



NCY EHNJUU CHOO B-73

END OF WELL REPORT

Latitude: 66° 12' 10.35" N, Longitude: 136° 59' 01.56" W
UTM NAD 83 Zone 8 7343938.10 N, 410691.44 E

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WELL SUMMARY

Well Name: NCY Ehnjuu Choo B-73

Well License: 300H606620136450

Operator: Northern Cross (Yukon) Ltd.

Surface Location: Latitude: 66° 12' 10.35" N, Longitude:136° 59' 01.56" W
UTM NAD 83 Zone 8 7343938.10 N, 410691.44 E

Subsurface Location: Latitude: 66° 12' 40.64" N, Longitude:137° 0' 2.75" W
UTM NAD 83 Zone 8 7344900 N, 409956 E

Permit Number: 1128

Drilling Contractor: Patterson UTI Energy, Inc.

Classification: Wildcat

Well Profile: Deviated

Elevation: 673.20m Ground Level
681.70m Kelly Bushing

Well Spudded: April 16,2013

Rig Release: June 26,2013

Total Depth: 2947 m TVD KB (3350 m MD KB)

Well Status: Suspended

WELL PROFILE AND DIRECTIONAL SURVEY

NCY Ehnjuu Choo B-73 is a deviated well drilled to a total measured depth of 3350m KB. Below is the Vertical and Plan views of the well profile:

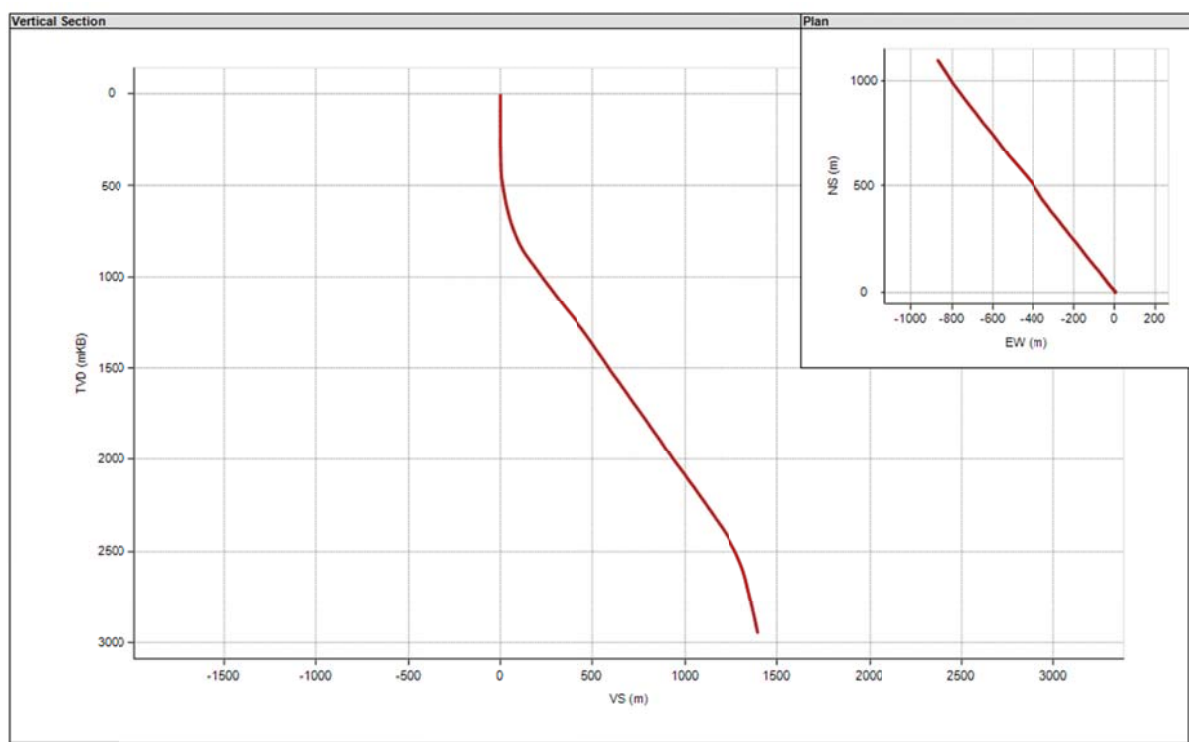
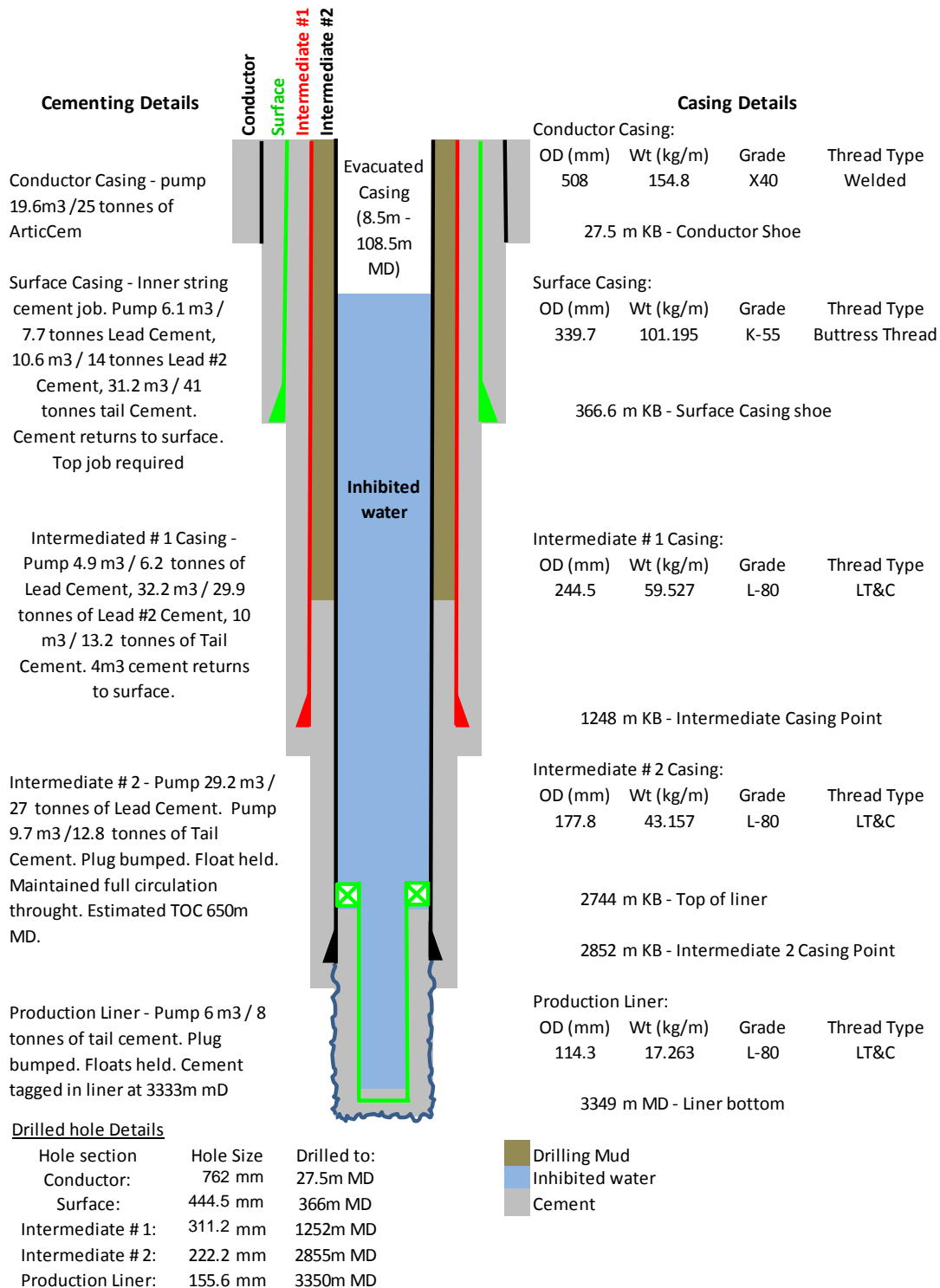


Figure 1: Vertical and Plan view of NCY Ehnjuu Choo B-73

Refer to Appendix VI - Directional Survey Data for NCY Ehnjuu Choo B-73 survey's data.

CASING AND CEMENT SUMMARY



*Additional Casing information can be found in Appendix II - Casing

*Additional Cementing information can be found in Appendix III- Cement Reports

DRILLING MUD AND SUSPENSION FLUID SUMMARY

NCY Ehnjuu Choo B-73 was spudded using a Gel-chemical water based mud system and used until surface casing point at 366m MD.

An inhibited KCL mud system was used after drilling out of the surface casing shoe. This mud system was used to drill to the total depth of 3350m MD.

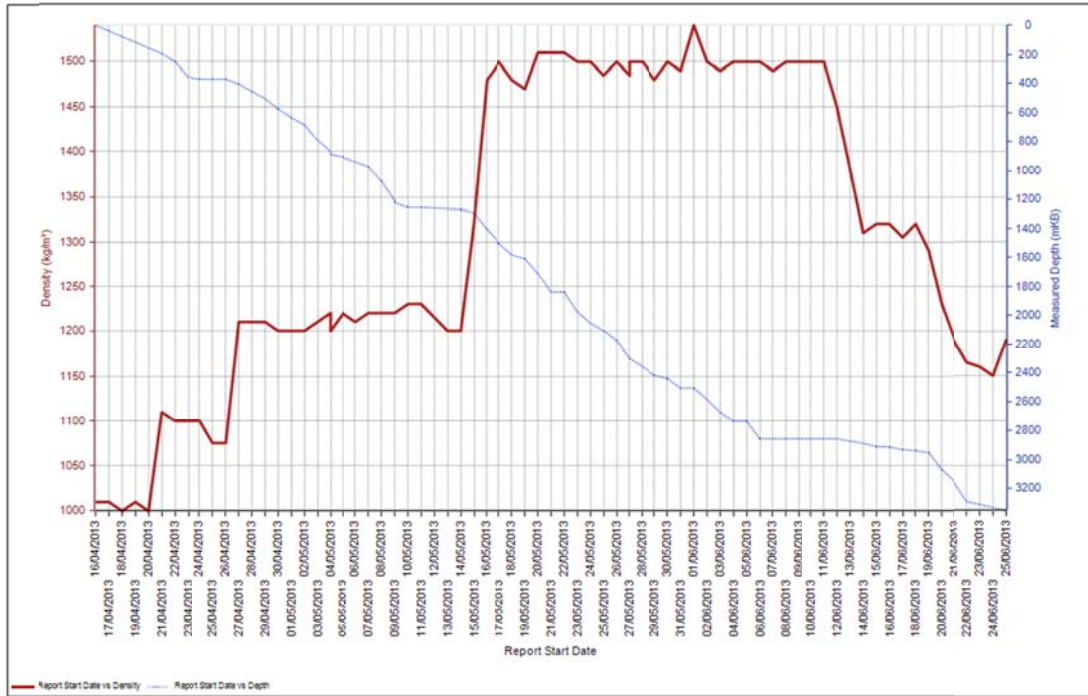


Figure 2: Drilling mud density against depth

The Production Liner and Intermediate #2 Casing were displaced to inhibited water for well suspension. 100m of casing was evacuated to prevent freezing of suspension fluid in the permafrost zone. The corresponding loss of hydrostatic pressure does not compromise the integrity of the Intermediate #2 casing and production liner.

