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NY/BEO/60C-3

GETTY OIL COMPANY
BEOWAWE GRADIENT HOLE PROGRAM
EUREKA COUNTY, NEVADA

OPERATOR: GETTY OIL COMPANY
WESTERN E & P DIVISION
P. O. BOX 5237
BAKERSFIELD, CALIFORNIA 93388
ATTENTION: MR. N. J. KAPPELER

DRILLING CONTRACTORS: WESTERN GEOPHYSICAL COMPANY
505 COMMUNITY LANE
WOODLAND, CALIFORNIA

POLAR DRILLING COMPANY
P. O. BOX 1635
ELKO, NEVADA 89801

SPUD DATE: June 9, 1980

DRILLING FLUID: Gel-Water & Air-Foam

A total of fourteen and one-half wells (14.5) were drilled at selected locations to projected depths of 500' each. Hole conditions and mechanical difficulties determined the actual depth at which a completion was made. Each well was designated as a GBP or Getty Beowawe Project.

The standard well program for completion was as follows: a 4-3/4" to 5-7/8" hole was drilled to 500', if possible. One-inch line pipe, Schedule 40, 2.3# per ft., bull plugged on the bottom joint, was run to the total depth, landed and filled with fresh water. The hole was then back-filled with heavy mud and drill cuttings. A locking cap was installed at the surface and a cement collar poured around the upper 5' to 10' to avoid surface contamination.

WELL HISTORIES:

Well #1 - GBP #7 - Section 22 - Township 31 North, Range 48 East

7-9-80 - Rig on location 11:30 a.m., rigged up, spudded well 14:15 p.m., drilled to 100', shut down. Resumed drilling 7-10-80, drilled to 285', lost 2 cones, pulled out of hole, shut down. On 7-11-80 down. 7-12-80 ran in hole with homemade junk basket, several runs, could not recover cones. Ran 12.8 joints 1" Schedule 40 BLP to T.D., cut and threaded top joint. Filled with water, backfilled hole annulus with mud and cuttings, emplaced locking collar.

Well completed 14:45 p.m.

GBP Well #7A - Section 22 - Township 31 North, Range 48 East

Moved rig over 50' south of #7 and spudded well #7A at 15:00 p.m. with a Hughes "Blue Demon" 3-blade drag bit. Drilled to 20'. Pulled out of hole, changed to W.O. tricone mil-tooth bit, ran in hole, drilled to 40'. Pulled out of hole. Secured location 16:00 p.m.

7-13-80 - Ran in hole, drilled ahead to 220', pulled out of hole, checked bit, ran in hole, drilling again; drilled to 302'; pulled up, laid down 3 singles, secured rig for day.

7-14-80 - Pulled out of hole, changed bits, ran in hole with Hughes W7C-4-3/4" hard formation bit, drilled to 456', shut down, pump out.

7-15-80 - Ran in hole, repaired pump, drilled to 500' at 15:00 hrs. p.m. Ran 23.5 joints 1" pipe to T.D., filled with water, cemented collar around top after back-filling. Locked and secured location at 16:30 p.m.

GBP Well #9 - Section 22 - Township 31 North, Range 48 E

7-16-80 - Spudded well at 10:00 a.m. Drilled ahead with used 6-1/2" Walker-McDonald tricone bit. Drilled to 20' in boulders of basalt and buff color acidic rock. Pulled out of hole, changed to air and downhole hammer. Drill rate 35'-40' per hour. Hole caving at 60'. Pulled out of hole, changed to mud and conventional bit. Reamed to bottom.

GBP Well #9 - Section 22 - Township 31 North, Range 48 East - Continued

Pulled out of hole, changed to 4-bladed Hughes Blue Demon bit, reaming and try to drill ahead.

- 7-17-80 - Ran in hole, CO and drilled ahead to 80'. Pulled out of hole, changed to Hughes tricone, drilled ahead to 170', hole caving. Secured location at 16:00 hrs.
- 7-18-80 - Pulled out of hole, changed to drag bit, ran in hole, drilled to 400'. Pulled out of hole, bit plugged. Ran in hole with new drag head, drilled to 980'. Pulled up and laid down 6 singles. Secured location at 16:00 hrs.
- 7-19-80 - Rigged up, started pump, could not circulate, pipe stuck, rotating out. Worked pipe all day, could not chain out. Bit depth approx. 360[±]'. Secured location at 16:30 p.m.
- 7-20-80 - Crew on location at 08:15 a.m., broke off single, put on Kelly, bit still plugged. Pulled up, broke off Kelly. Chained down stuck pipe. Moved off location at 13:10 p.m. Well at tentative total depth. Left 18 singles, 2' bit sub and 4-bladed Hughes bit in hole.

GBP Well #8 - Section 22 - Township 31 North, Range 48 East

- 7-20-80 - Moved rig to GBP #8 at 13:45 p.m. Spudded well at 14:15 p.m., drilled to 60' with used W.O. tricone bit. Secured location at 17:00 hours.
- 7-21-80 - Crew on location 08:45 a.m., pulled out of hole, changed bits, ran in hole with Blue Demon 4-bladed drag bit, drilled to 125', drilled very hard. Pulled out of hole, changed to W.O. mil-tooth bit, drilled ahead until 13:10 hours, worked on pump, drilling again at 14:07 p.m. Drilled to 260' at 17:10 hours. Pulled out of hole, secured for night.
- 7-22-80 - On location 08:45 a.m., ran in hole, reamed to bottom, drilled ahead with Hughes J-7 Journal bit. Drill rate 27'/hour. At 11:00 hours, depth 300', pulled out of hole at 11:20 a.m., changed bits, ran in

GBP Well #8 - Section 22 - Township 31 North, Range 48 East - Continued

hole with J-33 button bit, reamed hole from 4-3/4" to 5-7/8".

Ream to 300' T.D., pulled out of hole for crew break (6 days).

7-29-80 - Returned from break, rigged up, ran in hole, tried to blow clean with air, hammer bit plugged. Pulled out of hole, changed bits, ran in with 5-7/8" used bit, ran in hole turned mud over, staged down, on bottom (300') pulled out of hole, changed to air hammer, blew clean, on bottom, drilling ahead at 13:00 hours.

Hit fresh water aquifer at 360'-370', drilled to 480' with hammer, cuttings to mud. P.U. to 160', shut down rig for night.

7-30-80 - Crew on location at 09:00 a.m., pulled out of hole, changed from air hammer to used tricone 4-3/4', picked up circulation, bit plugged. Pulled out of hole, C.O. bit, ran in hole, staged down, drilled ahead from 480' to 500' at 12:28 p.m., pulled out of hole to run pipe, made up and ran 23.8 joints, T & C, Schedule 40 1" BLP to T.D. (500'). Cut and thread top joint, filled with water, back-filled annulus, emplaced locking collar and cemented top 5' of annulus with neat cement, well completed 14:30 hours.

