ConocoPhillips Resources Canada CORP.

COPRC Mirror Lake P-20 Final Well Report

Grid # 65°10′, 126°45′

2014/04/21

COPRC Mirror Lake P-20

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1.0 Introduction

1.1 Summary

The COPRC Mirror Lake P-20 well was spudded on January 30, 2014 and the rig was released on February 23 2014 after reaching a total depth of 3152 m KB with a total of 25 operating days on the well.

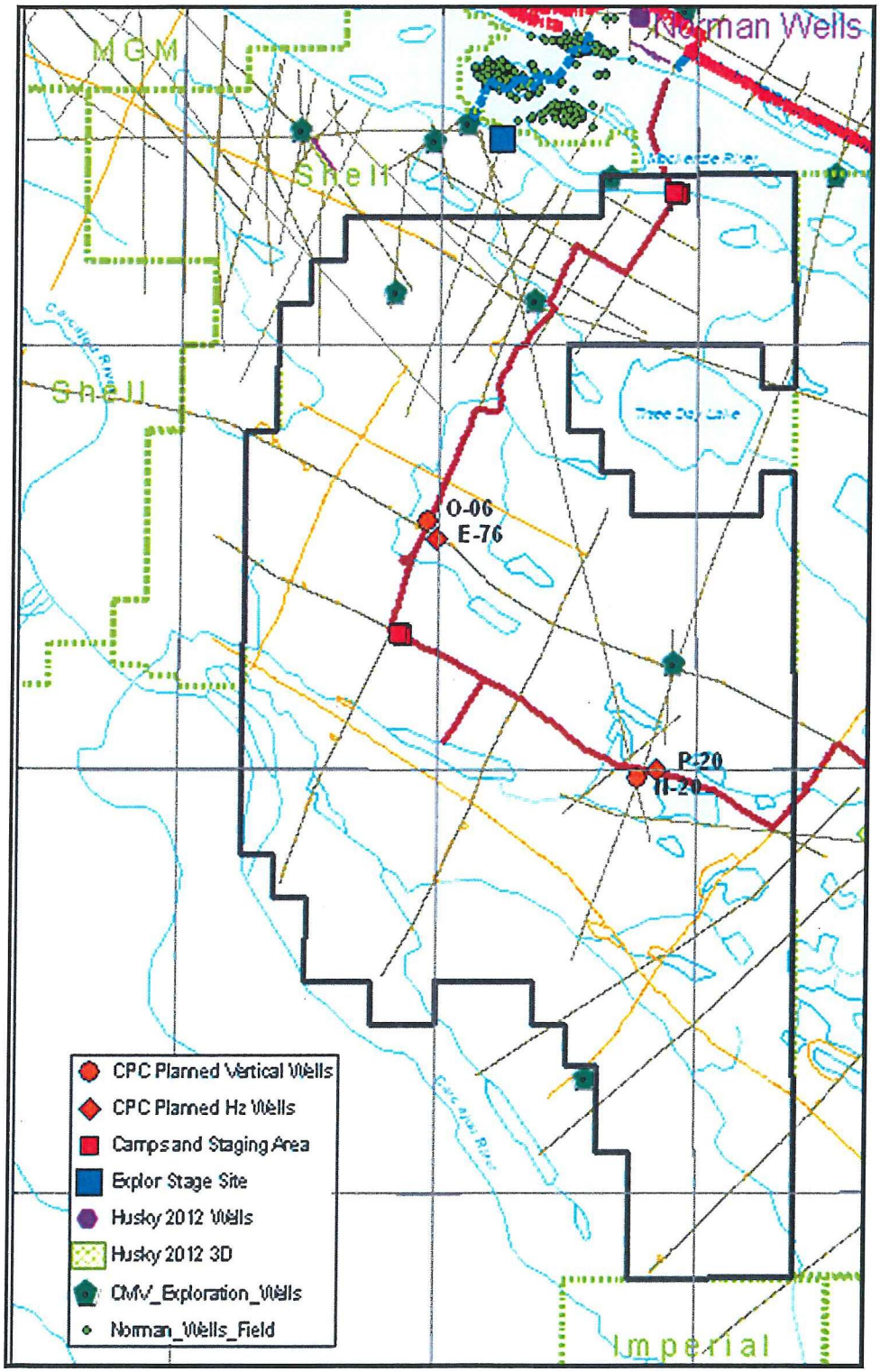
Construction operations to support ConocoPhillips' winter 2013/14 exploration program began on November 22, 2013 with the start of construction of access roads from ConocoPhillips' staging area to the E-76 well site. Initial profiling of the Mackenzie River ice cover was done on November 30 2013 and construction of the ice bridge was undertaken working from both the EL470 and Norman Wells sides of the river. Clearing of the ice bridge route was conducted with flooding and thickening of the 6 km ice bridge beginning in early December. The ice bridge was considered thick enough to support normal loads on December 11 2013 and it was capable of taking full loads by January 30, 2014.