DRILLING WASTE SUMMARY

Drill solids were stabilized using sawdust and transported to Tervita's Northern Rockies Landfill in Fort Nelson.

Drilling mud was stripped back to water and transported to Secure Energy Service's Fluid Disposal Location in Fort Nelson.

TESTING AND ANALYSIS SUMMARY

No Drill stem or flow tests were conducted on NCY Ehnjuu Choo B-73

CONVENTIONAL AND SIDEWALL CORING SUMMARY

Three conventional core were cut between 943m – 956m MD, 2908 – 2912m MD, and 2930 – 2948m MD Respectively .

56, 46, and 33 sidewall cores were cut between 369m - 1225m MD, 1384 – 2815m MD, and 2973 – 3327m MD respectively.

Complete coring summary can be found in Appendix VI - Coring Summary

WELLHEAD SUMMARY

NCY Ehnjuu Choo B-73 Wellhead configuration is as follows:



Figure 3: B-73 Wellhead Final Installation

Des	Make	Model	Size (mm)	WP Top (kPa)
Casing Head Assembly(Supported by Landing base)	WEATHERFORD	DT-2	346.1	34,500
Casing Spool Assembly	WEATHERFORD	DT-2	346.1 x 279.4	34,500
Tubing Head Assembly	WEATHERFORD	DT-2	279.4 x 179.4	69,000
Tree top Section	WEATHERFORD	DT-2	179.4 x 77.8	69,000

Tubing was not run into well.

LOG SUMMARY

The following table summarizes the logs run on NCY Ehnjuu Choo B-73:

Run	Title		Depth
1.1	Cement Log	MD	366m
1.1	Dipole Shear Sonic Imager Log	MD	366m
1.2	Platform Express Array Induction Log	MD	366m
1.2	Platform Express Compensated Neutron Lithology Density Log	MD	366m
1.2	Platform Express Half Scale Log	MD	366m
1.2	Hostile Environment Natural Gamma Ray Spectrometry Log	MD	366m
2.1	Platform Express Half Scale Log	MD	1252m
2.1	Platform Express Half Scale Log	TVD	1252m
2.1	Platform Express Array Induction Log	MD	1252m
2.1	Platform Express Array Induction Log	TVD	1252m
2.1	Cement Volume Log		1252m
2.1	Combinable Magnetic Resonance Log	MD	1252m
2.1	Hostile Environment Natural Gamma Ray Spectrometry Log	TVD	1252m
2.1	Platform Express Compensated Neutron Lithology Density Log	TVD	1252m
2.1	Platform Express Compensated Neutron Lithology Density Log	MD	1252m
2.1	Hostile Environment Natural Gamma Ray Spectrometry Log	MD	1252m
2.1	Combinable Magnetic Resonance Log	TVD	1252m
2.2	Elemental Capture Spectroscopy Log	MD	1252m
2.2	Elemental Capture Spectroscopy Log	TVD	1252m
2.4	Mechanical Sidewall Coring Tool	MD	1252m
3.1	Platform Express Array Induction Log	MD	2855m
3.1	Platform Express Array Induction Log	TVD	2855m
3.1	Platform Express Compensated Neutron Dual Lithology Density Log Barite Corrected	MD	2855m
3.1	Combinable Magnetic Resonance Log	MD	2855m
3.1	Platform express half Scale Log barite corrected	MD	2855m
3.1	Platform express half scale log barite corrected	TVD	2855m
3.1	Combinable magnetic resonance Log	TVD	2855m
3.1	Hostile Environment Natural Gamma Ray Spectrometry Log	MD	2855m
3.1	High-Resolution Laterology Array Log	MD	2855m
3.1	High-Resolution Laterology Array Log	TVD	2855m
3.1	Hostile Environment Natural Gamma Ray Spectrometry Log	TVD	2855m
3.1	Platform Express Compensated Neutron Dual Lithology Density Log Barite Corrected	TVD	2855m
3.3	General Purpose	MD	2855m
3.3	Cement Volume Log		2855m

3.4	Mechanical Sidewall Coring Tool	MD	2855m
4.1	Platform Express Half Scale Log	TVD	3350m
4.1	Platform Express Half Scale Log	MD	3350m
4.1	Mechanical Sidewall Coring Tool	MD	3350m
4.1	Platform Express Compensated Neutron Lithology Density Log	MD	3350m
4.1	Combinable Magnetic Resonance Log	MD	3350m
4.1	Hostile Environment Natural Gamma Ray Spectrometry Log	MD	3350m
4.1	Platform Express Compensated Neutron Lithology Density Log	TVD	3350m
4.1	Platform Express Array Induction Log	MD	3350m
4.1	Platform Express Array Induction Log	TVD	3350m
4.1	Hostile Environment Natural Gamma Ray Spectrometry Log	TVD	3350m
4.1	Combinable Magnetic Resonance Log	TVD	3350m
4.1	High Resolution Laterlog	TVD	3350m
4.1	High Resolution Laterlog	MD	3350m
4.3	Cement Log		3350m

APPENDIX I - DAILY ACTIVITY SUMMARY



Daily Activity Summary

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Job Category Drilling	Primary Job Type Drilling - original	Secondary Job Type Drilling - original	Status 1
Start Date 10/04/2013	End Date 26/06/2013	AFE Number	Total AFE + Supp Amount (Cost)

Objective

Summary

Contractor PATTERSON-UTI DRILLING CO. CANADA	Rig Number 3	Rig Type
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Rpt #	Report Start Date	Start Depth (mKB)	End Depth (mKB)	Operations Summary
1.0	09/04/2013	0.00	0.00	No accidents, no incidents. Rig out and move wellsite shacks from H-28 to B-73. Rig up wellsite shacks on B-73. Continue rigging out combination shacks and derrick for trucks. Move mud product to B-73.
2.0	10/04/2013	0.00	0.00	No accidents, one incidents (Picker broke whip line due to booming out and not slacking off on whip line, crown saver did not work as intended). Rig out and move sub and derrick. Spot well center mats, catch trays and pony subs at new end.
3.0	11/04/2013	0.00	0.00	No accidents, one incidents Rigged up on new location with Mullen Trucking. Assembled sub, derrick and back end of rig. Started plugging in power cords and hand rails.
4.0	12/04/2013	0.00	0.00	No accidents, no incidents Rigged up on new location with Mullen Trucking. Spot centrifuge, 3 sided tanks, fuel tank, cement bins, water tank, sea cans and garbage bin. Raise derrick.
5.0	13/04/2013	0.00	0.00	No accidents, no incidents. Rigging and prepare to spud. Rig up top drive. Set up v-door and cat walk. Work on steam lines and water lines. Preheat 400 barrel tanks with drilling mud. raise sub at 11:00 am.
6.0	14/04/2013	0.00	0.00	No accidents, no incidents. Rigging and prepare to spud. Rig up top drive. Work on steam lines and water lines. Preheat 400 barrel tanks with drilling mud. Set up prefab. Rig up diverter system.
7.0	15/04/2013	0.00	0.00	No accidents, no incidents. Rigging up and prepare to spud. Rig up top drive and perform necessary repairs with Canrig Technician. Work on steam lines and water lines. Heat 400 barrel tanks of stored drilling mud and water
8.0	16/04/2013	0.00	99.00	Rigged to and spudded well @ 02:00hrs. Drilled to 99m with surveys. Encountered severe losses @ 97m. Build high vis lcm sweeps and attempt to heal lost circulation zone.
9.0	17/04/2013	99.00	99.00	Unable to heal losses with LCM. Run open ended pipe in hole and run cement plug across thief zone with Halliburton. WOC until samples hardened and run plug 2 directly on top of first plug.
10.0	18/04/2013	100.00	116.00	W.O. Cement plug to set, trip in to 65m drill cement 65m to 83m 90m to 98m, Drill from 100 to 102m without returns. trip out trip in open ended. Rig in cementers pump plug #3 pull out of plug woc trip in hole to 84m drill cement 84m to 102m drill 444mm hole blind 102m to 116m no returns. Trip out. Trip in open ended rig in cementers mix up plug #4
11.0	19/04/2013	116.00	116.00	Pump cement plug #4, Trip out. WOC. Top fill hole. Trip in hole drill cement from 73m to 102m total losses, trip out, drop Lcm down annulus from floor, Trip in to 75m wash in tight spots to 104m pump Lcm sweep. Trip out trip in hole wash through tight spot @ 75m. Rig in cementers pump plug #5. Trip out. WOC. Top fill hole run in stand close bag squeeze cement plug. Slip & cut trip in hole to 60m tagged Lcm bridge wash in to 75m drill cement to 104m total losses drill to 106m with no returns
12.0	20/04/2013	116.00	116.00	Trip out of hole. Drop Lcm down annulus from floor. Trip in hole tag lcm bridge @ 70m wash through bridge clean to 104m no losses drill cement 104m to 116m lost circulation spot high vis Lcm slug on bottom. Trip out, Trip in w/drill pipe, Rig in cementers. Pump cement plug #6 trip out. Top fill hole. run in stand. Close bag & squeeze cement plug. Trip in hole w/bit WOC. Tag cement @ 72m drill cement to 116m total losses at 108m trip out. Trip in to 116m. Mix & pump cal carb barite slug. Pump cement plug #7. Trip out 3 stands. Close bag & squeeze cement plug. 5.5m3 cement pumped away. Trip in hole w/bit to 82m wash through bridge to 89m WOC. circulate hole clean
13.0	21/04/2013	116.00	216.00	Circulate WOC. Drill cement from 89.9m to 116m. Drill 444mm hole 116m to 216m survey every 30m last survey @ 189.6m 2 deg Inc.
14.0	22/04/2013	216.00	262.00	Drill 444mm hole 216m to 246m. Circulate hole clean, Trip out to pick up directional tools & 311mm bit due to deviation issues. Make up directional tools & bit 2A Smith GF30BODVCPS 537X. Trip in hole. Wash to bottom 6m of fill. Directional drill 311mm hole ahead 246m to 262m pilot hole. With directional surveys.