GBP Well #5 - Section 16 - Township 31 North, Range 48 East

7-30-80 - Rig on location at 15:30 hours. Prep. to spud. Spudded well at 15:50 p.m., drilled to 40', shut down for night.

7-31-80 - Crew on location at 09:00 a.m., ran in hole with 4-3/4" drag bit, drilled ahead til 11:25 a.m., pulled out of hole from 190', changed bits, put on 5-7/8" J-33, ran in hole, reamed to 4-3/4' hole to 5-7/8" to 190', on bottom and drilled new hole to 200', pulled out of hole, ran in hole with air hammer, drilled to 300', secured location at 16:15 p.m.

8-1-80 - Ran in hole with hammer, drilled ahead to 440', work on air compressor intermittently. Shut down 16:10 p.m. for night.

8-2-80 - Crew on location at 09:05 a.m. Ran in hole, drilled ahead to 470',

GBP Well #5 - Section 16 - Township 31 North, Range 48 East - Continued

compressor running erratic. Pulled out of hole, ran in hole with J-33-4-3/4" button bit. Lost circulation, used all water on location. Filled water trucks, started mix mud at 14:45 p.m., pumped away. Pulled out of hole, changed to air and hammer, drilled to 490', pulled up and secured location.

- 8-3-80 - On location at 09:00 hrs., ran to bottom, drilled to 500' using tricone bit and air. At total depth 10:07 a.m. Pulled out of hole at 10:30, rigged up and ran 23.8 joints 1" Schedule 40 BLP to total depth (500'). Landed pipe at 11:25 a.m., back-filled annulus, filled pipe with water, cemented annulus. Hole completed 12:00 a.m.

GBP Well #2 - Section 17 - Township 31 North, Range 48 East

- 8-3-80 - Rig on location at 12:10 p.m., rigged up, spudded well 12:39 p.m. with 5-7/8" tricone bit (OWV-J) and mud. Drilled to 40', pulled out of hole, put on air hammer, ran in hole, drilled to 80'. P.U.D.P. and secured location for day at 16:00 p.m.
- 8-4-80 - Drilled with air hammer to 220'. Shut down at 14:45 p.m. for lack of diesel fuel. Secured location.
- 8-5-80 - On location, fueled up compressor, ran in hole, drilled to 340' at 16:10 p.m. Shut down rig for night.
- 8-6-80 - On location at 09:00 a.m., ran to bottom, drilled ahead to 500' at 16:20 hours. Pulled up and secured location for day.
- 8-7-80 - Crew on location at 09:00 a.m. Made up and ran 23.8 joints 1" BLP, bull plugged on bottom joint and top joint cut and threaded. Filled annulus with cuttings. Filled pipe with clean water. Cemented top annulus. Well completed 12:30 p.m.

GBP Well #3 - Section 17 - Township 31 North, Range 48 East

- 8-7-80 - Rig on location 12:30 p.m., repaired rig, spudded well 14:00 hrs., drilled to 16' with tricone bit and air. Pulled out of hole to change

GBP Well #3 - Section 17 - Township 31 North, Range 48 East - Continued

- bits. Could not break bit, took downhole hammer to blacksmith shop in Elko. Secured location.
- 8-8-80 - Crew on location 09:00 a.m., put on new bit, ran in hole, drilling ahead until 10:15 a.m., lost bit out of hammer. Pulled out of hole and fished lost bit. Back in hole with smaller hammer, drilled to 28', shut down at 16:00 p.m.
- 8-9-80 - Crew on location at 10:00 a.m. - late due to flat tire. On bottom drilling from 10:00 a.m. until 11:40 a.m.; made 5'. Pulled out of hole, ran in hole with W.O. 4-3/4" tricone bit, drilling at 12:10 p.m. Drilled until 16:30 hours, depth 120', pulled out of hole to check bit. Secured location.
- 8-10-80 - Ran in hole with same bit, drilled to 165', pulled out of hole, changed bits, ran in hole, fast line tangled on drum, restrung lines through traveling block. Ran in hole again, drilled til 17:30 p.m., depth 180', secured.
- 8-11-80 - On bottom, drilling ahead at 09:30 a.m., pulled out of hole at 11:50 a.m. Ran in hole with small air hammer from 200'-205', pulled out of hole, changed bits, ran in hole with 4-3/4" J-33 button-bit, drilled to 250', shut down for night.
- 8-12-80 - Crew on location, repaired clutch (2.5 hrs.). Ran in hole drilling for 15 minutes, universal broke, pulled out of hole, could not go back in hole til repaired. Secured location at 13:00 hrs. - 6 day break.
- 8-19-80 - Crew on location, work on rig, reamed 80'.
- 8-20-80 - Ran in hole with 5-7/8" bit, reamed from 80' to 240'. Repaired rig, reamed from 240'-255'. Hooked up air, blew hole clean. Pulled out of hole. Secured location.
- 8-21-80 - Crew on location 09:00 a.m. Ran in hole with 5-1/8" air hammer, drilled to 420', lost circulation, pulled up 40', regained air,

GBP Well #3 - Section 17 - Township 31 North, Range 48 East - Continued

drilled ahead to 440', pulled out of hole to 220', secured location at 16:10 p.m.

8-22-80 - Crew on location 09:00 a.m., ran to bottom, drilling from 440' to 500' (T.D.). Blew hole clean, pulled out of hole, made up and ran 23.8 joints 1" Schedule 40 BLP; bottom joint bull plugged, top joint cut and thread. Back-filled annulus with cuttings, filled pipe with water, emplaced locking cap at surface, well completed 14:00 hours.

GBP Well #17 - Section 16 - Township 31 North, Range 48 East

8-22-80 - Rig on location 14:15 p.m. Spudded well at 14:30 p.m. Hughes OWV-J mil-tooth bit. Drilled to 46', very hard, pulled out of hole, secured location.

8-23-80 - Crew on location 09:00 a.m. ran to bottom, drilled, repaired rig, drilled til 12:00 p.m., air compressor failed. Pulled out of hole, changed bits, ran in hole with tricone 5-7/8" bit, drilled ahead to 115'. Secured location.

8-24-80 - On bottom drilling at 10:00 a.m. with J-33 bit. Changed over to air, blew hole clean. Pulled out of hole, put on air hammer. Ran in hole, drilled to 380'. Pulled up off bottom, secured location at 16:00 hours.

