

HUSKY LITTLE BEAR H-64 WELL HISTORY REPORT

NWT- NEW FIELD WILDCAT
TIGHT HOLE

JUNE 2012

ABSTRACT

This end of well report covers drilling operations, evaluation and suspension of the Husky Little Bear H-64 Exploration well drilled in NWT during winter of 2012

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LIST OF REFERENCES

This document is prepared with reference to the following documents:

- Canada Oil and Gas Drilling and Production Regulations(SOR/2009-315)
- Little Bear Geology report
- Little Bear H-64 well file (Drilling reports)

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A WELL INFORMATION

A.1 WELL SUMMARY

Husky Little Bear H-64 was drilled by Husky Oil Operations Limited in Sahtu region of NWT within Exploration Licence 462 (EL462).

Husky Oil Operations Limited had a 100% working interest in the project.

The program area was located approximately 55 km south-southwest (SSE) of the Town of Norman wells in a low lying area within the Mackenzie River valley. Access to the project crossed EL463, EL462 and a combination of Crown land and First Nations land with surface and/or subsurface rights.

Well Little Bear H-64 is located at the surface coordinates of:

Latitude: N64°53'28.5", Longitude: W126°11'20.3" (NAD 27)

Overland travel to the program area utilized the GNWT winter road to an access point approximately 30 km south of Norman wells. From there, new and existing cut lines and an ice bridge across the Mackenzie River was utilized to access the wells site. An airstrip was prepared on a frozen lake adjacent to the Base camp centrally located in the project area. Air strip was used for emergency medical evacuations and as supplement to ground transportation if required. The Little Bear H-64 wellsite was located approximately 47km road distance from the ice bridge crossing of the Mackenzie River and 21km south east from the Base Camp.

Well site & Ice pad was built as per program. 508mm conductor pipe was installed and cemented at 23 m KB. Rat hole rig was used for setting the conductor pipe and cemented using Arctic set cement.

Rig Nabors 23 was moved to the well site from Little Bear N9 location and spudded on 11:30 February 19th, 2012

311mm surface hole was drilled to 510 m KB in Lower Cretaceous with Gel/Polymer mud. 244.5mm casing was run to section TD and cemented with return to surface.

222 mm main hole was drilled to final depth of 1341 m. Coring operations were performed from 1170-1303m. Coring was performed in Canol, Hare Indian, Bluefish to top of Hume formation. Wire line logs were acquired at TD.

177.8mm casing was ran to well TD and cemented with return to surface. A retrievable bridge plug was set at 475 m in 177.8mm casing. Well operations completed at 24:00 March 10th, 2012 and rig was released. Rig was demobilized to Edson, Alberta after finishing Little Bear H-64.

Drilling operations were performed as per Canada Oil and Gas Drilling Regulations (SOR/2009-315) with very good safety performance. Drilling and environmental inspections were performed by the NEB and rated satisfactory.

A.1.1 WELL SUMMARY DATA

Well name	Husky Little Bear H-64
Province /Territories	North West Territories
Operator	Husky Oil Operations Limited
Exploration License	EL-462
Well Classification	New Field Wildcat
Operations Authorization	OA-1204-002
Well ID	2077
UWI	300H64500126000
Proposed Final Depth (MD./TVD)	1412 m KB
Planned Well Profile	Vertical
Actual Well Total Depth	1341 m KB
Actual well profile	Vertical
Surface Coordinates NAD 27, UTM zone 10	Lat. 64°53'28.5"N Long. 126°11'20.3"W
Bottom Hole Coordinates NAD 27, UTM zone 10	Lat 64° 53' 28.5"N Long. 126°11'19.8"W
Ground Elevation	178.5 m
KB Elevation	183.2 m
Drilling Unit	Nabors 23
Spud date	Feb 19, 2012
Rig Release date	March 10, 2012
Planned Days /Actual Days	21 days /20.5 days
AFE amount /Actual	\$ 11,500,000 +/- 9,600,000
Final Well Status	Suspended

A.2 PROJECT SET UP & GENERAL OVERVIEW

A.2.1 SUPERVISION AND PERSONNEL

- Calgary office multi disciplinary project team including a drilling superintendent, a drilling engineer, a geologist, a geophysicist, construction supervisor, procurement advisor and administrator was dedicated to the project from the conceptual design to the end of project execution.
- Onsite supervision was under the direction of a Senior Drilling Supervisor reporting to Husky Oil Operations Limited's head office in Calgary. There was also a Night Drilling Supervisor to allow 24 hour direct supervision of all drilling operations.
- Husky logistics and Surface Development manager based in Norman Wells managed logistics, access road construction, environmental and safety aspects of the project.
- Husky construction & logistics supervisor based in project area, managed access road maintenance, base camps operations, transportations and related services
- There was a full time safety advisor and medic on the site.
- A geologist was onsite from spud to rig Full time drilling fluids engineer was on the site.
- Drilling waste supervision was performed by full time technician on the site.
- Full time mud logging team was on the site
- H₂S service including full time technician was on the site from spud to the end of the well.
- Drilling contractor, Nabors provided a full time rig Manager and onsite Rig crew of minimum 6 kept on the site.
- Specialized services personnel mobilized as required.

A.2.2 SERVICE PROVIDERS

Service	Contact Person	Contact Number
Rig 23 / Nabors	Greg Caouette	780-916-6868
Drilling Fluid / MI Swaco	Nick Farrell	403-803-0600
Cementing /SLB	Rae Spickett Eugene Harris	403-509-4225 780-512-4435
Bits / Smith	Les Facca	403-585-5232
Coring / Baker	Wayne Gingersty John Williams	403.850-1767 780.916.0717
Motor / MWD / Phoenix	Jim Anderson	403-512-9678
Mud Logging / Continental	Don MacDonald	403-717-3568
Wire line Logging / Baker	Ramadane Bouchou Dave Ironside	403-462-7606 780-228-4573
Casing / Hallmark	Dirk Blaufuss	403-471-3177
Power tong / Hallmark	Markus Busch	780-720-9092
Casing Acces. / Weatherford	Dwayne DuBourdieu	403-390-7645
Bridge plug / Weatherford	Laren Cruise	403.819.6366
Fishing Tool / Weatherford	Len Armstrong	403-540-0293
Wellhead / Streamflo	Scott Brinson	403-862-3462
Pressure test / Big Eagle	Terry Oakley	780-933-9963
Safety Service / HSE	Ed Rode	4-3-815-5911
Rig Move / Mullen	Bill Cardinal	780-499-9566
ERP	Greg Marshall	403-863-0630

A.2.3 PROJECT MOBILIZATION

Project mobilization was started with barging of construction equipment on September 10th, 2011. Construction of access road was started on Dec 10, ice bridge was finished by January 18th, 2012.

A rat hole rig was mobilized to set the conductor following the opening of the access road from south in 3rd week of January, 2012.

Rig Nabors 23, service equipments and materials mobilization started on January 20th, 2012. There was four day delay due to adverse winter conditions.

Little Bear N-9 was spudded by Nabors 23 rig on January 27th 2012 and rig released on February 16th, 2012. Rig was moved from Little Bear N-9 to Little Bear H-64 and spudded on February 19th, 2012 at 11:30 AM.

A.2.4 ACCESS ROAD

- The Slater River Program area is approximately 55km SSE of Norman Wells. Overland travel to the program area utilized the GNWT winter road to kick-off point approximately 30km southeast of Norman Wells. An ice bridge was constructed across the Mackenzie River. The Little Bear H-64 wellsite is located 47 km from the proposed ice bridge crossing of the Mackenzie River (approximately 21 km from base camp).

A.2.5 WELL SITE

Refer to attachment E_5 Wellsite Survey.

- The size of the well site was 130 m x 130 m. Ice pad (0.5 m thickness) was made at the well site to support the drilling rig.
- A 2.4 m diameter corrugated steel cellar was dug into the ice pad below the natural ground level and grouted in place.
- A synthetic liner was installed on the footprint of the drilling area prior to the installation of rig components, including the substructure and mud tanks, to contain any accidental and operational spills.
- Soil assessment to 1.2 m BGL was performed at this location. Permafrost was not encountered in any part of the location..

A.2.6 DRILLING RIG

Rig Nabors 23 was used to drill this well. A detailed inspection on the rig was performed and some modification implemented before mobilizing the rig to NWT. Rig performed as per well program requirement. Refer to attachment E 4 rig specifications & layout.

A.2.7 CAMP

The drilling crew was accommodated in a camp that was co-located with a construction camp and consist of a 40-person skid camp, associated generators and portable sewage treatment systems. The camp clearing was 220m x 180m in order to meet NEB safety specifications and to meet the size requirements to house personnel from the drilling, access construction and seismic program operations. Co-locating the camps reduced the operational footprint. A central location for crew housing provides a measure of safety in terms of crew travel and results to logistical efficiencies. The campsite was located in 21 km from the H-64 wellsite.

Eight wellsite trailers were temporarily stationed at the wellsite to accommodate personnel that are required on-wellsite during the drilling process.

A.2.8 WATER SUPPLY

Water was required for ice bridge and road construction, drilling operations and road and lease construction and maintenance. The Mackenzie River and seven potential water sources included in license application were used. Water intakes were screened as per the current Department of Fisheries and Oceans Canada (DFO) Protocol. The domestic water supply (camp wash water, showers, and toilets) was drawn from the Mackenzie River and treated prior to use.

Drinking water was purchased and transported to the project area.

A.2.9 WASTE DISPOSAL

Waste Management H-64 (Summary)

- Supplex drilling waste operations were employed for the drilling program. All waste generated as detail below were shipped to waste facilities in Alberta.
- A water-based drilling fluid system was used for drilling the surface hole on the H-64 location. The waste streams generated included used water-based drilling fluids and drill cuttings and fines.
- The intermediate / main hole was drilled with a mineral-oil based drilling fluid system (invert). The waste stream included the rock cuttings and fines contaminated with invert.
- Recovered mineral oil from the H-64 location was returned to the Mud Company's storage facility in Fort Nelson, British Columbia for reconditioning..
- Cement returns were stored within the onsite lined cement rings to harden, prior to being transported by sealed and tarped end-dump trucks to the CCS Class II Oilfield Waste Landfill Facility located in Rainbow Lake, Alberta
- After drilling operations were completed and the rig moved offsite, the lease cleanup process began. All lease cleanup material was loaded into sealed and tarped end dump trucks and hauled to the appropriate facility.
- Drilling waste types, volumes, and final disposal locations are summarized in Table 1.

Table 1: Little Bear H-64 Waste Tracking			
Waste Type	Disposal Facility	Volume	Units
Water Based Gel/chem Fluids	Newalta TRD	56	m ³
Water Based Gel/chem Fluids	CCS Rainbow Lake TRD	50	m ³
Water Based Gel/chem Solids	CCS Rainbow Lake Landfill	83.45	tonnes
Invert Solids	CCS Rainbow Lake Landfill	142	tonnes
Cement	CCS Rainbow Lake Landfill	8.22	tonnes
Lease cleanup	CCS Rainbow Lake TRD	43	m ³
Lease cleanup	Newalta TRD	25	m ³
Lease cleanup	CCS Rainbow Lake Landfill	117.03	tonnes

- Domestic waste streams including sewage treatment and effluent discharge, incineration, and other details pertaining to the drilling waste and waste management operations can be viewed in the detailed report located in Attachment E.6.

A.2.10 SAFETY AND INSPECTION

- Husky Slater River project had site specific emergency response plan.
- NEB performed safety and well integrity inspection on Little Bear H-64 camp and well operations on Feb 29th with satisfactory evaluation. Husky implemented corrections recommended by the NEB. Refer to attachment E_7 NEB inspection reports
- Sahtu Land and Water Board performed one inspection on the project with satisfactory result.
- AANDC performed 3 inspections on the project with satisfactory result.
- NEB performed environmental inspection during drilling Husky Little Bear H-64 on Feb. 28th with satisfactory result.
- Incidents were reported as per regulatory requirement.
- Two spills occurred on Husky Little Bear H-64.
 - o Spill: On Feb 20th, while circulating invert oil mud in the tank farm, due to mis-aligned valve, one tank overflowed and resulted to 10 m3 of invert mud overflowed in the tank farm containment berm. No Spill outside of the containment berm and no contact to soil.
 - o Spill: On Feb 21 Vac truck driver overfilled evaporator and spilled approx 250 liters of dirty water onto the ground. Approx 100 liters of dirty water and ice was cleaned up.

B WELL RESULT

B.1 WELL RESULT

B.1.1 WELL OBJECTIVE

Well Little Bear H-64 was planned as a validation well to evaluate the Canol, Hare Indian and Bluefish Shales in oil thermal maturity window. Objective was to obtain core and specialty logs from shales in this well, which will help Husky evaluate mineralogy, geomechanical properties, thermal maturity, effective porosity, matrix permeability and saturation of these rocks.

Well H-64 drilled through Slater River, Imperial sands, Canol, Hare Indian, Bluefish and terminated in Hume formation. Total well depth was 1341 m. 122 m of core was cut (114m recovered) in zones of interest and specialty wire line logs were ran. Well was cased and cemented with 177.8 mm casing in main hole and suspended with two barriers in place.

Refer to E 8 well Little Bear N9 planned stick diagram for well objectives and well design.

B.1.2 EVALUATION

Cutting Sample	➤ NEB: 5m intervals surface to TD. 2 vial sets and 1 bag set 500g minimum. ➤ Husky: Samples in vials at 5m intervals surface to TD. ➤ GSC: Bagged samples at 5m intervals from surface to base of Cretaceous.
Mud Log	Continuous gas reading from surface;
GR while drilling	Recorded GR from 124 m in surface hole to Core Point.
Coring	122 m core in Canol, Hare Indian, Bluefish and Hume.
Logs	Induction Resistivity (510 – 1340.2 m) Gamma Ray (0-1340.2 m) Spectral Gamma Ray (510 – 1308.8 m) Density-Photoelectric Effect (510 – 1340.2 m) Neutron (4 -1340.2 m) Sonic (510 – 1340.2 m) Neutron Spectroscopy (650- 1329.1 m) Nuclear Magnetic Resonance (650-1337.4 m) Electric Imaging (565 -1327 m) Acoustic Imaging (787-1337.5 m) Acoustic Cement Bond (15.5 - 538 m)

B.1.3 RESERVOIR FLUIDS, PRESSURE & TEMPERATURE

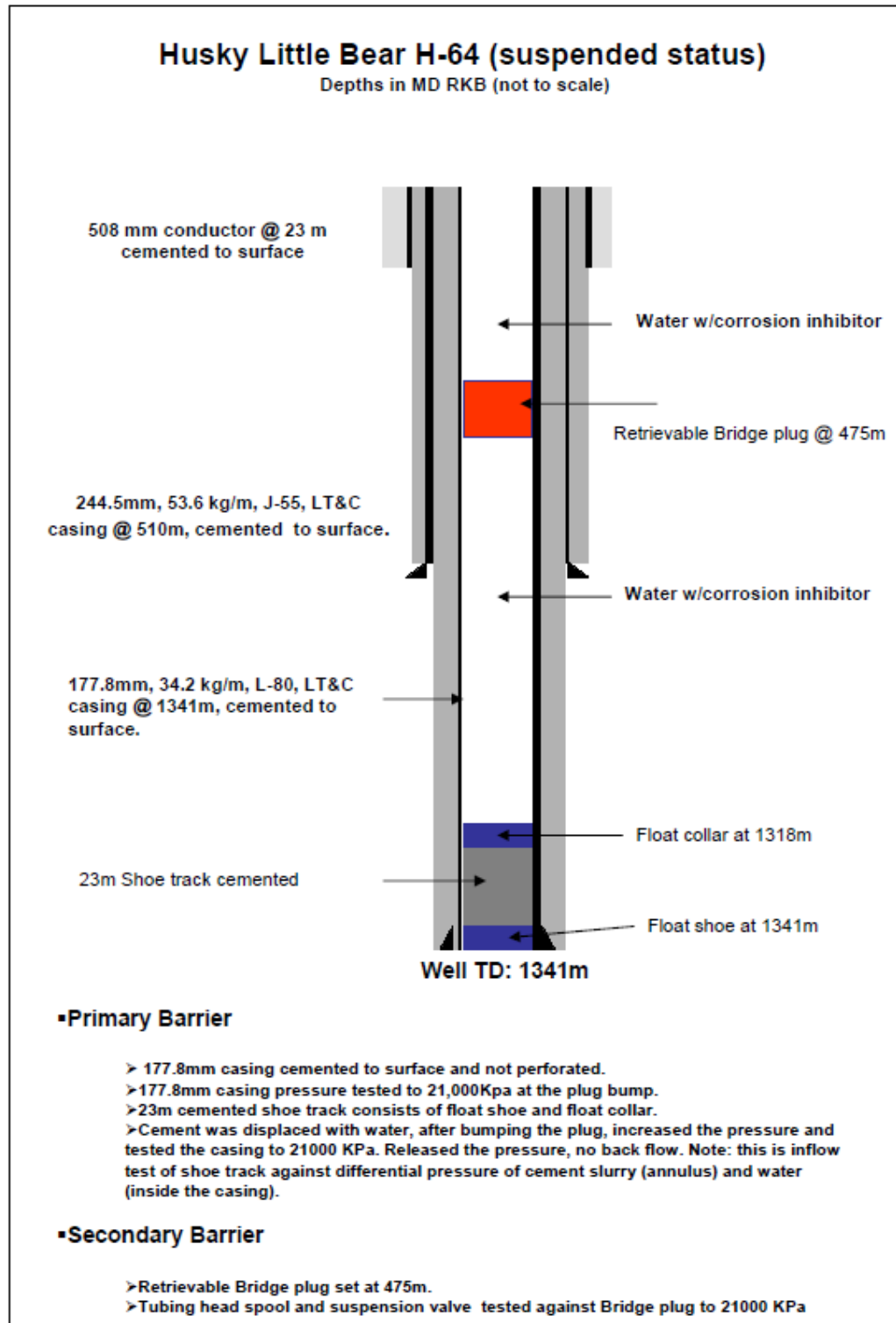
Bottom hole temperature of 53.2 deg.C at well TD was recorded by wireline log.

Surface hole was drilled with water based mud, 1010- 1190 Kg/m³. There was no evidence of shallow gas in this section.

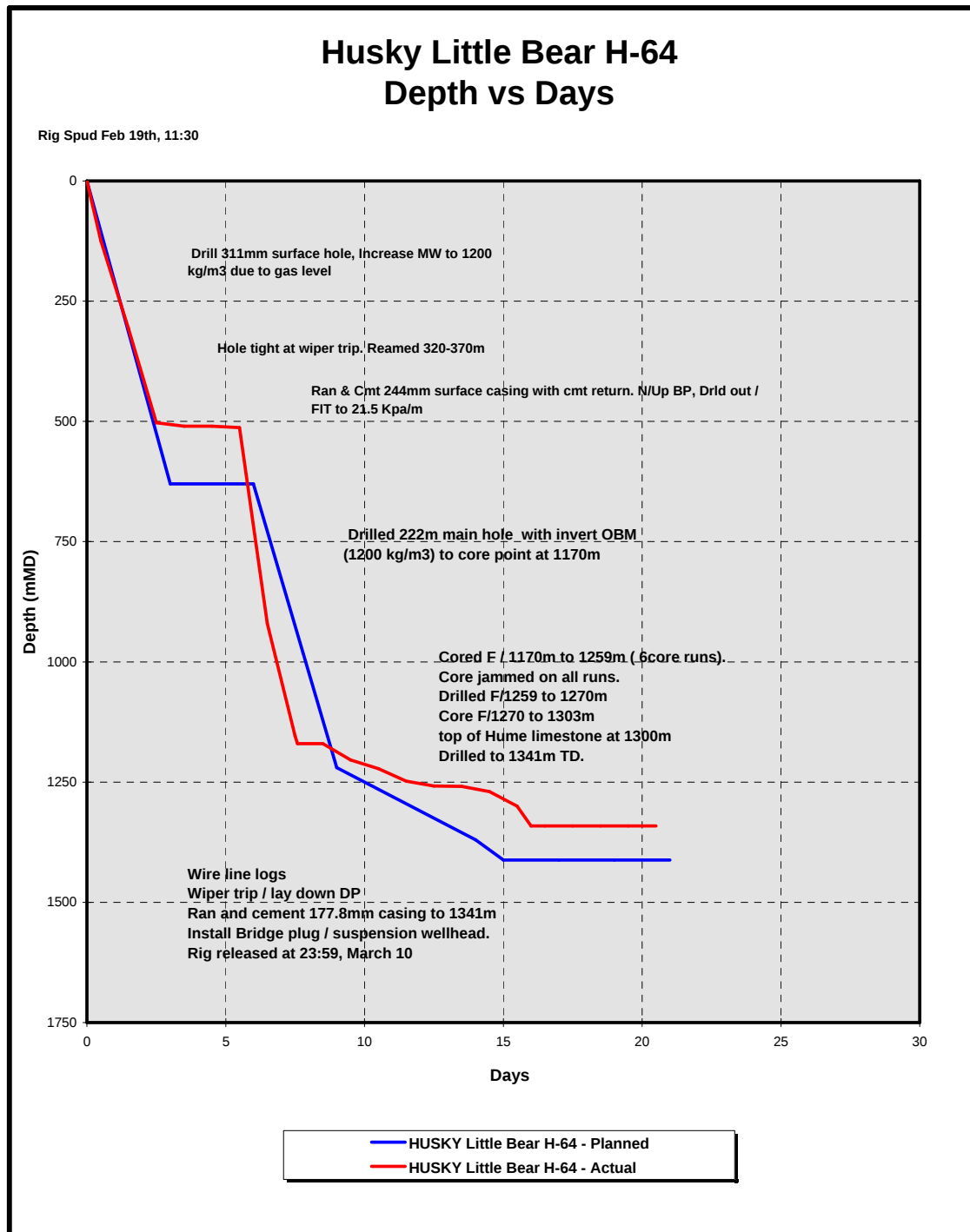
Main hole was drilled from 510 m to 1341m with invert oil mud, 1200-1260 kg/m³ MW was increased to keep the background gas at manageable level.

B.2 FINAL WELL STATUS

For detail suspension operations refer to section C.4.10 suspended



B.3 TIME VS DEPTH CURVE



C WELL CONSTRUCTION

C.1 WELL SITE

- 130 m X 130 m. ice pad was built at well site to support the drilling rig.
- A 2.4 m (8 ft) diameter corrugated steel cellar dug into the ice pad (70 to 100 cm below ground level) and grouted in place.

C.2 CONDUCTOR PIPE 508 MM

C.2.1 INSTALLATION

- Conductor was set with a rat hole rig provided by Cancor Rathole.
- 762 mm vertical hole drilled to 23 m KB. Ran 508 mm conductor pipe.
- Pressure cemented with 15 m³ (19 tons) of Arctic set cement with returns to surface.
- Top of the 508 mm conductor pipe was cut above the level of ice pad and 540 mm, 14000 kPa diverter was installed.
- Refer to [attachment E_3 well control set up](#)

C.3 SURFACE HOLE 311 MM SECTION (23-510m)

C.3.1 SECTION OVERVIEW

311 mm surface hole was drilled vertically with a Directional Motor BHA to 510 m KB using a Gel/Polymer mud. 244.5 mm surface casing set at 510 m KB and cemented with cement return to surface.

No wireline logs were ran in this section. MWD Gamma was acquired from 124m KB to surface TD. While logging the main hole at well TD, GR/Neutron was extended across surface casing from shoe to surface.

No hydrocarbon bearing zone encountered in this section. Diverter system was installed for drilling this section.

C.3.2 SURFACE SECTION SUMMARY

	Remarks
Well Control	540 mm, 14000 KPa diverter was installed Refer to attachment E_3 well control set up
H2S Service	H ₂ S service including H ₂ S detector and air package and full time technician was operational from spud to end of the well due the exploratory nature of the well.
Drilling	Drilled 311 mm section with directional motor to 510 m
Drilling fluid	Water based polymer mud with mud weight range of 1010 to 1190 kg/m ³ . Refer to C.3.4 surface hole drilling fluid and attachment E_9 daily drilling fluid reports
Bit & BHA	Refer to C.3.6 Drilling parameters & Bit & BHA (311mm surface hole section) for detailed bit & BHA and drilling parameters.
Formation	Slater River from 122 to 430 m and Lower cretaceous from 430 m to surface TD 510.
Mud Logging	Mud logging service was utilized from surface to well TD.
Hydrocarbon show	Gas reading in mud returns up to 9% in Slater River. No flow.
Hole stability	Required to ream tight hole before running surface casing.
Hole deviation	Max deviation in surface hole section = 2.3 ° at 416 m MD. For detailed directional drilling and well surveys refer to C.3.5 directional survey and attachment E_2 directional survey & plot
Lost of Circulation	None
Casing	244.5 mm casing ran to 510 m and cemented with returns to surface. Refer to C.3.7 and C.3.8 for casing and cement detail

C.3.3 LESSON LEARNED

Operations	Remarks
Deviation Tendency	Surface hole was drilled to 124 m using a slick BHA. Deviation was $< 1^{\circ}$ in this interval. BHA with directional motor was used from 124 m to Surface TD. Max deviation was 2.3° at 416 m. Directional motor is recommended to prevent excessive deviation on surface. See <u>C.3.5 directionaI survey and attachment E 2 directional survey& plot</u> for Directional detail.

C.3.4 DRILLING FLUID

Refer to C.3.4 surface hole drilling fluid and attachment E 10 daily drilling fluid reports for detailed mud properties and chemical consumption.

Spud the 311 mm hole section with Gel & Polymer water based mud at 1010 kg/m^3 . Mud weight was increased to 1190 kg/m^3 by TD. Mud weight and solids were controlled using shakers and centrifuges.

The following are the mud parameters:

Mud Parameter	
Mud Type	Gel Polymer
Density (kg/m^3)	1010-1190
Viscosity (sec/liter)	43-51
PV (mPa-sec)	7-23
YP (Pa)	3.5-8.5
Gel Strengths 10sec / 10min	4-4.5/7-9
Fluid loss (cc)	6-15
pH	9

C.3.5 DIRECTIOANL SURVEY

- Drilled to 124 m with slick BHA and survey the well with Totco.
- Drilled From 124 m to 510 m with Directional motor and MWD.
- Entire section was drilled with inclination less than 2.5° . Inclination at 510 m was 1.6° degree. Refer to attachment E 2 directional survey& plot for well directional survey.

C.3.6 DRILLING PARAMETERS & BIT & BHA (311MM SURFACE HOLE SECTION)

Bit No/ Run	Size (mm)	Make/ Type	IADC Code	TFA (mm ²) Nozzle (mm)	MD In/ Out (m)	Total Drilled (m)	Drilling Hours	ROP m/hr	WOB KdaN	RPM	Pump output (m ³)	Pump press (KPa)	Mud Wt Kg/m ³	Bit condition	Remark
1	311	Smith XR1CP	117	1335 23.8/23.8/23.8	23/124	101	10.5	9.6	4-5	140	2.3	1100	1010	2-2-WT-A-E-0-NO-BHA	Drilled to 124. Pulled out to pick a PDC bit.
BHA: 311mm Bit+ Bit sub (w/float)+ 2 x 207 mm Monel + X/O + 2 x 165 mm DC + Jar + 2 x 165 mm DC + X/O+ HWDP to surface															
2	311	Smith PDC M516	M123	6x 10.3	124/510	386	19.5	19.8	4-5	30	2.5	9500	1190	1-1-CC-H-X-0-CC-CP	Drilled to 510 m, pulled out to run casing.
BHA: 311mm PDC bit+ 203 mm Motor +UBHO+ 2 x 207 mm Monel + X/O+ 1x 165mm DC+ 165 mm jar+ 3x 165 mm DC+X-over+8x 101mm HWDP+ 101mm DP															

C.3.7 SURFACE CASING SPECIFICATION

Interval (m)		Size (mm)	Weight (kg/m)	Tubular Grade	Thread Type	Pipe ID (mm)	Drift (mm)	Coupling OD (mm)
From	To							
0	510	244.5	53.57 kg/m	J-55	LT&C	226.59	222.6	269.87
Casing Performance Properties								
Burst KPa		Collapse KPa	Pipe body yield strength daN	Joint strength daN	Make up Torque N-m			
					Min	Optimum	Max	
24,270		13,930	250,000	201,000	4600 N-m 3400 ft-lb	6100 N-m 4500 ft-lb	7700 N-m 5600 ft-lb	

C.3.7.1 SURFACE CASING STRING DETAILS

Qt.	Length	Description	Centralization
1	0.44	244.5 mm Float shoe PDC drillable	
1	13.45	244.5mm Csg Joint	C-1 One Bow spring at 3m above the shoe (on stop collar)
1	0.43	244.5 mm Float shoe PDC drillable	C-1 One Bow spring at 3m above the float collar (on stop collar)
37	510m	244.5mm Csg Joint	C-1 One Bow spring on the 3 joint above Float collar C-4 One every 4jts (50m) up to conductor (on the coupling)

C.3.8 SURFACE CASING CEMENT DESIGN

Type	Composition	Density/ thickening time	Volume	Remarks
Pre flush	Water	1000+ Kg/m ³	4 m ³	
Cement	Surface cement RFC 2 % D151 Ca Cl ₂ 0.2% D 46 De-foamer	1740 Kg/m ³ Thickening time: 4 hrs	40.0 m ³ 43 tonnes	Added Cellophane (LCM) while mixing cement.
NOTE: Good returns throughout the job with 20 m ³ cement returns to surface. Floats held. WOC for 6hrs.				

C.3.9 CASING BOWL & BOP

After cementing 244.5mm casing. Waited on cement for 6 hours.

Nippled down diverter, cut the conductor and install the Casing Bowl

Installed Streamflo casing bowl 11" (279.4mm) 3000 psi (21 MPa) x 9 5/8" (244.5mm) slip-on bowl API DD. c/w two 2-1/16" 3000 psi (21 MPa) SSO and two lockdowns (PSL-2).

Tested casing Bowl weld to casing at 7000 kPa with nitrogen.

Installed 279mm, 21 MPa (11"-3000#) BOP stack (Annular preventer, Blind ram, 101mm pipe ram), Drilling spools, adapter, Kill lines, Choke line, choke manifold,

Pressure test BOP, and related lines and equipment with 1400 kPa low and 21000 kPa high. Tested annular preventer to 1400 kPa low and 10500 kPa high.

Pressure test lower Kelly cock, inside BOP, stabbing valves etc as per program.

Pressure test casing to 10,000 kPa.

Installed wear bushing.

Big Eagle pressure tester provided the BOP pressure test service,

C.4 MAIN HOLE 222 MM SECTION (510- 1341 m MD)

C.4.1 SECTION OVERVIEW

Ran in hole with 222 mm PDC bit & directional BHA. Tagged cement at 494 m. Displaced water in hole with 1200 kg/m³ Alpha Plus base invert mud. Drilled out 244.5 mm casing shoe track and new formation from 510 m to 513 m.

Circulated hole, pulled to casing shoe and performed formation integrity test to 21.5 kPa/m gradient. Applied 5000 kPa on surface with 1200 kg/m³ mud in hole for 10 minutes. Refer to [attachment E 1 Formation integrity test](#)

Drilled to core point at 1170 m with an average ROP of 17.5 m/hr. Controlled ROP from 1051 m to core point. Tripped in with 54 m core barrels. Cut core #1 from 1170-1204 m. Pulled out due to core jam, Core recovery for core #1 was 85%. Cut core #2 from 1204-1222 m. Core jammed after cutting 18 m. Core recovery for core #2 was 91 %. Cut core #3 from 1222-1241 m. Core jammed. Core recovery for core #3 was 97%. Cut core #4 from 1241-1257 m. Core jammed in the shoe. Tripped out. Core recovery from core # 4 was 97%. Cut core # 5 from 1257-1259 m. Core jammed. Core recovery was 94 %. Core #6 jammed after cutting 1 m core. Drilled with directional motor from 1259 m to 1270 m. Tripped out. Cut core # 7 from 1270-1303 m. Core recovery for core # 7 was 97.5%. Drilled 222 mm hole with directional motor from 1303 to 1341 m TD.

Ran wireline logs. 177.8mm casing was ran to well TD and cemented to surface with 7 m³ of good cement return. Bumped plug, increased pressure to 21000 kPa and held it for 10 min to pressure test the casing. Installed retrievable bridge plug at 475m. Installed tubing spool and suspension valve and cap.

C.4.2 MAIN HOLE SECTION SUMMARY

	Remarks
Well control	279mm, 21000 MPa (11"-3000) BOP stack (Annular preventer, 101 mm pipe ram, Shear blind ram, 101 mm pipe ram). Refer to attachment E 3 well control set up
H2S Service	As the well was exploration well. H2S service including H2S detector and air package and full time technician was operational from spud to the end of the well.
Drilling	➤ Drilled 222mm section with a motor and MWD to 1170m. ➤ Cut six cores from 1170-1259 m. ➤ Drilled from 1258 m to 1270 m. ➤ Cut core from 1270 m to 1303 m. ➤ Drilled from 1303 m to 1341 m TD.
Drilling fluid	Alphaplus base invert. MW 1260 kg/m ³ at section TD. Refer to C.4.4 222mm section drilling fluid and attachment E 11 daily drilling fluid reports
Bit& BHA	Refer to C.4.5 Drilling parameters& Bit &BHA (222mm hole section) for detailed Bit& BHA report and drilling parameters.
Mud Logging	Mud logging service was utilized from surface to well TD.
Formations	Refer to geology report
Hydrocarbon show	No Hydrocarbon show. Some gas cuttings while drilling Canol shale
Hole deviation	Drilled vertically to core point with directional motor. Inclination at 1341 m was 0.4 degree. Refer to C.4.6 , C.4.7 Directional well plot and attachment E 2 directional survey& plot

Lost of Circulation	Minor Seepage Losses
Logging /coring	Conducted seven coring runs. Cut cores from 1670-1838 m. Ran wireline logs at TD.
Casing	177.8mm casing ran to TD and cemented with return to surface. Refer to <u>C.4.8</u> and <u>C.4.9</u> for casing & cementing.

C.4.3 LESSON LEARNED

Operations	Remarks
Vertical Drilling	Main hole was drilled with a directional motor to maintain the verticality. Total sliding time was 7.7% of cumulative drilling time. No deviation tendency was encountered in main hole.. Refer to <u>C.4.6</u> , <u>C.4.7 Directional well plot</u> and <u>attachment E 2 directional survey& plot</u>
Coring	Core jamming was encountered on each run due highly fractured formation. Most of the jams happened in shoe.

C.4.4 DRILLING FLUID

Refer to Drilling Fluid reports attachment E 10 daily drilling fluid reports for detailed mud mood properties and chemical consumption.

Alpha Plus base invert oil mud was used in drilling entire 222 mm hole. Commenced drilling 222 mm hole with 1200 Kg/m³ increased during drilling to 1260 Kg/m³ at TD. Mud weight was increased to keep the background gas below 5%.

	Volume delivered to well site (m ³)	Loss Cutting retention & seepage (m ³)	Returned to Mud company Base in Ft. Nelson
Alpha Plus base Megadril invert 90:10	202	29	173
Alpha Plus base oil	27		27

The following are the mud parameters range.

Mud Parameter	
Mud Type	Alpha Plus base Invert
Density (kg/m ³)	1200-1260
Viscosity (sec/liter)	48-57
PV (mPa-sec)	14-19
YP (Pa)	3-4
Gel Strengths 10sec / 10min	2.5-3.5/5-7
Solids (%)	14-17%

C.4.5 DRILLING PARAMETERS & BIT & BHA (222 MM HOLE SECTION)

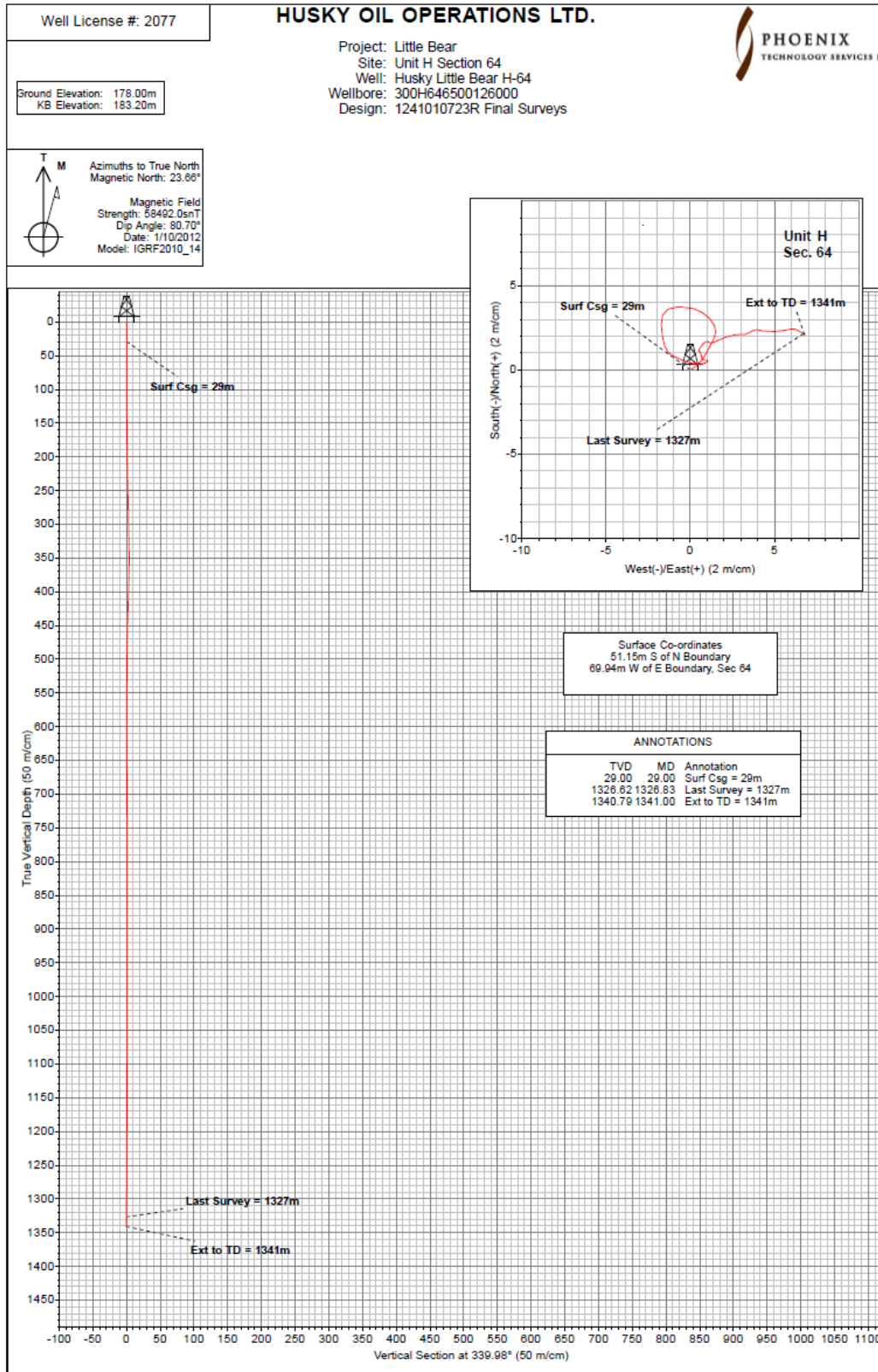
Bit No/ Run	Size (mm)	Make/ Type	IADC Code	TFA (mm²) Nozzle (mm)	MD In/ Out (m)	Total Drilled (m)	Drilling Hours	ROP m/hr	WOB KdaN	Surfa ce RPM	Pump output (m³)	Pump press (KPa)	Mud Wt Kg/m³	Bit condition	Remark
3	222	Smith PDC Mi516	M123	847 12.7/12.7/12.7/12.7/12.7/ 9.5/9.5/9.5	510/1170	660	37.75	17.5	2-3	40	1.45	9500	1200	1-1-WT-A-X-0-NO-BHA	Drilled out from surface casing shoe to core point.
BHA: 222mm Bit+ 167 mm Motor + UBHO +MWD +Monel +Pump out sub + 2X 165 mm DC+165 mm Jar+ 2X165mm DC + x-over+ 8 x 101mm HWDP.															
4	222	Hughes Coring Bit BHC406			1170/1204	34	6.25	5.4	3	55	1.2	7500	1280	1-1-WT-A-X-0-NO-BHA	Cored jammed.
BHA: 222mm core Bit+ 6 x 171 core barrels + Top Sub+171 mm Jar+ Float Sub + Pump out Sub + 4X165mm DC + x-over+ 8 x 101mm HWDP.															
5RR	222	Hughes Coring Bit BHC406			1204/1222	18	3.0	6.0	3	55	1.2	8000	1280	1-1-WT-A-X-0-NO-BHA	Cored jammed
BHA: 222mm core Bit+ 6 x 171 core barrels + Top Sub+171 mm Jar+ Float Sub + Pump out Sub + 4X165mm DC + x-over+ 8 x 101mm HWDP.															
6	222	Hughes Coring Bit BHC406			1222/1241	19	4.25	4.5	3	45	1.2	7500	1280	1-1-WT-A-X-0-NO-BHA	Cored jammed after cutting 19 m core
BHA: 222mm core Bit+ 6 x 171 core barrels + Top Sub+171 mm Jar+ Float Sub + Pump out Sub + 4X165mm DC + x-over+ 8 x 101mm HWDP.															
7RR	222	Hughes Coring Bit BHC406			1241/1256	15	3.5	4.3	3	45	1.2	7800	1250	1-1-WT-A-X-0-NO-BHA	Core jammed
BHA: 222mm core Bit+ 6 x 171 core barrels + Top Sub+171 mm Jar+ Float Sub + Pump out Sub + 4X165mm DC + x-over+ 8 x 101mm HWDP.															
8RR	222	Hughes Coring Bit BHC406			1256/1258	2	1.5	1.3	2	40	1.2	8000	1250	1-1-WT-A-X-0-NO-BHA	Core jammed.
BHA: 222mm core Bit+ 6 x 171 core barrels + Top Sub+171 mm Jar+ Float Sub + Pump out Sub + 4X165mm DC + x-over+ 8 x 101mm HWDP.															

