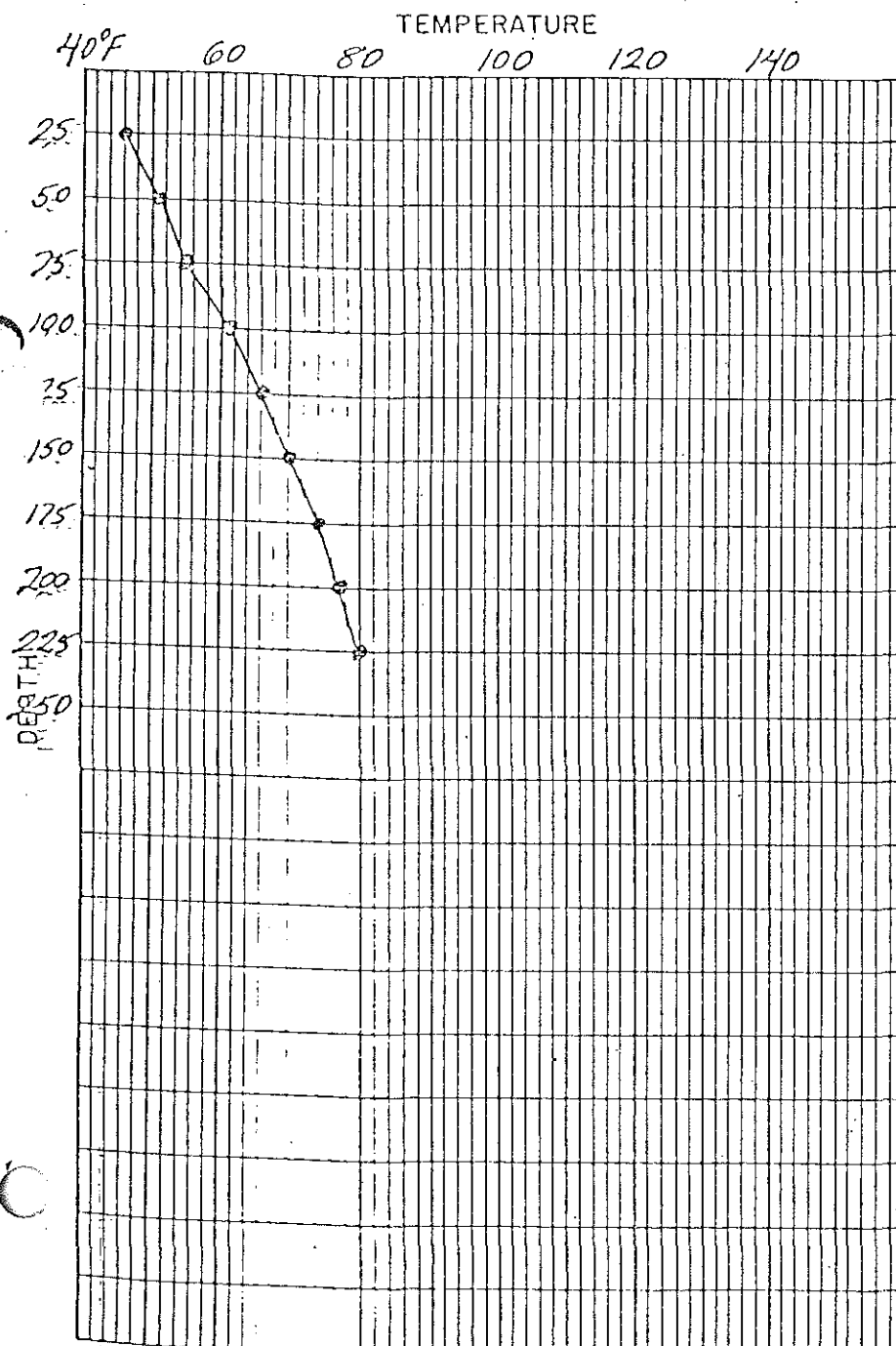
Date by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-24-72
SPUD DATE
6-24-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. 26 VALLE SAN. ANTONIO - PIPELINE
 T.D. : 240' Elevation : ROAD 3/4 MILE E OF S.D. BATHHOUSE
 COUNTY STATE SPRING
 Gradient : _____ % / 100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 13 F° / 100 ft. Interval : 150 - 225 ft.
 Max. Temp. : 80 ° at 225 ft.



SAMPLE LOG	DATE OF SURVEY	6-26-72	6-27-72	
	TIME SINCE COMPLETION	2 d	2 y	
	DEPTH	TEMP.	TEMP.	
	25	47°F	46	
	50	52	51	
	75	57	55	
	100	62	61	
	125	66	66	18.9
	150	70	70	
	175	74	74	25.6
	200	78	77	
	225	81	80	26.7
	250			
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			

MRT : _____

Remarks :
HARD Boulder on
BEDROCK (F or
TPA) @ 238'

Drlg. Contractor : _____
 Dato. by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-25-72

SPUD DATE

6-25-72

COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____

Hole No. : T.H. 27 VALLE SAN ANTONIO

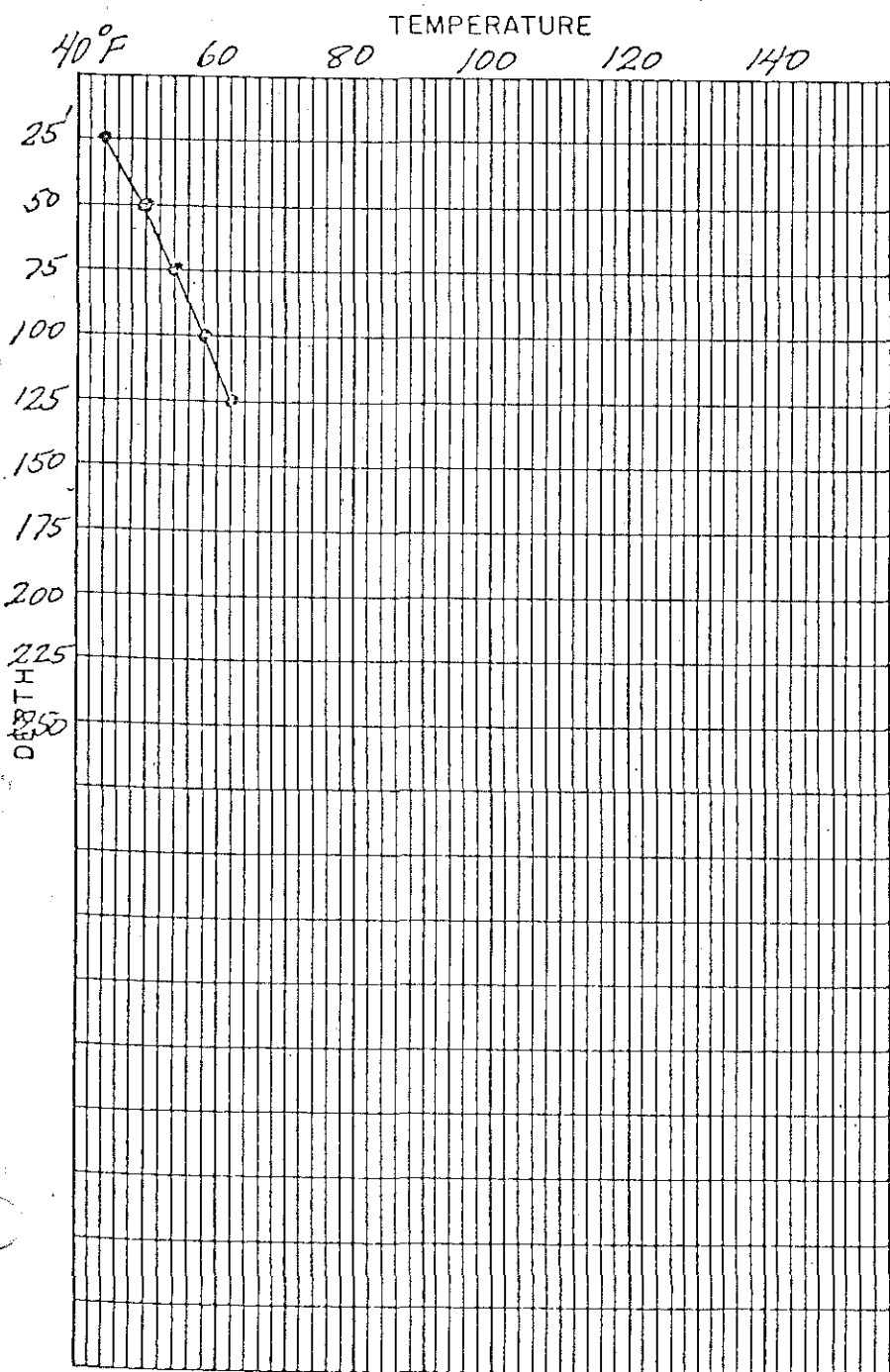
T.D. : _____ Elevation : N side of S.A. Creek 1 mile EAST OF
BATH-HOUSE COUNTY H.S. STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.

Temp. : _____ ° at _____ ft.

BH Gradient : 16 F %/100 ft. Interval : 100 - 125 ft.

Max. Temp. : 62 F° at 125 ft.



SAMPLE LOG	DATE OF SURVEY	7-9-72	6-28-74
	TIME SINCE COMPLETION	14 d	2 y
	DEPTH	TEMP.	TEMP.
152	25	49° F	44
229	50	52°	50
38 L	75	57	54
	100	59	58
	125	65	62
	150		
372 vich	175		
Rhyolite	200		
HARD,	225		
UNALT.	250		
135'	275		
A/A	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

MRT : _____

Remarks :
80'-135' V. HARD
Rhyolite, UNALTERED

Orig. Contractor : _____

Date by : RFD

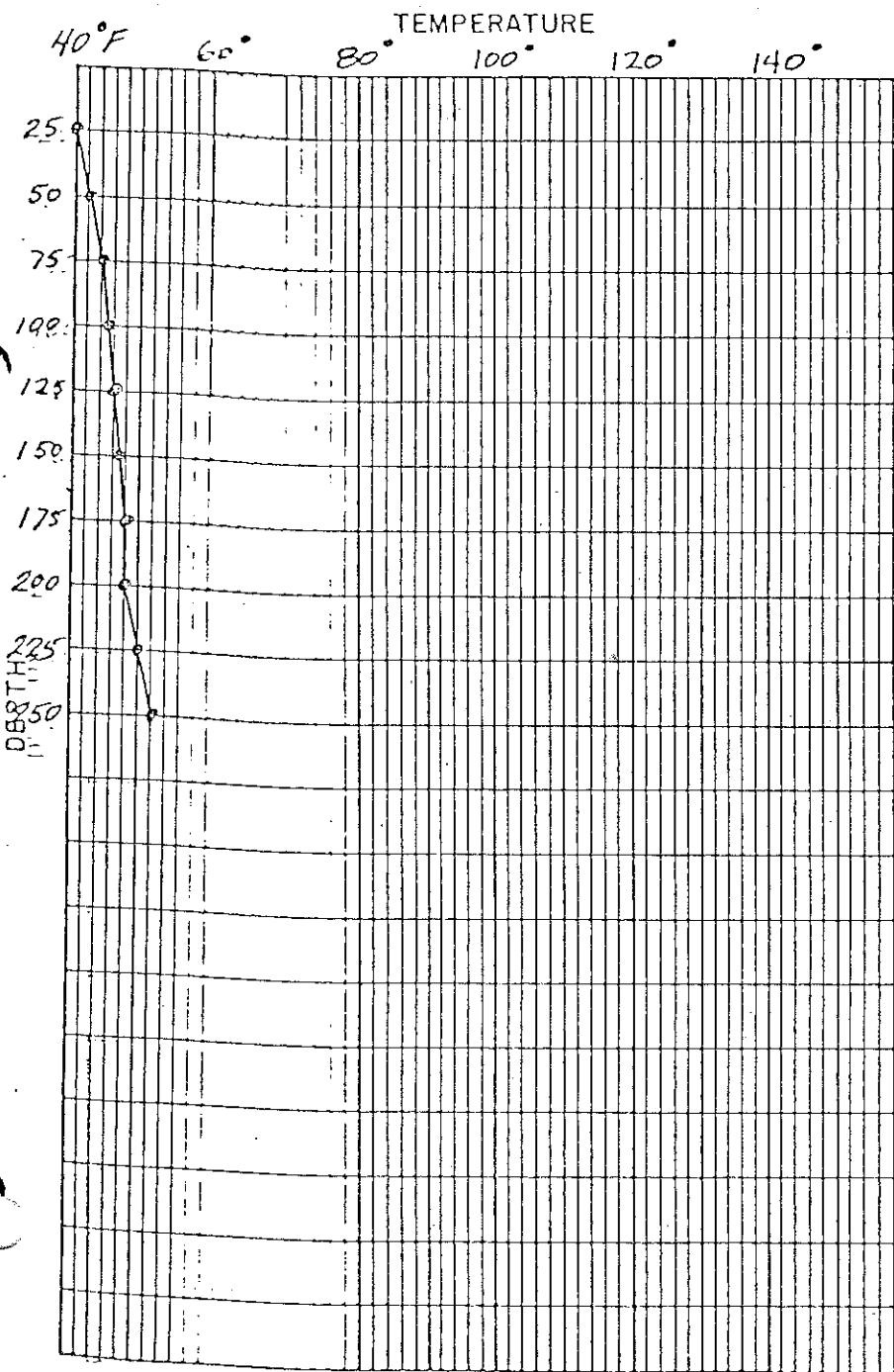
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-25-72
SPUD DATE
6-26-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 28 JARAMILLO LOGGERS ROAD
 T.D. : 260 Elevation : ABOUT 1 MILE SE OF PRUTON
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 5 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 52 F° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	7-7-72	6-27-74
	TIME SINCE COMPLETION	11 d	2 y
	DEPTH	TEMP.	TEMP.
	25	40° F	40
	50	42	41
	75	44	43
	100	45	44
	125	46	46
	150	47	47
	175	48	48
	200	48	49
	225	50	50
	250	52	54?
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

Qc F, WEATH. NO ALT. 74-2
 A/A
 A/A

8.89
 6 11
 Probably erroneous due to displacement of STANWAK KNOB

MRT :
 Remarks :
Note slight increase in gradient at depth, but
 Drg. Contractor :
 D'd by : RFD

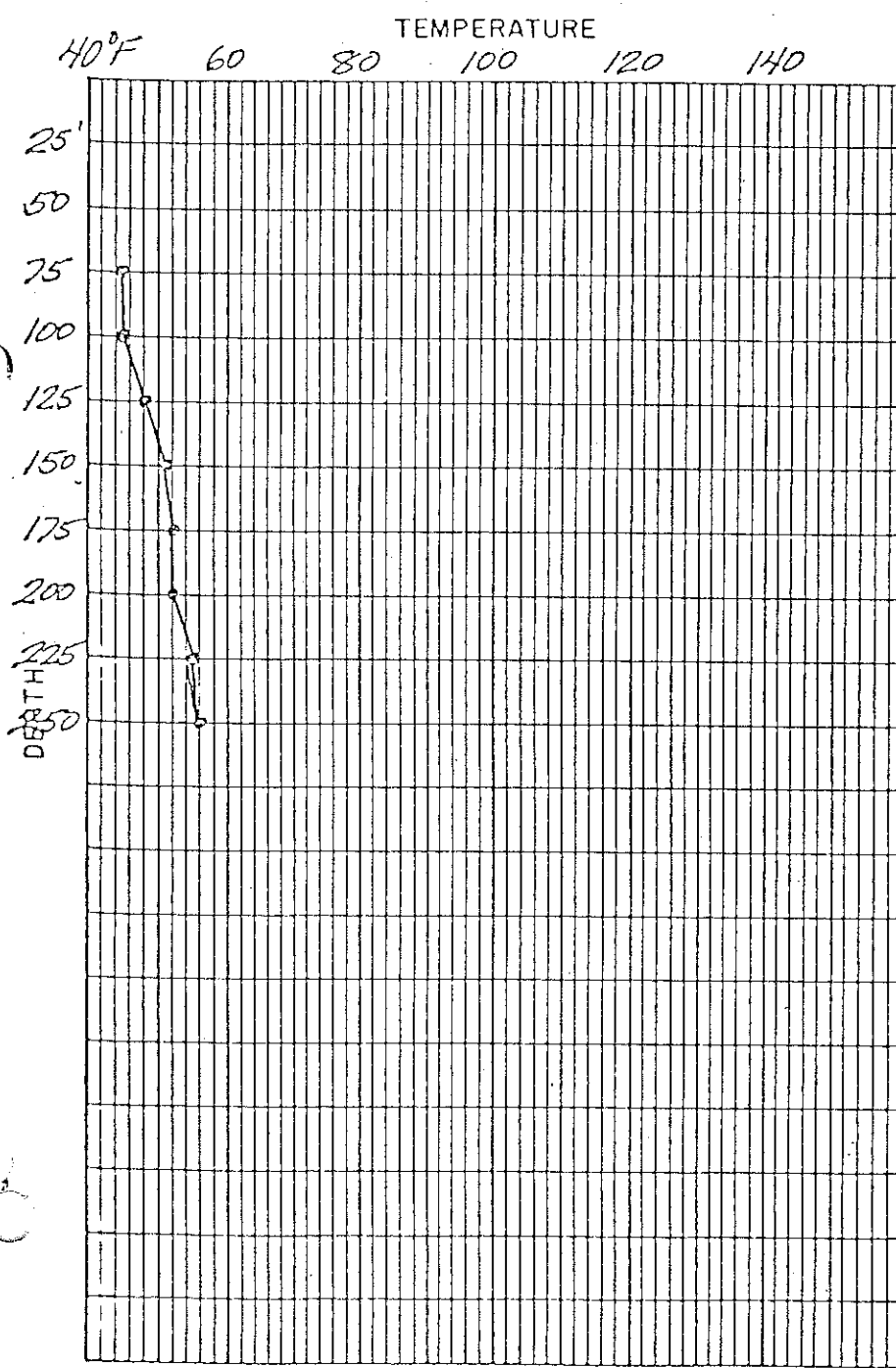
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

6-26-72
SPUD DATE
6-27-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H. #29 JARAMILLO LOGGING ROAD
T.D. : 260' Elevation : 1 1/4 mile NE of T.H. #28
COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 5-6 F %/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 56 F° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	7-7-72	6-27-74
	TIME SINCE COMPLETION	10 d	2 y
	DEPTH	TEMP.	TEMP.
	25	43°F	DRY
	50	44	DRY
	75	46	45
	100	48	45
	125	48	48
	150	50	51
	175	51	52
	200	53	52
	225	54	55
	250	56	56
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

QBT Trace Pyrite

QBT WTHREB

QBT (?) WTHREB

MRT : _____

Remarks :
NOTE TRACE Pyrite @ 100'

Irreg gradient indicates WATER ZONES.

Drig. Contractor : _____
Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

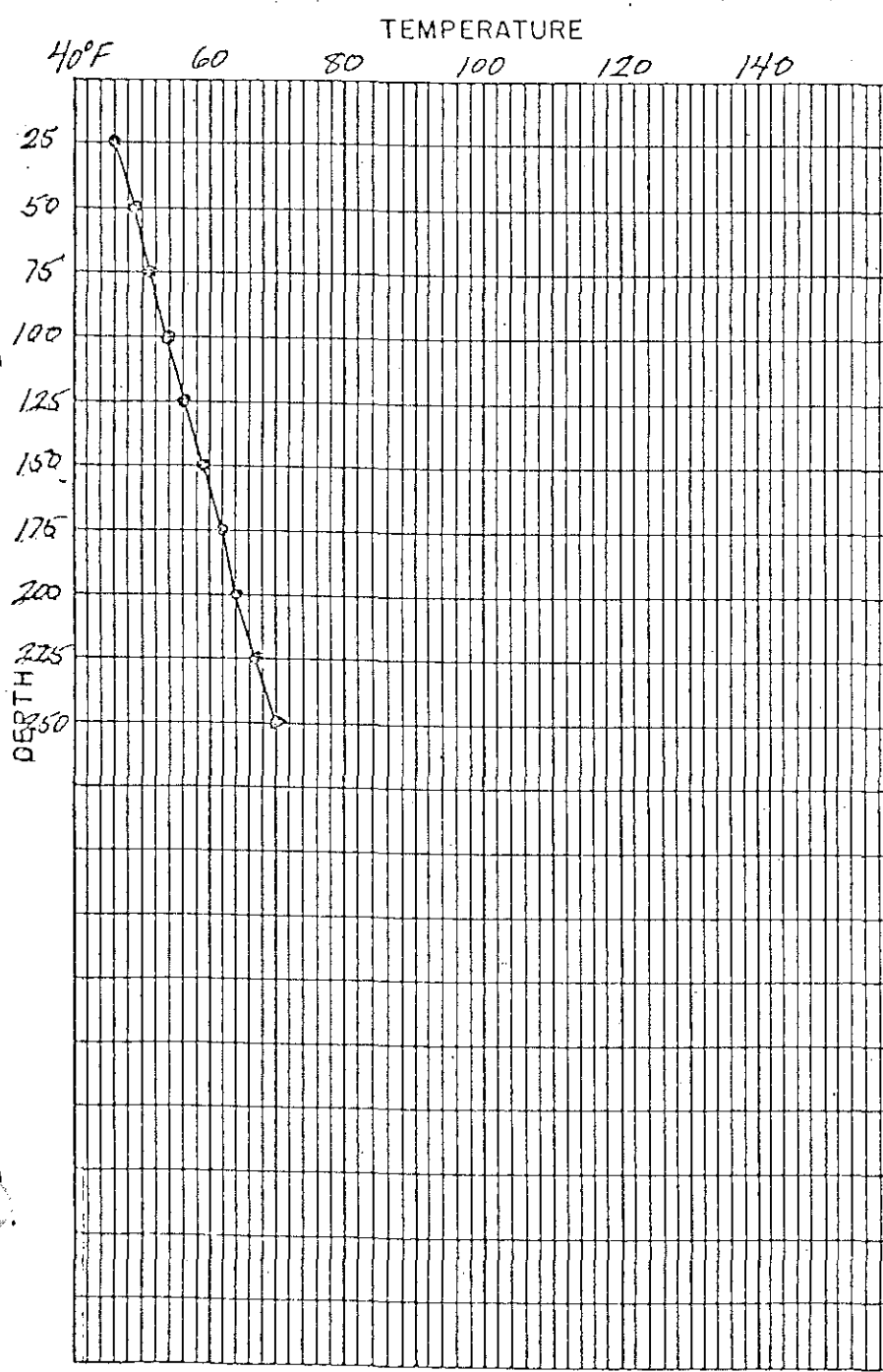
6-27-72
SPUD DATE
6-28-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. 30 JARAMILLO CREEK
 T.D. : 260' Elevation : 2 MILES NE OF PLUTON
COUNTY STATE

Gradient : _____ % / 100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 11 F % / 100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 70 ° at 250 ft.

