

GLO3011-604.8

TOPS FORM 3397 LITHO IN U. S. A.

DEPARTMENTAL CORRESPONDENCE

DATE February 5, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell

DEPT Management

FROM Bert McComack

DEPT Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

JANUARY, 1973

Jan. 2 - 15

Tearing down and loading out rig for move to Arizona.

Jan. 15 - Jan. 16

Moving to Arizona.

Jan. 17 - Jan. 19

Unloading trucks.

Jan. 20 - Jan. 28

Rigging up.

DEPARTMENTAL CORRESPONDENCE

DATE February 5, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEPT Management

FROM Bert McComack DEPT Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

JANUARY, 1973

Jan. 28

Set 22' of 30" conductor pipe, cemented
4 yds. of redi mix.

JANUARY, 1973

Jan. 29

Rigging up.

JANUARY, 1973

Jan. 30

Rigging up.

JANUARY, 1973

Jan. 31

Preparing to drill; spudded hole at 7:00 p.m.

DEPARTMENTAL CORRESPONDENCE

DATE February 5, 1973SUBJECT DRILLING REPORTTo Mike O'Donnell DEPT ManagementFROM Bert McComack DEPT Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 1

Drilling at 200', 17½" hole; drilling conglomerate. 17½" completed at 10:00 a.m.; pull and reamed at 26" hole.

FEBRUARY, 1973

Feb. 2

220' T.D., 26" hole; ran 8 joints of 20" casing set at 204' K.B., cemented with 400 sacks of regular 2% calcium chloride. Plugging down at 8:30 a.m., February 2, 1973.

FEBRUARY, 1973

Feb. 3

Waiting on cement; nipple up.

FEBRUARY, 1973

Feb. 4

Drilling at 575', #2 bit; started under surface at 7:00 p.m., February 3, 1973.

DEPARTMENTAL CORRESPONDENCE

DATE February 5, 1973

SUBJECT DRILLING REPORT

BY Mike O'Donnell DEPT Management

FROM Bert McComack DEPT Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 5

Drilling at 1163' through conglomerate and clay, #2 bit; deviation at 288', 1/2°; at 650', 1/4°; and at 1025', 3/4°.

FEBRUARY, 1973

Feb. 6

Going in hole with bit #3, 1666'. Bit #2 made 1666'; deviation at 1650', 3/4°.

FEBRUARY, 1973

Feb. 7

Drilling at 1945' (30'/hr.) through clay and shale, #3 bit drilling 279' in 14 1/4 hrs.; temperature, 96°.

FEBRUARY, 1973

Feb. 8

Drilling at 2322' (15'/hr) through anhydrite & clay, #3 bit drilling 650' in 37 1/4 hrs. Deviation 3/4° at 2225'; weight, 40,000 lbs.

DEPARTMENTAL CORRESPONDENCE

DATE February 9, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell DEP'T Management

FROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 9 Drilling at 2569' coming out of hole, #3 bit drilling 903' in 59½ hrs.

FEBRUARY, 1973

Feb. 10 Drilling at 2718' (15'/hr.) through anhydrite, #4 bit drilling 149' in 11½ hrs. Jetted mud pit, drilling in new mud.

FEBRUARY, 1973

Feb. 11 Drilling at 2929' through anhydrite and silt, #4 bit drilling 360' in 34 3/4 hrs. Lost 150 barrels of mud.

FEBRUARY, 1973

Feb. 12 Drilling at 3060' through besalt and sandstone; last 6' from 3054', 25'/minute, #4 bit drilling 459' in 54½ hrs. coming out of hole.

DEPARTMENTAL CORRESPONDENCE

DATE February 14, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell

DEPT. Management

FROM Bert McComack

DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 13

Total depth, 3118', and logging.

FEBRUARY, 1973

Feb. 14

Down 79 joints, 13 3/8" intermediate casing, 68 lb. weight set at 3117'; concreted with 2,050 sacks of clear cement, regular, 30% silica flour.

Plugging down at 1:00 p.m.; good circulation in cement.

FEBRUARY, 1973

Feb. 15

Waiting on cement; nipping up.