8-25-80 - On location at 09:00 a.m. Drilling ahead from 380' to 500'. Blew hole, pulled out of hole. Ran 1" BLP to T.D. (500'). Filled with clean water, back-filled annulus with cuttings. Cemented collar around top of pipe at surface. CIP at 14:15 p.m., well completed.

GBP Well #15 - Section 20 - Township 31 North, Range 48 East

8-25-80 - Moved rig on location at 16:15 p.m.

8-26-80 - Crew on location, rigged up and spudded well at 09:45 a.m. with OWV-J 5-7/8" used bit. Drilled to 20', pulled out of hole, changed to air

GBP Well #15 - Section 20 - Township 31 North, Range 48 East - Continued

hammer, ran in hole, drilled from 20' to 180'. Air compressor malfunction. Repair, and drilled from 180' to 185'. Pulled up and secured location at 16:00 p.m.

8-27-80 - Crew on location at 09:00 a.m., on bottom drilling at 09:10 a.m. with air hammer. Drilled to 440'. Pulled up and secured location for night.

8-28-80 - Crew serviced rig, ran to bottom, drilling ahead 09:45 a.m. 940' to 500' T.D., pulled out of hole, rigged up and ran 23.6 joints 1" SLP, bottom joint, bull plugged, and top joint cut and threaded. Landed pipe 12:45 p.m. Filled pipe with water, backfilled annulus with cuttings, cemented top collar, emplaced locking cap 13:15 p.m. - well completed.

GBP Well #16 - Section 20 - Township 31 North, Range 48 East

8-28-80 - Rig and crew on location at 13:45 p.m., rigged up, spudded well 14:00 hours with HTC OWV-J 5-7/8" tricone bit, drill to 120'. Pull up and secure location 16:00 P.M.

8-29-80 - Crew on location at 12:45 p.m.; flat tire, got lost, etc. Began drilling at 12:55 p.m. Drilled from 120' to 200'. Pulled out of hole, changed to downhole hammer, on bottom drilling again at 15:00 hours. Drilled to 240'. Secured for night at 16:10 p.m.

8-30-80 - Crew on location at 10:00 a.m., ran in hole, drilled to 450'. Pulled up 7 stands. Shut down for night at 16:15 hours.

8-31-80 - Crew on location at 09:00 a.m. Ran to bottom, started drilling ahead from 450' - 500'. Reached T.D. at 10:20 a.m. Blew hole clean, pulled out of hole, picked up and ran 23.8 joints of 1" Schedule 40 BLP, pipe on bottom at 11:50 a.m. Filled with water, backfilled annulus with cuttings, cemented top collar. Emlaced locking collar. Well complete 12:30 p.m.

GBP Well #1 - Section 20 - Township 31 North, Range 48 East

- 8-31-80 - Moved rig onto location, rigged up, spudded well with HTC 5-7/8" OWV-J used bit with gel and water mud at 14:00 p.m., drilled to 48', shut rig down for night at 16:10 p.m.
- 9-1-80 - Crew on location 09:00 a.m. Repaired rig engine till 09:45 a.m. Drilled from 48' to 90', pulled out of hole, changed to air hammer, ran in hole at 11:45 a.m., drilled to 260', pulled out of hole, secured location 16:05 p.m. for crew break.
- 9-9-80 - Crew on location at 09:30 a.m., rig broke down, couldn't start. Crew left at 13:00 p.m. for parts, etc.
- 9-10-80 - Crew on location at 10:00 a.m. Rig not running. Secured lease at 14:30 p.m.
- 9-11-80 - Crew on location at 09:45, worked on rig, service mechanic arrived at well, worked over rig engine. Started up and ran in hole at 15:15 p.m. with D.P., drilled to 360', pulled out of hole at 17:30 p.m. Secured location at 17:45 p.m.
- 9-12-80 - Crew on location at 09:00 a.m., ran in hole drilled ahead to 460±', broke U-Joint, repaired, broke tongs, replace jaws, drilling to 465', stuck D.P., Kelly back off blew cuttings into pipe, no circulation, pulled and worked D.P., still stuck, secured location at 16:15 p.m.
- 9-13-80 - On location at 09:00, rig up, pulled on D.P., worked loose 09:45 a.m. Pulled out of hole, D.P. had twisted off one foot above air hammer and bit. No fishing tools available due to small size of pipe. Will complete. Made up and ran 20.3 joints of 1" BLP Schedule 40. Landed filled with water, back-filled annulus with cuttings. Poured cement collar in annulus. Well complete 14:00 hours.

GBP Well #12 - Section 14 - Township 31 North, Range 48 East

- 9-13-80 - Moved rig to Well #12. On location 15:30 hours. Rigged up, mixed mud, spudded well 16:00 hours. Drilled out, lost circulation at

GBP Well #12 - Section 14 - Township 31 North, Range 48 East - Continued

surface, regained, shut down at 16:30 hours due to rain.

- 9-14-80 - Crew on location 09:00 a.m., rigged up and tried to drill ahead, hole caving badly, working pipe. Hole depth 102', shut down at 16:00 p.m.
- 9-15-80 - Crew on location 09:30 a.m., ran to bottom, drilling ahead. Pulled out of hole to change from 4-3/4' tricone to 4-3/4" drag-head bit. Ran in hole, drilling ahead to depth 210', pulled out of hole, changed to J-33 button bit, ran in hole, drilled very hard and tight, pulled out of hole, changed to 3-blade Hughes Blue-Demon drag bit. Back on bottom drilling ahead to 260', pulled out of hole, secured location.
- 9-16-80 - Crew on location at 09:00 a.m. On bottom drilling at 09:15 a.m., drilled to 390', pulled out of hole, secured location at 16:20 p.m.
- 9-17-80 - Crew on location 09:30 a.m., ran in hole with 4-3/4" J-33 button bit. Reaming tight hole 200' to 390'. Drilled 390' to 400'. Pulled out of hole, man injured, to hospital in Battle Mountain. Ran in hole with W7C, drilling 400' to 405'. Secured location 16:25 p.m.
- 9-18-80 - Crew on location, need air hammer, none available. Worked on old air hammer - not working, secured location.
- 9-19-80 - Ran in hole, reamed hole from surface with 5-7/8" tricone bit. Pulled out of hole, changed bits, ran in hole with 5-7/8" J 33 button bit, reaming from 14:00 hours. Pulled out of hole, secured location at 16:00 hours.
- 9-20-80 - Crew on location, drilled ahead with J-33 button bit. Drilled to 420' and pulled out of hole. Secured location at 16:30 p.m.
- 9-21-80 - Crew on location, ran in hole, drilling at 435', could not drill ahead without downhole hammer. Will wait for orders. Secured location at 13:30 p.m.

