

Power Ranch Inc. #2
Geothermal Kinetics Systems Corp.
T25, R6E, Sec 7
Maricopa Co, Az.

GL03007-4045 | * Info listed below will not necessarily be found for all the tests; check accompanying sheets

A) General information concerning Area & Drilling

1. Location
2. KB, T.D. & dates
3. List of other logs
4. Casing Summary

B) Drilling Report & Temp. RUNS

1. Date
2. Depth +/or time
3. Hole size
4. Casing size
5. BIT
6. Rock type
7. Deviation
8. ~~Temp~~ Temperatures
9. Comments

C) Reda Pump Readings & Drilling Report (10/73 12/73)

1. Date
2. Depth +/or time
3. Chloride ppm
4. pH
5. Calcium + magnesium saturation
6. temp.
7. GPM
8. Comments

D) Water Analysis

1. Date
2. Lab #
3. Capacity (GPM)
4. Chemical Analysis

#2

A

- Includes - location plot (poor)
- permit
- Graphic drawing of casing
- News releases
- letter to shareholders

Geothermal Kinetics Inc.

T25, R6E, Sec 1 Maricopa Co., Az.

KB at elevation - 1356' Spudded 5/13/73

T.D. 10,454' 8/23/73

0-5400' : used mud

Totco directional survey

5400' - TD : water

Other logs run: GRN, I.E., BHC Acoustic log, Temp log

* Est. top of vols. 5100'

* 7890' - 7918' 100% core recovery

Hole Size	Casing	Depth
26"	20" (5/15/73)	197'
17 1/2"	13 3/8" (5/22/73)	0 - 2704'
12 1/4"	9 5/8" (6/02/73)	2537 - 5400'
8 1/2"	7" (9/05/73)	blank 510' (red ?) 5253' - 10,229'

#2 Drilling Report as of 7 am

B

5-13-73 1 spudded 17" hole at 2 PM

Date	Depth	Hole Size	Casing Size	Bit	RK Type	Deviation	Comments
5/14/73	217 TD	26"					
5/15	217 TD	26"	20"				
5/16	240 TD	17 1/2"		#1			
5/17	1219 TD			#1			
5/18	1877 TD			#2	cong., anhydrite, clay	1202', 1/4° 1728', 1/4°	
5/19	2139 TD			#3	clay, anhy.	1728', 1/4°	
5/20	2381 TD			#3			
5/21	2717 TD						circulating to run 1 3/8" casing 2650' fluid content 136,000 ppm
5/22	2704 TD		13 3/8" (0-2704)	#3			plugged down at 4:45 pm.
5/23	2715 TD						waiting on cement (WOC)
5/24	2715 TD						WOC + nipping up
5/25	2780 TD			#4			tested blow out preventer (BOP) w/ 1000 lbs for 15 min
5/26	3344 TD			#4		3331', 1/4 g 1°	
5/27	4048 TD			#5	cong. & clay		
5/28	4686 TD			#5	cong & clay w/ streaks of brealt		4300' - mud had a lot of gas
5/29	4767 TD			#6	cong & clay		temp 116°F
5/30	5401 TD			#6	* volc. top 5100 (appx)		top volc. ~ 5100'
5/31	5401 TD						circulating & conditioning hole for run pipe; losing mud
6/1	5401 TD						circulating
6/2	5401 TD		9 5/8" (2537-5400')				WOC
6/3							went in w/ 12 1/4" bit - no cement job → went in w/ 7 7/8" bit in 9 5/8" pipe
6/4							started in hole w/ Baker Bridge Plug set 90' from surface
6/5	5401 TD						WOC set BOP at 2510'
6/6	5401 TD			bit 2 (12 1/4") 648 (8 1/2")			
6/7	6255 TD			#8	volcs.		
6/8	7000 TD (4 min)			#9			circulating sample

Drilling Operations

Date	Depth	Comments
6/9/73	7000TD	Waiting on logging truck (WOL)
6/10	"	WOL
6/11	"	WOL
6/12	7023TD	according to a one page summary of operations, a log was run on this day
6/13	727TD	waiting on pump parts
6/14	7694TD	Circulating samples
6/15	"	fishing for cone + cleaning hole
6/16	7890TD	circulating samples + cleaning hole to core
6/17	7918TD	28' core, 100% recovery
6/18	8413TD	
6/19	8570TD	stuck + freed pipe at 7:20 AM.
6/20	8931TD	
6/21	9143TD	Pulled out + run temp logs.
7/19		spotted oil around fish 75 barrels
7/19-8/5		Drilling Problems