FEBRUARY, 1973

Feb. 16

Nipping up.

DEPARTMENTAL CORRESPONDENCE

DATE February 14, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell DEP'T Management

FROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 14

Down 79 joints, 13 3/8" intermediate casing, 68 lb. weight set at 3117'; concreted with 2,050 sacks of clear cement, regular, 30% silica flour.

Plugging down at 1:00 p.m.; good circulation in cement.

RECEIVED

DEPARTMENTAL CORRESPONDENCE

DATE February 17, 1973

SUBJECT DRILLING REPORT

BY Mike O'Donnell DEP'T Management

FROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 17

Nippling up; started drilling at 6 p.m.; drilled 70' of cement. We checked the BOP stack at 1600 lbs. for 30 minutes; ok.

FEBRUARY, 1973

Feb. 18

We are drilling at 3252'; bit #6 did 134' in 7½ hours.

FEBRUARY, 1973

Feb. 19

Drilling at 3493'; bit #6 made 375' in 35 hours, drilling 4 to 5 minutes per foot. Drilling in dark igneous material, volcanics.

DEPARTMENTAL CORRESPONDENCE

DATE February 20, 1973SUBJECT DRILLING REPORTTo Mike O'Donnell DEPT. ManagementFROM Bert McComack DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 20

Drilling at 3626' in volcanics, #7 bit.
Bit #6 drilling 429' in 36½ hrs.Slope Test - At 3545' was 3/4°; temperature, 112½°; Vis., 40; weight, 10; drilling approximately 12 minutes/foot.FEBRUARY, 1973

Feb. 21

Drilling at 3749' through silt stone, shale and dark brown silky shale. Inlet temperature, 105°; outlet temperature, 118°. Drilling 8 minutes/foot.

FEBRUARY, 1973

Feb. 22

Drilling at 3889' through green shale, 5-6 minutes/foot; 340' in 47½ hrs.

DEPARTMENTAL CORRESPONDENCE

DATE February 23, 1973

SUBJECT DRILLING REPORT

BY Mike O'Donnell

DEPT. Management

FROM Bert McComack

DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FEBRUARY, 1973

Feb. 23

Drilling at 4016' through coarse sandstone, basalt, volcanics; #7 bit drilling 469' in 65 hrs. Coming out of hole with 26 stands, preparing to run temperature check; inlet temperature, 116°; outlet temperature, 121°.

SATURDAY, FEBRUARY 24, 1973

Drilling at 4328' through volcanics, sand and clay; #8 bit drilling 312' in 15 hrs.

SUNDAY, FEBRUARY 25, 1973

Drilling at 4363'; circulating short tripping to condition hole for temperature check and DST.

Ran Almarado Temperature Bomb at 4361' - Temperature, 133.8°; ran maximum thermometer at 4350', temperature 160°.

February 25, 1973

Memo to file: Geothermal Kinetics Power Ranches Inc. No. 1
NE/SE Sec 1-T2S-R6E
Maricopa County
Permit No. 605

Memo from W. E. Allen, Director
Enforcement Section

Drill Stem Test No. 1

From 4363 to 4326

The initial hydrostatic pressure is 2449 PSI

FHP 2499 PSI

IFP 328 PSI

FFP 1072 PSI

SIP 1541 PSI

Recovered 2430 supply mud cut brakish water

ATTACHMENT - DRILLING REPORT
February 26, 1973

DST:

Open at 1300 hrs., immediate light steady blow; increasing in three minutes to strong steady blow. Blow weakened at 1446 hrs. Shut-in at 1530 hrs. for 30 minutes. At 2548', rise of fluid in pipe consisted initially of water cut, gas cut and drilling mud; sampled at 450' intervals which gradually became slightly mud cut, gas cut, brackish water. Salinity of mud per Baroid was 111,000 ppm; estimated salinity of brackish water at base of fluid rise was 20,000 ppm. This will be checked in the laboratory.

It is estimated that the gas was carbon dioxide, but this cannot be proven except that it is non-flammable.