SAMPLE LOG	DATE OF SURVEY	6-28-72	7-7-72	6-27-74
	TIME SINCE COMPLETION	10 hr	9 d	2 y
	DEPTH	TEMP.	TEMP.	
	25	56°F	47°	46
	50	57	48	49
	75	59	51	51
	100	60	54	54
	125	61	56	56
	150	63	58	59
	175	65	61	62
	200	67	63	64
	225	68	66	67
	250	70	69	70
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			



Top of Unit

CLAY - BRN, UNSAT

BRN, silty CLAY

MRT : _____

Remarks :
COMPARE WITH #28, 29 WHICH ARE ON MTH SLOPE TO S.E.

- DRILLED IN CREEK BOTTOM MUD

Drig. Contractor : _____

Date by : RFD

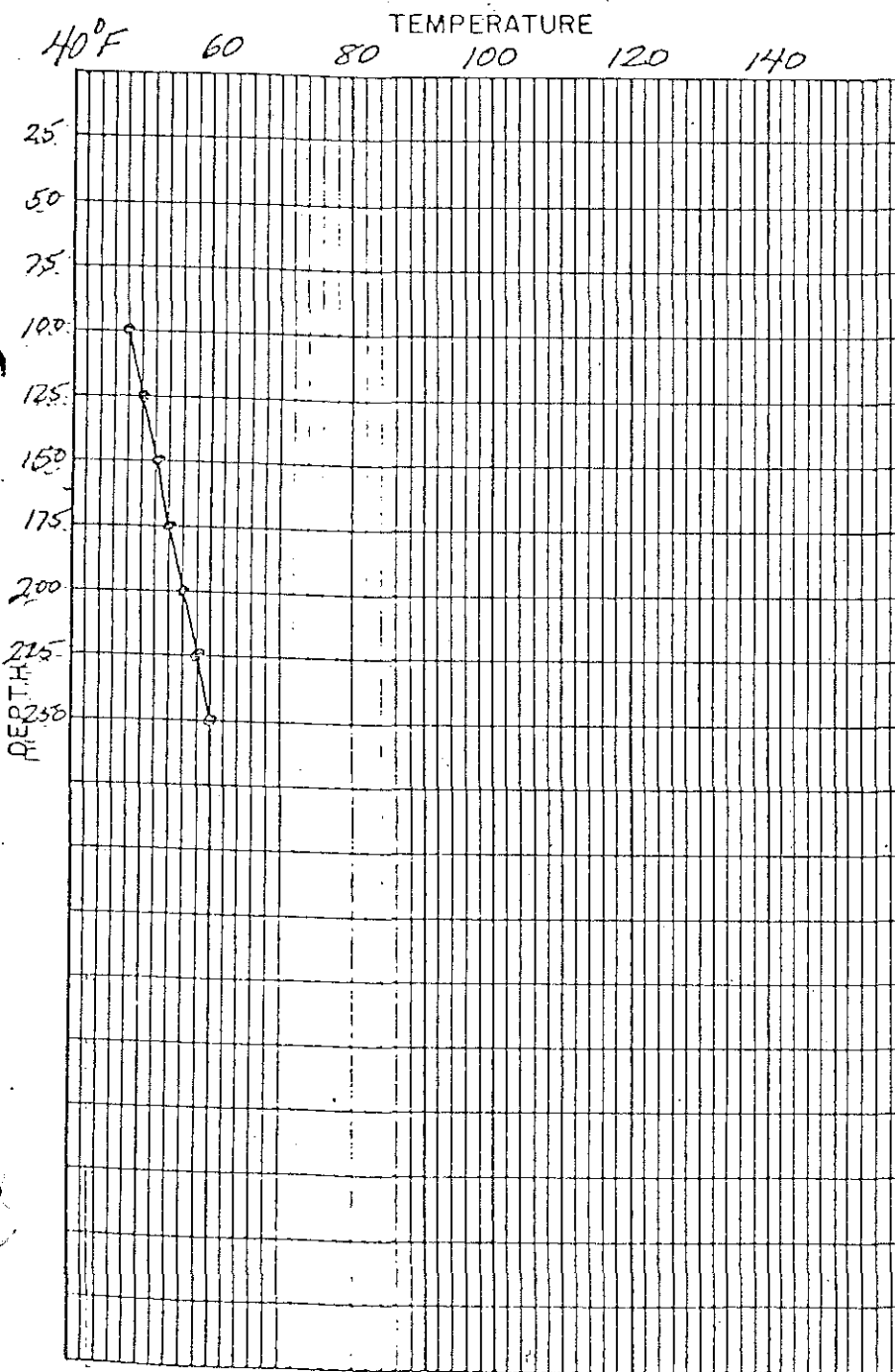
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-7-72
SPUD DATE
7-7-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H. 31 JARAMILLO Creek Wide
T. D. : _____ Elevation : VALLEY SW of ABRIGO
COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 8 F %/100 ft. Interval : 150 - 250 ft.
Max. Temp. : _____ ° at _____ ft.



SAMPLE LOG	DATE OF SURVEY	7-9-72	6-27-74
	TIME SINCE COMPLETION	2d	2yr
	DEPTH	TEMP.	TEMP.
	25	44°F	Dry
	50	46	Dry
	75	49	Dry
	100	50	48
	125	52	50
	150	54	52
	175	55	54
	200	56	56
	225	57	58
	250	59	60
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

Tuff white (between 175 and 200 ft)
Red clayey ss (between 375 and 400 ft)
Trhyolite, purple gray WEATHERED (between 475 and 500 ft)

Just into water

MRT : _____

Remarks :
Water in Borehole
To 25' Below
Surface.
No water in
CSG.
Shallow water table

Drlg. Contractor : _____

Data by : _____

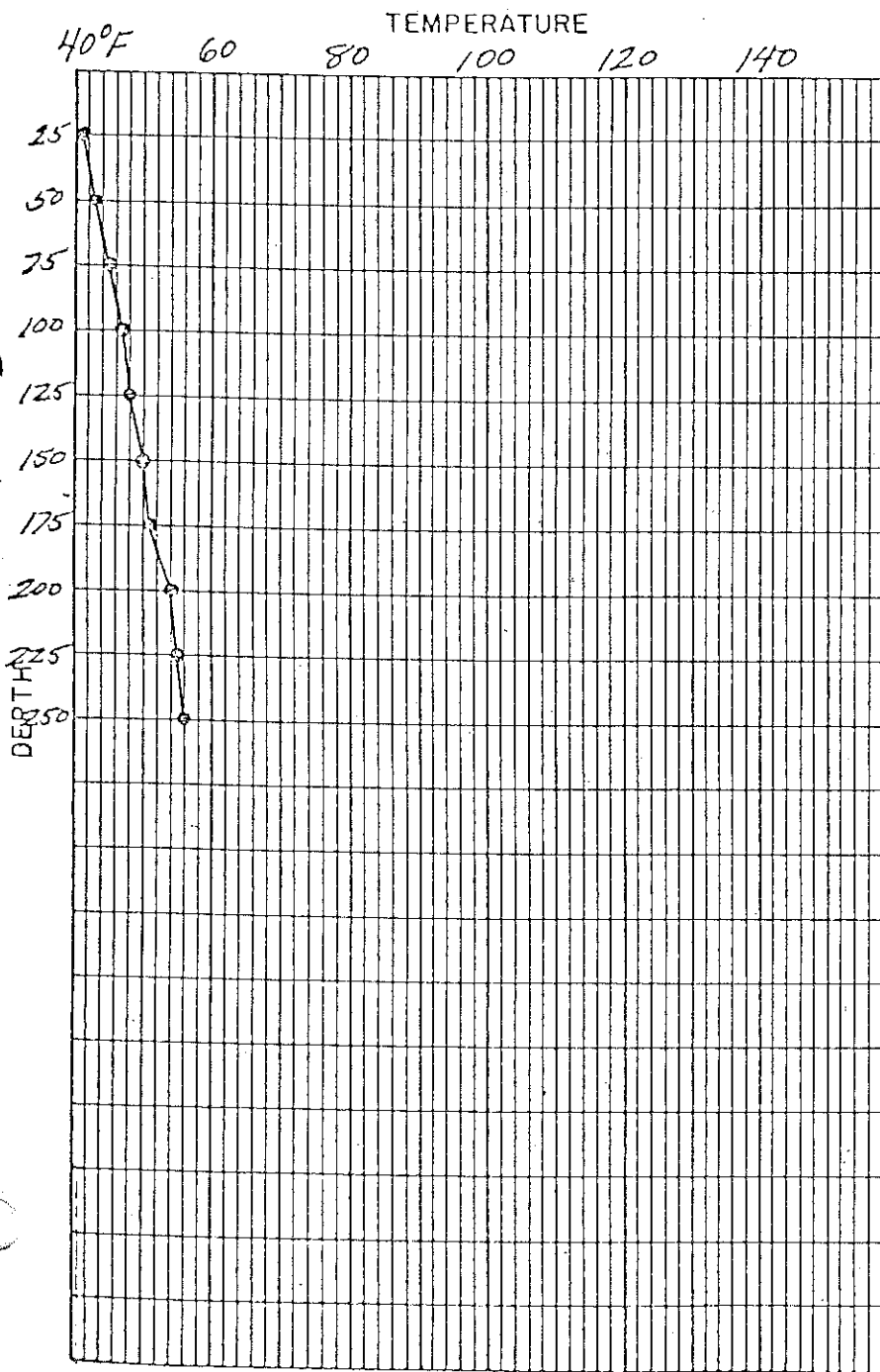
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-8-72
SPUD DATE
7-8-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
Hole No. : T.H. 32 HEAD OF SANTA ROSA CREEK
T.D. : 250' Elevation : SW Base of Abrigo
COUNTY STATE

Gradient : 2 %/100 ft. Interval : ft.
Temp. : ° at ft.

BH Gradient : 6 F°/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 56 F° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	7-12-72	6-28-74
	TIME SINCE COMPLETION	4 d	2 y
	DEPTH	TEMP.	TEMP.
	25	44° F	41
	50	44	43
	75	46	45
	100	48	47
	125	49	48
	150	51	50
	175	52	51
	200	53	54
	225	54	55
	250	57	56
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

Rhy. Vol.

Rhyo. Pumice

A/B w
PIPERITE
qtz xls
e

MRT :

Remarks :
Water in annulus
@ 6'

Drig. Contractor :
Data by : RFD

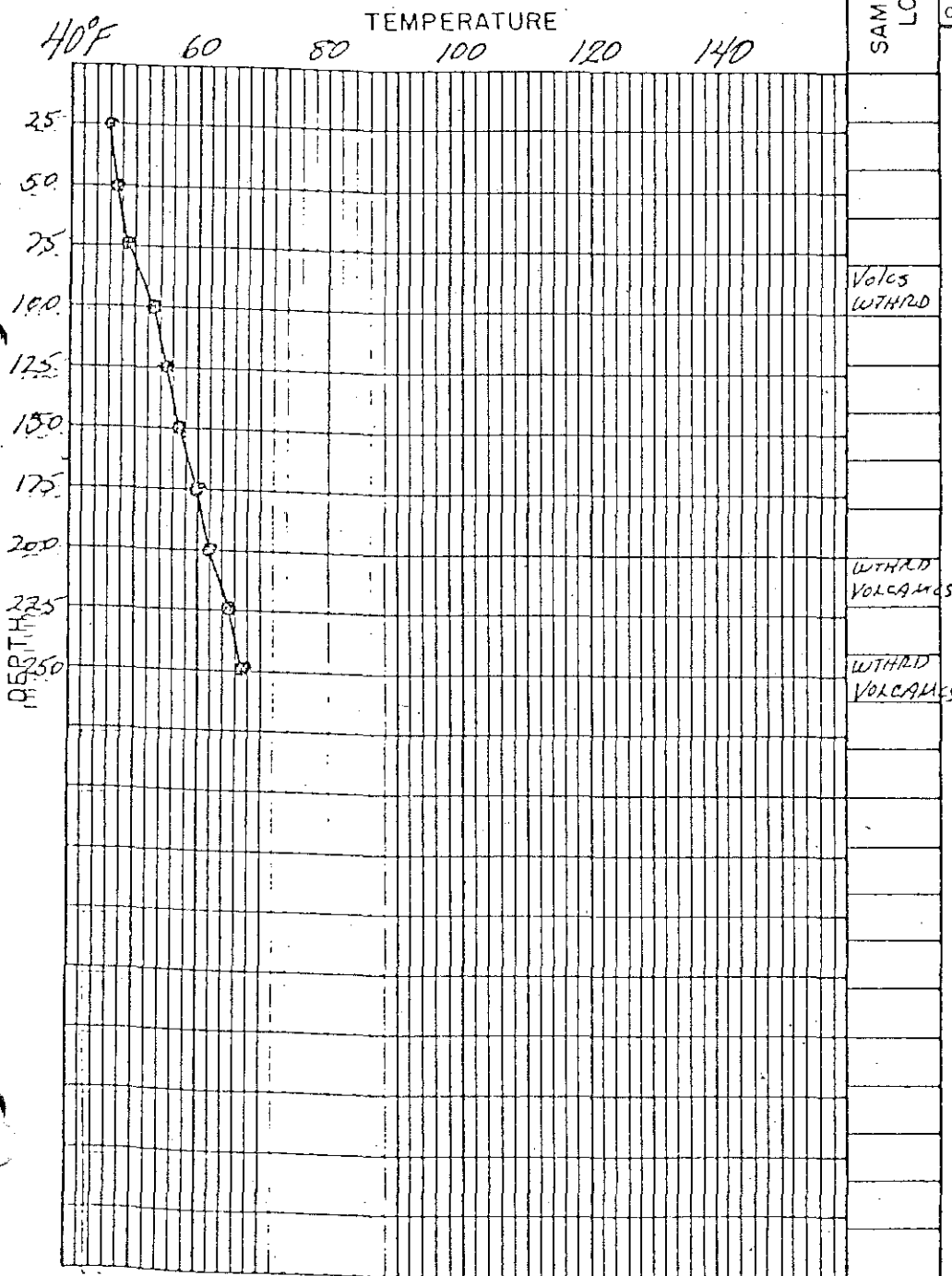
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-8-12
SPUD DATE
7-9-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 33 SANTA ROSA CREEK-
 T.D. : 250 Elevation : 2 miles S of S. Antonio Creek
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 10 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 67 ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	7-12-72	6-27-74
	TIME SINCE COMPLETION	3 d	2 y
	DEPTH	TEMP.	TEMP.
	25	48°F	46°F
	50	50	47
	75	52	49
	100	53	53
	125	55	55
	150	57	57
	175	60	60
	200	63	62
	225	65	65
	250	67	67
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

MRT :

Remarks :
Hole 1 mile north
of T.H. 33 Flowed
100 gpm 57° H₂O
FROM ABOUT 150'
P. & A.

Orig. Contractor :

Data by : RFD

Prospect : BACA

Location : T. _____ R. _____ Sec. _____
CERRO SECO, ON LOGANA ROAD

Hole No. : T.H. 35

1/2 mile north of SADDLE BETWEEN

T.D. : 500' Elevation : _____

SOLFER CREEK COUNTY _____ STATE _____
AND SAN ANTONIO CR.

Gradient : _____ %/100 ft.

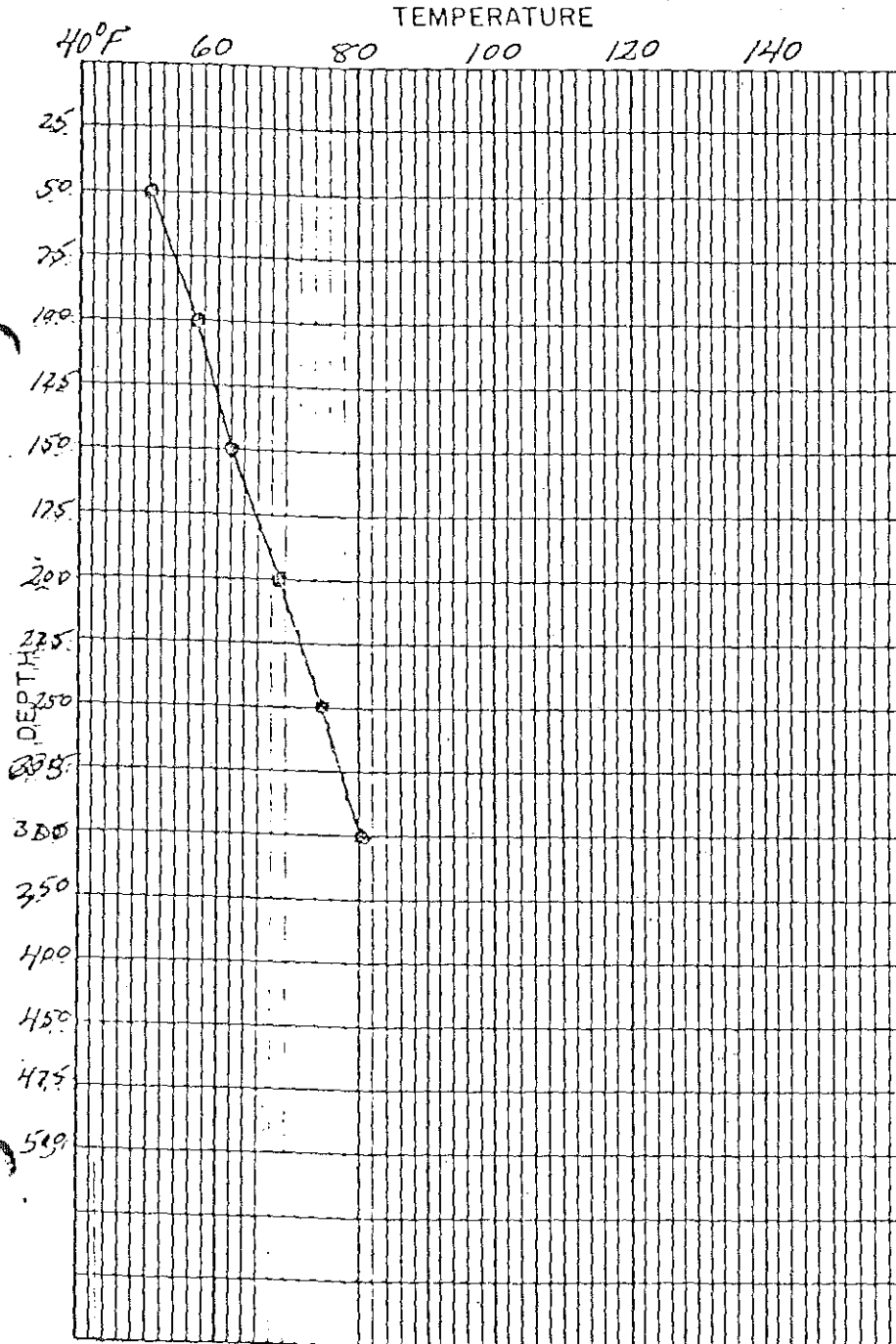
Interval : _____ ft.

Temp. : _____ ° at _____ ft.

BH Gradient : 12 F %/100 ft.

Interval : 200 - 300 ft.

Max. Temp. : 80 F° at 300 ft.



SAMPLE LOG	DATE OF SURVEY	7-15-72	7-26-72
	TIME SINCE COMPLETION	2 d	11 d
DEPTH	TEMP.	TEMP.	
25	Dr		
50	50°		
75			
100	57		
125			
150	62		
175			
200	69	68	
225			
250	75		
275			
300	80	80	
325			
350			
375			
400			
425			
450			
475			
500			

Phyo Frsh

Rhyo Frsh

A/A Sandstone

A/A

QCF red bed
 ruff etc
 pyritic

MRT : _____

Remarks : NOTE T.D.

Hole never logged to T.D.