Temp. Runs

Date	Time/Depth	max thermometers	Comments
8/6	6375'	202°, 204, 206	circulating + conditioning hole conditioning mud
	7300'	260°, 260, 256, 258	
8/7	9143'		
8/8			
8/9	9 PM	240°, 240, 240, 246	
	2 AM	246°, 250, 253, 258	
8/10	10 AM	276°, 276, 268, 274	
	6 PM	278°, 278, 278, 280	
	10 PM	283°, 284, 277, 284	
	7 AM	288°, 285, 285, 286	
8/11	6 P.M.	286°, 286, 285, 290	
	1 AM	292°, 292, 286, 286	
8/12	11 AM	294°, 294, 294, 292	
8/13	6500'	216°, 218°, 220°, 220°	
	7500'	254°, 254, 258, 258	
8/14	9100'	295°, 296, 290	
	11 PM		
8/15	9181'	296°, 296, 296, 298	

Drilling Operations Temp. Runs

Date	Depth	Bit	RK Type	Comments
8/15	9181' 4AM	15(?)	volcs	some fractures
8/16	9389'	14	volcs	
8/17	9500'	14/15	"	
8/18	9690'	15	"	
8/19	9898'	15	"	
8/20	9989TD	15	red volcs.	tripping for bit 16
8/21	10,125	16	volcs.	
8/22	10,288	16	"	
8/23	10,454TD	16	"	circulating in volcs

Date	Depth & Time	Temp.	Comments
8/24	10,454TD		layed down 4 1/2" drill pipe to 3289'
	7500' 12AM	224°, 230, 230, 236	↑
	9140' 3AM	254°, 254, 252, 260	
	9963' 6:30AM	274°, 278, 278, 280	
8/25	10,454TD		* High temp recorded for survey - 330° F
	7500' 3PM	236°, 236, 236, 242	↓
	9140' 6PM	268°, 270, 270, 278	
	10,450' 10:30AM	309°, 309, 312, 316	
8/26	10,454TD		
	10,454 11AM	318°, 320, 320, 326	↓
	3PM	322°, 322, 322, 330	

Drilling Operations

Date	Depth	Comments	Casing
8/27	10,454 TD	temps. wouldn't go below 6125' - mud setting up	7"
8/28	"	waiting on casing - H8 broke down	
8/29	"	"	
8/30	"	"	
8/31	"	Waiting for drum	
9/1	"	WOC	
9/2	"	"	
9/3	"	conditioning hole to run casing	
9/4	"		
9/5	"		
9/6	"	WOC	
9/7	"	check lines w/ 1000 lbs press for 30 mins.	
9/8	"	laid drill pipe According to a summary sheet of operations ⇒ set up Reda Pump	
9/9	"		

comments (Reda Pump) app. low volume of fluid in hole, necy to #2 operate pump intermittently

comment - max temp reported from Reda Pump - 365°F

#2
C

Date	Depth or time	Reda Pump Reading	Temp	SPM	comments
9/10		Chloride 1500 ppm	166°		
9/11		Chloride 9000 ppm	173°	150 GPM	
9/12		Chloride 17000 ppm	184°		pumping well
9/13		Chloride 17000 ppm	189°		pumping well
9/14	9 AM	Chloride 18000 ppm pH 6.8 Calcium magnesium saturated	189°	120-150 GPM	
9/15	7 AM	Chloride 16,000 pH 6.8 Calcium magnesium saturated	190°		
	10 PM.	Chloride 17,500 pH 6.8 Calcium magnesium saturated	190°		
9/16	7 AM	Chloride 18000 pH 6.1 Calcium Magnesium saturated	190°		
9/17	8:30 AM	Chloride 17,000 pH 6.4 Calcium magnesium saturated	191° (7 A.M.)		
9/18	7 AM.	Chloride 18,000 pH 6.4 Calc-magn. sat.	191.5°		
9/19	9 PM		192°		
	6 AM.		192°		pumping water shut down pump to pull same
9/20	9 AM-5 PM	rig up to pull Reda Pump rig up starting temp survey.			
9/21-9/28	10454 TDUP the hole	Running temp. surveys at given intervals max max temp 365° *			

10/73 - suspended operations - continue periodic temp survey

12/73 - Prepare well for reverse-circulate the water from well in a semi-closed system & inject hot air into system Done to lessen hydrostatic pressure → raising fluid temp → resulting in flash steam

- UNSUCCESSFUL / unable to obtain air compressors

#2 Water Analysis * Amt. of elements not recorded on this sheet, check for that info in package

Geothl. Kinetics

test run by Ariz. State Health Lab

9-13-73

Capacity 75-100 GPM

Lab # (?) 11441

Includes Analysis of

- Routine Elements (mg/l)

SPR, Soluble Solids (500), total hardness, calcium, magnesium, sodium, total iron (0.3), Alk. P, Alk. MP, Chloride (250), Nitrates (45), Sulfates (250), Manganese (0.05), pH, Copper (1.0), Zinc (5.0)