A very fine grained, angular quartz grained (probably from volcanic ash) flowed into the tool and went up into the base of the last drill collar. Haliburton, 250° degree chart, did not go off scale so the formation temperature was, therefore, between the 160° measured with the Taylor maximum reading thermometer on Totco line and 252° F is necessary to activate the Haliburton chart thermometer. It is estimated that our formation temperature at this depth was approximately 230°.

On a 24 hour clock, Device #4357, at TD of 4359', the initial hydrostatic pressure was 2403.1 psi; initial flow pressure, 54.1 (?) psi; final flow pressure, 1233.3 psi. 30 minute shut-in pressure, 1500.0 psi; final hydrostatic pressure, 2403.1 psi.

On a 12 hour clock, Device #786, initial hydrostatic pressure was 2449.2 psi; initial flow pressure, 328.8 (?) psi; final flow pressure, 1272.8 psi. 30 minute shut-in pressure, 1541.4 psi; final hydrostatic pressure, 2499.2 psi.

DEPARTMENTAL CORRESPONDENCE

DATE February 26, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEPT. Management

FROM Bert McComack DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

MONDAY, FEBRUARY, 26, 1973

Drilling at 4463' through volcanics and clay; #8 bit drilling 448' in 26 hours. (DST report attached).

DEPARTMENTAL CORRESPONDENCE

DATE February 27, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEP'T Management

FROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

TUESDAY, FEBRUARY 27, 1973

Drilling at 4743' through clay, volcanics and silt stone; #8 bit drilling 727' in 45 hours; drilling 15 - 20 feet/hour.

Viscosity, 40; weight, 9.3.

Mr. Allan

WR

DEPARTMENTAL CORRESPONDENCE

DATE February 27, 1973

SUBJECT DRILLING INFORMATION

To All Personnel DEPT

FROM Mike O'Donnell DEPT Management

As of 4500 feet, the well has gone "tight" and no drilling information, including formation description, temperature tests or depths are to be given out until further notice.

Mike O'Donnell

MOD/leb

RECEIVED

MAR 1 1973

DEPARTMENTAL CORRESPONDENCE

DATE March 1, 1973SUBJECT DRILLING REPORTTo Mike O'Donnell DEPT. ManagementFROM Bert McComack DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

THURSDAY, MARCH 1, 1973

Drilling at 4866' through volcanics;
#9 bit drilling 100' in 9 hours; drill-
ing 1'/3-4 minutes.

Viscosity, 47; weight, 9.9.

FRIDAY, MARCH 2, 1973

Drilling at 5138' through volcanics and
clay with streaks of basalt; #9 bit drill-
ing 472' in 35 hours.

Viscosity, 41; weight, 9.8.

SATURDAY, MARCH 3, 1973

Drilling at 5405' and circulating;
#9 bit drilled 123' of volcanics and
conglomerate.

SUNDAY, MARCH 4, 1973

Circulating in preparation to run
9 5/8 intermediate pipe.

DEPARTMENTAL CORRESPONDENCE

DATE March 5, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell DEPT. Management

FROM Bert McComack DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

MONDAY, MARCH 5, 1973

Circulating in preparation to run
9 5/8 intermediate pipe.

Note: Air compressors to be on
location by Wednesday, March
7th.

TUESDAY, MARCH 6, 1973

Drilling at 5405', WOC (waiting on cement).
Ran 61 joints (9 5/8, 40 lb.). Bottom of
liner, 5404'; top of liner, 2903'. Cemented
with 650 sacks of regular cement; 30% silica
flour, 4/10 of 1% of HR-4 retarder.

Plugging down at 12:30 a.m.

WEDNESDAY, MARCH 7, 1973

Drilling at 5405'; WOC.

DEPARTMENTAL CORRESPONDENCE

DATE March 6, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell DEP'T Management

FROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

TUESDAY, MARCH 6, 1973

Drilling at 5405', WOC (waiting on cement).
Ran 61 joints (9 5/8, 40 lb.). Bottom of
liner, 5404'; top of liner, 2903'. Cemented
with 650 sacks of regular cement; 30% silica
flour, 4/10 of 1% of HR-4 retarder.

Plugging down at 12:30 a.m.