9RR	222	Hughes Coring bit BHC406			1258/1259	1.0	1.0	1.0	3	40	1.2	8700	1250	1-1-WT-A-X-0-NO-BHA	Core jammed.
BHA: 222mm core Bit+ 6 x 171 core barrels + Top Sub+171 mm Jar+ Float Sub + 4X165mm DC + x-over+ 8 x 101mm HWDP.															
10	222	Smith PDC Mi516	M123	847 12.7/12.7/12.7/12.7/12.7/ 9.5/9.5/9.5	1259/1270	11	1.25	8.8	4	40	1.45	9300	1230	1-1-WT-A-X-0-NO-BHA	Pulled out to pick up core barrels
BHA: 222mm Bit+ 167 mm Motor + UBHO +MWD +Monel +Pump out sub + 2X 165 mm DC+165 mm Jar+ 2X165mm DC + x-over+ 8 x 101mm HWDP.															
11	222	Hughes Coring bit BHC406			1270/1302	32	5.75	5.6	4	55	1.2	7100	1225	1-1-WT-A-X-0-NO-BHA	Core jammed
BHA: 222mm core Bit+ 6 x 171 core barrels + Top Sub+171 mm Jar+ Float Sub + Pump out Sub + 4X165mm DC + x-over+ 8 x 101mm HWDP.															
12	222	Smith PDC Mi516	M123	847 12.7/12.7/12.7/12.7/12.7/ 9.5/9.5/9.5	1302/1341	39	4.75	8.2	6	35	1.45	9700	1240	1-1-WT-A-X-0-NO-LOG	
BHA: 222mm Bit+ 167 mm Motor + UBHO +MWD +Monel +Pump out sub + 2X 165 mm DC+165 mm Jar+ 2X165mm DC + x-over+ 8 x 101mm HWDP.															
13	222	J&L Retip		380 12.7/12.7/12.7	1341/1341	0	0				1.45	9000	1260	2-2-WT-A-X-0-NO-TD	Cleanout Trip
BHA: 222mm Bit+ 2X 165 mm DC+165 mm Jar+ 2X165mm DC + x-over+ 8 x 101mm HWDP.															

C.4.6 DIRECTIONAL DRILLING & SURVEY

Refer to [C.4.7 Directional well plot](#) for directional plot and [attachment E 2 directional survey & plot](#) for well survey.

C.4.7 DIRECTIONAL WELL PLOT



C.4.8 MAIN HOLE CASING SPECIFICATION

Interval (m)		Size (mm)	Weight (kg/m)	Tubular Grade	Thread Type	Pipe ID (mm)	Drift (mm)	Coupling OD (mm)
From	To							
0	1341	177.8	34.2	L-80	LT&C	161.7	158.5	194.46
Casing Performance Properties								
Burst KPa		Collapse KPa	Body yield strength daN	Joint strength daN	Make up Torque N-m			
					Min	Optimum	Max	
43,700		26,400	236,000	196,600	4420 N-m (3260 ft-lb)	5900 N-m (4350 ft-lb)	7380 N-m (5440 ft-lb)	

C.4.8.1 MAIN HOLE CASING STRING DETAILS

Qt.	Length	Description	Centralization
1	0.45m	177.8 mm Float shoe PDC drillable	
2	22.81m	177.85mm Csg Joint	C-1 One Bow spring at mid point over stop collar
1	0.45m	177.8 mm Float shoe PDC drillable	C-1 One Bow spring per joint on 3 joints above Float Collar
124	1317 m	177.8 mm Csg Joint	C-4 One every 4jts (50m) up to surface

C.4.9 MAIN HOLE CASING CEMENT

Type		Composition	Density/ thickening time	Volume	Remarks
Pre flush		Chemical wash	1300 Kg/m ³	3 m ³	
Cement	Lead	Hilite 1.2% B348+ 1.0% S001 +0.2% D046	1400 Kg/m ³	19.6 m ³ 14.8 tonne	40% excess over Caliper volume on lead and tail
	Tail	Class G 0.2% D46+ 0.5% D65+ 0.4% D167	1900 Kg/m ³	11.2 m ³ 15.2 tonne	Displaced cement with water containing 0.8% corrosion inhibitor (KI3908).
➤ 7.0 m ³ good cement returns. Bumped plug, increased pressure to 21000 kPa and held it for 10 minutes to pressure test casing.					

C.4.10 SUSPENSION

Pressure tested casing using 21000 kPa at surface after bumping the plug.

Waited on cement for 6 hours. Lifted BOP stack. cut the casing. Nipped down BOP. Installed tubing spool Pressure tested the seals to 14000 kPa.

Set a wire line retrievable Bridge plug in 177.8 mm casing at 475m.

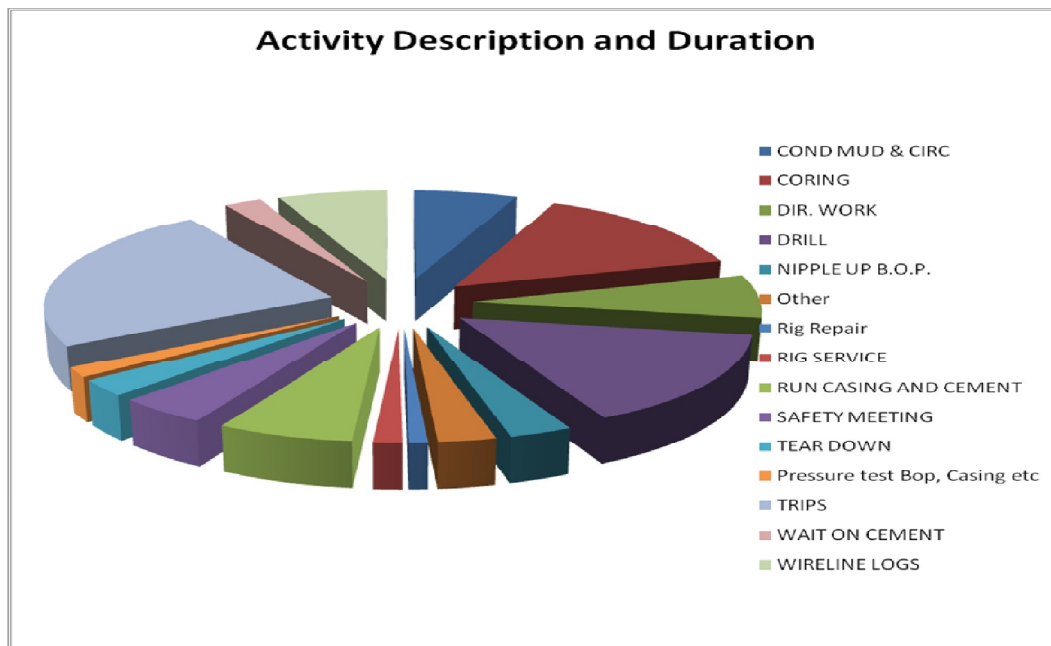
Installed 7-1/16" & suspension valve and pressure tested bridge plug and wellhead with 21000 kPa for 10 minutes. Refer to B.2 final well status for well schematics after release and E 12 Well Termination Report.

D TIME AND NPT ANALYSIS

Chart D1 and table show detail time breakdown from Spud to Rig Release respectively. It is prepared by the category of operations and services.

Spud to rig Release time was 492 hrs (20.5 days). There was no major downtime or NPT.

Activity Description	Duration (hrs)	% Total Time
COND MUD & CIRC	31.5	6.4
CORING	70	14.2
DIR. WORK	34.5	7.0
DRILL	74	15.0
NIPPLE UP B.O.P	15.75	3.2
OTHER	14.5	2.9
RIG REPAIR	4.75	1.0
RIG SERVICE	7.25	1.5
RUN CASING AND CEMENT	34	6.9
SAFETY MEETING	22.5	4.6
TEAR DOWN	13.25	2.7
TEST BOP	7.75	1.6
TRIPS	117.25	23.8
WAIT ON CEMENT	11.5	2.3
WIRELINE LOGS	33.5	6.8
TOTAL TIME	492	100.0



E ATTACHMENTS

E.1 FORMATION INTEGRITY TEST

Big Eagle Services

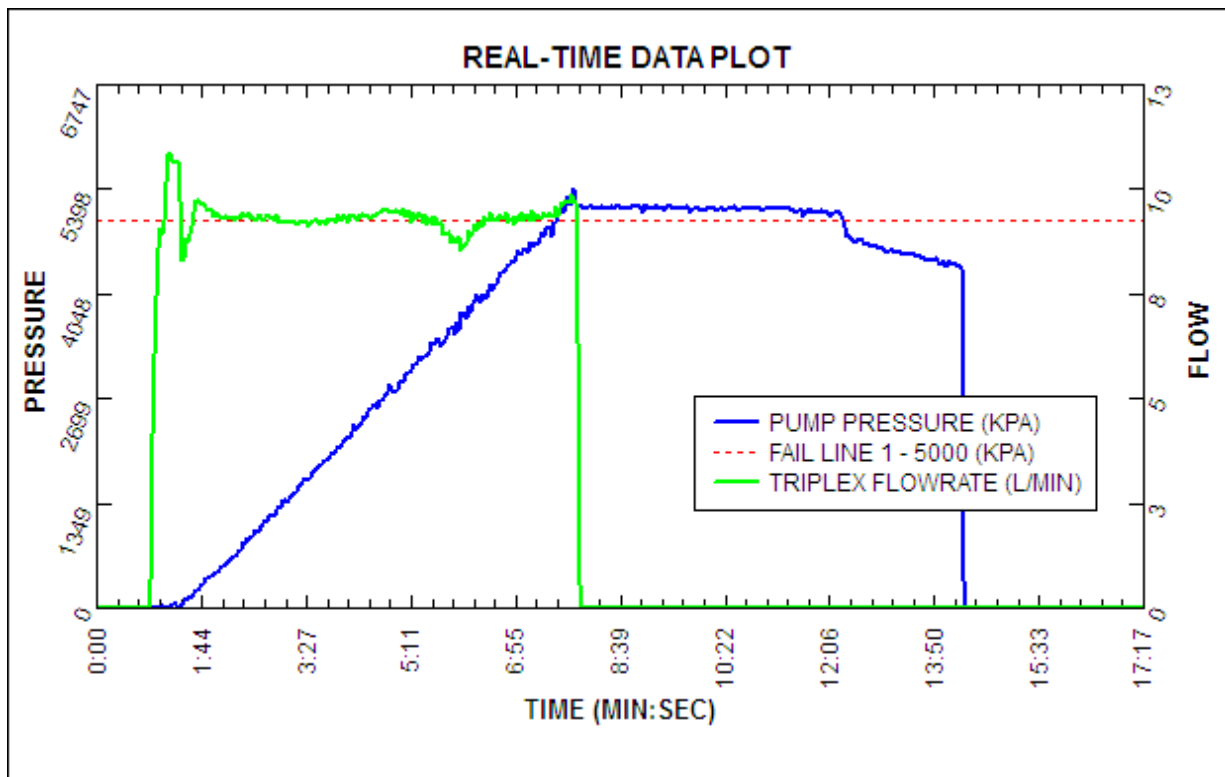
JOB REPORT

Company: Husky Oil
Contact: Cal Conklin
Location: Husky Little Bear H-64

Email:

Date February 25, 2012
Start Time 0:19:03
End Time
PO#:
AFE#:
LSD#: Little bear H-64
Phone#:

Unit#: PT112
Operator: Husky oil
Swamper: N/A
Fluid Pumped: 68 Liters
Chemical Pumped: Water



Comments: Formation integrity test

E.2 DIRECTIONAL SURVEY

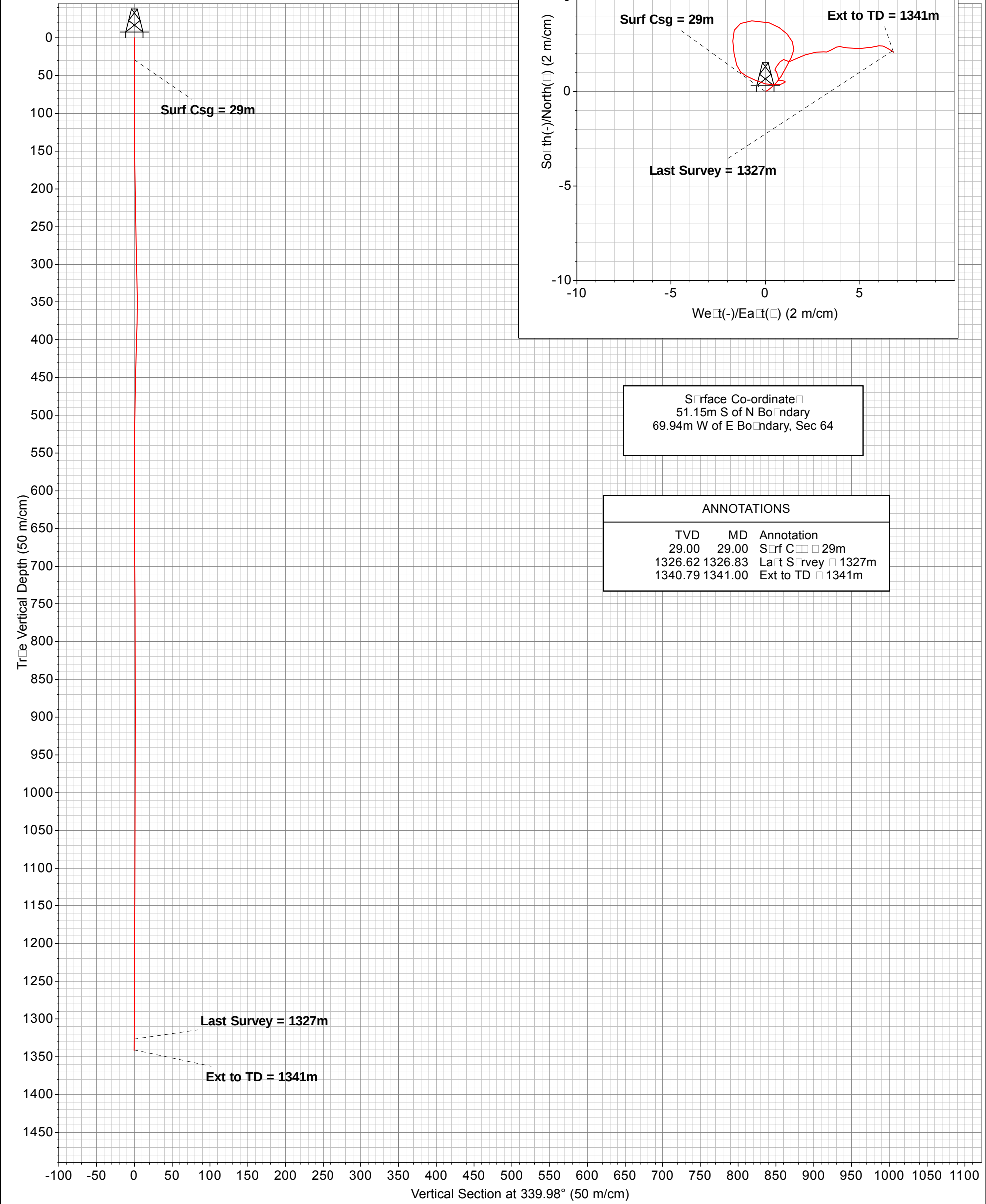
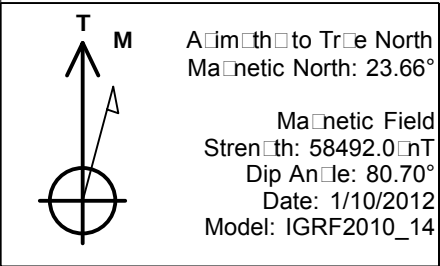
Well License # 2077

HUSKY OIL OPERATIONS LTD.



Project: Little Bear
Site: Unit H Section 64
Well: Husky Little Bear H-64
Wellbore: 300H646500126000
Depth: 1241010723R Final Survey

Ground Elevation: 178.00m
KB Elevation: 183.20m



Database:	Canada Compass DB	Local Co-ordinate Reference:	Well Husky Little Bear H-64
Company:	HUSKY OIL OPERATIONS LTD.	TVD Reference:	KB act. @ 183.20m (Nabors 23)
Project:	Little Bear	MD Reference:	KB act. @ 183.20m (Nabors 23)
Site:	Unit H Section 64	North Reference:	True
Well:	Husky Little Bear H-64	Survey Calculation Method:	Minimum Curvature
Wellbore:	300H646500126000		
Job Number	1241010723R Final Surveys		

Project	Little Bear		
Map System:	Universal Transverse Mercator	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Zone 09N (132 W to 126 W)		

Site	Unit H Section 64			
Site Position:		Northing:	7,199,322.99 m	Latitude: 64.89
From:	Map	Easting:	633,013.97 m	Longitude: -126.19
Position Uncertainty:	0.00 m	Slot Radius:	335.28 mm	Grid Convergence: 2.54 °

Well	Husky Little Bear H-64			
Well Position	+N/-S	0.00 m	Northing:	7,199,322.99 m
	+E/-W	0.00 m	Easting:	633,013.97 m
Position Uncertainty	0.00 m		Wellhead Elevation:	m
			Ground Level:	178.00 m

Wellbore	300H646500126000				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	1/10/2012	23.66	80.70	58,492

Job Number	1241010723R Final Surveys				
Audit Notes:	Well License # 2077				
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (m)	+N/-S (m)	+E/-W (m)	Direction (°)	
	0.00	0.00	0.00	339.98	

Survey Program	Date	3/12/2012			
From (°)	To (m)	Survey (Wellbore)	Tool Name	Description	
0.00	1,341.83	1241010723R Final Surveys (300H646500)	MWD	MWD	

Survey										
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
0.00	0.00	0.00	0.00	183.20	0.00	0.00	0.00	0.000	0.000	0.000
Surf Csg = 29m										
29.00	0.00	0.00	29.00	154.20	0.00	0.00	0.00	0.000	0.000	0.000
42.00	0.20	69.40	42.00	141.20	0.01	0.02	0.00	0.462	0.462	0.000
72.00	0.40	53.80	72.00	111.20	0.09	0.15	0.03	0.214	0.200	-15.600
109.52	0.50	50.50	109.52	73.68	0.27	0.39	0.12	0.083	0.080	-2.639
136.58	0.80	39.20	136.58	46.62	0.49	0.60	0.26	0.360	0.333	-12.528
163.98	0.80	34.80	163.97	19.23	0.80	0.83	0.47	0.067	0.000	-4.818
191.53	1.20	26.00	191.52	-8.32	1.21	1.06	0.78	0.465	0.436	-9.583

Database:	Canada Compass DB	Local Co-ordinate Reference:	Well Husky Little Bear H-64
Company:	HUSKY OIL OPERATIONS LTD.	TVD Reference:	KB act. @ 183.20m (Nabors 23)
Project:	Little Bear	MD Reference:	KB act. @ 183.20m (Nabors 23)
Site:	Unit H Section 64	North Reference:	True
Well:	Husky Little Bear H-64	Survey Calculation Method:	Minimum Curvature
Wellbore:	300H646500126000		
Job Number	1241010723R Final Surveys		

Survey										
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)
219.85	1.50	28.80	219.83	-36.63	1.81	1.37	1.23	0.325	0.318	2.966
238.71	1.20	5.30	238.69	-55.49	2.22	1.51	1.57	0.991	-0.477	-37.381
257.17	1.50	335.40	257.14	-73.94	2.63	1.43	1.98	1.226	0.488	-48.592
276.05	1.60	317.70	276.02	-92.82	3.05	1.15	2.47	0.774	0.159	-28.125
294.50	1.80	301.00	294.46	-111.26	3.39	0.72	2.94	0.865	0.325	-27.154
312.93	1.80	289.80	312.88	-129.68	3.64	0.20	3.35	0.572	0.000	-18.231
340.72	2.10	265.50	340.65	-157.45	3.74	-0.71	3.76	0.941	0.324	-26.232
359.55	1.70	245.60	359.47	-176.27	3.60	-1.31	3.83	1.220	-0.637	-31.705
378.12	1.60	199.00	378.04	-194.84	3.24	-1.65	3.61	2.114	-0.162	-75.283
397.07	1.90	178.30	396.98	-213.78	2.68	-1.72	3.11	1.100	0.475	-32.770
415.68	2.30	171.10	415.57	-232.37	2.00	-1.66	2.45	0.771	0.645	-11.607
434.02	1.60	160.70	433.90	-250.70	1.40	-1.52	1.83	1.278	-1.145	-17.012
452.48	1.10	135.30	452.36	-269.16	1.03	-1.31	1.41	1.249	-0.813	-41.278
471.60	1.30	113.60	471.47	-288.27	0.81	-0.98	1.10	0.773	0.314	-34.048
495.00	1.20	116.50	494.87	-311.67	0.59	-0.52	0.74	0.152	-0.128	3.718
517.53	1.60	105.10	517.39	-334.19	0.41	0.00	0.38	0.647	0.533	-15.180
536.47	1.10	81.60	536.33	-353.13	0.36	0.43	0.19	1.166	-0.792	-37.223
554.92	0.30	118.60	554.78	-371.58	0.37	0.65	0.12	1.430	-1.301	60.163
573.69	0.30	68.60	573.55	-390.35	0.36	0.74	0.09	0.405	0.000	-79.915
591.98	0.70	70.80	591.83	-408.63	0.42	0.89	0.09	0.657	0.656	3.609
610.47	0.50	47.90	610.32	-427.12	0.51	1.06	0.11	0.501	-0.324	-37.155
637.80	0.70	259.70	637.65	-454.45	0.56	0.98	0.19	1.268	0.220	-162.678
666.16	0.50	307.50	666.01	-482.81	0.60	0.71	0.32	0.549	-0.212	50.564
694.31	0.70	12.50	694.16	-510.96	0.84	0.65	0.57	0.710	0.213	69.272
722.68	0.40	282.90	722.53	-539.33	1.04	0.59	0.77	0.850	-0.317	-94.748
750.61	0.30	4.60	750.46	-567.26	1.13	0.50	0.89	0.498	-0.107	87.755
778.08	0.50	32.40	777.93	-594.73	1.30	0.57	1.03	0.298	0.218	30.360
805.78	0.90	39.00	805.63	-622.43	1.57	0.78	1.21	0.441	0.433	7.148
833.69	0.30	136.30	833.53	-650.33	1.69	0.96	1.26	1.058	-0.645	104.586
861.30	0.50	93.40	861.14	-677.94	1.63	1.13	1.15	0.377	0.217	-46.614
889.17	0.20	220.40	889.01	-705.81	1.59	1.22	1.07	0.690	-0.323	136.706
916.90	0.50	67.80	916.74	-733.54	1.60	1.31	1.05	0.740	0.325	-165.092
935.27	1.50	65.70	935.11	-751.91	1.73	1.60	1.08	1.634	1.633	-3.430
953.78	1.90	68.00	953.61	-770.41	1.94	2.10	1.10	0.658	0.648	3.728
972.73	1.70	85.50	972.55	-789.35	2.08	2.68	1.04	0.922	-0.317	27.704
991.58	0.80	92.90	991.40	-808.20	2.10	3.09	0.91	1.452	-1.432	11.777
1,010.01	0.20	82.40	1,009.83	-826.63	2.09	3.25	0.86	0.984	-0.977	-17.092
1,037.78	0.90	62.20	1,037.60	-854.40	2.20	3.49	0.88	0.773	0.756	-21.822
1,065.84	0.40	61.30	1,065.65	-882.45	2.35	3.77	0.92	0.535	-0.535	-0.962
1,093.29	0.40	102.80	1,093.10	-909.90	2.38	3.95	0.88	0.310	0.000	45.355
1,120.96	1.00	99.20	1,120.77	-937.57	2.32	4.28	0.71	0.652	0.651	-3.903
1,148.83	1.40	89.70	1,148.64	-965.44	2.28	4.86	0.48	0.479	0.431	-10.226

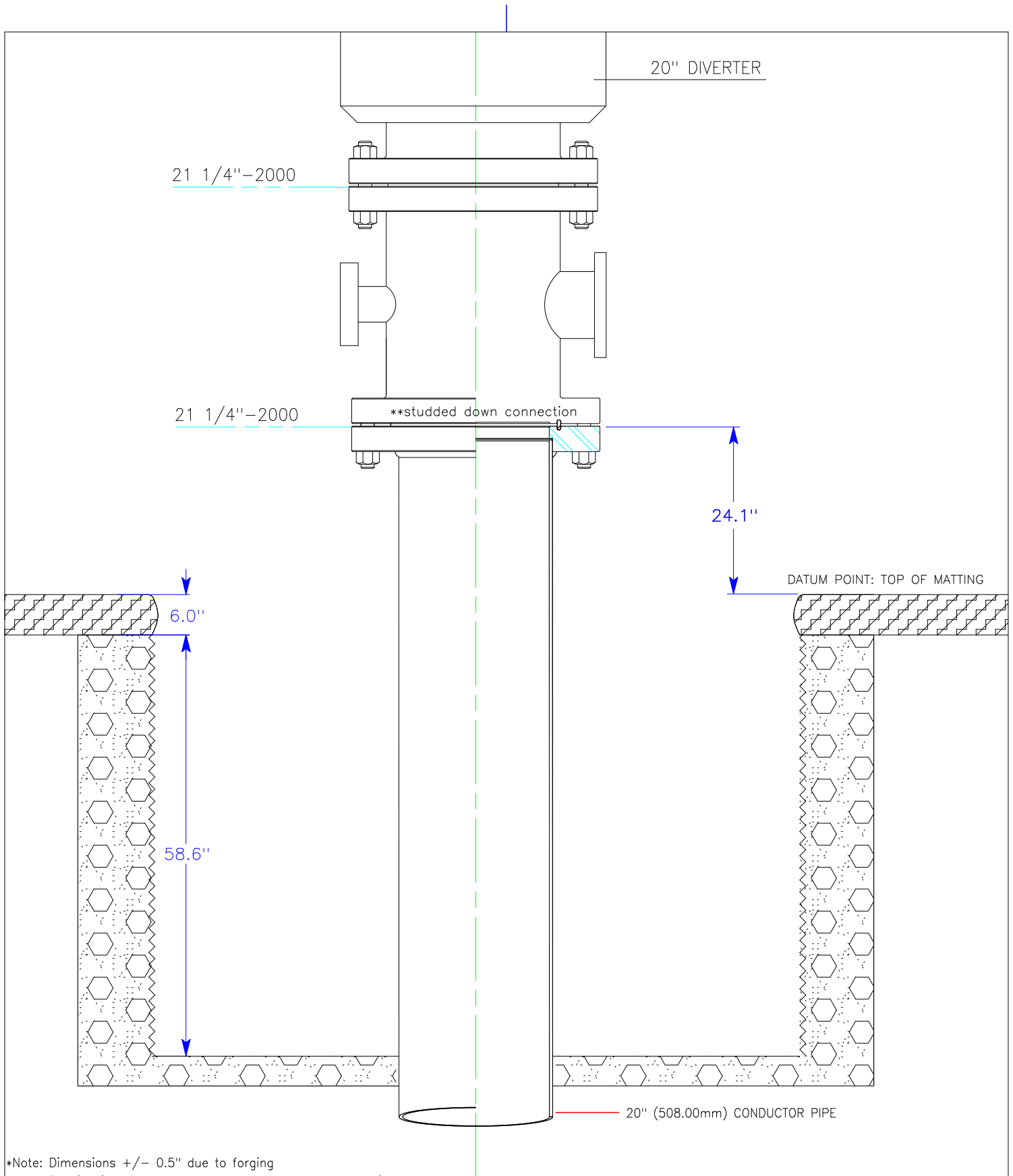
Database:	Canada Compass DB	Local Co-ordinate Reference:	Well Husky Little Bear H-64
Company:	HUSKY OIL OPERATIONS LTD.	TVD Reference:	KB act. @ 183.20m (Nabors 23)
Project:	Little Bear	MD Reference:	KB act. @ 183.20m (Nabors 23)
Site:	Unit H Section 64	North Reference:	True
Well:	Husky Little Bear H-64	Survey Calculation Method:	Minimum Curvature
Wellbore:	300H646500126000		
Job Number	1241010723R Final Surveys		

Survey											
Measured Depth (m)	Inclination (°)	Azimuth (°)	Vertical Depth (m)	Subsea Depth (m)	+N/-S (m)	+E/-W (m)	Vertical Section (m)	Dogleg Rate (°/30m)	Build Rate (°/30m)	Turn Rate (°/30m)	
1,155.18	1.30	91.80	1,154.98	-971.78	2.28	5.01	0.43	0.527	-0.472	9.921	
1,186.56	1.00	73.30	1,186.36	-1,003.16	2.35	5.63	0.28	0.453	-0.287	-17.686	
1,214.26	0.60	86.80	1,214.05	-1,030.85	2.42	6.00	0.22	0.476	-0.433	14.621	
1,242.52	0.30	107.90	1,242.31	-1,059.11	2.41	6.22	0.13	0.359	-0.318	22.399	
1,255.00	0.20	120.70	1,254.79	-1,071.59	2.39	6.27	0.10	0.274	-0.240	30.769	
1,289.96	0.50	114.50	1,289.75	-1,106.55	2.29	6.46	-0.06	0.259	0.257	-5.320	
Last Survey = 1327m											
1,326.83	0.40	129.70	1,326.62	-1,143.42	2.14	6.71	-0.28	0.126	-0.081	12.368	
Ext to TD = 1341m											
1,341.00	0.36	135.50	1,340.79	-1,157.59	2.08	6.78	-0.37	0.114	-0.080	12.286	
1,341.83	0.36	135.88	1,341.62	-1,158.42	2.08	6.78	-0.37	0.114	-0.076	13.628	

Survey Annotations					
Measured Depth (m)	Vertical Depth (m)	Local Coordinates			
		+N/-S (m)	+E/-W (m)	Comment	
29.00	29.00	0.00	0.00	Surf Csg = 29m	
1,326.83	1,326.62	2.14	6.71	Last Survey = 1327m	
1,341.00	1,340.79	2.08	6.78	Ext to TD = 1341m	

Checked By: _____	Approved By: _____	Date: _____
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E.3 WELL CONTROL SETUP



*Note: Dimensions +/- 0.5" due to forging
Drawing is not to scale, and only used as representation

HUSKY et al LITTLE BEAR
N-9 AND H-64
NABORS 23

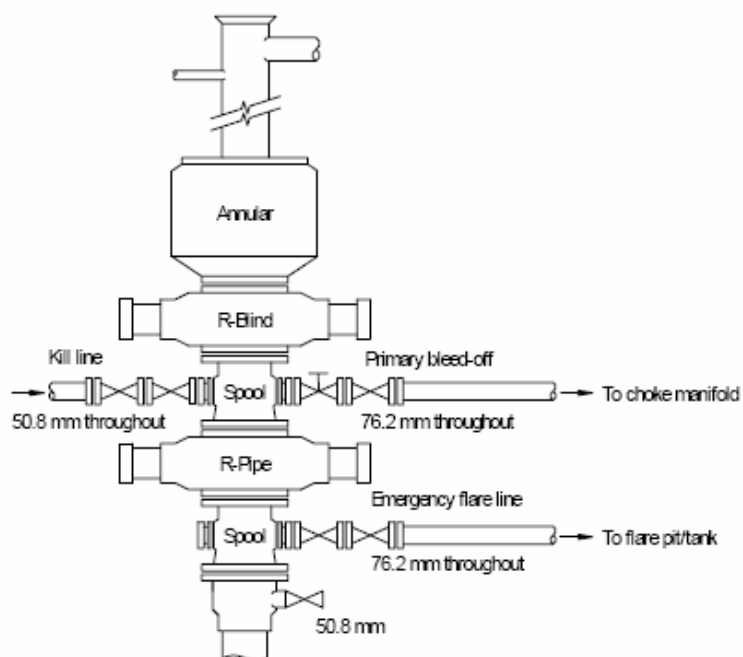
DWN.		11/02/11
CHK.		
APPR.		
BY:		DATE



EDMONTON, AB.
CANADA

DRAWING No.
C2041
PAGE 3 of 10
REV 2

F.2.2 BOP CLASS IV □ WITH EMERGENCY FLARE LINE

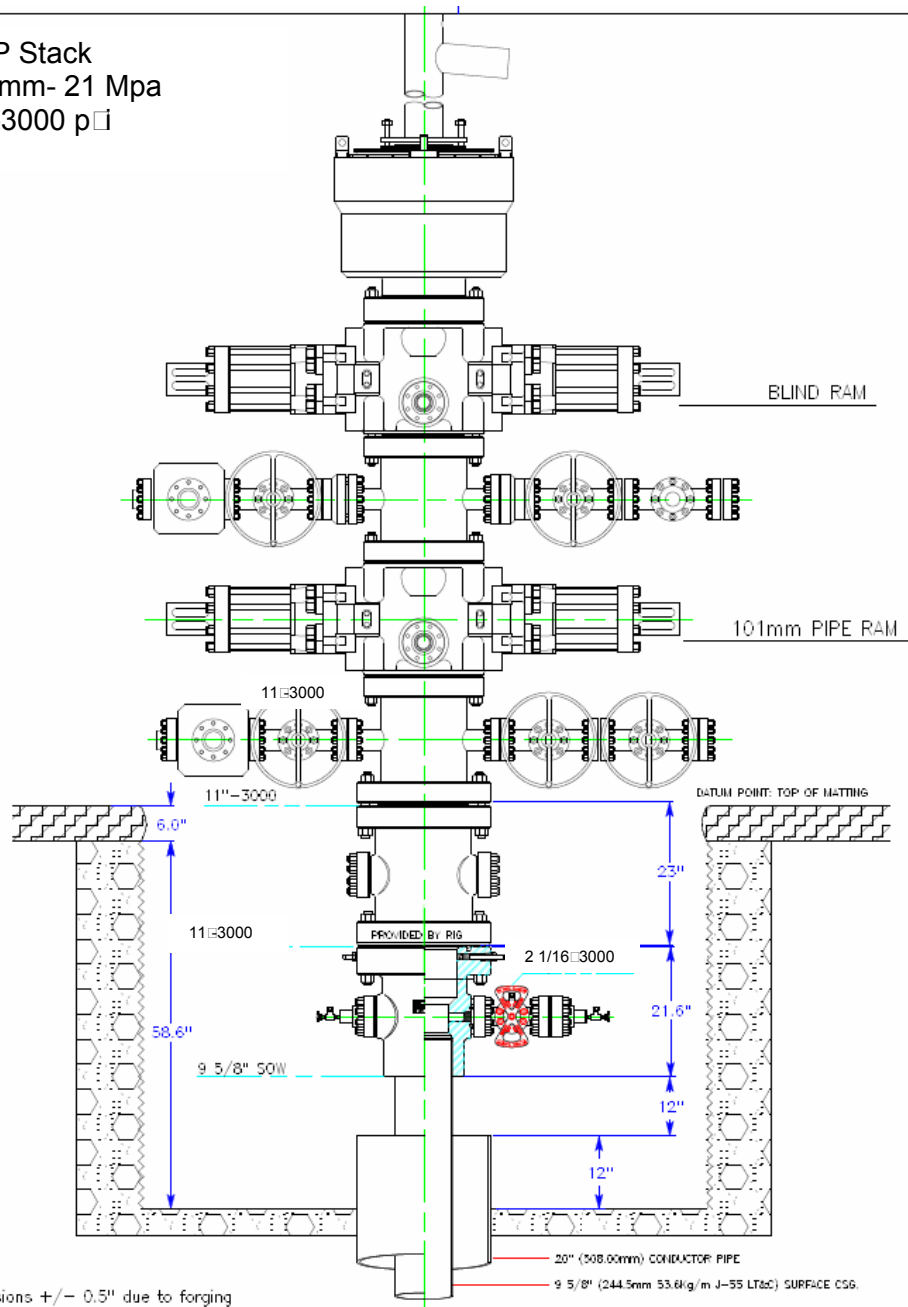


Note:

1. Ram type BOPs manufactured with integral outlets may be used in place of the drilling spools.
2. See Appendix 2 for equipment symbols.

Figure 4. Emergency flare line configuration for high-hazard area (southeastern Alberta) and for type 3 and type 4 surface casing reductions

BOP Stack
279mm- 21 Mpa
11-3000 psi



*Note: Dimensions +/- 0.5" due to forging
Drawing is not to scale, and only used as representation

HUSKY et al LITTLE BEAR
N-9 AND H-64
NABORS 23

DWN.		11/02/11
CHK.		
APPR.		
BY:		DATE



EDMONTON, AB.
CANADA

DRAWING No.