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Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Rpt #	Report Start Date	Start Depth (mKB)	End Depth (mKB)	Operations Summary
15.0	23/04/2013	262.00	352.00	Drill 311mm pilot hole 262m to 352m surface TD. Circulate hole clean. Trip out handle directional tools lay down mud motor & 311mm bit. Reprogram mwd. Make up bit# 1ARR trip in hole to 241m. Jack & level rig with Ardy rigging. Wash in from 241m to 246m Ream/open surface hole from 311mm to 444mm from 246m to 253m Last survey depth 334m inc 1.2° az. 272.8
16.0	24/04/2013	352.00	366.00	Ream/open surface hole from 311mm to 444mm from 246m to 352m. Drill 444mm surface hole 352m to 366m Surface TD. Circulate pump high viscosity sweep circulate hole clean. Trip out of hole. Handle directional tools & download data from mwd. Rig up loggers & log run #1 DSI, PPC, GPIT, log run #2 AIT, PEX, HNGS, Loggers depth 363m
17.0	25/04/2013	366.00	366.00	<p>Operations Summary No accidents, no incidents. Rig out loggers. Rig up power tongs and run 339.7mm casing to 364m. Circulate hole clean and condition mud (decrease vis to 43). Run in inner string and set packoff. Circulate through inner string. Cement surface casing as follows:</p> <p>PUMP 3M3 WATER PREFLUSH, PRESSURE TEST SURFACE LINES, CEMENT SURFACE CASING WITH 7.7 TONNES (6.1 M3) ARCTICEM LEAD #1 (1870 KG/M3) W/ 0.27% PFR-1, F/0-62M. FOLLOWED BY 14 TONNES (10.6 M3) EXTENDACEM II LT LEAD #2 (1600 KG/M3) W/ 2% CACL2, F/62-176M. FOLLOWED BY 41 TONNES (31.2 M3) HALCEM G TAIL (1895 KG/M3) W/ 0.5% HALAD 568 + 2% CACL2, F/176-366M. 4M3 CEMENT RETURNS SEEN AT SURFACE. LOST 1M3 CEMENT AFTER DROPPING PLUG.FLOATS HELD.</p> <p>Rack back inner string. WOC and prepare to nipple down diverter. Start stripping surface mud and cleaning tanks.</p>
18.0	26/04/2013	366.00	366.00	<p>Operations Summary No accidents, no incidents. WOC. Back out landing joint. Nipple down diverter and cut off conductor. Make up casing bowl and landing base. Nipple up BOP's. Cement landing base in cellar. Pressure test BOP's, manifold, choke and diverter inlet lines, stabbing valve, inside BOP, upper and lower safety valves.</p>
19.0	27/04/2013	366.00	408.00	<p>Operations Summary No accidents, no incidents. Pressure test casing to 15,800 kPa. Install wear bushing, perform accumulator function test. Lay down steel 8" DC's. Make up directional BHA and RIH. Drill out cement. Drill 311mm hole F/366-371m. Circulate hole clean and perform FIT to 27.23 kPa/m. Drill 311mm hole ahead F/371-408m. Total meters - 42m, ROP - 7.1 m/hr, Kick off at 399m. POOH to turn on Gamma.</p>
20.0	28/04/2013	408.00	463.00	<p>Operations Summary No accidents, no incidents. Change out and program MWD. Change bit. RIH and Drill 311mm hole ahead F/408-463m (55m, 3.4 m/hr). Rotate - 37m (67%), Slide - 18m (33%). Last Survey at 457.88m, Inclination - 6.40 degrees, Azimuth - 323.60 degrees, Position relative to the line; 3.4m ahead and 6.5m right.</p>
21.0	29/04/2013	463.00	543.00	<p>Operations Summary No accidents, no incidents. Drill 311mm hole ahead F/463-543m (80m, 4.1 m/hr). Rotate - 67m (84%), Slide - 13m (16%). Last Survey at 532.72m, Inclination - 9.80 degrees, Azimuth - 319.30 degrees, Position relative to the line; 6.3m ahead and 6.0m right.</p>
22.0	30/04/2013	543.00	611.00	<p>Operations Summary No accidents, no incidents. Drill 311mm hole ahead F/543-611m (68m, 3.3 m/hr). Rotate - 55m (80%), Slide - 13m (20%). Last Survey at 598.43m, Inclination - 11.20 degrees, Azimuth - 318.50 degrees, Position relative to the line; 5.4m ahead and 5.7m right.</p>
23.0	01/05/2013	611.00	649.00	<p>Operations Summary No accidents, no incidents. Drill 311mm hole ahead F/611-649m (38m, 2.9 m/hr). Rotate - 26m (68%), Slide - 12m (32%). POOH for bit trip. Change bit and MWD. Program MWD and scribe motor. RIH to 339m and slip and cut 14m of drilling line. Continue RIH to 600m. Last Survey at 647.15m, Inclination - 14.20 degrees, Azimuth - 320.00 degrees, Position relative to the line; 3.4m ahead and 4.8m right. 2.26 degree build rate required to end of build.</p>
24.0	02/05/2013	649.00	758.00	<p>Operations Summary No accidents, no incidents. Washed two stands to bottom & patterned bit. Directional Drilled 311mm hole from 649 - 758 m. Rotate - 63.4 m (58%), Slide - 45.6 m (32%) . Last Survey 762.74 m, Inclination - 20.8 degrees, Azimuth - 322.20 degrees, Position relative to the line; 1.6 m below and 5.0 m right.</p>
25.0	03/05/2013	758.00	848.00	<p>Operations Summary No accidents, no incidents. Directionally Drilled 311mm hole from 758 m to 848 m. 90 m @ 4.4 m/hr. Rotate - 15.3 m (17%), Slide - 74.7 m (83%) . Last Survey 868 m, Inclination - 29.5 degrees, Azimuth 323.00 degrees, Position relative to the line; 8.0 m below and 6.0 m right.</p>
26.0	04/05/2013	848.00	906.00	<p>Operations Summary No accidents, no incidents. Directionally Drilled 311mm hole from 848 m. to 906 m Total of 58 m @ 2.6 m/hr. Rotate - (m%), Slide - (m%) . Last Survey m, Inclination - 32.3 degrees, Azimuth 320 degrees, TVD 867.49 Position relative to the line; XX m below and XX m right</p>



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Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Rpt #	Report Start Date	Start Depth (mKB)	End Depth (mKB)	Operations Summary
27.0	05/05/2013	906.00	940.00	No accidents, no incidents. Tripped for bit, changed out mud motor & made up BHA tripped in hole. Directionally Drilled 311mm hole from 906 m --940 m w/rig services, BOP functions & safety meetings as required. Total of 34 m @ 5.2 m/hr. Rotate - (m%), Slide - (m%). Last Survey m, Inclination - 35.3 degrees, Azimuth 317.3 degrees, TVD 890.9 Position relative to the line; 7.9 m below and 3.7 m right. Circ samples @ 924, 935, & 940 m looking for core point.
28.0	06/05/2013	940.00	956.00	No accidents, no incidents. Circ. sample @ 942. Core point called. Pump Pill, POH to standback directional assy. Pick up core bbls. m/u Bit. RIH to 942, cut core to 956 m. POH, Full core recovery, retrieve 13.91 m core sample. Laydown core bbls, M/U directional assy. Reset motor to 1.5 degrees, RIH with Bit #4RR.
29.0	07/05/2013	956.00	1,079.00	No accidents or Incidents. RIH w/Bit #4RR. Ream Rathole f/942 to 956m. Directionally drill 311m hole f/956m to 1079m. 123m @ 8.5m/hr. Last Survey @ 1050.36m, INC=35.3, AZ=320.7, TVD=999.27m. 24% Sliding (29.5m) 76% Rotating (93.5m). Position 6.5m Under & 3.2m Right.
30.0	08/05/2013	1,079.00	1,178.00	No Accidents or Incidents. Directionally Drill 311mm hole with CES Motor HR 6/7, 5.0 Stg. Survey 12.0m back, Gamma 22.0m back f/1079m to 1178m. 99m @ 4.7m/hr. Rotate - 61.4m (62%). Slide - 37.6m (38%). Last survey - 1165.04m INC =36.7 AZ=320.60 TVD =1091.34m. Position = 5.3m Under & 3.2m Right.
31.0	09/05/2013	1,178.00	1,252.00	No Accidents or Incidents. Directionally Drill 311mm hole with CES Motor HR 6/7, 5.0 Stg. Survey 12.0m back, Gamma 22.0m back f/1178m to log and ICP depth of 1252m. 74m @ 3.8m/hr. Last survey - 1228m INC =37.4 AZ=3318.1 TVD =1141.84m. Position = 3.2m Under & 2.1m Right.
32.0	10/05/2013	1,252.00	1,252.00	No Accidents or Incidents. Circ. Btms Up. POOH F/Wiper Trip. Pulled tight 28 to 30,000 daN over from ICP 1252m to 858m. Pull into Shoe, S&C 17 m drilling line, RIH, Circ. and Clean to Btm F/820 to 1252m. Circ. Btms. Up, Circ. out of hole to shoe. POOH to log. Heavy unloading of cuttings from wellbore. Lay down CES directional tools. TBR and string stabilizer balled up.
33.0	11/05/2013	1,252.00	1,252.00	No Accidents or Incidents. Log SLB Suites #1 & #2. RIH w/ Suite # 3
34.0	12/05/2013	1,252.00	1,252.00	No Accidents or Incidents. Log SLB Suite #3. Sidewall Core. Rig to and Run 244.5 mm Casing.
35.0	13/05/2013	1,252.00	1,252.00	No Accidents or Incidents. Run 244.5mm, 59.527 kg/m, L-80 Casing Land Mandrel in DT2 Casing head. Cement with Halliburton: PUMP 1M3 WATER PREFLUSH, PRESSURE TEST SURFACE LINES TO 20 MPA, PUMP 3.0M3 OF 1450KG/M3 TUNED SPACER. FOLLOWED BY 6.2TONNE (4.9M3) ARCTICEM LEAD #1 (1870 KG/M3) +0.3% PFR-1, F/0-257M. FOLLOWED BY 29.9 TONNES (32.2 M3) HALCEM"G' LEAD #2 (1665KG/M3) W/ 0.5%HALAD 567 + 1.15% HALLIBURTON GEL + 1% ECONOLITE F/257-1105M. FOLLOWED BY 13.2 TONNES (10M3) HALCEM G TAIL (1895 KG/M3) W/ 0.5% HALAD 567 + 0.2% HR-4, F/1105-1252M. 1.5M3 CMT RETURNS TO SURF. FLOATS HELD. Install and Test Weatherford Pack Off. Pressure Test BOPs, Choke Manifold, TD Safety Valve, Mudline back to Pump Manifold.
36.0	14/05/2013	1,268.00	1,279.00	No Accidents or Incidents. Pressure Test TD Safety Valve and Mudline. RIH and layout DC. M/U Bit #5 and Directional BHA, Program MWD tool and Scribe Motor. RIH to 1220.9m, tag Float and Drill Out some. P. Test Casing to 16,400 kPa OK. Drill out Cement and Shoe @ 1249.15m. Drill Ahead to 1257 (1164.75m TVD). Perform FLOT @ Shoe (SAP 15,500 kPa + HP 12568 kPa) / 1164.75 m = LOG 24.1 kPa/m or 2457 kg/m3. Displace 38m3 water to Ultradrill. Drill Ahead 1257m to 1268m 100% Rotating 11.0 m @ 1.7 m/Hr. Position 3.0m Under and 2.5m Right.
37.0	15/05/2013	1,279.00	1,361.00	No Accidents or Incidents. Drill Ahead 222 mm Hole from 1279 -1283m. POOH with Bit #5. M/U Bit #6, Directional Tools & RIH. Break Circ. @ 656m. RIH to 1265m, Wash to Btm. Drill Ahead 1283 to 1361m. Total = 82m @ 8.6 m/hr. Rotated 79m (96.3%) Slid 3.0m (3.7%). Last Survey - INC= 37.9 AZ= 320.1 Position = 1.75m Above, Right = 2.5m.
38.0	16/05/2013	1,361.00	1,508.00	No Accidents or Incidents. Directional Drill Ahead 222 mm Hole from 1361 -1508m. Total = 147m @ 9.6 m/hr. Rotated 134m (90.3%) Slid 13.0m (9.7%). Last Survey - INC= 35.3 AZ= 320.0 Position = 4.90m Above, Right = 1.75m. of line
39.0	17/05/2013	1,508.00	1,577.00	No Accidents or Incidents. Directional Drill Ahead 222 mm Hole from 1508 -1575m. Wiper trip to csg shoe. Trip in hole. Drill from 1575 - 1577m. Bit#6 294m 29.0 hrs ROP 10.14 Circulate hole clean. Trip out change Bits handle Dir tools trip in hole to 375m. Rotated 63.25m 91.5 (%) Slid 5.75m 8.95 (%). total 69m drilled prior to trip. Last Survey - INC= 34.2 AZ= 322.2 Position = 3.90m Above, 2.9m. Right of line