RECEIVED

DEPARTMENTAL CORRESPONDENCE

DATE March 8, 1973

SUBJECT DRILLING REPORT

BY Mike O'Donnell

DEPT. Management

FROM Bert McComack

DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

THURSDAY, MARCH 8, 1973

Drilling at 5405'. Hit cement at 2543' on top of liner. Had 360' on top of liner; cemented bottom at 5349'. Had 55' of cement on top of shoe; unloading hole with air.

FRIDAY, MARCH 9, 1973

Drilling at 5938' through volcanics. #10 bit drilling 533' in 20 hours (started at 11:00 a.m. on the 8th).

SATURDAY, MARCH 10, 1973

Drilling at 6153' through volcanics; trying to blow hole (unload water with air), unsuccessful. Bit #10 made 748' in 28½ hours. Temperature up 40° in last 30'; too much water to drill with air.

DEPARTMENTAL CORRESPONDENCE

DATE March 11, 1973SUBJECT DRILLING REPORTTo Mike O'Donnell DEP'T ManagementFROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

SUNDAY, MARCH 11, 1973

Drilling at 6153'. Running temperature and deviation surveys; deviation survey at 6130', $1\frac{1}{4}^{\circ}$. Ran drillable packer -- preparing to squeeze off water.

MONDAY, MARCH 12, 1973

Drilling at 6153'. Set bridge plug and cemented with 200 sacks regular cement (8/10% with Hallad #9; 4/14% HR4). Broke circulation and packer; job unsuccessful. Reversed out cement; drilling plug in preparation to cement again.

TUESDAY, MARCH 13, 1973

Drilling at 6163'; WOC.

Drilled out 90' of cement in bottom of hole; pulled out of hole to go in with packer set at 5360'. Cemented with 550 sacks of regular cement (8/10%, Hallad #9; 4/14% HR4).

Job completed at 12:15 a.m.; looks good.

DEPARTMENTAL CORRESPONDENCE

DATE March 14, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEPT Management

FROM Bert McComack DEPT Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

WEDNESDAY, MARCH 14, 1973

Total depth, 6163'.

Tested, squeezed out with 1,000 lbs; everything o.k. Pulled out, laid down tool, pulled up bit and drilled packer.

Drilling cement at 5700'.

THURSDAY, MARCH 15, 1973

Drilling through cement at total depth of 6100'; 20'/hr.

FRIDAY, MARCH 16, 1973

Drilling at 6163'. Trying to blow hole down with straight air; 19 stands off bottom.

In hole, looking good.

DEPARTMENTAL CORRESPONDENCE

DATE March 17, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell

DEPT. Management

FROM Bert McComack

DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

SATURDAY, MARCH 17, 1973

Drilling at 6548' through volcanics and aerating. Bit #12 made 385' in 15 hours. Bit #11 drilled through 700' of cement after squeeze job at approximately 30'/hour.

SUNDAY, MARCH 18, 1973

Drilling at 7050' through volcanics approximately 15'/hour with splashes of steam and alot of water. Bit #12 made 987' in 38 hours.

MONDAY, MARCH 19, 1973

Drilling at 7878' through volcanics. Bit #12 made 1715' in 35 hours.

DEPARTMENTAL CORRESPONDENCE

DATE March 20, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEPT. Management

FROM Bert McComack DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

TUESDAY, MARCH 20, 1973

Drilling at 8197'; tripping for new bit. Bit #12 made 2034' in 70 hours.

Preparing to go into hole with Bit #13.

WEDNESDAY, MARCH 21, 1973

Drilling at 8312'. Bit #13 made 113' in 3½ hours; drilling 40'/hour.

S.O.S.

THURSDAY, MARCH 22, 1973

Drilling at 8997' through volcanics; Bit #13 made 800' in 23 hours.

DEPARTMENTAL CORRESPONDENCE

DATE March 23, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell

DEP'T Management

FROM Bert McComack

DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FRIDAY, MARCH 23, 1973

Drilling at 9065'. Bit #13 made
868' in 26 hours.

Pulled out of hole; left three cones;
preparing to log.

SATURDAY, MARCH 24, 1973

9065' T.D. Waiting on logging equip-
ment.