C2041
PAGE 6 of 10
REV 2

E.4 RIG SPECIFICATIONS & LAYOUT



NABORS DRILLING

Rig Inventory and Specifications

Rig No.: 23

Effective Date of Inventory: April 2010

Rig depth rating 2,600 m using 114 mm Drill Pipe

Number of loads (w/ boiler) 19, No crane required

- A. **Drawworks:** Make TSM 6000A Drum: 43.18 cm dia. x 99.06 cm long
Maximum Hoisting Capacity 113,000 daN
Number of Hoisting Speeds 5
Auxiliary Brake Type Hydromatic
- B. **Rig Power:** Make Caterpillar 3406 C
Maximum Power 390 kW
Continuous Power 343 kW
- C. **Derrick:** Make Mastco Type Telescoping Double Height 31.1 m
Normal Number of Lines Strung 8
Maximum Allowable Working Load (API rating) 124,600 daN w/ 8 lines
Contractor's Allowable Working Load 111,200 daN w/ 8 lines
- D. **Substructure:** Make: Mastco Type: Step Down Self leveling
Maximum Load Capacity Set back 89,000 daN 12.8 m long
Maximum Load Capacity Rotary 89,000 daN 4.27 m wide
KB - Ground 4.8 m Vertical Clearance for BOPs 3.81 m
c/w BOP handling system
- E. **Rotary Table:**
Make Gardner Denver
Type 17.5 Opening 444.5 mm
Contractor's Operating RPM Max. 180 Min. 1
- F. **Swivel:**
- | | Make/
Model | Manufacturer's
Maximum
Allowable Load | | Manufacturer's
Maximum Rotary
Load | |
|--|----------------------|---|-----|--|-----|
| | <u>National N-47</u> | <u>133,500</u> | daN | <u>111,200</u> | daN |
- G. **Traveling Equipment:**
- | | Make/
Model | Manufacturer's
Maximum
Allowable Load | |
|------------|--------------------|---|-----|
| Balls | <u>BJ 250 Ton</u> | <u>208,000</u> | daN |
| Elevator | <u>WTM 150 Ton</u> | <u>133,500</u> | daN |
| Block/Hook | <u>BJ</u> | <u>133,500</u> | daN |

NABORS Rig 23 Inventory

- H. **Drilling Line:**
 Line Size 28.5 mm Line Type Wire Rope Industries
 Single Line Breaking Strength 65,000 daN
- I. **Drill Pipe:** c/w 1 independent pipe tub
114 mm OD, Grade E, 24.7 kg/m, Conn. 4 1/2" XH, 2,600 m
 mm OD, Grade , kg/m, Conn. , m
c/w three self contained hydraulic operated pipe tubs
- J. **Drill Collars:**
203 mm OD, 70 mm ID, Conn. 6 5/8" Reg joints available 2
165 mm OD, 57 mm ID, Conn. 4 1/2" XH joints available 20
 mm OD, mm ID, Conn. joints available
- K. **Mud Pump:** Make & Model Gardner Denver PZ8 Stroke 203 mm
 Pump powered by Caterpillar 3412 C @ 550 kW
- | Liner Sizes (mm) | Maximum Strokes/min. | Minimum Strokes/min. | Manufacturer's Maximum Pump Pressure (kPa) | Contractor's Maximum Pump Pressure (kPa) |
|------------------|----------------------|----------------------|--|--|
| 127 | 130 | 60 | 23,700 | 19,000 |
| 139.7 | 130 | 60 | 19,600 | 15,700 |
| 152.4 | 130 | 60 | 16,400 | 13,200 |
- L. **Mud Tanks:**
 Total Volume 75 m³ Number of Tanks 1
 Active (Useable) Volume 65 m³ Number of Compartments 6
 Pill Tank Volume 2.5 m³
 Trip Tank Volume 2.0 m³
 Independent Mud Mixing System Pump 1 Type Mission magnum Size 127mm x 152mm x 254mm
 Pump 2 Type Mission magnum Size 127mm x 152mm x 254mm
 Agitator Type Brook Hansen 7 1/2 HP Number of Agitators 3
 Independent Circulating Pump is supplied for hole fill Brico 50.8 mm
- M. **Shale Shakers:**
 Make Derrick Flo-Line Cleaners Number 2
 Vibrating Speed 1,770 Cycles/min.
- N. **Mud Gas Separator:**
 Location Shaker Tank
 Height Above Mud Level 2.0 m (Mud level to top of vessel)
 Vessel Diameter 762 mm
 Liquid Inlet Line Size 101.6 mm
 Gas Outlet Size 203.2 mm
 Open Bottom
 Internal Baffles
 Nace Certified

Q. Blowout Prevention:

BOP	Make	Type	Size (mm)	Pressure Rating (kPa)	Nace Trim
Annular	Hydri	GK	279.0	21,000	Yes
Pipe Ram	Shaffer	LWS Single	279.0	21,000	Yes
Blind Ram/Pipe Ram	Shaffer	LWS Single	279.0	21,000	Yes

HCR Valve Nace gate valve Kill Line Valves: 76mm Nace gate valves

Accumulator Oilco 5 station
Size 400 litres Rating 21,000 kPa

P. Manifold:

a) The Master BOP controls are located at the accumulator and remote controls located at the driller's station

b) Pressure Rating 21,000 kPa
Kill Line Size 76 mm
Choke Line Size 76 mm
Valve Type Gate
Size 76 x 76 x 76 mm

c) Nace Trim

Q. Light Plants:

	Powered by	Output kW
Number 1	<u>Caterpillar 3406 @ 520 HP</u>	<u>320</u>
Number 2	<u>Caterpillar 3306 @ HP</u>	<u>200</u>

R. Instrumentation:

Electronic Drilling Recorder

S. Boiler: Make Saskatoon Type Diesel Output 75 kW
c/w 14 m³ water c/w 9 m³ fuel

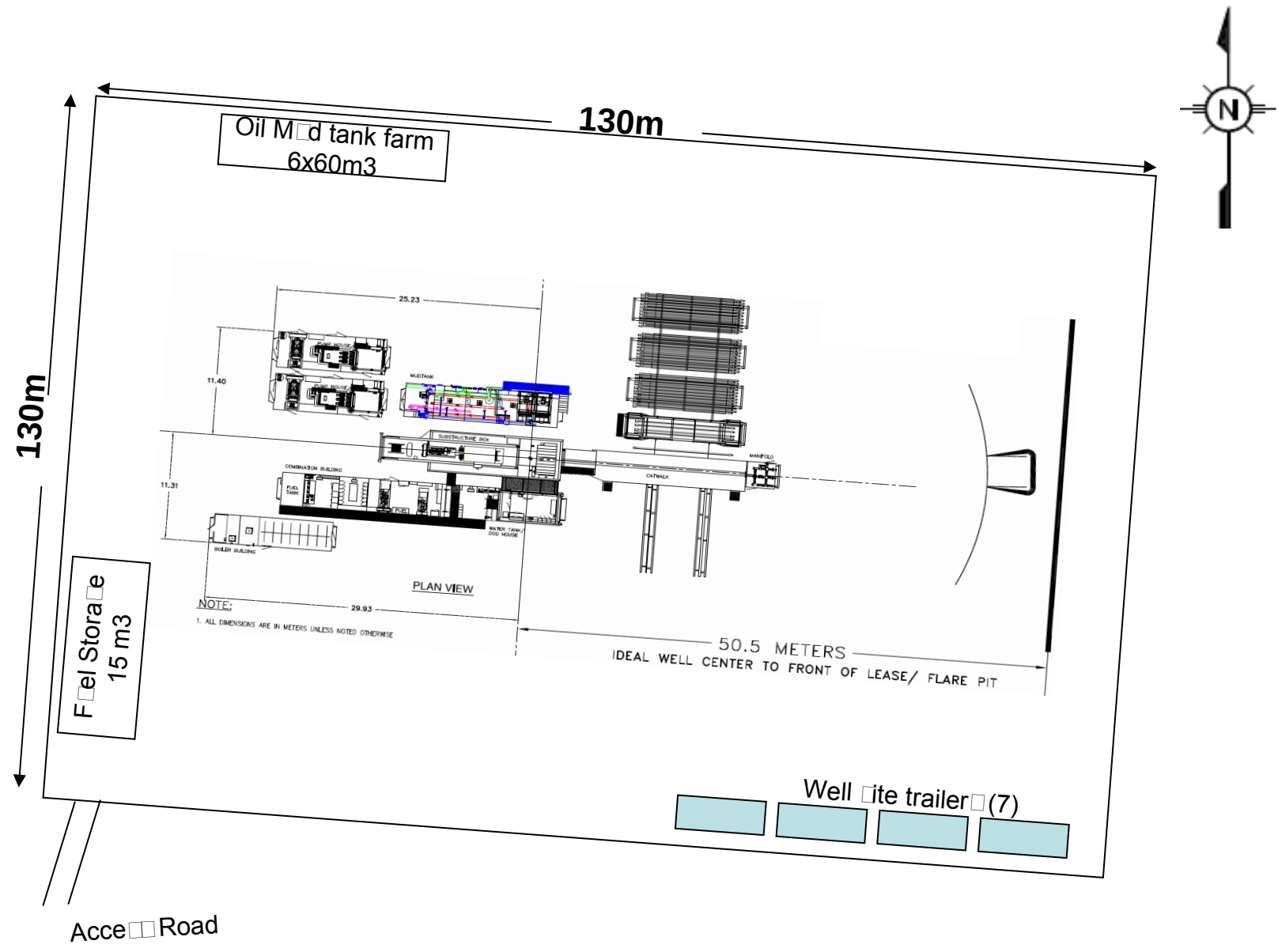
T. Kelly Spinner: Make Hydraulic Type Cesco 100 Size 197 mm

U. Drill Pipe Spinner: Make Type Make Spinner Hawk

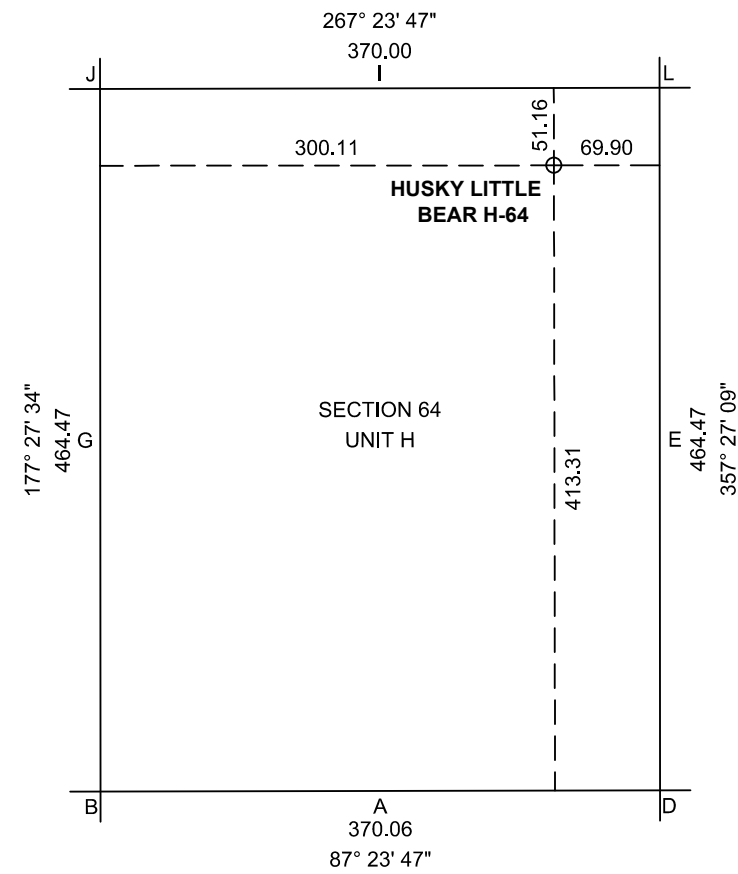
V. Fuel Storage: 18,000 litres c/w two transfer pumps

W. Water Storage: 68,000 litres c/w two transfer pumps

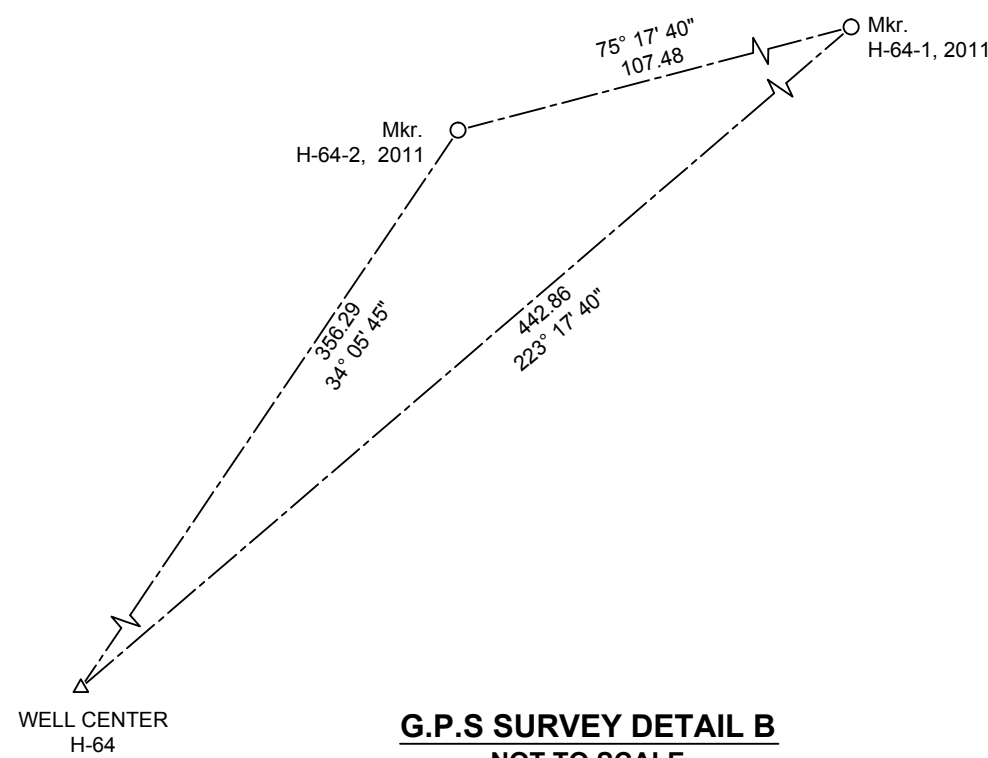
Rig Nabors 23 & Site layout (H-64)



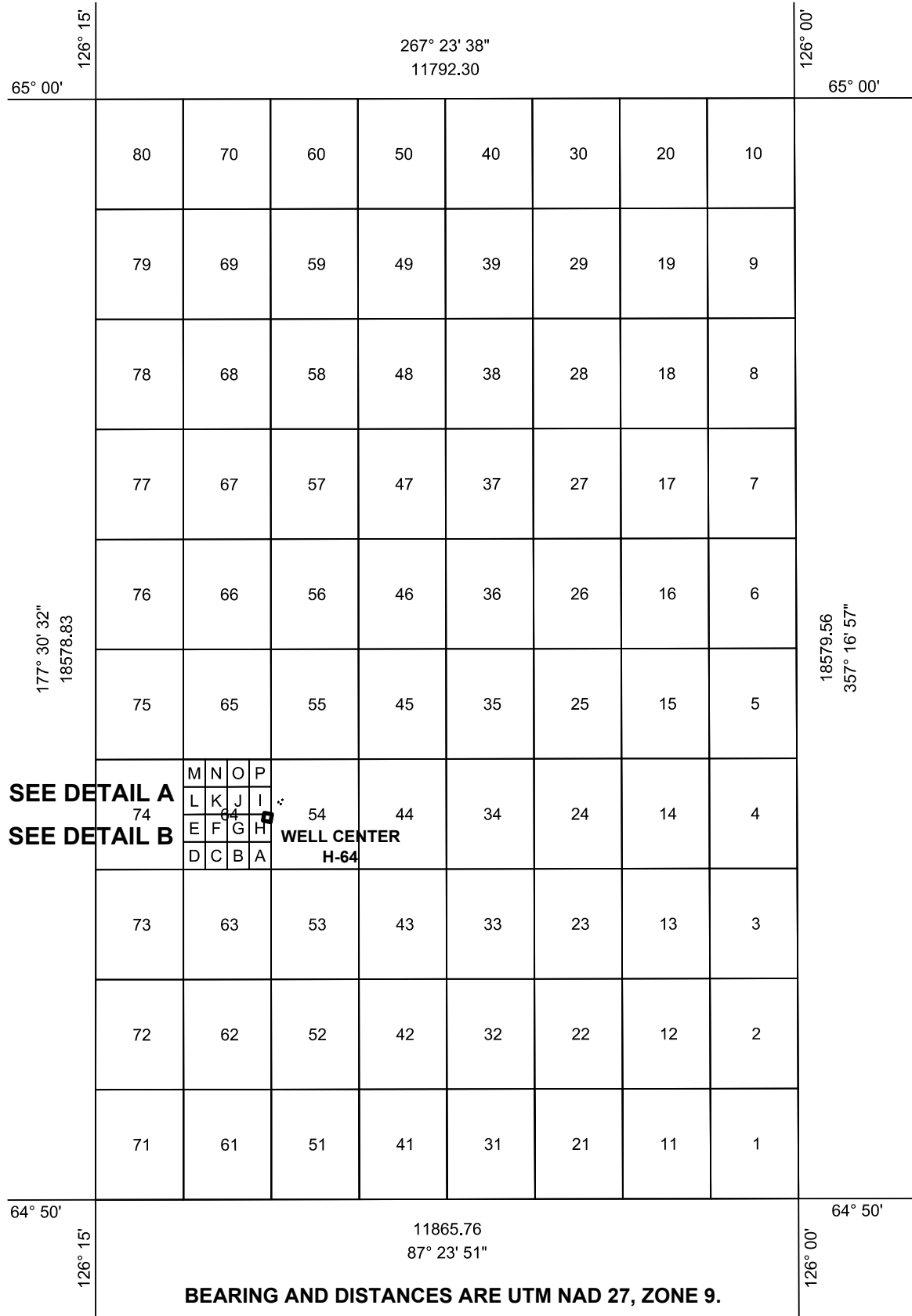
E.5 WELL LOCATTION SURVEY



UNIT H, SECTION 64
BEARING AND DISTANCES ARE UTM NAD 27, ZONE 9.
SURFACE UNIT DETAIL B
SCALE : 1 : 5000



G.P.S SURVEY DETAIL B
NOT TO SCALE
-BEARINGS ARE UTM NAD27, ZONE 9.
-DISTANCES ARE REDUCED TO THE HORIZONTAL
AT GENERAL GROUND LEVEL.



BEARING AND DISTANCES ARE UTM NAD 27, ZONE 9.
GRID AREA 65° 00', 126° 00'
SCALE : 1 : 100 000

TABLE OF CO-ORDINATES						
STATION	U.T.M. ZONE 9, C.M. 129 (NAD83)		UT.M. ZONE 9, C.M. 129 (NAD27)		GEOGRAPHIC CO-ORDINATES (NAD27)	
	NORTHING	EASTING	NORTHING	EASTING	LATITUDE	LONGITUDE
SURVEYED CO-ORDINATES - Derived Using NRCAN PPP Website						
H-64-1, 2011	7199618.85	633281.48	7199419.80	633372.10		
H-64-2, 2011	7199591.56	633177.54	7199392.52	633268.16		
GRID AREA						
N.E.			7211618.36	641434.31	65°00'00"	126°00'00"
N.W.			7211082.18	629654.20	65°00'00"	126°15'00"
S.E.			7193059.69	642315.20	64°50'00"	126°00'00"
S.W.			7192520.91	630461.68	64°50'00"	126°15'00"
H-64 N.E.			7199151.82	633136.02	64°53'30.14"	126°11'15.01"
H-64 N.W.			7199135.02	632766.40	64°53'30.13"	126°11'43.13"
H-64 S.E.			7198687.81	633156.67	64°53'15.14"	126°11'15.00"
H-64 S.W.			7198671.00	632786.99	64°53'15.13"	126°11'43.13"
WELL CENTRE						
H-64	7199296.55	632977.85	7199097.54	633068.47	64°53'28.49"	126°11'20.32"

CANADA LANDS SURVEYS RECORDS

Date: _____,20__

PLAN AND FIELD NOTES
OF SURVEY OF
EXPLORATORY WELL
HUSKY LITTLE BEAR H-64
IN UNIT H, SECTION 64
GRID AREA 65° 00', 126° 00'

EXPLORATION LICENSE 462

NORTHWEST TERRITORIES
CANADA OIL AND GAS LAND REGULATIONS

100 50 0 100 200 metres
SCALE 1 : 5000

SURVEYED FOR
HUSKY OIL OPERATIONS LIMITED
BY: R. ROBINSON, C.L.S.
2012

-NAD 83 UTM COORDINATES ARE COMPUTED FOR ZONE 9, CENTRAL MERIDIAN 129°W.
BEARINGS WERE DERIVED FROM GPS OBSERVATIONS.
-DISTANCES ARE EXPRESSED IN METRES AND DECIMALS THEREOF.
-DISTANCES SHOWN IN G.P.S. TRAVERSE ARE MEASURED DISTANCES
REDUCED TO THE HORIZONTAL AT GENERAL GROUND LEVEL UNLESS SHOWN OTHERWISE.
-FOR THE COMPUTATION OF COORDINATES MEASURED DISTANCES HAVE BEEN
REDUCED TO THE UTM PLANE BY MULTIPLYING THEM BY AN AVERAGE COMBINED
SCALE FACTOR OF 0.999790.
-NAD 83 UTM COORDINATES ARE CONVERTED TO NAD 27 USING NATIONAL TRANSFORMATION
VERSION 2.

-DISTANCES SHOWN ON GRID AREA SUBDIVISIONS ARE UTM PLANE.

C.L.S. 77 TYPE MONUMENTS FOUND.●
C.L.S. 77 TYPE MONUMENTS PLACED.○
TEMPORARY TRAVERSE POINTS SHOWN THUS (SPIKE 8")△

GROUND ELEVATION AT WELL CENTRE IS **178.50 metres.**
ELEVATIONS WERE DERIVED FROM GPS OBSERVATIONS.

THIS SURVEY WAS EXECUTED DURING THE PERIOD
SEPTEMBER 10th 20011 TO SEPTEMBER 14th 2011, BY RON ROBINSON, C.L.S.

HUSKY OIL OPERATIONS LIMITED

(SIGNATURE, TITLE)

(SIGNATURE)

Certified Correct and completed on the
4th day of April, 2012.

RON ROBINSON C.L.S.
April 4, 2012



WITNESS

DATE

E.6 DRILLING WASTE DISPOSAL REPORT

SUMMARY REPORT
HUSKY LITTLE BEAR 300-H-64-6500-126-300
SLATER RIVER, NORTHWEST TERRITORIES

Prepared for:



707, 7th Ave SW
Calgary, AB T2P 3G7

Prepared by:



Marquis Alliance Energy Group Inc.
1800, 800 – 6th Ave SW
Calgary, AB T2P 3G3

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	Weather Delays
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	Spills
	Sewage and Domestic Waste Water Discharges
4.0	REDUCTION MEASURES
	Spills
	TDG Information / Waste Handling
5.0	WASTE PRODUCTION OVERVIEW
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	Evaporation
	Water-Based Drilling Fluids and Cuttings
	Mineral-Oil Based Drilling Fluids and Cuttings
	Cement Returns
	Sewage and Domestic Waste Water
	Lease cleanup
6.0	ENVIRONMENTAL CONTINGENCY PLAN EXERCISES
7.0	CONCLUSION

LIST OF APPENDICES – Available Upon Request

Appendix A:	Environmental Monitoring Report
Appendix B:	Landfill Report
Appendix C:	Daily Waste Summary Table
Appendix D:	Tank Farm Spill Report – February 20, 2012
Appendix E:	Evaporator Spill Report – February 21, 2012

1.0 BACKGROUND INFORMATION

Marquis Alliance Energy Group Inc. (Marquis Alliance) was contracted by Husky Oil Operations Ltd. (Husky) to supervise the Husky Slater River waste management and spill response / support to all operations. Marquis Alliance was on location for the duration of the drilling operations which occurred from February 18 to March 19, 2012, to ensure that drilling waste, and other wastes associated with Little Bear H-64 was disposed using the terms and conditions as outlined in Husky's Northwest Territories drilling waste management plan submitted prior to the start of the project.

2.0 ENVIRONMENTAL CONDITIONS

The general environmental conditions of the lease were monitored throughout the project by the onsite Marquis Alliance representatives. Site inspections were conducted daily on the lease location, water sources, camp sites and fueling stations. Any spills or concerns were addressed immediately upon discovery, and general housekeeping was kept up hourly to ensure no accidental releases were encountered. A high standard was maintained at all times for the overall environmental condition of the project. After drilling operations, the entire lease was scraped by a hoe and the top layer was sent to the CCS Rainbow Lake Landfill / TRD for disposal. A visual inspection then confirmed that no drilling waste or other contaminants remained onsite once the project was completed.

Ice Management

The accumulation of ice on the site was maintained by applying anti-freeze to the steam lines, which greatly reduced the amount of ice buildup on the rig. When ice did manage to accumulate on the equipment, tools were used to remove the ice and then it was shoveled into the evaporator onsite.

Weather Delays

The rig did not experience any delays during the drilling operations of the H-64 well.

3.0 ENVIRONMENTAL PROTECTION MATTERS

The environmental protection used for this project was outlined in Husky's Northwest Territories environmental protection plan and drilling waste management plan.

Spills

There were two reportable spills that occurred during the drilling operations of the H-64 well, both of which were addressed immediately. The first release was a tank farm spill of invert drilling fluids which occurred on February 20, 2012 (Appendix D). Approximately 10m³ of invert fluids were released into the environment but contained in a lined area. The fluids were recovered and returned back into the invert system, and the remaining liner was disposed of during lease clean-up under the invert landfill approval at the CCS Rainbow Lake Landfill.

A second release occurred on February 21, 2012 from an evaporator spill of gel/chem fluids (Appendix E). Approximately 250L of gel/chem fluids were released onto lease surface to the northeast of the evaporator. The impacted area was cleaned up immediately and all impacted surface ice was placed into the evaporator for disposal. The spill contingency plans were available in the Emergency Response Plan.

Sewage and Domestic Waste Water Discharge

A small construction camp was set up at the start of operations to house a maximum of 50 personnel. The camp was then moved and was increased to a total of 135 personnel at peak times for all operations. Two Waste Water Treatment plants were utilized to handle the volumes of waste generated from the camps that were capable of handling up to 150 personnel. The raw municipal sewage generated at the camp operations was collected in a series of smaller sized sewage lift stations equipped with automated, redundant level switches and pumps. When the sewage was generated it was immediately pumped to the Waste Water Treatment Plant (WWTP) in flexible hoses equipped with both insulation and heat trace to ensure that the transfer lines did not freeze in the cold climate conditions. All sewage generated was first collected and then pumped directly to the WWTP for treatment and to an eventual designated discharge field. Discharge fluids were sampled by Banner Environmental Engineering Consulting Ltd and analyzed by ALS Labs. All effluent discharged to the environment met the criteria set by the Sahtu Land and Water Board in Licence Number S11L3-002. The remaining sewage sludge and remaining sewage waste at the end of the project, was disposed of, at the facilities run by the Town of Norman Wells

4.0 REDUCTION MEASURES

Meetings were held daily for the onsite workers, where all the safety concerns were addressed. All staff workers were updated with proper measures to prevent spills, and the procedures to follow in the event of a spill. In addition, a senior environmental advisor provided direction and guidance to the program through the field environmental advisor. The field environmental advisor was knowledgeable in the handling of wastes / spill response, as well as the waste regulations for the Northwest Territories, British Columbia, and Alberta.

Spills

Loads of sawdust were transported to the lease by sealed end dump trucks, which would first drop off fresh sawdust and then fill up with solid drilling waste prior to leaving the site. Garbage pails and spill kits were placed in close proximity to the rig and the rig shaker along with bags of sawdust. The easy access to this equipment improved the efficiency and reduced the environmental impacts associated with this project.

There were also spill kits that had been placed in close proximity to the mud products, inside the vacuum trucks, and next to the tank farms, fueling stations, and transfer stations. In the event of a spill, ease of access to the spill kits could aid in containing the release to a much smaller area.

High-density polyethylene (HDPE) liners were used on the H-64 location. This liner was placed underneath the rig, and the cuttings mixing area, in order to reduce the impacts of any potential spills / leaks. In addition, a secondary containment liner and synthetic berms were placed around the tank farm to contain any leaks or spills. Also, the mud product drums were placed in the onsite cement rings which acted as a secondary containment area in the event of leaks or spills.

TDG Information / Waste Handling

All parties involved in the disposal of hazardous wastes, the Generator, the Carrier, and the Receiver were registered and provided with the appropriate registration number prior to handling hazardous waste, and thereby complying with the Transportation of Dangerous Goods (TDG) regulations. The waste manifests that were completed by the Generator, Carrier, and Receiver, accompanied the shipments of hazardous waste. The information provided on the

manifests, as well as other TDG requirements (i.e.: labeling and placarding) were intended to assist first responders (police, ambulance, fire fighters) with hazard information should a transportation accident occur.

Husky created a Waste Management Table/Poster that was posted at the operations site to help the field staff determine how wastes were to be managed. The onsite Environmental Technician was responsible in ensuring that all wastes were managed accordingly. This Waste Management Table can be found in Husky's Northwest Territories drilling waste management plan.

5.0 WASTE PRODUCTION OVERVIEW

Incineration

Incineration was one means of reducing the mass and volume of waste used. There were two incinerators used: one remained at the camp, while the other was used on the drilling sites. There was 1830 kg of waste from the camp, and 784 kg from the H-64 lease (Appendix C). The amount of ash that was produced from this incineration was 3.5m³ from the camp waste and 1.5m³ from the lease H-64. This ash was disposed of by Ketek Group in Fort Nelson.

Domestic Waste

Domestic waste that was unsuitable to be incinerated was hauled to the Norman Wells transfer station by Hodgsons Contracting Inc. In total 150m³ of domestic waste was hauled offsite. One full 30m³ container of recyclables was hauled to the local Norman Wells School for fundraising purposes.

Evaporation

Evaporation was another method used to reduce the quantity of waste, by evaporating the fluids within the waste, such as ice and snow. This was most useful when the drilling waste was scraped up along with the surrounding snow and ice during cleanup operations. There was 36 m³ of waste that was evaporated from the H-64 lease.

Water-Based Drilling Fluids and Cutting

A water-based drilling fluid system was used for drilling the surface hole on the H-64 location. The waste streams generated included used water-based drilling fluids and drill cuttings and fines. The solid waste, including rock cuttings and centrifuged fines or sludge, were transferred to the onsite mixing bins where they were mixed with sawdust using the onsite loader, and prepared for transport. Prior to stabilization, the raw waste was sampled and analyzed at ALS Laboratory in Edmonton, a 3rd party laboratory, for landfill acceptance characterization. The stabilized waste was then transported by sealed and tarped end-dump truck trailers to the CCS Class II Oilfield Waste Landfill Facility located in Rainbow Lake, Alberta (Alberta Environmental Approval # 193262-00-00). Recovered water-based drilling fluids were centrifuged to extract water. The water was then evaporated and the remaining solids were hauled to the CCS Rainbow Lake Landfill. The waste was hauled with proper documentation (NWT Movement Documents).

A total of 83.45 tonnes of the surface hole drill cuttings from H-64 were hauled to the CCS Rainbow Lake Landfill for disposal. Water-based drilling waste fluids that were not suitable for re-use were removed for disposal at either the Newalta Treatment, Recovery, and Disposal (TRD) facility in Fort St. John, B.C. (LSD 15-05-083-17W6M), or the CCS Rainbow Lake TRD (LSD 12-24-085-19 W5M). A total of 56 m³ of fluids from H-64 went to the Newalta TRD, while 50 m³ of fluids went to the CCS Rainbow Lake TRD facility (Appendix B).

Mineral-Oil Based Drilling Fluids and Cuttings

The intermediate / main hole was drilled with a mineral-oil based drilling fluid system (invert). The waste stream included the rock cuttings and fines contaminated with invert. This solid waste was separated from the drilling fluids using the rig shakers and centrifuges. They were then transferred to the onsite mixing bins where they were mixed with a stabilizing agent (sawdust) using the onsite loader, and prepared for transport. Prior to stabilization the raw waste was sampled and analyzed at ALS Laboratory in Edmonton, a 3rd party laboratory, for landfill acceptance characterization. The stabilized waste was then transported by sealed and tarped end-dump trucks to the CCS Class II Oilfield Waste Landfill Facility located in Rainbow Lake, Alberta (Alberta Environmental Approval # 193262-00-00). The waste was hauled with the proper documentation (NWT Movement Documents).

A total of 142 tonnes of mineral-oil based cuttings from H-64 were hauled to the CCS Rainbow Lake Landfill for disposal (Appendix C). Upon completion of the drilling program, the mineral oil

was trucked back to Fort Nelson, British Columbia, for reconditioning to be recycled and re-used by the mud company.

Cement Returns

Cement returns were stored within the onsite lined cement rings to harden, prior to being transported by sealed and tarp end-dump truck trailers to the CCS Class II Oilfield Waste Landfill Facility located in Rainbow Lake, Alberta (Alberta Environmental Approval # 193262-00-00). There were a total of 8.22 tonnes of cement returns from H-64, hauled with the drilling waste using the proper NWT Movement Documents, to the CCS Rainbow Lake Landfill. A summary of the drilling waste disposal volumes can be found in Table 1, below.

Table 1: H-64 Little Bear Daily Waste Tracking			
Waste Type	Disposal Area	Volume	Units
Gel/chem Fluids	Newalta TRD	56	m ³
Gel/chem Fluids	CCS Rainbow Lake TRD	50	m ³
Gel/chem Solids	CCS Rainbow Lake Landfill	83.45	tonnes
Invert Solids	CCS Rainbow Lake Landfill	142	tonnes
Cement	CCS Rainbow Lake Landfill	8.22	tonnes
Lease cleanup	CCS Rainbow Lake TRD	43	m ³
Lease cleanup	Newalta TRD	25	m ³
Lease cleanup	CCS Rainbow Lake Landfill	117.03	tonnes

Sewage and Domestic Waste Water

There were two camp operations used for this project. The initial construction group entered the area first and provided the necessary infrastructure for the drilling and seismic operations that followed. The camp peaked at a 135 person camp which housed the construction, drilling, seismic, and camp operational personnel. Hence, two sewage plants were used with the following stated capacities:

- Initial Construction Camp, Stated Capacity of 50 persons
- Combined Camps, Stated Maximum Capacity of 135 persons

Four main waste streams resulted from the wastewater and potable water operations for this project. These streams are listed below:

- Raw municipal sewage generated from camp operations
- Treated municipal wastewater effluent after treatment in the Wastewater Treatment Plant (WWTP)
- Residual sludge generated during treatment in the WWTP
- Backwash wastewater generated at the potable water plant

An engineered drawing for the effluent disposal field was created for a 200 man camp. Husky used this setup for a 50 man camp except the initial system was reduced in size being compromised of two 125 foot effluent discharge legs initially. Once the full operation began and road access to the main camp was provided, the effluent field was converted into a typical Type A 200 man discharge field. This field design proved to be very effective at dispersing the final treated effluent and allowed for the most beneficial uptake of these treated effluent waters by the natural environment. The 50 man WWTP had a total of 309.60 m³ of treated effluent that was discharged in the disposal field, while the 100 man WWTP produced 430.00 m³ of treated effluent that was discharged into the discharge field.

Residual sludge generated onsite occurred within the Membrane Bioreactor system as it is the natural byproduct of the WWTP processes. The eventual accumulation of sludge was impossible to avoid as these materials represent the inorganic fractions of the raw sewage and/or the organic fractions of the biomass highly resistant to aerobic decomposition. Also, at the end of the project as the camp facilities were being demobilized, the treatment plants needed to be emptied. These residuals required final treatment and management at longer term facilities, and a total of 96 m³ of waste from the 50 man WWTP and 73 m³ of waste from the 100 man WWTP were vacuumed out and transferred to an approved facility in Norman Wells for longer term treatment/management. These volumes were relatively small and represented only a very small fraction of the total volume of raw sewage generated and/or treated effluent disposed. Both the raw sewage and treated effluent flows were measured and recorded on site and any trucked residuals or bypasses were also recorded with the logs to ensure an accurate record of the sewage, effluent and residuals were maintained.

The last waste stream represents the backwash water from the potable water plant. Given the nature of the potable water plant and its pre-treatment cartridge filters, the backwash water was expected to be free of contaminants. There was 42.32 m³ of backwash water from the 50 man WWTP and 60.80 m³ of backwash water from the 100 man WWTP, for a total of 103.12 m³

of backwash water produced in this project. Since current potable water standards do not permit the recycle of these backwash waters within the potable water plant itself, this waste stream was ran through the WWTP, and discharged to the surrounding environment.

Lease cleanup

After drilling operations were completed and the rig moved offsite, the lease cleanup process began. All lease cleanup material was loaded into trucks and hauled to the appropriate facility. There was 43 m³ of lease cleanup from H-64 that was disposed at the CCS Rainbow Lake TRD, 25 m³ was disposed at the Newalta TRD, and 117.03 tonnes of lease cleanup from H-64 were disposed at the CCS Rainbow Lake Landfill.

This lease cleanup material included:

- liner, that had been cut into manageable pieces
- the top layer of snow on the lease that had been scraped, thereby removing any contaminated snow and ice
- any fresh water based or mineral-oil based drill cuttings and fluids that remained onsite in the mixing bins
- the remaining waste stored within the cement rings

6.0 ENVIRONMENTAL CONTINGENCY PLAN EXERCISES

There were multiple environmental contingencies put in place for this project to be certain that all necessary compliances were met:

- Safety meetings were conducted every 12 hours by a Marquis Alliance representative
- Spill kits were placed in close proximity to all potential spill sources
- Sawdust was onsite and readily available
- Liners were used under tank farms and evaporators
- Waste was tracked daily
- A senior technician with spill response training was onsite at all times
- All parties involved in the project were given daily status updates

7.0 CONCLUSION

Over the duration of the project, all of the drilling and domestic wastes associated with Little Bear H-64 well, was disposed using the methodology outlined in Husky's Northwest Territories drilling waste management plan, and terms and conditions set out by the Sahtu Land and Water Board. After drilling operations were completed, all the equipment was removed from location and the lease was inspected for releases and scraped clean. There were no major spills identified during drilling operations of this well, and Husky Energy was satisfied with the outcome of this project.

E.7 NEB LICENSE & INSPECTION REPORTS



OCT 27 2011

OPERATIONS AUTHORIZATION

APPLICATION

HUSKY OIL OPERATIONS LTD

(Name of Operator)

Hereby applies for authorization of a proposed:

☒ Drilling Program ☐ Production Program ☐ Installation/Removal Program ☐ Other
Please Specify:

under paragraph 5(1)(b) of the *Canada Oil and Gas Operations Act* (R.S.C., 1985, c. O-7) and Part 2 of the *Canada Oil and Gas Drilling and Production Regulations* (SOR/2009-0315) using equipment and procedures described in the application.

Changes in equipment or procedures, outside the scope of this application, require the approval of the Board in order that this authorization remains valid. An approved copy of this notice is to be posted at each work site and is subject to the terms and conditions attached to this authorization.

Licence No. Select EL462 and EL463 NEB Operating Licence No. 1204

Region NWT Mainland

Field SLATER RIVER

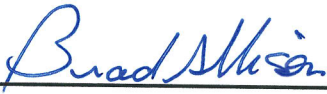
Anticipated date of commencement DECEMBER 2011 Proposed Duration 4 months

Scope of Work Construction of winter access road, campsite and 2 well sites locations
Drilling and evaluation (core and log) of 2 exploration wells, Little Bear N-9 and
Little Bear H-64 in Slater River area of NWT

"I certify that the information provided on this form is true and correct"

Name Brad Allison Telephone (403) 750-1515 Ext

Job Designation Vice President Exploration E-Mail brad.allison@huskyenergy.com

Signature  Date Oct 24, 2011
Responsible Officer of Company

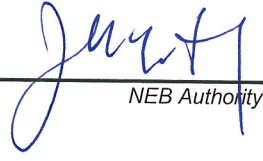
NATIONAL ENERGY BOARD AUTHORIZATION

(Board Use Only)

The operator named above is hereby authorized under paragraph 5(1)(b) of the *Canada Oil and Gas Operations Act* (R.S.C., 1985, c. O-7) and is subject to the terms and conditions attached to this authorization.

Chief Conservation Officer

Job Designation

Signature  Date 22 Dec 2011
NEB Authority

Operation Authorization (OA) No. OA-1204-002

Expiry Date 31 December 2012



APPROVAL TO DRILL A WELL

APPLICATION

This application is submitted under Section 10 of the *Canada Oil and Gas Drilling and Production Regulations* (SOR/2009-0315). When granted under Section 13 of the Regulations, this form is the requisite approval for the commencement of well operations. An approved copy of this notice is to be posted at each drill site.

Well Name	Little Bear H-64	Operator	Husky Oil Operations Limited
Well Type	Exploratory Well	If Other Type, please specify	
NEB Operating Licence No.	1204	Operations Authorization No.	
Drilling Rig or Unit	Nabors 23	Contractor	
Licence No.	Exploration Licence 462	Estimated Well Cost	\$18,800,000
Station Keeping	Not Applicable	Land Structure	Conventional Land
Land Use Permit No.		Issued by:	Sahtu Land and Water Board
Water Licence No.		Issued by:	Sahtu Land and Water Board
Location	Unit H	Section 64	Grid
Coordinates (NAD 27)	Surface	Lat 64 ° 53 ' 28.5 "	Long 126 ° 11 ' 20.3 "
	Bottom Hole	Lat 64 ° 53 ' 28.5 "	Long 126 ° 11 ' 20.3 "
Region	NWT Mainland		
Target Formation	Canol / Hume	Field/Pool	Slater River /
Well Path	Vertical	Discovery Well	
Elevation KB/RT	183.5 m	Ground Level / Seafloor	178.5 m
Approximate Spud Date	20 February 2012	Est. Days on Location	25 days
Anticipated Total Depth	1412 m KB		

EVALUATION PROGRAM

Sample Type	Top to Bottom Interval (m KB)	Sample Interval (m)	Comments
Drill Cuttings	surface-1412	5.0	NEB: 2 vial sets and 1 bag set 500g minimum.
Drill Cuttings	Surface-819	5.0	GSC Bagged samples to base of Cretaceous (819m TVD)
Conventional Cores	1220-1370	Other	Cut core in Lower Canol, Hare Indian and Bluefish formation
Logs and Tests	650-1412	Other	CNL-LDT-GR, Sonic,Array Induction&GR /CNL across surface csg
Logs and Tests	1150-1412	Other	ECS, Sonic Scanner, NMR

CASING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)
508	Conductor Pipe	ASTM A 53	+/-30
244.5	53.6	J-55	630
177.8	34.2	L-80	1412

Additional Information

"I certify that the information provided on this form is true and correct"

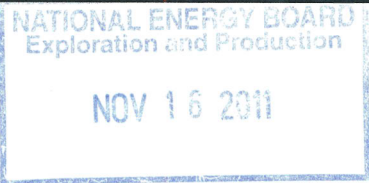
Name	Kim Richardson	Telephone	(403)-298-7273
Job Designation	Drilling Superintendent	E-Mail	kim.richardson@huskyenergy.com
Operator	Husky Oil Operations Limited		
Signature		Date	15 November, 2011
	Responsible Officer of Company		

NATIONAL ENERGY BOARD APPROVAL

(Board Use Only)

This well approval is granted under section 13 of the *Canada Oil and Gas Drilling and Production Regulations* (SOR/2009-0315) and is subject to the terms and conditions attached to this approval and Operations Authorization No. OA-1204-002.

Job Designation	Chief Conservation Officer	Well Identifier	2077	Unique Well Identifier	300H64500126000
Signature		Date	22 Dec 2011		
	NEB Authority				



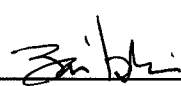


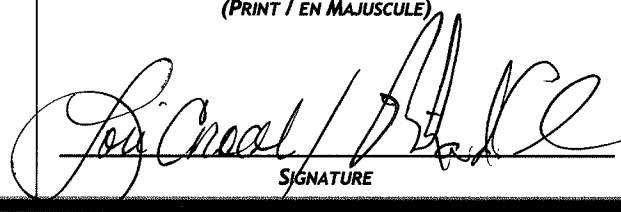
Inspection Summary / Résumé de l'inspection

Canada Oil and Gas Operations Act	
☐ Canada Oil and Gas Operations Regulations ☐ Canada Oil and Gas Certificate Of Fitness Regulations ☐ Canada Oil and Gas Installations Regulations	☒ Canada Oil and Gas Drilling and Production Regulations ☐ Canada Oil and Gas Geophysical Operations Regulations
Canada Labour Code, Part II	
☒ Oil and Gas Occupational Safety and Health Regulations	

COMPANY / SOCIÉTÉ <u>HUSKY OIL OPERATIONS LIMITED</u>
LOCATION / EMPLACEMENT <u>Husky Little Bear H-64</u>
FACILITY / INSTALLATION <u>Nabors Drilling Rig 23</u>

DATE OF INSPECTION / DATE DE L'INSPECTION <u>FEB 29 – MARCH 1, 2012</u>

COMPANY REPRESENTATIVE / REPRÉSENTANT(E) DE LA SOCIÉTÉ	<u>Goly Zilabi – Sr Drilling Engineer</u> PRINT (NAME, TITLE) / EN MAJUSCULE (NOM, TITRE)	PHONE / TÉLÉPHONE <u>1-403-513-7586</u>
	 SIGNATURE	FAX / FACSIMILÉ <u>March 1, 2012</u> Date

COGOA INSPECTORS / INSPECTEUR DE L'ONÉ	<u>Rick Turner and Lori Croal</u> (PRINT / EN MAJUSCULE)	PHONE / TÉLÉPHONE <u>403-540-3754</u> <u>403-519-9889</u>
	 SIGNATURE	FAX / FACSIMILÉ <u>(403) 292-5876</u> <u>March 1, 2012</u> Date

**REMARKS / COMMENTAIRES:****Scope:**

Safety inspection of the Husky Little Bear H-64 well operations and to ensure all deficiencies noted from first inspection on N-09 have been rectified and program is being conducted according to the approved program, and applicable regulations.