The Mirror Lake P-20 well pad was completed on January 17 2014 and Beaver Rig 2 was mobilized from its previous location at the E-76 well site beginning on January 24, 2014 and rig up was complete by January 29. Mirror Lake P-20 was spudded on January 30 2014 and the rig was released on February 23 2014 after reaching a total depth of 3152 metres of which 1000 metres was drilled horizontally in the Canol formation. The well required a total of 25 days for operations from spud to rig release.
Drilling operations were conducted with no major issues and no safety incidents. The top of the Canol target zone was encountered at 1935 meters (TVD). Intermediate hole was drilled to 2152 M MD and logged with Schlumberger open hole tools down to 2065 m. The log run consisted of the AIT-TLD-HGNS-GR-BHC-TLD2-EMS-EMA-ERCD logging tools. An intermediate 177.8 mm casing string was run and cemented to surface without any issues. The horizontal hole was logged using logging while drilling (LWD) tools which provides Gamma Ray data. A 114.3 mm liner was run to bottom at 3152 m KB, set and cemented full length in preparation for completion operations.

Completion operations began on February 18 2014 with the setup of water tanks and well site trailers. Rig up of completions equipment began on February 27 2014 and completions operations commenced March 3 2014 when coil tubing was used to clean out the wellbore. Hydraulic fracturing operations began March 5 and were completed by March 10 2014. A total of 10 stages were fracked in the P-20 well, with each frac consisting of about 790 m^3 of water and 100 tonnes of sand proppant.
The well was again cleaned out using a coil tubing rig and then a production packer was set at 2026 m KB on wireline. A tubing head was made up on the wellhead in preparation for Flowback operations. Nabors Service Rig #414 was rigged up on the well on March 13 and ran a string of 60.3 mm tubing complete with Weatherford surface readout down hole gauges and landed the tubing string in het packer. All

wellhead and down hole pressure tests were good. Nabors Service Rig #414 was released on March 18 2014 after the well had flowed to testers for 23 hours.
Mirror Lake P-20 began flowing on March 18 and was flowed until April 7 2014. The well was flowed for a total 506 hours. Down hole pressure gauges were left in the well to monitor pressure build up following flowback; these gauges will be recovered next season. All completions equipment was rigged out by April 8 2014 and the well was left with wellhead installed and valves locked.
No major incidents happened while conducting completions operations on P-20 in 2014.

1.2 Locality Map



2.0 General Data

2.1 Well Name

COPRC Mirror Lake P-20

2.2 Unique Well Identifier

300P206500126450

2.3 Operator and Drilling Contractor

ConocoPhillips Canada Resources Corporation

Beaver Drilling Ltd. Rig #2

2.4 Difficulties and Delays

There were no significant drilling issues or delays experienced on this well.

3.0 Summary of Drilling Operations

3.1 Elevations

Ground Level: 284.15 m

Kelly Bushing: 289.35 m

KB – Ground Level: 5.20 m

3.2 Total depth

3152 m KB

3.3 Spud Date and Time

January 29 2014 @ 00:00 Hours

3.4 Date Drilling Completed

Drilling completed 2/20/2104

3.5 Rig Release Date and Time

Rig Released 02 /23/13 @2400 Hrs.

3.6 Well Status

Suspended

3.7 Hole sizes and depths

Surface Hole: 311 mm to 602 m KB

Intermediate Hole: 222 mm to 2152 m KB

Main Hole: 156 mm to 3152 m KB (TD)

3.8 Casing and Cementing Record

3.8.1 Conductor Hole

508 mm conductor set at 20 m. Cemented to surface with 10 t class 'G' Arctic blend cement.

3.8.2 Surface Hole

244.5 mm, 53.57 kg/m, J-55 LTC set at 602.0 m KB. Cemented to surface with 40 t RFC 1740 cement.