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API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Rpt #	Report Start Date	Start Depth (mKB)	End Depth (mKB)	Operations Summary
40.0	18/05/2013	1,577.00	1,585.00	No Accidents or Incidents. Trip in hole 395m to1231m Slip & cut. Trip in hole to 1395m wash ream to 1577m Directional Drill Ahead 222 mm Hole from1577 -1585m. Bit#7 8m 4.0 hrs ROP 2.0 Circulate hole clean.Trip out change Bits & mud motor handle Dir tools trip in hole to 1230m. Rotated 8m 100 (%) total 8m drilled prior to trip. Last Survey - INC= 34.7 AZ= 320.8 Position = 3.9m Above, 2.9m. Right of line
41.0	19/05/2013	1,605.00	1,689.00	No Accidents or Incidents. Wash/Ream in hole1362mto1460m Trip in hole to 1576m wash clean to 1585m .25m fill Directional Drill Ahead 222 mm Hole from1585 -1689m. 104m 16 hrs ROP 6.5m/hr Rotated 96.5m 92.2 (%) Slid 7.5m 7.8 (%) Last Survey - INC= 33.1 AZ= 327.7 Position = 0.5m Above, 8.0m. Right of line
42.0	20/05/2013	1,689.00	1,745.00	No Accidents or Incidents. Drilled from 1689m To 1697m. Circulate Btms up & Pooh For Bit#8. Change Bit & RIH w/Flow Checks and Fill Pipe As Req'd.Trip in hole to 1680m wash clean to 1697m no fill Directional Drill Ahead 222 mm Hole from1697 -1745m. 48m 4 hrs ROP 12m/hr Total meters today Rotated 56m 78.6 (%) Slid 12m 21.4 (%) Last Survey - INC= 36.0 AZ= 321.0 Position = 2.0m Above, 9.5m. Right of line
43.0	21/05/2013	1,745.00	1,860.00	No Accidents or Incidents. Drill Ahead 222 mm Hole from1745 -1860m.Trouble shoot EM Tool And Pooh Due To Tool Failure. Change Out Tool. Change bits. Trip in hole to 1049m Total meters today 115, Rotated 109.5m 94.98 (%) Slid 5.5m 5.02 (%) Last Survey - INC=34.6° AZ= 319.2 Position = 1.75m Above, 9.2m. Right of line
44.0	22/05/2013	1,860.00	1,959.00	No Accidents or Incidents. Trip in hole to Csg Shoe, Slip& Cut, RIH 1241m-1820m, Tight At 1615m, 1660m, 1665m,Wash Through Bridge At 1684m, Drill Ahead 222 mm Hole from1860m - 1959m Circulate hole clean.Total meters today 99, Rotated 93m 93.94 (%) Slid 6m 6.06 (%) Last Survey - INC=35.8° AZ= 317.0° Position = 0.75m Above, 7.5m. Right of line
45.0	23/05/2013	1,959.00	2,024.00	No Accidents or Incidents. POOH f/1959m with Bit #10. Handle BHA. M/U Bit #11 and RIH. Clean from 1890 to1959m. Directionally Drill Ahead 222 mm Hole from 1959m to 2024m. Total meters today 65m @ 7.1 m/hr, Rotated 60.5m (93.1%) Slid 4.5m (6.9%) Last Survey - INC=34.6° AZ= 317.70° Position = 1.0m Above, 2.0m. Right of line
46.0	24/05/2013	2,024.00	2,061.00	No Accidents or Incidents. Directionally Drill Ahead 222 mm Hole from 2024m to 2061m. POOH f/2061m with Bit #11. Handle BHA. Test and download MWD logs. M/U Bit #12, Scribe motor and RIH. Total meters today 37m @ 4.5 m/hr, Rotated 34.3m (92.7%) Slid 2.7m (6.3%) Last Survey - INC=34.6° AZ= 317.70° Position = 0.89m Above, 3.75m. Right of line
47.0	25/05/2013	2,061.00	2,127.00	No Accidents or Incidents. RIH to 1626m. Wash & Ream 1626 to 1652m. Tight at 1626 & 1637m. RIH 1652 to 1928m. Wash & Ream 1928 to 2061m. Tight at 1928m. Pattern Bit # 12 and Directionally Drill Ahead 222mm Hole f/2061 to 2127m. Total meters today 66m @ 5.7 m/hr, Rotated 90m (59.4%) Slid 6.6m (10%) Last Survey @ 2113.13m - INC=35.8° AZ= 321.2° TVD= 1860.96m Position = On Line for vertical, 2.0m Right of line
48.0	26/05/2013	2,127.00	2,207.00	No Accidents or Incidents. Directionally Drill Ahead 222mm Hole f/2127 to 2207m. Total meters today 80m @ 4.3 m/hr, Rotated 64m (80%) Slid 16m (20%) Last Survey @ 2198.94m - INC=33.2° AZ= 322.9° TVD= 1924.6m Position = 3.27m below line, 3.27m Right of line
49.0	27/05/2013	2,207.00	2,297.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2207m.-2297m. Total meters today 90m ave.ROP 4.9 m/hr, Rotated 57 m (63%) Slid 33 m (37%) Last Survey @ 2285m - INC=34.7° AZ= 322.° TVD= 2002.98m Position = 3.35m below line, 4m Right of line.Estimate 35.6 deg @ bit
50.0	28/05/2013	2,297.00	2,390.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2297m.- 2390m. Total meters today 93m ave.ROP 4.83 m/hr, Rotated 56 m (60%) Slid 37 m (40%) Last Survey @ 2372.34m - INC=35.6° AZ= 319.1.° TVD= 2079.94m Position = 1.85m below line, 2m Right of line.
51.0	29/05/2013	2,390.00	2,417.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2390m.-2417m Total meters today 27m ave.ROP 3.27 m/hr, Rotated 16 m (60%) Slid 11 m (40%) Last Survey @ 2372.34m - INC=35.6° AZ= 319.1.° TVD= 2079.94m Position = 1.85m below line, 2m Right of line. Circulated bottom's up, tripped out, changed out mud motor & bit, serviced MWD tools & tripped in to 1241m w/rigservices, safety meetings, BOP functions & JSA reviews as required.
52.0	30/05/2013	2,417.00	2,475.00	No Accidents or Incidents. Tripped in hole w/bit#13, reamed 1925m-1955m, washed from 2374m-2417m. Directionally Drilled 222mm Hole 2417m - 2475m Total meters today 58m. ave.ROP 4.21 m/hr, Rotated 48 m (80%) Slid 10m (20%) Last Survey @ 2469.7m - INC=35.6° AZ= 323.4.° TVD= 2152.35m Position = 1.3m below line, 2m Right of line.