Rig Safety General:

- Recording and posting of information (Satisfactory).
- Electrical equipment (Satisfactory).
- Accumulator at required distance from well and in good condition (Satisfactory).
- Boilers have been inspected at the proper intervals (Satisfactory).
- All safety equipment associated with engines (Satisfactory).
- Each work area has two exits (Satisfactory).
- Adequate lighting provided for each work area (Satisfactory).
- Sour service equipment meets requirements (Satisfactory). Pump lines properly secured (Satisfactory).
- Drillers BOP controls properly marked (Satisfactory).
- Wind indicators (Satisfactory).
- General house keeping (Satisfactory).

Personnel Safety:

- Personnel has valid first aid, CPR, WHMIS, TDG, and BOP tickets (Satisfactory).
- Adequate first aid equipment and facilities (Satisfactory).
- Safety meetings documented (Satisfactory).
- Respiratory protective systems (Satisfactory).
- Escape line located at the monkey board and properly installed (Satisfactory).
- Elimination of potential hazardous conditions (Satisfactory).
- Required personnel safety equipment provided (Satisfactory).
- Gas detection equipment adequate and properly maintained (Satisfactory).
- Adequate communication equipment in place (Satisfactory).
- Adequate signage (Satisfactory).
- Adequate contingency plans, equipment and supplies (Satisfactory).



REMARKS / COMMENTAIRES:

Derrick/Rig Floor/ Substructure Safety:

- Rig mast properly inspected (Satisfactory).
- Substructure is in satisfactory condition with no visible damage (Satisfactory).
- Derrick name plate attached (Satisfactory).
- Drilling line in good condition (Satisfactory).
- Draw works in good condition (Satisfactory).
- Crown saver installed and in good operating condition (Satisfactory).
- Weight indicator installed and in good operating condition (Satisfactory).
- Tongs and slips in good condition (Satisfactory).
- Safety cables attached to tongs, weight indicator, Kelly hose, and mud pump lines (Satisfactory).
- Braking system in satisfactory condition (Satisfactory).

Blow-out Prevention Equipment - Safety:

- BOP stack shop serviced every three years (Satisfactory).
- BOP pressure rating and testing of system adequate (Satisfactory).
- Configuration of BOP stack complete (Satisfactory).
- BOP controls and accumulator are adequate and in good condition (Satisfactory).
- BOP function tests and results have been recorded (Satisfactory).
- BOP drills conducted and recorded (Satisfactory).
- Up to date kill sheet posted in the dog house shack (Satisfactory).
- BOP stack, choke, kill lines and manifold properly winterised (Satisfactory).
- Upper and lower Kelly cocks installed and key available (Satisfactory).
- Stabbing valves and cross overs available (Satisfactory). All flow lines, choke and kill lines properly installed and secured (Satisfactory).
- No valves down stream of manifold (Satisfactory).
- Flare tank adequate and at the proper distance from the well (Satisfactory).
- Trip sheets fully filled out (Satisfactory).
- Hole fill volumes available to the driller and hole is either filled every 5 stands or continuously (Satisfactory).
- Pop off valves have proper shear pins (Satisfactory).
- Pason (PVT) system works properly (Satisfactory). Crew properly trained and can run the BOP equipment (Satisfactory).
- Accumulator at required distance from well and in good condition (Satisfactory).

[Handwritten signatures and initials]

**REMARKS / COMMENTAIRES:****Camp Safety:**

- Fire and gas detectors installed and operable (Satisfactory).
- Fire extinguishers installed and checked every month (Satisfactory).
- Fire alarm systems operable (Satisfactory).
- Fire drills conducted (Satisfactory).
- Egress, window shutter are to be open during camp occupation (Satisfactory).
- General cleanliness (Satisfactory).
- Potable water available (Satisfactory).
- Accommodations meet requirements (Satisfactory).

Inspection Summary:**SAFETY:**

NEB COGOA Safety inspectors checked in at Husky's security shack where they were met by security and drug dogs and handlers. Husky Slater access road is radio controlled and kms are marked very well including speed posting. NEB COGOA Safety inspectors observed that visitors/personnel utilizing the Husky access road were utilizing the radios diligently.

NEB COGOA Safety inspectors were met at main camp by Goly Zilabi and Husky Safety Representative Stuart Gardner. Stuart gave NEB COGOA Safety inspectors a full blown (3 year valid) orientation for Husky site. Excellent thorough orientation and assistance by all personnel.

NEB COGOA Safety inspectors went to Husky Little Bear H-64 to complete rig inspection. NEB COGOA Safety inspectors checked in to site with Wellsite Consultant Cal Conklin. Cal gave NEB COGOA Safety inspectors site specific/hazards for H-64 site. NEB COGOA Safety inspectors met with onsite medic and verified her credentials as an EMT. Safety inspectors discussed with medic process for having the MTC warm and check to see how often the vehicle is started. We identified that having only one set of keys for emergency vehicles is potentially a concern. Medic confirmed with Goly that she was sent out with two sets of keys but cannot find second set currently. Goly has Frontier sending second set of keys. Goly will advise NEB COGOA Safety inspectors when they have arrived on site for medic.

NEB COGOA Safety inspectors observed from inspection on N-09 that the only concern from rig personnel was that communications were very weak for corresponding via telephone for personal calls. Immediately after our departure on last inspection Goly had communications rectified and all personnel have communication now.

NEB COGOA Safety inspectors observed that the "check in check out" system at security shack seems to be very positive and efficient.

NEB COGOA Safety inspectors along with Goly had spill kit placed where mud products were sitting in middle of area near rig. There was concern that barrels with versa coat were punctured that Husky did not have secondary containment in place for these barrels other than the liner on the ground. Versa Coat is a oil mud product that is contained in sealed metal barrels. It was discussed that a secondary containment (berm) would be more of a hazard due to tripping hazards or slipping as the



REMARKS / COMMENTAIRES:

barrels get moved up to mud tank area. NEB COGOA Safety inspectors were satisfied with a spill kit being placed in position for immediate clean up if spill occurred. The mud product (Versa Coat) was of a high viscosity, in a well travelled accessible area the spread of a spill would be limited along with the lease is protected with a environmental plastic base liner.

NEB COGOA Safety inspectors were at camp site when Husky had approximately 25 students out to tour project area. The school students were from grade 9 - 12. NEB COGOA Safety inspectors attended the discussion in the recreation area where Chris Salowich (environmentalist) and Goly Zilabi (Drilling Superintendent) were conducting a talk to the students. At this time Husky representatives introduced NEB COGOA Safety inspectors and asked inspectors to speak to the students unexpectedly. COGOA Safety inspectors were very pleased with this opportunity as inspectors wanted students to be aware of what the role of NEB is and what the students opportunities hold for their futures. It was noted after NEB COGOA Safety inspectors departed the meeting that Husky had further discussions regarding "women in the industry". This was very pleasing to hear as it opened up great discussions for students. NEB COGOA Safety inspectors would like to commend Husky Energy for its interactions with the students of the North. Excellent and thank you for the opportunity to be involved in the interaction.

Thank you to all personnel that accommodated NEB inspectors and the cooperation from all. It was very much appreciated and a pleasure.

Lori Croal
Safety Officer, Operations Inspector

Rick Turner, Safety Officer
Operations Technical Specialist



Inspection Report / Rapport d'inspection

Canada Oil and Gas Operations Act / Loi sur les opérations pétrolières au Canada	
☒ Canada Oil and Gas Drilling and Production Regulations / Règlement sur le forage et la production de pétrole et de gaz au Canada	☐ Canada Oil and Gas Geophysical Operations Regulations / Règlement sur les études géophysiques liées à la recherche du pétrole et du gaz au Canada
☐ Other / Autre	☐ Other / Autre
Canada Labour Code, Part II / Code canadien du travail, Partie II	
☐ Oil and Gas Occupational Safety and Health Regulation / Règlement sur la sécurité et la santé au travail (pétrole et gaz)	

COMPANY / SOCIÉTÉ <u>Husky Oil Operations Ltd.</u>
LOCATION / EMPLACEMENT <u>Slater River, NWT; Little Bear N-09 and H-64</u>
FACILITY / INSTALLATION <u>Nabors Drilling Unit Rig 23</u>

Activity # / Activité n° : 1112-319
DATE OF INSPECTION (DD/MM/YYYY) / DATE DE L'INSPECTION (JJ/MM/AAAA) 28 FEBRUARY 2012

COMPANY REPRESENTATIVE / REPRÉSENTANT(E) DE LA SOCIÉTÉ	<u>Chris Salewich, Environmental Advisor</u> PRINT (NAME, TITLE) / EN MAJUSCULES (NOM, TITRE)	<u>403-700-4780</u> PHONE / TÉLÉPHONE
	 SIGNATURE (SIGNATURE INDICATES RECEIPT OF FINAL COPY, NOT NECESSARILY AGREEMENT / LE SIGNATAIRE ACCUSE RÉCEPTION DE LA VERSION DÉFINITIVE DU DOCUMENT SANS NÉCESSAIREMENT ÊTRE EN ACCORD AVEC SON CONTENU)	<u>chris.salewich@huskyenergy.com</u> Email
		<u>02 March 2012</u> DATE

CONSERVATION OFFICER / LE DÉLÉGUÉ À L'EXPLOITATION	<u>John Korec/Don Logan</u> PRINT / EN MAJUSCULES	<u>403-292-6614/403-299-3676</u> PHONE / TÉLÉPHONE
	 SIGNATURE	<u>(403) 292-5503</u> FAX
		<u>02 March 2012</u> DATE

**REMARKS / COMMENTAIRES :**

Husky Slater River drilling program is located southeast of Norman Wells, NWT and west of Tulita, NWT. The purpose of this NEB inspection was to observe drilling operations and to verify compliance with the Environmental Protection Plan (EPP) and Operations Authorization conditions.

28 February 2012

NEB Environmental Specialists attended the site-specific safety and environmental orientation facilitated by Stuart Gartner, safety. Highlights included:

- Company safety commitments
- Company environmental commitments
- Hazard assessments
- Task specific assessments

Following the orientation, NEB staff conducted an opening meeting where they indicated an interest in observing or discussing:

- Well sites N-09 and H-64
- Duties of environment and wildlife monitors
- Mitigation measures identified in EPP
- Handling and use of waste and chemical substances
- Recent 10 m³ spill of invert mud (83% mineral oil) at H-64
- Water use

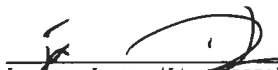
During the meeting spill reporting criteria and follow-up agency jurisdiction was also discussed. Husky staff Chris Salewich, Cal Conklin (Rig Supervisor), Stuart Gartner (Safety), and Darren Brown (Construction Supervisor) were in attendance. An HSE representative attended during the facility inspection to verify acceptable atmosphere prior to any NEB photos being taken.

Well site Little Bear N-09

NEB staff proceeded to N-09 where drilling activities were recently concluded. The wellhead, drilling pad, and remaining spoil piles were observed. There were no visible signs of contamination although one remaining piece of synthetic liner was observed in the NE corner of the site. Husky staff explained that the top 2 inches of the ice pad had been scrapped off and treated as contaminated before being shipped off-site for disposal. Spoil piles will be mulched and spread over the site once seismic operations in the area are completed. Any remaining synthetic liner will be collected and disposed.

Well site Little Bear H-64

At H-64, NEB staff observed: the drilling operations mud system, included the shakers; slop tank; large capacity tank storage; centrifuge; and mixing bins where sawdust is added to wet cuttings for stabilization prior to transport for off-site disposal. Husky staff pointed out the synthetic liner which underlies the entire drill site, barring spills from reaching the ice pad. On 20 February 2012, a spill of 10 m³ of mineral oil-based


INSPECTOR INITIALS / INITIALES DE L'INSPECTEUR

Canada


REPRESENTATIVE INITIALS / INITIALES DU REPRÉSENTANT

**REMARKS / COMMENTAIRES :**

drilling fluid had overflowed a storage tank at the mud system tank farm. The spill was entirely contained within the synthetic-lined tank farm's secondary containment. Husky staff stated that spill was a result of human error outside normal operating practices. Additional follow-up will be conducted by NEB staff for this spill as it is a separate incident outside of this inspection.

NEB staff then observed the cement storage bins, evaporators, incinerators and enviro bin. No issues were noted. However, a pallet with drums of a marked toxic mud additive was observed to be without secondary containment. . Husky staff stated that they would store the barrels within the mud system's tank farm's secondary storage. On 1 March, Rick Turner and Lori Croal, NEB Safety Inspectors, confirmed that the barrels were placed into the bermed area.

Husky and NEB staff also discussed the use of environmental monitors onsite, specifically wildlife and waste management monitors. Husky stated that monitors are employed from nearby communities of Norman Wells and Tulita. Husky provides additional training as needed.

- Wildlife monitors travel around the vicinity of the well lease and record all wildlife sightings provide the information and update a map with the sightings back at their camp. Husky staff indicated the data collected would be provided to the GNWT.
- Waste monitors ensure vehicles parked onsite for more than 2hrs have a drip tray under the engine.

Conclusion:

No non-compliances were observed within the scope of this inspection.

NEB staff would like to thank Husky staff for their cooperation and their time during the course of this inspection.


INSPECTOR INITIALS / INITIALES DE L'INSPECTEUR

Canada


REPRESENTATIVE INITIALS / INITIALES DU REPRÉSENTANT

E.8 LITTLE BEAR H-64 PLANNED STICK DIAGRAM

HUSKY OIL OPERATIONS LIMITED - DRILL PLAN SUMMARY

Well Name:	Little Bear H-64	Surface Coordinates:	64° 53' 28.5"N 126° 11' 20.3"W NAD 27
Well Location:	NWT- Slate River	Downhole Coordinates:	(same as above)
Well Type:	Vertical Drill	Total Depth:	1412m
Primary Target:	Canol	GL elevation:	179m
Secondary Targets:	None	KB elevation:	184 m
Well Classification:	Wildcat	KB-GL:	5.0m
Drilling Licence:		Rig:	Nabors 23
Tight Hole Status:	Confidential	D&C Cost Estimate:	
		Drilling AFE#:	
		Date:	October 11, 2011

GL	179	m	Conductor Pipe: +/- 38 m 660mm, pressure cemented with Arctic Cement	
KB	184	m		
Formation	-m SS	m MD	SURFACE HOLE (0-630m):	
Little Bear		Surface	Diverter is required for surface hole	
			Shallow gas drill shall be performed before spud	
			H2S service Rigged up before drilling	
			Hole Size :	311mm
			Mud:	Gel / Chem 1050-1150 kg/m3
			Surveys:	MWD
			Problems:	Gravel, boulders, rough drilling, mud rings, losses,
Slate River	-215.0	399	Casing:	244mm, 53.6 kg/m, J55, LTC
			Cement:	CEMENT: Surface plus + LCC-1 (100% XS)
Csg Shoe		630	MAIN HOLE (630-1412 m):	
Lower Cretaceous	-465.0	649	BOP: Class IV	
			Hole size:	222mm
			FLOT	Formation Leak off test will be performed
			Mud Type:	lowert : MN 1100-1250 kg/m3
			Surveys:	MWD / GR
			Mud Logging	Full Spectrum Gas Chromatograph From Surface To TD w/ H2S Detection
			Samples:	NEB: 5m intervals surface to TD, 2 vial sets and 1 bag set 500g minimum.
				Husky: Samples in vials at 5m intervals surface to TD.
				GSC: Bagged samples at 5m intervals from surface to base of Cretaceous (819m TVD).
Imperial	-635	819	Drilling Hazards	
			-H2S: No H2S reported on any of the offset wells	
			-Abnormal Pressure/Kick :No abnormal pressure /kick encountered on any of offset wells	
			-Losses: Minor losses in formations above Slate River in offset wells cured by LCM	
			-Mud Weight: Max, MW in offset wells drilled to Hume was 1160 kg/m3	
			-Pressure: Pressure in the Canol shales is unknown, by analogy to other productive shale horizons in North America, pressure gradients for the Canol, Hare Indian and Bluefish shales are estimated to lie within a range of 11.3 – 15.6 kPa/m.	
			-Hazards: The wellbore to TD does not cross any fault and there is no seismic evidence to anticipate either shallow or deep drilling hazards.	
Upper Canol **	-1000	1184	Coring:	Entire Canol, Hare Indian and Bluefish will be cored
Middle Canol **	-1014	1198	Logging:	CNL-LDT-GR, Dipole Sonic, and Array Induction over entire well.
Lower Canol **	-1045	1229		2. ECS, Sonic Scanner, NMR from 30m above Upper Canol to TD
Hare Indian **	-1123	1307	Casing:	Surface - 1415m: 177.8mm, 34.2 kg/m, L-80 LTC
Bluefish **	-1158	1342		
Hume	-1178	1362	Cement:	Lead: LW-1400 + additives (0 - 1000m) 30% excess over caliper
				Tail: 0:1:0 'G' + additives (1000 - 1412m) 30% excess over caliper
TD	-1228	1412		

ERP: Site Specific ERP required

*** Primary Target * Secondary Target

E.9 DAILY DRILLING REPORTS



Daily Drilling - Detail (legal size)

Report Start Date: 2/19/2012

Report #: 3, DFS: 0.52

Depth Progress: 124.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T	
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration	
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20	
KB-Casing/Fill Distance (m) 5.47		KB-Trip/In Hole Distance (m) 5.00		Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600							
Weather Overcast		Temperature (°C) -24		Road Condition Fair		Hole Condition Good	
Operation at Report Time Trip for directional BHA				Operation Next Report Period Trip. Drill from 124m			
Operation at 06:00 Thaw frozen mud line		Operation Summary Continued to rig up and rig to spud, fill mud tank with water and pre-mix spud mud. Picked up BHA. Held a crew hand-over and a safety meeting. Mixed up kill mud to 1400 k/m3. Rilled up tank farm and transferred invert mud. Spudded well at 1130 hr and drill 311mm surface hole to 69m. Ran a wireline survey at 57m. (0.1 degree). Drilled ahead from 69m to 97m. Ran a wireline survey at 87.0m (0.0 degree). Continued to drill ahead to 124m. Circulate and trip out to run directional BHA.					

Remarks:
No Accident, Incident or Environmental Concern Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED. Tank Farm: Base Oil Delivered today 0m3, Total at Tank Farm 27m3. Invert Delivered today 0m3, Total at Tank Farm 81m3 Daily invert loss 0.0 m3 Cumulative invert loss 0 m3

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR En	403-462-8021
Office	Sandeep Randhawa	DR En	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Henderson	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Duration (hr)	Comm Duration (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	6.75	6.75	06:45	1	RIGUP / TEARDOWN				RIG UP TO SPUD, FINISH SUB AND TANK TARPING, INSTALL FLOW LINE, ACCUMULATOR LINES TO DIVERTER, FLARE STACK, MIX DRILLING MUD, INSTALL NEW KELLY STRIPPER,
06:45	0.25	7.00	07:00	21	SAFETY MEETING				SAFETY MEETING HELD FOR SHIFT CHANGE W/ BOTH CREWS, R.M. AND OPERATORS REP.
07:00	4.50	11.50	11:30	25					MAKE UP PRE MIX / KILL MUD / SPOT TANK FARM / LAY OUT SWAMP MATTING
11:30	0.50	12.00	12:00	2	DRILL				SPUD WELL / DRILL 311MM HOLE FROM 0 TO 33M
12:00	2.00	14.00	14:00	2	DRILL				DRILL 311MM HOLE FROM 33M TO 45M
14:00	0.25	14.25	14:15	7	RIG SERVICE				RIG SERVICE F/T DIVERTER 6 SECONDS C/O
14:15	4.75	19.00	19:00	2	DRILL				DRILL 311MM HOLE FROM 45M TO 88M
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING HELD FOR SHIFT CHANGE W/ BOTH CREWS, R.M. AND OPERATORS REP
19:15	3.00	22.25	22:15	2	DRILL				DRILL 311MM HOLE 88M - 124M
22:15	0.50	22.75	22:45	5	COND MUD / CIRC				CONDITION MUD / CIRCULATE
22:45	1.25	24.00	00:00	6	TRIPS				TRIP OUT FOR BHA CHANGE, FLOW CHECK / 112 M

Mud Checks

Type	Time	Depth (mKB)	Density (kg/m³)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
GEL	22:00		1080.0	43		
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solids (%)
					8.5	
MBT (kg/m³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stress (V)
Whole Mud Added (m³)		Mud Lost to Hole (m³)		Mud Lost to Surface (m³)		Reserve Mud Volume (m³)
						Active Mud Volume (m³)

Drill Strings

BHA #1, Drilling Assembly

Bit R...	Drill Bit	Make	IADC Bit Drill	TFA (incl No.) (mm)
1RR	311.0mm, XR1CPS, PGK175	Smith	-----	1,335
No. of joints (mm)		String Length (m)		String Wt (daN)
23.8/23.8/23.8		112.09		BHA ROP (m...)
				12.1

Contract Number US-51822-EX-02-DR-ID	Original Sp. Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled / Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 113,417.99	Comm Cost To Date 694,383.49
Daily Mud Cost 5,890.59	Mud Additive Cost To Date 5,890.59
Depth Start (mKB) 0.00	Depth End (mKB) 124.00
Last Casing String	
Depth Progress (m) 124.00	
Depth Start (TVD) (mKB) 0.00	Depth End (TVD) (mKB) 124.00
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 684.00	Comm Per Tot Hr (hr) 1,812.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h)	Comm Problem Time (h)
Day off LTI (day)	Day off RI (day)

Personnel Log

Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Services 2000 Inc.	1	12.00
NEW VENDOR	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
McCrath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
NEW VENDOR	2	24.00
Hallmark Technical Service		0.00
Millen Oilfield	15	180.00
Husky	1	12.00
Total Oilfield Rental	3	36.00
Continental Laboratories	2	24.00
Hale Integrated Ltd.	1	12.00
Frontier	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/19/2012	2/20/2012

Rigs

Contractor Northern Drilling	Rig Number 23
Rig Supervisor Troy Prentiss	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps

# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m³/stk)	
152.0	0.011	
Pre (kPa)	Slow Spd	Stroke (p.p.s.) Eff (%)
		95

2, CONTINENTAL EMSCO, F800

Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m³/stk)	
152.0	0.013	
Pre (kPa)	Slow Spd	Stroke (p.p.s.) Eff (%)
		95

Mud Additive Amounts

Description	Cost (/unit)	Consumed
SODA ASH	15.87	2.0
FED ZAN D	105.76	2.0
FEDERAL GEL	12.43	55.0
FED ZAN D	105.76	1.0
SODA ASH	15.87	2.0
FEDERAL GEL	12.43	20.0



Daily Drilling - Detail (legal size)

Report Start Date: 2/19/2012

Report #: 3, DFS: 0.52

Depth Progress: 124.00

Well Name: HUSKY LITTLE BEAR H-64

Drill String Components					
Item Description	Bit	OD (mm)	ID (mm)	Len (m)	Top Thread
Drill pipe - Single	0			0.00	
Drill pipe - Stand	0			0.00	
HWDP(4.0 IN)	5	101.0		45.71	
X/O	1	165.0		0.71	
DC (6.25 IN)	2	165.0		18.97	
ARS-HYD/MECH	1	163.0		6.97	
DC (6.25 IN)	2	165.0		18.96	
X/O	1	165.0		0.78	
MONEL	2	208.0		18.95	
BIT SUB	1	206.0		0.71	

Drilling Parameters							
Well Core Original Hole, 300H6465...	Start (mKB) 0.00	Depth End (mKB) 33.00	Core Depth (m) 33.00	Drilling Time (hr) 0.50	Core Drill Time (... 0.50	Int ROP (m/hr) 66.0	Core (flow) (m ³ /min)
WOB (daN) 4	RPM (rpm) 60	SPP (kPa) 800	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque 1,400.0	Off Btm Torque
Core (in ³) (m ³ /min)	T (in ³) (°C)	P (BH Ann) (kPa)	T (in ³) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Core (litho) (m ³ /min)	Core (return) (m ³ /min)
Well Core Original Hole, 300H6465...	Start (mKB) 33.00	Depth End (mKB) 124.00	Core Depth (m) 124.00	Drilling Time (hr) 9.75	Core Drill Time (... 10.25	Int ROP (m/hr) 9.3	Core (flow) (m ³ /min)
WOB (daN) 5	RPM (rpm) 140	SPP (kPa) 600	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque 1,500.0	Off Btm Torque
Core (in ³) (m ³ /min)	T (in ³) (°C)	P (BH Ann) (kPa)	T (in ³) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Core (litho) (m ³ /min)	Core (return) (m ³ /min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Core Len (m)	Top (mKB)	TopConn T...

Mud Additive Amounts		
Description	Cost (/unit)	Consumed
FED WATE (BARITE)	15.57	294.0

Survey Data			
MD (mKB)	Incl (°)	Alt (°)	TVD (mKB)
42.00	0.20	69.40	42.00
72.00	0.40	53.80	72.00
109.52	0.50	50.50	109.52

Last 5 Formations		
Formation Name	Pro Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)	
Max Nominal OD (mm)	



Daily Drilling - Detail (legal size)

Report Start Date: 2/20/2012

Report #: 4, DFS: 1.52

Depth Progress: 184.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing/Fill Distance (m) 5.47			KB-Tripin Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Overcast		Temperature (°C) -16		Road Condition Fair		Hole Condition Good			
Operation at Report Time Drilling from 308m				Operation Next Report Period Drill f/ 308m to casing point.					
Operation 06:00 Drill from 385m		Operation Summary Continued to pull out of the hole for Bit 2 and directional tool. Serviced the rig, Drained the diverter and functioned the HCR. Held a BOP drill. Held a pre-job safety meeting with the directional driller. Picked up directional tool and Bit 2. Thaw mud line from the pump to the top of the stand pipe. Remove the kelly hose and thaw out. Installed the kelly hose, kicker hose. Held a BOP drill and then trip in the hole with the directional tool. Shallow test the MWD and Gamma at 57m and at 87m. Wash 1 line to bottom and then drilled ahead from 124 to 170m. Serviced the rig and functioned the diverter. Drilled from 170m to 225m with directional survey and gamma. Crew change meeting. Drilled from 225m to 308m and MWD survey. Started slide 234m for correction.							
Remarks No Accident, 1 Incident or Environmental Concern. Over flow tank inside tank farm term containment. No spillage outside the tank farm containment. Direction to the location. From Norman Well. Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED. Tank Farm delivered for Little Bear N-9 Base Oil Delivered today 26m3, Total at Tank Farm 26m3. Invert Delivered today 165m3, Total at Tank Farm 165m3 Estimated 8m3 lost in transfer from well to well Daily invert loss 0.0 m3 Cumulative invert loss 0.0 m3									

Daily Contacts			
Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Henderson	DR Field Super	780-446-5160
Rig Manager	Troy Pre	Rig Manager	

Time Log									
Start Time	Duration (hr)	Cum Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	0.75	0.75	00:45	6	TRIPS				CONT. TRIP OUT OF HOLE - FLOW CHECK ON BANK
00:45	0.25	1.00	01:00	7	RIG SERVICE				RIG SERVICE - DRAIN DIVERTER - FUNCTION HCR
01:00	0.25	1.25	01:15	21	SAFETY MEETING				DRILLS/BOP, ETC. BOP DRILL ON SURFACE W/DIVERTOR OPERATION
01:15	0.25	1.50	01:30	21	SAFETY MEETING				PRE-JOB SAFETY WITH CREW - PHOENIX DIRECTIONAL HANDS
01:30	2.75	4.25	04:15	20	DIR. WORK				DIRECTIONAL WORK, PICK UP MUD MOTOR, SCRIBE, INSTALL MWD TOOLS AND MAKE UP BIT
04:15	2.75	7.00	07:00	8	REPAIR RIG				DOWNTIME - THAW OUT STANDPIPE, REMOVE KELLY HOSE - LAY OUT TO THAW
07:00	0.25	7.25	07:15	21	SAFETY MEETING				PRE TOUR SAFETY MEETING
07:15	2.00	9.25	09:15	8	REPAIR RIG				DOWNTIME - CNT TO THAW OUT STANDPIPE - HOOK KICKER - KELLY HOSE BACK UP
09:15	0.25	9.50	09:30	21	SAFETY MEETING				DRILLS/BOP, ETC. BOP DRILL ON SURFACE W/DIVERTOR OPERATION
09:30	2.50	12.00	12:00	6	TRIPS				TRIP IN HOLE W/DIRC TOOLS, TEST TOOL - 57M , 87M
12:00	0.75	12.75	12:45	6	TRIPS				TRIP IN HOLE PICK UP SINGLE
12:45	3.25	16.00	16:00	2	DRILL				DRILL 311MM HOLE FR 124M TO 170M
16:00	0.25	16.25	16:15	7	RIG SERVICE				RIG SERVICE F/T DIVERTER 6 SECONDS C/O
16:15	1.75	18.00	18:00	2	DRILL				DRILL 311 MM HOLE FR170M TO 225M
18:00	1.00	19.00	19:00	20	DIR. WORK				DIRECTIONAL SURVEYS , SYNC GAMMA , CONNECTIONS
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
19:15	3.75	23.00	23:00	2	DRILL				DRILL 311MM SURFACE HOLE 225M - 308M

Contract Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled - Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 126,411.80	Cum Cost To Date 820,795.29
Daily Mud Cost 1,692.80	Mud Additive Cost To Date 7,583.39
Depth Start (mKB) 124.00	Depth End (mKB) 308.00
Last Casing String	
Depth Progress (m) 184.00	
Depth Start (TVD) (mKB) 124.00	Depth End (TVD) (mKB) 307.95
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 528.00	Cum Per Tot Hr (hr) 2,340.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h)	Cum Problem Time (h)
Day off LTI (day)	Day off RI (day)

Personnel Log		
Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
NEW VENDOR	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
McCrath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
NEW VENDOR	2	24.00
Hallmark Technical Service		0.00
Husky	1	12.00
Total Oilfield Rental	3	36.00
Continental Laboratories	2	24.00
Hie Integrated Ltd.	1	12.00
Frontier	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
Hallmark Technical Service	2	24.00

Safety Check Summary		
Type	Last Date	Next Date
Safety Meeting	2/20/2012	2/21/2012

Rigs	
Contractor Northern Drilling	Rig Number 23
Rig Supervisor Troy Pre	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps		
# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.011	
Pre (kPa)	Slow Spd	Stroke (l.p.s.) Eff (%)
9,500		100 95
# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.013	
Pre (kPa)	Slow Spd	Stroke (l.p.s.) Eff (%)
9,500		100 95

Mud Additive Amounts		
Description	Cost (/unit)	Consumed
FED ZAN D	105.76	6.0
FEDERAL GEL	12.43	20.0
FED WATE (BARITE)	15.57	52.0



Daily Drilling - Detail (legal size)

Report Start Date: 2/21/2012

Report #: 5, DFS: 2.52

Depth Progress: 166.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-Tubing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Light Snow		Temperature (°C) -18			Road Condition Fair		Hole Condition Good		
Operation at Report Time Washed in from 450m.					Operation Next Report Period Washed to Bottom. Drill to 510m CP. Wiper trip. Trip out. Run cement casing				
Operation at 06:00 Wiper trip 2 Start in		Operation Summary Drilled 311mm surface hole from 308m to 346m. Relocated the gamma from 324m to 346m. Drilled ahead from 346m to 394m. Serviced the rig, drained and functioned the HCR. Held a crew hand over and a safety meeting. Drilled ahead to 476m with directional tool with survey. Drilled ahead from 476m to 503m. Circulate and wait for solenoid to pick casing point. Serviced the rig and functioned the diverter. Wiper tripped to surface and then ran back in the hole to 222m. Held a crew hand over and a safety meeting. Continued to run in the hole to 296m. Break circ and wash through a bridge at 296m. RIH to 323m. Picked up the kelly and washed through bridge from 323m to 333m and from 360m to 370m. Run to 400m then work tight hole to set pipe free and in tall kelly. Circulate and wash down from 390m to 450m.							

Remark:
No Accident, 1 Incident or Environmental Concern. Vacuum truck driver overfilled an evaporator and spilt approx 250 liter of dirty water onto the ground. Approx 100 liter of dirty water and ice was cleaned up. Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED. Tank Farm delivered for Little Bear N-9 Base Oil Delivered today 26m3, Total at Tank Farm 26m3. Invert Delivered today 165m3, Total at Tank Farm 165m3 Estimated 8m3 lost in transfer from well to well Daily invert loss: 0.0 m3

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Henderson	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Dir (hr:min)	Cum Dir (hr:min)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr:min)	Problem Ref #	Comment
00:00	2.50	2.50	02:30	2	DRILL				DRILL 311MM HOLE 308M - 346M
02:30	1.00	3.50	03:30	20	DIR. WORK				DIRECTIONAL WORK, RE-GAMMA LOG 324M - 346M
03:30	2.25	5.75	05:45	2	DRILL				DRILL 311MM HOLE 346M - 394M
05:45	0.25	6.00	06:00	7	RIG SERVICE				RIG SERVICE, DRAIN DIVERTER AND FUNCTION HCR(2 SEC)
06:00	1.00	7.00	07:00	20	DIR. WORK				DIRECTIONAL SURVEYS, GAMMA SYNCHS AND CONNECTIONS ACCUMULATED
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING HELD FOR SHIFT CHANGE W/ BOTH CREWS, R.M. AND OPERATORS REP.
07:15	3.75	11.00	11:00	2	DRILL				DRILL 311MM HOLE 394M - TO 476M
11:00	1.00	12.00	12:00	20	DIR. WORK				DIRECTIONAL SURVEYS, SYNC GAMMA, CONNECTIONS
12:00	1.50	13.50	13:30	2	DRILL				DRILL 311MM HOLE FR 476M TO 503M
13:30	1.75	15.25	15:15	23	WAITING ON				W/O ORDERS FROM GEO TO DRILL OR CALL IT TD
15:15	0.25	15.50	15:30	7	RIG SERVICE				RIG SERVICE F/T DIVERTER 6 SECONDS C/O
15:30	2.00	17.50	17:30	6	TRIPS				TRIP OUT OF HOLE , WIPER TRIP , FLOE CHECKS 389M, 149M, OUT OF HOLE CAL 3.18 MESR 4.51 DIFF 1.33 M3
17:30	1.50	19.00	19:00	6	TRIPS				TRIP IN HOLE
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
19:15	2.25	21.50	21:30	6	TRIPS				CONTINUE TO TRIP IN TO 405M, ENCOUNTER BRIDGE
21:30	1.00	22.50	22:30	6	TRIPS				WORK TIGHT HOLE
22:30	1.50	24.00	00:00	6	TRIPS				TRIP IN HOLE, WASH 395M - 450M

Count Object Number US-51822-EX-02-DR-ID	Original Step Am 11,529,266.00
Primary Count Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Count Total 187,912.86	Cum Count To Date 1,008,708.15
Daily Mud Count 763.86	Mud Additive Count To Date 8,347.25
Depth Start (mKB) 308.00	Depth End (mKB) 503.00
Last Casing String	
Depth Progress (m) 166.00	
Depth Start (TVD) (mKB) 307.95	Depth End (TVD) (mKB) 502.87
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr:min) 516.00	Cum Per Tot Hr (hr:min) 2,856.00
Time Log Total Hours (hr:min) 24.00	Problem Time Hours (hr:min)
Problem Time (min)	Cum Problem Time (min)
Day Off LTI (day:min)	Day Off RI (day:min)

Personnel Log

Company	Count	Tot Time (hr:min)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
NEW VENDOR	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
McCrath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hite Integrated Ltd.	1	12.00
Frontier	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
Hallmark Technical Service	2	24.00
Phoenix Technology Service LP	3	36.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/21/2012	2/22/2012

Rigs

Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Prentiss		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps

# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.011
Pre (kPa)	Slow Spd	Stroke (in) Eff (%)
		105

2, CONTINENTAL EMSCO, F800

Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.013
Pre (kPa)	Slow Spd	Stroke (in) Eff (%)
		105

Mud Additive Amounts

Description	Count (/unit)	Concimed
FED ZAN D	105.76	1.0
FEDERAL GEL	12.43	15.0
SAWDUST	4.12	20.0
FED WATE (BARITE)	15.57	25.0



Daily Drilling - Detail (legal size)

Report Start Date: 2/21/2012

Report #: 5, DFS: 2.52

Depth Progress: 166.00

Well Name: HUSKY LITTLE BEAR H-64

Mud Checks						
Type GEL	Time 14:00	Depth (mKB)	Density (kg/m ³) 1190.0	Viscosity (cP) 45	Plastic Visc (cp)	Yield Point (Pa)
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid% (%)
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
Whole Mud Added (m ³)		Mud Lost to Hole (m ³)	Mud Lost to Surface (m ³)		Reserve Mud Volume (m ³)	Active Mud Volume (m ³)

Drill Strings						
BHA #2, Drilling Assembly						
Bit R...		Drill Bit		Make		IADC Bit D-II
2	311.0mm, M516, □Y0376			Smith		1-1-CC-H-X-0.00-CC-CP
						TFA (incl No.) (mm.)
						583
No□□le□(mm)					String□Len□th (m)	String□Wt (daN)
10.3/10.3/10.3/10.3/10.3/10.3/10.3					501.77	BHA ROP (m...
						18.3

Drill String Components					
Item Description	Depth (m)	OD (mm)	ID (mm)	Len (m)	Top Thread
Drill pipe - Single	0			0.00	
Drill pipe - Stand	19			353.89	
HWDP(4.0 IN)	8	101.0		72.64	
X/O	1	165.0		0.71	
DC (6.25 IN)	3	165.0		28.45	
ARS-HYD/MECH	1	163.0		6.97	
DC (6.25 IN)	1	165.0		9.48	
X/O	1	205.0		0.78	
MONEL	2	207.0		18.92	
UBHO	1	203.0		0.98	
MOTOR HS	1	197.0		8.60	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Core Depth (m)	Drilling Time (hr:min)	Core Drill Time (hr:min)	Int ROP (m/hr)	Flow (m ³ /min)
Original Hole, 300H6465...	308.00	447.00	323.00	8.50	17.25	16.4	2.400
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque (Nm)	Off Btm Torque (Nm)
4	45	12,700				5,000.0	
Flow (m ³ /min)	T (In.) (°C)	P (BH Ann) (kPa)	T (In.) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (liters/min)	Flow (ret.) (m ³ /min)
Well Core	Start (mKB)	Depth End (mKB)	Core Depth (m)	Drilling Time (hr:min)	Core Drill Time (hr:min)	Int ROP (m/hr)	Flow (m ³ /min)
Original Hole, 300H6465...	476.00	503.00	350.00	1.50	18.75	18.0	2.400
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque (Nm)	Off Btm Torque (Nm)
4	45	11,000	23,000			4,500.0	
Flow (m ³ /min)	T (In.) (°C)	P (BH Ann) (kPa)	T (In.) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (liters/min)	Flow (ret.) (m ³ /min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Core Len (m)	Top (mKB)	TopConn T...

Survey Data			
MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)

Last 5 Formations		
Formation Name	Pro Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)	
Max Nominal OD (mm)	



Daily Drilling - Detail (legal size)

Report Start Date: 2/22/2012

Report #: 6, DFS: 3.52

Depth Progress: 7.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-Tubing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Light Snow		Temperature (°C) -18			Road Condition Fair		Hole Condition Good		
Operation at Report Time Circulate and condition the mud and hole for cement					Operation Next Report Period Cement, WOC, cut casing and weld bowl. Nipple up BOP and test				
Operation at 06:00 WOC		Operation Summary Trip in the hole. Break down stand and wash to bottom from 450m. Circulated the hole clean. Drilled ahead from 503m to 510m. Circulate and conditioned the hole. Wiper tripped to the conductor shoe. Ran back in the hole and wash 9 m to bottom. Held a crew hand over and a safety meeting. Circulated and conditioned the hole for cut. Pilled out of the hole and layed down the directional tool. Held a safety meeting with the power tong. Held a safety stand down meeting with Mike Mackinnon and Sandeep Rhanwa. Ripped up the power tong. Held a crew hand over and a safety meeting with the power tong operator. Levelled the rig and ran cut. Circulated the last 2 ft to bottom. 510m. Circulated casing and conditioned the mud and wellbore. Held a safety standdown meeting with the rig crew. . Continued to condition the mud.							