GBP Well #12 - Section 14 - Township 31 North, Range 48 East - Continued

- 9-22-80 - Crew arrive location at 10:00 a.m. - worked on rig all day, secured.
- 9-23-80 - Crew on location, P.U. 1" Schedule 40 BLP and ran 20.4 joints to approx. 430'. Mixed mud, filled annulus, filled pipe with water. Hole complete 12:45 p.m. Release rig.

GBP Well #13 - Section 13 - Township 31 North, Range 48 East

- 9-20-80 - Moved in Polar Drilling Company - Elko, Nevada.
Rig location at 10:00 a.m. Rigged up to 11:00 a.m.
Repaired air hammer, spudded well 12:30 p.m. and drilled to 155'.
Hole took fluid at 130' to 155'. Injected foam to seal off lost circulation zone. Pulled out of hole, secured location 17:40 p.m.
- 9-21-80 - Crew on location 08:45 a.m., work on pump. Ran in hole 09:45 a.m., drilled, injected foam, lost circulation, pulled out of hole, secured location 14:15 hours, depth - 240'.
- 9-22-80 - Crew on location at 15:00 hours, rigged up, ran in hole, drilled ahead to 270'. Secured lease.
- 9-23-80 - Crew on location and drill ahead at 07:30 a.m. from 270'. Drilled, lost circulation, regained, lost. worked hole. Drilled to 360' at 15:40 p.m. Secured location 16:00 p.m.
- 9-24-80 - Crew arrived at location at 10:30 a.m., rigged up, ran in hole, drilled to 380', losing circulation. Pulled out of hole, changed bits, ran in hole with J-33 tricone bit. Hydraulic line broke. Shut rig down, made repairs, drilled ahead to 500' from 20:00 hours to 01:30 a.m. Secured rig.
- 9-25-80 - Crew picked up pipe and water, at rig 12:00 a.m. Rigged up, ran 23.8 joints 1" pipe. Filled with water, backfilled with cuttings, cement collar. Well complete 18:00 p.m.

GBP Well #14 - Section 11 - Township 31 North, Range 48 East

- 9-26-80 - Moved rig to Well #14, on location at 09:15 a.m. Spudded well at

GBP Well #14 - Section 11 - Township 31 North, Range 48 East - Continued

- 11:05 a.m. with air hammer. Drilled to 60' with good returns. Lost circulation at 62', stuck D.P., worked pipe free at 14:30 p.m. Pulled up to 45', worked and circulated hole, ran back to bottom, drilled from 60' to 80'. Pulled out of hole, shut down at 16:00 p.m.
- 9-27-80 - Crew on location 08:30, (1) man only, drilled from 80' to 280', minor repairs, fair returns. Secured location at 14:30 p.m.
- 9-28-80 - Crew on location 11:30 a.m., drilling ahead from 280' to 380' intermittent circulation problems, mechanical difficulties. Rig broke down 17:15. Secured.
- 9-29-80 - No crew, rig broken down.
- 9-30-80 - Crew on location at 13:00 hours, work 2 hours. Secured - GOOD
EFFICIENT OPERATION!!!!!!
- 10-1-80 - Crew on location 10:00 a.m. Worked on rig til 14:35 p.m. Started rig, pulled out of hole, ran in hole, drilled 40', maybe. Secured 16:30 hours. HARD DAY!
- 10-2-80 - Well #14 - ran in hole, attempted to drill ahead, rig running erratic, shut down, repaired, drilled to 395' without circulation since 320'. Pulled out of hole at 15:20 hours. Shut down and moved rig to Well #10 and complete later.

GBP Well #10 - Section 22 - Township 31 North, Range 48 East

- 10-3-80 - Moved rig and crew on location 11:30 a.m. Rig equipment broken down, repaired, spudded well 16:50 p.m. Drilled to 15'. Shut down for night 17:30 p.m.
- 10-4-80 - Crew on location at 07:45 a.m. Drill with downhole hammer to 80', Pulled out of hole, repaired hammer, ran in hole drilled to 120'. Shut down 14:30 p.m., rig needs fuel, among other things.
- 10-5-80 - Crew showed up at 13:30 p.m., ran in hole drilled from 120' to 160', no circulation. Pumped hole full of polycore. Shut down 17:30 hours.

BP Well #10 - Section 22 - Township 31 North, Range 48 East - Continued

- 10-6-80 - Crew arrive 11:05 a.m. Ran to bottom drilling ahead at 120' without circulation. Injector pump down. Repair - drill to 220'. Pump down again. Shut down 16:00 p.m. for night.
- 10-7-80 - Polar mechanic on location, work on pump - needs parts. Secured rig.
- 10-8-80 - Rig repaired, pulled out of hole, bit plugs. Need sub to run diff. bit. Will wait orders.
- 10-9-80 - On location 12:10 p.m., ran in hole with 5-1/8" bit, drilled from 220' to 310'. Pulled out of hole, changed bits, ran in hole with J-55 tricone insert journal bit. Opened hole to 5-7/8" down to 220', shut down for night at 17:30 p.m.
- 10-10-80 - Crew on location at 08:30 a.m. Rig broke down - secured for day.
- 10-11-80 - Crew arrived on location at 10:30 a.m. Changed injector pump. Ran in hole, no air returns, started foaming. Shut down rig, out of water. Water truck wouldn't start. Changed batteries. Returned with water. Ran to bottom, drilling ahead to 17:45 p.m. Shut down.
- 10-12-80 - Crew on location 09:15 a.m., drilled ahead to 430±', pulled out of hole at 14:05 p.m., ran in hole with air hammer, on bottom 17:20 p.m. drilled to 500' (T.D.) at 19:15 hours. Secured location at 19:30 p.m.
- 10-13-80 - Total time on drilling contractor (Polar Drilling Company) due to mechanical difficulties with rig and equipment.
- 10-14-80 - Crew on location, ran in hole, CO, pulled out of hole, ran 23.8 joints 1" BLP to 500" (T.D.). Landed, fill with water, backfilled and cemented. Well completed at 16:00 a.m.

Rework - GBP Well #14 - Section 11 - Township 31 North, Range 48 East

- 10-14-80 - Rig and crew on location at 17:00 hours. Rigged up and secured location at 18:00 p.m.
- 10-15-80 - Crew on location at 09:00 a.m. Serviced rig, made up, used Calif.

Rework - GBP Well #14 - Section 11 - Township 31 North, Range 48 East - Continued

Bit Co. Tricone 5-7/8" bit. Picked up D.P. and ran in hole at 09:45 a.m. Tagged bottom 12:05 a.m. Added one single and drilled from 395' to 420±'. Could not pick up circulation. Pipe torquing very badly. Pulled out of hole at 14:00 hours, laid down D.P. Made up and ran 20 joints and a 2' pup to 420' (T.D.). Filled pipe with water, backfilled annulus with cuttings. Mixed and poured cement collar at surface. CIP 16:00 p.m., well completed. Released drilling contractor at 16:30 hours.


