

OCCIDENTAL GEOTHERMAL, INC.

Newberry Crater, Oregon Stratigraphic Test No. 72-3 1983  
Section 3, T. 22 S., R. 12 E.

JUN 29 1984

DEPT OF GEOLOGY  
MUNICIPAL

## WELL HISTORY

E. E. Storey and Longyear Company, Contractors. All measurements taken from derrick floor which is at ground level (6,530' ground elevation).

1983

- 10/4 Moved in E. E. Storey drilling equipment and rigged up. Spudded at 9:30 a.m. Drilled 9-1/2" hole with air to 40'. Pulled out of hole (POOH).
- Ran and cemented 2 joints of 6-5/8" O.D. X 6.135" I.D. 17# casing with welded guide shoe at 39' with 19 sacks of cement. Good cement returns at surface. Wait on cement (WOC).
- 10/5 Ran in hole (RIH) with 6" air hammer on 4-1/2" drill pipe and drilled out cement and shoe from 35' to 40' and drilled 6" hole from 40' to 110'. Hole caving. POOH. Mixed 20 sacks of plaster and poured down hole. WOC. Ran in hole with 6" air hammer and drilled out cement from 32' to 110' and drilled 6" hole from 110' to 155'.
- 10/6 Drilled 6" hole with air hammer from 155' to 306'. Produced cold water at 260'. POOH. RIH. Tagged bridge at 138'. Mixed 12 sacks of plaster and poured down hole. WOC. Ran in hole with 6" rock bit and drilled out cement without returns. POOH. Mix 45 sacks of cement and pour down hole. WOC.
- 10/7 Ran in hole with 6" rock bit and tagged cement at 160'. Drilled out cement with air from 160' to 245'. POOH.
- 10/8  
thru  
10/9 Well shut down.
- 10/10 Ran in hole with 6" rock bit and drilled out cement with air from 245' to 306' and drilled 6" hole from 306' to 335'. Hole caving. POOH.
- 10/11 Mixed mud and LCM. Ran in hole with 6" rock bit and drilled 6" hole with mud from 335' to 380' with returns. POOH.
- 10/12 Ran in hole with 6" rock bit and drilled 6" hole with mud from 380' to 485' with returns. POOH.

OPEN RECORDS 1987

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- 10/13 Ran in hole with 6" rock bit and drilled 6" hole with mud from 485' to 550' with returns. Conditioned hole. POOH.
- 10/14 Ran 26 joints, 533', of 4-1/2" O.D. X 4.026" I.D., 10.79#, flushjoint casing with guide shoe to 533'. Welded every connection. Welded plumbing to casing and rigged up E. E. Storey pump. Mixed and pumped in 2 barrels of water, 2 barrels of sodium silicate mixed 1:1 with water, 2 barrels of water followed by 160 sacks of Class "G" cement. Had good cement returns at surface. WOC. E. E. Storey moved out rotary rig.
- 10/15 thru  
10/19 Well shut down.
- 10/20 Using backhoe, cut out around casing for cellar and dug sump. Lined sump with plastic. Built cellar.
- 10/21 Longyear Company, Contractor. Moved in core drilling equipment and rigged up. Welded on wellhead.
- 10/22 Waited on B.O.P. equipment.
- 10/23 Installed B.O.P. equipment. Installed kill line and safety valves.
- 10/24 Tested kill line and safety valves to 1200 psi, O.K. Tested B.O.P. equipment and casing at 850 psi for 15 minutes, O.K. Tested Hydril at 750 psi for 15 minutes, O.K. Ran in hole with 3-3/4" bit and located top of plug at 526'. Drilled out plug and cement from 526' to 552'. POOH. Changed bit. Ran in hole with 3.895" core bit (HQ) reamer shell, and 5' core barrel to 552'. Core drilled 3.895" hole from 552' to 596'. POOH. Changed bit. Ran in hole (RIH). Core drilled 3.895" hole from 596' to 601'.
- 10/25 Core drilled 3.895" HQ hole from 601' to 799'. Checked BOPE, O.K.
- 10/26 Core drilled 3.895" HQ hole from 799' to 929'. Mud returns from 799' to 908'. No returns from 908' to 929'. Installed H<sub>2</sub>S detection equipment. POOH. Changed bit. RIH. Checked BOPE, O.K.