- Trace Elements (mg/l)

Chromium (0.05), fluoride (var)

GKI Pur. Catches No. 2

Dec. 3 4 1/2" drill pipe to 10,400'
reverse circulation with clear water

Production

Specialists

AGNEW and SWEET

3914 Gilmore Avenue
Bakersfield, California 93308

24-Hour Phone: 327-2267

SUBSURFACE SURVEY

Field Work Sheet

Power #1

OWNER Goodland Kinetics FIELD _____ WELL NAME Power #1
 CASING _____ ELEV. _____ DATE: 4-16-72
 LINER DESCRIPTION: _____ ZERO POINT At Kinetics

TUBING DETAIL: _____ DEPTH _____
 _____ ZONE _____

PUMP SHOE _____ GAS ANCHOR _____ INTAKE _____

PURPOSE _____

REMARKS: _____

ELEMENT	SERIAL NO.	CLOCK	TURN	STABILIZATION PERIOD
ENGAGE STYLUS		DISENGAGE STYLUS		GROSS OIL RATE B/D
OBS. TBG. PRESS.		OBS. CBG. PRESS.		NET OIL RATE B/D
COR. TBG. PRESS.		COR. CBG. PRESS.		FORMATION GAS MCF/D
PICKUP <u>7/80</u>	TIME ON BOTTOM	MAX. °F		GOR CFT/BBL.
WELL STATUS				CIRCULATED GAS MCF/D
SHUT IN:	ON PRODUCTION:			OIL DRY GRAVITY °API
				BEAN SIZE

Pvr 55					Pvr 55													
TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	TIME	DEPTH	DEFL.	P-T	GRAD.	/D	
	0						8900		3764	47.0								
	400		0				9000		3811	47.0								
	450		13				9100		3859	48.0								
	1000		231	41.4			9180		3893	48.5								
	2000		651	42.0			1000		291	47.6								
	3000		1117	46.6			1130		29	44.0								
	4000		1575	46.1			400		7									
	5000		2007	45.9														
	6000		2439	45.2														
	6100		2482	45.0														
	6200		2527	45.0														
	6300		2570	43.0														
	6400		2613	43.0														
	6500		2660	47.0														
	6600		2707	47.0														
	7000		2824	46.8														
	7100		2877	45.0														
	7200		2926	47.0														
	7700		3223	47.1														
	7800		3268	45.0														
	7900		3316	48.0														
	8400		3326	50.0														
	8700		3411	45.0														
	8800		3452	47.0														
	8800		3720	61.3														

COMMENTS:

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APR 20 1972

O & G CONS. COMM.