Remark:
No Accident, Incident or Environmental Concern. Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED. Tank Farm delivered for Little Bear N-9 Base Oil Delivered today 26m3, Total at Tank Farm 26m3. Invert Delivered today 165m3, Total at Tank Farm 165m3 Estimated 8m3 lost in transfer from well to well Daily invert loss 0.0 m3

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Henderson	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Dr (hr)	Cum Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	0.75	0.75	00:45	6	TRIPS				TRIP IN, BREAK DOWN STANDS AND WASH 450M - BOTTOM
00:45	0.50	1.25	01:15	5	COND MUD CIRC				CIRCULATE PRIOR TO DRILL AHEAD
01:15	0.75	2.00	02:00	2	DRILL				DRILL 311MM HOLE 503M - 510M
02:00	1.00	3.00	03:00	5	COND MUD CIRC				CONDITION MUD CIRCULATE PRIOR TO TRIP
03:00	2.50	5.50	05:30	6	TRIPS				WIPER TRIP OUT TO 8
05:30	1.25	6.75	06:45	6	TRIPS				TRIP IN TO 492M, FLOW CHECK, BREAK CIRCULATION
06:45	0.25	7.00	07:00	21	SAFETY MEETING				SAFETY MEETING HELD FOR SHIFT CHANGE W/ BOTH CREWS, R.M. AND OPERATORS REP.
07:00	0.25	7.25	07:15	6	TRIPS				TRIP IN, WASH 492M - 510M
07:15	1.50	8.75	08:45	5	COND MUD CIRC				CIRCULATE AND CLEAN HOLE
08:45	1.75	10.50	10:30	6	TRIPS				TRIP OUT OF HOLE , FLOW CHECK 500M , 445M, 168M, OUT OF HOLE CAL 3.16M3-MERS 4.26M3 DIFF 1.10M3
10:30	0.25	10.75	10:45	21	SAFETY MEETING				SAFETY MEETING DIRCTIOANL
10:45	1.25	12.00	12:00	20	DIR. WORK				DIRECTIONAL WORK
12:00	0.75	12.75	12:45	20	DIR. WORK				DIRECTIONAL WORK
12:45	0.25	13.00	13:00	21	SAFETY MEETING				SAFETY MEETING WITH POWER TONG GUYS
13:00	0.75	13.75	13:45	21	SAFETY MEETING				SAFETY STAND-DOWN WITH ALL HUSKY REPS OPERATORS, RM, CREWS
13:45	1.25	15.00	15:00	12	RUN CASING AND CEMENT				RIG UP POWER TONG TO RUN CASING
15:00	0.25	15.25	15:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
15:15	0.25	15.50	15:30	21	SAFETY MEETING				PRE-OB SAFETY WITH HALLMARK PRIOR TO RUN CASING

Count Sheet Number US-51822-EX-02-DR-ID	Original Step Am 11,529,266.00
Primary Count Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Count Total 109,423.22	Cum Count To Date 1,118,131.37
Daily Mud Count 379.22	Mud Additive Count To Date 8,726.47
Depth Start (mKB) 503.00	Depth End (mKB) 510.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 7.00	
Depth Start (TVD) (mKB) 502.87	Depth End (TVD) (mKB) 509.86
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 516.00	Cum Per Tot Hr (hr) 3,372.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr) 0
Problem Time (h)	Cum Problem Time (h)
Day LTI (day)	Day RI (day)

Personnel Log

Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
NEW VENDOR	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
McCrath Resource Construction Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hite Integrated Ltd.	1	12.00
Frontier	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
Hallmark Technical Service	2	24.00
Phoenix Technology Service LP	3	36.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/22/2012	2/23/2012

Rigs

Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Prentiss		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps

# 1, GARDNER DENVER, PZ8			
Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.011	
Pre (kPa)	Slow Spd	Stroke (p...)	Eff (%)
		0	
# 2, CONTINENTAL EMSCO, F800			
Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.013	
Pre (kPa)	Slow Spd	Stroke (p...)	Eff (%)
11,700		105	95

Mud Additive Amounts

Description	Count (/unit)	Concimed
FEDERAL GEL	12.43	22.0
FED ZAN D	105.76	1.0

Survey Data

MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dr (hr.)	Com Dr (hr.)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr.)	Problem Ref	Comment
15:30	0.50	16.00	16:00	1	RIGUP TEARDOWN				LEVEL RIG
16:00	6.25	22.25	22:15	12	RUN CASING AND CEMENT				RUN CASING 9 5/8 CIRCULATE LAST 2 POINTS TO BOTTOM
22:15	0.50	22.75	22:45	21	SAFETY MEETING				SAFETY STAND-DOWN WITH NIGHT CREW RM, ALL HUSKY REPS
22:45	1.25	24.00	00:00	5	COND MUD CIRC				CIRCULATE CSG AND CONDITION MUD

Mud Checks							
Type GEL	Time 03:00		Depth (mKB)	Density (k/m)	Visc (cP/L)	Plastic Visc (cp)	Yield Point (Pa)
Gel 10 sec (Pa)	Gel 10 min (Pa)		Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
						8.5	
MBT (k/m)	Percent Oil (%)		Percent Water (%)	Chloride (m/L)	Calcium (m/L)	Potassium (m/L)	Electric Stab (V)
Whole Mud Added (m)		Mud Lost to Hole (m)		Mud Lost to Surface (m)		Reserve Mud Volume (m)	Active Mud Volume (m)
Type Gel-Chem	Time 08:00		Depth (mKB)	Density (k/m)	Visc (cP/L)	Plastic Visc (cp)	Yield Point (Pa)
Gel 10 sec (Pa)	Gel 10 min (Pa)		Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
						8.5	
MBT (k/m)	Percent Oil (%)		Percent Water (%)	Chloride (m/L)	Calcium (m/L)	Potassium (m/L)	Electric Stab (V)
						100.000	
Whole Mud Added (m)		Mud Lost to Hole (m)		Mud Lost to Surface (m)		Reserve Mud Volume (m)	Active Mud Volume (m)
				0.75			76.90

Drill Strings			
BHA #2, Drilling Assembly			
Bit R...	Drill Bit		Make
2	311.0mm, M516, □Y0376		Smith
IADC Bit D □			TFA (incl No.) (mm)
1-1-CC-H-X-0.00-CC-CP			583
No □□le □ (mm)			BHA ROP (m...
10.3/10.3/10.3/10.3/10.3/10.3/10.3			18.3
Strin □ Len □ (m)		Strin □ Wt (daN)	
501.77			

Drill String Components					
Item Description	Depth	OD (mm)	ID (mm)	Len (m)	Top Thread
Drill pipe - Single	0			0.00	
Drill pipe - Stand	19			353.89	
HWDP(4.0 IN)	8	101.0		72.64	
X/O	1	165.0		0.71	
DC (6.25 IN)	3	165.0		28.45	
ARS-HYD/MECH	1	163.0		6.97	
DC (6.25 IN)	1	165.0		9.48	
X/O	1	205.0		0.78	
MONEL	2	207.0		18.92	
UBHO	1	203.0		0.98	
MOTOR HS	1	197.0		8.60	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Flow (m/min)
Original Hole, 300H6465...	503.00	510.00	357.00	0.75	19.50	9.3	2.400
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
4	45	11,700	23,000	25,000	22,000	4,500.0	
Flow (m/min)	T (In) (°C)	P (BH Ann) (kPa)	T (In) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (m/min)	Ret (m/min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Surface	2/22/2012	510.00
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Point	Com Len (m)	Top (mKB)	TopConn T...
Casing Joint		244.5	55	53.574	37	510.73	-0.73	
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Point	Com Len (m)	Top (mKB)	TopConn T...
Float Collar		244.5	55	53.574	1	14.34	495.66	
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Point	Com Len (m)	Top (mKB)	TopConn T...
Casing Joint		244.5	55	53.574	1	13.88	496.12	
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Point	Com Len (m)	Top (mKB)	TopConn T...
Float Shoe		244.5	55	53.574	1	0.43	509.57	

Last 5 Formations		
Formation Name	Pro Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Daily Drilling - Detail (legal size)

Report Start Date: 2/23/2012

Report #: 7, DFS: 4.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing/Fill Distance (m) 5.47			KB-Tubing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Overcast		Temperature (°C) -17		Road Condition Fair		Hole Condition Good			
Operation at Report Time Nipple up BOP				Operation Next Report Period Nipple up. Prepare Test. RIH directional tool. Drill out. Conduct FIT. Drill 222mm					
Operation at 06:00 Prepare test in BOP		Operation Summary Circulate in condition mud for cementing. Held safety meeting with Schlumberger cement crew, and all other prior to cementing. Ripped to cement. Cement Detail Pumped 4.0 m3 water, 43.0 tonnes (40.0 m3) RFC blend additive 1,740 kg/m3, Displaced with 20 m3 water. Piped down 03:10hr, Feb 23/2012. Good return through out w/ 20.0 m3 good cement return. Prepare test casing to 15,000 kPa for 10 minutes. Held good. Release pressure, float held. WOC, load out liquid mud for disposal. Safety meeting prior to lay down diverter and spool. Raise diverter, cut off casing, lay down diverter. Cut off conductor at casing to height for casing head. Weld on casing head and let cool. Prepare test to 7,000 kPa with nitrogen. Held good. Prepare safety meeting. Pick up BOP and nipple up BOP. Crew change hand over and safety meeting. Continue nipple up.							
Remarks No Accident, Incident or Environmental Concern									
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear N-9 Base Oil Delivered today 26m3, Total at Tank Farm 26m3. Invert Delivered today 165m3, Total at Tank Farm 165m3 Estimated 8m3 lost in transfer from well to well									
Daily invert loss 0.0 m3									

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hedderfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Duration (hr:min)	Comm Dur (hr:min)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr:min)	Problem Ref	Comment
00:00	1.00	1.00	01:00	5	COND MUD CIRC				CIRCULATE CSG AND CONDITION MUD
01:00	0.25	1.25	01:15	21	SAFETY MEETING				SAFETY MEETING WITH CEMENTERS RIG CREW RM OPERATORS REP
01:15	2.00	3.25	03:15	12	RUN CASING AND CEMENT				RIG UP TO CEMENT CASING , PLUG DOWN AT 310 AM
03:15	3.75	7.00	07:00	13	WAIT ON CEMENT				WAIT ON CEMENT
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
07:15	2.00	9.25	09:15	13	WAIT ON CEMENT				WAIT ON CEMENT
09:15	0.25	9.50	09:30	21	SAFETY MEETING				PRE-JOB SAFETY PRIOR TO LAY DOWN DEVERTER AND SPOOLS
09:30	1.00	10.50	10:30	14	NIPPLE UP B.O.P.				LAY DOWN DEVERTER FLOW T,LIFT DEVEERTER SYSTEM,CUT CASING
10:30	1.50	12.00	12:00	14	Nipple Up BOP				CUT CONDUCTOR PREP CASING TO WELD CASING BOWL
12:00	6.00	18.00	18:00	15	Test BOP				WELD CASING BOWL AND COOL AND PRESURE TEST HELD 1000 PSI TEN MIN
18:00	0.25	18.25	18:15	21	SAFETY MEETING				PRE-JOB SAFETY MEETING PRIOR TO PICK UP B.O.P
18:15	0.75	19.00	19:00	14	NIPPLE UP B.O.P.				NIPPLE UP BOPS
19:00	0.25	19.25	19:15	21	SAFETY MEETING				CREW CHANGE HAND OVWER AND PRE TOUR SAFETY MEETING

Contract Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 496,014.20	Comm Cost To Date 1,614,145.57
Daily Mud Cost	Mud Additive Cost To Date 8,726.47
Depth Start (mKB) 510.00	Depth End (mKB) 510.00
Last Casing String Surface, 510.00mKB	
Depth Profile (m) 0.00	
Depth Start (TVD) (mKB) 509.86	Depth End (TVD) (mKB) 509.86
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 600.00	Comm Per Tot Hr (hr) 3,972.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (min)	Comm Problem Time (min)
Day LTI (day)	Day RI (day)

Personnel Log

Company	Count	Tot Time (hr:min)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
NEW VENDOR	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
McCrath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hite Integrated Ltd.	1	12.00
Frontier	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
Hallmark Technical Service	2	24.00
Phoenix Technology Service LP	3	36.00
NEW VENDOR	6	72.00
Bible Limited Partnership	1	12.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/23/2012	2/24/2012

Rigs

Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Prentiss		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps

# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m3/tk)	
152.0	0.011	
Pressure (kPa)	Slow Spd	Stroke (in./p... Eff (%)
		0
# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m3/tk)	
152.0	0.013	
Pressure (kPa)	Slow Spd	Stroke (in./p... Eff (%)
		0

Mud Additive Amounts

Description	Count (unit)	Comment



Daily Drilling - Detail (legal size)

Report Start Date: 2/23/2012

Report #: 7, DFS: 4.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Time Log

Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Pro/U...	Pro/Jem Time (hr)	Pro/Jem Ref	Comment
19:15	4.75	24.00	00:00	14	NIPPLE UP B.O.P.				NIPPLE UP BOP

Mud Checks

Type	Time	Depth (mKB)	Density (kg/m)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
MBT (kg/m)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
Whole Mud Added (m)	Mud Lost to Hole (m)	Mud Lost to Surface (m)	Reserve Mud Volume (m)	Active Mud Volume (m)		

Drill Strings

Bit R...	Drill Bit	Make	IADC Bit Drill	TFA (incl No.) (mm)	
Nozzle (mm)			String Length (m)	String Wt (daN)	BHA ROP (m...

Drill String Components

Item Description	Item	OD (mm)	ID (mm)	Len (m)	Top Thread

Drilling Parameters

Well bore	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m/min)
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
Q (in.) (m/min)	T (in.) (°C)	P (BH Ann) (kPa)	T (in) (°C)	P(Surf Ann) (kPa)	T (surf ann) (°C)	Q (lift) (m/min)	Q (return) (m/min)

Kick/Lost Circ

Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings

Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components

Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...

Survey Data

MD (mKB)	Incl (°)	Alt (°)	TVD (mKB)

Last 5 Formations

Formation Name	Pro Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)

Max Nominal OD (mm)
244.5



Daily Drilling - Detail (legal size)

Report Start Date: 2/24/2012

Report #: 8, DFS: 5.52

Depth Progress: 3.00

Well Name: HUSKY LITTLE BEAR H-64

Licence UWI 300H64650012600		Surface Legal Location 300H64650012600		Licence No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-T casing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Overcast		Temperature (°C) -26			Road Condition Fair		Hole Condition Good		
Operation at Report Time Perform FIT.					Operation Next Report Period Perform FIT. Drill 222mm from 513m				

Operation 06:00	Operation Summary
Drilling ahead at 609m.	Pre-drill tested the manifold to 1400 kpa low and to 21000 kpa high for 10 minutes each test. All tests were good. pre-drill tested the Blind ram inside BOP and installed valve to 1400 kpa low and to 21000 kpa high for 10 minutes each test. All tests were good. Pre-drill tested the Pipe ram to 1400 kpa low. the test was good. Attempted to test the pipe ram to 21000 kpa and the seal on the ram door leaked. Changed out the seal and tested the pipe ram to 21,000 kpa. Pre-drill tested the annular to 1400 kpa low and to 10,500 kpa high for 10 minutes each test and tests were good. Tested the kill line valve and the HCR valve and the outside valve to 1400 kpa and to 21000 kpa high and the tests were good. Closed the blind ram and pre-drill tested the casing and the casing bowl to 10,000 kpa for 10 minutes. Test was good. Function tested the Accumulator and the motor kill. Start pre-drill on the accm. was 20,300 kpa. Pre-drill to close the accumulator was 3,800 kpa, to close the pipe ram was 700 kpa and to open the HCR was 200 kpa and to open the pipe ram was 600 kpa. Total pre-drill loss was 5300 kpa with 17,000 kpa remaining on the accumulator. Recharge time was 57 sec. Pre-charge on the accumulator is at 7,000 kpa. Nitrogen pre-drill on the bottles were 21000 PSI, 2250PSI, 2400kpa and 2400kpa. All checks were good. Pre-drill tested the kelly cock to 1400 kpa low and to 21000 kpa high for 10 minutes each test and all tests were good. Installed the wear bushing and the Katch Kan on the drilling nipple. Held a pre-job safety meeting with the directional driller and then picked up the BHA. Ran in the hole to 491m. Removed the bail and the elevator. Slipped and cut the drill line. RIH topped cement to 494m. Displace to invert mud. Drilled cement, float collar. Held BOP drill. Drill good cement from 497m to 510m. Drilled 3m new hole to 513m. Circulate hole clean and run in Bit Eater pre-drill test for FIT.

Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear H-64 Bare Oil Delivered today to 26m3, Total at Tank Farm to 26m3. Invert Delivered today to 165m3, Total at Tank Farm to 165m3 Estimated 8m3 lost in transfer from well to well									
Daily invert loss to		0.0 m3							

Daily Contacts			
Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR En	403-462-8021
Office	Sandeep Randhawa	DR En	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Ri Manager	Troy Pre	Ri Manager	

Time Log									
Start Time	Dr (hr)	Cum Dr (hr)	End Time	Activity Code	Activity Desc.	Pro/U...	Problem Time (hr)	Problem Ref	Comment
00:00	7.00	7.00	07:00	12	RUN CASING AND CEMENT				PRESSURE TEST ,MAINAFOLD , BOPS, STABBING VAVVLE, INSIDE BOP, KELLY VAVLE
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
07:15	0.25	7.50	07:30	21	SAFETY MEETING				PRE-JOB SAFETY WITH BIG EAGLE PRESURE TESTING
07:30	4.50	12.00	12:00	12	RUN CASING AND CEMENT				CONTINUE PRESSURE TEST B.O.P AND ALL RELATED EQUIPMENT ALL TESTS HELD HIGH AND LOW 10 MIN AND RAMS PRESURE TESTED TO 21000KPA HIGH AND1400KPA LOW ANNULAR 1400 KPA LOW 12000 KPA HIGH
12:00	1.50	13.50	13:30	15	TEST B.O.P.				PRESSURE TEST BOPS RAMS AND ALL RELATED VALVES 1400 KPA LOW ABND 21000 KPA HIGH ANNULAR 1200 KPA LOW AND 12000 KPA HIGH
13:30	0.50	14.00	14:00	25					INSTALL WEAR BUSING

Correct Number US-51822-EX-02-DR-ID	Original Step Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 225,605.26	Cum Cost To Date 1,839,750.83
Daily Mud Cost 102,576.29	Mud Additive Cost To Date 111,302.76
Depth Start (mKB) 510.00	Depth End (mKB) 513.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 3.00	
Depth Start (TVD) (mKB) 509.86	Depth End (TVD) (mKB) 512.86
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 468.00	Cum Per Tot Hr (hr) 4,440.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h) 	Cum Problem Time (h)
Day LTI (day) 	Day RI (day)

Personnel Log		
Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Services 2000 Inc.	1	12.00
NEW VENDOR	1	12.00
R G Mallett Oilfield Enterprises	1	12.00
McCrath Resources Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hite Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Services LP	3	36.00
Bit Eater Limited Partnership	1	12.00
		0.00

Safety Check Summary		
Type	Last Date	Next Date
Safety Meeting	2/24/2012	2/25/2012
Rigs		
Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Pre		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps		
# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm) 0.0	Stroke (mm) 203.0
Liner Size (mm) 152.0		Vol/Stk OR (m ³ /tk) 0.011
Pre (kPa)	Slow Spd	Stroke (l.p.m.) Eff (%) 0

# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm) 0.0	Stroke (mm) 229.0
Liner Size (mm) 152.0		Vol/Stk OR (m ³ /tk) 0.013
Pre (kPa)	Slow Spd	Stroke (l.p.m.) Eff (%) 100

Mud Additive Amounts		
Description	Count (l/nit)	Concmed
VERSACOAT HF	900.76	1.0
VERSAMUL	862.55	1.0
TRUVIS	162.47	5.0
INVERT	2,172.51	46.03

Survey Data			
MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)
591.98	0.70	70.80	591.83



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dir (hr:min)	Com Dir (hr:min)	End Time	Activity Code	Activity Desc.	Probit/U...	Problem Time (hr:min)	Problem Ref	Comment
14:00	0.50	14.50	14:30	14	NIPPLE UP B.O.P.				NIPPLE UP BOP (INSTALL CATCH CAN AND KILL LINE HOSE)
14:30	0.25	14.75	14:45	21	SAFETY MEETING				PRE-OB SAFETY PRIOR TO PICK UP DIR TOOLS
14:45	2.75	17.50	17:30	20	DIR. WORK				PICK UP,MAKE UP AND HANDLE DIRECTIONAL TOOLS
17:30	1.50	19.00	19:00	6	TRIPS				RUN IN HOLE
19:00	0.25	19.25	19:15	21	SAFETY MEETING				PRE TOUR SAFETY MEETING AND CREWCHANGE HAND OVER
19:15	1.00	20.25	20:15	6	TRIPS				TRIP IN HOLE REMOVE BAILS AND ELVATORS
20:15	0.25	20.50	20:30	21	SAFETY MEETING				PRE OB SAFETY MEETING PRIOR TO SLIP AN CUT DRILL LINE
20:30	0.25	20.75	20:45	9	CUT OFF DRILLING LINE				SLIP/CUT DRILLING LINE
20:45	1.75	22.50	22:30	5	COND MUD CIRC				TAG CEMENT 494M , DISPLACE TO OIL BASE
22:30	0.25	22.75	22:45	2	DRILL				DRILL CEMENT/DRILL OUT CEMENT/DRILL FLOATSHOE ,DRILL GOOD CEMENT
22:45	0.25	23.00	23:00	21	SAFETY MEETING				DRILLS/BOP, ETC.
23:00	0.25	23.25	23:15	2C	Drill Cement/Drill Out Cement/ Drill Float Shoe				DRILL CEMENT/DRILL OUT CEMENT/DRILL FLOATSHOE
23:15	0.50	23.75	23:45	2	DRILL				DRILL 200MM FR 510M TO 513 M ,PRESSER TESTING POINT
23:45	0.25	24.00	00:00	21	SAFETY MEETING				SAFETY MEETING WITH PRESSER TESTER

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m ³)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Oil Base	22:00		1200.0	49		
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Strength (V)
Whole Mud Added (m ³)	Mud Lost to Hole (m ³)	Mud Lost to Surface (m ³)	Reserve Mud Volume (m ³)	Active Mud Volume (m ³)		

Drill Strings						
BHA #3, Drilling Assembly						
Bit Rock	Drill Bit	Make	IADC Bit Designation		TFA (incl No.) (mm.)	
3	222.2mm, Mi516, D1380	SMITH	-----		847	
No. of Joints (mm)	12.7/12.7/12.7/9.5/9.5/9.5/12.7/12.7			String Length (m)	String Wt (daN)	BHA ROP (m/min)
				1,170.00		17.5

Drill String Components					
Item Description	Qty	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	9.56	
Drill pipe - Single	1	101.6	70.0	9.26	
Drill pipe - Stand	54	101.6	70.0	1,003.76	
HWDP(4.0 IN)	8	101.6	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	
ARS-HYD/MECH	1	158.0	71.0	6.10	
DC (6.25 IN)	2	165.0	58.0	18.96	
Pump out	1	157.0	58.0	1.02	
MONEL	2	167.0	73.0	18.89	
UBHO	1	164.0	73.0	0.92	
MOTOR HS	1	166.0	58.0	8.97	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr:min)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m ³ /min)
Original Hole, 300H6465...	510.00	513.00	3.00	0.50	0.50	6.0	1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
2,000	30						
Q (in) (m ³ /min)	T (In) (°C)	P (BH Ann) (kPa)	T (ch) (°C)	P(Surf Ann) (kPa)	T (surf ann) (°C)	Q (liquid) (m ³ /min)	Q (return) (m ³ /min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Survey Data			
MD (mKB)	Incl (°)	Alt (m)	TVD (mKB)
610.41	0.50	47.90	610.26
637.80	0.70	259.70	637.65
666.16	0.50	307.50	666.01
694.31	0.70	12.50	694.16

Last 5 Formations		
Formation Name	Probit Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)	
Max Nominal OD (mm)	
244.5	



Well Name: HUSKY LITTLE BEAR H-64

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Cum Len (m)	Top (mKB)	TopConn T...

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Daily Drilling - Detail (legal size)

Report Start Date: 2/25/2012

Report #: 9, DFS: 6.52

Depth Progress: 416.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T	
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration	
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20	
KB-Casing Flange Distance (m) 5.47		KB-Tubing Head Distance (m) 5.00		Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600							
Weather Clear		Temperature (°C) -31		Road Condition Fair		Hole Condition Good	
Operation at Report Time Drill 222mm Main Hole w/Directional Tool				Operation Next Report Period Drill 222mm Main Hole to core point, Circulate to P/U, Wiper trip to casing shoe, Circulate to P/U, POOH to P/U Core Barrel			
Operation 06:00 Drill 222mm Main Hole to 1029m.		Operation Summary Performed a FIT test to 21.5 kpa/m. Drilled ahead from 513m to 541m. Serviced the rig and functioned the pipe rammer. Continued to drill ahead to 625m. Held a crew hand over and a safety meeting. Drilled ahead from 625m to 678m with the directional tool and gamma. Held a BOP drill and a man down drill. Drilled ahead from 678m to 709m with the directional tool and gamma. Drilled 222mm Hole F/709m to/929m with directional tool and gamma.					

Remarks No Accident, Incident or Environmental Concern.							
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED.							
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today 0m3, Total at Tank Farm 26m3. Invert Delivered today 30m3, Total at Tank Farm 195m3							
Daily invert level 3.5m3 Total invert level 11.5m3							

Daily Contacts			
Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentice	Rig Manager	

Time Log									
Start Time	Dr (hr)	Cum Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	0.75	0.75	00:45	12	RUN CASING AND CEMENT				PRESSURE TEST CSG/SHOE
00:45	1.50	2.25	02:15	2	DRILL				DRILL 222MM HOLE FR 513M TO 541M
02:15	0.25	2.50	02:30	7	RIG SERVICE				RIG SERVICE F/T PIPE RAMS 3 SECOND C/O
02:30	4.50	7.00	07:00	2	DRILL				DRILL 222MM FR 541M TO 625M
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
07:15	2.75	10.00	10:00	2	DRILL				DRILL 222MM HOLE FR 625M-TO- 678M
10:00	0.25	10.25	10:15	21	SAFETY MEETING				DRILLS/BOP, AND MAN DOWN, EXSCAPE ROUTES ,BREIFING AREAS
10:15	0.75	11.00	11:00	2	DRILL				DRILL 222MM HOLE FR 678M-TO-709M
11:00	1.00	12.00	12:00	20	DIR. WORK				ACCUM DIRECTIONAL SURVEYS AND CONNECTION TIME
12:00	6.25	18.25	18:15	2	DRILL				DRILL 222MM HOLE FR 709M-TO-820M
18:15	0.25	18.50	18:30	7	RIG SERVICE				RIG SERVICE
18:30	0.50	19.00	19:00	2	DRILL				DRILL 222MM HOLE FR 820M TO 829M
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING
19:15	2.75	22.00	22:00	2	DRILL				DRILL 222MM HOLE FR 829M TO 929M
22:00	2.00	24.00	00:00	20	DIR. WORK				DIRECTIONAL SURVEYS , SYNC GAMMA , CONNECTIONS

Contract Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Tool Type Initial Drill	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled - Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 118,292.65	Cum Cost To Date 1,958,043.48
Daily Mud Cost 6,529.65	Mud Additive Cost To Date 117,832.41
Depth Start (mKB) 513.00	Depth End (mKB) 929.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 416.00	
Depth Start (TVD) (mKB) 512.86	Depth End (TVD) (mKB) 928.84
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 504.00	Cum Per Tot Hr (hr) 4,944.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h)	Cum Problem Time (h)
Day off LTI (day)	Day off RI (day)

Personnel Log		
Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Hendorfer Consulting Ltd.	1	12.00
NEW VENDOR	1	12.00
McRath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hoe Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	3	36.00
Bible Limited Partnership	1	12.00
Baker Hughes	2	24.00

Safety Check Summary		
Type	Last Date	Next Date
Safety Meeting	2/25/2012	2/26/2012
Rigs		
Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Prentice		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps		
# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.011
Pressure (kPa)	Slow Spd	Stroke (p.p.s) Eff (%)
		0
# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.013
Pressure (kPa)	Slow Spd	Stroke (p.p.s) Eff (%)
1,900	Yes	57 95

Mud Additive Amounts		
Description	Cost (/unit)	Consumed
VERSAMUL	862.55	1.0
LIME	12.13	10.0
OPTISEAL III	70.20	79.0



Daily Drilling - Detail (legal size)

Report Start Date: 2/25/2012

Report #: 9, DFS: 6.52

Depth Progress: 416.00

Well Name: HUSKY LITTLE BEAR H-64

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m ³)	Viscosity (cP/L)	Plastic Visc (cp)	Yield Point (Pa)
Invert	12:30	713.00	1200.0	48	16.0	3.000
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid% (%)
3.000	5.500	8.500				12.7
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stability (V)
	81.0	19.0	247,112.007			929.0
Whole Mud Added (m ³)	Mud Lost to Hole (m ³)	Mud Lost to Surface (m ³)	Reserve Mud Volume (m ³)	Active Mud Volume (m ³)		
10.00		3.50	151.50	66.20		

Drill Strings						
BHA #3, Drilling Assembly						
Bit R...	Drill Bit		Make	IADC Bit Description		TFA (incl No.) (mm.)
3	222.2mm, Mi516, D1380		SMITH	-----		847
No. of Joints (mm)	12.7/12.7/12.7/9.5/9.5/9.5/12.7/12.7			String Length (m)	String Wt (daN)	BHA ROP (m/min)
				1,170.00		17.5

Drill String Components					
Item Description	Length (ft)	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	9.56	
Drill pipe - Single Joint	1	101.6	70.0	9.26	
Drill pipe - Standoff	54	101.6	70.0	1,003.76	
HWDP(4.0 IN)	8	101.6	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	
ARS-HYD/MECH	1	158.0	71.0	6.10	
DC (6.25 IN)	2	165.0	58.0	18.96	
Pumpout Joint	1	157.0	58.0	1.02	
MONEL	2	167.0	73.0	18.89	
UBHO	1	164.0	73.0	0.92	
MOTOR HS	1	166.0	58.0	8.97	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Core Depth (m)	Drilling Time (hr)	Core Drill Time (hr)	Int ROP (m/hr)	Flow Rate (m ³ /min)
Original Hole, 300H6465...	513.00	929.00	419.00	19.00	19.50	21.9	1.450
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque (kgm)	Off Btm Torque (kgm)
2,000	40	9,500	24,000	25,000	23,000	3,800.0	560.0
Flow Rate (m ³ /min)	Temp (in.) (°C)	P (BH Ann) (kPa)	Temp (in.) (°C)	P (Surface Ann) (kPa)	Temp (Surface Ann) (°C)	Flow Rate (liters/min)	Flow Rate (gallons/min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint Length (m)	Core Length (m)	Top (mKB)	Top Conn T...

Survey Data			
MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)
805.78	0.90	39.00	805.63
833.69	0.30	136.30	833.53
861.30	0.50	93.40	861.14
889.17	0.20	220.40	889.01
916.90	0.50	67.80	916.74

Last 5 Formations		
Formation Name	Proportion Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)	
Max Nominal OD (mm)	244.5



Daily Drilling - Detail (legal size)

Report Start Date: 2/26/2012

Report #: 10, DFS: 7.52

Depth Progress: 225.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Class Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Plane Distance (m) 5.47			KB-T casing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Clear		Temperature (°C) -28		Road Condition Fair		Hole Condition Good			
Operation at Report Time Drill 222mm Main Hole w/Directional Tool				Operation Next Report Period Drill 222mm Main Hole to core point @ 1170m, Circ @ 1170m, Wiper trip to casing shoe, Circulate @ 1170m, POOH to P/U Core Barrel @ RIH and cut core @ 1.					
Operation @ 06:00 Fill pipe and circulate		Operation Summary Drilled 222mm main hole with directional tool and gamma from 929m to 975m. Serviced the rig and functioned the pipe ram. Drilled ahead to 1051m with survey. Held a crew handover and a safety meeting. Drilled ahead from 1051m to 1090m. Circulated @ sample and waited on order @ per geologist. Drilled ahead from 1090m to 1105m. Circulated @ bottom hole sample and waited on order @ per the geologist. Drilled ahead from 1105m to 1135m. Circulated @ bottom @ sample and waited on order @ per the geologist. Drilled ahead from 1135m to 1150m with no restriction. Circulate @ bottom hole sample for geologist and waited on order @ geologist. Drilled ahead from 1150m to 1154m. Held safety crew change meeting with both crew, Rig Manager and Husky Rep.							
Remarks No Accident, Incident or Environmental Concern									
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today @ 0m3, Total at Tank Farm @ 26m3. Invert Delivered today @ 0m3, Total at Tank Farm @ 195m3									
Daily invert losses: 8.7m3 Total invert losses: 20.2m3									

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Pre	Rig Manager	

Time Log

Start Time	Duration (hr)	Comm Dur (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	2.75	2.75	02:45	2	DRILL				DRILL 222MM HOLE FR 929M TO 975M
02:45	0.25	3.00	03:00	7	RIG SERVICE				RIG SERVICE 3 SECONDS C/O PIPE RAMS
03:00	2.75	5.75	05:45	2	DRILL				DRILL 222MM HOLE FR 975M TO 1051M
05:45	1.25	7.00	07:00	20	DIR. WORK				DIRECTIONAL SURVEYS, SYNC GAMMA, CONNECTIONS
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
07:15	4.00	11.25	11:15	2	DRILL				DRILL 222MM HOLE FR 1051M TO 1083M
11:15	0.75	12.00	12:00	20	DIR. WORK				ACCUM DIRECTIONAL SURVEYS AND CONNECTION TIME
12:00	0.75	12.75	12:45	2	DRILL				DRILL 222MM HOLE FR 1083M-TO-1090M
12:45	1.50	14.25	14:15	23	WAITING ON				WAIT ON ORDERS AS PER GEO
14:15	2.00	16.25	16:15	2	DRILL				DRILL 222MM HOLE FR 1090M-TO-1105M
16:15	1.25	17.50	17:30	23	WAITING ON				W/O ORDERS AS PER GEO
17:30	1.00	18.50	18:30	2	DRILL				DRILL 222MM HOLE FR 1105M-TO- 1116M
18:30	0.50	19.00	19:00	20	DIR. WORK				DIRECTIONAL SURVEYS , SYNC GAMMA , CONNECTIONS
19:00	0.25	19.25	19:15	21	SAFETY MEETING				CREW CHANGE HAND OVER AND PRE TOUR SAFETY MEETING
19:15	3.75	23.00	23:00	2	DRILL				DRILL 222MM HOLE FR 1116M TO 1150M
23:00	0.75	23.75	23:45	23	WAITING ON				W/O OREDERS AS PER GEO
23:45	0.25	24.00	00:00	2	DRILL				DRILL 22MM HOLE FR 1150M TO 1154M

Contract Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled & Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 116,013.24	Comm Cost To Date 2,074,056.72
Daily Mud Cost 775.24	Mud Additive Cost To Date 118,607.65
Depth Start (mKB) 929.00	Depth End (mKB) 1,154.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 225.00	
Depth Start (TVD) (mKB) 928.84	Depth End (TVD) (mKB) 1,153.80
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 504.00	Comm Per Total Hr (hr) 5,448.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h) 	Comm Problem Time (h)
Day LTI (day) 	Day RI (day)

Personnel Log

Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Hendorfer Consulting Ltd.	1	12.00
McCrath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hale Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	3	36.00
Bi-Eagle Limited Partnership		0.00
Baker Hughes	2	24.00
Baker Atlas	2	24.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/26/2012	2/27/2012

Rigs

Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Pre		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps

# 1, GARDNER DENVER, PZ8			
Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	203.0	
Liner Size (mm)	Vol/Stk OR (m ³ /tk)		
152.0	0.011		
Pre (kPa)	Slow Spd	Stroke (l.p.s.)	Eff (%)
		0	

2, CONTINENTAL EMSCO, F800

Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	229.0	
Liner Size (mm)	Vol/Stk OR (m ³ /tk)		
152.0	0.013		
Pre (kPa)	Slow Spd	Stroke (l.p.s.)	Eff (%)
1,100	Yes	57	95

Mud Additive Amounts

Description	Count (/unit)	Concimed
LIME	12.13	10.0
FED WATE (BARITE)	15.57	42.0

Survey Data

MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)
1,010.01	0.20	82.40	1,009.83



Daily Drilling - Detail (legal size)

Report Start Date: 2/26/2012

Report #: 10, DFS: 7.52

Depth Progress: 225.00

Well Name: HUSKY LITTLE BEAR H-64

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m ³)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Invert	06:15		1205.0	48	18.0	3.500
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
3.500	8.000	11.000				13.2
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stability (V)
	81.0	19.0	242,164.001			927.0
Whole Mud Added (m ³)	Mud Lost to Hole (m ³)	Mud Lost to Surface (m ³)	Reserve Mud Volume (m ³)	Active Mud Volume (m ³)		
10.00	1.60	2.40	129.80	74.70		

Drill Strings

BHA #3, Drilling Assembly

Bit R...	Drill Bit	Make	IADC Bit Description		TFA (incl No.) (mm.)	
3	222.2mm, Mi516, D1380	SMITH	-----		847	
No. of Joints (mm)				String Length (m)	String Wt (daN)	BHA ROP (m/min)
12.7/12.7/12.7/9.5/9.5/9.5/12.7/12.7				1,170.00		17.5

Drill String Components

Item Description	Length (m)	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	9.56	
Drill pipe - Single Joint	1	101.6	70.0	9.26	
Drill pipe - Standoff	54	101.6	70.0	1,003.76	
HWDP(4.0 IN)	8	101.6	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	
ARS-HYD/MECH	1	158.0	71.0	6.10	
DC (6.25 IN)	2	165.0	58.0	18.96	
Pumpout Joint	1	157.0	58.0	1.02	
MONEL	2	167.0	73.0	18.89	
UBHO	1	164.0	73.0	0.92	
MOTOR HS	1	166.0	58.0	8.97	

Drilling Parameters

Well Core	Start (mKB)	Depth End (mKB)	Core Depth (m)	Drilling Time (hr)	Core Drill Time (hr)	Int ROP (m/hr)	Flow Rate (m ³ /min)
Original Hole, 300H6465...	929.00	1,154.00	644.00	17.25	36.75	13.0	1.450
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque (Nm)	Off Btm Torque (Nm)
1,000	45	9,500	27,000	31,000	25,000	2,000.0	580.0
Flow Rate (m ³ /min)	Temp (In.) (°C)	P (BH Ann) (kPa)	Temp (Out) (°C)	P (Surface Ann) (kPa)	Temp (Surface Ann) (°C)	Flow Rate (liters/min)	Return Flow Rate (m ³ /min)

Kick/Lost Circ

Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings

Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components

Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint Length (m)	Core Length (m)	Top (mKB)	Top Conn T...
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Survey Data			
MD (mKB)	Incl (°)	Alt (m)	TVD (mKB)
1,037.78	0.90	62.20	1,037.60
1,065.84	0.40	61.30	1,065.65
1,093.29	0.40	102.80	1,093.10
1,120.96	1.00	99.20	1,120.77

Last 5 Formations

Formation Name	Proportion Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)

Max Nominal OD (mm)
244.5



Daily Drilling - Detail (legal size)

Report Start Date: 2/27/2012

Report #: 11, DFS: 8.52

Depth Progress: 16.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing/Fill Distance (m) 5.47			KB-Tripin Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Light Snow		Temperature (°C) -25		Road Condition Fair		Hole Condition Good			
Operation at Report Time RIH W/Core Casing run 01.				Operation Next Report Period RIH W/Core Casing, Wash to Bottom, Circulate Casing drop Casing, Casing 54m of core, Circulate clean hole, POOH Recover core, Make Casing core Casing run 02.					
Operation at 06:00 Casing Core 01 1201m.		Operation Summary Drilled 222mm main hole from 1154m to 1157m with directional tool. Waited on order casing per geologist. Drilled ahead to 1170m. Circulated sample casing per geologist. Circulated and conditioned the hole and mud prior to wiper trip. Installed elevator, bail, pumped a weighted pill and wiper tripped to the casing shoe 510m, Flow check and ran back in the hole. Conditioned the hole prior to Pulling out of the hole for core Casing. Held a crew hand over and a safety meeting. Pulled out of the hole and layed down the MWD tool and the mud motor. Serviced the rig and functioned the blind ram. Held a safety meeting with rig crew casing core hand Casing rep prior to make casing 54m of core Casing. Held safety crew change meeting with both crew, Rig Manager Casing Rep. Picked casing core Casing and run in the hole.							
Remarks No Accident, Incident or Environmental Concern									
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today 0.0m3, Total at Tank Farm 26m3. Invert Delivered today 0.0m3, Total at Tank Farm 104m3									
Daily invert losses 4.57m3 Total invert losses 24.77m3									

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Duration (hr:min)	Comm Drill (hr:min)	End Time	Activity Code	Activity Desc.	Produce/Use	Problem Time (hr:min)	Problem Ref	Comment
00:00	0.25	0.25	00:15	2	DRILL				DRILL 222MM HOLE FR 1154M TO 1157M
00:15	0.50	0.75	00:45	23	WAITING ON				W/O ORDERS PER GEO
00:45	0.75	1.50	01:30	2	DRILL				DRILL 222MM HOLE FR 1157M TO 1170M
01:30	0.25	1.75	01:45	23	WAITING ON				W/O ORDERS PER GEO
01:45	1.25	3.00	03:00	5	COND MUD CIRC				CONDITION MUD CIRCULATE
03:00	1.75	4.75	04:45	6	TRIPS				INSTALL BAILS AND ELEVATORS , TRIP OUT OF HOLE , WIPER TRIP , FLOW CHECKS 1160M, 1135M, 861M, 503M
04:45	1.25	6.00	06:00	6	TRIPS				TRIP IN HOLE FILL ON BOTTOM OF HOLE
06:00	1.00	7.00	07:00	5	COND MUD CIRC				CONDITION MUD CIRCULATE TO PULL OUT TO PICK UP CORE BARRELS
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMAN HUSKY REP
07:15	0.50	7.75	07:45	5	COND MUD CIRC				CIRCULATE AND CONDITION TO PULL OUT LAY DOWN TOOLS ,MIX AND PUMP PILL
07:45	4.25	12.00	12:00	6	TRIPS				TRIP OUT OF HOLE, LAY DOWN TOOLS , FLOW CHECKS 1160M,1081M, 528M,168M,OUT OF HOLE IN TALLY STRAP 1170.44/STEEL LINE STRAP 1170.88 DIFF.44CM HOLE FILL VOLUMES CAL 4.12M3/MEASURED 5.61M3/DIFF 1.49M3 TRIPPED OUT 20M/MIN

Cost Object Number US-51822-EX-02-DR-ID	Original Estimate Amount 11,529,266.00
Primary Cost Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 230,813.24	Comm Cost To Date 2,304,869.96
Daily Mud Cost 775.24	Mud Additive Cost To Date 119,382.89
Depth Start (mKB) 1,154.00	Depth End (mKB) 1,170.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 16.00	
Depth Start (TVD) (mKB) 1,153.80	Depth End (TVD) (mKB) 1,169.80
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 496.00	Comm Per Total Hr (hr) 5,944.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (min) 	Comm Problem Time (min)
Day Off LTI (day) 	Day Off RI (day)

Personnel Log

Company	Count	Tot Time (hr:min)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Hendorfer Construction Ltd.	1	12.00
McCrath Resource Construction Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hire Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	3	36.00
Baker Hughes	2	24.00
Baker Atlas	2	16.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/27/2012	2/28/2012

Rigs

Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Prentiss		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps

# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.011	
Pre (kPa)	Slow Spd	Stroke (in/p... Eff (%)
		0

2, CONTINENTAL EMSCO, F800

Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.013	
Pre (kPa)	Slow Spd	Stroke (in/p... Eff (%)
1,100	Yes	57 95

Mud Additive Amounts

Description	Cost (/unit)	Consumed
LIME	12.13	10.0
FED WATE (BARITE)	15.57	42.0

Survey Data

MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)
1,148.83	1.40	89.70	1,148.64
1,155.18	1.30	91.80	1,154.98



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dir (hr)	Com Dir (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr)	Prod Lem Ref	Comment
12:00	0.25	12.25	12:15	21	SAFETY MEETING				SAFETY MEETING WITH DIR PRIOR LAYING DOWN TOOLS
12:15	1.50	13.75	13:45	20	DIR. WORK				HANDLE DIRECTIONAL TOOLS PULL MWD, RACK MONELS, DRAIN MOTOR AND BREAK BIT
13:45	0.25	14.00	14:00	7	RIG SERVICE				RIG SERVICE F/T BLIND RAMS OUT OF HOLE 4 SEC C/O
14:00	0.25	14.25	14:15	21	SAFETY MEETING				SAFETY MEETING WITH BAKER PRIOR TO MAKE UP CORE BARRELS
14:15	4.75	19.00	19:00	4	CORING				PICK UP AND MAKE UP CORE BARRELS
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWORMHUSKY REP
19:15	0.25	19.50	19:30	4	CORING				HANDLE CORE BRLS FINISH PUTTING CORE TOOLS TOGETHER
19:30	4.50	24.00	00:00	6	TRIPS				TRIP IN HOLE W/CORE BRLS FILL PIPE AT 700M

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m.)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
INVERT	06:15	1,170.00	1205.0	48	18.0	3.500
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
3.500	8.000	11.000				13.2
MBT (kg/m.)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Strength (V)
	81.0	19.0	242,164.001			927.0
Whole Mud Added (m.)	Mud Lost to Hole (m.)	Mud Lost to Surface (m.)	Reserve Mud Volume (m.)	Active Mud Volume (m.)		
	2.30	2.00	129.80	74.70		

Drill Strings					
BHA #3, Drilling Assembly					
Bit R...	Drill Bit	Make	IADC Bit D...	TFA (incl No.) (mm.)	
3	222.2mm, Mi516, D1380	SMITH	-----	847	
No. (mm)				Strin Len (m)	Strin Wt (daN)
	12.7/12.7/12.7/9.5/9.5/9.5/12.7/12.7			1,170.00	BHA ROP (m...)
					17.5

Drill String Components					
Item Description	Qty	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	9.56	
Drill pipe - Single	1	101.6	70.0	9.26	
Drill pipe - Stand	54	101.6	70.0	1,003.76	
HWDP(4.0 IN)	8	101.6	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	
ARS-HYD/MECH	1	158.0	71.0	6.10	
DC (6.25 IN)	2	165.0	58.0	18.96	
Pump out	1	157.0	58.0	1.02	
MONEL	2	167.0	73.0	18.89	
UBHO	1	164.0	73.0	0.92	
MOTOR HS	1	166.0	58.0	8.97	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m./min)
Original Hole, 300H6465...	1,154.00	1,170.00	660.00	1.00	37.75	16.0	1.450
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
2,000	45	9,500	27,000	31,000	25,000	3,800.0	580.0
Q (lin) (m./min)	T (lin) (°C)	P (BH Ann) (kPa)	T (ch) (°C)	P(Surf Ann) (kPa)	T (surf ann) (°C)	Q (litrtn) (m./L...	Q (retm) (m./L...