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- 10/27 Core drilled 3.895" HQ hole from 929' to 1,076' with partial returns. Checked BOPE, O.K.
- 10/28 Core drilled 3.895" HQ hole from 1,076' to 1,237' with partial returns. Checked BOPE, O.K.
- 10/29 Core drilled 3.895" HQ hole from 1,237' to 1,379' with partial returns. Serviced rig: 1 hour. Checked BOPE, O.K.
- 10/30 Core drilled 3.895" HQ hole from 1,379' to 1,504' with full returns. Changed filter on hydraulic pump: 1 hour. Checked BOPE, O.K.
- 10/31 Core drilled 3.895" HQ hole from 1,504' to 1,614' with full returns. Checked BOPE, O.K. Serviced rig; changed filter on hydraulic pump, replaced broken hydraulic line, 2 hours.
- 11/1 Core drilled 3,895" HQ hole from 1,614' to 1,724' with partial returns. Checked BOPE, O.K.
- 11/2 Core drilled 3.895" HQ hole from 1,724' to 1,826' with partial returns. Checked BOPE, O.K.
- 11/3 Core drilled 3.895" HQ hole from 1,826' to 1,829' with partial returns. POOH. Changed bit. Checked blind rams, O.K. Ran in hole with 3.895" HQ bit reamer shell and 10' core barrel. Checked BOPE, O.K. Cleaned out mud system and conditioned hole. Core drilled 3.895" HQ hole from 1,829' to 1,887' with partial returns. Conditioned hole while in swelling formation.
- 11/4 Core drilled 3.895" HQ hole from 1,887' to 2,023' with partial mud returns.
- 11/5 Core drilled 3.895" HQ hole from 2,023' to 2,142' with partial returns. Serviced rig, 2 hours. Checked BOPE, O.K.
- 11/6 Core drilled 3.895" HQ hole from 2,142' to 2,254' with partial returns. Checked BOPE, O.K.
- 11/7 Core drilled 3.895" HQ hole from 2,254' to 2,364' with partial returns. Checked BOPE, O.K.
- 11/8 Core drilled 3.895" HQ hole from 2,364' to 2,464' with partial returns. Checked BOPE, O.K.

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- 11/9 Core drilled 3.895" HQ hole from 2,464' to 2,564' with partial returns. Checked BOPE, O.K. Conditioned mud and hole, 3 hours.
- 11/10 Core drilled 3.895" HQ hole from 2,564' to 2,664' with partial returns. Checked BOPE, O.K.
- 11/11 Core drilled 3.895" HQ hole from 2,664' to 2,754' with partial returns. Checked BOPE, O.K. Conditioned hole, 2 hours.
- 11/12 Core drilled 3.895" HQ hole from 2,754' to 2,863' with partial returns. Checked BOPE, O.K.
- 11/13 Core drilled 3.895" HQ hole from 2,863' to 2,950' with partial returns. Checked BOPE, O.K.
- 11/14 Core drilled 3.895" HQ hole from 2,950' to 3,041' with partial returns. Checked BOPE, O.K.
- 11/15 Core drilled 3.895" HQ hole from 3,041' to 3,051' with partial returns. Broke overshot. Checked BOPE, O.K. Conditioned hole. Fabricated fishing tool, fished for overshot unsuccessfully, POOH. Checked Blind rams, O.K. Repaired inner tube, changed bit, 6 hours. RIH. Encountered bridge at 2,690'. Washed drill pipe down hole from 2,690' to 2,980'. Hit fill at 2,980'. Drilled fill from 2,980' to 3,051'. Core drilled 3.895" HQ hole from 3,051' to 3,064' with partial mud returns.
- 11/16 Core drilled 3.895" HQ hole from 3,064' to 3,174' with partial returns. Checked BOPE, O.K.
- 11/17 Core drilled 3.895" HQ hole from 3,174' to 3,284' with partial returns. Checked BOPE, O.K.
- 11/18 Core drilled 3.895" HQ hole from 3,284' to 3,402' with partial returns. Checked BOPE, O.K.
- 11/19 Core drilled 3.895" HQ hole from 3,402' to 3,504' with partial returns. Checked BOPE, O.K. Conditioned hole, 2 hours.
- 11/20 Conditioned hole, 2 hours. Switched over hole fluid from mud to clear water. Burned in HQ bit at 3,504' and backed off at 11'. Water level remains in HQ drilling rod at 11'. HQ rods with bit, reamer shell and outer barrel left in hole. TOTAL DEPTH DRILLED: 3,504'.

238°F

1983 season

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11/21 Nippled down BOPE. Ran 4 joints of 1.9" O.D. X 1.61" I.D. 2.76#, N-80, G.S.T. tubing open ended. Landed tubing with hanger flange and bolted same to wellhead. Secured well with two valves on annulus and two valves with pressure gauge attached to tubing. Installed wellhead locking device and locks. 5' X 7' X 7' cellar boarded over. Sump material disposed of at U.S.F.S. approved site.

Released rig at 6:00 p.m., November 21, 1983.

11/22/83 Rigged down. Removed sump liner. Backfilled sump with backhoe. Completed temporary reclamation. Left site with 2 feet of fresh snow on ground.

Well suspended.