Drlg. Contractor : _____

Data by : RFD

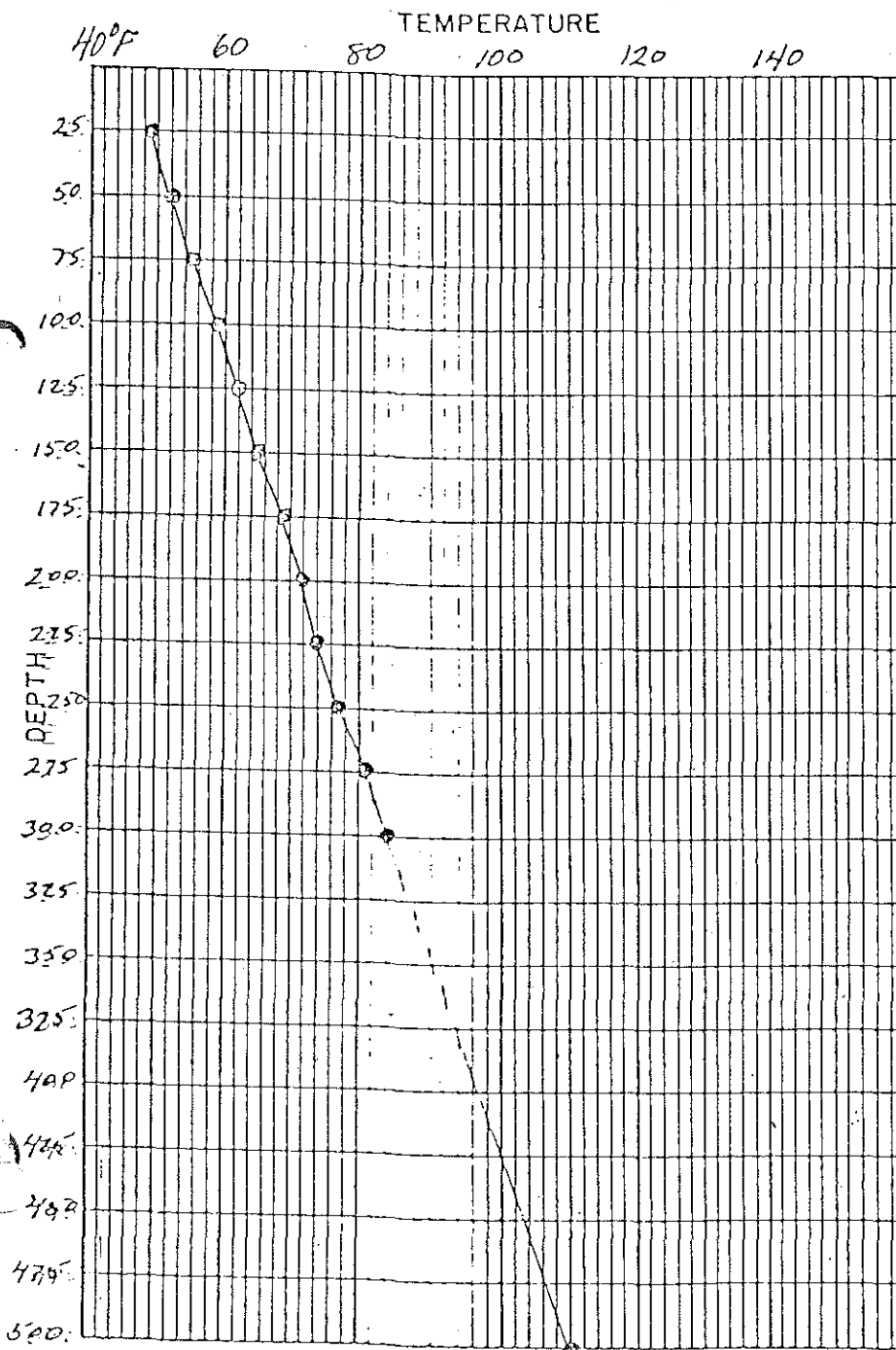
UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

7-14-72
SPUD DATE
7-15-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 36 EAST SIDE CERRO GREGO
 T.D. : 500' Elevation : COUNTY STATE

Gradient : 12 %/100 ft. Interval : 150 - 250 ft.
 Temp. : 77 F° at 250' ft.

BH Gradient : 13 %/100 ft. Interval : 300 - 500 ft.
 Max. Temp. : 110 °F at 500 ft.



SAMPLE LOG	DATE OF SURVEY →		
	TIME SINCE COMPLETION →		
	DEPTH	TEMP.	TEMP.
	25	49F	
	50	52	
	75	55	
	100	59	
	125	62	
	150	65	
	175	69	
	200	72	
	225	74	
	250	77	
	275	81	
	300	84	
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500	110*	MEASURED WITH MRT

*
 MRT : _____
 Remarks : _____

 Drlg. Contractor : _____
 Data by : R

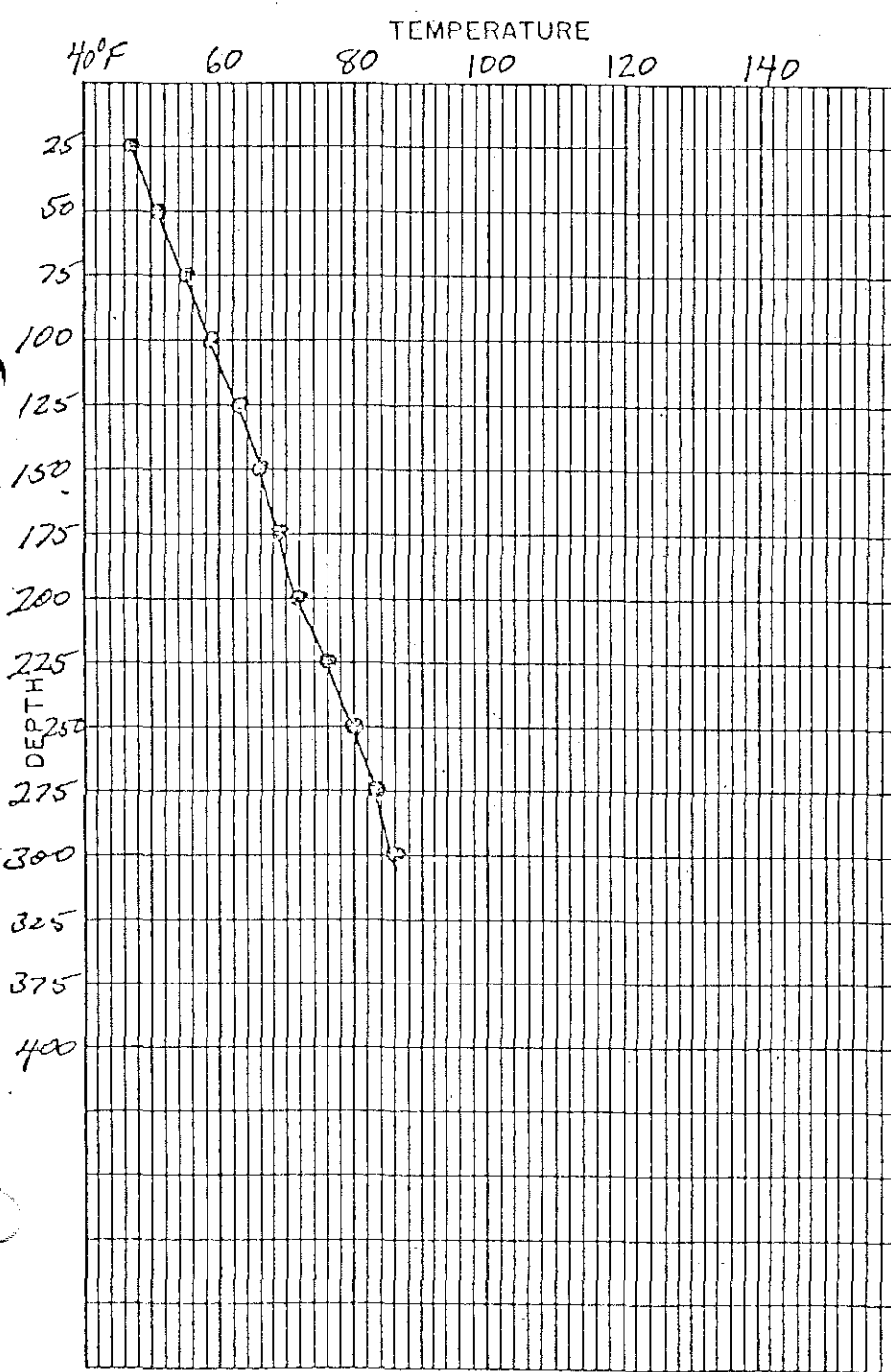
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-16-72
SPUD DATE
7-17-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
Hole No. : T.H. 37 SOUTH SIDE SAN JUAN VALLEY
T.D. : 420' Elevation : COUNTY STATE

Gradient : %/100 ft. Interval : ft.
Temp. : ° at ft.

BH Gradient : 14 F°/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 86 °F at 300 ft.



SAMPLE LOG	DATE OF SURVEY	7-26	6-28
	TIME SINCE COMPLETION	-72	-74
		9 d	2 y
	DEPTH	TEMP.	TEMP.
	25	48°F	47
	50	52	51
	75	55	55
	100	59	59
	125	63	63
	150	65	66
	175	69	69
	200	73	72
	225	76	76
	250	78	80
	275	83	83
	300	86	86
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

GBT, GGF
GUT

Mixed Volcanics

Mixed Volcanics

Mixed Volcanics

No R.N.T.

MRT :

Remarks :
NEVER MEASURED TO T.D.

Orig. Contractor :
Data by : RFD

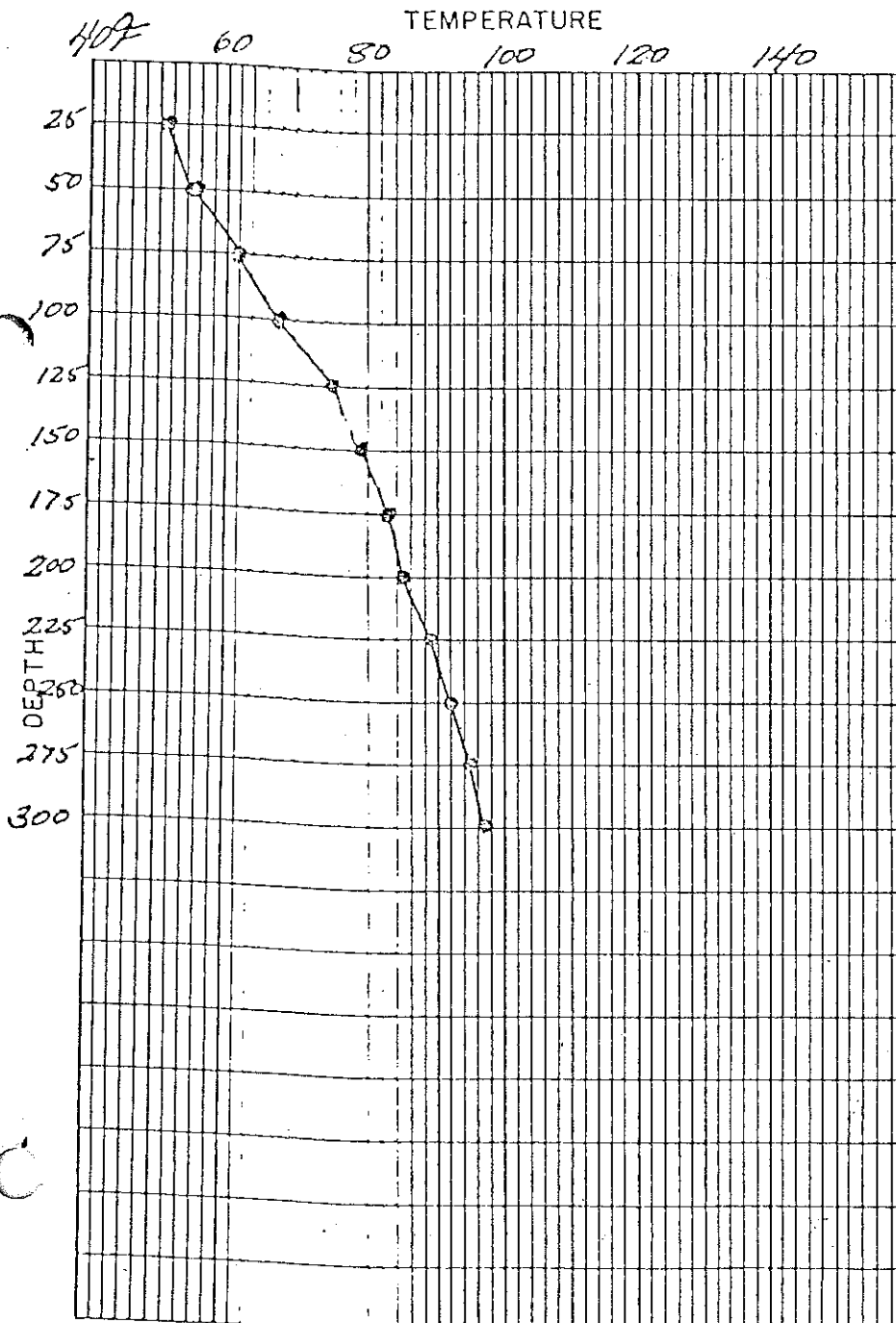
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-18-72
SPUD DATE
7-18-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H. 38 VALLE SAN ANTONIO
T. D. : _____ Elevation : _____
COUNTY _____ STATE _____

Gradient : _____ % / 100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 13 F % / 100 ft. Interval : 150 - 250 ft.
Max. Temp. : 97 ° F at 300 ft.



SAMPLE LOG	DATE OF SURVEY		
	7-26-72	DEPTH	TEMP.
	TIME SINCE COMPLETION	TEMP.	
	8 d		
		25	51°F
		50	55
		75	62
		100	68
		125	75
		150	79
		175	83
		200	85
		225	89
		250	92
		275	95
		300	97
		325	
		350	
		375	
		400	
		425	
		450	
		475	
		500	

OR
Pomice
Tuff
9/5
SAND
Chalite
Debris
A/A

23.89
96.1

MRT : _____

Remarks :
TWIN to J.B.
HARRELL HOLE
WHICH HAD 67°
@ 100'
NOTE HIGH TEMP.
BUT LOW & DECREASING
GRADIENT

Drlg. Contractor : _____
Done by : RFD

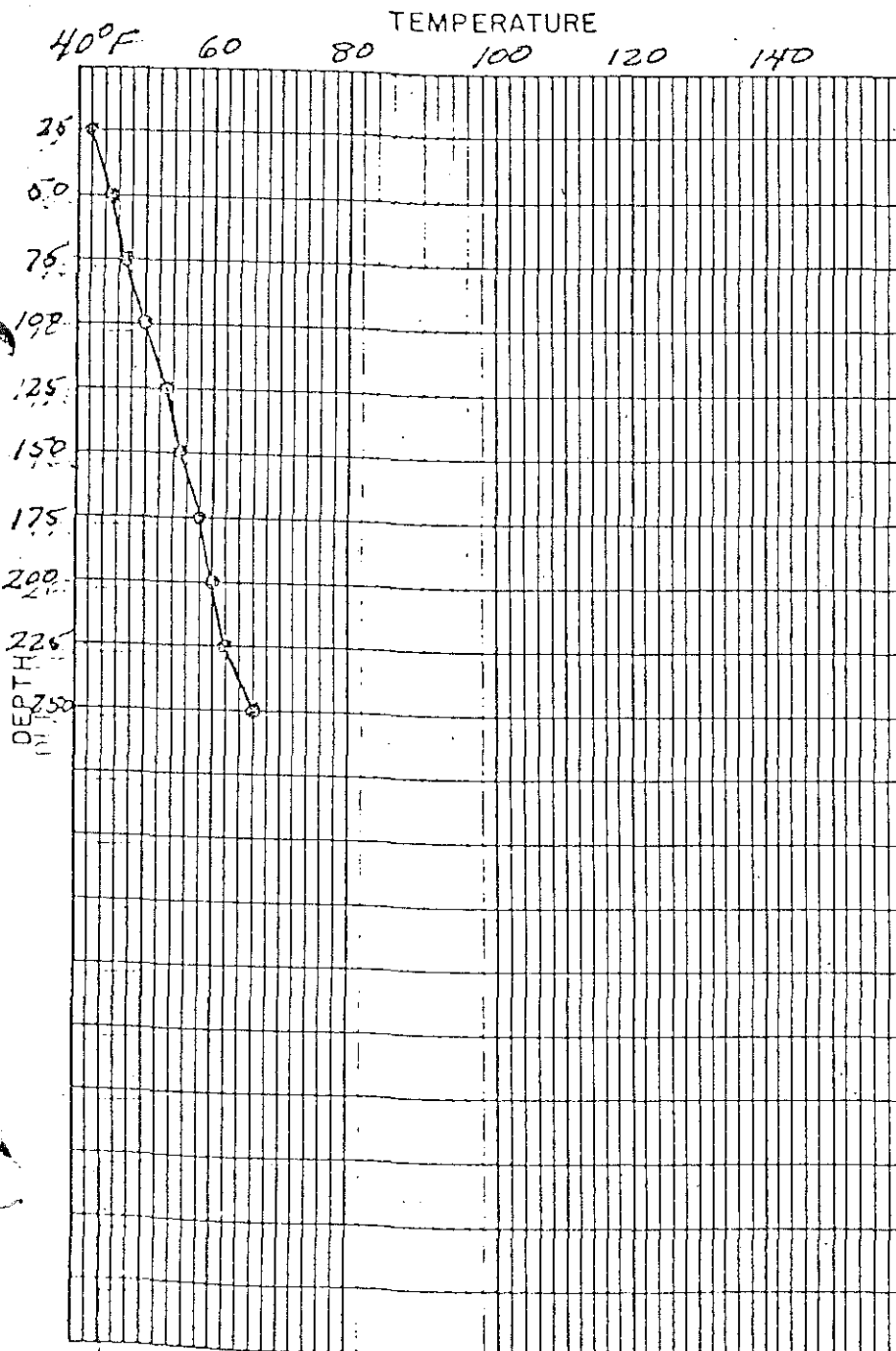
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-19-72
SPUD DATE
7-19-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H.39 N. VALLE SAN ANTONIO
T.D. : 250' Elevation : 1/4 mile west of Pipeline white house
COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 11 F%/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 66 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY		
	TIME SINCE COMPLETION	DEPTH	TEMP.
	7-26-72		
	7d		
		25	42°F
		50	45
		75	47
		100	50
		125	53
		150	55
		175	58
		200	60
		225	62
		250	66
		275	
		300	
		325	
		350	
		375	
		400	
		425	
		450	
		475	
		500	

Diatomaceous
Late Beds
Rhyolite
Silty Sand
Rhyolite
Debris

MRT : _____
Remarks :
Note Inc. AT B.H.
Drig. Contractor : _____
Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-20-72

SPUD DATE

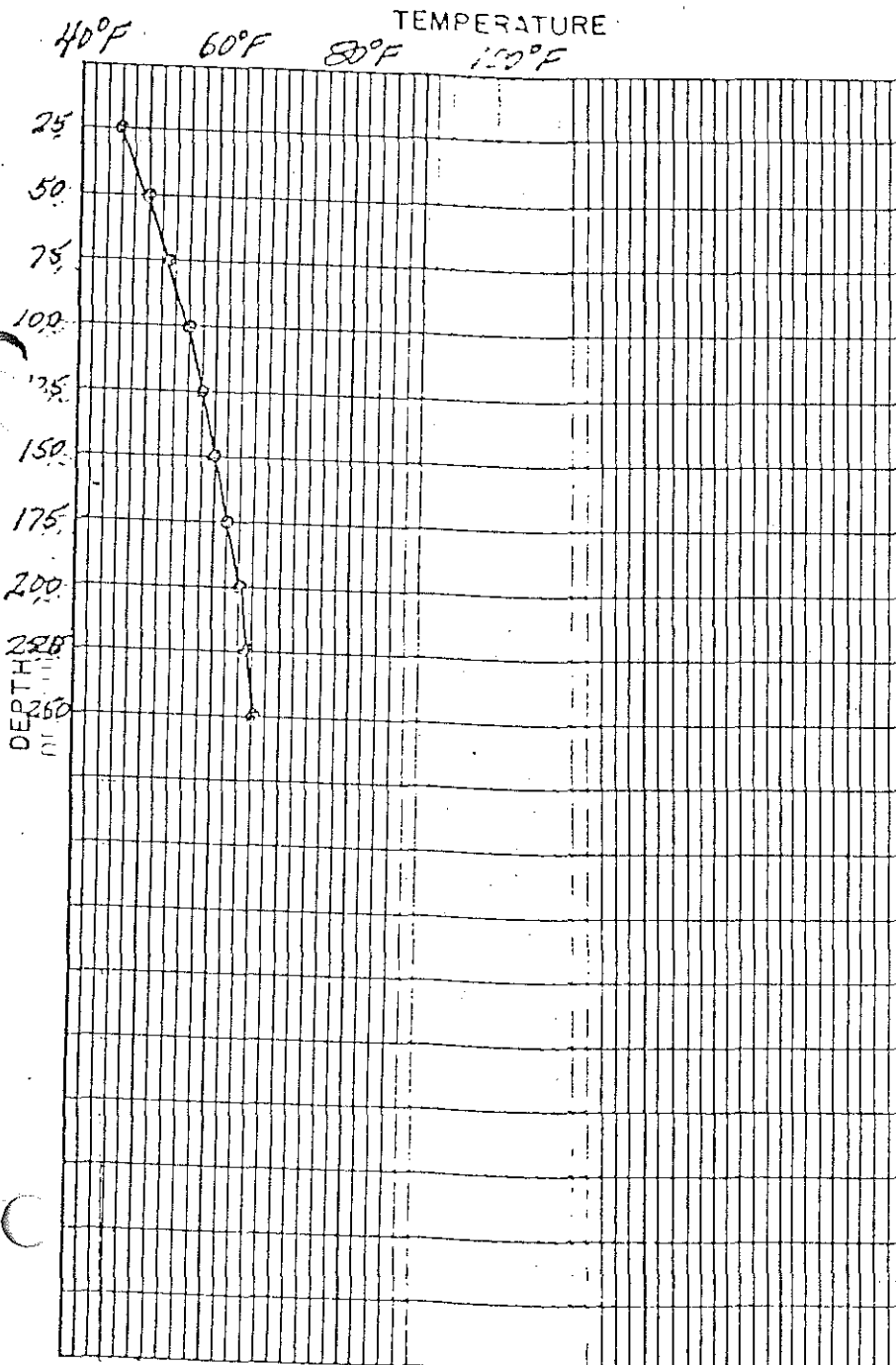
7-20-72

COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : _____ T.H. 40 FAR EASTERN SAN ANTONIO
 T.D. : 250 Elevation : 1/2 mile west of VALLE TOLEDO
 COUNTY STATE

Gradient : _____ % / 100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 6 F % / 100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 66 ° F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	7-26-72	6-26-74
	TIME SINCE COMPLETION	72	5 d
	DEPTH	TEMP.	TEMP.
	25	47° F	46
	50	48	50
	75	51	53
	100	54	56
	125	57	58
	150	59	60
	175	61	62
	200	63	64
	225	65	65
	250	66	66
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