WAYNE A. SHAW
SENIOR GEOLOGIST

GETTY OIL COMPANY

Operator

1
Well No.

Section: 20 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/8/80

Depth (Ft.)	Temperature (°F)		
	°C	°F	
Surface	36.7	98.1	
25	12.8	55.0	
50	14.3	57.7	
75	15.4	59.7	
100	16.0	60.8	gradients (°F): 100 - 200 4.0 200 - 300 3.6 300 - 400 3.7 avg. 100-400 3.77
125	16.5	61.7	
150	17.1	62.8	
175	17.7	63.9	
200	18.2	64.8	
225	18.7	65.7	
250	19.2	66.6	
275	19.7	67.5	
300	20.2	68.4	
325	20.7	69.3	
350	21.3	70.3	
375	21.8	71.2	
400	22.3	72.1	
415			
425	22.7	72.9	
440 TD			
450			
475			
500			

Survey By: Kuszkowski

GETTY OIL COMPANY

Operator

 /
Well No.

Section: 20 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/50

Depth (Ft.)	Temperature (°F)		gradients (°F):
	^{°C}		
Surface	23.4	74.1	
25	12.7	54.9	
50	14.2	57.6	100 - 200 4.0
75	15.2	59.4	200 - 300 3.6
100	15.9	60.6	300 - 400 3.9
125	16.4	61.5	avg 100 - 400 3.8
150	17.0	62.6	
175	17.6	63.7	
200	18.1	64.6	
225	18.6	65.5	
250	19.1	66.4	
275	19.6	67.3	
300	20.1	68.2	
325	20.7	69.3	
350	21.2	70.2	
375	21.7	71.1	
400	22.3	72.1	
413			
425	22.6	72.7	
450			
475			
500			

Survey By: Rozekowski / De la Cruz

GETTY OIL COMPANY

Operator

2

Well No.

Section: 17 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/8/50

Depth (Ft.)	Temperature (°F)	
	°C	°F
Surface	29.2	84.6
25	13.9	57.0
50	14.7	58.5
75	15.8	60.4
100	17.0	62.6
125	18.4	65.1
150	19.5	67.1
175	20.6	69.1
200	21.7	71.1
225	22.7	72.9
250	23.7	74.7
275	24.8	76.6
300	25.9	78.6
325	27.0	80.6
350	28.1	82.6
375	29.2	84.6
400	30.4	86.7
425	31.5	88.7
450	32.7	90.9
475	33.8	92.8
500	34.0	93.2

gradients (°F):

75-175 8.7

175-275 7.5

275-375 8.0

375-475 8.2

avg 75-475 8.1

Survey By: Roszkowski

GETTY OIL COMPANY

Operator

2

Well No.

Section: 17 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/4/80

Depth (Ft.)	Temperature (°F)		
surface	^{oc} 26.2	79.2	
25	15.4	59.7	
50	15.2	59.4	<u>gradients (°F):</u>
75	16.0	60.8	
100	17.2	63.0	
125	18.5	65.3	
150	19.6	67.3	
175	20.7	69.3	75-175 8.5
200	21.7	71.1	175-275 7.3
225	22.7	72.9	275-375 8.1
250	23.8	74.8	375-475 8.1
275	24.8	76.6	avg 75-475 8.0
300	25.9	78.6	
325	27.0	80.6	
350	28.1	82.6	
375	29.3	84.7	
400	30.4	86.7	
425	31.5	88.7	
450	32.7	90.9	
475	33.8	92.8	
500	34.0	93.2	

Survey By: Lesinski / De La Cruz

GETTY OIL COMPANY

Operator

3

Well No.

Section: 17 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/2/80

Depth (Ft.)	Temperature (°F)			
	°C	°F		
Surface	26.5	79.7		
25	15.0	59.0		
50	17.0	62.6		
75	19.7	67.5		
100	22.1	71.8	gradients (°F):	
125	24.4	75.9		
150	26.7	80.1		75-175 16.5
175	28.9	84.0		175-275 15.1
200	31.0	87.8		275-375 15.3
225	33.1	91.6	375-475 15.7	
250	35.2	95.4		
275	37.3	99.1	avg 75-475 15.65	
300	39.4	102.9		
325	41.5	106.7		
350	43.6	110.5		
375	45.8	114.4		
400	47.8	118.0		
425	50.1	122.2		
450	52.3	126.1		
475	54.5	130.1		
500	55.0	131.0		

Survey By: Rozkranski

Operator

3

Well No.

Section: 17 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/4/50

Depth (Ft.)	Temperature (°F)		gradients (°F)
	^{°C}		
Surface	24.1	75.4	
25	15.2	59.4	
50	17.1	62.8	
75	19.7	67.5	75-175 16.7
100	22.2	72.0	175-275 15.1
125	24.5	76.1	275-375 15.3
150	26.8	80.2	375-475 15.5
175	29.0	84.2	avg 75-475 15.7
200	31.1	88.0	
225	33.2	91.8	
250	35.3	95.5	
275	37.4	99.3	
300	39.5	103.1	
325	41.6	106.9	
350	43.7	110.7	
375	45.9	114.6	
400	47.9	118.2	
425	50.1	122.2	
450	52.3	126.1	
475	54.5	130.1	
492			
500	55.0	131.0	

Survey By: Rozkowski / De La Cruz

GETTY OIL COMPANY

Operator

5

Well No.

Section: 16 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/7/80

Depth (Ft.)	Temperature (°F)		
	<u>C</u>	<u>F</u>	
Surface	31.7	89.1	
25	12.5	54.5	
50	14.7	58.5	
75	18.3	64.9	gradients (°F):
100	20.9	69.6	75-175 12.5
125	22.6	72.7	175-275 8.2
150	24.1	75.4	275-375 6.2
175	25.2	77.4	375-475 5.2
200	26.4	79.5	avg 75-475 8.02
225	27.4	81.3	
250	28.7	83.7	
275	29.8	85.6	
300	30.9	87.6	
325	31.9	89.4	
350	32.6	90.7	
375	33.2	91.8	
400	33.9	93.0	
425	34.6	94.3	
450	35.4	95.7	
475	36.1	97.0	
500	36.2	97.2	