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3914 GILMORE AVENUE

BAKERSFIELD, CALIFORNIA

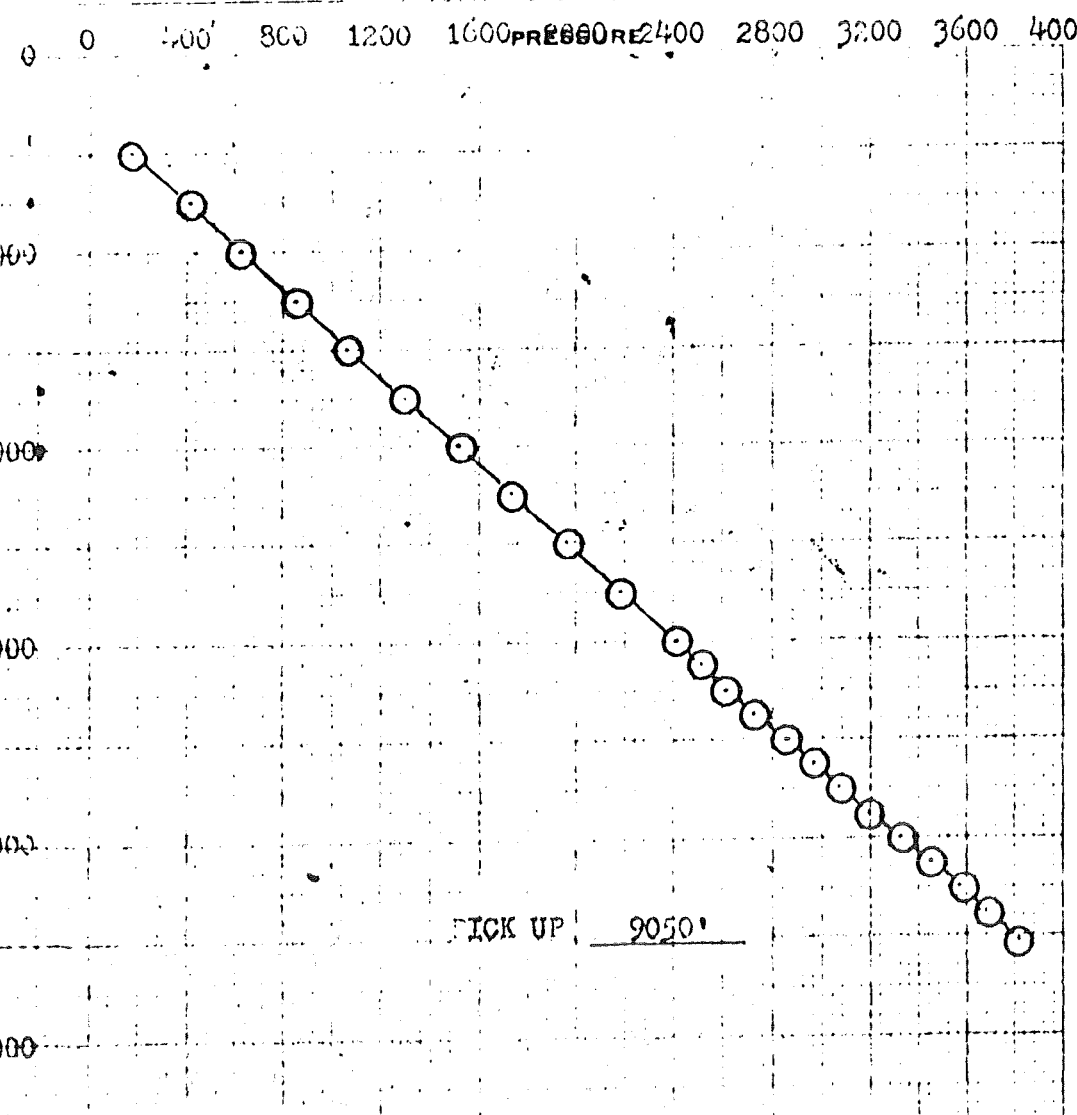
93308

4 HOUR PHONE 327-226
AREA CODE 805

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Specialists

SUBSURFACE PRESSURE SURVEY

OWNER: GENERAL INVESTMENTS FIELD: HIGHTY WELL NAME: POWER NO. 1
 CASING: _____ ELEV: _____ DATE: JULY 20, 1973
 LINER DESCRIPTION: _____ ZERO POINT: ST. KELLET
 TUBING DETAIL: _____ DEPTH: _____ ZONE: _____
 INSTRUMENT: 1400 PS
 SERIAL NO: 1400N
 PUMP SHOE: _____ GAS ANCHOR: _____ INTAKE: _____
 PURPOSE: PRESSURE GRADIENT SURVEY 12 Hour 7 1/2 Turns
 REMARKS: PICK UP AT 9050' MAX TEMP: 262.2 F @ 9050'



STABILIZATION PERIOD

GROSS OIL RATE B/D _____

NET OIL RATE B/D _____

FORMATION GAS MCF/D _____

GOR CFT/BB' _____

CIRCULATED GAS MCF/D _____

OIL DRY GRAVITY API _____

PRESSURES	OBS	CCR
CASING PSI		
TUBING PSI		

DEPTH	PRESSURE	GRADIENT
500	---	---
1000	180	.180
1500	402	.444
2000	627	.450
2500	849	.444
3000	1072	.446
3500	1297	.450
4000	1526	.476
4500	1753	.434
5000	1973	.440
5500	2193	.440
6000	2406	.426
6250	2514	.432
6500	2624	.440
6750	2743	.476
7000	2860	.468
7250	2971	.449
7500	3089	.472
7750	3200	.444
8000	3320	.480
8250	3441	.484
8500	3561	.480
8750	3680	.476
9050	3823	.477

TIME ON BOTTOM
 1:55 P.M. 7-20-73
 TIME OFF BOTTOM
 2:05 P.M. 7-20-73

BY: _____ DATE: _____

roduction
pecialists

AGNEW AND SWEET
3914 GILMORE AVENUE
BAKERSFIELD, CALIFORNIA
93308

24 HOUR PHONE 327-2267
AREA CODE 805

SUBSURFACE TEMPERATURE SURVEY

OWNER : GEOTHERMAL KINETICS FIELD HIGLEY WELL NAME POWERS NO. 1
 CASING ELEV. DATE: MARCH 24, 1973
 LINER DESCRIPTION: ZERO POINT AT KELLEY
 DEPTH 9065'
 ZONE

TUBING DETAIL: None INSTRUMENT 96° - 662° FAH

PUMP SHOE GAS ANCHOR INTAKE: SERIAL NO 10025
 PURPOSE STATIC TEMPERATURE GRADIENT SURVEY 12 Hour ? Turns
 REMARKS: PICK UP AT 9065' °F MAX. TEMP. 261.0 °F @ 9065'