Daily Activity Summary

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Rpt #	Report Start Date	Start Depth (mKB)	End Depth (mKB)	Operations Summary
53.0	31/05/2013	2,475.00	2,501.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2475m.-2501m Total meters today 26m. ave.ROP 3.85 m/hr, Rotated 22 m (82%) Slid 4m (18%) Last Survey @ 2469.7m - INC=35.6° AZ= 323.4° TVD= 2152.35m Position = 1.3m below line, 2m Right of line. Circulated 2500m sample, tripped out of hole, serviced MWD tools, changed bit, tripped in hole, slipped & cut drilling line. Reamed & cleaned 2006m-2014m. 2014m-2115m. Tight hole @2104m.
54.0	01/06/2013	2,501.00	2,544.00	No Accidents or Incidents. Reamed in hole 2115m-2501m, Worked tight hole & jarred 2330m-2340m. Directionally Drilled 222mm Hole. 2501m-2544m Total meters today 43 m. ave.ROP 6.14m/hr, Rotated 36 m (85%) Slid 7m (15%) Last Survey @ 2536.7m - INC=34.5° AZ= 323.° TVD= 2207m Position = 1.6m below line, 3.3m Right of line. Est.36 deg @ bit
55.0	02/06/2013	2,544.00	2,645.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2544m-2645m Total meters today 101m. ave.ROP 5.77m/hr, Rotated 85m (85%) Slid 16m (15%) Last Survey @2632.22 m - INC=34.9° AZ= 322.1..° TVD= 2285.73m Position = 2.6 m. below line, 3.2m Right of line Fuel on hand 41,021 litres, consumed 5451 litres in the past 24hrs.
56.0	03/06/2013	2,645.00	2,729.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2645m-2729m. Total meters today 84m. ave.ROP 4.73m/hr, Rotated 71m (85%) Slid 13m (15%) Last Survey @2707 m INC=35° AZ= 322° TVD= 2347.21m Position = 3 m. below line, 4m Right of line Fuel on hand 31,483 litres, consumed 9,000 litres in the past 24hrs.
57.0	04/06/2013	2,729.00	2,761.00	No Accidents or Incidents. Circulated bottom's up, wiper tripped to 1863m, changed heads & liners in #2 pump. Tripped in hole, reamed tight spots @2338m & 2529m. Directionally Drilled 222mm Hole 2729m.-2742m. Wiper tripped to 2300m. Drilled 222mm hole 2742m-2761m. Total meters today 32m. ave.ROP 4.61m/hr, Rotated 27m (85%) Slid 5m (15%) Last Survey @2746.65 m INC=33.6° AZ= 322.8° TVD= 2379.96m Position = 5.2 m. below line, 5m Right of line. Fuel on hand 26,214 litres, consumed 5269 litres in the past 24hrs.
58.0	05/06/2013	2,761.00	2,839.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2761m.-2839m .Total meters today 78m. ave.ROP 3.8m/hr, Rotated 76m (97%) Slid 2m (3%) Last Survey @2823 m INC=29.3° AZ= 323.2° TVD= 2445.12m Position = 7.5 m. below line, 5.8m Right of line. Fuel on hand 22,677 litres, consumed 3537 litres in the past 24hrs.
59.0	06/06/2013	2,839.00	2,855.00	No Accidents or Incidents. Directionally Drilled 222mm Hole 2839m.-2855m .Total meters today 16m. Ave.ROP 2.9m/hr, Rotated 16m (100%) Last Survey @2832.59 m INC=29.0° AZ= 322.1 TVD= 2453.49m Position = 7.5 m. below line, 5.8m Right of line. Circulated bottoms up, Wiper tripped to 2426m. Tripped in to 2855m, washed thru tight spot @2700m, Circulated & worked string for 2 X bottoms up, Tripped out of hole to log. Rig up and Run Log #1 - AIT-PEX-HNGS-HRLA-PPC-TLDR.
60.0	07/06/2013	2,855.00	2,855.00	No Accidents or Incidents. Ran log #1 log 2852m to 1249m, layed down log #1, picked up log #2, logged 2852m-2552m, tools not working properly, pulled out tool, hole tight @1410m, checked tools, recovered iron off magnet, ran tools back in, hole bridged @1410m, layed down logging tools, ran directional assembly in & layed down tools, picked up cleanout assembly & tripped in to 639m.
61.0	08/06/2013	2,855.00	2,855.00	No Accidents or Incidents. RIH w / Bit # 14RR to 1378 m. Ream 1378 to 1501 m including bridge @ 1410 m. Circ. Btms up @ 1501 m. RIH 1501 to 1930 m. Ream and clean 1930 m to 1960 m. RIH 1960 m to 2845 m. Ream and clean to btm. 2845 to 2855 m. Circ. hole clean. Strap out of hole. Rig to and run in Log #2 = ADT-NEXT-CMR with Schlumberger. Magnetic tool failure @ 1500 m. Pull out & change tool.
62.0	09/06/2013	2,855.00	2,855.00	No Accidents or Incidents. Log Open Hole Run 3.2 = ADT-NEXT-CMR. Rig out tools and Rig to and run Log # 3 = FMI-PPC-MSIP-PPC. Rig out tools and Rig to and run Log # 4 = MSCT (Sidewall Coring).
63.0	10/06/2013	2,855.00	2,855.00	No Accidents or Incidents. Log # 4 = MSCT (Sidewall Coring). Jammed @ 2400 m., Pull out and recover 15 cores. Service tool and RIH. Cut core until tool jammed. POOH and recover 12 cores. Service tool and RIH. Cut and recover 17 cores over mutiple runs for a total of 46. Rig out SLB. Make up and RIH with Bit # 15 to 1395 m. Ream and clean 1395 m to 1505 m. RIH 1505 m to 2805 m. Fill pipe and break circulation.
64.0	11/06/2013	2,855.00	2,855.00	No Accidents or Incidents. Wash & Ream 2805 - 2855 m. 1.5 m fill on bottom. Circulate btms. up + full system circulation. POOH laying down drill string. Pull Wear Bushing. Rig to & run 177.8 mm LT&C / L80 / 43.157 kg/m casing to 1238 m. Rig up Volant tool, Break circulation and circ. casing volume. Run 177.8 mm casing, filling every joint.



Daily Activity Summary

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Rpt #	Report Start Date	Start Depth (mKB)	End Depth (mKB)	Operations Summary
65.0	12/06/2013	2,855.00	2,855.00	No Accidents or Incidents. Ran 177.8 mm LT&C / L80 / 43.157 kg/m casing to 2854 m. 203 joints, landed @2853 m/kb. Circulated hole clean & conditioned mud. Cemented with 27 tonnes of HalCem G w/ 2% HR-5 & 1.6% Gel 29.2m3 lead slurry @1665 kg/m3, 12.8 tonnes HalCem G w/ 3% HR-5 9.7m3 tail slurry @1895 kg/m3 dropped plug & displaced w/55.4m3 of mud. Bumped plug @ 3500 kpa over, held 5 mins, bled off, floats held. Plug down @14:26 hrs. Set seal assembly with WFT. Pressure test seal assembly and Blind Rams. Pick up 127 mm motor, NMDC, MWD tools and program and scribe same. Make up Bit # 16, and RIH with BHA.
66.0	13/06/2013	2,855.00	2,855.00	No Accidents or Incidents. Pick up Directional BHA. Pick Up SS105 - 102 mm Drill Pipe. RIH, Break Circ. @ 1538 m. RIH to 2821 m. Pressure Test Choke manifold 1500 kPa low / 34.5 mPa high, 10 min. each OK. Displace Casing and string volume from 1450 kg/m3 to 1350 kg/m3 Drilling Fluid. Pressure Test Lower Pipe Rams, HCR Valve, Choke line 1500 kPa low / 34.5 mPa high, 10 min. each OK. Annular 1500 kPa low / 17.5 mPa high, 10 min. each, OK / Stabbing Valve & IBOP 1500 kPa low / 34.5 mPa high, 10 min. each OK. DBMSV 1500 kPa low / 34.5 mPa high, 10 min. FAIL. Replace DBMSV & Retest OK. Drill out cement. Accumulator Function Test OK. Tag and Drill Out Float @ 2824.53, Shoe @ 2852.20.
67.0	14/06/2013	2,855.00	2,908.00	No Accidents or Incidents. Drill cement from 2849 to 2856 m. Drill ahead new hole from 2856 m to 2863 m (2480.25 TVD). Circulate bottoms up. Perform FLOT. SAP - 15,000 kPa + HP 31620 kPa with 1300 kg/m3 drilling fluid = LOT 18.8 kPa/m or 1917 kg/m3 . Drill ahead 2863 m to 2908 m. Total new hole = 52 m @ 2.85 m/hr.
68.0	15/06/2013	2,908.00	2,910.00	No Accidents or Incidents. Circulate 2908 m Sample. POOH to Core from 2908 m. Handle and Stand Back Directional BHA. Pick up Core Barrel and make up Bit # 17 and Coring BHA. RIH to 2898 m. Wash 2898 to 2908 m. Drop Ball, Pattern Bit and core ahead 156 mm Hole from 2908 to 2910 m.
69.0	16/06/2013	2,910.00	2,912.00	No Accidents or Incidents. Full Hole Core 156 mm from 2910 - 2912 m. Core jammed, break & POOH. Handle BHA & Core Barrels. Full recovery of 4.0 m core. Handle directional Assembly & BHA, make up RR Bit & RIH to 2862 to 2892 m (Bit Depth 2912 m). Drill ahead 156 mm hole from 2912 to 2914 m.
70.0	17/06/2013	2,912.00	2,930.00	No Accidents. One (1) Incident - Bear on location. Drill 156 mm Hole from 2917 to 2930 m. 13.0 m total in 9.0 hrs. = 1.44 m/hr. Circulate sample @ 2930 m. POOH to Core. Handle Directional BHA, Downlink MWD Data. Standback BHA. Pick Up & Assemble Core Barrels, BHA, and Bit. RIH to 2627 m.
71.0	18/06/2013	2,930.00	2,948.00	No Accidents or Incidents. RIH from 2627 m to 2921 m. Break Circulation and wash from 2921 m to 2930 m. Drop Ball and Pattern Bit. 156 mm Full Hole Core from 2930 m to 2948 m. POOH to recover core.
72.0	19/06/2013	2,948.00	3,007.00	No Accidents or Incidents. POOH to recover Core. Full recovery of 18 m. Service Core Barrels for re-run. Orders changed. Layout Core Barrels. Pick up and make up Directional Drilling Assembly. Program MWD and Scribe tools and RIH to 2930 m. Wash to 2948 m while retrieving Gamma. Drill Ahead 156 mm Hole 2948 to 3007 m.
73.0	20/06/2013	3,007.00	3,116.00	No Accidents Incidents:Drilled156mmhole3007m-3116m.w/rig services,BOP functions,safety meetings and JSA reviews as required.Control drilled @5m/hr as per Geology request.Last survey @3060.5m 13.4deg.Azm 326 TVD 2664.46mEstimating 10 deg @the bit.All communication w/EM tool was lost @3060.5m.
74.0	21/06/2013	3,116.00	3,230.00	No Accidents or Incidents: Drill ahead 222mm hole from 1745 - 1860m, Trouble shoot EM tool and POOH due to tool failure. Change out tool. Change bits. Trip in hole to 1049m. Total meters today 115. Rotated 109.5m (94.98%), slid 5.5m (5.02%). Last Survey - INC = 34.6 deg AZ= 319.2 Position = 1.75m Above, 9.2m Right of line.
75.0	22/06/2013	3,230.00	3,350.00	No Accidents Incidents:Drilled156mmhole3230-3350m w/rig services,BOP functions,safety meetings and JSA reviews as requiredCirculated bottoms up,wiper tripped to casing shoe @2853m,tripped in,circulated bottoms up,tripped out.Last survey @3060.5m 13.4deg.Azm 326 TVD2664.46m.All communication w/EM tool was lost @3060.5m.
76.0	23/06/2013	3,350.00	3,350.00	No Accidents or Incidents:Layed down directional tools,rigged to & logged well w/Schlumberger.Log #1 AIT,PEX,HNGS, HPLA,GPIT,PPC & TLD2,Log #2 ADT,NEXT,CMR.Log #3 FMI PPC & MSIP.Held safety meetings & reviewed JSA'S as required.
77.0	24/06/2013	3,350.00	3,350.00	No Accidents or IncidentsLog w/Schlumberger. Log #3 FMI,PPC & MSIP.Cut 33 sidewall cores.Rigged out & layed out logging & coring tools.Rigged to and ran 43 joints of 114mm liner,picked up liner hanger & ran in to 2063m Held safety meetings & reviewed JSA'S as required.