Survey By: Shaw/Rszkewski

GETTY OIL COMPANY

Operator

5
Well No.

Section: 16 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/80

Depth (Ft.)	Temperature (°F)		gradients (°F):	
	<u>°C</u>			
Surface				
25	13.2	55.8		
	12.2	54.0		
50	14.6	58.3		
75	18.2	64.8		
100	20.8	69.4	75-175	12.6
125	22.6	72.7	175-275	8.1
150	24.0	75.2	275-375	6.1
175	25.2	77.4	375-475	5.3
200	26.3	79.3	avg 75-475	8.1
225	27.4	81.3		
250	28.7	83.7		
275	29.9	85.8		
300	30.9	87.6		
325	31.9	89.4		
350	32.7	90.9		
375	33.3	91.9		
400	34.0	93.2		
425	34.7	94.5		
450	35.4	95.7		
475	36.2	97.2		
<u>480</u> <u>500</u>	36.3	97.3		

Survey By: Roszkowski/DeLaCruz

GETTY OIL COMPANY

Operator

7
Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/7/50

Depth (Ft.)	Temperature (°F)		
	°C	°F	
Surface	30.0	86.0	
25	13.9	57.0	
50	15.1	59.2	gradients (°F):
75	16.2	61.2	50-150 7.0
100	17.1	62.8	150-250 7.7
125	18.1	64.6	avg 50-250 7.35
150	19.0	66.2	
175	20.1	68.2	
200	21.4	70.5	
225	22.2	72.0	
250	23.3	73.9	
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

Survey By: Shaw/Roszkowski

GETTY OIL COMPANY

Operator

7
Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/8

Depth (Ft.)	Temperature (°F)		Gradients (°F)
	<u>°C</u>	<u>°F</u>	
Surface	24.3	73.9	
25	14.0	57.2	50-150 7.0 150-250 7.6
50	15.1	59.2	
75	16.2	61.2	avg 50-250 7.3
100	17.1	62.8	
125	18.1	64.6	
150	19.0	66.2	
175	20.1	68.2	
200	21.3	70.3	
225	22.1	71.8	
250	23.2	73.8	
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

Survey By: Roszkowski / De La Cruz

GETTY OIL COMPANY

Operator

2A

Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10-7-37

Depth (Ft.) Temperature (°F)

Surface	Temperature (°C)	Temperature (°F)	Gradients (°F)
	26.4	80	
25	15.9	60.6	
50	15.3	59.5	
75	16.0	60.8	
100	17.0	62.6	100-200 7.6
125	17.8	64.0	200-300 7.7
150	18.8	65.8	300-400 3.6
175	19.8	67.6	400-500 3.0
200	21.2	70.2	wg 100-500 5.4
225	22.3	72.1	
250	23.3	73.9	
275	24.1	75.4	
300	25.5	77.9	
325	25.5	77.5	
350	26.2	79.2	
375	26.9	80.4	
400	27.5	81.5	
425	28.1	82.6	
450	28.6	83.5	
475	28.9	84.0	
500	29.0	84.2	

Survey By: Shaw / R. Ziemstra

GETTY OIL COMPANY

Operator

7A
Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/80

Depth (Ft.)	Temperature (°F)		
Surface	^{OC} 24.7	76.5	
25	15.7	60.3	<u>gradients of:</u> 75-175 6.3 175-275 7.8 275-375 5.0 375-475 3.6 avg 75-475 5.8
50	15.3	59.5	
75	16.0	60.8	
100	17.0	62.6	
125	17.8	64.0	
150	18.8	65.8	
175	19.7	67.5	
200	21.1	70.0	
225	22.2	72.0	
250	23.2	73.8	
275	24.0	75.2	
300	24.7	76.5	
325	25.4	77.7	
350	26.1	79.0	
375	26.8	80.2	
400	27.5	81.5	
425	28.1	82.6	
450	28.5	83.3	
475	28.8	83.8	
480			
500	28.9	84.0	

Survey By: Roszkowski/De La Cruz

GETTY OIL COMPANY

Operator

8

Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/7/80

Depth (Ft.)	Temperature (°C)	Temperature (°F)	Gradients (°F)
Surface	27.6	81.7	
25	14.6	58.3	
50	13.9	57.0	
75	14.1	57.4	75-175 5.7
100	14.9	58.8	175-275 5.1
125	15.7	60.3	275-375 4.8
150	16.6	61.9	375-475 5.1
175	17.3	63.1	
200	18.1	64.6	avg 75-475 5.18
225	18.8	65.8	
250	19.4	66.9	
275	20.1	68.2	
300	20.7	69.3	
325	21.4	70.5	
350	22.1	71.8	
375	22.8	73.0	
400	23.5	74.3	
425	24.2	75.6	
450	24.9	76.8	
475	25.6	78.1	
500	25.8	78.4	

Survey By: Shaw / Wiszkiwski

GETTY OIL COMPANY

Operator

8
Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/80

Depth (Ft.)	Temperature (°F)		gradients (°F)	
Surface	<u>23.9</u>	<u>75.0</u>		
25	<u>14.8</u>	<u>58.6</u>		
50	<u>13.8</u>	<u>56.8</u>		
75	<u>14.0</u>	<u>57.2</u>		
100	<u>14.8</u>	<u>58.6</u>	<u>75-175</u>	<u>5.9</u>
125	<u>15.6</u>	<u>60.1</u>	<u>175-275</u>	<u>4.9</u>
150	<u>16.5</u>	<u>61.7</u>	<u>275-375</u>	<u>4.9</u>
175	<u>17.3</u>	<u>63.1</u>	<u>375-475</u>	<u>5.2</u>
200	<u>18.1</u>	<u>64.6</u>	<u>avg 75-475</u>	<u>5.2</u>
225	<u>18.7</u>	<u>65.7</u>		
250	<u>19.4</u>	<u>66.9</u>		
275	<u>20.0</u>	<u>68.0</u>		
300	<u>20.7</u>	<u>69.3</u>		
325	<u>21.5</u>	<u>70.3</u>		
350	<u>22.1</u>	<u>71.8</u>		
375	<u>22.7</u>	<u>72.9</u>		
400	<u>23.4</u>	<u>74.1</u>		
425	<u>24.2</u>	<u>75.6</u>		
450	<u>24.9</u>	<u>76.3</u>		
475	<u>25.6</u>	<u>78.1</u>		
491	<u>25.7</u>	<u>78.3</u>		
500				

Survey By: Roszkowski / De La Cruz

GETTY OIL COMPANY

Operator

9
Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/7/80

Depth (Ft.)	Temperature (°F)		
	^{°C}	^{°F}	
Surface	29.4	84.9	
25	15.3	59.5	gradients (°F): 25-125 2.0 125-225 4.0 avg 25-225 3.0
50	15.3	59.5	
75	15.5	59.9	
100	16.0	60.8	
125	16.4	61.5	
150	17.1	62.8	
175	17.6	63.7	
200	18.3	64.9	
225	18.6	65.5	
250	Plugged		
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