190 200 210 220 230 240 250 260 270 280 290 TEMPERATURE

STABILIZATION PERIOD

GROSS OIL RATE B D

NET OIL RATE B D

FORMATION GAS MCF D

GOR CFT BBL

CIRCULATED GAS MCF D

OIL DRY GRAVITY °API

PRESSURES OBS COR

CASING. PSIG OPEN OPEN

TUBING. PSIG

DEPTH	TEMP.	DEPTH	TEMP.
6000	200.7	7600	239.8
6100	202.6	7700	240.7
6200	206.6	7800	241.9
6300	207.5	7900	244.5
6400	217.3	8000	245.0
6500	219.4	8100	246.6
6600	220.6	8200	247.9
6700	221.9	8300	249.1
6800	223.4	8400	250.3
6900	224.6	8500	251.6
7000	226.2	8600	253.1
7100	227.7	8700	254.7
7200	230.2	8800	255.9
7300	232.7	8900	257.3
7400	235.2	9000	259.2
7500	237.0	9065	261.0

TIME ON BOTTOM

12:26 A.M. 3-25-73

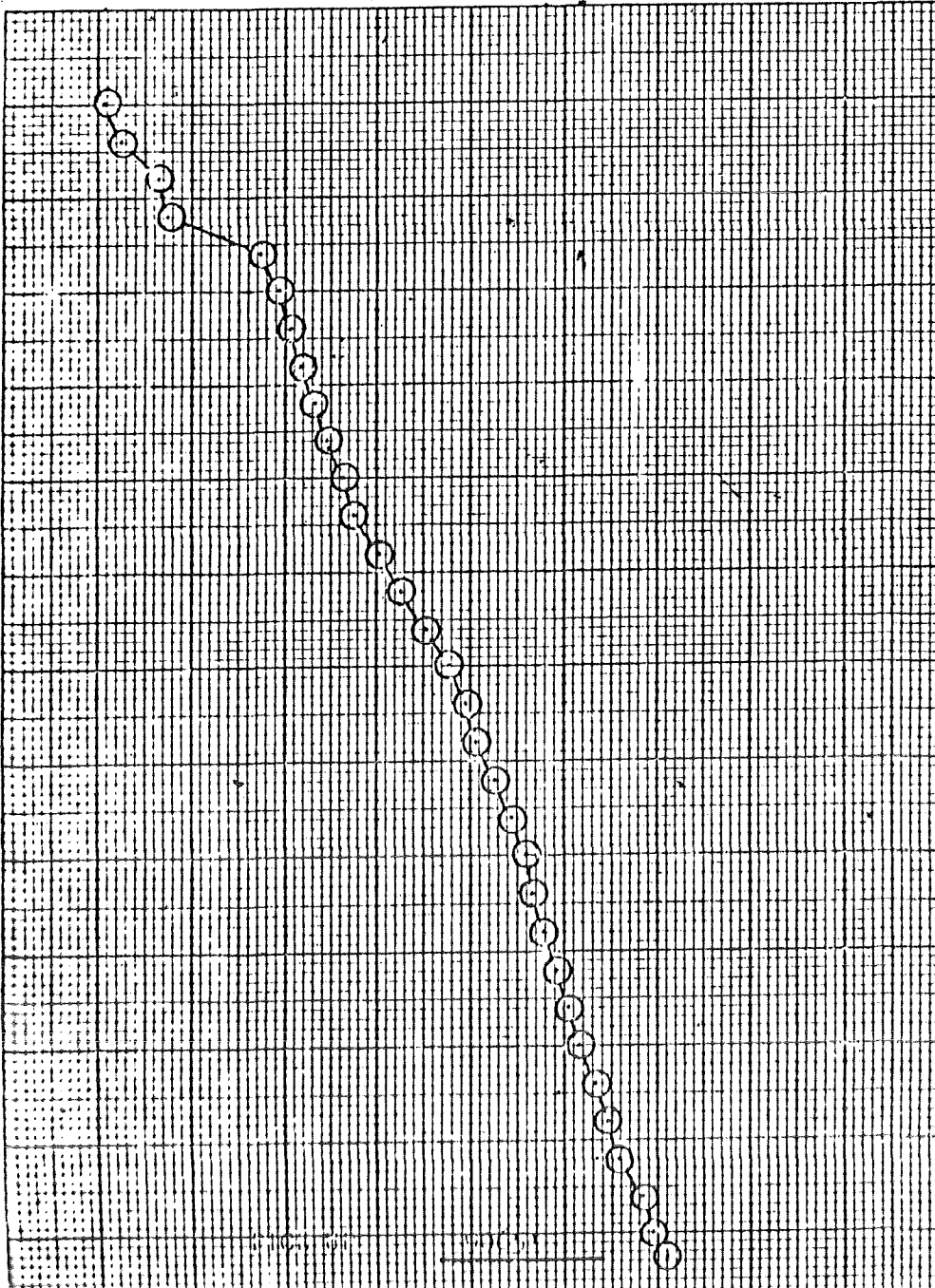
TIME OFF BOTTOM

1:26 A.M. 3-25-73