3.8.3 Intermediate Hole

177.8 mm, 38.69 kg/m P-110 LTC set at 2152.0 m KB. Cemented to surface with 19 t HiLITE 1400 lead cement followed by 16 t Class 'G' tail cement.

3.8.4 Production Hole

114.3 mm, 17.26 kg/m P-110 LTC liner set at 2909 m KB(TD). Cemented to liner top with 20 t Class 'G' cement.

3.9 Drilling Fluids

3.9.1 Surface Hole

Gel Chemical (MI Swaco)

3.9.2 Intermediate/Main Hole

Versaclean Mineral Oil (MI Swaco)

3.10 Formation Leak Off Tests

3.10.1 Surface Casing Drill out

A Formation Integrity Test (FIT) was conducted on Mirror Lake P-20 on February 7, 2014 at a depth of 609 m KB after drilling out the surface casing shoe at 602 m KB and making 7 metres of new hole. The FIT at 609 m KB was conducted with 995.0 kg/m^3 OBM in the hole and was taken to a pressure of 4991 kPa with no leak off. This equates to an equivalent fracture gradient of 1810 kPa/m.

3.11 Time Distribution

Casing: 51.75 hrs.

Cementing: 38.50 hrs.

Drilling: 410.25 hrs.

Formation Evaluation: 22.0 hrs.

Rig Move: 218.75 hrs.

Rig Maintenance: 38.25 hrs.

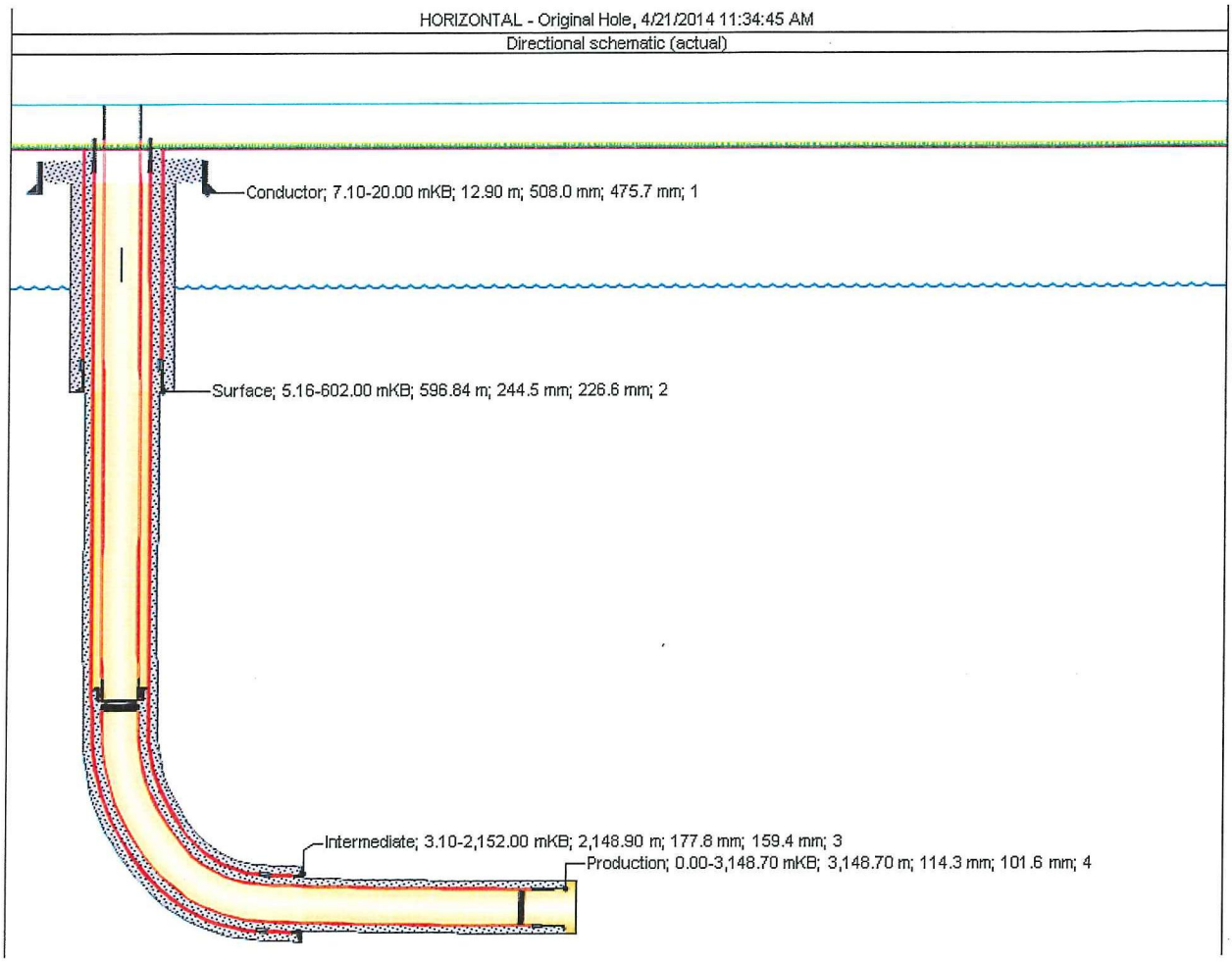
Wellhead/BOP testing: 42.25 hrs.