Daily Activity Summary

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API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Rpt #	Report Start Date	Start Depth (mKB)	End Depth (mKB)	Operations Summary
78.0	25/06/2013	3,350.00	3,350.00	No Accidents or Incidents:Tripped in hole w/liner to 3349m,circulated bottoms up.Set liner hanger,rigged in cementers.Pumped 3m3 weighted spacer,8 tonnes of HalCem"G"w/.5% Halad 567.3%HR-5 6m3 slurry @ 1895kg/m3,pumped out lines,dropped plug & displ. w/19.3m3 of inh. H2O,bumped plug @3500kpa over,bled off floats held.Plug down 07:32hrs.Got off liner,circulated well to inhibited H2O,tripped out of hole,laid down liner hanger Rigged to & picked up 64 joints of tubing & 100mm bit,tripped in hole,tagged cement @3238m& drilled outcementto3270m.Held safety meetings & reviewed JSA'S as required.
79.0	26/06/2013	3,350.00	3,350.00	Operations Summary No Accidents or Incidents:Drilled out cement3270m-3333m.Circulated wellbore clean,presure tested liner lap to 7000kpa for 15 mins.Layed down 102mm drillstring & 73mm tubing.Nippled down BOPS,stripped mud & cleaned mud tanks.Held safety meetings & reviewed JSA'S as required. Rig released @24:00hrs.
80.0	27/06/2013	3,350.00	3,350.00	Operations Summary No Accidents or Incidents:Nippled down BOP'S.Installed wellhead,rigged out flarelines,manifold etc.rigged out topdrive.Held safety meetings & reviewed JSA'S as required.
81.0	28/06/2013	3,350.00	3,350.00	Operations Summary No Accidents or Incidents:Rig out power cords,do all boomline work,tidy up,lower sub,prepare to & lower derrick,rig out derrick.Held safety meetings & reviewed JSA'S as required.
82.0	29/06/2013	3,350.00	3,350.00	Operations Summary No Accidents,one incident to report:Rigged out derrick & sub,cleaned shale bins,tore out mud tanks,removed flareline stack,removed monkeyboard from derrick,scrubbed derrick,changed heads & liners in mud pumps..Held safety meetings & reviewed JSA'S as required.
83.0	30/06/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents to report:Tore out,cleaned & scrubbed derrick,organized plank skid,removed mud tank stairs,cleaned substructure,inspected brake linkage,cleaned loader & crew truck.Cleaned & organized buildings for rig move,removed pump parts from pumphouse for move.Stacked rig & rental loads on edge of location.Held safety meetings & reviewed JSA'S as required.
84.0	01/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents to report:Cleaned & secure loads for rig move.Rigged out water lines,shut down generator,tear out SCR,Generators & mud pumps,lower doghouse,lower A-Legs,stack rig matting.Held safety meetings & reviewed JSA'S as required.
85.0	02/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
86.0	03/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
87.0	04/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
88.0	05/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
89.0	06/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
90.0	07/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
91.0	08/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
92.0	09/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
93.0	10/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
94.0	11/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
95.0	12/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
96.0	13/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
97.0	14/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks
98.0	15/07/2013	3,350.00	3,350.00	Operations Summary No Accidents or incidents. Prepare for rig move and wait on rig move trucks

APPENDIX II - CASING SUMMARY



Casing Summary

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Conductor, 28.50mKB											
Set Depth (mKB) 28.50		Set Tension (daN)			String Nominal OD (mm) 508.0		String Min Drift (mm)		Centralizers		Scratchers
Jts	Item Des	OD (mm)	ID (mm)	Wt (kg/m)	Grade	Top Thread	Top (mKB)	Btm (mKB)	Len (m)	P Burst (kPa)	P Collapse (kPa)
2	Casing Joints	508.0	482.6	154.800	X40	Welded	18.50	28.50	10.00		

Surface, 363.43mKB											
Set Depth (mKB) 363.43		Set Tension (daN)			String Nominal OD (mm) 339.7		String Min Drift (mm) 311.4		Centralizers		Scratchers
Jts	Item Des	OD (mm)	ID (mm)	Wt (kg/m)	Grade	Top Thread	Top (mKB)	Btm (mKB)	Len (m)	P Burst (kPa)	P Collapse (kPa)
0	Spare Shoe Joint	339.7	315.3	101.200	K-55	Buttress Thread	8.15	8.15	0.00	23,785	13,445
0	Landing Joint #2	339.7	315.3	101.200	K-55	Buttress Thread	8.15	8.15	0.00	23,785	13,445
0	Landing Joint #1	339.7	315.3	101.200	K-55	Buttress Thread	8.15	8.15	0.00	23,785	13,445
1	Nipple	339.7	315.3	101.200	K-55	Buttress Thread	8.15	10.88	2.73	23,785	13,445
28	Casing Joints	339.7	315.3	101.200	K-55	Buttress Thread	10.88	350.18	339.30	23,785	13,445
1	Shoe Joint w/ Flt Shoe & Flt collar	339.7	315.3	101.200	K-55	Buttress Thread	350.18	363.43	13.25	23,785	13,445

Intermediate, 1,249.00mKB											
Set Depth (mKB) 1,249.00		Set Tension (daN)			String Nominal OD (mm) 244.5		String Min Drift (mm)		Centralizers		Scratchers
Jts	Item Des	OD (mm)	ID (mm)	Wt (kg/m)	Grade	Top Thread	Top (mKB)	Btm (mKB)	Len (m)	P Burst (kPa)	P Collapse (kPa)
1	Landing Joint	244.5	224.4	59.527	L-80	LT&C	-1.14	7.83	8.97		21,305
1	Mandrel	244.5	224.4	59.527	L-80	LT&C	7.83	8.66	0.83		21,305
1	Casing Pup Joint	244.5	224.4	59.527	L-80	LT&C	8.66	10.27	1.61		21,305
87	Casing Joints	244.5	224.4	59.527	L-80	LT&C	10.27	1,220.28	1,210.01		21,305
1	Float Collar	244.5	224.4	59.527	L-80	LT&C	1,220.28	1,220.76	0.48		21,305
2	Casing Joints	244.5	224.4	59.527	L-80	LT&C	1,220.76	1,248.46	27.70		21,305
1	Float Shoe	244.5	224.4	59.527	L-80	LT&C	1,248.46	1,249.00	0.54		21,305

Intermediate 2, 2,853.00mKB											
Set Depth (mKB) 2,853.00		Set Tension (daN)			String Nominal OD (mm) 177.8		String Min Drift (mm)		Centralizers		Scratchers
Jts	Item Des	OD (mm)	ID (mm)	Wt (kg/m)	Grade	Top Thread	Top (mKB)	Btm (mKB)	Len (m)	P Burst (kPa)	P Collapse (kPa)
1	Landing Joint	177.8	157.1	43.157	L-80		-0.87	7.43	8.30		48,401
1	Hanger Element	177.8	157.1	43.157	L-80	LT&C	7.43	8.32	0.89		48,401
1	Pup Joint	177.8	157.1	43.157	L-80	LT&C	8.32	10.12	1.80		48,401
20	Casing Joints	177.8	157.1	43.157	L-80	LT&C	10.12	2,824.53	2,814.41		48,401
1	Float Collar	177.8	157.1	43.157	L-80	LT&C	2,824.53	2,824.97	0.44		48,401
2	Casing Joints	177.8	157.1	43.157	L-80	LT&C	2,824.97	2,852.20	27.23		48,401
1	Davis Float Shoe	177.8	157.1	43.157	L-80	LT&C	2,852.20	2,853.00	0.80		48,401

Liner, 3,349.00mKB											
Set Depth (mKB) 3,349.00		Set Tension (daN)			String Nominal OD (mm) 114.3		String Min Drift (mm)		Centralizers		Scratchers
Jts	Item Des	OD (mm)	ID (mm)	Wt (kg/m)	Grade	Top Thread	Top (mKB)	Btm (mKB)	Len (m)	P Burst (kPa)	P Collapse (kPa)
1	Liner hanger	114.3	101.6	17.263	L-80	LT&C	2,744.57	2,749.09	4.52		52,262
42	Casing Joints	114.3	101.6	17.263	L-80	LT&C	2,749.09	3,333.72	584.63		52,262
1	Landing Collar	114.3	101.6	17.263	L-80	LT&C	3,333.72	3,333.96	0.24		52,262
1	Float Collar	114.3	101.6	17.263	L-80	LT&C	3,333.96	3,334.26	0.30		52,262
1	Casing Joints	114.3	101.6	17.263	L-80	LT&C	3,334.26	3,348.47	14.21		52,262
1	Float Shoe	114.3	101.6	17.263	L-80	LT&C	3,348.47	3,349.00	0.53		

APPENDIX III- CEMENT REPORTS

Plug # 1- 7 were required to deal with shallow loss of circulation.



Cement

Conductor

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Conductor, Casing, 02/10/2012 10:00

Type Casing	Cementing Start Date 02/10/2012	Cementing End Date 02/10/2012	Wellbore Original Hole	String Conductor, 28.50mKB
Cementing Company Halliburton Energy Services	Evaluation Method Returns to Surface	Cement Evaluation Results Cement returns		

Comment
Pump 7m3 water. Pump 19.6 m3 (25 tonne) ArcticCem + 0.2% PFR 1 + 0.2% Flocele + 0.1% TuffFiber. Displaced with 1.5m3 water.