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APR 1 1973

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AGNEW AND SWIFT

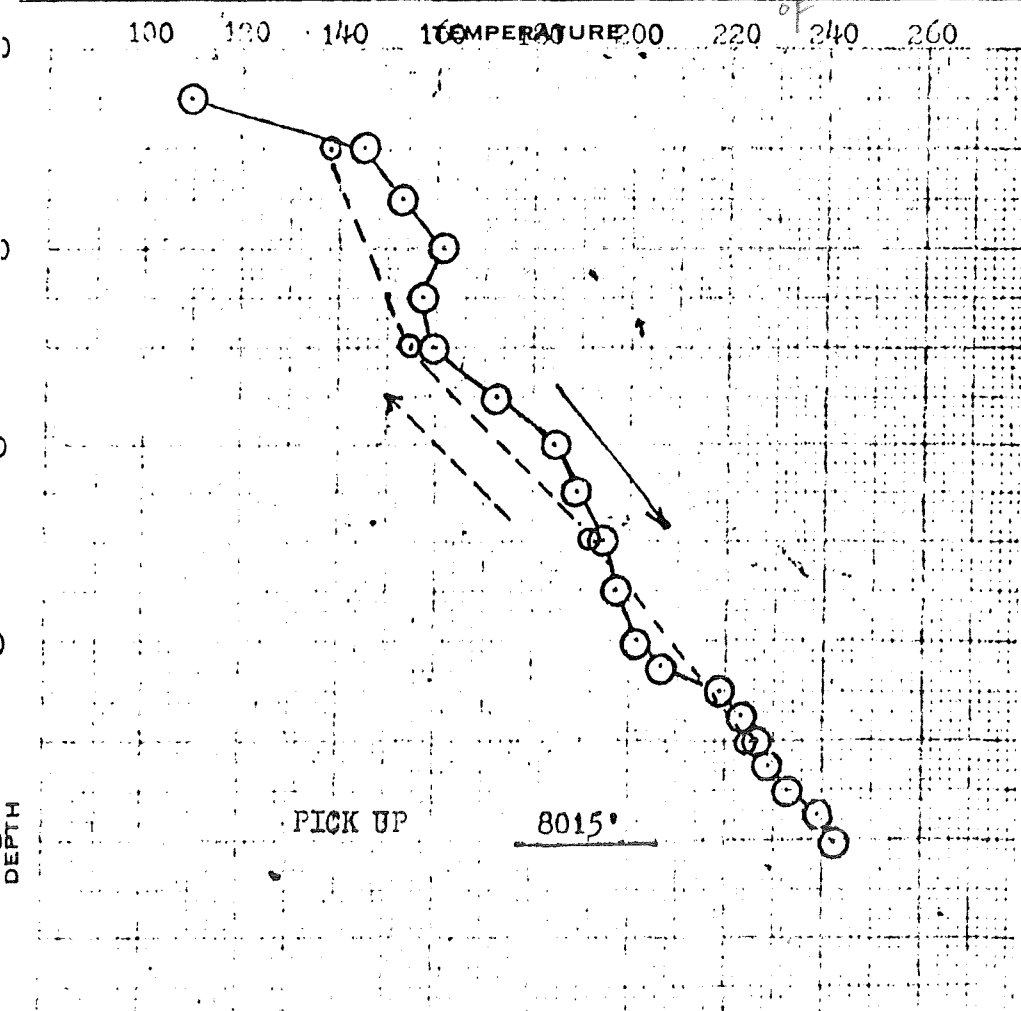
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 BAKERSFIELD, CALIFORNIA
 93308

24 HOUR PHONE 327-2267
 AREA CODE 805

SUBSURFACE TEMPERATURE SURVEY

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 Specialists

OWNER	AGNEITHERAL KINETICS	FIELD	HIGLEY	WELL NAME	POWER HO. 1
CASING		ELEV.		DATE	JULY 19, 1973
LINER DESCRIPTION				ZERO POINT	AT KELLEY
TUBING DETAIL				DEPTH	
				ZONE	
				INSTRUMENT	96° - 662° ° FAH
				SERIAL NO	1005
PUMP SHOE	GAS ANCHOR	INTAKE		12 Hour	12 Turns
PURPOSE	STATIC TEMPERATURE GRADIENT SURVEY			MAX TEMP	242.3 °F @ 8015'
REMARKS	PICK UP AT 8015'				