BHA #4, Coring Assembly					
Bit R...	Drill Bit	Make	IADC Bit D...	TFA (incl No.) (mm.)	
4	222.2mm, 406C, 7136984	H...	1-1-WT-A-X-0-NO-BHA		
No. (mm)				Strin Len (m)	Strin Wt (daN)
				1,204.00	BHA ROP (m...)
					5.4

Drill String Components					
Item Description	Qty	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	8.71	
Drill Pipe Stand	55	101.6	70.0	1,022.20	
HWDP	8	101.6	68.0	72.64	
XO S	1	165.0	49.0	0.71	
Drill Collar	4	165.0	49.0	37.93	
Pump Out S	1	157.0	58.0	1.02	
Float S	1	157.0	58.0	0.46	
Lee Bar	1	171.0	72.0	2.15	
Core Barrel	6	171.0	89.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m./min)
Original Hole, 300H6465...	1,170.00	1,170.00		0.00			
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
0	0		37,000				
Q (lin) (m./min)	T (lin) (°C)	P (BH Ann) (kPa)	T (ch) (°C)	P(Surf Ann) (kPa)	T (surf ann) (°C)	Q (litrtn) (m./L...	Q (retm) (m./L...

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Well Name: HUSKY LITTLE BEAR H-64

Kick/Lost Circ								
Occur Date	Occur Depth (mKB)	Control Date		Control Depth (mKB)		Incident Type		
Comment								
Casing Strings								
Casing Description				Run Date		Set Depth (mKB)		
Comment								
Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Joint	Casing Len (m)	Top (mKB)	TopConn T...



Daily Drilling - Detail (legal size)

Report Start Date: 2/28/2012

Report #: 12, DFS: 9.52

Depth Progress: 34.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T	
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration	
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20	
KB-Casing/Fill Distance (m) 5.47		KB-Tripin Head Distance (m) 5.00		Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600							
Weather Light Snow		Temperature (°C) -31		Road Condition Fair		Hole Condition Good	
Operation at Report Time RIH W/Core Casing run #2.				Operation Next Report Period RIH W/Core Barrel run #2, Circ Bottom up, Circ core, Circ bottom up, Pooh w/Core run #2, Retrieve core, Service Core casing, Run in w/Core casing Run #3.			
Operation at 06:00 Circulate bottom up clean hole prior to trip out.		Operation Summary Tripped in the hole with core 1L run #1. Wash in from 1150m to 1170m. Circulated bottom up and then dropped the core ball. Circ core #1 from 1170m to 1194m. Serviced the rig and functioned the pipe rammer. And held a crew hand over and a safety meeting. Circ Core from 1194m to 1204m. Circulated bottom up and pumped a weighted pill. Pilled out of the hole due to a jammed core. Held a safety meeting with the core hand and then recovered 28.5m of core. (Circ core #1 from 1170m to 1204m. Recovered 28.5m.). Serviced the core 1L and then ran back in the hole with the core 1L run #2. Held safety crew change meeting with both crew, Rig Manager Husky Rep.					

Remarks
No Accident, Incident or Environmental Concern.

Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.

Tank Farm delivered for Little Bear H-64
Base Oil Delivered today 0 m3, Total at Tank Farm 27m3.
Invert Delivered today 0 m3, Total at Tank Farm 176.8m3

Daily invert volume 1.00m3
Total invert volume 25.77m3

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zilahi	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Heindorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Duration (hr:min)	Comm Duration (hr:min)	End Time	Activity Code	Activity Desc.	Production/Use	Problem Time (hr:min)	Problem Ref	Comment
00:00	0.75	0.75	00:45	6	TRIPS				TRIP IN HOLE FILL WASH TO BOTTOM 1170M F/1150M
00:45	0.50	1.25	01:15	5	COND MUD CIRC				CIRCULATE BOTTOMS UP, DROP BALL
01:15	3.75	5.00	05:00	4	CORING				CUT CORE 222MM FR 1170M TO 1194M
05:00	0.25	5.25	05:15	7	RIG SERVICE				RIG SERVICE F/T PIPE RAMS 3 SECONDS C/O
05:15	1.75	7.00	07:00	4	CORING				CUT CORE 222MM FR 1194M TO
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
07:15	0.75	8.00	08:00	4	CORING				CUT CORE FR/1194M TO 1204M
08:00	1.00	9.00	09:00	5	COND MUD CIRC				CIRCULATE MIX PILL,PREP FLOOR TO TRIP,
09:00	3.00	12.00	12:00	6	TRIPS				PULL OUT OF HOLE TO RECOVER CORE #1 FLOW CHECKS AS REQ. 1193M,1114M,618M, 139M,
12:00	1.00	13.00	13:00	6	TRIPS				CONTINUE TO P.O.O.H FLOW CHECKS AS REQ.,1193M,1114M,618M,139M,... OF HOLE /HOLE FILL VOLUMES MESURED 8.44M3/CAL 4.72M3/DIFF 3.72M3
13:00	0.25	13.25	13:15	21	SAFETY MEETING				SAFETY MEETING WITH BAKR CORE HANDS PRIO TO CORE, RECOVER #1
13:15	4.75	18.00	18:00	4	CORING				CORING RECOVER CORE #1 TOTAL RECOVER 28 METERS
18:00	1.00	19.00	19:00	4	CORING				CORING CHECK BIT MAKE UP CORE BARREL #2
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW

Contract Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 118,468.24	Comm Cost To Date 2,423,338.20
Daily Mud Cost 775.24	Mud Additive Cost To Date 120,158.13
Depth Start (mKB) 1,170.00	Depth End (mKB) 1,204.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 34.00	
Depth Start (TVD) (mKB) 1,169.80	Depth End (TVD) (mKB) 1,203.80
Target Formation Canol	Estimated Depth (mKB) 1,412.00
Personnel Total Hours (hr:min) 504.00	Comm Per Total Hr (hr:min) 6,448.00
Time Log Total Hours (hr:min) 24.00	Problem Time Hours (hr:min)
Problem Time (min)	Comm Problem Time (min)
Day off LTI (day:min)	Day off RI (day:min)

Personnel Log

Company	Count	Tot Time (hr:min)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Heindorfer Construction Ltd.	1	12.00
McGrath Resource Construction Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hire Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Baker Hughes	2	24.00
Husky	2	24.00
NEW VENDOR	1	12.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/28/2012	2/29/2012

Rigs

Contractor Northern Drilling	Rig Number 23
Rig Supervisor Troy Prentiss	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps

# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.011
Pre (kPa)	Slow Spd	Stroke (cp... Eff (%)
		0
# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.013
Pre (kPa)	Slow Spd	Stroke (cp... Eff (%)
1,100	Yes	57 95

Mud Additive Amounts

Description	Count (/unit)	Concimed
LIME	12.13	10.0
FED WATE (BARITE)	15.57	42.0

Survey Data

MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr)	Prod Lem Ref	Comment
19:15	2.00	21.25	21:15	4	CORING				HANDLE CORE BRLS , MAKE UP CORE BARRELS
21:15	2.75	24.00	00:00	6	TRIPS				TRIP IN HOLE FILL HALF WAY CONTINUE TO R.I.H.

Mud Checks							
Type	Time		Depth (mKB)	Density (kg/m ³)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Invert	07:00		1,202.00	1280.0	48	18.0	3.500
Gel 10 sec (Pa)	Gel 10 min (Pa)		Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
3.000	7.500		11.000				15.3
MBT (kg/m ³)	Percent Oil (%)		Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
	81.0		19.0	237,186.000			891.0
Whole Mud Added (m ³)		Mud Lost to Hole (m ³)		Mud Lost to Surface (m ³)		Reserve Mud Volume (m ³)	Active Mud Volume (m ³)
		0.50				129.10	74.80

Drill Strings					
BHA #4, Coring Assembly					
Bit R...	Drill Bit			Make	
4	222.2mm, 406C, 7136984			Husky	
			IADC Bit Drill		TFA (incl No.) (mm.)
			1-1-WT-A-X-0-NO-BHA		
No. (mm)				String Length (m)	String Wt (daN)
				1,204.00	BHA ROP (m...)
					5.4

Drill String Components					
Item Description	Fit	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	8.71	
Drill Pipe Stand	55	101.6	70.0	1,022.20	
HWDP	8	101.6	68.0	72.64	
XO S	1	165.0	49.0	0.71	
Drill Collar	4	165.0	49.0	37.93	
Pump Out S	1	157.0	58.0	1.02	
Float S	1	157.0	58.0	0.46	
Lee Bars	1	171.0	72.0	2.15	
Core Barrel	6	171.0	89.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Flow (m ³ /min)
Original Hole, 300H6465...	1,170.00	1,204.00	34.00	6.25	6.25	5.4	1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
3	55	7,500	37,000	38,000	36,000	3,850.0	275.0
Flow (m ³ /min)	T (In) (°C)	P (BH Ann) (kPa)	T (Ch) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (m ³ /min)	Ret (m ³ /min)

BHA #5, Coring Assembly					
Bit R...	Drill Bit			Make	
5RR	222.2mm, 406C, 7136984			Husky	
			IADC Bit Drill		TFA (incl No.) (mm.)
			1-1-WT-A-X-0-NO-BHA		
No. (mm)				String Length (m)	String Wt (daN)
				1,222.00	BHA ROP (m...)
					6.0

Drill String Components					
Item Description	Fit	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	170.0	68.0	8.24	
Drill pipe - Stand	56	101.6	70.0	1,040.67	
8-HWDP	1	101.6	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE BARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Flow (m ³ /min)
Original Hole, 300H6465...	1,204.00	1,204.00		0.00			0.000
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
0	0		37,000				
Flow (m ³ /min)	T (In) (°C)	P (BH Ann) (kPa)	T (Ch) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (m ³ /min)	Ret (m ³ /min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type

Comment

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Daily Drilling - Detail (legal size)

Report Start Date: 2/29/2012

Report #: 13, DFS: 10.52

Depth Progress: 18.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-T casing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Clear		Temperature (°C) -34			Road Condition Fair		Hole Condition Good		
Operation at Report Time Circ Bottomed prior to setting core.					Operation Next Report Period RIH W/Core Barrel run #2, Circ Btm, Casing core, Circ Bottom, Pooh w/Core run #3, Retrieve core, Service Core barrel, Run in w/Core barrel Run #4.				
Operation 06:00 Circ Bottomed prior to trip out w/core #3.		Operation Summary Tripped in the hole W/core barrel run #2, Broke circulation and washed 2 inches to bottom. Circulated bottom. Casing core #2 from 1204m to 1222.0m. Circulated bottom. Pumped a waited pill and pulled out of the hole with a jammed core. Serviced the rig and functioned the pipe ram. Continued to pull out of the hole to the casing shoe. Held a crew hand over and a safety meeting. Finished pulling out of the hole. Layed out the inner barrel of the core barrel and then recovered 16m of core #2. Held a crew hand over and a safety meeting. Serviced the core barrel. Serviced the rig and functioned the blind ram. Run back in the hole with the core #3. Wash in F/1206m TO/1222m bottom.							

Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.

Tank Farm delivered for Little Bear H-64
Base Oil Delivered today 0m3, Total at Tank Farm 27m3.
Invert Delivered today 0m3, Total at Tank Farm 176.8m3

Daily invert loss 0.00m3
Total invert loss 25.77m3

At the Slater River Base Camp there was a release of 2m3 of contaminated water (partially treated grey water / leachate) due to an equipment failure (valve freezing and cracking). Due to the nature of the release and the cold temperatures the release immediately froze on the ice pad. Remedial measures to scrape up the ice and disposal of the snow will be taken once the equipment and camp are moved off the location.

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Heindorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Duration (hr)	Comm Duration (hr)	End Time	Activity Code	Activity Desc.	Produce/U...	Problem Time (hr)	Problem Ref	Comment
00:00	1.75	1.75	01:45	6	TRIPS				TRIP IN HOLE FILL TWO SINGLES FROM BOTTOM , WASH DOWN TWO SINGLES , WAIT FOR BOTTOMS UP
01:45	3.00	4.75	04:45	4	CORING				CUT CORE FR 1204M TO 1222M
04:45	1.50	6.25	06:15	5	COND MUD CIRC				CIRC BOTTOMS UP TO TRIP OUT OF HOLE
06:15	0.25	6.50	06:30	7	RIG SERVICE				RIG SERVICE F/T PIPE RAMS 3 SECOND C/O
06:30	0.50	7.00	07:00	6	TRIPS				TRIP OUT OF HOLE FLOW CHECKS 1211M , 1133M
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMAN HUSKY REP
07:15	3.50	10.75	10:45	6	TRIPS				TRIP OUT OF HOLE FLOW CHECKS 139M,79M OUT OF HOLE HOLE FILL VOLUMES, MEASURED 6.86 CAL 4.44M3 DIFF 2.42M3
10:45	0.25	11.00	11:00	21	SAFETY MEETING				SAFETY MEETING WITH BAKER CORE HANDS PRIOR TO RECOVER CORE #2
11:00	1.00	12.00	12:00	4	CORING				RECOVER CORE #2
12:00	4.00	16.00	16:00	4	CORING				RECOVER CORE #2 16 METERS RECOVERY
16:00	0.25	16.25	16:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMAN HUSKY REP

Contract Number US-51822-EX-02-DR-ID	Original Estimate Amount 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 118,406.94	Cost to Date 2,541,745.14
Daily Mud Cost 653.94	Mud Additive Cost to Date 120,812.07
Depth Start (mKB) 1,204.00	Depth End (mKB) 1,222.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 18.00	
Depth Start (TVD) (mKB) 1,203.80	Depth End (TVD) (mKB) 1,221.79
Target Formation Canol	Estimated Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 504.00	Cost Per Total Hr (hr) 6,952.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr) 0
Problem Time (hr) 0	Cost Problem Time (hr) 0
Day Off LTI (day) 0	Day Off RI (day) 0

Personnel Log

Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Heindorfer Construction Ltd.	1	12.00
McCrath Resource Construction Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hoe Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Services LP	2	24.00
Baker Hughes	2	24.00
Husky	2	24.00
NEW VENDOR	1	12.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	2/29/2012	3/1/2012

Rigs

Contractor Northern Drilling	Rig Number 23
Rig Supervisor Troy Prentiss	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps

# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.011
Pressure (kPa)	Slow Spd	Stroke (c.p... Eff (%)
		0

# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)
152.0		0.013
Pressure (kPa)	Slow Spd	Stroke (c.p... Eff (%)
1,380	Yes	46 95

Mud Additive Amounts

Description	Count (/unit)	Concentration
FED WATE (BARITE)	15.57	42.0

Survey Data

MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr)	Prod Lem Ref	Comment
16:15	2.75	19.00	19:00	4	CORING				CORING, CHANGE BIT AND MAKE UP CORE BARRELS FOR RUN 3, FUNCTIONED BLIND RAMS ON BANK(4 SEC)
19:00	0.25	19.25	19:15	7	RIG SERVICE				RIG SERVICE
19:15	3.75	23.00	23:00	6	TRIPS				TRIP IN, 61M - 710M, FLOW CHECK, BREAK CIRCULATION, CONT. IN 710M - 1206M, FLOW CHECK, BREAK CIRCULATION
23:00	0.25	23.25	23:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWORMHUSKY REP
23:15	0.75	24.00	00:00	6	TRIPS				WASH IN F/1206M - 1222M

Mud Checks							
Type	Time		Depth (mKB)	Density (kg/m)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Invert	05:30		1,222.00	1290.0	50	19.0	4.000
Gel 10 sec (Pa)	Gel 10 min (Pa)		Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solids (%)
4.000	8.500		13.500				15.8
MBT (kg/m)	Percent Oil (%)		Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
	81.0		19.0	237,186.000			816.0
Whole Mud Added (m)		Mud Lost to Hole (m)		Mud Lost to Surface (m)		Reserve Mud Volume (m)	Active Mud Volume (m)
0.00		0.00		1.00		128.20	75.00

Drill Strings			
BHA #5, Coring Assembly			
Bit R...	Drill Bit	Make	IADC Bit D
5RR	222.2mm, 406C, 7136984	H	1-1-WT-A-X-0-NO-BHA
No (mm)		Strin Length (m)	Strin Wt (daN)
		1,222.00	
			BHA ROP (m...
			6.0

Drill String Components					
Item Description	ft	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	170.0	68.0	8.24	
Drill pipe - Stand	56	101.6	70.0	1,040.67	
8-HWDP	1	101.6	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE ARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m/min)
Original Hole, 300H6465...	1,204.00	1,222.00	18.00	3.00	3.00	6.0	1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
3	55	8,050	28,000	29,000	27,000	3,850.0	550.0
Q (in) (m/min)	T (in) (C)	P (BH Ann) (kPa)	T (h) (C)	P(Surf Ann) (kPa)	T (surf ann) (C)	Q (litrtn) (m/L...	Q (retm) (m/L...

BHA #6, Drilling Assembly			
Bit R...	Drill Bit	Make	IADC Bit D
6	222.0mm, 406C, 7135973	HUGHES	1-1-WT-A-X-0.00-NO-BHA
No (mm)		Strin Length (m)	Strin Wt (daN)
		1,241.00	
			BHA ROP (m...
			4.5

Drill String Components					
Item Description	ft	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	8.77	
Drill pipe - Stand	57	101.6	70.0	1,059.14	
8-HWDP	1	102.0	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE ARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m/min)
Original Hole, 300H6465...	1,222.00	1,222.00		0.00			1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
0	0	7,500	31,000	32,000	30,000		450.0
Q (in) (m/min)	T (in) (C)	P (BH Ann) (kPa)	T (h) (C)	P(Surf Ann) (kPa)	T (surf ann) (C)	Q (litrtn) (m/L...	Q (retm) (m/L...

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Well Name: HUSKY LITTLE BEAR H-64

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Cum Len (m)	Top (mKB)	TopConn T...



Daily Drilling - Detail (legal size)

Report Start Date: 3/1/2012

Report #: 14, DFS: 11.52

Depth Progress: 26.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Class Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-Tubing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Clear		Temperature (°C) -31		Road Condition Fair		Hole Condition Good			
Operation at Report Time Circulating core #4 @ 1248m.				Operation Next Report Period Circ Core #4, circulating @ 1248m, POOH W/ Core #4, Retrieve core #4, Service core #4, RIH, Circ Bottom @ 1248m.					
Operation @ 06:00 Tripping out with core #4.		Operation Summary Circulated bottom @ 1248m and then dropped the ball. Circ core #3 from 1,222m to 1241m. Circulated bottom @ 1241m to jammed core. Pumped a weighted pill and pulled out of the hole and recovered 18m of core #3. Serviced the rig and functioned the annular. Held a crew hand over and a safety meeting. Finished pulling out of the hole. Retrieved core #3 and serviced the core @ 1241m. Held a BOP drill and functioned the blind ram. Ran back in the hole with core @ 1241m. Held a crew hand over and a safety meeting. Continued to run in the hole with core @ 1241m. Circulated bottom @ 1241m and then dropped the ball. Circ core #4 from 1,241m to 1248m. Core #3 1222.4m to 1241.2m @ 18.8m. Recovered 18.10m							
Remarks No Accident, Incident or Environmental Concern									
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today @ 0m3, Total at Tank Farm @ 27m3. Invert Delivered today @ 0m3, Total at Tank Farm @ 176.8m3									
Daily invert losses: 0.00m3 Total invert losses: 25.77m3									

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Heddorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Duration (hr:min)	Comm Duration (hr:min)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr:min)	Problem Ref	Comment
00:00	0.75	0.75	00:45	5	COND MUD @ CIRC				CIRCULATE PRIOR TO DROP BALL
00:45	4.25	5.00	05:00	4	CORING				DROP BALL AND CUT CORE #3 222MM FR/1222M-TO- 1241M
05:00	1.00	6.00	06:00	5	COND MUD @ CIRC				CONDITION MUD @ CIRCULATE
06:00	0.75	6.75	06:45	6	TRIPS				TRIPS PULL OUT OF HOLE WITH CORE #3 TO 1097M
06:45	0.25	7.00	07:00	7	RIG SERVICE				RIG SERVICE F/T ANNULAR 6 SEC C/O
07:00	0.25	7.25	07:15	21	SAFETY MEETING				PRE TOUR SAFETY MEETING AND CREW CHANGE HAND OVER
07:15	3.75	11.00	11:00	6	TRIPS				TRIP OUT W/ CORE #3 1097M - 57M, FLOW CHECKS @ 1097M, 785M, 344M,
11:00	1.00	12.00	12:00	4	CORING				CORING, RETRIEVE CORE #3, HELD SAFETY MEETING W/ CREW AND BAKER HUGHES PRIOR TO, MONITOR WELL DURING
12:00	2.50	14.50	14:30	4	CORING				CORING, RETRIEVE CORE #3, MONITOR WELL THROUGHOUT
14:30	0.25	14.75	14:45	6	TRIPS				TRIP OUT, 58M - 0M, FLOW CHECK AND FUNCTION BLIND RAM(4 SEC) ON BANK
14:45	0.25	15.00	15:00	21	SAFETY MEETING				DRILLS, SOUR BOP DRILL HELD ON BANK, WELL SECURED IN 3.5 MIN
15:00	0.25	15.25	15:15	6	TRIPS				TRIP IN 0M - 58M
15:15	1.75	17.00	17:00	4	CORING				CORING, MAKE UP CORE BARRELS FOR RUN #4

Count Object Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Count Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled @ Cased	Spud Date 2/19/2012 11:30
Daily Count Total 118,406.94	Comm Count To Date 2,660,152.08
Daily Mud Count 653.94	Mud Additive Count To Date 121,466.01
Depth Start (mKB) 1,222.00	Depth End (mKB) 1,248.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 26.00	
Depth Start (TVD) (mKB) 1,221.79	Depth End (TVD) (mKB) 1,247.79
Target Formation Canol	Estimated Depth (mKB) 1,412.00
Personnel Total Hours (hr:min) 504.00	Comm Per Total Hr (hr:min) 7,456.00
Time Log Total Hours (hr:min) 24.00	Problem Time Hours (hr:min)
Problem Time (min)	Comm Problem Time (min)
Day Off LTI (day:min)	Day Off RI (day:min)

Personnel Log

Company	Count	Tot Time (hr:min)
National Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Heddorfer Consulting Ltd.	1	12.00
McCrath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hite Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Baker Hughes	2	24.00
Husky	2	24.00
NEW VENDOR	1	12.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	3/1/2012	3/2/2012

Rigs

Contractor National Drilling		Rig Number 23
Rig Supervisor Troy Prentiss		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps

# 1, GARDNER DENVER, PZ8			
Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	203.0	
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.011	
Pre (kPa)	Slow Spd	Stroke (cp... Eff (%)	
		0	
# 2, CONTINENTAL EMSCO, F800			
Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	229.0	
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.013	
Pre (kPa)	Slow Spd	Stroke (cp... Eff (%)	
1,233	Yes	50	95

Mud Additive Amounts

Description	Count (/unit)	Concimed
FED WATE (BARITE)	15.57	42.0

Survey Data

MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr)	Prod Lem Ref	Comment
17:00	2.00	19.00	19:00	6	TRIPS				TRIP IN W/CORE BBLS RUN 4 F/58M - 597M, FLOW CHECK, BREAK CIRCULATION
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING HELD FOR SHIFT CHANGE W/ BOTH CREWS, R.M. AND OPERATORS REP.
19:15	2.00	21.25	21:15	6	TRIPS				RUN IN HOLE WITH CORE 4
21:15	1.00	22.25	22:15	5	COND MUD CIRC				CONDITION MUD CIRCULATE PRIOR TO DROP BALL
22:15	1.50	23.75	23:45	4	CORING				CORING 222MM HOLE FR /1241M-TO - 1248M
23:45	0.25	24.00	00:00	7	RIG SERVICE				RIG SERVICE F/T PIPE RAMS 4 SEC C/O

Mud Checks							
Type	Time		Depth (mKB)	Density (kg/m ³)	Viscosity (cP/L)	Plastic Visc (cp)	Yield Point (Pa)
INVERT	23:45		1,248.00	1250.0	86	19.0	4.000
Gel 10 sec (Pa)	Gel 10 min (Pa)		Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
4.000	8.500		13.500				15.8
MBT (kg/m ³)	Percent Oil (%)		Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
	81.0		19.0	237,186.000			
Whole Mud Added (m ³)		Mud Lost to Hole (m ³)		Mud Lost to Surface (m ³)		Reserve Mud Volume (m ³)	Active Mud Volume (m ³)
0.00		0.00		0.00		128.10	75.00

Drill Strings			
BHA #6, Drilling Assembly			
Bit R...	Drill Bit	Make	IADC Bit Drill
6	222.0mm, 406C, 7135973	HUGHES	1-1-WT-A-X-0.00-NO-BHA
No. (mm)		String Length (m)	String Wt (daN)
		1,241.00	
			BHA ROP (m...
			4.5

Drill String Components					
Item Description	Qty	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	168.0	68.0	8.77	
Drill pipe - Stand	57	101.6	70.0	1,059.14	
8-HWDP	1	102.0	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE ARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m ³ /min)
Original Hole, 300H6465...	1,222.00	1,241.00	19.00	4.25	4.25	4.5	1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
3	45	7,500	31,000	32,000	30,000	2,750.0	450.0
Q (in.) (m ³ /min)	T (in.) (°C)	P (BH Ann) (kPa)	T (in.) (°C)	P(Surf Ann) (kPa)	T (surf ann) (°C)	Q (litrtn) (m ³ ...	Q (retm) (m ³ ...

BHA #7, Drilling Assembly			
Bit R...	Drill Bit	Make	IADC Bit Drill
7RR	222.0mm, 406C, 7135973	HUGHES	1-1-WT-A-X-0.00-NO-BHA
No. (mm)		String Length (m)	String Wt (daN)
		1,256.00	
			BHA ROP (m...
			4.3

Drill String Components					
Item Description	Qty	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	0	170.0	68.0	5.31	
Drill pipe - Stand	58	101.6	70.0	1,077.60	
8-HWDP	1	101.6	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE ARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m ³ /min)
Original Hole, 300H6465...	1,241.00	1,248.00	7.00	1.50	1.50	4.7	1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
3	45	7,600	32,000	34,000	30,000	3,500.0	550.0
Q (in.) (m ³ /min)	T (in.) (°C)	P (BH Ann) (kPa)	T (in.) (°C)	P(Surf Ann) (kPa)	T (surf ann) (°C)	Q (litrtn) (m ³ ...	Q (retm) (m ³ ...

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Well Name: HUSKY LITTLE BEAR H-64

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Cum Len (m)	Top (mKB)	TopConn T...

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Daily Drilling - Detail (legal size)

Report Start Date: 3/2/2012

Report #: 15, DFS: 12.52

Depth Progress: 10.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-T casing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Clear		Temperature (°C) -30		Road Condition Fair		Hole Condition Good			
Operation at Report Time POOH W/Core run #5.				Operation Next Report Period Recover core #5, Service Core Barrel# RIH W/Run #6, Circulate #5, Circulate #6, Circulate #6, Pooh w/core #6, Recover core #6.					
Operation # 06:00 Tripping in the hole with Core Barrel run #6.		Operation Summary Circ Core #4 from 1248m to 1256.8m. (Core Jammed off) Circulate Bottom #5. Pumped a weighted pill and then pulled out of the hole. Held a crew hand over and a safety meeting. Continued to pull out of the hole. Retrieved core #4. Circ 15.6m and retrieved 15.0m. Serviced the core #5 and checked the bit. Ran back in the hole with core #5. Watched 21m to bottom. Circulate Bottom #5 and then dropped the ball. Circ core #5 from 1256.8m to 1258.50m. (core jammed off). Circulate Bottom #5. Held a crew hand over and a safety meeting. Pumped a weighted pill and then pulled out of the hole with core run #5.							
Remarks No Accident, Incident or Environmental Concern.									
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today 0m3, Total at Tank Farm 27m3. Invert Delivered today 0m3, Total at Tank Farm 176.8m3									
Daily invert volume 2.30m3 Total invert volume 28.1m3									
Daily Contacts									
Type		Contact Name		Title		Mobile			
Office		Kim Richardson		DR Superintendent		403-542-1059			
Office		Goly Zila		DR Eng		403-462-8021			
Office		Sandeep Randhawa		DR Eng		403-519-5660			
Office		Darren Brown		Construction Super					
Well Site Supervisor		Cal Conklin		DR Field Super		403-502-3387			
Well Site Supervisor		Woody Periard		DR Field Super		403-350-6027			
Well Site Supervisor		Dan Heindorfer		DR Field Super		780-446-5160			
Rig Manager		Troy Prentiss		Rig Manager					
Time Log									
Start Time	Dr (hr)	Cum Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref #	Comment
00:00	2.00	2.00	02:00	4	CORING				CORING 222MM HOLE FR 1248M -TO- 1256M
02:00	1.00	3.00	03:00	5	COND MUD # CIRC				CIRCULATE PRIOR TO PULL CORE #4
03:00	4.00	7.00	07:00	6	TRIPS				P.O.O.H WITH CORE #4 FLOW CHECKS AS REQ
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREW RM# HUSKY REP
07:15	0.50	7.75	07:45	6	TRIPS				TRIP OUT CORE #4 TO 57M
07:45	0.25	8.00	08:00	4	CORING				CORING, RETRIEVE BALL
08:00	2.00	10.00	10:00	4	CORING				CORING, RETRIEVE CORE #4, SAFETY MEETING HELD W/ CREW AND BAKER HUGHES PRIOR TO, MONITOR WELL THROUGHOUT
10:00	0.50	10.50	10:30	6	TRIPS				TRIP OUT 58M - 0M, FLOW CHECK AND FUNCTION BLIND RAM ON BANK(4 SEC)
10:30	0.25	10.75	10:45	6	TRIPS				TRIP IN W/CORE BARREL RUN #5 F/ 0M - 57M
10:45	1.25	12.00	12:00	4	CORING				CORING, MAKE UP BARRELS FOR RUN #5, MONITOR WELL THROUGHOUT
12:00	0.25	12.25	12:15	4	CORING				CORING, MAKE UP CORE BARRELS FOR RUN #5, MONITOR WELL
12:15	0.25	12.50	12:30	7	RIG SERVICE				RIG SERVICE, FUNCTIONED HCR(2 SEC)
12:30	4.50	17.00	17:00	6	TRIPS				TRIP IN HOLE W/RUN #5 F/57M - 620M, FLOW CHECK, BREAK CIRCULATION, CONT. IN 620M - 1232M, FLOW CHECK, BREAK CIRCULATION,WASH 1232M - 1256M

Count Object Number US-51822-EX-02-DR-ID		Original Depth Am 11,529,266.00	
Primary Count Type Initial Drilling			
Start Date 2/17/2012		End Date 3/10/2012	
Final Count Drilled # Cased		Spud Date 2/19/2012 11:30	
Daily Count Total 118,107.67		Cum Count To Date 2,778,259.75	
Daily Mud Count 1,554.67		Mud Additive Count To Date 123,020.68	
Depth Start (mKB) 1,248.00		Depth End (mKB) 1,258.00	
Last Casing String Surface, 510.00mKB			
Depth Progress (m) 10.00			
Depth Start (TVD) (mKB) 1,247.79		Depth End (TVD) (mKB) 1,257.79	
Target Formation Canol		Est Total Depth (mKB) 1,412.00	
Personnel Total Hours (hr) 540.00		Cum Per Tot Hr (hr) 7,996.00	
Time Log Total Hours (hr) 24.00		Problem Time Hours (hr) 0	
Problem Time (h)		Cum Problem Time (h)	
Day LTI (day)		Day RI (day)	

Personnel Log		
Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Heindorfer Consulting Ltd.	1	12.00
McGrath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hue Incorporated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Services LP	2	24.00
Baker Hughes	2	24.00
Husky	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	3	36.00

Safety Check Summary			
Type	Last Date	Next Date	
Safety Meeting	3/2/2012	3/3/2012	
Rigs			
Contractor Northern Drilling		Rig Number 23	
Rig Supervisor Troy Prentiss		Phone Mobile	
Rig Release Date 3/10/2012 23:59			
Mud Pumps			
# 1, GARDNER DENVER, PZ8			
Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	203.0	
Liner Size (mm)	Vol/Stk OR (m ³ /tk)		
152.0	0.011		
Pressure (kPa)	Slow Spd	Stroke (l.p.s.)	Eff (%)
		0	
# 2, CONTINENTAL EMSCO, F800			
Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	229.0	
Liner Size (mm)	Vol/Stk OR (m ³ /tk)		
152.0	0.013		
Pressure (kPa)	Slow Spd	Stroke (l.p.s.)	Eff (%)
3,470	Yes	66	95
Mud Additive Amounts			
Description	Count (/unit)	Concimed	
VERSAMOD	900.73	1.0	
FED WATE (BARITE)	15.57	42.0	
Survey Data			
MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)
			0.00



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr)	Prod Lem Ref	Comment
17:00	0.50	17.50	17:30	5	COND MUD CIRC				CIRCULATE BOTTOMS UP, DROP BALL
17:30	1.50	19.00	19:00	4	CORING				CUT CORE 5 F/ 1256M - 1258M, AMMED OFF
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREW RM HUSKY REP
19:15	0.75	20.00	20:00	5	COND MUD CIRC				MIX PILL CIRCULATE BOTTOMS UP PRIOR TO TRIP OUT
20:00	4.00	24.00	00:00	6	TRIPS				P.O.O.H WITH CORE 5 FLOW CHECKS AS RE. 1249M,1206M, 141M OUT OF HOLE

Mud Checks						
Type Invert	Time 13:00	Depth (mKB) 1,257.00	Density (kg/m.) 1250.0	Viscosity (cP) 0	Plastic Visc (cp) 13.0	Yield Point (Pa) 3.500
Gel 10 sec (Pa) 3.000	Gel 10 min (Pa) 7.500	Gel 30 min (Pa) 12.500	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%) 14.2
MBT (kg/m.)	Percent Oil (%) 82.0	Percent Water (%) 18.0	Chloride (mg/L) 261,449.010	Calcium (mg/L)	Potassium (mg/L)	Electric Strength (V) 732.0
Whole Mud Added (m.)	Mud Lost to Hole (m.) 0.50	Mud Lost to Surface (m.)	Reserve Mud Volume (m.) 126.00	Active Mud Volume (m.) 71.00		

Drill Strings			
BHA #7, Drilling Assembly			
Bit R... Drill Bit 7RR 222.0mm, 406C, 7135973	Make HUGHES	IADC Bit Drill 1-1-WT-A-X-0.00-NO-BHA	TFA (incl No.) (mm.)
No. of Joints (mm)	String Length (m) 1,256.00	String Wt (daN)	BHA ROP (m/min) 4.3

Drill String Components					
Item Description	Length (m)	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	0	170.0	68.0	5.31	
Drill pipe - Standoff	58	101.6	70.0	1,077.60	
8-HWDP	1	101.6	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE JARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core Original Hole, 300H6465...	Start (mKB) 1,248.00	Depth End (mKB) 1,256.00	Core Depth (m) 15.00	Drilling Time (hr) 2.00	Core Drill Time (hr) 3.50	Int ROP (m/hr) 4.0	Flow (m./min) 1.200
WOB (daN) 3	RPM (rpm) 45	SPP (kPa) 7,800	Drill Str Wt (daN) 32,000	PU Str Wt (daN) 33,000	SO Str Wt (daN) 31,000	Drilling Torque 3,500.0	Off Btm Torque 550.0
Flow (m./min) 1.200	T (in.) (°C)	P (BH Ann) (kPa)	T (in.) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (m./min) 1.200	Ret (m) (m./min)

BHA #8, Drilling Assembly			
Bit R... Drill Bit 8RR 222.0mm, 406C, 7135973	Make HUGHES	IADC Bit Drill 1-1-WT-A-X-0.00-NO-BHA	TFA (incl No.) (mm.)
No. of Joints (mm)	String Length (m) 1,258.00	String Wt (daN)	BHA ROP (m/min) 1.3

Drill String Components					
Item Description	Length (m)	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	0	170.0	68.0	7.31	
Drill pipe - Standoff	58	101.6	70.0	1,077.60	
8-HWDP	1	101.6	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE JARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core Original Hole, 300H6465...	Start (mKB) 1,256.00	Depth End (mKB) 1,258.00	Core Depth (m) 2.00	Drilling Time (hr) 1.50	Core Drill Time (hr) 1.50	Int ROP (m/hr) 1.3	Flow (m./min) 1.200
WOB (daN) 2,000	RPM (rpm) 40	SPP (kPa) 7,950	Drill Str Wt (daN) 32,000	PU Str Wt (daN) 33,000	SO Str Wt (daN) 31,000	Drilling Torque 2,550.0	Off Btm Torque 450.0
Flow (m./min) 1.200	T (in.) (°C)	P (BH Ann) (kPa)	T (in.) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (m./min) 1.200	Ret (m) (m./min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Core Len (m)	Top (mKB)	Top Conn T...