SUNDAY, MARCH 25, 1973

9065' T.D. Preparing to log; ran temp-
erature surveys. Pumping water in to
cool hole.

DEPARTMENTAL CORRESPONDENCE

DATE March 26, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEPT. Management

FROM Bert McComack DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

MONDAY, MARCH 26, 1973

9065' T.D. Finished logging at 4:00 a.m.; going in with magnet.

TUESDAY, MARCH 27, 1973

9065' T.D. Fishing for one cone, recovered two; ordered 7/8" casing.

WEDNESDAY, MARCH 28, 1973

9065' T.D. Fishing for cone; made two blank runs. Went in with bit and stirred up cone. Went in with bowder basket; coming out of hole.

DEPARTMENTAL CORRESPONDENCE

DATE March 29, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell DEPT. Management

FROM Bert McComack DEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

THURSDAY, MARCH 29, 1973

9065' T.D. Recovered all cones.
Waiting on casing; preparing to run 7/8" casing.

FRIDAY, MARCH 30, 1973

9065' T.D. Ran 3863' of 7", 29 lb. N-80 Armco casing. Casing set at 9064' and hung at 5201'. Cemented with 825 sacks of Class "A" cement, 3% jell; 600 sacks of Posmix, 1.1/8% CFR-2, 8% salt, 1% HR-12, 6% Pearlite, 20% Silica flour.

Plug down at 0230 hours, March 30th; WOC.

Acted like squeeze job during cementing. Pearlite may have bridged, but believe cement probably circulated up and out at 5201'.

SATURDAY, MARCH 31, 1973

9065' T.D. WOC.

DEPARTMENTAL CORRESPONDENCE

DATE March 30, 1973SUBJECT DRILLING REPORTTo Mike O'DonnellDEPT. ManagementFROM Bert McComackDEPT. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FRIDAY, MARCH 30, 1973

9065' T.D. Ran 3863' of 7", 29 lb. N-80 Armco casing. Casing set at 9064' and hung at 5201'. Cemented with 825 sacks of Class "A" cement, 3% jell; 600 sacks of Posmix, 1.1/8% CFR-2, 8% salt, 1% HR-12, 6% Pearlite, 20% Silica flour.

Plug down at 0230 hours, March 30th; WOC.

Acted like squeeze job during cementing. Pearlite may have bridged, but believe cement probably circulated up and out at 5201'.

RECEIVED

DEPARTMENTAL CORRESPONDENCE

DATE April 1, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell

DEPT Management

FROM Bert McComack

DEPT DRILLING

REPORTED AS OF 7:00 a.m.

EACH MORNING

SUNDAY, APRIL 1, 1973

9065' T.D. WOC.

Laid down 4½" drill pipe; started picking up 3½" drill pipe.

MONDAY, APRIL 2, 1973

9065' T.D. Hit cement level, 7" casing at 7261'. Pulled out and run easy drill plug. Set at 5170'. Squeezed with 200 sacks of Class "A" cement (30% Silica flour; 8/10% Hallad #9; 4/10% HR4).

Job completed at 11:30 p.m.; looks good.

DEPARTMENTAL CORRESPONDENCE

DATE April 2, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell DEP'T Management

FROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

MONDAY, APRIL 2, 1973

9065' T.D. Hit cement level, 7" casing at 7261'. Pulled out and run easy drill plug. Set at 5170'. Squeezed with 200 sacks of Class "A" cement (30% Silica flour; 8/10% Hallad #9; 4/10% HR4).

Job completed at 11:30 p.m.; looks good.

DEPARTMENTAL CORRESPONDENCE

DATE April 3, 1973SUBJECT DRILLING REPORTTO Mike O'Donnell DEP'T ManagementFROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

TUESDAY, APRIL 3, 1973

9065' T.D. Pressured up on squeeze job; everything o.k. Picked up drill powers and went in with 8 3/4" bit; drilling with Haliburton easy drill plug.

WEDNESDAY, APRIL 4, 1973

Drilled in plug with 8 3/4" bit to top of 7/8" liner. Made trip and ran 6" bit drilling in plug.

