



SlidePro Performance Summary

Edson Area Alberta, Canada



DRILLING PROJECT

A Canadian based oil and gas operator is actively drilling long reach Montney horizontals in the Alberta foothills to produce condensate and natural gas. The brine mud system has a high friction coefficient, making slide drilling difficult.

DOWNHOLE DRILLING EQUIPMENT

The BHA included a PDC bit, 5" Sabre mud motor and mud pulse MWD for directional drilling operations. The drill string comprised 4½" G105 drill pipe and 40 joints of 4 ½" HWDP with DS40 connections. The mud pulse MWD system was setup to operate at 6,763 m MD with Brine.

HORIZONTAL SECTION

The most recent horizontal well drilled from a TVD of 3600 m (11,808 ft) at the heel, rising to a TVD of 3550 m (11,644 ft) at TD. The horizontal length was 2990 m (9,807 ft), with a total MD of 6763 m MD (22,182 ft) at TD.

SlidePro FRICTION BREAKING TOOL

Due to the high friction associated with brine, the SlidePro Friction Breaking Tool (FBT) was set at 4,500 kPa (650 psi) and installed 1,200 m (3,936 ft) from the bit. Top drive twisting, beads and lubricants were also used to reduce drill string friction.

RESULTS

Once the SlidePro FBT was installed to finish the horizontal, less slack off weight was required to slide drill and the mud motor differential increased, resulting in higher slide drilling ROPs.

Well Type	Horizontal
Target Formation	Montney

Drilling Rig	Excalibur Drilling
Pumps	2 x 1300 HP
Top Drive	Tesco HXI 700

Mud System	Brine	
Mud Density	1280 kg/m3	10.8 ppg
Flow Rate	920 LPM	242 GPM

Hole Size	156 mm	6.125"
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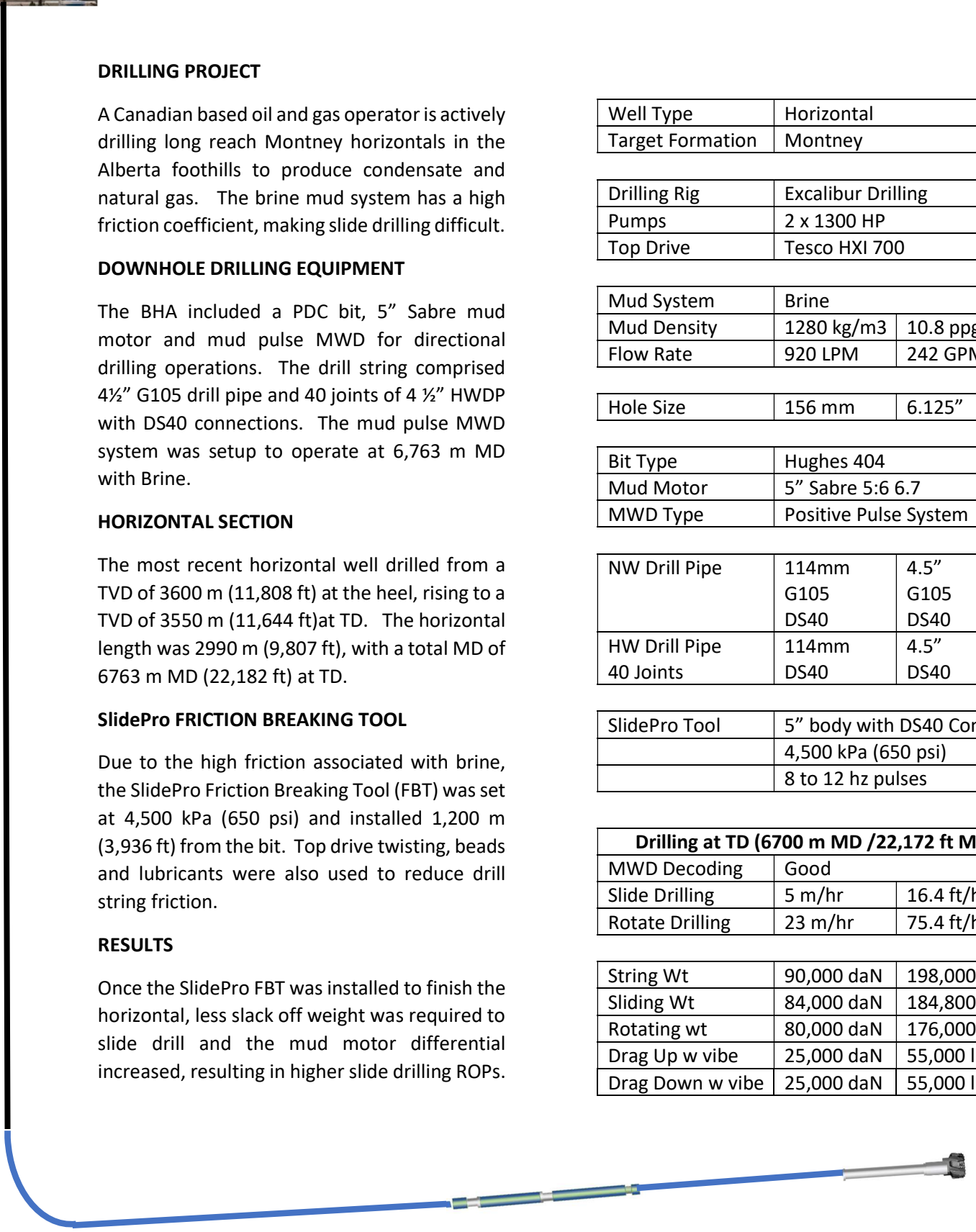
Bit Type	Hughes 404
Mud Motor	5" Sabre 5:6 6.7
MWD Type	Positive Pulse System

NW Drill Pipe	114mm G105 DS40	4.5" G105 DS40
HW Drill Pipe 40 Joints	114mm DS40	4.5" DS40

SlidePro Tool	5" body with DS40 Conn.
	4,500 kPa (650 psi)
	8 to 12 hz pulses

Drilling at TD (6700 m MD /22,172 ft MD)		
MWD Decoding	Good	
Slide Drilling	5 m/hr	16.4 ft/hr
Rotate Drilling	23 m/hr	75.4 ft/hr

String Wt	90,000 daN	198,000 lbs
Sliding Wt	84,000 daN	184,800 lbs
Rotating wt	80,000 daN	176,000 lbs
Drag Up w vibe	25,000 daN	55,000 lbs
Drag Down w vibe	25,000 daN	55,000 lbs



Slide Drilling Hook Load