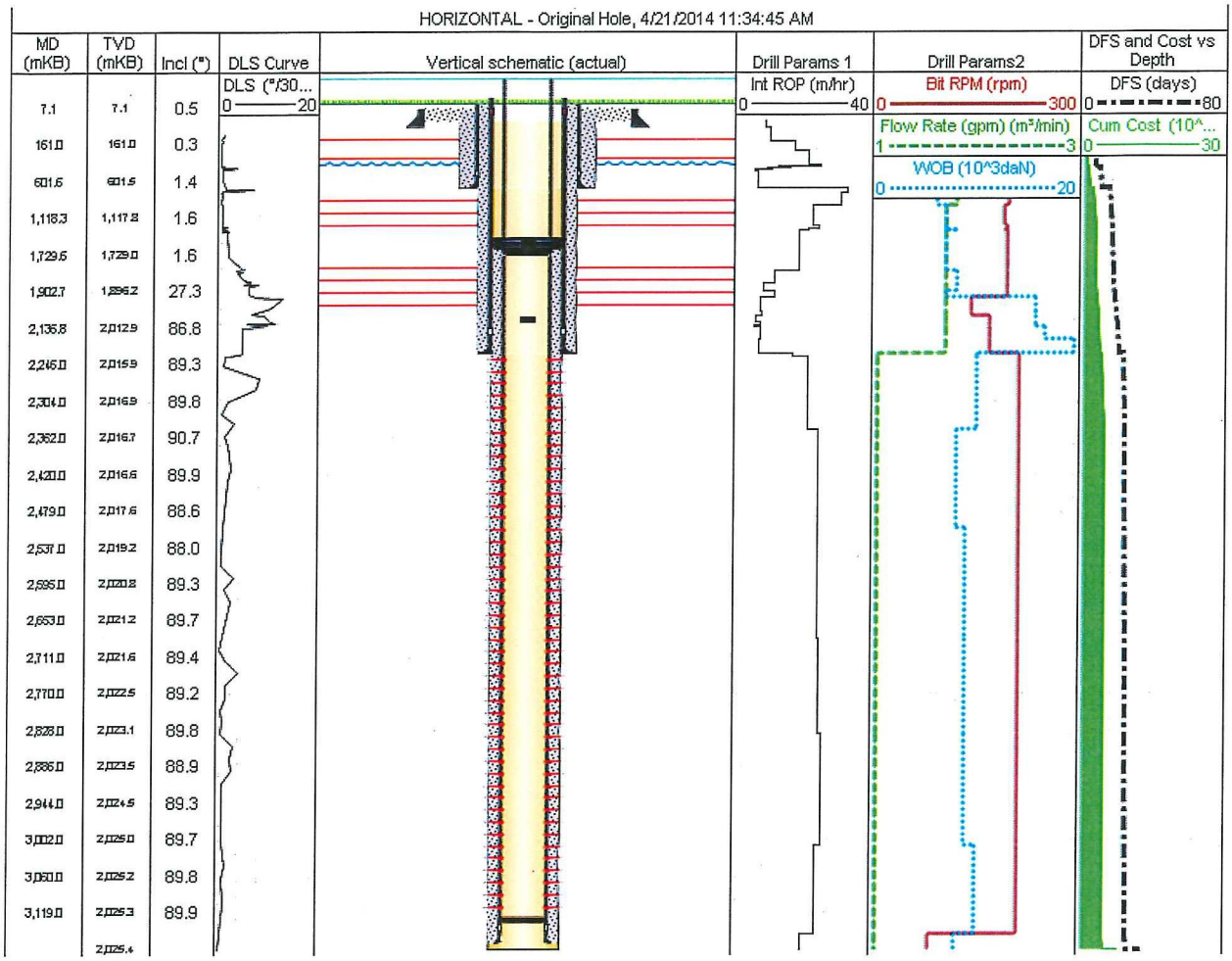
Trouble Time: 84.25 hrs.