Twisted off at 500'; went in and caught fish, coming out to check bit.

Everything o.k. so far.

THURSDAY, APRIL 5, 1973

7932' T.D. Drilling in cement, Bit #14.

DEPARTMENTAL CORRESPONDENCE

DATE April 6, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEP'T. Management

FROM Bert McComack DEP'T. Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FRIDAY, APRIL 6, 1973

Drilled cement to 8971'; pulled out and ran in button bit with 20 stands.

Ready to unload hole with air.

SATURDAY, APRIL 7, 1973

Unloading hole. Backed drill collar off; went in and plugged in same with bit plug and pulled out of hole unplugging drill collar.

DEPARTMENTAL CORRESPONDENCE

DATE April 10, 1973

SUBJECT DRILLING REPORT

To Mike O'Donnell DEPT Management

FROM Bert McComack DEPT Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

TUESDAY, APRIL 10, 1973

9207' T.D. Logged and perforated with 4 shots at 8998'. Went in with bit and hit fluid at approximately 3000'; blowed hole down, not enough fluid. Pulled out preparing to reperformate.

MONDAY, APRIL 9, 1973

9207' T.D. Logging; top of basement according to log, 9165'.

SUNDAY, APRIL 8, 1973

9707' T.D. Hit basement at approximately 9181'. Pulled out and running temperature surveys.

DEPARTMENTAL CORRESPONDENCE

DATE April 11, 1973SUBJECT DRILLING REPORTTO Mike O'Donnell DEP'T ManagementFROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

WEDNESDAY, APRIL 11, 1973

Perforated at following depths:

8148 - 8152' (8 shots)

7752 - 7760' (8 shots)

7006 - 7014' (8 shots)

6309 - 6313' (4 shots)

6167 - 6168' (2 shots)

Went in unloading hole; some steam flashes, not enough fluid.

THURSDAY, APRIL 12, 1973

Pulled out of hole to reperform at following depths:

6314 - 6322' (8 bullets)

6140 - 6150' (10 jets)

6174 - 6184' (10 jets)

Went in to unload. Doing good; blowing from 5490' at 7:00 a.m. and unloading periodically.

DEPARTMENTAL CORRESPONDENCE

DATE April 13, 1973

SUBJECT DRILLING REPORT

TO Mike O'Donnell

DEP'T Management

FROM Bert McComack

DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

FRIDAY, APRIL 13, 1973

Blowing hole at a depth of 5470';
alot of water and steam flashes.

Temperature, 160°.

SATURDAY, APRIL 14, 1973

Blowing hole at 5490'. Went in to
bottom to aerate to check water out-
put; estimated at 150 gallons/minute.

DEPAR. MENTAL CORRESPONDENCE

DATE April 15, 1973SUBJECT DRILLING REPORTTo Mike O'Donnell DEP'T ManagementFROM Bert McComack DEP'T Drilling

REPORTED AS OF 7:00 a.m.

EACH MORNING

SUNDAY, APRIL 15, 1973

Came out of hole blowing hole down to 5000' to perforate to check fluid level. Perforation depths are as follows:

- † 6154' - 6174' (20 bullets)
- 6212' - 6232' (21 bullets)
- 6323' - 6347' (25 bullets)
- 6360' - 6363' (4 bullets)

MONDAY, APRIL 16, 1973

Blowed hole from 4100' - 4140'; alot of water with steam flashes; temperature, 166°.

Running Almarada temperature bomb, seeking a gradient on temperature from around 5000' to T.D.

GEOTHERMAL KINETICS SYSTEMS POWER RANCHES NO. 1

Casing Perforations - 7" Casing

<u>DEPTH</u>	<u>NO. OF HOLES & TYPE</u>	<u>REMARKS</u>
6140 - 6150	10 Jets	Little or no Results
6154 - 6174	21 Bullets	Small Results
6167 - 6168	2 Jets	No Results
6174 - 6184	10 Jets	Slight Results
6212 - 6232	20 Bullets	Good Results
6310 - 6314	4 Jets	Slight Results
6314 - 6322	8 Bullets†	Slight Results
6323 - 6347	25 Bullets	Small Results
6360 - 6363	4 Bullets	Good Results
7006 - 7014	8 Jets	Small to no Results
7752 - 7760	8 Jets	Large Results
8148 - 8150	4 Jets	No Results
8995.5 - 8998.5	4 Jets	Fluid level increased from approximately 500' to 2000', then no further evidence of fluid entering hole from these perforations.