Survey By: Shaw/Roszkowski

GETTY OIL COMPANY

Operator

9 open drill pipe
Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/80

Depth (Ft.)	Temperature (°F)		
surface	^{oc} 24.8	76.6	
25	14.7	58.5	gradient (°F): 100-200 4.2
50	14.9	58.8	
75	15.4	59.7	
100	15.9	60.6	
125	16.4	61.5	
150	17.0	62.6	
175	17.6	63.7	
200	18.2	64.8	
225	plugged		
250			
275			
300			
325			
350			
375			
400			
425			
450			
475			
500			

Survey By: Rozkowski / De La Cruz

GETTY OIL COMPANY

Operator

10
Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/4/80

Depth (Ft.)	Temperature (°F)		
Surface	19.2	66.6	
25	13.0	55.4	<u>gradients (°F):</u> 75-175 4.1 175-275 4.5 275-375 3.5 375-475 3.2 avg 75-475 3.8
50	13.2	55.8	
75	13.5	56.3	
100	14.3	57.7	
125	14.8	58.6	
150	15.2	59.4	
175	15.8	60.4	
200	16.3	61.3	
225	17.0	62.6	
250	17.6	63.7	
275	18.3	64.9	
300	18.8	65.8	
325	19.3	66.7	
350	19.7	67.5	
375	20.2	68.4	
400	20.7	69.3	
425	21.1	70.0	
450	21.6	70.9	
475	22.0	71.6	
500			

Survey By: Roszkowski / De La Cruz

Operator

10

Well No.

Section: 22 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 1/20/81

Depth (Ft.)	Temperature (°F)		gradients (°F)	
	°C	°F		
surface				
25	17.8	64.0		
50	16.6	61.9	175-275	4.6
75	15.5	59.9	275-375	4.2
100	14.7	58.5	375-475	3.2
125	14.5	58.1	avg 175-475	4.0
150	14.6	58.3		
175	14.9	58.8		
200	15.2	59.4		
225	16.1	61.0		
250	16.7	62.1		
275	17.3	63.1		
300	17.8	64.0		
325	18.4	65.1		
350	19.1	66.4		
375	19.6	67.3		
400	20.1	68.2		
425	20.6	69.1		
450	21.0	69.8		
475	21.5	70.7		
500	21.9	71.4		

Survey By: Shaw/Koszkowski

GETTY OIL COMPANY

Operator

12
Well No.

Section: 14 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/2/50

Depth (Ft.)	Temperature (°F)		Gradients (°F)
	°C	°F	
Surface	19.5	67.1	
25	13.6	56.5	
50	14.4	57.9	
75	15.3	59.5	
100	15.7	60.3	25-125 4.8
125	16.3	61.3	125-225 4.5
150	16.9	62.4	225-325 4.0
175	17.5	63.5	325-425 3.6
200	18.2	64.8	avg 25-425 4.2
225	18.8	65.8	
250	19.4	66.9	
275	19.9	67.8	
300	20.4	68.7	
325	21.0	69.8	
350	21.6	71.9	
375	22.2	72.0	
400	22.7	72.9	
421 TD	23.0	73.4	
425			
450			
475			
500			

Survey By: Roszkowski

Operator

12

Well No.

Section: 14 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/4/80

Depth (Ft.)	Temperature (°F)		
Surface	^{OC} 14.2	57.6	
25	13.2	55.8	gradients (°F): 100 - 200 4.7 200 - 300 4.1 300 - 400 4.2 avg 100 - 400 4.3
50	14.1	57.4	
75	14.9	58.8	
100	15.5	59.9	
125	16.0	60.8	
150	16.7	62.1	
175	17.4	63.3	
200	18.1	64.6	
225	18.7	65.7	
250	19.4	66.9	
275	19.9	67.8	
300	20.4	68.7	
325	21.1	70.0	
350	21.7	71.1	
375	22.3	72.1	
400	22.7	72.9	
417	22.9	73.2	
425			
450			
475			
500			

Survey By: Roszkowski/Solo Case

GETTY OIL COMPANY

Operator

13
Well No.

Section: 14 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/3/80

Depth (Ft.)	Temperature (°F)		gradients (°F)	
Surface	<u>19.9</u>	<u>67.8</u>		
25	<u>14.6</u>	<u>58.3</u>		
50	<u>13.1</u>	<u>55.6</u>	100 - 200	<u>2.7</u>
75	<u>13.4</u>	<u>56.1</u>	200 - 300	<u>4.3</u>
100	<u>13.6</u>	<u>56.5</u>	300 - 400	<u>3.8</u>
125	<u>13.9</u>	<u>57.0</u>	400 - 500	<u>2.3</u>
150	<u>14.3</u>	<u>57.7</u>		
175	<u>14.7</u>	<u>58.5</u>	avg 100-500	<u>3.3</u>
200	<u>15.1</u>	<u>59.2</u>		
225	<u>15.5</u>	<u>59.9</u>		
250	<u>16.1</u>	<u>61.0</u>		
275	<u>16.7</u>	<u>62.1</u>		
300	<u>17.5</u>	<u>63.5</u>		
325	<u>18.2</u>	<u>64.8</u>		
350	<u>18.8</u>	<u>65.8</u>		
375	<u>19.2</u>	<u>66.6</u>		
400	<u>19.6</u>	<u>67.3</u>		
425	<u>20.0</u>	<u>68.0</u>		
450	<u>20.4</u>	<u>68.7</u>		
475	<u>20.8</u>	<u>69.4</u>		
⁴⁸³ 500	<u>20.9</u>	<u>69.6</u>		

Survey By: Roszkowski/De La Cruz

GETTY OIL COMPANY

Operator

13
Well No.

Section: 14 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 1/20/81

Depth (Ft.)	Temperature (°F)		gradients (°F)	
	°C	°F		
Surface	16.0	60.8		
25	15.1	59.2	75-175	2.0
50	13.2	55.8	175-275	3.6
75	13.5	56.3	275-375	4.5
100	13.6	56.5	375-475	2.9
125	13.9	57.0		
150	14.2	57.6	avg 75-475	3.3
175	14.6	58.3		
200	15.0	59.0		
225	15.4	59.7		
250	16.0	60.8		
275	16.6	61.9		
300	17.4	63.3		
325	18.1	64.6		
350	18.7	65.7		
375	19.1	66.4		
400	19.5	67.2		
425	19.0	66.2		
450	20.3	68.5		
475	20.7	69.3		
483	20.8	69.4		
500				

Survey By: Shawn Roszkowski

GETTY OIL COMPANY

Operator

14

Well No.