PUMICE

PHYLITES
+ PUMICE
Micas
Volcanics

MRT : _____

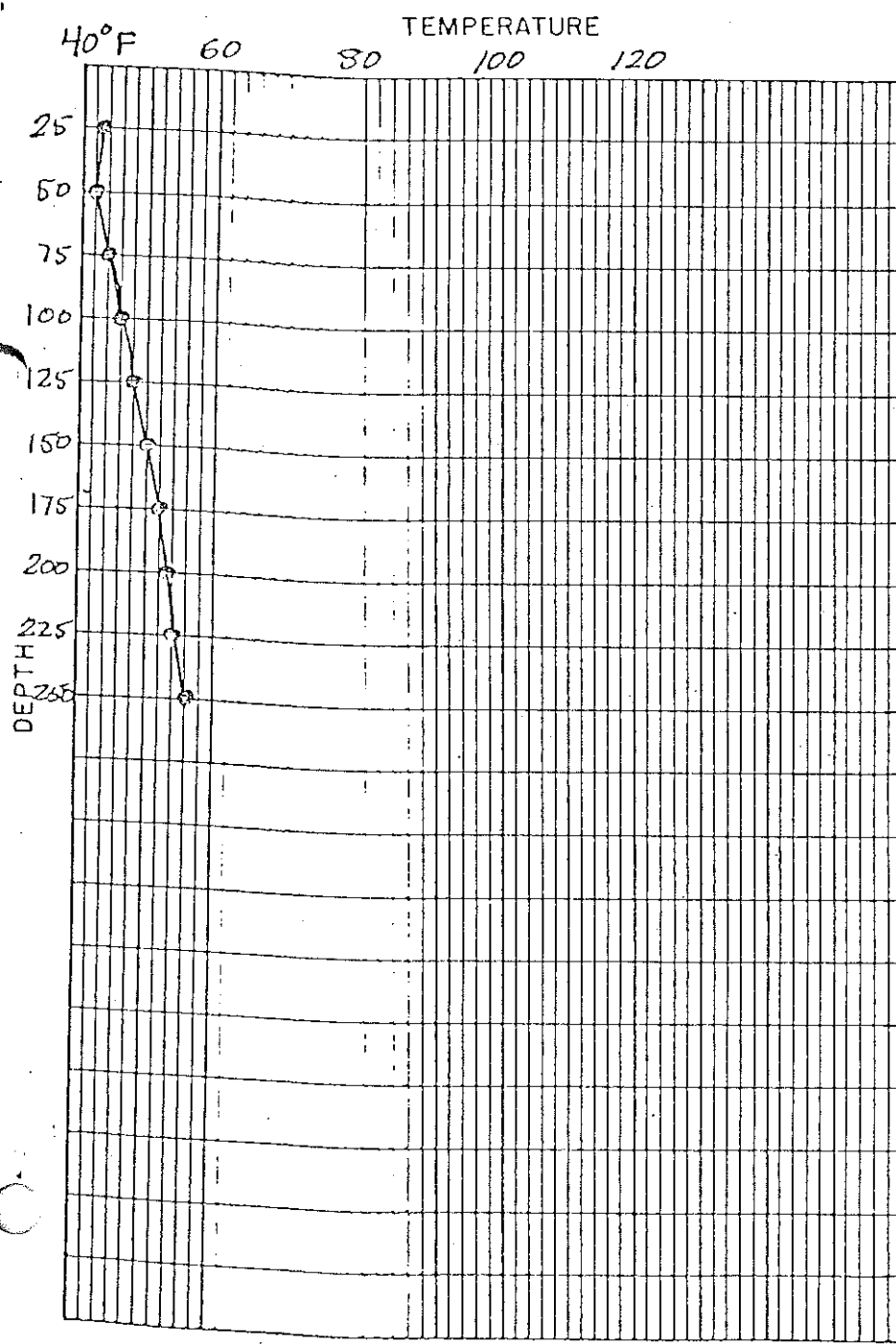
Remarks :
NOTE DECREASING GRADIENT w/ DEPTH

Drg. Contractor : _____
 Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-21-72
SPUD DATE
7-21-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. # 41 LOWER JARAMILLO AT JUNCTION
 T.D. : 250 Elevation : OF HEADQUARTERS ROAD AND N. VALLE
GRANDE ROAD COUNTY STATE
 Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.
 BH Gradient : 6 F%/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 56 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	7-26-74	6-27-74
	TIME SINCE COMPLETION	5 d	2 y
	DEPTH	TEMP.	TEMP.
	25	43°F	43
	50	44	42
	75	46	44
	100	48	46
	125	50	48
	150	50	50
	175	52	52
	200	54	53
	225	55	54
	250	55	56
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

REVERSAL
+ POLICE

MRT : _____

Remarks :
NOTE REVERSAL
25-75'

Orig. Contractor : _____
 Data by : RFD

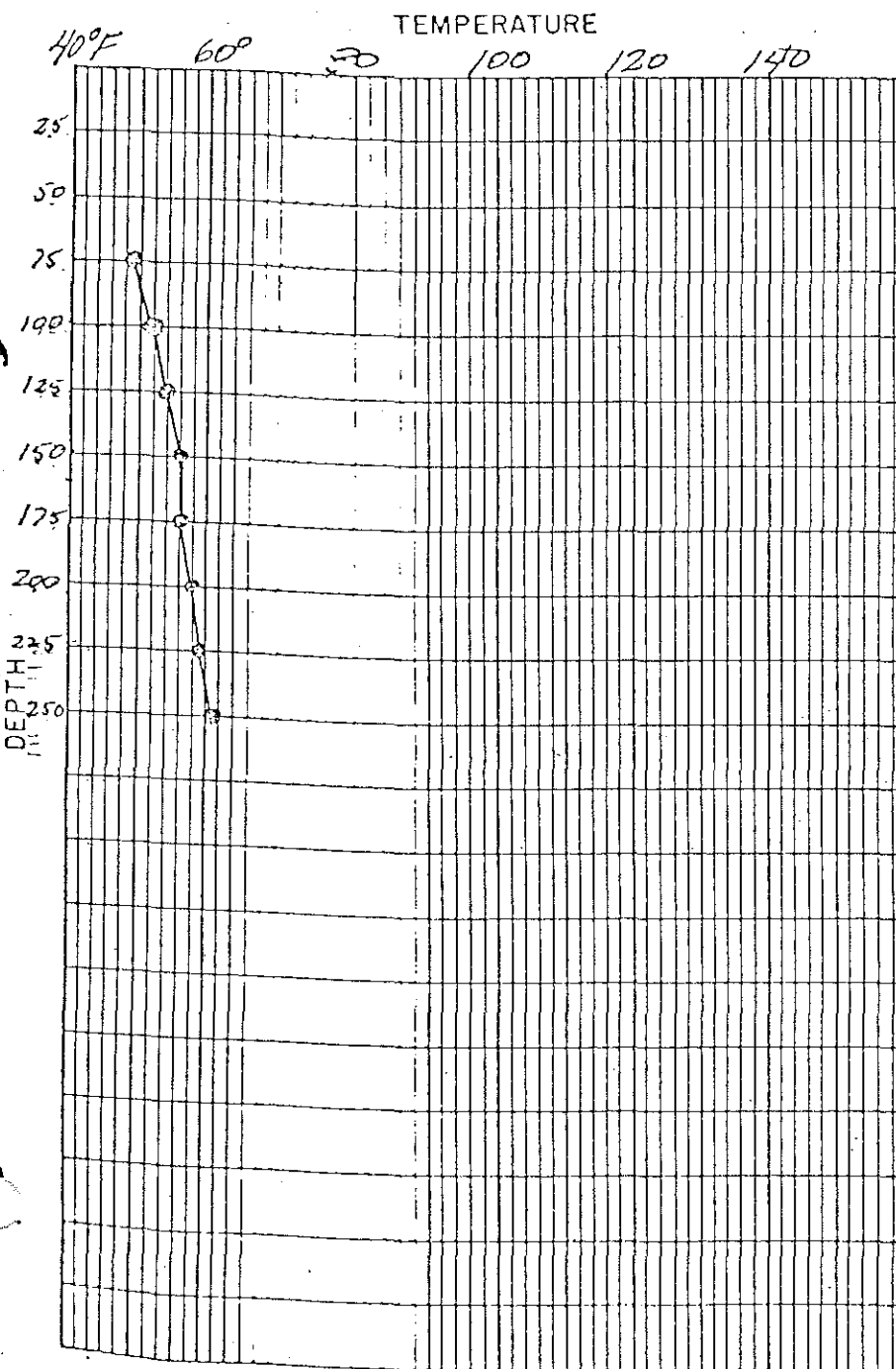
UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

7-22-72
SPUD DATE
7-22-72
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : # 42 N. VALLE GRANDE NEAR LONS
 T.D. : _____ Elevation : TREE ON SOUTH SIDE OF ROAD
COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 578 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 61 °F at 250 ft. (225 - 250)



SAMPLE LOG	DATE OF SURVEY	7-26-72	6-27-74
	TIME SINCE COMPLETION	4 d	2 y
	DEPTH	TEMP.	TEMP.
	25	44°F	Dry
	50	46	Dry
	75	48	49
	100	49	52
	125	50	54
	150	51	56
	175	53	56
	200	56	58
	225	56	59
	250	61	
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

RHYOLITE
VESICULAR

A/A

A/A

MRT : _____
 Remarks : _____

 Drg. Contractor : _____
 Data by : RFQ

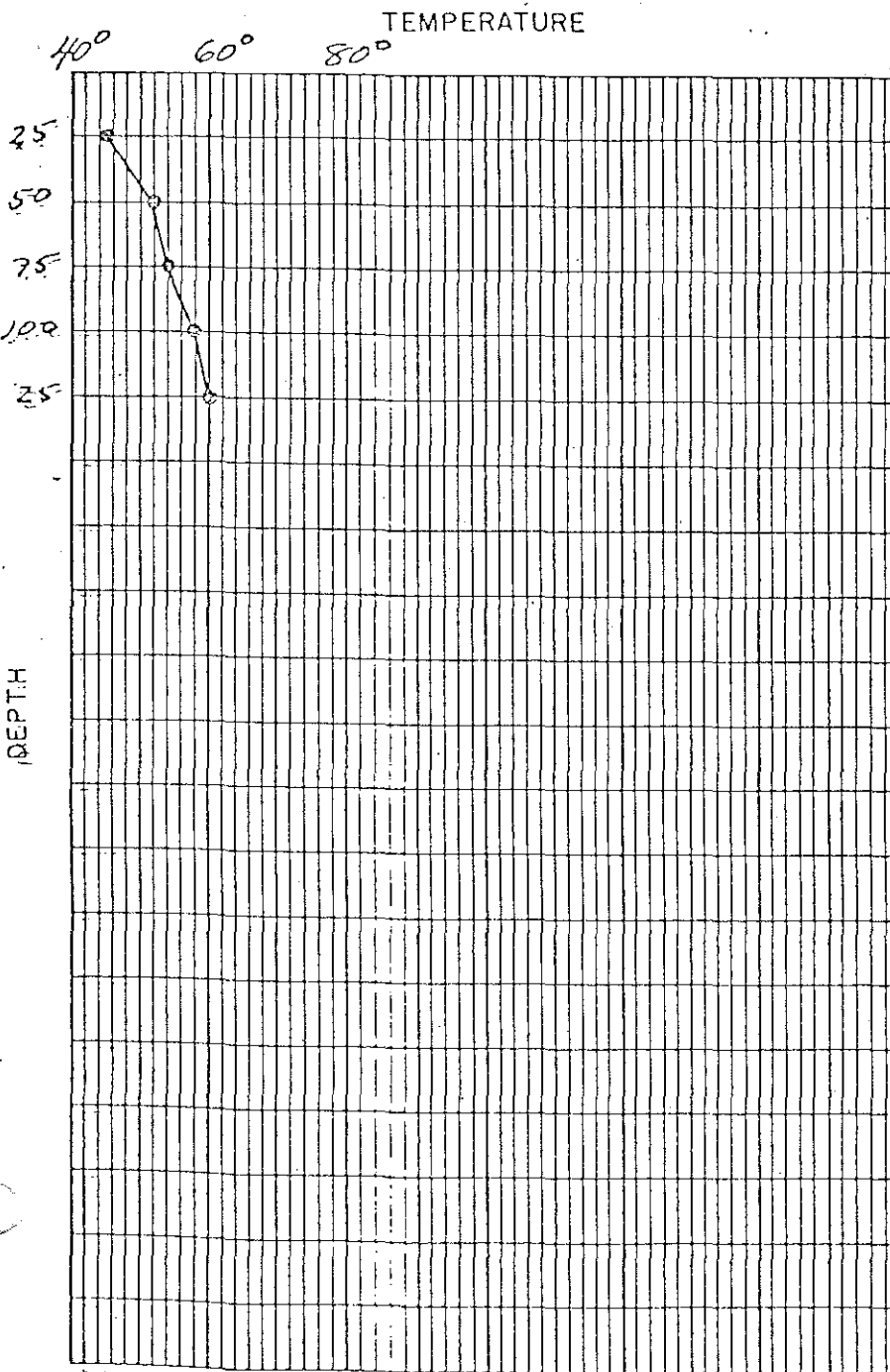
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

7-22-72
SPUD DATE
7-23-72
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
Hole No. : T.H. 43 1/2 mile inside Cajete road
T.D. : 125 Elevation : gate at Hwy 4
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
Temp. : ° at ft.

BH Gradient : 8 (?) F %/100 ft. Interval : 100 - 125 ft.
Max. Temp. : 60 °F at 125 ft.



SAMPLE LOG	DATE OF SURVEY		
	9-16-73		
	TIME SINCE COMPLETION		
	13 m		
	DEPTH	TEMP.	TEMP.
	25	45°F	
	50	52	
	75	54	
	100	58	
	125	60	
	150		
	175		
	200		
	225		
	250		
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

MRT :

Remarks :
LOST CORE COMPLETELY
IN HARD OBSIDIAN.

WATER V. DEEP IN
ANNULUS, POSSIBLY
NONE IN HOLE
DATA VALID ?

Drig. Contractor :
Data by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

9-12-73
SPUD DATE

9-13-73

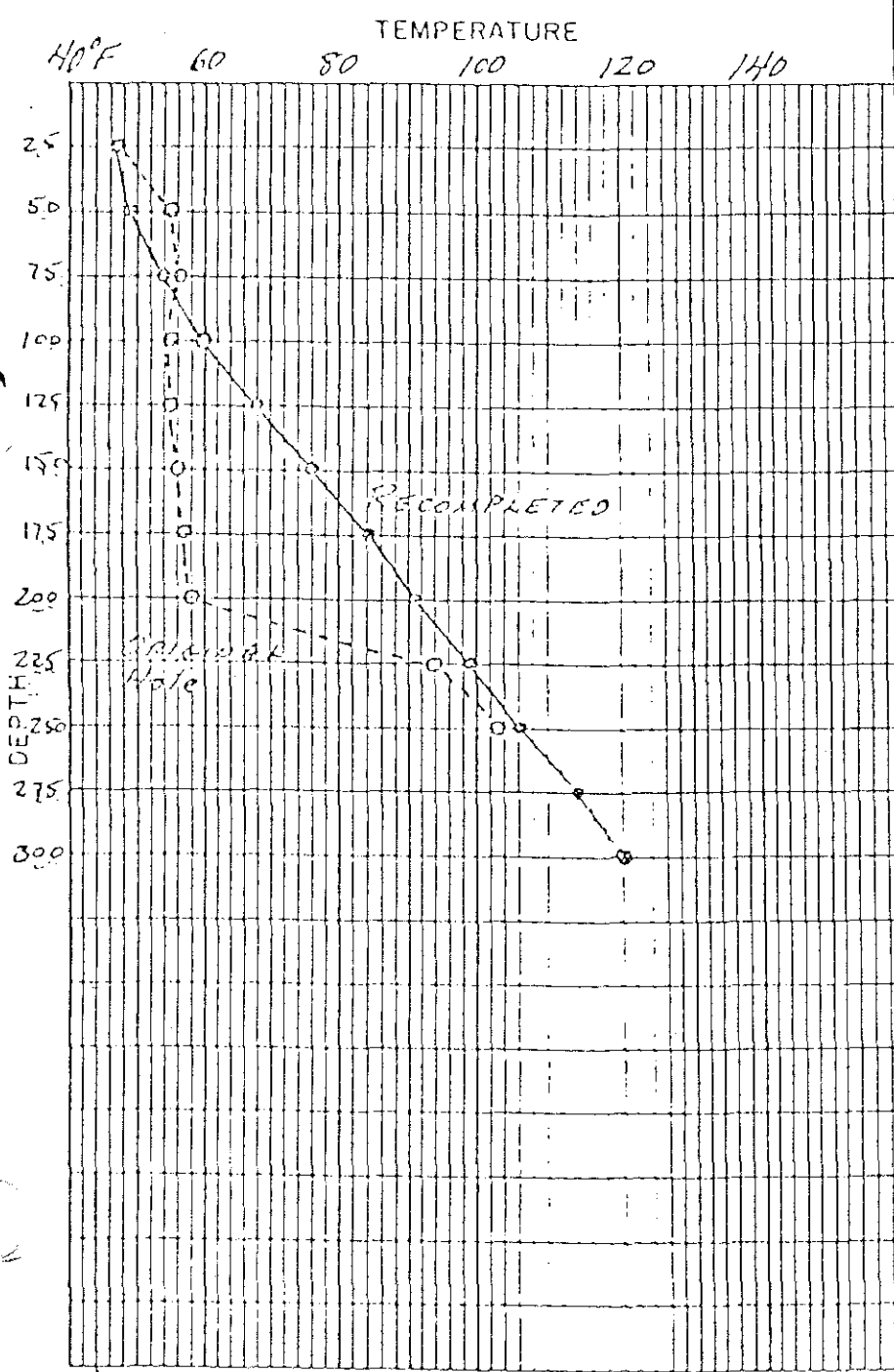
COMPLETION DATE
REDRILL 9-26/27-73

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 44 REDWOOD CREEK, INTERSECTION
 T.D. : 300 Elevation : OF OLD ROAD AND HENRY'S ROAD
CENTRAL CO. VALLEY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : %/100 ft. Interval : ft.
 Max. Temp. : ° at ft. Original Red. H Red. II

SAMPLE LOG	DATE OF SURVEY	9-14-73	10-4-73	6-25-74
	TIME SINCE COMPLETION	1d	1w	9m
DEPTH	TEMP.	TEMP.	TEMP.	
25	47°F	54	47	
50	55	56	49	
75	56	60	54	
100	55	64	60	
125	55	70	68	
150	56	76	76	
175	57	82	84	
200	58	85	91	
225	94	100	99	
250	103	107	106	
275		114	114	
300		120		Tool won't pass
325				285'
350				
375				
400				
425				
450				
475				
500				



MRT :

Remarks :
Original hole -
water flow from shallow
draining into hole
REDWOOD - Fill in mud
+ season so dry well

Drig. Contractor :
 Date by : RFD

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

9-12-73
SPUD DATE
9-13-73

COMPLETION DATE
REDRILL 9-26/27-73

Prospect : BACA
Hole No. : T.H. 44
T.D. : 300 Elevation :

Location : T. _____ R. _____ Sec. _____
REDONDO CREEK, INTERSECTION
OF OLD ROAD AND HEURY'S ROAD
CENTRAL COUNTY OF CALIFORNIA STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

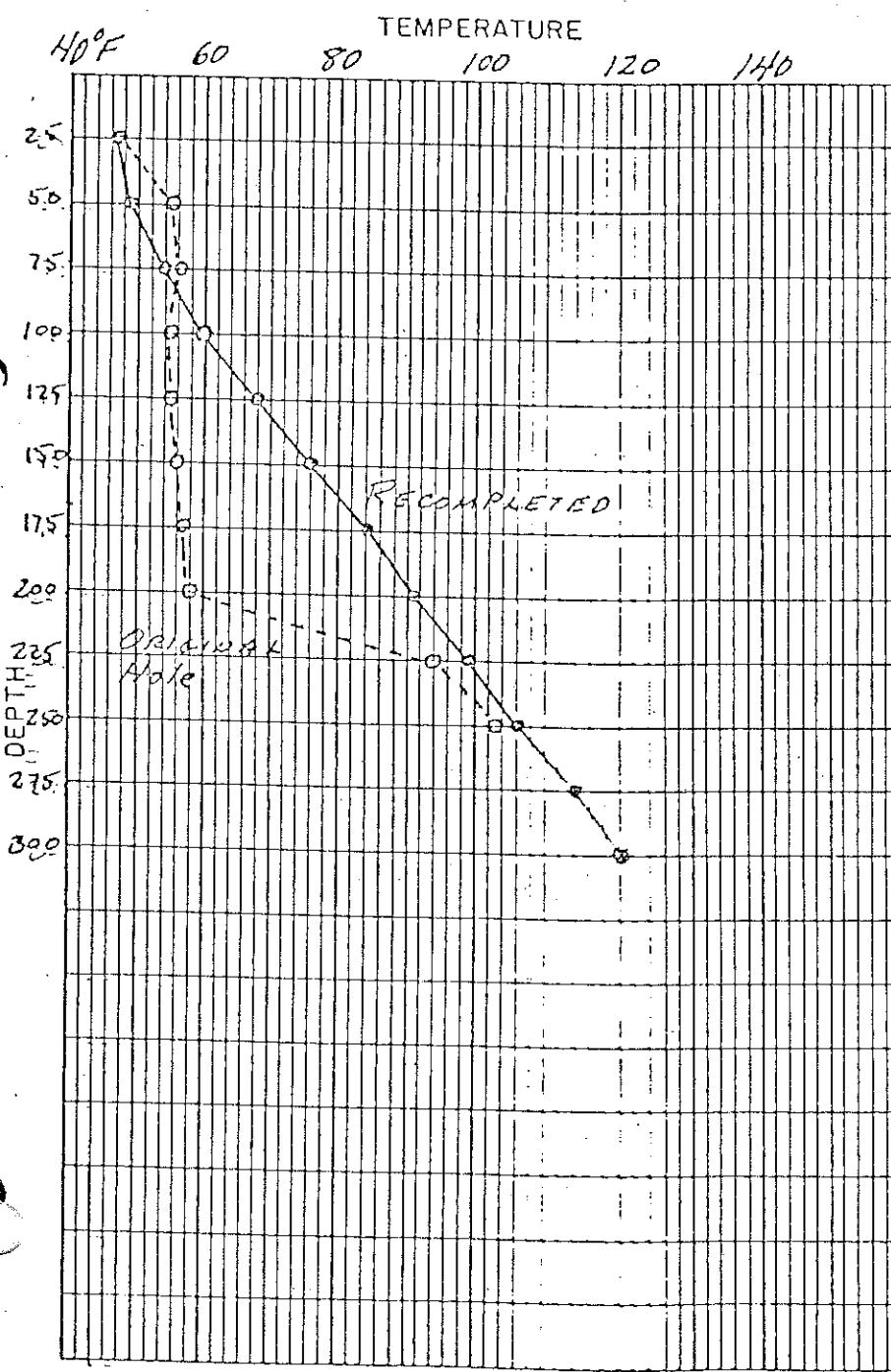
BH Gradient : _____ %/100 ft. Interval : _____ ft.
Max. Temp. : _____ ° at _____ ft.
Original Redrill Redrill

SAMPLE LOG

DATE OF SURVEY	9-14-73	10-4-73	6-26-74
TIME SINCE COMPLETION	1d	1w	9m
DEPTH	TEMP.	TEMP.	
25	47°F	54	47
50	55	56	49
75	56	60	54
100	55	64	60
125	55	70	68
150	56	76	76
175	57	82	84
200	58	85	91
225	94	100	99
250	103	107	106
275		114	114
300		120	TOOL WOUND NOT PASS 286'
325			
350			
375			
400			
425			
450			
475			
500			

Gravelly Clay & SAND

A/A



MRT : _____

Remarks :
Original hole -
water flow from shallow
draining into hole
REDONDO - F. H. W. H. W.
+ SEVERAL SK DRY WEL.

