**Well History**

**Union Oil Company of California**

**Type Well**: Geothermal

**Company**: Union Oil Co. of California

**Lease**: Vale Federal

**No.**: 47-10

**County**: Malheur

**Location**: 800' from South line and 2500' from West line of Section 10.

**Area**: Vale Oregon

**Elevation**: 2790'

**Spud**: 7/10/81

**Comp.**: 8/2/81

**Aband.**: 3853'

**Total Depth**: 3853'

**Plug**:

**Recomp.**: B.H.L.

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**MARKERS - HORIZONS**

**DATE** | **DEPTH** | **PROGRESS HISTORY**
--- | --- | ---
7-10-81 | Moved Southwest Drilling Co. rig #11 from Zigzag, Oregon, to Vale Federal Lease #47-10. Moved in and rigged up, on day rate at 1000 hours, 7-10-81. Spudded well at 1800 hrs, 7-10-81. Drilled 17-1/2" hole to 22'. Ran and cemented a 13-3/8" cut-off joint of casing at 22' with 12 cu. ft. of 118# slurry, WOC.


7-12-81 | Cut off 9-5/8" casing. Welded on 8"-900 SOW casing head. Installed 8" Shaffer mechanical BOP with pipe and blind rams. Tested BOP's to 800 psi, OK. RIH with bit #3 to cement at 80'. Drilled plug and hard cement to shoe at 114', and to formation at 117'.

7-13-81 | Drilled 8-3/4" hole from 117' to 400'. Lost circulation. Mixed and pumped LCM pill. Drilled from 400' to 430' with 60% returns and from 430' to 529' with full returns.
07-14-81 Drilled 8-3/4" hole from 529' to 700'. Lost circulation. Drilled to 740' with 65% returns. Drilled to 789'.


07-17-81 Installed 7" SOW head. Tested weld to 800 psi, OK. Installed BOP. Tested casing and BOP to 800 psi. Made up BHA and RIH to top of cement at 826'. Drilled cement to shoe at 835'. Cleaned out to 877'. Drilled 6-1/8" hole from 877' to 931'.

07-18-81 Drilled 6-1/8" hole from 931' to 1227'.

07-19-81 Drilled 6-1/8" hole from 1227' to 1442'.

07-20-81 Drilled 6-1/8" hole from 1442' to 1592' with 95% returns.

07-21-81 Drilled 6-1/8" hole from 1592' to 1702'.

07-22-81 Drilled 6-1/8" hole from 1702' to 1745'.

07-23-81 Drilled 6-1/8" hole from 1745' to 1925'.

07-24-81 Drilled 6-1/8" hole from 1925' to 2040'.

07-25-81 Drilled 6-1/8" hole from 2040' to 2505'.

07-26-81 Drilled 6-1/8" hole from 2505' to 2920'.
07-27-81  Drilled 6-1/8" hole from 2920' to 2985'.
07-28-81  Drilled 6-1/8" hole from 2985' to 3105'. Lost 35 bbls mud. Spotted LCM. Drilled 6-1/8" hole from 3105' to 3125'.
07-29-81  Drilled 6-1/8" hole from 3125' to 3480'.
07-30-81  Drilled 6-1/8" hole from 3480' to 3645'.
07-31-81  Drilled 6-1/8" hole from 3645' to 3785'.
08-01-81  Drilled 6-1/8" hole from 3785' to 3853'. Ran DIL 3840' to 842', FDC 3840' to 842', CNL 3840' to 842', and temperature log from 3833' to 100'. Log indicated maximum bottom hole temperature 265°F.
08-02-81  Completed logging. RIH with 6-1/8" bit to 3853' (no fill). Conditioned mud and cooled hole.
          POH. Ran 123 joints 3-7/8" 6.5# J-55 EUE tubing with float valve on bottom of bottom joint.
          Landed tubing with float valve at 3805'. Hung on Midway donut hanger. Displaced mud inside of tubing with 22 bbls of water. Installed 8"-900 x 3"-600 adapter flange with 3" WKM valve SEB #591546-1) on top of well head. Released rig.
08/03/81  Cleaned location. Filled sump.

NOTE: Will re-seed location with grass acceptable to BLM representative at proper time.