STABILIZATION PERIOD			
GROSS OIL RATE B/D			
NET OIL RATE B/D			
FORMATION GAS MCF/D			
GOR CFT/BBL			
CIRCULATED GAS MCF/D			
OIL DRY GRAVITY API			
PRESSURES	OBS COR		
CASING PSIG			
TUBING PSIG			
DEPTH	TEMP	DEPTH	TEMP.
500	109.7		
1000	143.9		
1500	152.9		
2000	161.6		
2500	157.1		
3000	159.4		
3500	172.9		
4000	184.4		
4500	189.9		
5000	194.3		
5500	197.1		
6000	202.0		
6250	206.3		
6500	219.7		
6750	223.4		
7000	226.2		
7250	229.3		
7500	232.7		
7750	239.8		
8015	242.3		
COMING OUT OF HOLE			
7000	225.5		
5000	192.8		
3000	154.8		
1000	134.0		

AGNEW AND SWALEY

3914 GILMORE AVENUE

BAKERSFIELD, CALIFORNIA

93308

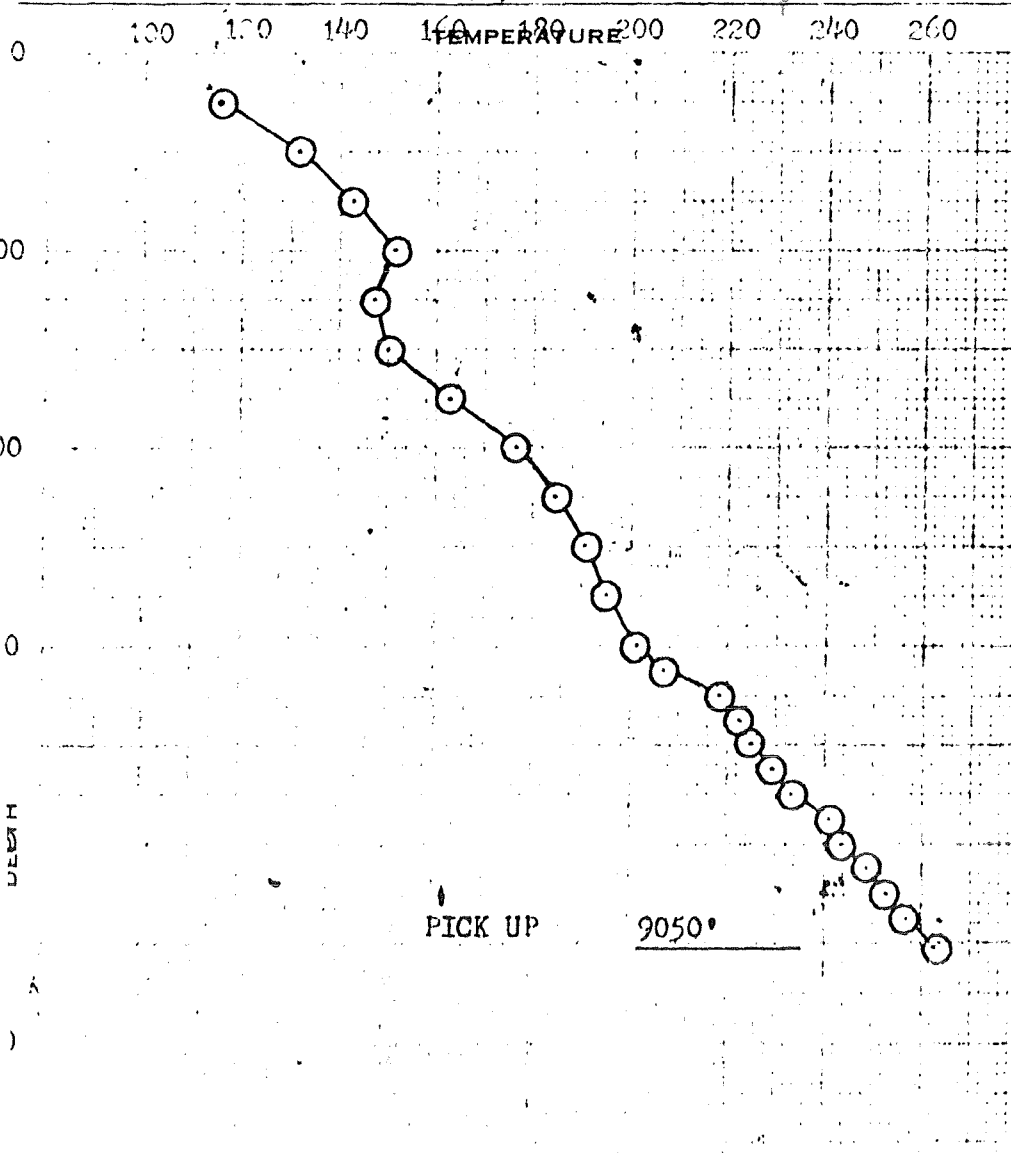
24 HOUR PHONE 327 2267

AREA CODE 805

SUBSURFACE TEMPERATURE SURVEY

duction
specialists

OWNER	GEOTHERMAL MINNETTICS	FIELD	WIGLEY	WELL NAME	WOM 1 NO. 1
CASING		ELEV.		DATE	JULY 20, 1973
LINER DESCRIPTION				ZERO POINT	T KELLEY
				DEPTH	
				ZONE	
TUBING DETAIL					
				INSTRUMENT	96° - 662° FAH
				SERIAL NO.	12025
PUMP SHOE		GAS ANCHOR	INTAKE	12 Hour	7:15 ms
PURPOSE	GEOTHERMAL TEMPERATURE GRADIENT SURVEY			MAX TEMP	262.2 °F @ 9050'
REMARKS	PICK UP AT 9050'				



STABILIZATION PERIOD			
GROSS OIL RATE B/D			
NET OIL RATE B/D			
FORMATION GAS MCF/D			
GOR CFT/BBL			
CIRCULATED GAS MCF/D			
OIL DRY GRAVITY API			
PRESSURES	OBS	COR	
CASING PSIG			
TUBING PSIG			
DEPTH	TEMP	DEPTH	TEMP
500	115.2		
1000	131.0		
1500	142.2		
2000	151.3		
2500	147.4		
3000	159.0		
3500	162.0		
4000	176.4		
4500	185.1		
5000	190.5		
5500	195.2		
6000	201.7		
6250	206.9		
6500	213.2		
6750	222.5		
7000	225.2		
7250	229.6		
7500	233.6		
7750	240.7		
8000	243.8		
8250	248.8		
8500	252.8		
8750	256.8		
9050	262.2		
TIME ON BOTTOM			
1:55 P.M. 7-20-73			
TIME OFF BOTTOM			
2:05 P.M. 7-20-73			

ARIZONA STATE HEALTH LABORATORY
