ALPHABOW HZ 9B2 HAYTER 9-21-40-1W4

Oil Development Well

AFE#:	18xxxx	RIG:	Advance Rig-5
AFE $:	XXX	LICENCE	492015

Advance Drilling Ltd. C/O ABE

ELEVATIONS & COORDINATES

Ground Elevation: 690.0 m **(surveyed)**
KB to Ground (est): 5.0 m
KB ELEVATION: **695.0 m**
CO-ORDINATES:
Surface: 5,813,051.15 N
562,479.17 E

Bottom Hole:
5812194.98 N
562,353.38 E

NAD83 Geographic Co-ordinates for STARS Link Center
Latitude: **52.464053°**
Longitude: **110.079904°**

SURFACE CASING

*BGWP: 474 m ASL
Required Surface Casing: 216 (No Reduction)
Surface Casing Setting Depth: **246** m KB
Ensure Surface Casing shoe is set 10m into competent formation
Install a PVT system that is sensitive to +1.0 m^3 and alarm at +2.0m^3.

FORMATION TOPS & PRESSURES

FORMATION	mSS (m)	TVD (m)	Minimum MW (kg/m3)	Max Expected gradient Kpa/m	EMD+Margin (kg/m3)
Quaternary Top	691.8	0	**0**	0	0
Colorado Shale top	252	442	**887**	8.7	1048
Second White Specks	149.5	544.5	**887**	8.7	1018
Base fish scale top	111.5	582.5	**459**	4.5	581
Viking top	62	632	**989**	9.7	1102
Joli Fou top	51	643	**775**	7.6	886
Mannville top	16.9	677.1	**999**	9.8	1104
Sparky sand top	-40.1	734.1	**1009**	9.9	1106
Rex top	-56.2	750.2	**999**	9.8	1094
Lloydminster top	-68.7	762.7	**714**	7.0	807
Ellerslie top	-76.1	770.1	**999**	9.8	1092
Cummings top	-78	772	**948**	9.3	1040
Dina Sandstone (Horizontal	-81.7	775.7	**948**	9.3	1040

The above formation pressures are from offset wells, and are not indicative of what could be expected. They are to be used only as a guide.

*** Primary Target** Dina
**** Secondary Target**

DRILLING SUPERVISOR NOTE:
Report the Spud Date / Time , KB ELEV. and rig release Date/Time on DDR

Report Spud to AER Branch within 12 HRS

All pertinent information must be recorded on WellView and CAODC Tour Reports

PRESSURE TEST: Surface Casing

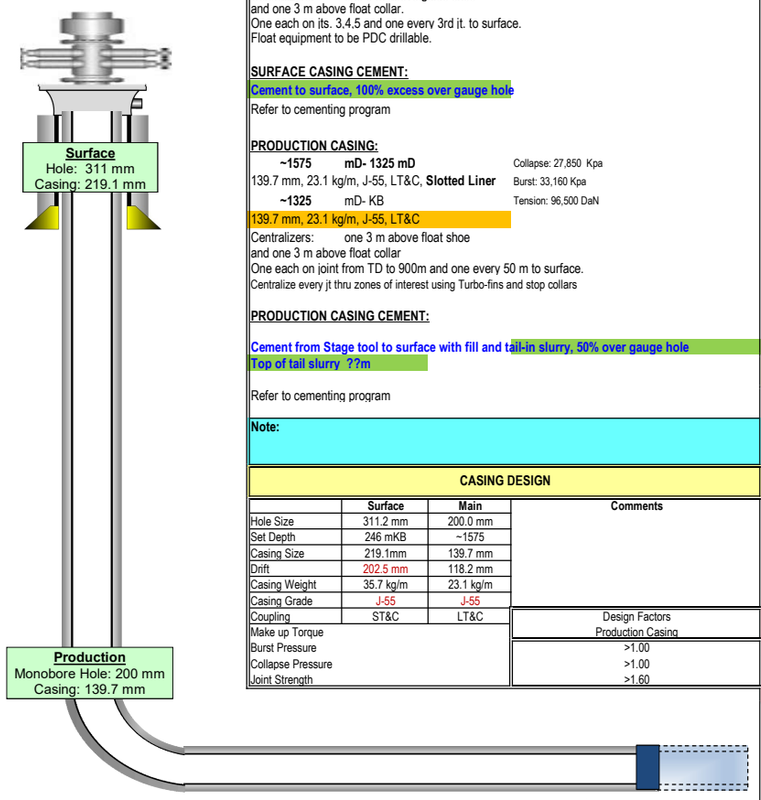
Casing: Low 1,400 kPa for 10 mins
Test casing to 7,000 for 10 mins