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm) Max Nominal OD (mm)		
244.5		



Daily Drilling - Detail (legal size)

Report Start Date: 3/3/2012

Report #: 16, DFS: 13.52

Depth Progress: 1.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-Tubing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Light Snow		Temperature (°C) -28		Road Condition Fair			Hole Condition Good		
Operation at Report Time Tripping in the hole with directional tool.				Operation Next Report Period Watch in Log Gamma, Drill F/1259 - 1269m, Circ Bottom up, Pooh w/Dir Tool Laydown, Pick up Core Barrel Rih w/Rin 7.					
Operation 06:00 Watch in Log Gamma 1153m.		Operation Summary Finished pulling out of the hole w/core rin 5. Held a pre-job safety meeting with the core hand. Recovered 1.7m of core 5. Serviced the core L and the bit. Serviced the rig and functioned the blind ram. Ran back in the hole with the core L rin 6 to the casing shoe 510m. Slipped and cut the drill line. Finished running in the hole w/core rin 6. Broke circ and washed 15m to bottom. Circulated bottom up and dropped the core ball. Cut core 6 from 1258.4m to 1259.4m. Core jammed off. Circulated bottom up and pumped a weighted pill. Pilled out of the hole to recover core 6. At surface recovered 0.70m of core. Laydown core inner tube and rack outer tube in the derrick. Function blind ram and flow check out of the hole. Held safety meeting with Directional Rig Crew. Hooky rep prior to pick up directional tool. Pick up Phoenix Directional Tool 7/8 Loge 3 Stage motor set at 1.50 de Bent Hookin with MWD Gamma.							

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR En	403-462-8021
Office	Sandeep Randhawa	DR En	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Pre	Rig Manager	

Time Log

Start Time	Dir (hr)	Com Dir (hr)	End Time	Activity Code	Activity Desc.	Pro/U...	Problem Time (hr)	Problem Ref	Comment
00:00	0.50	0.50	00:30	6	TRIPS				CONTINUE TO P.O.O.H FLOW CHECKS AS RE 1249M,1206M,141M,OUT OF HOLE /HOLE FOLL VOLUMES CAL 4.91M3/MEAS 6.92M3/ DIFF 2.01M3
00:30	0.25	0.75	00:45	21	SAFETY MEETING				PRE-JOB SAFETY WITH BAKER CORE PRIOR TO PULLING BALL WITH HSE,AND PULL CORE BARRELS
00:45	5.50	6.25	06:15	4	CORING				RECOVER CORE 5 RACK BARRELS,CHECK BIT RUN BARRELS , MAKE UP BARRELS
06:15	0.25	6.50	06:30	7	RIG SERVICE				RIG SERVICE F/T BLIND RAMS OUT OF HOLE C/O 4 SEC
06:30	0.50	7.00	07:00	6	TRIPS				RUN IN HOLE W/ CORE RUN 6 TO/320M
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREW RM HUSKY REP
07:15	0.50	7.75	07:45	6	TRIPS				TRIP IN W/ CORE RUN 6 F/320M - 512M, FLOW CHECK, BREAK CIRCULATION
07:45	0.25	8.00	08:00	21	SAFETY MEETING				PRE-JOB SAFETY MEETING REVIEWED SA B-40(SLIP AND CUT DRILL LINE)
08:00	0.75	8.75	08:45	9	CUT OFF DRILLING LINE				SLIP/CUT DRILLING LINE (15.08M), RESET AND FUNCTION CROWN SAVER FOLLOWING

Contract Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Log Type Initial Drill	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 118,107.67	Com Cost To Date 2,896,367.42
Daily Mud Cost	Mud Additive Cost To Date 123,020.68
Depth Start (mKB) 1,258.00	Depth End (mKB) 1,259.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 1.00	
Depth Start (TVD) (mKB) 1,257.79	Depth End (TVD) (mKB) 1,258.79
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 516.00	Com Per Tot Hr (hr) 8,512.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr) 0
Problem Time (h)	Com Problem Time (h)
Day LTI (day)	Day RI (day)

Personnel Log

Company	Count	Tot Time (hr)
Northern Drill Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Hendorfer Construction Ltd.	1	12.00
McRath Resource Construction Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hire Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Baker Hughes	2	24.00
Hooky	2	24.00
NEW VENDOR	1	12.00
Baker Atlas	1	12.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	3/3/2012	3/4/2012

Rigs

Contractor Northern Drill	Rig Number 23
Rig Supervisor Troy Pre	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps

# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.011	
Pre (kPa)	Slow Spd	Stroke (l.p... Eff (%)
		0

2, CONTINENTAL EMSCO, F800

Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.013	
Pre (kPa)	Slow Spd	Stroke (l.p... Eff (%)
1,500	Yes	50 95

Mud Additive Amounts

Description	Cost (/unit)	Consumed

Survey Data

MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dir (hr:min)	Com Dir (hr:min)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr:min)	Prod Lem Ref	Comment
08:45	2.50	11.25	11:15	6	TRIPS				TRIP IN W/ CORE RUN 6 F/ 512M - 1244M, FLOW CHECK, BREAK CIRCULATION, WASH 1244M - 1259M
11:15	0.75	12.00	12:00	5	COND MUD CIRC				CIRCULATE BOTTOMS UP, DROP BALL
12:00	1.00	13.00	13:00	4	CORING				CUT CORE, RUN 6, F/1258M - 1259M, LAMMED OFF.
13:00	0.75	13.75	13:45	5	COND MUD CIRC				MIX PILL CIRCULATE BOTTOMS UP
13:45	5.00	18.75	18:45	6	TRIPS				TRIP OUT TO 57M TO RETRIEVE CORE 6 AND L/D CORE TOOLS, FLOW CHECK 1249M, PUMP WEIGHTED PILL, FLOW CHECKS 1159M, 698M, 328M 149M OUT OF HOLE, HOLE FILL VOLUMES, ACT 7.47M3, CALC 4.91M3 DIFF 2.56M3
18:45	0.25	19.00	19:00	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREW RM HUSKY REP
19:00	2.50	21.50	21:30	4	CORING				CORING, RETRIEVE BALL, RETRIEVE CORE 6 AND LAY DOWN CORE TOOLS, SAFETY MEETING HELD W/ CREW, HSE AND BAKER HUGHES BREAK BOWN INNER BARRELS, RECOVER .60CM, RACK OUTER BARRELS IN DERRICK
21:30	0.25	21.75	21:45	21	SAFETY MEETING				PRE-OB SAFETY
21:45	0.25	22.00	22:00	7	RIG SERVICE				RIG SERVICE F/T BLIND RAMS OUT OF HOLE
22:00	1.50	23.50	23:30	20	DIR. WORK				HANDLE DIRECTIONAL TOOLS. SCRIBE, INSERT MWD,
23:30	0.50	24.00	00:00	6	TRIPS				TRIP IN THE HOLE W/ PHOENIX DIRECTIONAL TOOLS

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m ³)	Viscosity (cP/L)	Plastic Visc (cp)	Yield Point (Pa)
Invert	12:00	1,257.00	1250.0	0	13.0	3.500
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solids (%)
3.000	7.500	12.500				14.2
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
	82.0	18.0	261,449.010			732.0
Whole Mud Added (m ³)		Mud Lost to Hole (m ³)	Mud Lost to Surface (m ³)	Reserve Mud Volume (m ³)		Active Mud Volume (m ³)
		0.00	0.00	126.00		71.00

Drill Strings			
BHA #9, Drilling Assembly			
Bit R...	Drill Bit	Make	IADC Bit D-ll
9RR	222.0mm, 406C, 7135973	HUGHES	1-1-WT-A-X-0-NO-BHA
No. of Joints (mm)		String Length (m)	String Wt (daN)
		1,259.00	BHA ROP (m/min)
			1.0

Drill String Components					
Item Description	Joint	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	170.0	68.0	8.31	
Drill pipe - Standoff	58	101.6	70.0	1,077.60	
8-HWDP	1	101.6	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE JARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr:min)	Com Drill Time (...)	Int ROP (m/hr)	Flow (m ³ /min)
Original Hole, 300H6465...	1,258.00	1,259.00	1.00	1.00	1.00	1.0	1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
3,000	40	8,700	32,000	33,000	31,000	2,750.0	450.0
Flow (m ³ /min)	T (In) (°C)	P (BH Ann) (kPa)	T (In) (°C)	P (Surf Ann) (kPa)	T (In) (°C)	Flow (m ³ /min)	Flow (m ³ /min)

BHA #10, Drilling Assembly			
Bit R...	Drill Bit	Make	IADC Bit D-ll
RR3	222.0mm, Mi516, D1380	SMITH	1-1-WT-A-X-0-NO-BHA
No. of Joints (mm)		String Length (m)	String Wt (daN)
		1,270.00	BHA ROP (m/min)
			8.8

Drill String Components					
Item Description	Joint	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	0	170.0	68.0	6.66	
Drill pipe - Standoff	60	101.6	70.0	1,115.05	
HWDP(4.0 IN)	8	101.6	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Well Name: HUSKY LITTLE BEAR H-64

Drill String Components					
Item Description	Size	OD (mm)	ID (mm)	Len (m)	Top Thread
ARS-HYD/MECH	1	163.0	71.0	6.97	
DC (6.25 IN)	2	165.0	58.0	18.96	
PUMPOUT SUB	1	157.0	58.0	1.02	
MONEL	2	167.0	73.0	18.89	
UBHO	1	164.0	73.0	0.92	
MOTOR HS	1	166.0	58.0	8.97	

Drilling Parameters							
Well Core Original Hole, 300H6465...	Start (mKB) 1,259.00	Depth End (mKB) 1,259.00	Cum Depth (m)	Drilling Time (hr:min)	Cum Drill Time (...)	Int ROP (m/hr)	Q (flow) (m ³ /min) 0.000
WOB (daN) 0	RPM (rpm) 0	SPP (kPa) 0	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
Q (in ³) (m ³ /min)	T (in ³) (°C)	P (BH Ann) (kPa)	T (in ³) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Q (liq rtn) (m ³ /L...	Q (ret ³ m) (m ³ /L...

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Cum Len (m)	Top (mKB)	TopConn T...



Daily Drilling - Detail (legal size)

Report Start Date: 3/4/2012

Report #: 17, DFS: 14.52

Depth Progress: 11.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T	
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration	
Initial Ground Elevation (m) 178.00		Cut/Fill (m) 0.0		Ground Elv. (m) 178.00		KB Elevation (m) 183.20	
KB-Casing Flange Distance (m) 5.47		KB-Tie-in Head Distance (m) 5.00		Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600							
Weather Light Snow		Temperature (°C) -30		Road Condition Fair		Hole Condition Good	
Operation at Report Time Pickup pipe and make pickup Core Barrel.				Operation Next Report Period RIH W/core barrel, Circulate pipe, Cut core 7, Circulate pipe, Pooh w/Core run 7, Retrieve core, Handle core barrel.			
Operation 06:00 Drop ball to cut core 7		Operation Summary Tripped in the hole with the directional tool (Shallow test the MWD at 450m). Fill pipe and circulated bottom. Layed down 11 singles. Held a BOP drill. Watch back to bottom from 1136 and log well with gamma. Held a crew hand over and a safety meeting. Continue to log with with gamma to 1257m. Serviced the rig and functioned the pipe ram. Logged with gamma to 1259m. Drilled ahead from 1259m to 1265m. Circulated bottom hole sample up for the geologist. Drilled ahead to 1270m. Circulated up a bottom hole sample for the geologist and wait on order. Pumped up a bottom hole survey. Pumped a weighted pill and pulled out of the hole for core 7. Held a crew hand over and a safety meeting. Continued to Pull out of the hole, At surface held a safety meeting with Rig Crew. Directional Hooky rep prior to laydown directional tool. Once out of the hole function blind ram and flow check well. Held safety meeting with Rig Crew. Core Hand Hooky rep prior to pickup and make up core barrel. run 7.					

Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Hooky Winter Rd to the Hooky Camp Site. Continue on the Hooky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.

Tank Farm delivered for Little Bear H-64
Base Oil Delivered today 0 m3, Total at Tank Farm 27m3.
Invert Delivered today 0 m3, Total at Tank Farm 176.8m3

Daily invert volume 1.0m3
Total invert volume 29.1m3

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Duration (hr)	Comm Duration (hr)	End Time	Activity Code	Activity Desc.	Pro/U...	Problem Time (hr)	Problem Ref	Comment
00:00	3.00	3.00	03:00	6	TRIPS				TRIPS IN HOLE W/DIRECTIONAL TOOLS FLOW CHECK AND SHALLOW TEST 450M
03:00	0.50	3.50	03:30	5	COND MUD CIRC				CONDITION MUD CIRCULATE UP BOTTOM UP,CHECK WITH HSE
03:30	1.00	4.50	04:30	6	TRIPS				LAY DOWN 11 SINGLES TO RELOG GAMMA
04:30	0.25	4.75	04:45	21	SAFETY MEETING				DRILLS/BOP, USED MAN DOWN DRILL ,AND WALKED AROUND WITH HAND,
04:45	2.25	7.00	07:00	20	DIR. WORK				DIRECTIONAL SURVEYS RELOG GAMMA FR/1136M - 1173M
07:00	0.25	7.25	07:15	21	SAFETY MEETING				CREW CHANGE HAND OVER AND PRE TOUR SAFETY MEETING
07:15	4.50	11.75	11:45	20	DIR. WORK				DIRECTIONAL SURVEYS RELOG GAMMA F/ 1173M - 1257M
11:45	0.25	12.00	12:00	7	RIG SERVICE				RIG SERVICE FCT PIPE RAMS 3 SECS C/O
12:00	1.00	13.00	13:00	20	DIR. WORK				DIRECTIONAL SURVEYS RELOG GAMMA F/ 1257M - 1259.5M
13:00	0.50	13.50	13:30	2	DRILL				DRILL 222MM HOLE F/ 1259.5M - 1265M
13:30	1.00	14.50	14:30	5	COND MUD CIRC				CONDITION MUD CIRCULATE BOTTOMS UP
14:30	0.75	15.25	15:15	2	DRILL				DRILL 222MM HOLE F/ 1265M - 1270M
15:15	1.00	16.25	16:15	5	COND MUD CIRC				CONDITION MUD CIRCULATE BOTTOMS UP
16:15	0.50	16.75	16:45	23	WAITING ON				W/O ORDERS FROM GEOLOGY

Correct Number US-51822-EX-02-DR-ID	Original Step Am 11,529,266.00
Primary Log Type Initial Drill	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 122,918.43	Comm Cost To Date 3,019,285.85
Daily Mud Cost 2,170.43	Mud Additive Cost To Date 125,191.11
Depth Start (mKB) 1,259.00	Depth End (mKB) 1,270.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 11.00	
Depth Start (TVD) (mKB) 1,258.79	Depth End (TVD) (mKB) 1,269.79
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 528.00	Comm Per Total Hr (hr) 9,040.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h)	Comm Problem Time (h)
Day off LTI (day)	Day off RI (day)

Personnel Log

Company	Count	Tot Time (hr)
Naor Drill Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Hendorfer Consulting Ltd.	1	12.00
McRath Resource Consulting Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hie Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Baker Hughes	2	24.00
Hooky	2	24.00
NEW VENDOR	1	12.00
Baker Atlas	2	24.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	3/4/2012	3/5/2012

Rigs

Contractor Naor Drill	Rig Number 23
Rig Supervisor Troy Prentiss	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps

# 1, GARDNER DENVER, PZ8			
Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	203.0	
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.011	
Pre (kPa)	Slow Spd	Stroke (l.p.s.)	Eff (%)
2,450	Yes	60	95
# 2, CONTINENTAL EMSCO, F800			
Pwr (kW)	Rod Dia (mm)	Stroke (mm)	
	0.0	229.0	
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.013	
Pre (kPa)	Slow Spd	Stroke (l.p.s.)	Eff (%)
2,450	Yes	60	95

Mud Additive Amounts

Description	Cost (/unit)	Consumed
VERSAMUL	862.55	1.0
FED WATE (BARITE)	15.57	84.0

Survey Data

MD (mKB)	Incl (°)	Alt (°)	TVD (mKB)
1,186.56	1.00	73.30	1,186.36



Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dir (hr:min)	Com Dir (hr:min)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr:min)	Prod Lem Ref	Comment
16:45	0.25	17.00	17:00	20	DIR. WORK				DIRECTIONAL SURVEY ON BTM
17:00	2.00	19.00	19:00	6	TRIPS				TRIP OUT OF HOLE W/DIRECTIONAL TOOLS (STRAP OUT) FL CK 1263,1218,629m
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREW RM HUSKY REP
19:15	0.75	20.00	20:00	6	TRIPS				CNT TO TRIP OUT OF HOLE W/DIRECTIONAL TOOLS (STRAP OUT) FL CK 389, OUT OF HOLE STEEL LINE STAP DIFF .86CM/HOLE FILL VOLUMES, MEAS 6.66M3,CALC 4.64M3,2.02M3
20:00	0.25	20.25	20:15	21	SAFETY MEETING				PRE-OB SAFETY WITH DIR HANDS PRIOR TO DIR TOOLS
20:15	1.75	22.00	22:00	20	DIR. WORK				DIRECTIONAL WORK LAY OUT MWD,RACK MONELS
22:00	0.25	22.25	22:15	21	SAFETY MEETING				PRE-OB SAFETY PRIOR TO PICK UP AND MAKE UP CORE TOOLS
22:15	1.50	23.75	23:45	4	CORING				PICK UP AND MAKE UP CORE BARRELS, RUN 7
23:45	0.25	24.00	00:00	7	RIG SERVICE				RIG SERVICE F/T BLIND RAMS OUT OF HOLE

Mud Checks							
Type	Time	Depth (mKB)	Density (kg/m ³)	Viscosity (cP/L)	Plastic Visc (cp)	Yield Point (Pa)	
Invert	12:30	1,264.00	1230.0	46	13.0	3,500	
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)	
3.000	7.000	11.500				13.1	
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Strength (V)	
	82.0	18.0	266,256.989			1113.0	
Whole Mud Added (m ³)		Mud Lost to Hole (m ³)		Mud Lost to Surface (m ³)		Reserve Mud Volume (m ³)	
10.00				1.00		120.90	
						Active Mud Volume (m ³)	
						79.10	

Drill Strings				
BHA #10, Drilling Assembly				
Bit R...	Drill Bit		Make	IADC Bit D...I
RR3	222.0mm, Mi516, D1380		SMITH	1-1-WT-A-X-0-NO-BHA
No...le... (mm)			Strin...Len...th (m)	Strin...Wt (daN)
			1,270.00	BHA ROP (m...
				8.8

Drill String Components					
Item Description	Length	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	0	170.0	68.0	6.66	
Drill pipe - Stand	60	101.6	70.0	1,115.05	
HWDP(4.0 IN)	8	101.6	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	
ARS-HYD/MECH	1	163.0	71.0	6.97	
DC (6.25 IN)	2	165.0	58.0	18.96	
PUMPOUT SUB	1	157.0	58.0	1.02	
MONEL	2	167.0	73.0	18.89	
UBHO	1	164.0	73.0	0.92	
MOTOR HS	1	166.0	58.0	8.97	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr:min)	Com Drill Time (hr:min)	Int ROP (m/hr)	Flow (m ³ /min)
Original Hole, 300H6465...	1,259.00	1,270.00	11.00	1.25	1.25	8.8	1.450
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
4	40	9,280	34,000	35,000	33,000	2,792.0	573.0
Flow (m ³ /min)	T (In) (°C)	P (BH Ann) (kPa)	T (Ch) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (liters/min)	Ret (m/min)

Kick/Lost Circ				
Occur Date		Occur Depth (mKB)	Control Date	Control Depth (mKB)
				Incident Type
Comment				

Casing Strings		
Casing Description		Run Date
		Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...

Survey Data			
MD (mKB)	Incl (°)	Alt (°)	TVD (mKB)
1,214.26	0.60	86.80	1,214.06
1,242.52	0.30	107.90	1,242.31
1,255.00	0.20	120.70	1,254.79
Last 5 Formations			
Formation Name		Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)			
Max Nominal OD (mm)			
244.5			



Daily Drilling - Detail (legal size)

Report Start Date: 3/5/2012

Report #: 18, DFS: 15.52

Depth Progress: 32.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T	
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Bottle Unit Canada Frontier - Exploration	
Initial Ground Elevation (m) 178.00		Cut/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20	
KB-Casing Flange Distance (m) 5.47		KB-Tripin Head Distance (m) 5.00		Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600							
Weather Clear		Temperature (°C) -33		Road Condition Fair		Hole Condition Good	
Operation at Report Time RIH W/Directional Tool				Operation Next Report Period RIH W/Directional tool, Circ 11m, Wash in, Get Gamma F/1270m to/1302m Bottom, Drill F/1302m to/1341m, Circ, Wiper trip 10 std, circ, Pooh trap out to log			
Operation 06:00 Drilling ahead at 1303m.		Operation Summary Finished making up the core 11L. Run the hole with core 17 to 489m. Serviced the rig and functioned the annular. Run to bottom with the core 11L to 1245m. Washed 2 line to bottom and circulated bottom up. Dropped the ball and cut core 17 from 1270m to 1302m. (Jammed Off). Break core and circulate on top of the core 11mp. Attempted to core ahead. Circulated bottom up and then pumped a weighted pill. Pilled out of the hole to recover core. At surface recovered 32m of core from core barrel. Held safety meeting prior to Laydown core barrel. Function blind ram and flow check out of the hole. Held safety meeting with Directional Rig Crew. Husky rep prior to pickup directional tool. Pickup Phoenix Directional Tool 7/8 Loe 3 State motor let at 1.50 de Bent Ho in with MWD Gamma and RIH W/Directional Tool.					

Remarks No Accident, Incident or Enviromental Concern.							
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED.							
Tank Farm delivered for Little Bear H-64 Bare Oil Delivered today 0m3, Total at Tank Farm 27m3. Invert Delivered today 0m3, Total at Tank Farm 176.8m3							
Daily invert log 0.0m3 Total invert log 29.1m3							

Daily Contacts			
Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR En	403-462-8021
Office	Sandeep Randhawa	DR En	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Pre	Rig Manager	

Time Log									
Start Time	Duration (hr)	Com Duration (hr)	End Time	Activity Code	Activity Desc.	Pro/U...	Problem Time (hr)	Problem Ref	Comment
00:00	1.75	1.75	01:45	4	CORING				CONTINUE TO MAKE UP BARRELS
01:45	3.00	4.75	04:45	6	TRIPS				RUN IN WITH CORE 17 30M PER /MIN FLOW CHECK AT 489M FILL PIPE
04:45	0.25	5.00	05:00	7	RIG SERVICE				RIG SERVICE F/T ANNULAR 6 SEC C/O
05:00	1.25	6.25	06:15	5	COND MUD CIRC				WASH IN FR 1245M-TO-1270M CIRCULATE BOTTOMS UP, WITH HSE AT SHAKER
06:15	5.75	12.00	12:00	4	CORING				CUT CORE F/ 1270M - 1302.85M
12:00	0.25	12.25	12:15	5	COND MUD CIRC				CONDITION MUD CIRCULATE
12:15	0.50	12.75	12:45	4	CORING				CUT CORE F/ 1302.85 - 1302.95M
12:45	1.00	13.75	13:45	5	COND MUD CIRC				CONDITION MUD CIRCULATE
13:45	3.25	17.00	17:00	6	TRIPS				TRIPS POOH FLOW CHECK 1297M, 1242M, 650M, 182M, 71M
17:00	0.25	17.25	17:15	21	SAFETY MEETING				SAFETY MEETING WITH CORE HANDS ON HANDLING CORE
17:15	1.75	19.00	19:00	4	CORING				HANDLE CORE BRLS, CORE BARRELS LAY DOWN CORE 17
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREW RM HUSKY REP
19:15	0.25	19.50	19:30	21	SAFETY MEETING				PRE-OB SAFETY WITH BAKER
19:30	1.75	21.25	21:15	4	CORING				HANDLE CORE BRLS CNT TO RECOVER AND LAY DOWN CORE BARRELS

Count Object Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Count Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 1,379,044.44	Com Cost To Date 4,398,330.29
Daily Mud Cost 653.94	Mud Additive Cost To Date 125,845.05
Depth Start (mKB) 1,270.00	Depth End (mKB) 1,302.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 32.00	
Depth Start (TVD) (mKB) 1,269.79	Depth End (TVD) (mKB) 1,301.79
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 540.00	Com Per Tot Hr (hr) 9,580.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr) 0
Problem Time (h)	Com Problem Time (h)
Day LTI (day)	Day RI (day)

Personnel Log		
Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Hendorfer Construction Ltd.	1	12.00
McGrath Resource Construction Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hire Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Baker Hughes	2	24.00
Husky	2	24.00
NEW VENDOR	1	12.00
Baker Atlas	3	36.00

Safety Check Summary		
Type	Last Date	Next Date
Safety Meeting	3/5/2012	3/6/2012

Rigs	
Contractor Northern Drilling	Rig Number 23
Rig Supervisor Troy Pre	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps		
# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.011	
Pre (kPa)	Slow Spd	Stroke (l.p... Eff (h)
		0

# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.013	
Pre (kPa)	Slow Spd	Stroke (l.p... Eff (h)
2,200	Yes	59 95

Mud Additive Amounts		
Description	Count (Unit)	Conc (med)
FED WATE (BARITE)	15.57	42.0

Survey Data			
MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)



Daily Drilling - Detail (legal size)

Report Start Date: 3/5/2012

Report #: 18, DFS: 15.52

Depth Progress: 32.00

Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dir (hr)	Com Dir (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
21:15	0.25	21.50	21:30	21	SAFETY MEETING				PRE-JOB SAFETY PRIOR TO MAKE UP DIR TOOLS
21:30	1.25	22.75	22:45	20	DIR. WORK				PICK UP DIRECTIONAL TOOLS
22:45	0.25	23.00	23:00	7	RIG SERVICE				RIG SERVICE F/T BLIND RAMS OUT OF HOLE 4 SEC C/O
23:00	1.00	24.00	00:00	6	TRIPS				RUN IN HOLE W/DIRECTIONAL TOOLS TO/550M

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m ³)	Visc (cP/L)	Plastic Visc (cp)	Yield Point (Pa)
Invert	13:30	1,302.00	1225.0	48	13.0	4.000
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solids (%)
3.500	7.500	12.000				13.1
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
	82.0	18.0	266,597.003			1092.0
Whole Mud Added (m ³)	Mud Lost to Hole (m ³)	Mud Lost to Surface (m ³)	Reserve Mud Volume (m ³)	Active Mud Volume (m ³)		
	0.00	0.00	119.90	80.10		

Drill Strings				
BHA #11, Drilling Assembly				
Bit R...	Drill Bit	Make	IADC Bit D...	TFA (incl No.) (mm.)
11	222.0mm, 406C, 7134558	HUGHES	1-1-WT-A-X-0.00-NO-BHA	
No. (mm)			String Length (m)	String Wt (daN)
			1,302.00	BHA ROP (m...)
				5.6

Drill String Components					
Item Description	Qty	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	170.0	68.0	4.57	
Drill Pipe	1	101.6	70.0	9.29	
Drill pipe - Stand	60	101.6	70.0	1,115.05	
8-HWDP	1	101.6	68.0	72.64	
X/O	1	165.0	49.0	0.71	
4-DRILL COLLARS	1	165.0	49.0	37.93	
PUMP OUT SUB	1	157.0	58.0	1.02	
FLOAT X/O	1	157.0	58.0	0.46	
1-LEE ARS	1	171.0	72.0	2.15	
6- CORE BARRELS	1	171.0	137.0	57.74	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr:min)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m ³ /min)
Original Hole, 300H6465...	1,270.00	1,302.00	32.00	5.75	5.75	5.6	1.200
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
4,000	55	7,080	32,000	33,000	31,000	3,600.0	648.0
Q (in.) (m ³ /min)	T (In.) (°C)	P (BH Ann) (kPa)	T (h) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Q (litrtn) (m ³ /...	Q (return) (m ³ /...

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...

Last 5 Formations		
Formation Name	Pro Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Daily Drilling - Detail (legal size)

Report Start Date: 3/6/2012

Report #: 19, DFS: 16.52

Depth Progress: 39.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Class Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing to Flange Distance (m) 5.47			KB-T casing Head Distance (m) 5.00			Total Depth All (TVD) (m)KB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Overcast		Temperature (°C) -25		Road Condition Fair		Hole Condition Good			
Operation at Report Time Logging with Baker Atlas				Operation Next Report Period Logging with Baker Atlas, Run in the hole with pipe etc.					
Operation at 06:00 Logging with Baker Atlas		Operation Summary RIH W/Phoenix Directional Tool 7/8 Loe 3 State motor Set at 1.50 de Bent Hole in with MWD Gamma to 1267m, Circulate bottom up and then Re in to wash in F/1267m to/1302m and logging Gamma at the same time. Drill ahead 222mm Hole F/1302m To/1341m TD. Circulate two bottom up, circulate hole clean. Wiper trip 10 stand and once back on bottom circulate work pipe condition hole prior to Trip out with directional tool and trap out of the hole (tally 1341.00m, trap 1340.20m, Diff 0.80m). Held safety meeting w/Directional Rig Crew Husky Rep prior to laydown directional tool. Function Blind ram and flow check. Held safety meeting with Baker Atlas Logger Rig Crew Husky Rep prior to trip up to log Run 1 (HDIL, XMAC, ZDL, CN) Logger bottom hole depth 1340.56m. Monitor well all the time while logging. Held all safety crew change meeting with both crew, Rig Manager Husky Rep.							
Remark No Accident, Incident or Enviromental Concern									
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today 0m3, Total at Tank Farm 27m3. Invert Delivered today 0m3, Total at Tank Farm 176.8m3									
Daily invert logging 1.4m3		Total invert logging 30.5m3							

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Cal Conklin	DR Field Super	403-502-3387
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Henderson	DR Field Super	780-446-5160
Rig Manager	Troy Pre	Rig Manager	

Time Log

Start Time	Duration (hr)	Comm Dur (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	2.25	2.25	02:15	6	TRIPS				CONTINUE TO RUN IN HOLE W/DIRECTIONAL TOOLS
02:15	0.75	3.00	03:00	5	COND MUD CIRC				CIRCULATE A BOTTOMS UP WITH HSE PRESENT
03:00	2.50	5.50	05:30	20	DIR. WORK				DIRECTIONAL WORK ,LOG GAMMA WASH TO BOTTOM, F/1267M-TO-1302M
05:30	0.25	5.75	05:45	7	RIG SERVICE				RIG SERVICE F/T ANNULAR 6 SEC C/O
05:45	1.25	7.00	07:00	2	DRILL				DRILL 222MM HOLE FR 1302M-TO- 1314M
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMHUSKY REP
07:15	3.50	10.75	10:45	2	DRILL				DRILL 222MM HOLE FR 1314M TO 1341M
10:45	1.00	11.75	11:45	5	COND MUD CIRC				CIRCULATE CLEAN HOLE PRIOR TO WIPER TRIP
11:45	0.25	12.00	12:00	6	TRIPS				WIPER TRIP 10 STANDS FLOW CHECKS 1328M
12:00	0.50	12.50	12:30	6	TRIPS				TRIP OUT OF HOLE WIPER TRIP 10 STANDS , FLOW CHECKS 1144M CAL .50 M3 MERS .97 M3 DIFF .47 M3
12:30	0.50	13.00	13:00	6	TRIPS				TRIP IN HOLE RUN 10 STANDS TO BOTTOM
13:00	1.50	14.50	14:30	5	COND MUD CIRC				CIRC COND HOLE PRIOR TO PULL OUT TO LOG
14:30	3.00	17.50	17:30	6	TRIPS				TRIP OUT OF HOLE TO LOG WELL ,PUMP PILL , FLOW CHECKS 1328M, 1264M, 674M, 159M OUT OF HOLE .. CAL 4.62 M3 - MERS 6.81 M3 DIFF 2.19 M3

Contract Number US-51822-EX-02-DR-ID		Original Depth Am 11,529,266.00	
Primary Log Type Initial Drilling			
Start Date 2/17/2012		End Date 3/10/2012	
Final Status Drilled Cased		Spud Date 2/19/2012 11:30	
Daily Cost Total 122,713.94		Cum Cost To Date 4,521,044.23	
Daily Mud Cost 653.94		Mud Additive Cost To Date 126,498.99	
Depth Start (mKB) 1,302.00		Depth End (mKB) 1,341.00	
Last Casing String Surface, 510.00mKB			
Depth Progress (m) 39.00			
Depth Start (TVD) (mKB) 1,301.79		Depth End (TVD) (mKB) 1,340.79	
Target Formation Canol		Est Total Depth (mKB) 1,412.00	
Personnel Total Hours (hr) 564.00		Cum Per Tot Hr (hr) 10,144.00	
Time Log Total Hours (hr) 24.00		Problem Time Hours (hr) 	
Problem Time (h)		Cum Problem Time (h)	
Day off LTI (day)		Day off RI (day)	

Personnel Log

Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	12.00
R G Mallett Oilfield Enterprise	1	12.00
Henderson Condrition Ltd.	1	12.00
McCrath Resource Condrition Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
Hire Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Baker Hughes	2	24.00
Husky	2	24.00
NEW VENDOR	1	12.00
Baker Atlas	5	60.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	3/6/2012	3/7/2012

Rigs

Contractor Northern Drilling		Rig Number 23	
Rig Supervisor Troy Pre		Phone Mobile	
Rig Release Date 3/10/2012 23:59			

Mud Pumps

# 1, GARDNER DENVER, PZ8			
Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.011	
Pre (kPa)	Slow Spd	Stroke (p.p...	Eff (%)
		0	
# 2, CONTINENTAL EMSCO, F800			
Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.013	
Pre (kPa)	Slow Spd	Stroke (p.p...	Eff (%)
2,000	Yes	55	95

Mud Additive Amounts

Description	Count (Unit)	Concimed
FED WATE (BARITE)	15.57	42.0

Survey Data

MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)
1,289.96	0.50	114.50	1,289.75
1,326.83	0.40	129.70	1,326.62



Daily Drilling - Detail (legal size)

Report Start Date: 3/6/2012

Report #: 19, DFS: 16.52

Depth Progress: 39.00

Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Prod Lem Time (hr)	Prod Lem Ref	Comment
17:30	0.25	17.75	17:45	21	SAFETY MEETING				SAFETY MEETING WITH DIRECTIONAL HANDS ON WORKING WITH THERE TOOLS
17:45	0.75	18.50	18:30	6	TRIPS				LAY DOWN DIRECTIONAL TOOLS
18:30	0.25	18.75	18:45	21	SAFETY MEETING				SAFETY MEETING WITH LOGGERS ON PICKING UP LOGGING TOOLS
18:45	0.25	19.00	19:00	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWORMHUSKY REP
19:00	5.00	24.00	00:00	11	WIRELINE LOGS				LOGGING - OPEN HOLE LOGS, RIG TO LOG, MONITOR WELL CONSTANTALLY, LOGGING RUN 1 (HDIL,XMAC,ZDL,CN,GR)

Mud Checks						
Type	Time	Depth (mKB)	Density (k/m)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Invert	13:30	1,341.00	1240.0	46	14.0	3.500
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
3.500	7.500	12.500				14.2
MBT (k/m)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stability (V)
	82.0	18.0	261,449.010			1097.0
Whole Mud Added (m)	Mud Lost to Hole (m)	Mud Lost to Surface (m)	Reserve Mud Volume (m)	Active Mud Volume (m)		
10.00	1.10	0.60	119.20	79.50		

Drill Strings			
BHA #13, Drilling Assembly			
Bit R...	Drill Bit	Make	IADC Bit Description
12 RR	222.0mm, Mi516, D1380	SMITH	1-1-WT-A-X-0.00-NO-LOG
Nozzle (mm)		String Length (m)	String Wt (daN)
		1,341.00	8.2

Drill String Components					
Item Description	Size	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly		170.0	68.0	11.77	
Drill pipe - Single	1	101.6	70.0	9.22	
Drill pipe - Stand	63	101.6	70.0	1,171.72	
HWDP(4.0 IN)	8	101.6	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	
ARS-HYD/MECH	1	163.0	71.0	6.97	
DC (6.25 IN)	2	165.0	58.0	18.96	
PUMPOUT SUB	1	157.0	58.0	1.02	
MONEL	2	167.0	73.0	18.89	
UBHO	1	164.0	73.0	0.92	
MOTOR HS	1	166.0	58.0	8.97	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Flow (m/min)
Original Hole, 300H6465...	1,302.00	1,341.00	39.00	4.75	4.75	8.2	1.450
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
6,000	35	9,700	37,000	39,000	35,000	4,200.0	650.0
Flow (m/min)	T (In) (°C)	P (BH Ann) (kPa)	T (In) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (l/min)	Flow (return) (m/min)

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
244.5		



Daily Drilling - Detail (legal size)

Report Start Date: 3/7/2012

Report #: 20, DFS: 17.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T	
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration	
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20	
KB-Casing/Fill Distance (m) 5.47		KB-Tubing Head Distance (m) 5.00		Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600							
Weather Overcast		Temperature (°C) -25		Road Condition Fair		Hole Condition Good	
Operation at Report Time Logging with Baker Atlas				Operation Next Report Period Logging w/Baker Atlas, RIH W/222mm Bit, Circ hole clean, Pooch laydown DP keep 500m in derrick, Ripton to run casing			
Operation Start 06:00 RIH W/222mm Bit		Operation Summary Logging w/Baker Atlas, Laydown Run 2 tool and Make up Run 3 (Flex, Mrex, DSL) This third run was at surface 23:30 hr. Had to make up run 4 for a repeat (Flex, DSL). Held all safety crew change meeting with both crew, Rig Manager and Husky Rep.					

Remarks No Accident, Incident or Environmental Concern							
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All roads are RADIO CONTROLLED.							
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today 0.0m3, Total at Tank Farm 27m3. Invert Delivered today 0.0m3, Total at Tank Farm 176.8m3							
Daily invert volume 0m3 Total invert volume 30.5m3							

Daily Contacts			
Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Heindorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log									
Start Time	Duration (hr)	Comm Duration (hr)	End Time	Activity Code	Activity Description	Production/Utility	Problem Time (hr)	Problem Reference	Comment
00:00	3.25	3.25	03:15	11	WIRELINE LOGS				LOGGING W/BAKER ATLAS, RUN 1 (HDIL, XMAC, ZDL, CN, GR)
03:15	3.75	7.00	07:00	11	WIRELINE LOGS				LOGGING W/BAKER ATLAS, RUN 2 (CBIL, EI, ORIT)
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMAN HUSKY REP
07:15	4.75	12.00	12:00	11	WIRELINE LOGS				LOGGING W/BAKER ATLAS, RUN 2 (CBIL, EI, ORIT)
12:00	6.75	18.75	18:45	11	WIRELINE LOGS				LOGGING W/BAKER ATLAS, RUN 3 (FLEX, MREX, DSL)
18:45	0.25	19.00	19:00	7	RIG SERVICE				RIG SERVES CHECK DRIVE TRAN AND GREASE
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMAN HUSKY REP
19:15	4.25	23.50	23:30	11	WIRELINE LOGS				WIRELINE LOGS W/BAKER ATLAS 3 (FLEX, MREX, DSL)
23:30	0.50	24.00	00:00	11	WIRELINE LOGS				WIRELINE LOGS MAKE UP RUN 4 (FLEX, DSL)

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m³)	Viscosity (cP)	Plastic Viscosity (cp)	Yield Point (Pa)
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solids (%)
MBT (kg/m³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stability (V)
Whole Mud Added (m³)	Mud Lost to Hole (m³)	Mud Lost to Surface (m³)	Reserve Mud Volume (m³)	Active Mud Volume (m³)		

Drill Strings					
Bit Rock	Drill Bit	Make	IADC Bit Design	TFA (incl No.) (mm)	
Nominal Length (mm)			String Length (m)	String Wt (daN)	BHA ROP (m/min)

Drill String Components					
Item Description		Weight	OD (mm)	ID (mm)	Len (m)
					Top Thread

Contract Number US-51822-EX-02-DR-ID	Original Depth (m) 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled - Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 1,178,240.00	Comm Cost To Date 5,699,284.23
Daily Mud Cost	Mud Additive Cost To Date 126,498.99
Depth Start (mKB) 1,341.00	Depth End (mKB) 1,341.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 0.00	
Depth Start (TVD) (mKB) 1,340.79	Depth End (TVD) (mKB) 1,340.79
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 552.00	Comm Per Total Hr (hr) 10,696.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h)	Comm Problem Time (h)
Day Off LTI (day)	Day Off RI (day)

Personnel Log		
Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Apex Oilfield Service 2000 Inc.	1	4.00
R G Mallett Oilfield Enterprise	1	12.00
Sorcon Confitin (1995) L	1	12.00
Heindorfer Confitin Ltd.	1	12.00
McCrath Resource Confitin Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	24.00
He Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Baker Hughes	2	8.00
Husky	2	24.00
NEW VENDOR	1	12.00
Baker Atlas	5	60.00

Safety Check Summary		
Type	Last Date	Next Date
Safety Meeting	3/7/2012	3/8/2012

Rigs	
Contractor Northern Drilling	Rig Number 23
Rig Supervisor Troy Prentiss	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps		
# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m³/stk)	
152.0	0.011	
Pre (kPa)	Slow Spd	Stroke (p.p.s.) Eff (%)
		0
# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m³/stk)	
152.0	0.013	
Pre (kPa)	Slow Spd	Stroke (p.p.s.) Eff (%)
		0

Mud Additive Amounts		
Description	Count (unit)	Concimed



Daily Drilling - Detail (legal size)

Report Start Date: 3/7/2012

Report #: 20, DFS: 17.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Cum Depth (m)	Drilling Time (hr:min)	Cum Drill Time (hr:min)	Int ROP (m/hr)	Flow (m ³ /min)
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque (kNm)	Off Btm Time (min)
Rate of Penetration (m/min)	Tool Bit Temp (°C)	P (BH Ann) (kPa)	Tool Bit Temp (°C)	P (Surface Ann) (kPa)	Tool Bit Temp (°C)	Loss of Circulation (m ³ /min)	Return of Circulation (m ³ /min)

Kick/Lost Circulation				
Occurrence Date	Occurrence Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint Length (m)	Cum Len (m)	Top (mKB)	TopConn T...

