

OREGON NATURAL GAS DEVELOPMENT CORP.

Johnson #33-33
Well History

Date	Depth	Event
August 1981		
14		ROVOR Drilling Company moved in Rig #1 and rigged up.
19		Spudded in with 14 3/4" bit at 8:00 p.m.
20		Lost circulation at 210'
	210'	Clay and siltstone
21		Lost circulation
	238'	Clay and sandstone
22		Lost circulation
	456'	Clay
23		Lost circulation
	780'	Basalt
26	1,020'	Siltstone
		Ran 25 joints of 10 3/4", K-55, 40.5# casing equipped with a 'float at 978.6' and a guide shoe at 1,018.6'. Cemented around guide shoe w/650 sacks of Class G cement with 8% bentonite and 3% CaCl. No cement returns to surface. Cement in place at 2:00 p.m.
		Ran 1" pipe to top of cement at 75'. Pumped in 50 sacks of Class G cement which filled annulus to surface. Cement in place at 9:00 p.m.
27		Landed casing and installed casing head.
28		Installed and tested BOP equipment. Test of BOPE witnessed and approved by Mr. Dennis Olmstead and Mr. Bill King of ODGAMI.
		Drilled out float, cement, and shoe with 8 3/4" bit and drilled ahead.
August 29	1,413'	Sandstone and Clay. Surveyed at 1,539', sandstone and clay (see survey report). Picked up Dyna Drill and drilled ahead.
30		Surveyed at 1,584'; Orient Dyna Drill.
	1,750'	Siltstone Laid down Dyna Drill and drilled ahead.
31	1,977'	Clay and Siltstone Picked up Dyna Drill and drilled ahead.
September '81		
1	2,524'	Laid down Dyna Drill and drilled ahead Siltstone and Clay
2	2,985'	Siltstone and Clay
3	3,378'	Siltstone and Clay
4	3,458'	Basalt
5	3,914'	Siltstone and Clay Picked up Dyna Drill and drilled
6	4,118'	Siltstone
7	4,270'	Cemented Sandstone Laid down Dyna Drill and drilled ahead.
8	4,354'	Cemented Sandstone Picked up Dyna Drill and rigged up AMF continuous survey tool. Drilled ahead
9	4,400'	Silty Sandstone Laid down Dyna Drill and ran in hole to circulate junk (broken bit teeth) into junk basket.
10	4,418'	Silty Sandstone Picked up Dyna Drill, rigged up AMF continuous survey tool, and drilled ahead.
11	4,535'	Laid down Dyna Drill and drilled ahead. Clay and Siltstone
12	4,801'	Clay and Siltstone
September 13		Pulled out of hole to change bits and pulled into a key seat at 2,072'. Work stuck pipe and wait on key seat wiper.
September 13 (continued)	4,836'	Clay and Siltstone Ran in hole with key seat wiper and ream 1,506' to 1,972'.
14		Pulled out of hole, changed bottom hole assembly and ran in hole to 4,117'. Washed 4,117'-4,170'.
15		Ream with new bit
16		Ream to 4,836'
17	5,008'	Picked up Dyna Drill and drilled ahead. Clay and Siltstone
18	5,051'	Sand and Clay Laid down Dyna Drill and drilled ahead
19	5,188'	Siltstone and Clay
20	5,481'	Siltstone and Clay
21	5,826'	Siltstone and Clay
22	6,012'	Siltstone and Clay
23	6,246'	Siltstone and Clay
24	6,551'	Clay and Siltstone
25		Circulate and condition hole for intermediate log.
26		Rigged up Welox and attempted Dual Induction log to 6,551', but logging tools fail. Drilled ahead.
	6,684'	Sandstone
27	6,675'	Siltstone
28	6,866'	Sandy Siltstone
29	7,051'	Siltstone
30	7,213'	Sandstone and Siltstone
October 1981		
1	7,345'	Sandstone
October 2	7,461'	Siltstone
3	7,540'	Basalt and Siltstone
4	7,616'	Basalt

October 5 7,647' Twisted off drill pipe, 7,334' in hole, 313' recovered. Ran in hole with fishing tools.

6 Tagged fish and pulled out of hole. Laid down fishing tools.

7 Ran in hole, reaming and washing to bottom.

8 Washed to bottom. Pulled out of hole for magnetic particle inspection of all drill pipe. Laid down two collars, two stabilizers, and two crossover subs.

9 Ran in hole visually inspecting drill pipe pins and boxes. Drilled ahead.

10 7,649' Basalt

11 7,780' Siltstone
Repaired washout in drill pipe on 24th stand. Drilled ahead

12 7,910' Siltstone.