3.12 Deviation Survey

The maximum deviation encountered on surface hole on this well was 2.3^0 at 450.0 m KB. The well kick off point was at approximately 1730 m KB and the well was deviated to horizontal at approximately 2152 m KB at intermediate casing point. The horizontal section of the well comprised some 1000 meters 0f 156 mm hole.

3.13 Composite Drilling Record




HORIZONTAL - Original Hole, 4/21/2014 11:34:45 AM
MD (mKB)
TVD (mKB)
Incl (°)
DLS Curve
DLS (°/30...
0
20
Vertical schematic (actual)
Drill Params 1
Int ROP (m/hr)
0
40
Drill Params2
Bit RPM (rpm)
0
300
Flow Rate (gpm) (m³/min)
1
3
WOB (10^3daN)
0
20
DFS and Cost vs Depth
DFS (days)
0
80
Cum Cost (10^...
0
30
7.1 7.1 0.5
161.0 161.0 0.3
601.6 601.5 1.4
1,118.3 1,117.8 1.6
1,729.6 1,729.0 1.6
1,902.7 1,896.2 27.3
2,135.8 2,012.9 86.8
2,245.0 2,015.9 89.3
2,304.0 2,016.9 89.6
2,362.0 2,016.7 90.7
2,420.0 2,016.6 89.9
2,479.0 2,017.6 88.6
2,537.0 2,019.2 88.0
2,595.0 2,020.8 89.3
2,653.0 2,021.2 89.7
2,711.0 2,021.6 89.4
2,770.0 2,022.5 89.2
2,828.0 2,023.1 89.8
2,886.0 2,023.5 88.9
2,944.0 2,024.5 89.3
3,002.0 2,025.0 89.7
3,060.0 2,025.2 89.8
3,119.0 2,025.3 89.9
2,025.4

4. Geology

4.1 Drill Cuttings

Drill cuttings were collected at 5 metre intervals from spud (20 m KB) to TD (3152 m KB). A set of bulk samples as well as a set of washed samples in vials have been delivered to the GNWT (03/12/2014).

4.2 Cores

No Cores were cut on the Mirror Lake P-20 well.

4.3 Lithology

Formation	Prognosis		Sample		
Marker Tops	**TVD**	**SS**	**MD**	**TVD**	**SS**
Quaternary	5		5.0	5.0	
Little Bear	28		43.0	43.0	252.85
Slater River	196.5		208	208	81.35
Arctic Red	930		958	957.85	-668.5
Martin House	1083		1106.4	1106.22	-816.87
Imperial	1117		1139.0	1138.82	-849.47
Upper Canol	1903.0		1900.70	1894.75	-1605.40
Lower Canol	1928.5		1939.0	1927.33	-1637.98
TD	2022.50		3152.0	2024.98	-1735.63

5. Well Evaluation

5.1 Open Hole Logs

Hole Section	Run Number	Log description	Depth In	Depth Out
Intermediate	1	AIT-TLD-HGNS-GR-BHC-TLD2-EMS-EMA-ERCD	2066	600
Intermediate	2	USIT (unpressured pass)	2066	600
	3	USIT (pressure pass) run in cased hole to evaluate cement bond of 177.8 mm intermediate casing	2066	600

5.2 Summary of Hydraulic Fracturing Operations

Completion operations commenced February 18 when a tank farm was initially set up for water storage for the P-20 fracturing operations. Completions equipment rig up began February 27 and was completed on March 2 and pressure testing of all fracturing equipment began.

Coil tubing operations began on March 3 when coil was run to bottom to ensure that the wellbore was clean and no obstructions existed. The first stage of the hydraulic fracturing program commenced on March 5. A total of 10 stages were fracked over a 6 day period ending on March 10, 2014.

5.3 Completion Operations Commence

Completion operations commenced February 27, 2014

5.4 Fracturing Operations Completed

Hydraulic fracturing operations ended March 10, 2014