Drig. Contractor : _____
Data by : RFD

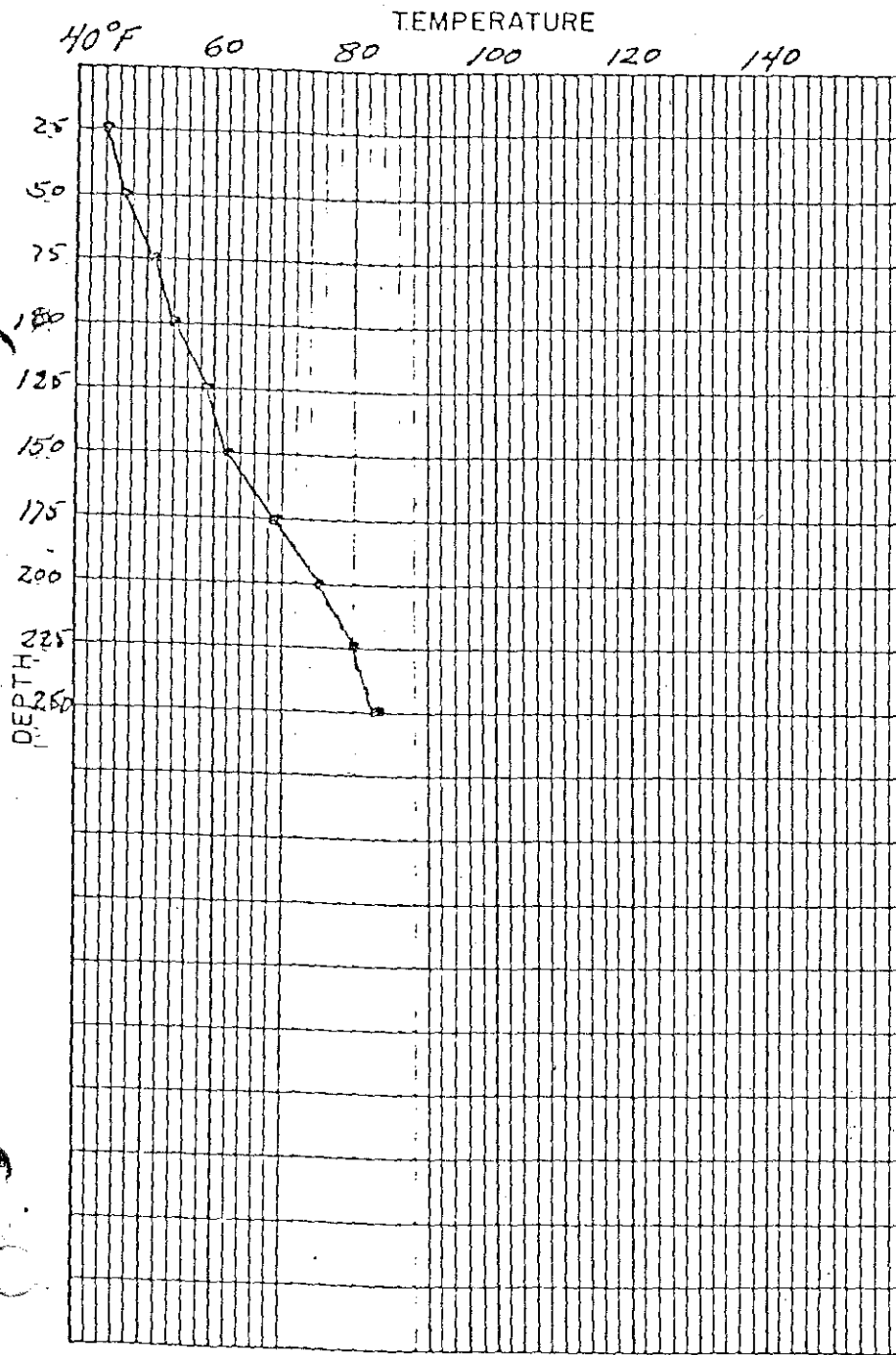
WATER RESOURCES DIVISION
GRADIENT HOLE SURVEY

9-13-73
SPUD DATE
9-14-73
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. # 45 REDONDO CREEK, 200 yds
 T.O. : 255' Elevation : EAST OF HENRY'S HOUSE
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 19-20 F°/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 83 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	9-20-73	6-28-74
	TIME SINCE COMPLETION	6d	9m
DEPTH	TEMP.	TEMP.	
25	49°F	44	
50	51	47	
75	54	51	
100	57	54	
125	62	59	
150	67	62	
175	72	69	
200	78	75	
225	82	80	
250	86	83	
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

MRT :

Remarks :
WATER LEVEL 10
ANNULUS > 30
DEEP
Hole has APPARENT
COOLED SINCE 1973
2

Orig. Contractor :
 Datg by : RFD

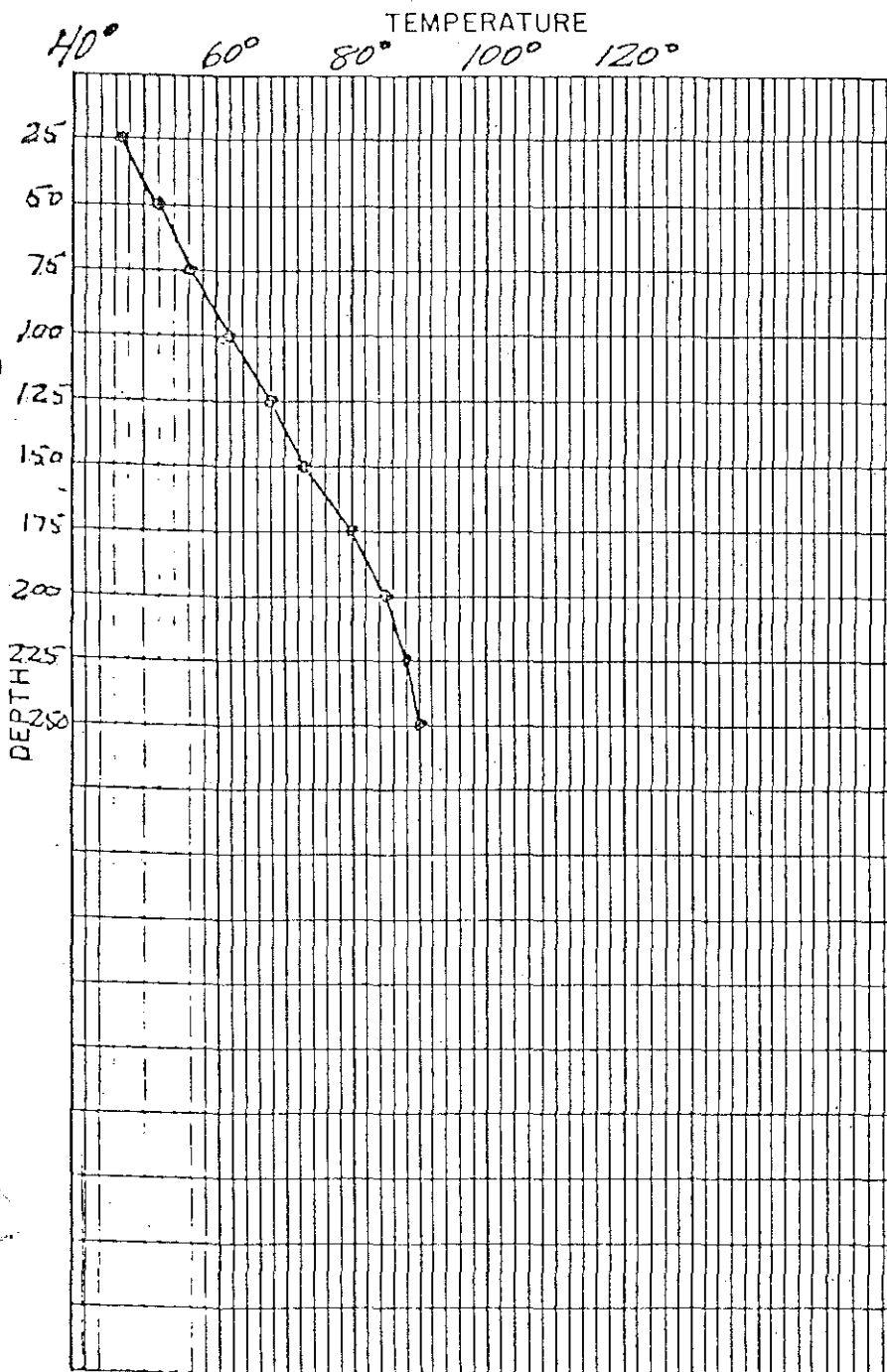
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

9-13-73
SPUD DATE
9-14-73
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. 45 EAST END LOWER REDWOOD CREEK
 T.D. : 255' Elevation : _____ COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : (10)-17 F %/100 ft. Interval : (200)-150-250 ft.
 Max. Temp. : 90 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	6-20-73	6-25-74
	TIME SINCE COMPLETION	5 d	
DEPTH	TEMP.	TEMP.	
25	50°F	47	
50	54	52	
75	60	56	
100	65	62	
125	70	68	
150	75	73	
175	81	80	
200	86	85	29.44
225	89	88	
250	92	90	32.22
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

Volcanic Debris

R/A

MRT : _____

Remarks :
WATER STAND
DEEPER THAN
30' IN ANNULUS

Note Decreasing gradient

Orig. Contractor : _____

Date by : RFD

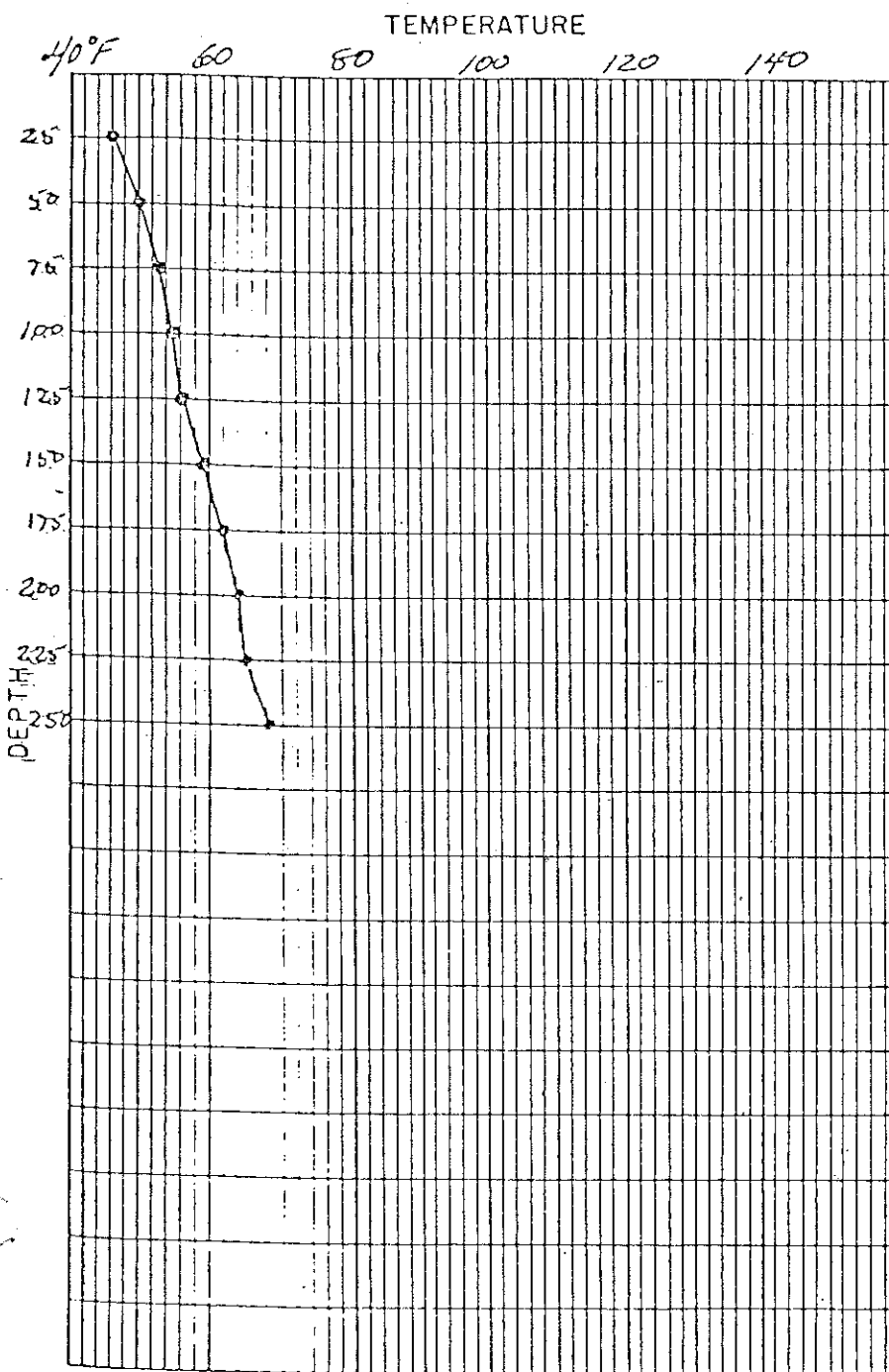
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

9-17-73
SPUD DATE
9-19-73
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 47 REDONDO CREEK, 1/4 mile
 T.D. : Elevation : north of Henry's house
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 9 F%/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 68 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	7-25-73	7-9-74
	TIME SINCE COMPLETION	6d	9m
	DEPTH	TEMP.	TEMP.
	25	57	46
	50	54	50
	75	55	53
	100	58	55
QCF	125	61	56
-70	150	61	59
QBT	175	63	62
	200	65	64
V. HARD	225	67	65
DARK GRAY	250	71	68
UNALTERED	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

MRT :

Remarks :
V. HARD Drilling
HIGH ROCK
CONDUCTIVITY ?
low Grad
Soft to 70'

Drig. Contractor :
 Data by : RFD

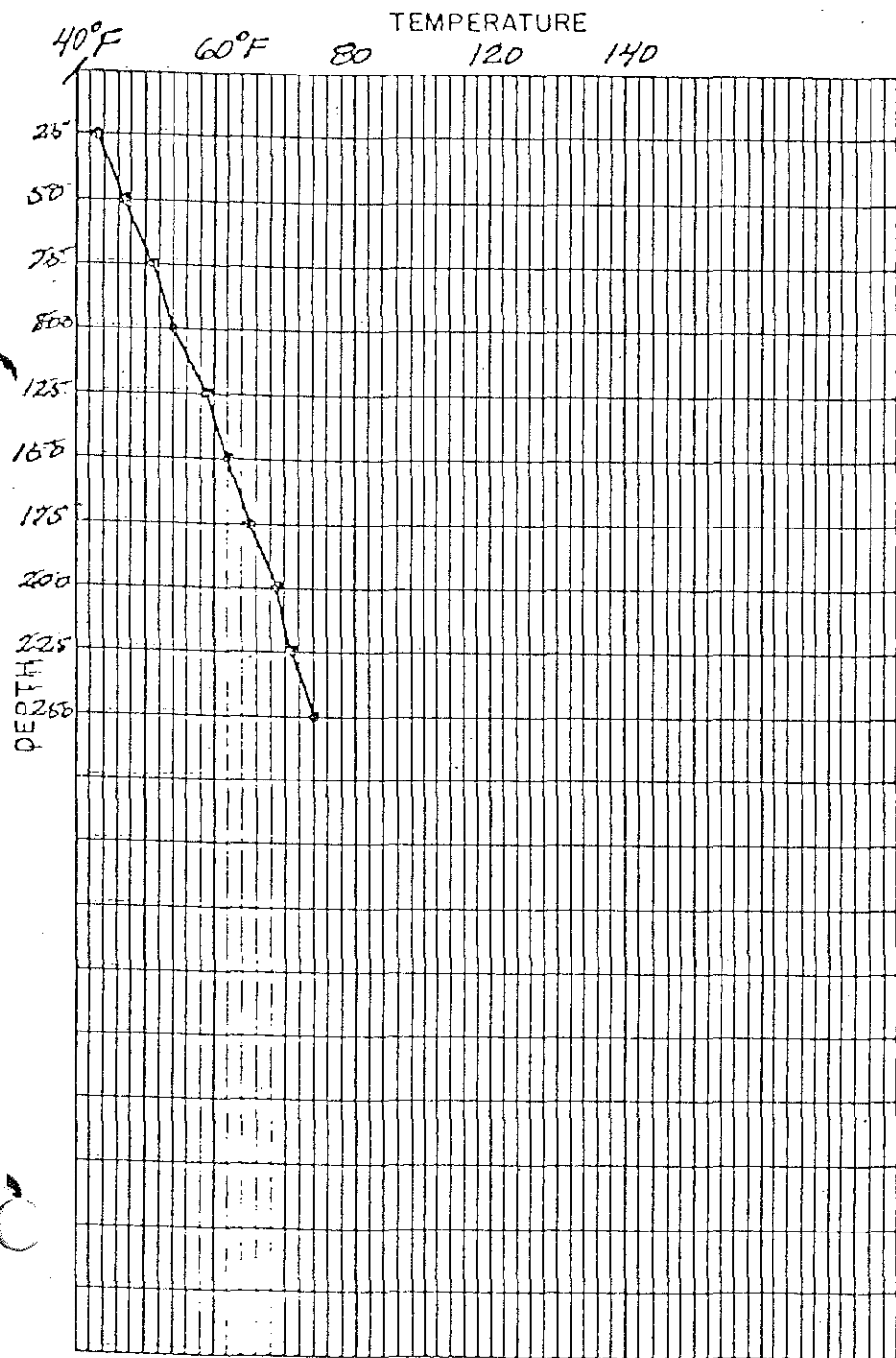
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

9-20-73
SPUD DATE
9-24-73
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : T.H. #48 Redondo Creek - 1/4 mile
 T.D. : _____ Elevation : north of Hole #47 on road
 to new quarry COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 12 F°/100 ft. Interval : 150 - 250 ft. 2
 Max. Temp. : 74 °F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	10-4-73	6-25-74
	TIME SINCE COMPLETION	10 d	9 mo
	DEPTH	TEMP.	TEMP.
	25	49°F	43
	50	52	47
	75	54	51
	100	58	54
	125	62	59
	150	65	62
	175	67	65
	200	70	69
	225	74	71
	250	76	74
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

Gravel + Clay
/

A/A

MRT : _____

Remarks :
Probably no water in all but at 25'

Drlg. Contractor : _____
 Done by : RFD

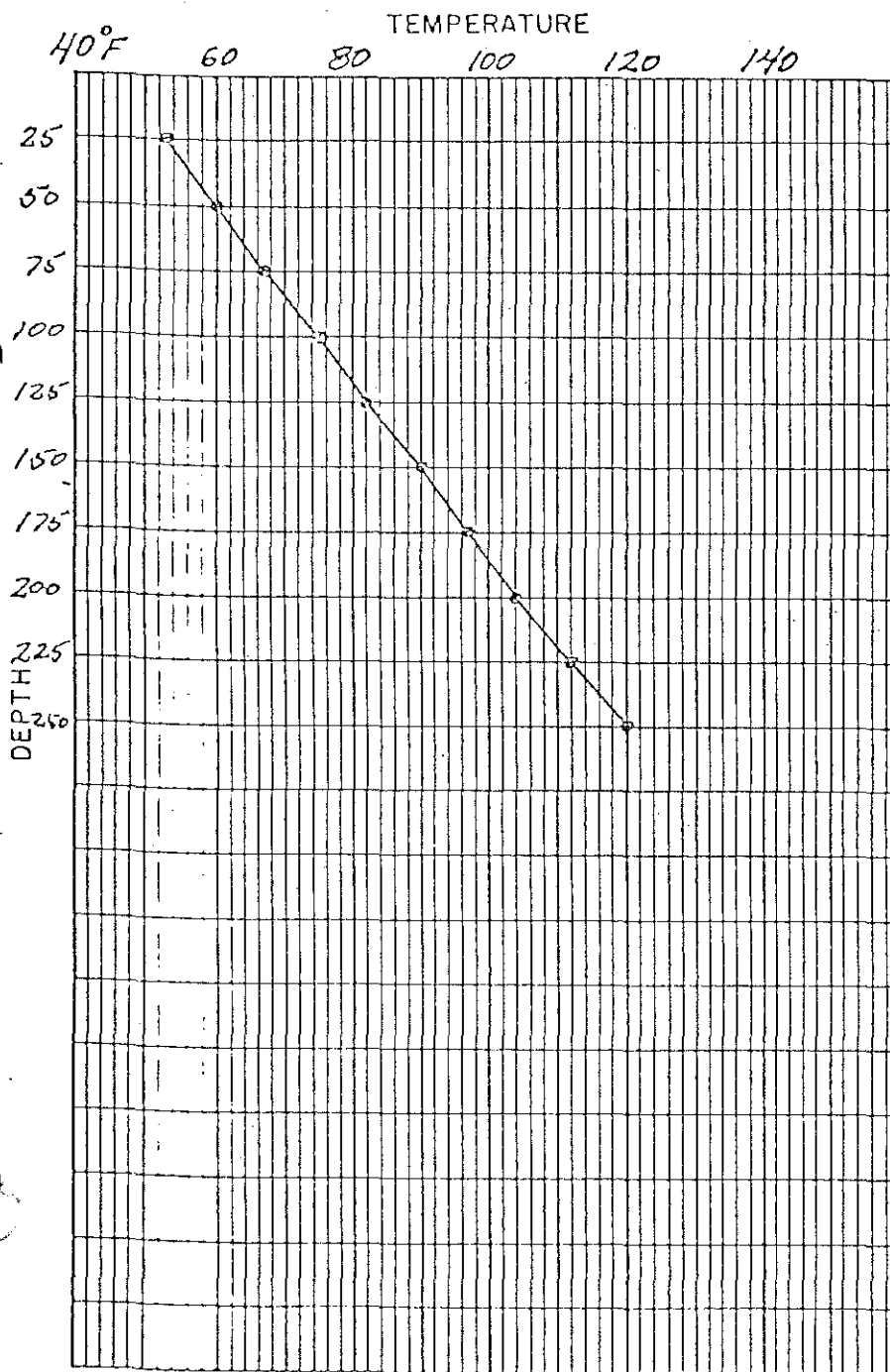
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

9-26-73
SPUD DATE
~~9-27-73~~
COMPLETION DATE
26

Prospect : BACA Location : T. _____ R. _____ Sec. _____
Hole No. : T.H. # 49 = 38 REGGONOO CREEK, S. OF
T.D. : _____ Elevation : MARSHALLINA YARD. TWIN TO ILLFATEDO
#18 COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
Temp. : _____ ° at _____ ft.