1, 8.50-28.50mKB

Top Depth (mKB) 8.50	Bottom Depth (mKB) 28.50	Full Return?	Vol Cement Ret (m³) 1.00	Top Plug?	Bottom Plug?
Initial Pump Rate (m³/min)	Final Pump Rate (m³/min)	Avg Pump Rate (m³/min)		Final Pump Pressure (kPa)	Plug Bump Pressure (kPa)
Pipe Reciprocated?	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)		Pipe Rotated?	Pipe RPM (rpm)
Tagged Depth (mKB)	Tag Method	Depth Plug Drilled Out To (mKB)		Drill Out Diameter (mm)	Drill Out Date

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 25.0	Class G	Volume Pumped (m³)
Estimated Top (mKB) 8.50	Estimated Bottom Depth (mKB) 28.50	Percent Excess Pumped (%)	Yield (m³/tonne) 0.790	Mix H2O Ratio (m³/tonne) 0.42
Free Water (%)	Density (kg/m³)	Plastic Viscosity (Pa*s)	Thickening Time (hr)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
Flocele		0.2
PFR 1		0.2
TuffFiber		0.1



Cement

Cement Plug 1

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Cement Plug 1, Plug, 17/04/2013 15:00

Type Plug	Cementing Start Date 17/04/2013	Cementing End Date 17/04/2013	Wellbore Original Hole	String
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Pump 4m3 spacer. lines pressure tested to 20 MPa. Pump 3.4 m3 (3.0 tonne) Halcem G cement plug at 1550 kg/m3 (1.13 m3/t) with 0.5% Halad 567 + 2.5% Cacl4 +2.62% Halliburton Gel+ %tuf fiber 594. Displaced with 0.6m3 water.

1, 80.00-100.00mKB

Top Depth (mKB) 80.00	Bottom Depth (mKB) 100.00	Full Return? No	Vol Cement Ret (m³) 0.00	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.900	Final Pump Rate (m³/min) 0.900	Avg Pump Rate (m³/min) 0.900		Final Pump Pressure (kPa) 2,000	Plug Bump Pressure (kPa) 0
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (mKB)	Tag Method Drill Pipe	Depth Plug Drilled Out To (mKB) 100.00	Drill Out Diameter (mm) 444.5	Drill Out Date 17/04/2013	

Plug

Fluid Type Plug	Fluid Description	Amount (1000kg) 3,000.0	Class G	Volume Pumped (m³) 4.00
Estimated Top (mKB) 69.40	Estimated Bottom Depth (mKB) 99.40	Percent Excess Pumped (%) 0.0	Yield (m³/tonne) 1.350	Mix H2O Ratio (m³/tonne) 0.99
Free Water (%)	Density (kg/m³) 1,550.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 1.00	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
	Cacl2	
	Halad 567	
	Halliburton Gel	



Cement

Cement Plug 2

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Cement Plug 2, Plug, 17/04/2013 21:40

Type Plug	Cementing Start Date 17/04/2013	Cementing End Date 17/04/2013	Wellbore Original Hole	String
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Pump 1.5m3 spacer. lines pressure tested to 20 MPa. Pump 4 m3 (3.8 tonne) Halcem G cement plug at 1665 kg/m3 (1.05 m3/t) with 0.5% Halad 567 + 2.5% Cacl4 +2.62% Halliburton Gel+ %tuf fiber 594. Displaced with 0.6m3 water.

1, 62.00-87.00mKB

Top Depth (mKB) 62.00	Bottom Depth (mKB) 87.00	Full Return? No	Vol Cement Ret (m³) 0.900	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.900	Final Pump Rate (m³/min) 0.900	Avg Pump Rate (m³/min) 0.900		Final Pump Pressure (kPa) 2,000	Plug Bump Pressure (kPa) 0
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (mKB)	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 87.00	Drill Out Diameter (mm) 444.0	Drill Out Date 18/04/2013	

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 14,500.0	Class G	Volume Pumped (m³) 15.00
Estimated Top (mKB) 69.40	Estimated Bottom Depth (mKB) 99.40	Percent Excess Pumped (%) 0.0	Yield (m³/tonne) 1.350	Mix H2O Ratio (m³/tonne) 0.99
Free Water (%)	Density (kg/m³) 1,650.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 1.00	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
	Cacl2	2.5
	Halad 567	0.5
	Halliburton Gel	2.62



Cement

Cement Plug 3

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Cement Plug 3, Plug, 18/04/2013 07:30

Type Plug	Cementing Start Date 18/04/2013	Cementing End Date 18/04/2013	Wellbore Original Hole	String
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Pump 1.5m3 spacer. lines pressure tested to 20 MPa. Pump 6.7 m3 (6.7 tonne) Halcem G cement plug at 1665 kg/m3 (1 m3/t) with 0.5% Halad 567 + 2.5% Cacl4 +2.62% Halliburton Gel+ %tuf fiber 594. Displaced with 0.6m3 water.

1, 47.00-97.00mKB

Top Depth (mKB) 47.00	Bottom Depth (mKB) 97.00	Full Return? No	Vol Cement Ret (m³) 0.950	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.950	Final Pump Rate (m³/min) 0.950	Avg Pump Rate (m³/min) 0.950		Final Pump Pressure (kPa) 1	Plug Bump Pressure (kPa)
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)	Pipe Rotated? No	Pipe RPM (rpm)	
Tagged Depth (mKB) 90.00	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 97.00	Drill Out Diameter (mm) 444.5	Drill Out Date 18/04/2013	

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 6.7	Class G	Volume Pumped (m³) 6.70
Estimated Top (mKB) 47.00	Estimated Bottom Depth (mKB) 97.00	Percent Excess Pumped (%)	Yield (m³/tonne) 1.000	Mix H2O Ratio (m³/tonne) 0.73
Free Water (%)	Density (kg/m³) 1,665.0	Plastic Viscosity (Pa*s)	Thickening Time (hr)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
	Cacl2	2.5
	Halad 567	0.5
	Halliburton Gel	2.62



Cement

Cement Plug 4

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Cement Plug 4, Plug, 18/04/2013 07:30

Type Plug	Cementing Start Date 18/04/2013	Cementing End Date 18/04/2013	Wellbore Original Hole	String
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Pump 1.5m3 spacer. lines pressure tested to 20 MPa. Pump 15 m3 (13.3 tonne) Halcem G cement plug at 1650 kg/m3 (1.13 m3/t) with 0.5% Halad 567 + 2.5% Cacl4 +2.62% Halliburton Gel+ %tuf fiber 594. Displaced with 0.6m3 water.

1, 19.00-116.00mKB

Top Depth (mKB) 19.00	Bottom Depth (mKB) 116.00	Full Return? No	Vol Cement Ret (m³) 0.600	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.600	Final Pump Rate (m³/min) 0.600	Avg Pump Rate (m³/min) 0.600		Final Pump Pressure (kPa) 1	Plug Bump Pressure (kPa)
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)	Pipe Rotated? No	Pipe RPM (rpm)	
Tagged Depth (mKB) 72.00	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 117.00	Drill Out Diameter (mm) 444.5	Drill Out Date 19/04/2013	

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 13.3	Class G	Volume Pumped (m³) 15.00
Estimated Top (mKB) 19.00	Estimated Bottom Depth (mKB) 116.00	Percent Excess Pumped (%)	Yield (m³/tonne) 113.000	Mix H2O Ratio (m³/tonne) 0.78
Free Water (%)	Density (kg/m³) 1,650.0	Plastic Viscosity (Pa*s)	Thickening Time (hr)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
	CaCl2	2.5
	Halad 567	0.5
	Halliburton Gel	2.62



Cement

Well Name: NCY Ehnjuu Choo B-73

Cement Plug 5

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Cement Plug 5, Plug, 19/04/2013 16:00

Type Plug	Cementing Start Date 19/04/2013	Cementing End Date 19/04/2013	Wellbore Original Hole	String
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Pump 1.5m3 spacer. lines pressure tested to 20 MPa. Pump 7 m3 (6.7 tonne) Halcem G cement plug at 1650 kg/m3 (1.13 m3/t) with 0.5% Halad 567 + 2.5% Cacl2 +2.62% Halliburton Gel+ %tuf fiber 594. Displaced with 0.6m3 water.

1, 47.00-103.00mKB

Top Depth (mKB) 47.00	Bottom Depth (mKB) 103.00	Full Return? No	Vol Cement Ret (m³) 0.700	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.800	Final Pump Rate (m³/min) 0.750	Avg Pump Rate (m³/min) 0.700		Final Pump Pressure (kPa) 2,000	Plug Bump Pressure (kPa)
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)	Pipe Rotated? No	Pipe RPM (rpm)	
Tagged Depth (mKB)	Tag Method	Depth Plug Drilled Out To (mKB) 106.00	Drill Out Diameter (mm) 444.5	Drill Out Date 19/04/2013	

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 6.7	Class G	Volume Pumped (m³)
Estimated Top (mKB) 47.00	Estimated Bottom Depth (mKB) 103.00	Percent Excess Pumped (%)	Yield (m³/tonne) 1.050	Mix H2O Ratio (m³/tonne) 0.73
Free Water (%)	Density (kg/m³) 1,665.0	Plastic Viscosity (Pa*s)	Thickening Time (hr)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
	Cacl2	2.5
	Halad 567	0.5
	Haliburton Gel	2.62
	TufFiber	



Cement

Cement Plug 6

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Cement Plug 6, Plug, 20/04/2013 06:00

Type Plug	Cementing Start Date 20/04/2013	Cementing End Date 20/04/2013	Wellbore Original Hole	String
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
RIG IN HALLIBURTON CMTRS & PRESSURE TEST LINES FOR PLUG #6 PUMP 1.5M3 OF WATER AHEAD. PRESSURE TEST LINES TO 21 MPA PUMP 5.5M3 OR 5000KG OF CLASS G CMT @1665kg(137kg of CaCl2, 137KG Gel, 13.KG Tough Fiber, 35 Kg Poly Flake). FOLLOWED BY .65M3 WATER.

1, 69.40-116.00mKB

Top Depth (mKB) 69.40	Bottom Depth (mKB) 116.00	Full Return? Yes	Vol Cement Ret (m³) 5.25	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.800	Final Pump Rate (m³/min) 0.800	Avg Pump Rate (m³/min) 0.800		Final Pump Pressure (kPa) 2,000	Plug Bump Pressure (kPa) 0
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)	Pipe Rotated? No	Pipe RPM (rpm)	
Tagged Depth (mKB)	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 116.00	Drill Out Diameter (mm) 444.0	Drill Out Date 20/04/2013	

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 5,000.0	Class G	Volume Pumped (m³) 5.30
Estimated Top (mKB) 76.00	Estimated Bottom Depth (mKB) 116.00	Percent Excess Pumped (%) 0.0	Yield (m³/tonne) 1.050	Mix H2O Ratio (m³/tonne) 0.73
Free Water (%)	Density (kg/m³) 1,665.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 1.00	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
	Cacl2	2.5
	Haliburton Gel	2.62
	Poly Flake	0.25
	Tough Fiber	0.2



Cement

Cement Plug 7

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Cement Plug 7, Plug, 20/04/2013 20:00

Type Plug	Cementing Start Date 20/04/2013	Cementing End Date 20/04/2013	Wellbore Original Hole	String
Cementing Company Halliburton Energy Services	Evaluation Method	Cement Evaluation Results		

Comment
Pump 1.5m3 spacer. lines pressure tested to 20 MPa. Pump 7 m3 (9.2 tonne) Halcem G cement plug at 1895 kg/m3 (0.76 m3/t) with 0.5% Halad 567 + 2% Cacl4 + %tuf fiber 594. Displaced with 0.6m3 water.