 REPORT OF CHEMICAL EXAMINATION OF WATER

SEP 13 7 30 AM '75

EXISTING WATER SOURCE
 NEW WATER SOURCE

48-106
 PUBLIC
 PRIVATE

LABORATORY NUMBER

W. S.

CO. E NUMBER

Name of Water System GEOHERMAL KINETICS SYSTEMS CORP.
 Nearest City HIGLEY County MARICOPA
 Mailing Address 4515 N. 7th AVENUE City PHOENIX
 Source Number or Name POWER RANCHES-2 Sec. 1 TWP 2S RGE 6E Well Surface Spring
 B.L.L. - Depth 10,444 Ft. Static Level Ft. Capacity (GPM) 75-100
 Sample Collected By OIL & GAS COMMISSION Date SOURCE: Treated Untreated
 Describe Treatment

REMARKS PLEASE NOTIFY THE OIL & GAS COMMISSION OF RESULTS AS SOON AS POSSIBLE.

A. CHEMICAL EXAMINATION

ROUTINE ELEMENTS (mg/l)

SPR
 Soluble Solids (500) 3293.4
 Total Hardness 5600
 Calcium 2040
 Magnesium 120
 Sodium 4800
 Total Iron (0.3) 5.05
 Alk. P 0
 Alk. MP 40
 Chlorides (250) 13400
 Nitrates (45) <1
 Sulfates (250) 2000
 Manganese (.05) <.05
 pH 7.7
 Copper (1.0) <.05
 Zinc (5.0) 0.05

TRACE ELEMENTS (mg/l)

Arsenic (0.05)
 Silver (0.05)
 Chromium (.05) <.01
 Cadmium (0.01)
 Lead (.05)
 Barium (1.0)
 Cyanide (0.2)
 Selenium (0.01)
 Fluoride (var.) 6.4
 Mercury (.003)

B. PHYSICAL EXAMINATION

Color (15)
 Taste (3)
 Odor (3)
 Turbidity (5)
 Sediment

ANALYST REMARKS

By Date SEP 05 75

FOR DEPARTMENT USE ONLY

Emergency INITIAL Rush INITIAL

SPECIAL TESTS AS CHECKED

Radiological MBR (ABS) (0.5) Petroleum Residue CCE (0.2) Phenols (0.001) Pesticides

INTERPRETATION OF RESULTS, WATER SUPPLY DIVISION, ENVIRONMENTAL HEALTH SERVICE, ARIZONA STATE DEPARTMENT OF HEALTH

Acceptable for Public Usage Rejected for Public Usage (see comments below)
 Provisionally Acceptable for Public Usage See Attached Sheet for Further Interpretation on excessive chemicals noted.

COMMENTS

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 SEP 5 1975

By Date SEP 05 1975