(Perforating results estimated from temperature survey)

DEPARTMENTAL CORRESPONDENCE

DATE June 18, 1973

SUBJECT DRESSER ATLAS TESTS-- NO. 1 WELL (June 18 & 19, 1973)

NAME Mike O'Donnell DEPT. Management

NAME Bert McComack DEPT. Drilling

JUNE 18 -- 7:00 P.M.

Shot 8980 - 9025'

All jets fired; no junk left in hole.

8:20 P.M.

Shot 8950 - 8980 (Total: 151, -80 Gram jets -- Zone #1).

(Depth counter on Dresser Atlas failed -- shut down for repair)

All jets fired; no junk left in hole.

JUNE 19 -- 1:48 A.M.

Shot 8110 - 8150'

All jets fired; no junk left in hole.

2:45 A.M.

Shot 8110 - 8075'

Mis-run; prima cord broke.

4:00 A.M.

Shot 8110 - 8075'

All jets fired; no junk left in hole. (Total: 151 jets -- Zone #2).

6:05 A.M.

Shot 7772 1/2 - 7735'

5 bottom jets did not fire; added 5 jets to top of next run; no junk left in hole.

7:13 A.M.

Shot 7736 - 7697 1/2'

Lost 35' of steel strip in hole; good bang heard on surface; believe all jets fired. (Zone #3)

8:10 A.M.

Shot 7067 1/2 - 7027 1/2'

First 9 jets fired; 1 mis-run; next 5 jets fired; 1 mis-run; 1 jet fired; 1 mis-run; 8 jets fired; 1 mis-run; all rest fired. Total: 23 jets fired (plan to re-shoot).

DEPARTMENTAL CORRESPONDENCE

DATE June 18, 1973

SUBJECT DRESSER ATLAS TESTS -- NO. 1 WELL (June 18 & 19, 1973)

TO Mike O'Donnell DEPT. Management

FROM Bert McComack DEPT. Drilling

JUNE 18 -- 7:00 P.M.

Shot 8980 - 9025'

All jets fired; no junk left in hole.

8:20 P.M.

Shot 8950 - 8980' (Total: 151, -80 Gram jets -- Zone #1).

(Depth counter on Dresser Atlas failed -- shut down for repair)

All jets fired; no junk left in hole.

JUNE 19 -- 1:48 A.M.

Shot 8110 - 8150'

All jets fired; no junk left in hole.

2:45 A.M.

Shot 8110 - 8075'

Mis-run; prima cord broke.

4:00 A.M.

Shot 8110 - 8075'

All jets fired; no junk left in hole. (Total: 151 jets -- Zone #2).

6:05 A.M.

Shot 7772 1/2 - 7735'

5 bottom jets did not fire; added 5 jets to top of next run; no junk left in hole.

7:13 A.M.

Shot 7735 - 7697 1/2'

Lost 35' of steel strip in hole; good bang heard on surface; believe all jets fired. (Zone #3)

8:10 A.M.

Shot 7067 1/2 - 7027 1/2'

First 9 jets fired; 1 mis-run; next 5 jets fired; 1 mis-run; 1 jet fired; 1 mis-run; 8 jets fired; 1 mis-run; all rest fired. Total: 23 jets fired (plan to re-shoot).

June 19 (?)
DRESSER ATLAS TESTS -- NO. 1 WELL
June 18, 1973
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9:30 A.M.

Shot 7067 1/2 - 7039'

Lost 28' of steel strip but
believe all jets fired. (Zone #4)

10:35 A.M.

Last shot hung at 2934'; fished
100' of junk and then shot last
strip at 7067 - 7039'. Total:
35 shots. Believe total jets
fired over all 4 zones: 610 jets.

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June 18, 1973
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