BH Gradient : 30 F %/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 120 ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	27 Sep 73	10-4-73
	TIME SINCE COMPLETION	1d	1w
	DEPTH	TEMP.	TEMP.
	25	53	53
	50	58	60
	75	63	67
	100	70	75
	125	78	82
	150	84	90
	175	91	97
	200	98	104
	225	106	112
	250	116	120
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

MRT : _____

Remarks:
Drillable because of mud pits dug with back hoe!
Hole lost - location of #12 (DEEP)

Orig. Contractor : _____
Data by : R.F.D.

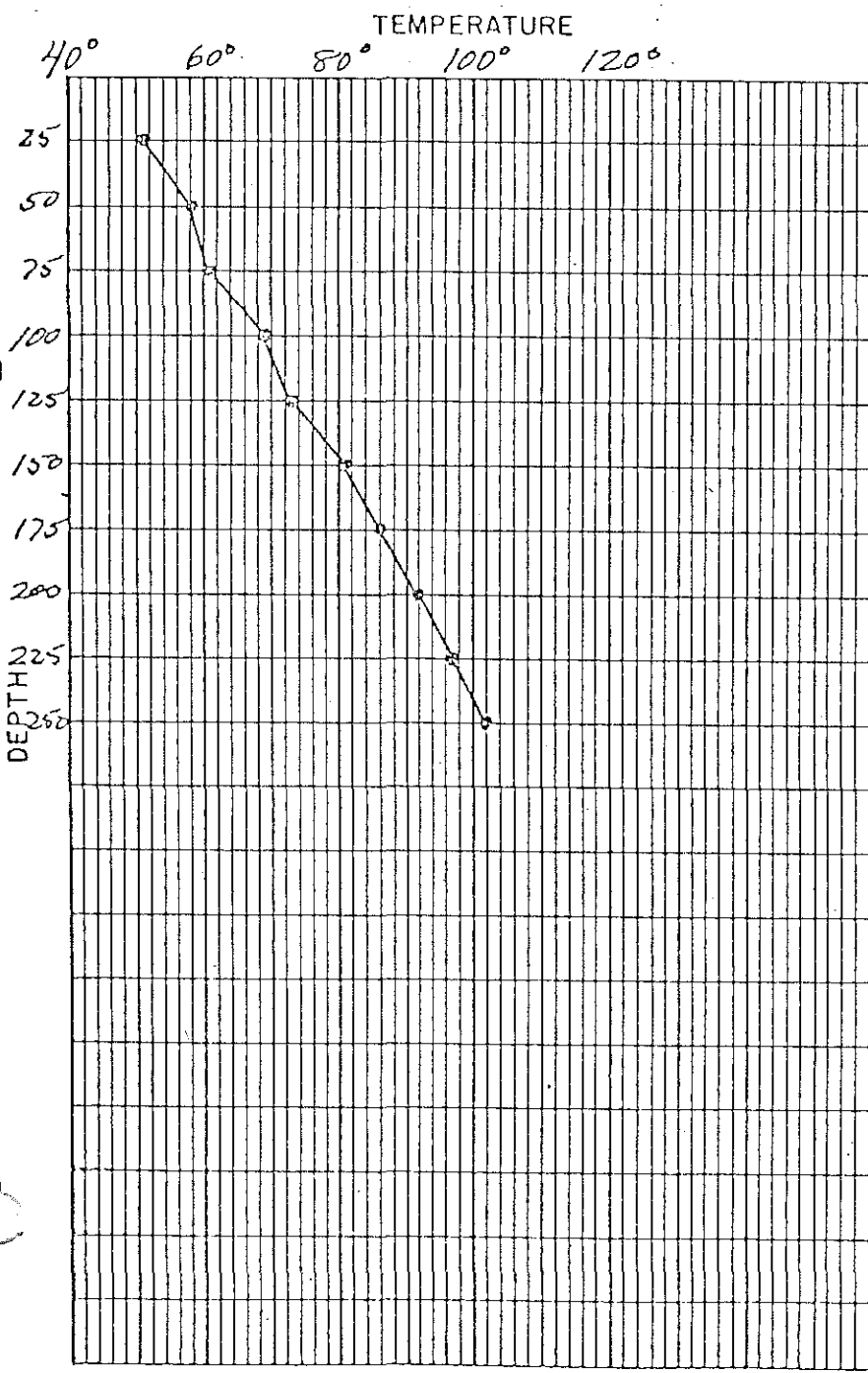
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

9-28-73
SPUD DATE
9-28-73
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
Hole No. : T.H. 50 UNION OIL R+R CAMP
T.D. : 250 Elevation : COUNTY STATE

Gradient : %/100 ft. Interval : ft.
Temp. : ° at ft.

BH Gradient : 21 F°/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 102 ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	9-29-73	6-28-74
	TIME SINCE COMPLETION	18 h	9M
	DEPTH	TEMP.	TEMP.
	25	57	51
	50	61	58
	75	66	61
	100	69	69
	125	74	73
	150	78	81
	175	84	86
	200	88	92
	225	96	97
	250	101	102
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

Red Beds
Grey

A/A

MRT :

Remarks :
1/4 mile to east +
150' up is 76°F
WARM SPRING

Drlg. Contractor :
Date by : RFD

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

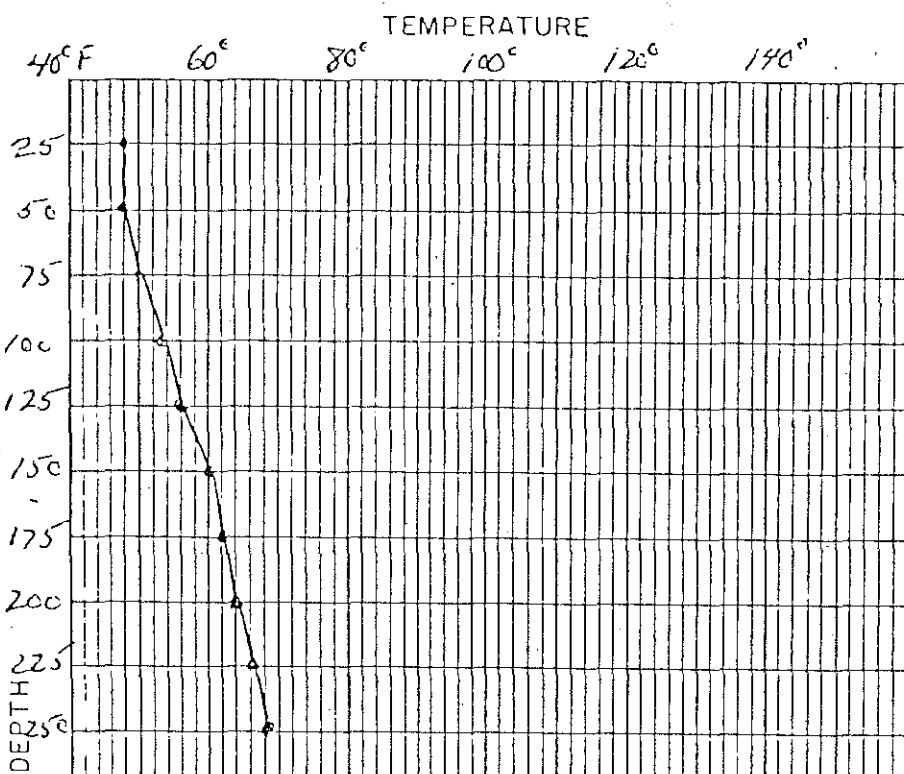
10-1-74
SPUD DATE

10-3-74
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 51 JARAMILLO CRK - 2000' E.
 T.D. : 255' Elevation : OF PLUTON
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 8 %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 68 ° E at 250 ft.



SAMPLE LOG	DATE OF SURVEY	TIME SINCE COMPLETION	DEPTH	TEMP.	TEMP.
		10/14/74	11d.	25	48
			50	48	
			75	50	
			100	53	
			125	56	
			150	60	
			175	62	
			200	64	
			225	66	
			250	68	
			275		
			300		
			325		
			350		
			375		
			400		
			425		
			450		
			475		
			500		

MRT :

Remarks :
Abt. fymte

Orig. Contractor :
 Data by : TRS

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

10-4-74

SPUD DATE

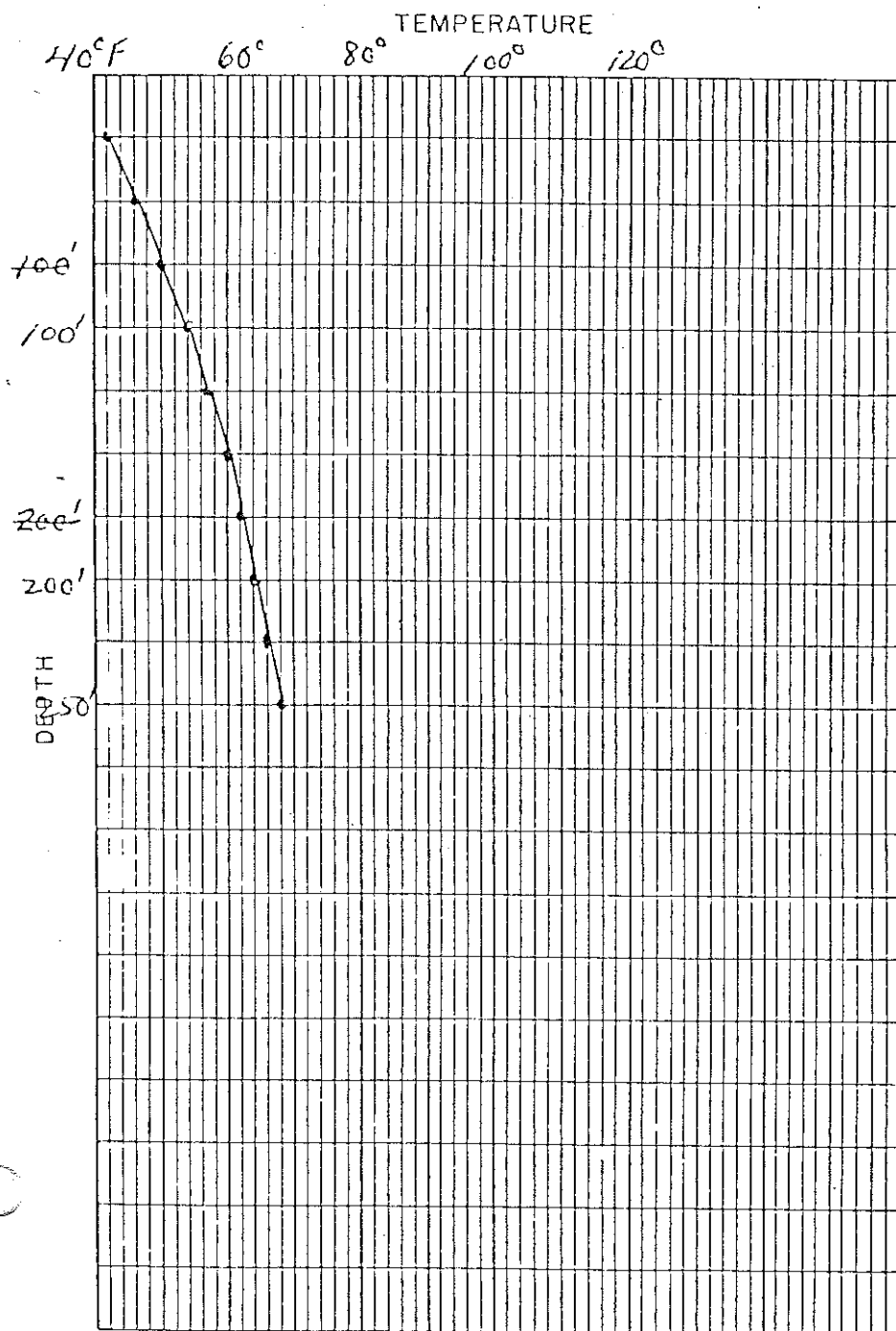
10-5-74

COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : T.H. 52 JARAMILLO CRK-3000' NE
 T.D. : 255' Elevation : OF PLUTON
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 8 %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 68 ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	TIME SINCE COMPLETION	DEPTH	TEMP.	TEMP.
		10/4/74	9 d.	25	42
			50	46	
			75	50	
			100	54	
			125	57	
			150	60	
			175	62	
Qcf			200	64	
			225	66	
			250	68	
			275		
			300		
			325		
			350		
			375		
Qcf			400		
			425		
			450		
			475		
Qcf			500		

MRT :

Remarks : Abt pyrite

Drg. Contractor :

Date by : TRs

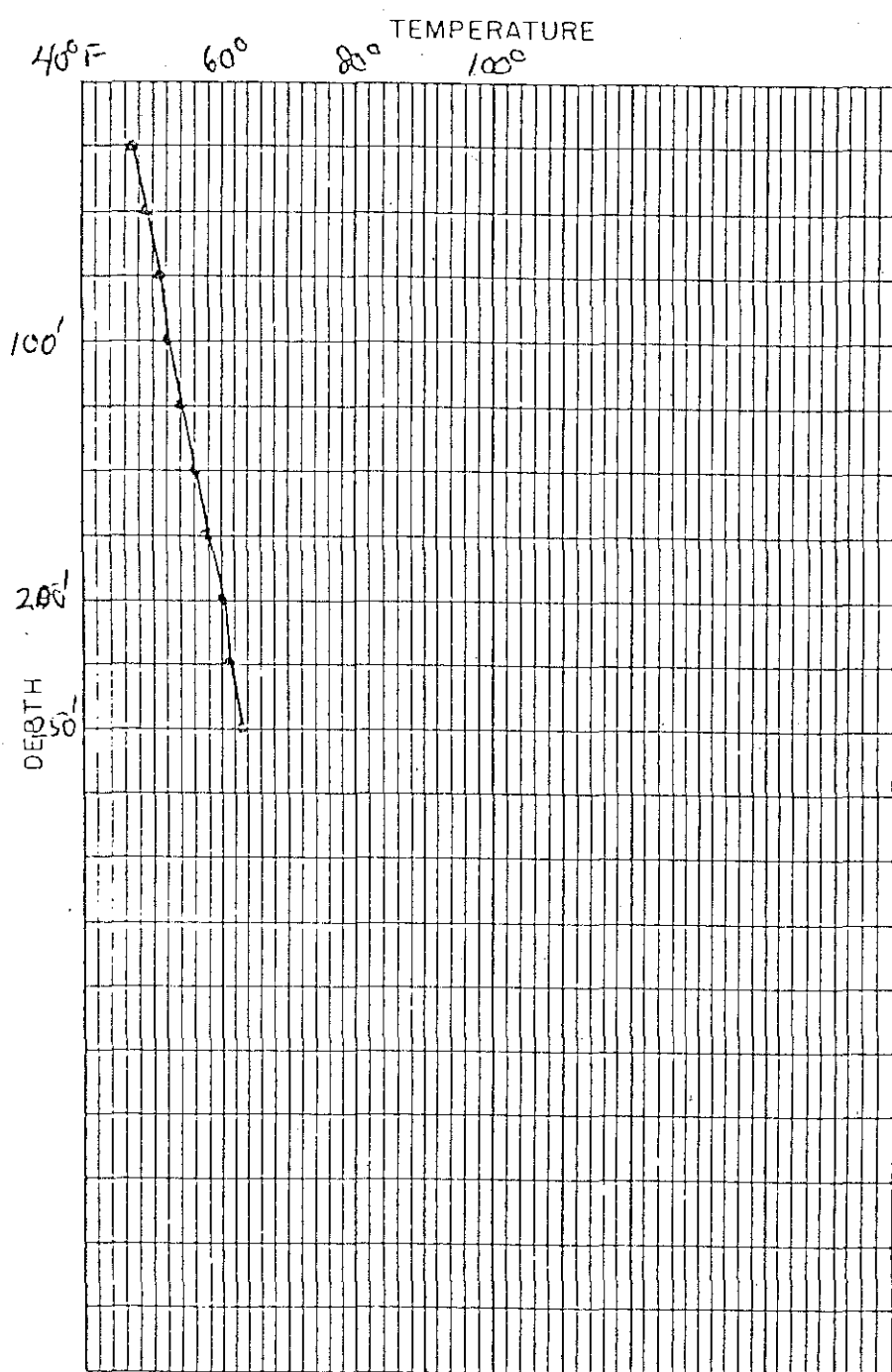
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

10-8-74
SPUD DATE
10-8-74
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : TH 53 JARAMILLO CRK - 5000'
 T.D. : 255 Elevation : N.E. OF PLUTON
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 7 %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 63 ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY		
	10/14/74		
	TIME SINCE COMPLETION		
	6 d		
DEPTH	TEMP.	TEMP.	
25	47		
50	49		
75	51		
100	52		
125	54		
150	56		
175	58		
200	60		
225	61		
250	63		
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

MRT :

Remarks : Aht pyrite

Drg. Contractor :

Data by : TRS

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

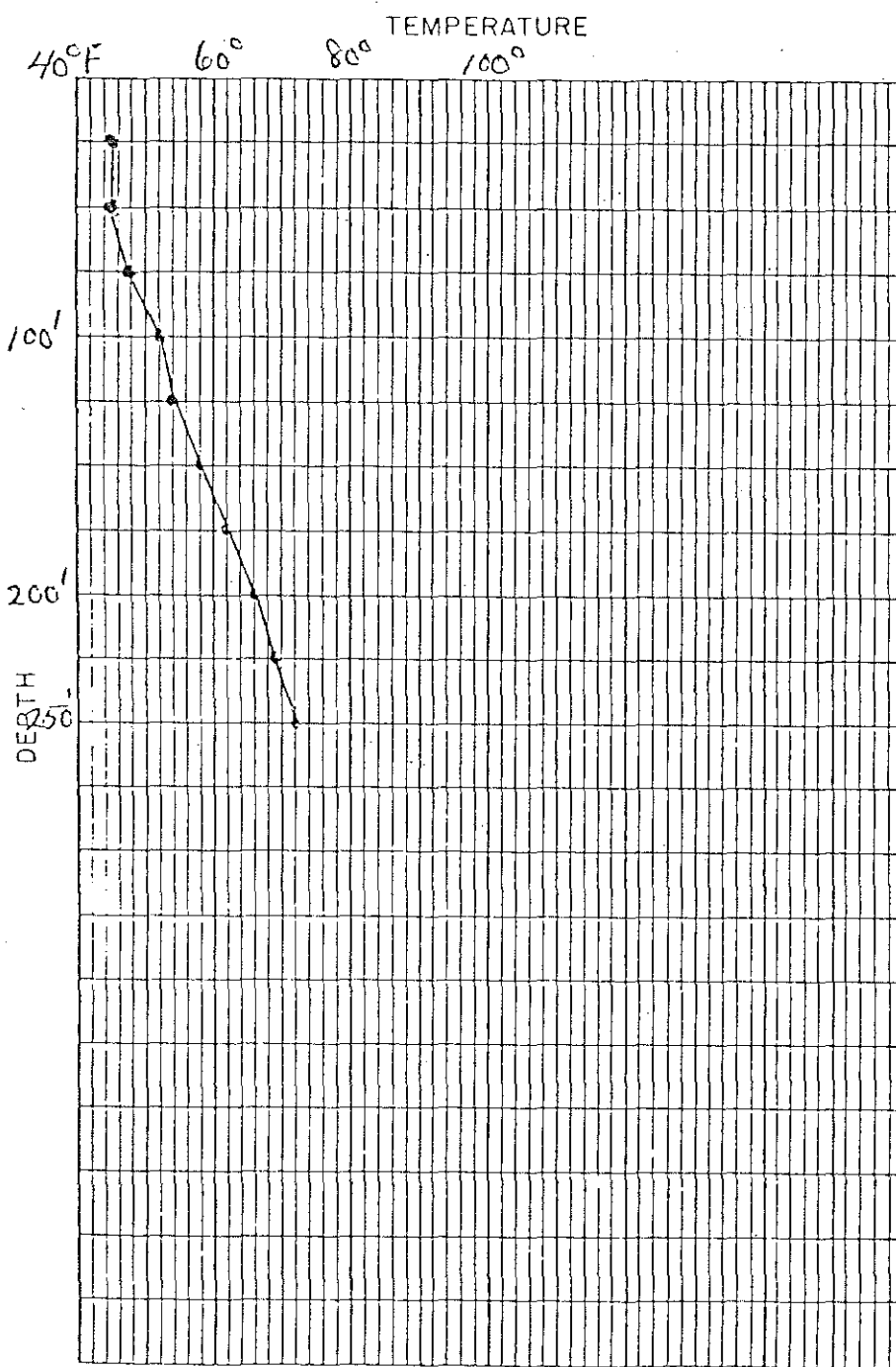
10-9-74
SPUD DATE

10-10-74
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : TH 54 E. side REDONDO BORDER
 T.D. : 250' Elevation : 3000' N. OF PLUTON
 COUNTY STATE

Gradient : 14 °/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 14 °/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 72 ° at 250 ft.