Section: 11 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/3/80

Depth (Ft.)	Temperature (°F)		
	<u>26.5</u>	<u>79.7</u>	
Surface			
25	13.4	56.1	<u>gradients (°F):</u> 100 - 200 1.7 200 - 300 2.5 300 - 400 3.9 avg 100-400 2.7
50	13.5	56.3	
75	13.6	56.5	
100	13.8	56.8	
125	14.0	57.2	
150	14.2	57.6	
175	14.4	57.9	
200	14.7	58.5	
225	14.9	58.8	
250	15.2	59.4	
275	15.6	60.1	
300	16.1	61.0	
325	16.8	62.2	
350	17.5	63.5	
375	17.9	64.2	
400	18.3	64.9	
425			
450			
475			
500			

Survey By: Roszkowski / DeLaCruz

GETTY OIL COMPANY

Operator

14
Well No.

Section: 11 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 1/20/81

Depth (Ft.)	Temperature (°F)		gradients (°F)	
	°C	°F		
surface	11.0	51.8		
25	13.0	55.4	100-200	1.6
50	13.2	55.8	200-300	2.5
75	13.3	55.9	300-400	4.0
100	13.5	56.3	avg 100-400	2.7
125	13.7	56.7		
150	13.9	57.0		
175	14.1	57.4		
200	14.4	57.9		
225	14.6	58.3		
250	14.9	58.8		
275	15.3	59.5		
300	15.8	60.4		
325	16.5	61.7		
350	17.2	63.0		
375	17.6	63.7		
400	18.0	64.4		
425				
450				
475				
500				

Survey By: Shawn Roszkowski

GETTY OIL COMPANY

Operator

15

Well No.

Section: 20 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/8/80

Depth (Ft.)	Temperature (°F)		
	°C	°F	
Surface	26.5	79.7	
25	17.9	55.2	
50	13.9	57.0	
75	14.8	58.6	gradients (°F):
100	15.7	60.3	50 - 100 8.5
125	16.8	62.2	100 - 200 6.8
150	18.6	65.5	200 - 300 6.3
175	19.5	67.1	300 - 400 4.0
200	20.4	68.7	avg 50-450 6.4
225	21.4	70.5	
250	22.4	72.3	
275	23.4	74.1	
300	24.2	75.6	
325	24.9	76.8	
350	25.9	78.6	
375	26.5	79.7	
400	27.1	80.8	
425	27.6	81.7	
450	28.1	82.6	
456	28.2	82.8	
475			
500			

Survey By: Roszkowski

GETTY OIL COMPANY

Operator

15

Well No.

Section: 20 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/80

Depth (Ft.)	Temperature (°F)			
	°C	°F		
Surface	17.8	64.0		
25	12.9	55.2		
50	13.8	56.8	75-175	8.4
75	14.7	58.5	175-275	7.2
100	15.6	60.1	275-375	5.6
125	16.7	62.1	375-475	3.6
150	18.5	65.3		
175	19.4	66.9	wg 75-475	6.1
200	20.3	68.5		
225	21.4	70.5		
250	22.4	72.3		
275	23.4	74.1		
300	24.2	75.6		
325	24.8	76.6		
350	25.8	78.4		
375	26.5	79.7		
400	27.0	80.6		
425	27.5	81.5		
450	28.0	82.4		
475	28.5	83.3		
500				

Survey By: Roszkowski / De La Cruz

GETTY OIL COMPANY

Operator

16

Well No.

Section: 20 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/8/80

Depth (Ft.)	Temperature (°F)			
	°C	°F		
Surface	31.8	89.2		
25	12.2	54.0		
50	13.2	55.8		gradients (°F)
75	14.6	58.3		
100	16.0	60.8	75-175	10.6
125	17.5	63.5	175-275	9.0
150	19.0	66.2	275-375	9.2
175	20.5	68.9	375-475	5.2
200	21.6	70.9	avg 75-475	8.5
225	22.8	73.0		
250	24.0	75.2		
275	25.5	77.9		
300	27.7	81.9		
325	28.9	84.0		
350	29.9	85.8		
375	30.6	87.1		
400	31.5	88.7		
425	32.2	90.0		
450	32.9	91.2		
475	33.5	92.3		
491	33.6	92.5		
500				

Survey By: Roscinski

GETTY OIL COMPANY

Operator

16
Well No.

Section: 20 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 11/5/40

Depth (Ft.)	Temperature (°F)
Surface	23.1
25	53.8
50	55.6
75	58.1
100	60.6
125	63.3
150	66.0
175	68.7
200	70.7
225	73.0
250	75.2
275	78.1
300	81.9
325	84.0
350	85.8
375	87.1
400	88.5
425	90.0
450	91.2
475	92.3
475	92.3
500	92.3

gradients (°F):

75 - 175 10.6

175 - 275 9.4

275 - 375 9.0

375 - 475 5.2

avg 75-475 8.6

Survey By: Roskowski / De la Cruz

GETTY OIL COMPANY

Operator

17

Well No.

Section: 16 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 10/4/80

Depth (Ft.)	Temperature (°F)		gradients (°F):	
Surface	20.4	68.7		
25	12.4	54.3		
50	12.7	54.9		
75	13.3	55.9	100 - 200	3.4
100	13.9	57.0	200 - 300	4.7
125	14.3	57.7	300 - 400	4.2
150	14.8	58.6	400 - 500	3.9
175	15.3	59.5		
200	15.8	60.4	avg 100-500	4.1
225	16.3	61.3		
250	17.1	62.8		
275	17.8	64.0		
300	18.4	65.1		
325	19.0	66.2		
350	19.5	67.1		
375	20.1	68.2		
400	20.7	69.3		
425	21.4	70.5		
450	22.1	71.8		
475	22.8	73.0		
480	22.9			
500		73.2		

Survey By: Roszkowski / De la Cruz

GETTY OIL COMPANY

Operator

17
Well No.

Section: 16 TWP: 31N RNGE. 48E COUNTY: Eureka STATE: Nevada

Date: 1/20/60

Depth (Ft.)	Temperature (°F)		gradient (°F)	
	°C	°F		
surface	11.9	53.4		
25	12.4	54.3	75-175	4.0
50	12.6	54.7	175-275	4.5
75	12.9	55.2	275-375	4.3
100	13.7	56.7	375-475	4.9
125	14.1	57.4		
150	14.6	58.3		
175	15.1	59.2		
200	15.6	60.1		
225	16.2	61.2		
250	16.9	62.4		
275	17.6	63.7		
300	18.2	64.8		
325	18.8	65.8		
350	19.4	66.9		
375	20.0	68.0		
400	20.6	69.1		
425	21.2	70.2		
450	22.0	71.6		
475	22.7	72.9		
476	22.7	72.9		
500				

avg 100-500 4.4

Survey By: Shaw/Roszkowski