13 8,086' Clay and Siltstone

14 8,122' Siltstone.
Rigged up Welex to run an intermediate Dual Induction Log and Accoustic Velocity Log. The hole was tight at 2,019', so ran in hole with drilling assembly to work tight spot.

15 Logging tools would not go below 4,806', so logged from 4,806' to surface casing. Drilled ahead.

16 8,155' Siltstone

17 8,301' Clay and Siltstone

18 8,369' Clay and Siltstone
Drill pipe washed out in 26th stand and 21st stand. Pulled out of hole visually inspecting every joint. Drilled ahead.

19 8,460' Siltstone

20 8,661' Siltstone

21 8,715' Siltstone
Pulled out of hole to wait on drill pipe inspector due to continuing washouts on box end.

23 Inspect pipe. Ran in hole, reaming and washing to bottom.

October 29 Drilled ahead at 8,715'.

30 8,912' Siltstone
Pulled out of hole and pulled into a key seat at 2,375'. Pipe stuck at that point.

31 Mixed and spotted a diesel and "EZ spot" slug in attempt to free pipe. Worked pipe free down, but still would not pull up. Drilled up using drill pipe slips in rotary table. Broke free at 2,307' and pulled out of hole.

November 1 8,917' Siltstone
Twist off at 1,487', pull fish out of hole.

2 8,975' Siltstone

5 9,215' Siltstone

6 9,332' Sandy siltstone
Laydown rig drill, pipe, pickup rental pipe.

7 Reaming back to bottom.

9 9,412' Sandy siltstone
Worked tight hole.

10 Washed toward bottom.

12 9,541' Sandy siltstone

13 9,655' Clay and siltstone

15 9,885' Siltstone and clay

17 10,006' Siltstone
Reached total depth at 6:30 a.m. Circulated and conditioned hole for logging.

18 Wiper trip in tight hole; continue conditioning for logging.

19 Work tight hole; ream 3,317' to 3,394'.

20 Ream 3,394' to 3,526.

21 Ream 3,526' to 3,927'.

22 Ream 3,927' to 4,154', and 4,469' to 4,623', and 9,203' to 10,006'. Circulate and condition hole.

23 Wiper trip to the surface casing.

November 24 Ran Welex Dual Induction Guard Log to 6,525'. Tools would not go beyond that depth. Attempt Welex Accoustic Velocity Log; no go past 3,800'.

25 Ran Welex Dip Log to 3,600'. Ran Birdwell Velocity survey to 3,915'. Shot sidewall cores at 2,020', 2,120, 3,035', and 3,115'.

26 Hung drill pipe at 7,291' and pumped in and equalized 275 sacks class G cement. Cement in place at 3 a.m.

27 Tagged cement plug at 7,009', drilled to 7,015'. Circulated and conditioned hole. Wait on casing.

28 Ran 5½" casing as follows:
186 joints, shoe, float, DV tool - 6,995.49'.
DV collar set at 4,468.58'.

Centralizers at 3,100', 3,180', 3,320', 3,400', 4,150', 4,230', 4,300', 4,410', 4,538', 4,500', 6,565, 6,640', 6,715', 6,795', 6,870'.

29 Cement as follows:
1st Stage--Cement around shoe at 6,995' with 265 sacks Class G with 2% CaCl and 8% gel, followed by 200 sacks Class G with 2% CaCl. Cement in place at 7 a.m..

2nd Stage--Open DV collar at 4,468' and pump 705 sacks Class G with 2% CaCl and 8% gel, followed by 200 sacks Class G with 2% CaCl. Cement in place at 1 p.m.

Landed casing, cut off landing joint, layed down BOP stack.

30 ROVER rigging down; rig released at 12 midnight.

December 4 Move in Taylor Drilling Co. Rig #5.

5 Rigging up.

6 Pick up 2-3/8" tubing, drill out approximately 100' of cement at DV collar with 4-3/4" bit. Tag bottom at 6,958'.

7 Rig up Welex and run Microseismogram Bond Log. Log indicates no cement bond across the zones of interest.

8 Wait on Halliburton for cement squeeze jobs.

December 9

Set Halliburton 5-1/2" RTTS packer at 6,680'. Perforate 6,800' - 6,801' and squeeze 50 sacks Class G cement with 3,000 psi. REset packer at 6,553' and perforate 6,650' - 6,651'. Attempt squeeze; however annulus pressure increased while pumping.