SAMPLE LOG	DATE OF SURVEY	10/9/74	11/24/74
	TIME SINCE COMPLETION	4d	46d.
DEPTH	TEMP.	TEMP.	
25	45	47	
50	45	48	
75	48	49	
100	52	52	
125	54	55	
150	58	58	
175	62	60	
200	66	63	
225	69	67	
250	72	71	
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

Interval
Gct #
175
Gct #
400
MRT
Gct #
475
MRT

MRT : _____

Remarks :
Art pyrite

Drig. Contractor : _____

Date by : TCS

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

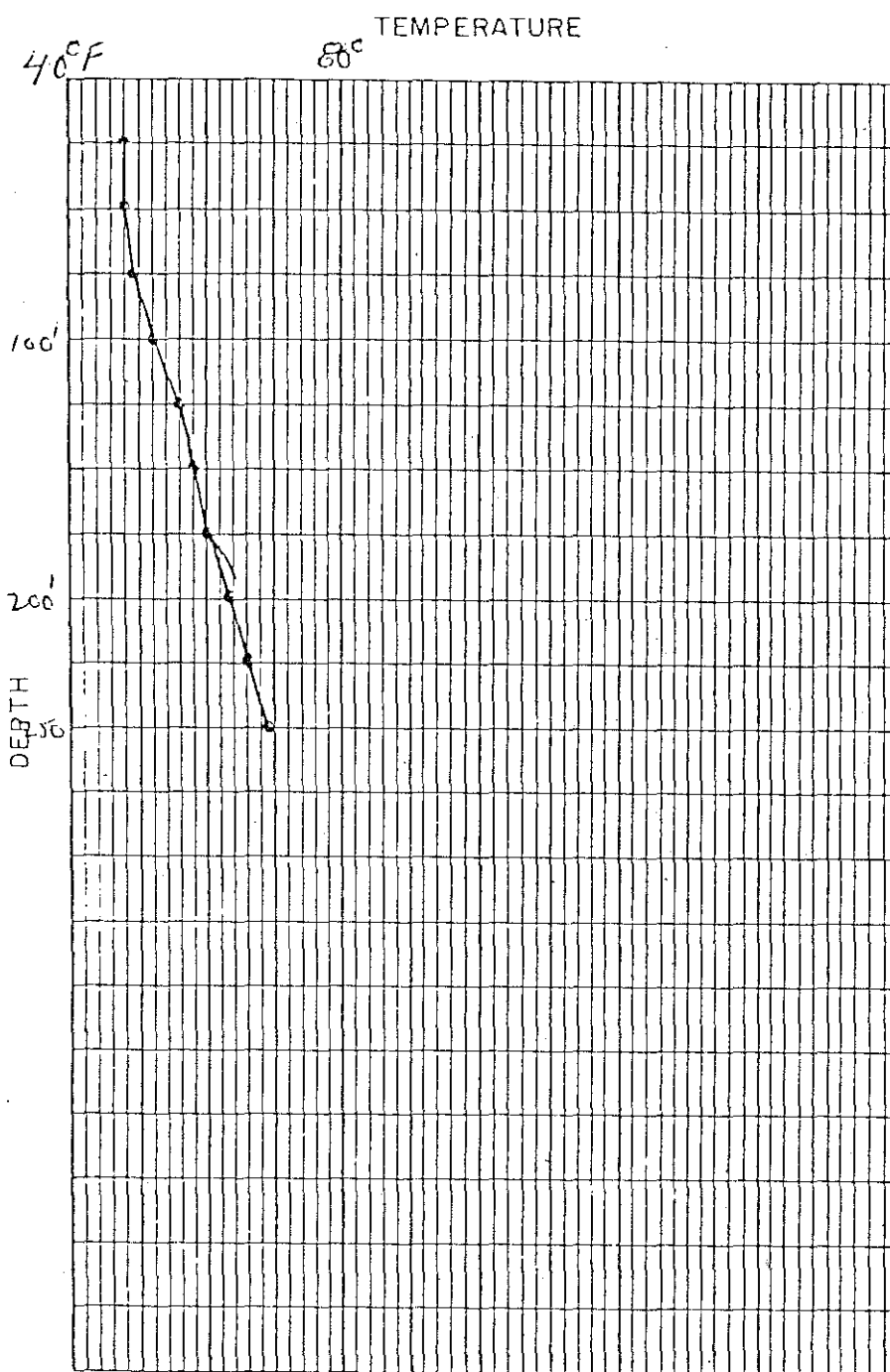
10-10-74
SPUD DATE

10-11-74
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : TH 55 E. SIDE REDONDO BORDER
 T. D. : 255 Elevation : 4000' NNE OF PLUTON
COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 11 %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : _____ ° at _____ ft.



SAMPLE LOG	DATE OF SURVEY	TIME SINCE COMPLETION	DEPTH	TEMP.	TEMP.
		<u>11/26/74</u>	<u>450</u>		
			25	48	
			50	48	
			75	49	
			100	52	
			125	56	
			150	58	
			175	60	
			200	63	
			225	66	
			250	69	
			275		
			300		
			325		
			350		
			375		
			400		
			425		
			450		
			475		
			500		

GRANDY
CELL
GCE

A/A

A/A

MRT : _____

Remarks :

Orig. Contractor : _____

Data by : TR5

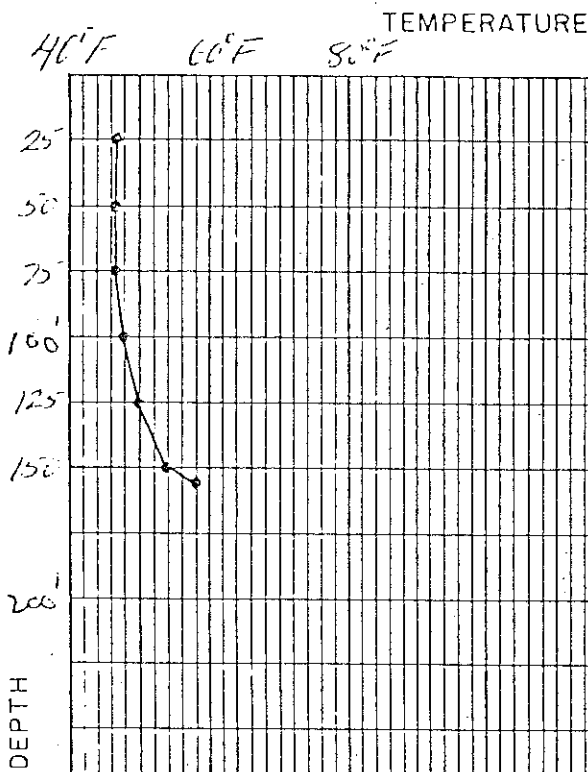
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

10-23-74
SPUD DATE
10-24-74
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : TH 56 E. SIDE OF REDONDO BORDER
 T.D. : 155' Elevation : 7200' NNE OF PLUTON
 COUNTY STATE

Gradient : _____ % 100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : ~12 F % 100 ft. Interval : 100 - 150 ft.
 Max. Temp. : 55 ° F at 155 ft.



SAMPLE LOG	DATE OF SURVEY	12-4-74	
	TIME SINCE COMPLETION	40 d	
	DEPTH	TEMP.	TEMP.
	25	47°F	
	50	47	
	75	47	
	100	48	
	125	50	
	150	54	55°C
	175	55	158
	200		
	225		
	250		
	275		
	300		
	325		
	350		
	375		
	400		
	425		
	450		
	475		
	500		

WXP
RHYOLITE
PHTIC

n/a

MRT : _____

Remarks :
 L.C. @ 135' - 3 ft. CAVITY, 138'
 15' CAVITY FROM 140-155' N.E. REDONDO
 HOLE COMPLETED @ 155'
 STRONG H₂S smell
 around hole.

Drig. Contractor : _____
 Data by : 7/1'S

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

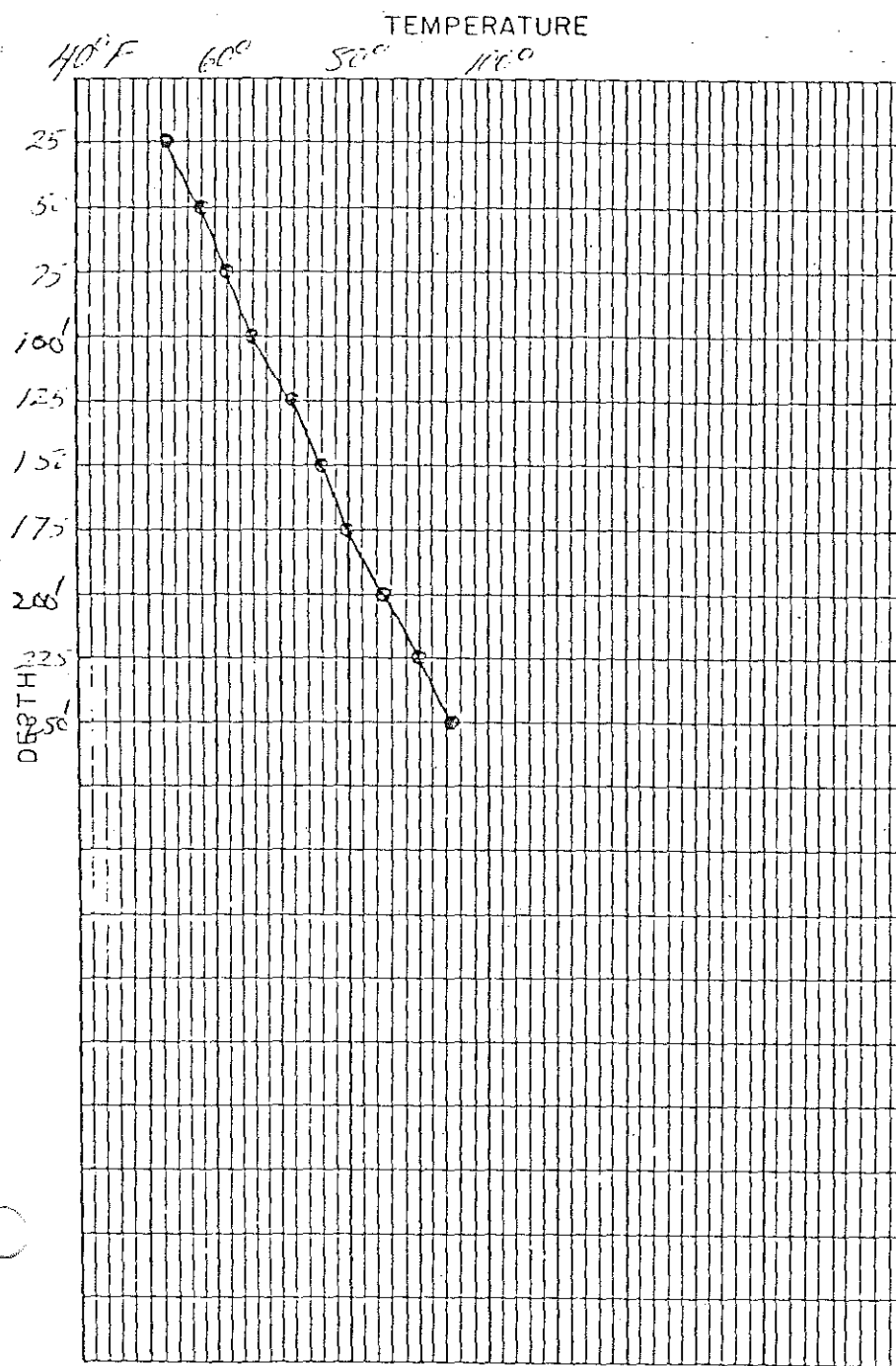
10-15-74
SPUD DATE

10-16-74
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : TH 57 VALLE SECO - ON W. SIDE
 T.D. : 255' Elevation : _____ OF N. TIP OF REDONDO
 COUNTY BORDER STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 1.9 F %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : _____ ° at _____ ft.



SAMPLE LOG	DATE OF SURVEY	TIME SINCE COMPLETION	DEPTH	TEMP.	TEMP.
		12-4-74	47 d	25	53
			50	58	
			75	62	
			100	66	
			125	73	
			150	76	
			175	80	
			200	85	
			225	90	
			250	95	
			275		
			300		
			325		
			350		
			375		
			400		
			425		
			450		
			475		
			500		

MRT : _____

Remarks :

Orig. Contractor : _____
 Data by : TKS

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

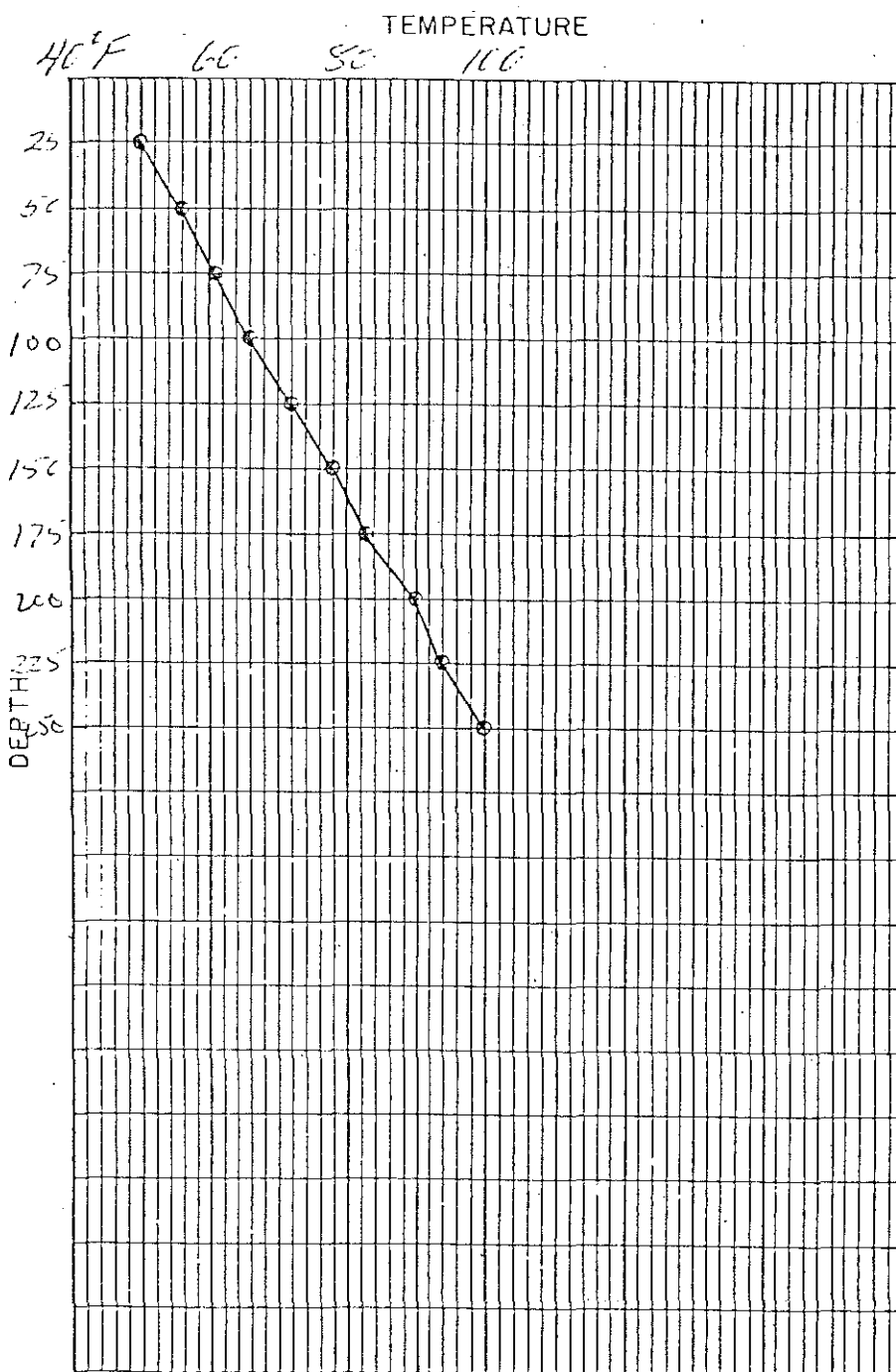
10-17-74
SPUD DATE

10-17-74
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : TH 59 HALF-WAY BTWN TH 58 & VALLE
 T. D. : 255' Elevation : SECO LAKE
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 22 F %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 100 F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	12-4-74		
	TIME SINCE COMPLETION	48d		
DEPTH	TEMP.	TEMP.		
25	56 F			
50	58			
75	61			
100	66			
125	72			
150	75			
175	83			
200	96			
225	97			
250	100			
275				
300				
325				
350				
375				
400				
425				
450				
475				
500				

Rhyolite
diorite
Quartz?

A/A
KAlinite

A/A Pyrite

MRT :

Remarks :

Drig. Contractor :
 Date by : TRS

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

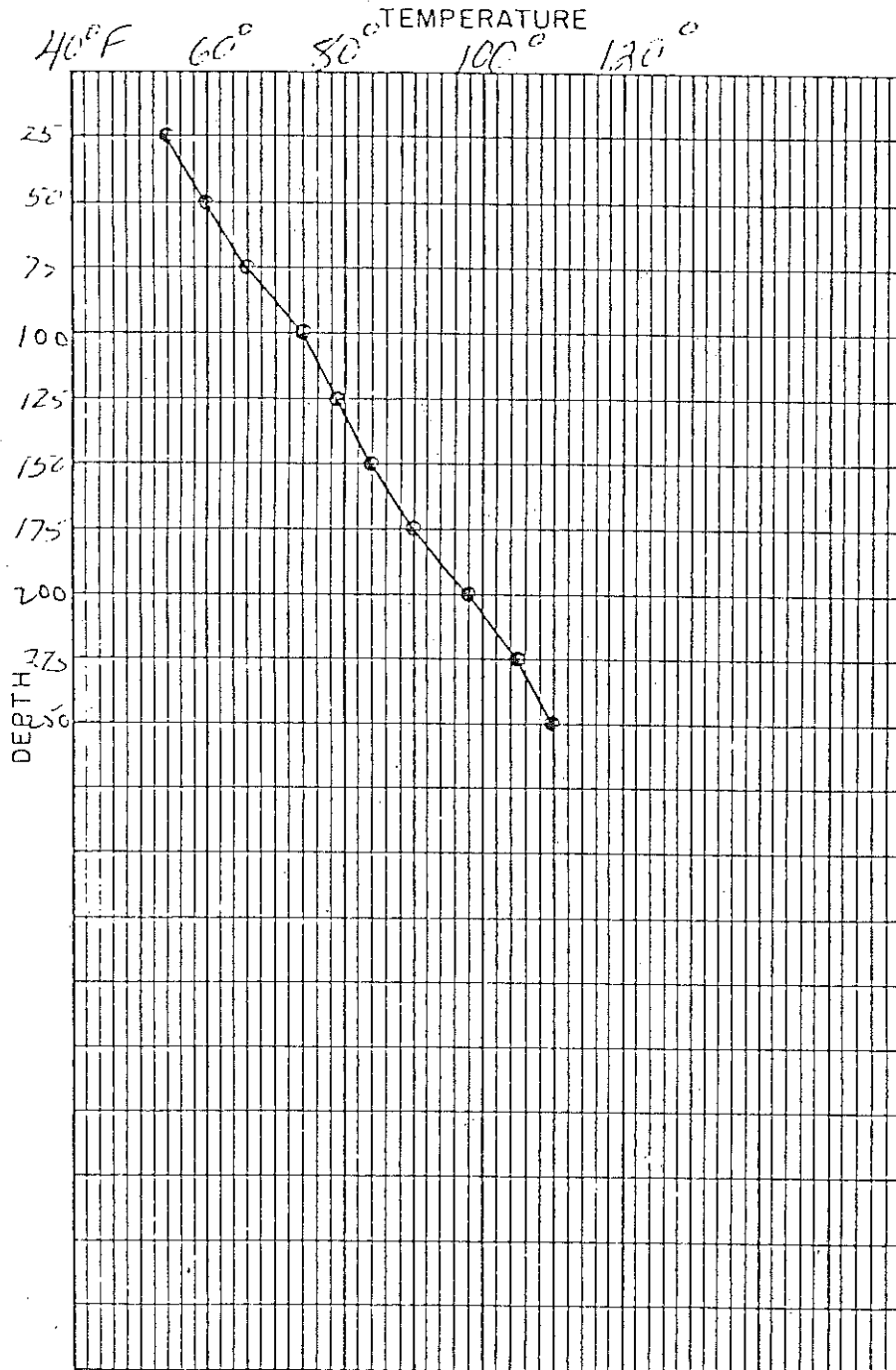
10-17-74
SPUD DATE

18-17-74
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : TH 60 BACA #7 LOCATION
 T. D. : 255' Elevation : COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 26 F %/100 ft. Interval : ft.
 Max. Temp. : 110 F at 250 ft.