BOPS: Low: 1,400 kPa for 10 min
High: 14,000 kPa for 10 min

Additional Information

CLASS IV BOP STACK
228 mm, 21 MPa

CASING BOWL
228 mm x 14 MPa x 219.1mm, SOW, flanged outlets with (1) valve



CASING & CEMENTING

SURFACE CASING:
246 mKB
219.1 mm, 35.7 kg/m, J-55, ST&C
Centralizers: one 3 m above guide shoe
and one 3 m above float collar.
One each on its. 3,4,5 and one every 3rd jt. to surface.
Float equipment to be PDC drillable.
Collapse: 9,450 Kpa
Burst: 20,340 Kpa
Tension: 108,500 DaN

SURFACE CASING CEMENT:
Cement to surface, 100% excess over gauge hole
Refer to cementing program

PRODUCTION CASING:
~1575 **mD- 1325 mD**
139.7 mm, 23.1 kg/m, J-55, LT&C, **Slotted Liner**
~1325 mD- KB
139.7 mm, 23.1 kg/m, J-55, LT&C
Centralizers: one 3 m above float shoe
and one 3 m above float collar
One each on joint from TD to 900m and one every 50 m to surface.
Centralize every jt thru zones of interest using Turbo-fins and stop collars
Collapse: 27,850 Kpa
Burst: 33,160 Kpa
Tension: 96,500 DaN

PRODUCTION CASING CEMENT:
Cement from Stage tool to surface with fill and tail-in slurry, 50% over gauge hole
Top of tail slurry ??m
Refer to cementing program

Note:

CASING DESIGN

	Surface	Main	Comments
Hole Size	311.2 mm	200.0 mm	
Set Depth	246 mKB	~1575	
Casing Size	219.1mm	139.7 mm	
Drift	202.5 mm	118.2 mm	
Casing Weight	35.7 kg/m	23.1 kg/m	
Casing Grade	J-55	J-55	
Coupling	ST&C	LT&C	
Make up Torque			Design Factors Production Casing
Burst Pressure			>1.00
Collapse Pressure			>1.00
Joint Strength			>1.60

DRILLING FLUIDS

SURFACE HOLE: Bentonite Slurry
Spud with water, premix 20M3 of gel slurry

MAIN HOLE:
Top Hole: Floc Water
Pre -treat the water with 0.75kg/m3 of Calcium Chloride, 4.5 Kg/m3 Gypsum and 1 sack of TKPP
Build Section: Gel Chemical?
Main Hole: Liquidrill

DRILLING PROCEDURES

Objective: Oil Development Well
Drill String:
Bits: Surface: 311mm PDC or Retip (TBD)
Main: 200 mm PDC
BHA:
Logging: MWD GR from surface casing shoe to TD
Gas detection: from drill out surface casing shoe to TD (Pason GDU)
Samples:
A cuttings sample will be collected every 10 meters staring from Base Fish Scale (TVD 600m)
Mud Gas readings plus chromatograph analysis sample every meter.
Coring: N/A
DST's N/A
Completion: Cased Hole

OFFSET PROBLEMS

SURFACE HOLE:
Moderate to High risk on LC
Mud Ring
Gravel and boulders near surface

MAIN HOLE:
Coal Seams
Pipe Stuck
H2S bearing formations are expected

DIRECTIONAL PLAN

VERTICAL HOLE:
Surface: Survey every 60-90m, Maintain hole angle below 1°
Main: **MWD surveys as directional plan requires.

Target: Surveyed inside oil target.

H2S CONTENT

Zone	Max. H2S	H2S Release	Sour Status	
(Offset)	Content	Rate (m3/sec)	Type	Class
H2S bearing formations are expected				
2nd White Speck	0.64%	0.0071		
Sparky	0.01%	0.0002		
REX	0.39%	0.0001		
Lloydminster	2.83%	0.0022		
Cummings	7.88%	0.0031		
Dina	5.00%	0.0013		

EPZ

Surface hole	Main Hole
N/A	**Max H2S is anticipated at 7.88% with drilling release rate 0.031 m3/s**
	EPZ = 0.12 kms
	Closest resident = 0.83 km

PHONE LIST

Advance (Drilling Supt.) Office	403	984-3822 (223)
Cell Phone:	403	816-0388
Advance VP Operations	403	984-3822 (239)
ABE Director of Operations	587	393-5076
Drilling Mud:	403	
Cement:	780	
PDC Bits:	403	
Survey Tool:	780	
Casing:	403	
Pipeyard:	780	
Wellhead:	780	
Casing Accessories:		
Logging:	877	
Water/Vac trucks:		
DST:		
Directional:	403	
Power Tongs	780	
ERCB	780	
Stars (Emergency Dispatch)	**1-888-**	**888-4567**