Survey Data			
MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)

Last 5 Formations		
Formation Name	Probit Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)	
Max Nominal OD (mm)	244.5



Daily Drilling - Detail (legal size)

Report Start Date: 3/8/2012

Report #: 21, DFS: 18.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Class Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-Tripin Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Snowing		Temperature (°C) -18		Road Condition Fair		Hole Condition Good			
Operation at Report Time Run 177.8mm Casing				Operation Next Report Period Run 177.8mm casing, Circ casing, Cement casing, Wait on cement 6 hrs, Set casing dip in tension, Casing, Lay out Bop, Install well head, Run bridge plug and set.					
Operation at 06:00 Cement 177.8mm Casing		Operation Summary Logging w/Baker Atlas, Had to make trip run #4 for a repeat (Flex, DSL). Laydown logging, Function blind ram and flow check. Make trip 222mm Bit and trip in the hole, wash 2 inches to bottom. Circulate work pipe clean the hole. POOH keep 500m drill pipe in the derrick and laydown drill pipe. At surface pull wear casing in, Safety meeting with Hallmark Power tool operator Ran : Float shoe, 2-joint casing, Float collar, 116 joint of 177.8mm / 34.23 k/m / L-80 / LTC / New sand casing, Total Length of 1342.13m, Shoe set of 1341m/KB. Float of 1317.75m. ID of 161.7mm.							
Remarks No Accident, Incident or Environmental Concern Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED. Tank Farm delivered for Little Bear H-64 Base Oil Delivered today of 0m3, Total at Tank Farm of 22m3. Invert Delivered today of 0m3, Total at Tank Farm of 35.8m3 Sent out today of 60.0m3, with Pro North to FT.Nelson, B.C. Daily invert loss of 0.5m3 Total invert loss of 31.0m3									

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Dr (hr)	Cum Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	5.25	5.25	05:15	11	WIRELINE LOGS				WIRELINE LOGS / BAKER ATLAS RUN #4 (FLEX, DSL)
05:15	0.25	5.50	05:30	7	RIG SERVICE				RIG SERVICE F/T BLIND RAMS OUT OF HOLE
05:30	1.50	7.00	07:00	6	TRIPS				RUN IN HOLE FLOW CHECK AND FILL PIPE AT CASING SHOE TRIP SPEED 30-35 METERS PER MIN AS PER HUSKY CONSULTANTS
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREW RM HUSKY REP
07:15	1.75	9.00	09:00	6	TRIPS				TRIP IN HOLE PICK UP SINGLES TO MAKE UP FOR TOOLS WASH 2 SINGLES TO BOTTOM
09:00	1.50	10.50	10:30	5	COND MUD of CIRC				CIRCULATE AND CONDITION TO COME OUT SIDEWAYS
10:30	1.50	12.00	12:00	6	TRIPS				TRIP OUT OF HOLE PULL 27 STANDS FOR BRIDGE PLUG FLOW CHECKS of 1336M, 1281M, 857M
12:00	0.25	12.25	12:15	21	SAFETY MEETING				SAFETY MEETING ON LAYING DOWN STRING
12:15	1.25	13.50	13:30	6	TRIPS				LAY DOWN DRILL PIPE AND COLLARS FLOW CHECKS of 691M,491M
13:30	0.25	13.75	13:45	21	SAFETY MEETING				SAFETY MEETING ON BRAKING KELLY DOWN AND FLUSHING
13:45	0.75	14.50	14:30	25					FLUSH AND BRAKE KELLY DOWN
14:30	1.75	16.25	16:15	6	TRIPS				LAY DOWN DRILL PIPE AND COLLARS FLOW CHECKS of 120M, OUT OF HOLE, CAL 4.33 M3 - MESR 6.50 M3 of DIFF 2.17 M3

Contract Number US-51822-EX-02-DR-ID	Original Stop Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled of Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 272,647.51	Cum Cost To Date 5,971,931.74
Daily Mud Cost 4,636.51	Mud Additive Cost To Date 131,135.50
Depth Start (mKB) 1,341.00	Depth End (mKB) 1,341.00
Last Casing String Surface, 510.00mKB	
Depth Progress (m) 0.00	
Depth Start (TVD) (mKB) 1,340.79	Depth End (TVD) (mKB) 1,340.79
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 576.00	Cum Per Total Hr (hr) 11,272.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (hr) 	Cum Problem Time (hr)
Day of LTI (day) 	Day of RI (day)

Personnel Log

Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Sorthern Confitin (1995) L	1	12.00
Hendorfer Confitin Ltd.	1	12.00
McRath Resource Confitin Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Continental Laboratories	2	12.00
Hie Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	2	24.00
Husky	2	24.00
NEW VENDOR	1	12.00
Baker Atlas	5	60.00
Hallmark Technical Service	2	24.00
Nor-Chief Confitin Service Ltd.	1	12.00
Stream-Flo Industries Ltd.	1	12.00
Weatherford Completion System	1	12.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	3/8/2012	3/9/2012

Rigs

Contractor Northern Drilling		Rig Number 23
Rig Supervisor Troy Prentiss		Phone Mobile
Rig Release Date 3/10/2012 23:59		

Mud Pumps

# 1, GARDNER DENVER, PZ8			
Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.011	
Pre (kPa)	Slow Spd	Stroke (l.p...	Eff (%)
		0	

2, CONTINENTAL EMSCO, F800

Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.013	
Pre (kPa)	Slow Spd	Stroke (l.p...	Eff (%)
1,225	Yes	50	95

Mud Additive Amounts

Description	Count (/unit)	Concentration
VERSACOAT HF	900.76	1.0



Well Name: HUSKY LITTLE BEAR H-64

Time Log

Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
16:15	0.75	17.00	17:00	25					PULL WEAR BUSHING LAY STUFF DOWN FROM FLOOR WHILE WAITING ON POWER TONG GUYS TO GET HERE
17:00	1.50	18.50	18:30	12	RUN CASING AND CEMENT				RIG UP TO RUN CASING
18:30	0.25	18.75	18:45	21	SAFETY MEETING				SAFETY MEETING WITH POWER TONG GUYS ON RUNNING THERE POWER TONGS
18:45	0.25	19.00	19:00	12	RUN CASING AND CEMENT				RUN CASING MAKE UP SHOE AND FLOAT
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING WITH OTHER CREW
19:15	4.75	24.00	00:00	12	RUN CASING AND CEMENT				RUN FLOAT SHOE, 2 TS CSG, FLOAT COLLAR, 116 TS OF 177.8mm / 34.23k/m / L-80 / LT C / NEW INDAL CASING, TOTAL LENGTH1342.13m, SET 1341m, FLOAT 1317.75m.

Mud Checks						
Type	Time	Depth (mKB)	Density (k/m)	Viscosity (cP/L)	Plastic Visc (cp)	Yield Point (Pa)
Invert	09:30	1,341.00	1260.0	56	14.0	4.000
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
3.500	8.500	13.500				15.2
MBT (k/m)	Percent Oil (%)	Percent Water (%)	Chloride (m/L)	Calcium (m/L)	Potassium (m/L)	Electric Stab (V)
	81.0	19.0	242,164.001			917.0
Whole Mud Added (m)		Mud Lost to Hole (m)	Mud Lost to Surface (m)		Reserve Mud Volume (m)	Active Mud Volume (m)
		0.50	0.00		118.80	79.20

Drill Strings			
BHA #13, Drilling Assembly			
Bit R...	Drill Bit	Make	IADC Bit Drill
13RR	222.0mm, EHT11, R7647	LL	2-2-WT-A-X-0-NO-TD
TFA (incl No.) (mm)		380	
Nozzle (mm)	Strin Length (m)		Strin Wt (daN)
12.7/12.7/12.7	1,341.00		BHA ROP (m...

Drill String Components					
Item Description	Size	OD (mm)	ID (mm)	Len (m)	Top Thread
Kelly	1	170.0	68.0	7.68	
Drill pipe - Stand	65	101.6	70.0	1,214.20	
HWDP(4.0 IN)	8	101.0	68.0	72.64	
X/O	1	165.0	73.0	0.71	
DC (6.25 IN)	2	165.0	58.0	18.97	
ARS-HYD/MECH	1	163.0	71.0	6.97	
DC (6.25 IN)	2	165.0	58.0	18.96	
BIT SUB	1	157.0	58.0	0.62	

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m/min)
Original Hole, 300H6465...	1,341.00	1,341.00		0.00			1.450
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
0		8,775	33,000	34,000	32,000	0.0	598.0
Q (lin.) (m/min)	T (lin.) (°C)	P (BH Ann) (kPa)	T (ch) (°C)	P(Surf Ann) (kPa)	T (surf ann) (°C)	Q (litrtn) (m/L...	Q (retm) (m/L...

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Rin Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...

Mud Additive Amounts		
Description	Cost (/unit)	Consumed
VERSAMUL	862.55	1.0
CLEAN-UP	83.25	8.0
LIME	12.13	10.0
D-D (W/SPOUT)	46.12	10.0
TRUVIS	162.47	10.0

Survey Data			
MD (mKB)	Incl (°)	Arm (°)	TVD (mKB)

Last 5 Formations		
Formation Name	Prod Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)	
Max Nominal OD (mm)	
244.5	



Daily Drilling - Detail (legal size)

Report Start Date: 3/9/2012

Report #: 22, DFS: 19.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Class Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-Tubing Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Snowing		Temperature (°C) -23		Road Condition Fair		Hole Condition Good			
Operation at Report Time Laying down Drill Pipe.				Operation Next Report Period Put Cap on Well Head, Prepare Test Bridge plug to 21,000 kpa for 10 min, Rig out for move South.					
Operation at 06:00 Rig out for move.		Operation Summary Finished running 177.8mm casing, with last two feet in and to bottom of 1341m. Circulated casing to condition mud and hole for cementing. Rig in Schlumberger cementer. Safety meeting with Schlumberger Cementer. Cement 177.8mm casing. Pump 3 m3 Mud Pump preflush, 1 m3 water to prepare test. Lead: 14.8 tonne (19.6 m3) HiLite 1400 additive. Tail: 15.2 tonne (11.2 m3) Gels additive. Displaced w/ 27.8 m3 water with 0.8% (200 liter or 10 pail) KI3908 inhibitor. Plug down at 07:00 hr, Mar 9, 2012. 7.0 m3 of good cement returned, and had good return through out cement job. Bump plug 3,500 kPa over to 13966 kpa, increased after 3 min to 21,000 kPa held 10 minutes for prepare test on casing. Bleed off, Float Held. Wait on cement for 6 hours, Pick up cop and set casing slip in tension with 32,000 dan with Streamflo tech, cut casing and nipple down cop. Dress casing and install tubing pool. Prepare test seal to 14,000 kPa, (2,000 PSI). held good. Safety meeting with Weatherford tool tech. Make up bridge plug and run in hole on Drill pipe. Tie in Schlumberger and set bridge plug at 475m KB. Lay down drill pipe. Held all safety crew change meeting with both crews, Rig Manager at Husky Rep.							
Remark No Accident, Incident or Enviromental Concern.									
Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED.									
Tank Farm delivered for Little Bear H-64 Base Oil Delivered today at 0m3, Total at Tank Farm at 22m3. Invert Delivered today at 0m3, Total at Tank Farm at 0m3.									
Sent out today at 120.0m3, with Pro-North to FT.Nelson, B.C. Total Invert sent out at 180m3.									
Daily invert losses at 0.0m3 Total invert losses at 31.0m3									

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zilaqi	DR Eng	403-462-8021
Office	Sandeep Randhawa	DR Eng	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Heindorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	2.25	2.25	02:15	12	RUN CASING AND CEMENT				RUN FLOAT SHOE, 2 CTS CSG, FLOAT COLLAR, 116 CTS OF 177.8mm / 34.23k/m / L-80 / LTC / NEW INDAL CASING, TOTAL LENGTH 1342.13m, SET at 1341m, FLOAT at 1317.75m.
02:15	2.00	4.25	04:15	5	COND MUD at CIRC				CONDITION MUD at CIRCULATE
04:15	0.25	4.50	04:30	21	SAFETY MEETING				SAFETY MEETING WITH SCHLUMBERGER PRIOR TO CEMENT JOB
04:30	2.50	7.00	07:00	12	RUN CASING AND CEMENT				CENMENT 177.8mm CASING W/ SCHLUMBERGER, PLUG DOWN at 7:00HRS , 7m3 OF GOOD CEMENT RETURNS
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMAN HUSKY REP
07:15	1.00	8.25	08:15	12	RUN CASING AND CEMENT				PRESS TEST CSG TO 21,000 KPA FOR 10 MINS, OKEY, CLEAN AND RIG OUT CEMENTERS
08:15	3.75	12.00	12:00	23	WAITING ON				W/O CEMENT
12:00	2.00	14.00	14:00	23	WAITING ON				W/O CEMENT, SET CASING SLIPS IN TENSION W/32,000 dan
14:00	0.25	14.25	14:15	25					CUT CASING , CLEAN UP RUFF CUT

Contract Number US-51822-EX-02-DR-ID	Original Depth Am 11,529,266.00
Primary Log Type Initial Drilling	
Start Date 2/17/2012	End Date 3/10/2012
Final Status Drilled at Cased	Spud Date 2/19/2012 11:30
Daily Cost Total 3,071,916.20	Com Cost To Date 9,043,847.94
Daily Mud Cost -76,344.21	Mud Additive Cost To Date 54,791.29
Depth Start (mKB) 1,341.00	Depth End (mKB) 1,341.00
Last Casing String Production, 1,341.00mKB	
Depth Progress (m) 0.00	
Depth Start (TVD) (mKB) 1,340.79	Depth End (TVD) (mKB) 1,340.79
Target Formation Canol	Est Total Depth (mKB) 1,412.00
Personnel Total Hours (hr) 600.00	Com Per Total Hr (hr) 11,872.00
Time Log Total Hours (hr) 24.00	Problem Time Hours (hr)
Problem Time (h)	Com Problem Time (h)
Day LTI (day)	Day RI (day)

Personnel Log		
Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Mi Swaco	1	12.00
Sorokin Consulting (1995) L	1	12.00
Heindorfer Consulting Ltd.	1	12.00
McRath Resource Consulting Ltd.	1	6.00
Nor-Chief Consulting Service Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Hie Integrated Ltd.	1	12.00
Frontier	1	12.00
Phoenix Technology Service LP	1	6.00
Husky	2	24.00
NEW VENDOR	1	12.00
Hallmark Technical Service	2	12.00
Stream-Flo Industries Ltd.	1	12.00
Weatherford Completion Systems	1	12.00
NEW VENDOR	4	48.00
NEW VENDOR	6	72.00
NEW VENDOR	1	12.00

Safety Check Summary		
Type	Last Date	Next Date
Safety Meeting	3/9/2012	3/10/2012

Rigs	
Contractor Northern Drilling	Rig Number 23
Rig Supervisor Troy Prentiss	Phone Mobile
Rig Release Date 3/10/2012 23:59	

Mud Pumps		
# 1, GARDNER DENVER, PZ8		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	203.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.011	
Pre (kPa)	Slow Spd	Stroke: (c.p... Eff (h)
		0
# 2, CONTINENTAL EMSCO, F800		
Pwr (kW)	Rod Dia (mm)	Stroke (mm)
	0.0	229.0
Liner Size (mm)	Vol/Stk OR (m ³ /tk)	
152.0	0.013	
Pre (kPa)	Slow Spd	Stroke: (c.p... Eff (h)
		0



Daily Drilling - Detail (legal size)

Report Start Date: 3/9/2012

Report #: 22, DFS: 19.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Time Log									
Start Time	Dr (hr)	Com Dr (hr)	End Time	Activity Code	Activity Desc.	Pro/U...	Pro Lem Time (hr)	Pro Lem Ref	Comment
14:15	0.75	15.00	15:00	14	NIPPLE UP B.O.P.				NIPPLE DOWN BOPS LAY OUT BOPS
15:00	0.25	15.25	15:15	7	RIG SERVICE				RIG SERVICE GREASE DRIVE TRAIN
15:15	3.75	19.00	19:00	14	NIPPLE UP B.O.P.				CLEAN UP RUFF CUT ON CASING AND PUT PART OF TREE ON
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING CREW CHANGE MEETING W/ RIG CREWMHUSKY REP
19:15	0.25	19.50	19:30	21	SAFETY MEETING				PRE-OB SAFETY WITH WEATHER FORD PRIOR TO RUN BRIDGE PLUG
19:30	2.25	21.75	21:45	6	TRIPS				TRIPS WITH BRIDGE PLUG/FILL PIPE WITH WATER AND INHIBITOR
21:45	0.25	22.00	22:00	21	SAFETY MEETING				PRE-OB SAFETY TOOL HAND AND CEMENTERS ON SETTING BRIDGE PLUG
22:00	0.25	22.25	22:15	25					OTHER CEMENTERS TO SET BRIDGE PLUG /SET BRIDGE PLUG SET AT 475M,18,500KPA
22:15	1.75	24.00	00:00	6	TRIPS				TRIPS LAY DOWN DRILL PIPE

Mud Checks						
Type	Time	Depth (mKB)	Density (k/m)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid (%)
MBT (k/m)	Percent Oil (%)	Percent Water (%)	Chloride(m/L)	Calcium (m/L)	Potassium (m/L)	Electric Stab (V)
Whole Mud Added (m)		Mud Lost to Hole (m)	Mud Lost to Surface (m)		Reserve Mud Volume (m)	Active Mud Volume (m)

Drill Strings				
Bit R...	Drill Bit	Make	IADC Bit D	TFA (incl No) (mm)
No (mm)			String Length (m)	String Wt (daN)
				BHA ROP (m...

Drill String Components					
Item Description	Item	OD (mm)	ID (mm)	Len (m)	Top Thread

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Com Depth (m)	Drilling Time (hr)	Com Drill Time (...)	Int ROP (m/hr)	Q (flow) (m/min)
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
Q (in) (m/min)	T (in) (C)	P (BH Ann) (kPa)	T (h) (C)	P(Surf Ann) (kPa)	T (surf ann) (C)	Q (litrn) (m/L...	Q (return) (m/L...

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Run Date	Set Depth (mKB)
Production	3/9/2012	1,341.00
Comment		
Ran : Float shoe, 2-jointc, Float collar 116 jointof 177.8mm / 34.23 k/m / L-80 / LT-C / New indal casing, Total Length 1342.13m, Shoe set 1341m/KB. Float 1317.75m. ID 161.7mm.		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...
Casing joint		177.8	L-80	34.228	116	1,342.13	-1.13	
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...
Float Collar		177.8	L-80	34.228	1	23.60	1,317.40	
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...
Casing joint		177.8	L-80	34.228	2	23.25	1,317.75	
Item Description	Make	OD (mm)	Grade	Wt (k/m)	Joint	Com Len (m)	Top (mKB)	TopConn T...
Float Shoe		177.8	L-80	34.228	1	0.44	1,340.56	

Mud Additive Amounts		
Description	Cost (/unit)	Consumed
INVERT	2,172.51	-37.0
FED ZAN D	105.76	1.0
OPTISEAL III	70.20	2.0
FED RHEOSMART	42.76	2.0
FEDERAL GEL	12.43	21.0
SAWDUST	4.12	39.0
FED WATE (BARITE)	15.57	211.0

Survey Data			
MD (mKB)	Incl (°)	Azim (°)	TVD (mKB)

Last 5 Formations		
Formation Name	Pro Top (TVD) (mKB)	Drill Top MD (mKB)

Hole Size (mm)	
Max Nominal OD (mm)	
177.8	



Daily Drilling - Detail (legal size)

Report Start Date: 3/10/2012

Report #: 23, DFS: 20.52

Depth Progress: 0.00

Well Name: HUSKY LITTLE BEAR H-64

Licensed UWI 300H64650012600		Surface Legal Location 300H64650012600		License No. 462		State/Province N.W.T			
Source Classification Sweet		ERP Required No		Lahee Classification TH (C)		Borehole Unit Canada Frontier - Exploration			
Initial Ground Elevation (m) 178.00		Casing/Fill (m) 0.0		Ground Elev. (m) 178.00		KB Elevation (m) 183.20		KB to Gnd (m) 5.20	
KB-Casing Flange Distance (m) 5.47			KB-Tooljoint Head Distance (m) 5.00			Total Depth All (TVD) (mKB) Original Hole - 1340.8			
Primary Wellbore Affected Original Hole, 300H64650012600									
Weather Overcast		Temperature (°C) -29		Road Condition Fair		Hole Condition Good			
Operation at Report Time Wait on Daylight.				Operation Next Report Period Tear out load out rig rental etc.					
Operation at 06:00 Wait on Daylight to continue load out rig.		Operation Summary Install wellhead top section, Held pressure safety meeting prior to pressure test bridge plug to 21,000 kpa hold for 10 min, okay. Rig down rig floor team clean. Tear out rig lower derrick for move, Held safety meeting prior to tear out rig with track. Haul heavy load to campsite by tied track to be loaded for transport south. Wait on daylight to continue move. Held all safety crew change meeting with both crew, Rig Manager and Husky Rep. Rig Release Saturday March 10th/2012 at 23:59 hr. Combination Lock for wellhead is 5182.							
Remarks No Accident, Incident or Environmental Concern. Direction to the location. From Norman Well, Take the winter road south for approx 34.4km. Turn right and go through the security. Continue on the Husky Winter Rd to the Husky Camp Site. Continue on the Husky Winter Rd to km 44 Turn left and continue to km 46. Keep left and go to location at km 47. All road are RADIO CONTROLLED. Tank Farm delivered for Little Bear H-64 Base Oil Delivered today at 0m3, Total at Tank Farm at 22m3. Invert Delivered today at 0m3, Total at Tank Farm at 0m3. Total Invert Went out at 180m3									

Daily Contacts

Type	Contact Name	Title	Mobile
Office	Kim Richardson	DR Superintendent	403-542-1059
Office	Goly Zila	DR Engr	403-462-8021
Office	Sandeep Randhawa	DR Engr	403-519-5660
Office	Darren Brown	Construction Super	
Well Site Supervisor	Woody Periard	DR Field Super	403-350-6027
Well Site Supervisor	Dan Hendorfer	DR Field Super	780-446-5160
Rig Manager	Troy Prentiss	Rig Manager	

Time Log

Start Time	Drill (hr)	Cum Drill (hr)	End Time	Activity Code	Activity Desc.	Prod/U...	Problem Time (hr)	Problem Ref	Comment
00:00	1.50	1.50	01:30	14	NIPPLE UP B.O.P.				PUT WELLHEAD CAP ON
01:30	0.25	1.75	01:45	21	SAFETY MEETING				PRE-JOB SAFETY WITH CEMENTERS ON PRESSURE TESTING CSG
01:45	0.25	2.00	02:00	15	TEST B.O.P.				PRESS TEST BRIDGE PLUG W/ CEMENT TRUCK TO 21,000 KPA F/ 10 MINS, OKAY.
02:00	5.00	7.00	07:00	22	TEAR DOWN				TEAR DOWN FLOOR STEAM AND CLEAN EQUIPMENT FOR TRANSPORT
07:00	0.25	7.25	07:15	21	SAFETY MEETING				SAFETY MEETING FOR SHIFT CHANGE HELD W/ BOTH CREWS, R.M. AND OPERATORS REP
07:15	0.25	7.50	07:30	21	SAFETY MEETING				SAFETY MEETING W/MULLEN TRCKING COMPANY
07:30	4.50	12.00	12:00	22	TEAR DOWN				RIG OUT RIG TOP MOVE BACK TO EDSON TO RACK / TRUCKS ON LOCATION at 7:00/ MOVE RENTAL EQUIPMENT OFF LOCATION
12:00	1.00	13.00	13:00	22	TEAR DOWN				RIG OUT TO RACK IN EDSON
13:00	6.00	19.00	19:00	1	RIGUP at TEARDOWN				MOVE RIG OFF LOCATION AND HAUL TO CAMPSITE LOCATION TO LOAD UP FOR MOVE BACK TO EDSON
19:00	0.25	19.25	19:15	21	SAFETY MEETING				SAFETY MEETING W/BOTH CREWS, R.M. AND OPERATORS REP
19:15	1.75	21.00	21:00	1	RIGUP at TEARDOWN				MOVE MATS OFF OF HOLE CENTER at STACK UP TO GET READY TO LOAD UP
21:00	3.00	24.00	00:00	25	Other				CLEAN UP AROUND LOCATION

Contract Number US-51822-EX-02-DR-ID		Original Depth Am 11,529,266.00	
Primary Log Type Initial Drill			
Start Date 2/17/2012		End Date 3/10/2012	
Final Status Drilled at Cased		Spud Date 2/19/2012 11:30	
Daily Cost Total 515,592.00		Cum Cost To Date 9,559,439.94	
Daily Mud Cost		Mud Additive Cost To Date 54,791.29	
Depth Start (mKB) 1,341.00		Depth End (mKB) 1,341.00	
Last Casing String Production, 1,341.00mKB			
Depth Progress (m) 0.00			
Depth Start (TVD) (mKB) 1,340.79		Depth End (TVD) (mKB) 1,340.79	
Target Formation Canol		Est Total Depth (mKB) 1,412.00	
Personnel Total Hours (hr) 704.00		Cum Per Tot Hr (hr) 12,576.00	
Time Log Total Hours (hr) 24.00		Problem Time Hours (hr)	
Problem Time (hr)		Cum Problem Time (hr)	
Days LTI (day)		Days RI (day)	

Personnel Log

Company	Count	Tot Time (hr)
Northern Drilling Limited	15	180.00
Sorokin Consulting (1995) Ltd.	1	12.00
Hendorfer Consulting Ltd.	1	12.00
Nor-Chief Consulting Service Ltd.	1	12.00
Horizon North Camp Cat	5	60.00
NEW VENDOR	2	24.00
NEW VENDOR	1	12.00
NEW VENDOR	1	12.00
NEW VENDOR	2	24.00
Hire Integrated Ltd.	1	12.00
Frontier	1	12.00
Husky	2	24.00
NEW VENDOR	1	12.00
Stream-Flo Industries Ltd.	1	12.00
Weatherford Completion Systems	1	12.00
NEW VENDOR	4	24.00
NEW VENDOR	3	36.00
NEW VENDOR	1	12.00
Mullen Trucking Inc.	20	200.00

Safety Check Summary

Type	Last Date	Next Date
Safety Meeting	3/10/2012	3/12/2012

Rigs

Contractor Northern Drilling		Rig Number 23	
Rig Supervisor Troy Prentiss		Phone Mobile	
Rig Release Date 3/10/2012 23:59			

Mud Pumps

# 1, GARDNER DENVER, PZ8			
Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	203.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.011	
Pressure (kPa)	Slow Spd	Stroke (in./p...)	Eff (%)
		0	
# 2, CONTINENTAL EMSCO, F800			
Pwr (kW)		Rod Dia (mm)	Stroke (mm)
		0.0	229.0
Liner Size (mm)		Vol/Stk OR (m ³ /tk)	
152.0		0.013	
Pressure (kPa)	Slow Spd	Stroke (in./p...)	Eff (%)
		0	

Mud Additive Amounts

Description	Cost (/unit)	Consumed

Survey Data

MD (mKB)	Incl (°)	Alt (°)	TVD (mKB)
1,341.00	0.40	129.70	1,340.79



Well Name: HUSKY LITTLE BEAR H-64

Mud Checks						
Type	Time	Depth (mKB)	Density (kg/m ³)	Viscosity (cP)	Plastic Visc (cp)	Yield Point (Pa)
Gel 10 sec (Pa)	Gel 10 min (Pa)	Gel 30 min (Pa)	Filtrate (mL/30min)	Filter Cake (mm)	pH	Solid% (%)
MBT (kg/m ³)	Percent Oil (%)	Percent Water (%)	Chloride (mg/L)	Calcium (mg/L)	Potassium (mg/L)	Electric Stab (V)
Whole Mud Added (m ³)	Mud Lost to Hole (m ³)	Mud Lost to Surface (m ³)	Reserve Mud Volume (m ³)	Active Mud Volume (m ³)		

Drill Strings						
Bit R...	Drill Bit		Make	IADC Bit D...ll		TFA (incl No...) (mm.)
No...le... (mm)				Strin... Len...th (m)	Strin... Wt (daN)	BHA ROP (m...

Drill String Components					
Item Description	Weight	OD (mm)	ID (mm)	Len (m)	Top Thread

Drilling Parameters							
Well Core	Start (mKB)	Depth End (mKB)	Core Depth (m)	Drilling Time (hr)	Core Drill Time (...)	Int ROP (m/hr)	Flow (flow) (m ³ /min)
WOB (daN)	RPM (rpm)	SPP (kPa)	Drill Str Wt (daN)	PU Str Wt (daN)	SO Str Wt (daN)	Drilling Torque	Off Btm T
Flow (in.) (m ³ /min)	T (In.) (°C)	P (BH Ann) (kPa)	T (In) (°C)	P(Surf Ann) (kPa)	T (Surf ann) (°C)	Flow (liters) (m ³ /...	Flow (return) (m ³ /...

Kick/Lost Circ				
Occur Date	Occur Depth (mKB)	Control Date	Control Depth (mKB)	Incident Type
Comment				

Casing Strings		
Casing Description	Rin Date	Set Depth (mKB)
Comment		

Casing Components								
Item Description	Make	OD (mm)	Grade	Wt (kg/m)	Joint	Core Len (m)	Top (mKB)	TopConn T...

Last 5 Formations		
Formation Name	Pro Top (TVD) (mKB)	Drill Top MD (mKB)
Hole Size (mm)		
Max Nominal OD (mm)		
177.8		

E.10 DAILY DRILLING FLUID REPORTS

DRILLING FLUIDS DAILY SUMMARY

Date	Depth (MD)	Depth (TVD)	Density	Funnel Vis	PV	YP	Gels			Fluid Loss	Fluid Loss	Solids	WBM Properties									
													Water	Oil	Sand	MBT	pH	Alkalinities			Cl-	Ca++
							10 sec	10 min	30 min	API	HTHP	%	%	%	%	kg/m ³		Pm	Pf	Mf	mg/l	mg/l
17-Feb-2012																						
18-Feb-2012																						
19-Feb-2012			1010	43	7	3.5	4.5	9	9	15	na	na	na	na		6	9		0.15	0.05	100	60
20-Feb-2012	218	218	1140	43	8	3	4	7	7	15			100		trace	21	8.5		0.15	0.06	160	60
21-Feb-2012	503	503	1190	45	18	8	4.5	8.5	8.5	8.5	n/a	n/a	n/a	n/a	Trace	28.5	8.5		0.16	0.07	160	100
22-Feb-2012	510	510	1110	51	23	8.5	4	7	7	6	n/a	n/a	n/a	n/a	Trace	28.5	8.5		0.16	0.07	160	100

													OBM Properties								
Date	Depth (MD)	Depth (TVD)	Density	Funnel Vis	PV	YP	Gels			Fluid Loss	Fluid Loss	Solids	Correct solids	Oil	Uncorrect Water	O / W Ratio		Cl Whole Mud	Salt	Lime	E Stability
	m	m	kg/m ³	s/L	mPa·s	Pa	10 sec	10 min	30 min	API	HTHP	%	%Vol	%Vol	%Vol	Oil	Water	mg/l	wt %	kg/m ³	volts
24-Feb-2012	510	510	1200	49	15	3	2.5	5	5	n/a	4	14	12.23	70	16	81	19	43,000	29.61	22.57	1012
25-Feb-2012	713	713	1200	48	16	3	3	5.5	5.5	n/a	3	14.5	12.68	69.5	16	81	19	44,000	30.09	21.09	929
26-Feb-2012	1090	1090	1205	49	17	3.5	3.5	6.5	6.5	n/a	3	14.5	12.69	69	16.5	81	19	44,000	29.44	19.61	916
27-Feb-2012	1170	1170	1205	48	18	3.5	3.5	8	8	n/a	3	15	13.23	69	16	81	19	43,000	29.61	19.24	927
28-Feb-2012	1202	1202	1280	48	18	3.5	3	7.5	7.5	n/a	3	17	15.28	67	16	81	19	42,000	29.12	17.76	891
29-Feb-2012	1222	1222	1290	50	19	4	4	8.5	8.5	n/a	3	17.5	15.78	66.5	16	81	19	42,000	29.12	17.02	816
1-Mar-2012	1234	1234	1260	47	19	3.5	3.5	8	8	n/a		15.5	13.68	68.5	16	81	19	44,000	30.09	17.39	792
2-Mar-2012	1261	1261	1250	n/a	13	3.5	3	7.5	7.5	n/a		16	14.16	69	15	82	18	44,000	31.46	17.02	732
3-Mar-2012	1261	1261	1250	n/a	13	3.5	3	7.5	7.5	n/a	3	16	14.16	69	15	82	18	44,000	31.46	17.02	897
4-Mar-2012	1264	1264	1230	46	13	3.5	3	7	7	n/a	3	15	13.11	70	15	82	18	45,000	31.95	17.76	1113
5-Mar-2012	1302	1302	1225	48	13	4	3.5	7.5	7.5	n/a	3	15	13.11	70	15	82	18	45,000	31.95	17.02	1092
6-Mar-2012	1341	1341	1240	46	14	3.5	3.5	7.5	7.5	n/a	3	16	14.16	69	15	82	18	44,000	31.46	17.76	1097
7-Mar-2012	1341	1341	1240	46	14	3.5	3.5	7.5	7.5	n/a	3	16	14.16	69	15	82	18	44,000	31.46	17.76	1097
8-Mar-2012	1341	1341	1260	56	14	4	3.5	8.5	8.5	n/a	3	17	15.23	67	16	81	19	43,000	29.61	15.91	917
9-Mar-2012	1341	1341	1260	57	14	4	3.5	8.5	8.5	n/a	3	17	15.23	67	16	81	19	43,000	29.61	15.91	917

Mud Weight	1225	kg/m ³
% Base Fluid From Retort	70	%
Drilling Solids SG	2.6	
Base Fluid SG	0.76	
Retort Cell Weight	316	gm
Cell + Wet Cutting Weight	369	gm
Cell + Dry Cutting Weight	361	gm
Graduated Cylinder Weight	71	gm
Water Volume in Cylinder	3	gm
Cylinder + Water + Base Fluid Weight	78	gm

Results

Mass of Wet Cuttings	53.00	gm
Mass of Dry Cuttings	45.00	gm
Mass of Base Fluid	4.00	gm
Mass Balance Factor	0.981	-
Mass of Base Fluid / kg Wet Cuttings	75.47	gm/kg
Mass of Base Fluid / kg Dry Cuttings	88.89	gm/kg
Cuttings Retention Factor	0.447	m ³ Mud / m ³ Cutting

E.11 WELL TERMINATION REPORT



WELL TERMINATION RECORD

Well Name	Husky Little Bear H-64		Well ID	2077		
Operator	Husky Oil Operations Ltd		Current Well Status	Suspended		
Total Depth	1341m KB		Licence No.	Exploration Licence 462		
Location	Unit	H	Section	64	Grid	
Coordinates (NAD27)	Surface		Lat	64 ° 53 ' 28.5 "	Long	126 ° 11 ' 20.3 "
	Bottom Hole		Lat	64 ° 53 ' 28.5 "	Long	126 ° 11 ' 19.8 "
Region	NWT Mainland					
Target Formation	Canol / Hume		Field/Pool	Slater River /		
Elevation KB/RT	183.2 m		Ground Level / Seafloor	178.5 m		
Spud/Re-Entry Date	19 Feb 2012		Rig Release Date	10 Mar 2012		

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing (m³)
508	Conductor pipe	ASTM A 53	23	15
244.5	53.6	J-55	510	40
177.8	34.2	L-80	1341	30

PLUGGING PROGRAM

Type of Plug	Interval (m KB)	Felt	Depth (m KB)	Cement (m³)
Other	1340.5-1341	Yes	1340.5	Float Shoe
Cement	1318-1340.5	No	1318	23
Other	1317.5-1318	Yes	1317.5	Float Collar
Bridge	475-476	Yes	475	Bridge plug
Select	-	Select		

PERFORATION

Interval (m KB)	Comments
-	Cased and cemented. No perforation was done on this well
-	
-	
-	

Lost Circulation/Overpressure Zones	No Loss / No Gain & Flow.
Equipment Left on Seafloor (Describe)	N/A
Provision for Re-entry (Describe and attach sketch)	
Other Downhole Completion/Suspension	Retrievable Bridge plug at 475m, wellhead and valves are installed-see attached

"I certify that the information provided on this form is true and correct"

Name	Kim Richardsons	Telephone	(403) 298-7273 Ext
Job Designation	Drilling Superintenden	E-Mail	kim.richardson@huskyenergy.com
Operator	Husky Oil Operations Ltd		
Signature		Date	
	Responsible Officer of Company		

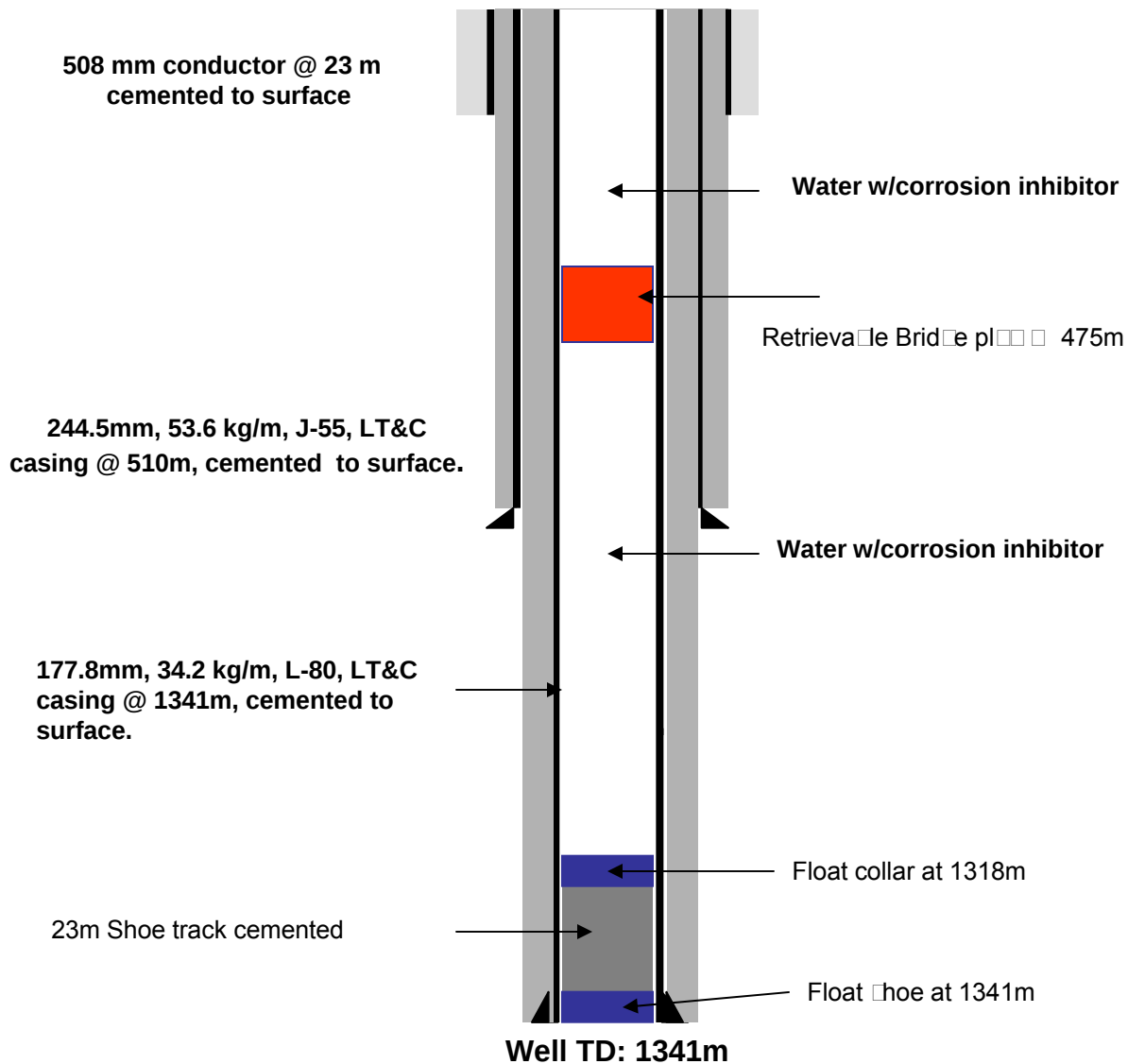
NATIONAL ENERGY BOARD USE ONLY

The details of this document have been examined and verified by

Job Designation	Well Identifier	Unique Well Identifier
Signature	Date	
	NEB Authority	

Husky Little Bear H-64 (suspended status)

Depths in MD RKB (not to scale)



Primary Barrier

- 177.8mm casing cemented to surface and not perforated.
- 177.8mm casing pressure tested to 21,000Kpa at the plug bump.
- 23m cemented shoe track consists of float shoe and float collar.
- Cement was displaced with water, after bumping the plug, increased the pressure and tested the casing to 21000 KPa. Released the pressure, no back flow. Note: this is inflow test of shoe track against differential pressure of cement slurry (annulus) and water (inside the casing).

Secondary Barrier

- Retrievable Bridge plug set at 475m.
- Tubing head spool and suspension valve tested against Bridge plug to 21000 KPa