10 Pull packer and inspect. Run in hole testing tubing to 3,000 psi.

11 Continue pressure testing the tubing and locate washout at approximately 1,650'. Set packer at 6,553'.

12 Continue cement squeeze jobs. A summary of all squeezes follows:

<u>Perforate</u>	<u>Packer Set</u>	<u>Cement Squeezed</u>
6,800'-6,801'	6,680'	50 sacks
6,650'-6,651'	6,553'	50 sacks
4,270'-4,271'	4,144'	75 sacks
4,150'-4,151'	3,966'	25 sacks
3,320'-3,321'	3,225'	50 sacks
2,980'-2,981'	2,825'	50 sacks

21 Drilled out cement to 6,780'.

22 Run Cement Bond log. Run in hole with tubing and set packer at 6,550'. Install Xmas tree.

23 Swab fluid level to 5,500'. Perforate 6,720'-6,730' KB with Welex 1-9/16" sidewinder SSB II, 4 HPF. Swab fluid level to the packer and shut-in for 1 hour. No pressure buildup at surface. Run swab in hole and recover 400' of gas cut water.

26 Set Baker retrievable bridge plug at 6,700'. Pull packer and reset at 3,700'.

27 Install Xmas tree. Swab fluid to 3,500'. Perforate 4 HPF at 4,172'-4,182' and 4,150'-4,160'. Swab to 3,700' and shut-in for 1 hour. After buildup, water level at 1,700', no pressure at surface. Set Baker retrievable bridge plug at 4,050'.

28 Set packer at 2,700' and install Xmas tree. Swab fluid to 1,500. Perforate 4 HPF at 3,108'-3,122'. Swab to 2,700' and shut-in overnight.

29 After shut-in, found no pressure at surface and fluid level at 1,400'. Swab fluid down to 2,700'. No gas present.

December 30

Pull packer and run in the hole with Halliburton RTTS packer. Set packer at 2,825' and squeeze with 75 sacks of Class G cement through perfs 3,108'-3,122'.

31 Pull RTTS packer, run in hole with 4-3/4" bit, and drill approximately 100' of cement in casing. Set Baker packer at 2,700', swab fluid to 2,700'. Perforate 4 HPF at 3,076'-3,085' and 3,093'-3,104'. After one hour shut-in, noticed no pressure buildup at surface and found fluid at 1,400'.

January 1982

1, 2 Inclement weather.

3 Run in hole with RTTS packer and set at 2,825'. Squeeze with 75 sacks of Class G cement through perfs 3,076'- 3,085' and 3,093'-3,104'. Pull packer and reset at 1,700'. Perforate 4 HPF at 2,067'-2,068' and squeeze 75 sacks of Class G cement for calculated fill outside the casing to 1,757'.

4 Inclement weather.

5 Drill out approximately 80' of cement in the casing. Run in the hole with Baker packer and set at 2,700'. Install Xmas tree and swab fluid to 2,700'.

6, 7 Inclement weather.

8 Perforate 4 HPF at 3,037'-3,047'. After 45 minutes shut-in, wellhead pressure buildup to approximately 10 psi; however, not enough quantity to flow test. Fluid level increased to 2,600' (100' net fluid).

9 Pull Baker bridge plug at 4,050'. Run in hole, set RTTS packer at 4,047' and squeeze 4,172'-4,182' and 4,150'-4,160' with 75 sacks of Class G CEMENT. REset packer at 2,800' and squeeze 3,037'-3,047' with 75 sacks of Class G cement.

10 Drill out all cement in the casing to 5,000'.

11 Attempt to pull Baker bridge plug at 6,300; unsuccessful.

12 Pull Baker bridge at 6,300', run in hole with Baker packer and set at 6,324'.

13 Perforate 4 HPF at 6,730'-6,750' and 6,700'- 6,720'. Pressure up tubing and break down perforations with 4,000 psi at a flow rate of 6 ft³/min for 2 minutes.

January 14, 1982

Swab fluid level down to the packer. After 1 hour shut-in, no pressure buildup at the surface, and fluid level increased 400'. Set Baker retrievable bridge plug at 2,500'.

15 Set Baker packer at 1,700', perforate 4 HPF at 2,005'-2,017', and after 1 hour shut-in, fluid level increased approximately 200'.

16 Pull Baker bridge plug at 2,500'. Run in hole with open tubing and set cement plugs (Class G cement) as follows:

<u>Plug</u>	<u>Cement</u>
6,600'-6,800'	25 sacks
4,070'-4,270'	25 sacks
2,920'-3,320'	50 sacks
1,750'-2,067'	35 sacks

17 Tagged top plug at 1,784' witnessed by ODGAMI. Layed down BOP equipment and tubing. Installed casing valve on wellhead flange. Hole suspended in this condition.

Rig released at 3 p.m.

No SURFACE PLUG