SAMPLE LOG	DATE OF SURVEY		
	12/4/74		
	TIME SINCE COMPLETION		
	50		
	DEPTH	TEMP.	TEMP.
	25	54 F	
	50	60	
	75	66	
	100	74	
	125	79	
	150	84	
	175	90	
	200	98	
	225	105	
	250	110	
	275		
	300		
	325		
	350		
	375		
	400	A/A	
	425		
	450		
	475		
	500	A/A	

MRT :

Remarks :

Drg. Contractor :

Data by : TK'S

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

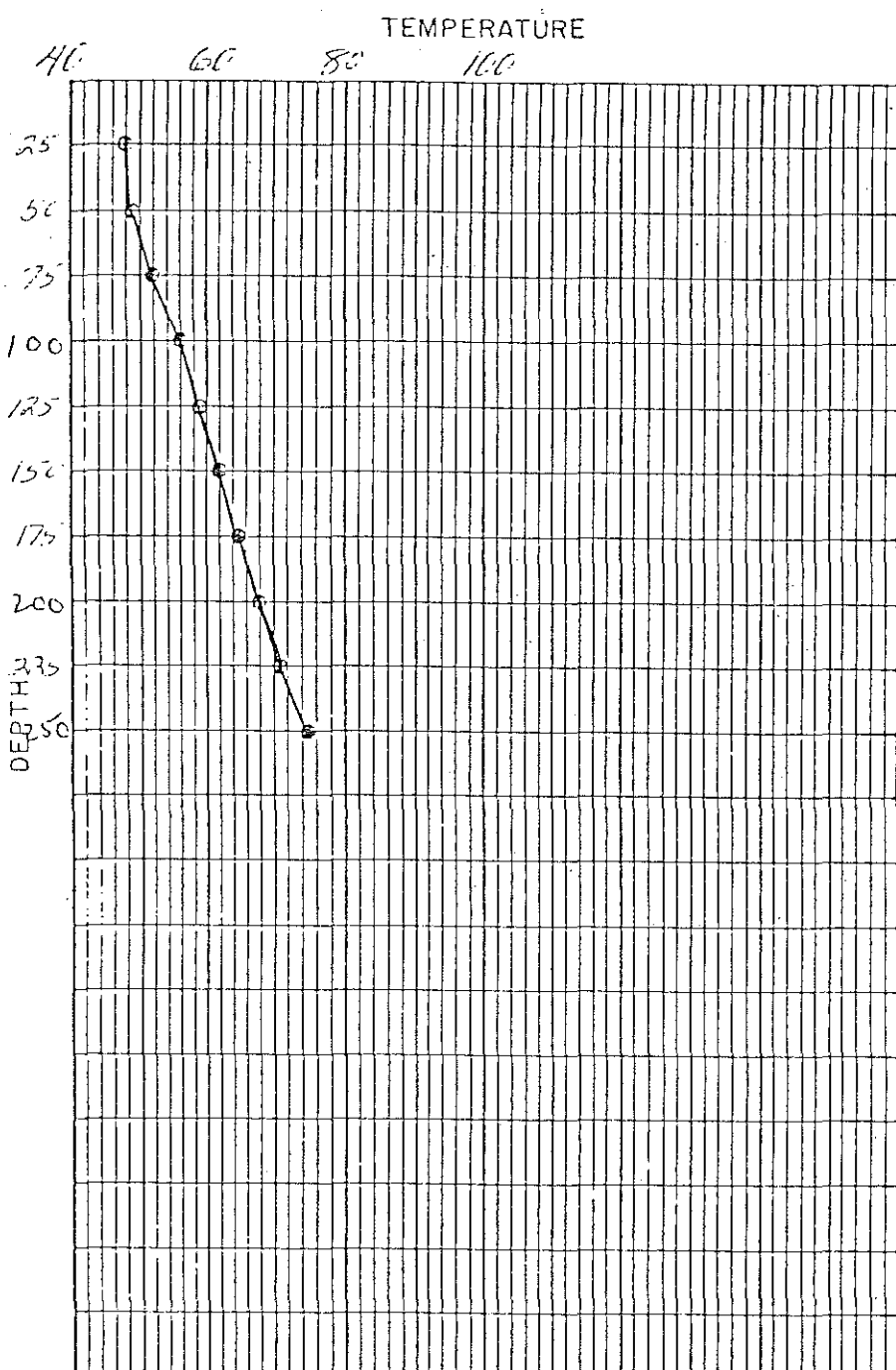
10-18-74
SPUD DATE

10-19-74
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
 Hole No. : TH 61 SAN LUIS CRK @ BM 8702
 T. D. : 255' Elevation : COUNTY STATE

Gradient : %/100 ft. Interval : ft.
 Temp. : ° at ft.

BH Gradient : 1.3 F %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 75° F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	TIME SINCE COMPLETION
		12/6/74
DEPTH	TEMP.	TEMP.
25	48	
50	49	
75	53	
100	56	
125	59	
150	62	
175	65	
200	68	
225	71	
250	75	
275		
300		
325		
350		
375		
400		
425		
450		
475		
500		

MIXED W/CL DEBRIS

A/A

A/A

MRT :

Remarks :

Drig. Contractor :
 Data by : TK'S

UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

10-21-74

SPUD DATE

10-21-74

COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____

Hole No. : TH 62 4000' S OF #63-IN CRK

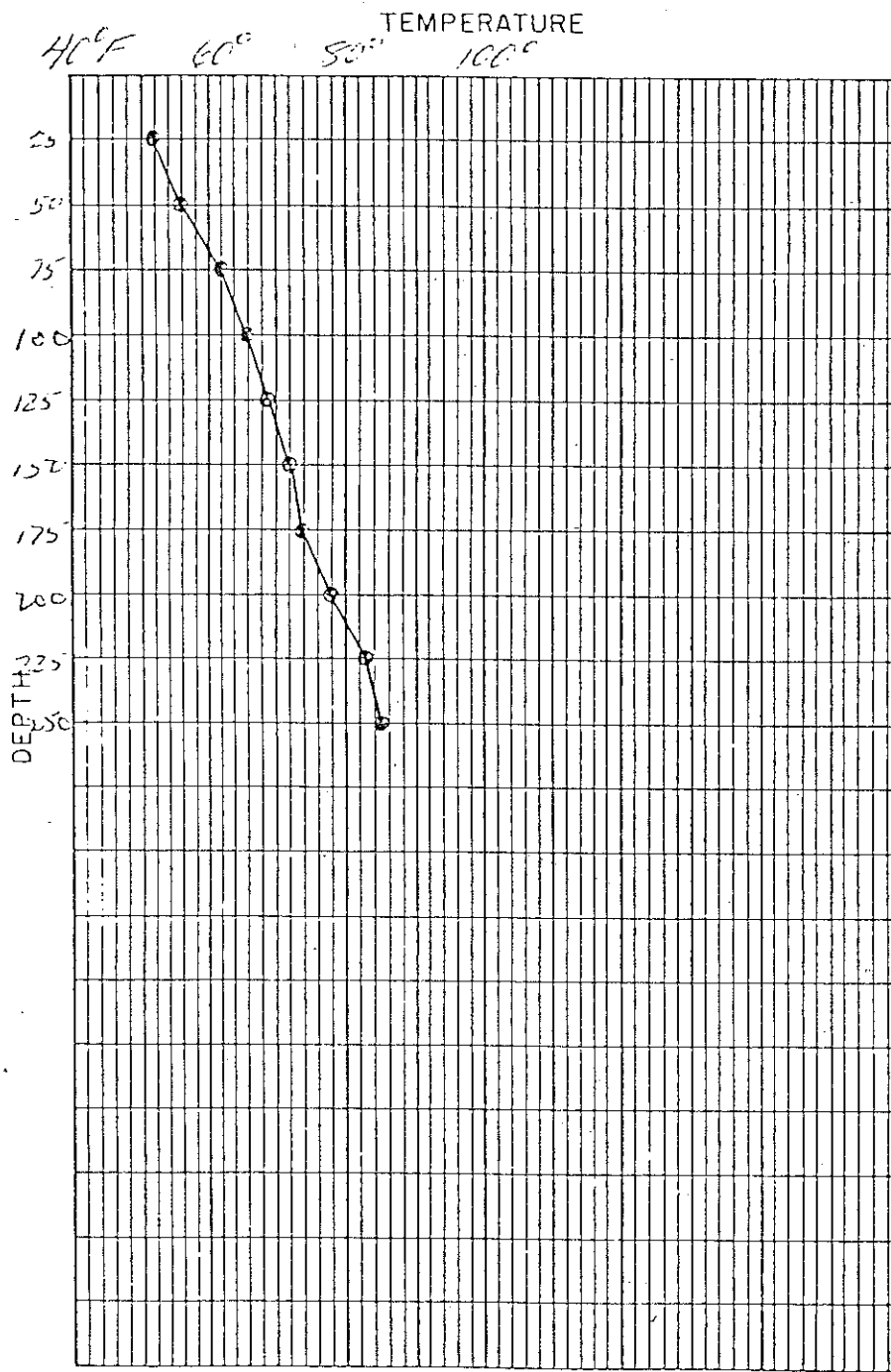
T. D. : 255' Elevation : RUNNING N. TO BM 8702
3200' W E EAST OF TH # 56

Gradient : _____ %/100 ft. Interval : _____ ft.

Temp. : _____ ° at _____ ft.

BH Gradient : 13 F %/100 ft. Interval : 150 - 250 ft.

Max. Temp. : 85° F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	TIME SINCE COMPLETION
		12/6/74
DEPTH	TEMP.	TEMP.
25	52°F	
50	56	
75	62	
100	66	
125	69	
150	72	
175	77	
200	78	
225	83	
250	85	
275		
300		
325		
350		
375		
400		
425		
450		
475		
500		

SAND
GCF

A/A

A/A
SANDY CLAY

MRT : _____

Remarks :

Drig Contractor : _____

Date by : TKS

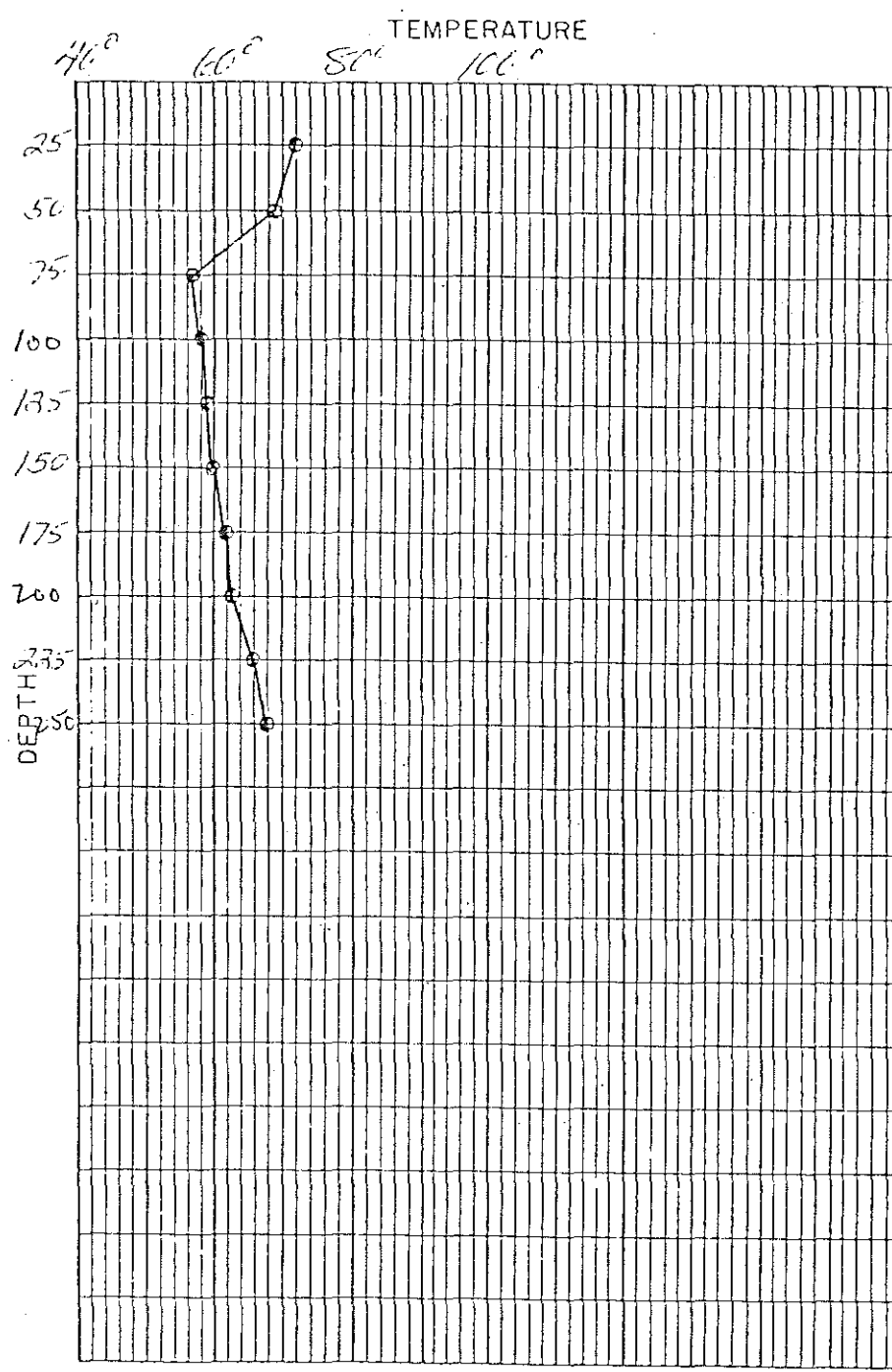
UNION GEOTHERMAL DIVISION
GRADIENT HOLE SURVEY

10-24-74
SPUD DATE
10-26-74
COMPLETION DATE

Prospect : BACA Location : T. R. Sec.
Hole No. : TH 64 SE SIDE OF CERRO PINON - N.
T. D. : 255' Elevation : END OF VALLE GRANDE @ BM
COUNTY STATE

Gradient : %/100 ft. Interval : ft.
Temp. : ° at ft.

BH Gradient : 8 F %/100 ft. Interval : 150 - 250 ft.
Max. Temp. : 68 ° F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	12/5/74		
	TIME SINCE COMPLETION	50d		
	DEPTH	TEMP.	TEMP.	
	25	72 ° F		
	50	69		
	75	57		
	100	58		
	125	59		
	150	60		
	175	62		
	200	63		
	225	64		
	250	65		
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			

Mined voids - altered GCF

A/A

RAVINE CUT

MRT :

Remarks :
High temperatures
at top of hole due
to hot water to
open hole

Drig. Contractor :

Date by : TJS

UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

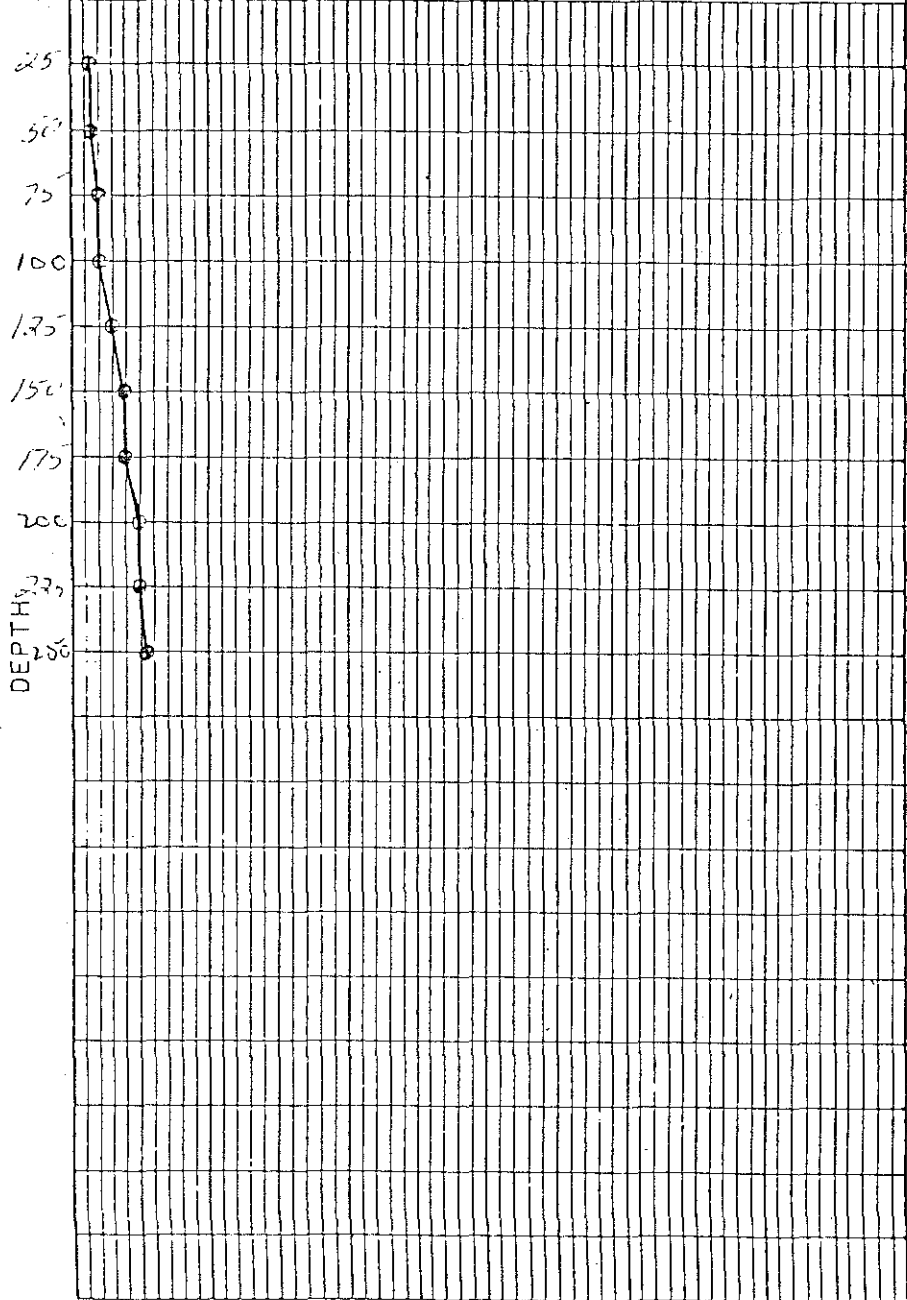
10-26-74
SPUD DATE
10-26-74
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : TH 65 VALLE GRANDE - N. SIDE CERRO
 T. D. : 255' Elevation : _____ LA JARA
COUNTY STATE

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 3 F %/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 51 ° F at 250 ft.

TEMPERATURE
 40° 60° 80°



SAMPLE LOG	DATE OF SURVEY	12-5-74		
	TIME SINCE COMPLETION	50 d		
DEPTH	TEMP.	TEMP.		
25	43.1			
50	44.2			
75	44.4			
100	44.7			
125	45.1			
150	45.5			
175	45.8			
200	46.2			
225	46.6			
250	47.0			
275				
300				
325				
350				
375				
400	A/A			
425				
450				
475				
500	A/A			

MRT : _____

Remarks : _____

Orig. Contractor : _____
 Data by : T.J.S.

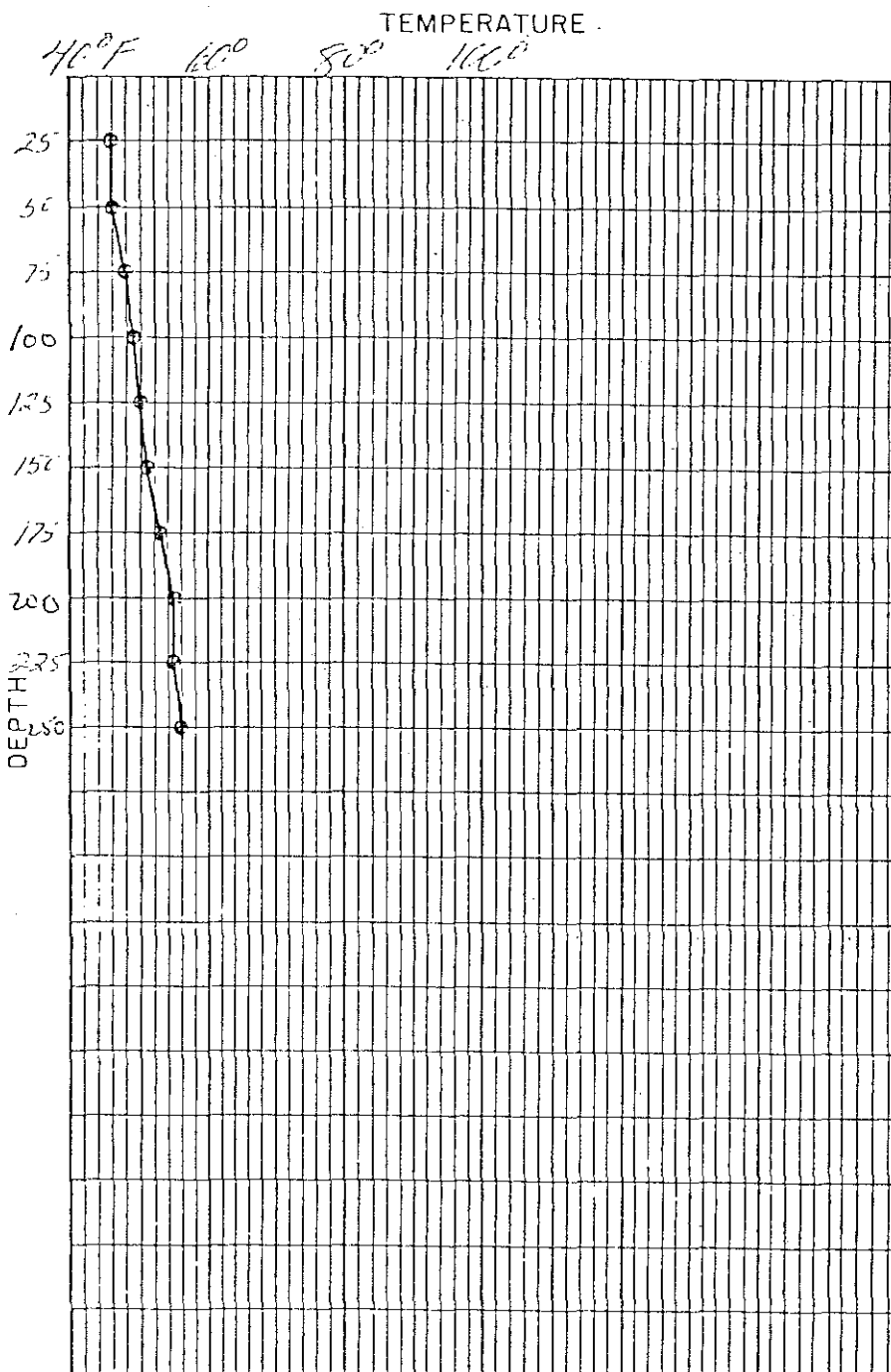
UNION GEOTHERMAL DIVISION GRADIENT HOLE SURVEY

10-28-74
SPUD DATE
10-28-74
COMPLETION DATE

Prospect : BACA Location : T. _____ R. _____ Sec. _____
 Hole No. : TH 66 HDQTRS RANCH RD - 3500' N. of
 T. D. : 250' Elevation : HWY 4
COUNTY _____ STATE _____

Gradient : _____ %/100 ft. Interval : _____ ft.
 Temp. : _____ ° at _____ ft.

BH Gradient : 5 F °/100 ft. Interval : 150 - 250 ft.
 Max. Temp. : 56° F at 250 ft.



SAMPLE LOG	DATE OF SURVEY	10/17/74		
	TIME SINCE COMPLETION	48d		
	DEPTH	TEMP.	TEMP.	
	25	46° F		
	50	46		
	75	48		
	100	49		
	125	50		
	150	51		
	175	53		
	200	55		
	225	55		
	250	56		
	275			
	300			
	325			
	350			
	375			
	400			
	425			
	450			
	475			
	500			

ANALYSIS OR RANGE DETERMINE?
 TP?

A/A

A/A

MRT : _____

Remarks : _____

Drlg. Contractor : _____

Data by : TJS