1, 71.00-116.00mKB

Top Depth (mKB) 71.00	Bottom Depth (mKB) 116.00	Full Return? No	Vol Cement Ret (m³) 0.700	Top Plug? No	Bottom Plug? No
Initial Pump Rate (m³/min) 0.600	Final Pump Rate (m³/min) 0.700	Avg Pump Rate (m³/min) 0.700		Final Pump Pressure (kPa) 2,000	Plug Bump Pressure (kPa)
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)	Pipe Rotated? No	Pipe RPM (rpm)	
Tagged Depth (mKB) 90.00	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 117.00	Drill Out Diameter (mm) 444.5	Drill Out Date 21/04/2013	

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 9.2	Class G	Volume Pumped (m³) 7.00
Estimated Top (mKB) 71.00	Estimated Bottom Depth (mKB) 116.00	Percent Excess Pumped (%)	Yield (m³/tonne) 0.760	Mix H2O Ratio (m³/tonne) 0.44
Free Water (%)	Density (kg/m³) 1,895.0	Plastic Viscosity (Pa*s)	Thickening Time (hr)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
	Cacl2	2.0
	Halad 567	0.5
	Pol-E-Flake	
	TufFiber	



Cement

Surface

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Surface, Casing, 25/04/2013 16:00

Type Casing	Cementing Start Date 25/04/2013	Cementing End Date 25/04/2013	Wellbore Original Hole	String Surface, 363.43mKB
Cementing Company Halliburton Energy Services	Evaluation Method Returns to Surface	Cement Evaluation Results		

Comment
 PUMP 3M3 WATER PREFLUSH, PRESSURE TEST SURFACE LINES, CEMENT SURFACE CASING WITH 7.7 TONNES (6.1 M3) ARCTICEM LEAD #1 (1870 KG/M3) W/ 0.27% PFR-1, F/0-62M. FOLLOWED BY 14 TONNES (10.6 M3) EXTENDACEM II LT LEAD #2 (1600 KG/M3) W/ 2% CaCl2, F/62-176M. FOLLOWED BY 41 TONNES (31.2 M3) HALCEM G TAIL (1895 KG/M3) W/ 0.5% HALAD 568 + 2% CaCl2, F/176-366M. 4M3 CEMENT RETURNS SEEN AT SURFACE. LOST 1M3 CEMENT AFTER DROPPING PLUG.FLOATS HELD.

1, 8.30-366.00mKB

Top Depth (mKB) 8.30	Bottom Depth (mKB) 366.00	Full Return? Yes	Vol Cement Ret (m³) 4.00	Top Plug? Yes	Bottom Plug? No
Initial Pump Rate (m³/min) 0.750	Final Pump Rate (m³/min) 0.100	Avg Pump Rate (m³/min) 0.750		Final Pump Pressure (kPa) 3,000	Plug Bump Pressure (kPa)
Pipe Reciprocated? Yes	Reciprocation Stroke Length (m) 1.00	Reciprocation Rate (spm) 1		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (mKB) 340.00	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 366.00	Drill Out Diameter (mm) 311.2	Drill Out Date 27/04/2013	

Lead #1

Fluid Type Lead #1	Fluid Description	Amount (1000kg) 7.7	Class G	Volume Pumped (m³) 6.10
Estimated Top (mKB) 0.00	Estimated Bottom Depth (mKB) 62.00	Percent Excess Pumped (%) 30.0	Yield (m³/tonne) 0.790	Mix H2O Ratio (m³/tonne) 0.42
Free Water (%)	Density (kg/m³) 1,870.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 3.00	1st Compressive Strength (kPa) 3,500

Cement Fluid Additives

Add	Type	Conc
Pol-E-Flake		
Tuffiber		
PFR-1	Retarder	0.27

Lead #2

Fluid Type Lead #2	Fluid Description	Amount (1000kg) 14.0	Class G	Volume Pumped (m³) 10.60
Estimated Top (mKB) 62.00	Estimated Bottom Depth (mKB) 176.00	Percent Excess Pumped (%) 30.0	Yield (m³/tonne) 0.760	Mix H2O Ratio (m³/tonne) 0.64
Free Water (%)	Density (kg/m³) 1,600.0	Plastic Viscosity (Pa*s)	Thickening Time (hr)	1st Compressive Strength (kPa) 3,500

Cement Fluid Additives

Add	Type	Conc
Pol-E-Flake		
CaCl2	Accelerator	2.0
PFR-1	Retarder	0.27

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 41.0	Class G	Volume Pumped (m³) 31.20
Estimated Top (mKB) 176.00	Estimated Bottom Depth (mKB) 366.00	Percent Excess Pumped (%) 30.0	Yield (m³/tonne) 0.760	Mix H2O Ratio (m³/tonne) 0.44
Free Water (%)	Density (kg/m³) 1,895.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 2.50	1st Compressive Strength (kPa) 3,500

Cement Fluid Additives

Add	Type	Conc
Pol-E-Flake		
CaCl2	Accelerator	2.0
Halad 567	Fluid Loss Control	0.5
PFR-1	Retarder	0.27



Cement

Well Name: NCY Ehnjuu Choo B-73

Intermediate Casing Cement

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Intermediate Casing Cement, Casing, 13/05/2013 13:01

Type Casing	Cementing Start Date 13/05/2013	Cementing End Date 13/05/2013	Wellbore Original Hole	String Intermediate, 1,249.00mKB
Cementing Company Halliburton Energy Services	Evaluation Method Returns to Surface	Cement Evaluation Results 2.0m3 Good Cement To Surface		

Comment
 PUMP 1M3 WATER PREFLUSH, PRESSURE TEST SURFACE LINES TO 20 MPA, PUMP 3.0M3 OF 1450KG/M3 TUNED SPACER. FOLLOWED BY 6.2TONNE (4.9M3) ARCTICCEM LEAD #1 (1870 KG/M3) +0.3% PFR-1, F/0-257M. FOLLOWED BY 29.9 TONNES (32.2 M3) HALCEM"G' LEAD #2 (1665KG/M3) W/ 0.5%HALAD 567 + 1.15% HALLIBURTON GEL + 1%ECONOLITE F/257-1105M. FOLLOWED BY 13.2 TONNES (10M3) HALCEM G TAIL (1895 KG/M3) W/ 0.5% HALAD 567 + 0.2% HR-4, F/1105-1252M. 1.5M3 CMT RETURNS TO SURF. FLOATS HELD.

1, 0.00-1,252.00mKB

Top Depth (mKB) 0.00	Bottom Depth (mKB) 1,252.00	Full Return? Yes	Vol Cement Ret (m³) 2.00	Top Plug? Yes	Bottom Plug? No
Initial Pump Rate (m³/min)	Final Pump Rate (m³/min) 1.000	Avg Pump Rate (m³/min) 1.000		Final Pump Pressure (kPa) 10,000	Plug Bump Pressure (kPa) 14,000
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (mKB) 1,220.00	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 1,252.00		Drill Out Diameter (mm) 222.2	Drill Out Date 14/05/2013

Lead 1

Fluid Type Lead 1	Fluid Description Lead F/ Surface to 257m KB	Amount (1000kg) 4.9	Class G	Volume Pumped (m³) 4.90
Estimated Top (mKB) 0.00	Estimated Bottom Depth (mKB) 257.00	Percent Excess Pumped (%) 0.0	Yield (m³/tonne) 0.790	Mix H2O Ratio (m³/tonne) 0.42
Free Water (%)	Density (kg/m³) 1,870.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 6.18	1st Compressive Strength (kPa) 3,500

Cement Fluid Additives

Add	Type	Conc
PFR-1		0.3

Lead 2

Fluid Type Lead 2	Fluid Description Lead #2 F/257m-1105m KB	Amount (1000kg) 32.3	Class G	Volume Pumped (m³) 32.20
Estimated Top (mKB) 257.00	Estimated Bottom Depth (mKB) 1,125.00	Percent Excess Pumped (%) 10.0	Yield (m³/tonne) 1.080	Mix H2O Ratio (m³/tonne) 0.73
Free Water (%)	Density (kg/m³) 1,665.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 4.03	1st Compressive Strength (kPa) 3,500

Cement Fluid Additives

Add	Type	Conc
Econolite		1.0
Halad 567		0.5
Halliburton Gel		1.15

Tail

Fluid Type Tail	Fluid Description Tail cement F/ 1105m-1252m KB	Amount (1000kg) 13.2	Class G	Volume Pumped (m³) 10.00
Estimated Top (mKB) 1,125.00	Estimated Bottom Depth (mKB) 1,252.00	Percent Excess Pumped (%) 10.0	Yield (m³/tonne) 0.760	Mix H2O Ratio (m³/tonne) 0.44
Free Water (%)	Density (kg/m³) 1,895.0	Plastic Viscosity (Pa*s)	Thickening Time (hr) 2.46	1st Compressive Strength (kPa) 3,500

Cement Fluid Additives

Add	Type	Conc
Halad 567		0.5
HR-4		0.2



Cement

Well Name: NCY Ehnjuu Choo B-73

Intermediate Casing 2 Cement

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Intermediate Casing 2 Cement, Casing, 12/06/2013 12:30

Type Casing	Cementing Start Date 12/06/2013	Cementing End Date 12/06/2013	Wellbore Original Hole	String Intermediate 2, 2,853.00mKB
Cementing Company Halliburton Energy Services	Evaluation Method Returns to Surface	Cement Evaluation Results Maintained full circulation throughout		

Comment
Pumped m3 H2O,3m3 of spacer @1550kg/m3,presure tested lines to 30,000kpa,pumped 27 tonnes of Halcem"G" w/.2%HR-5,1.6%Haliburton gel, 29.2m3 lead slurry @1665kg/m3(10%excess)12.8 tonnes of HalCem"G" w/.3%HR-5 9.7m3 tail slurry @1895kg/m3 (10% excess) dropped plug & displaced w/55.4m3 of 1500kg/m3 drilling mud,bumped plug @3500kpa over,held for 5mins,bled off floats held,maintained full circulation throughout.Plug down @14:26 hrs.June 12 2013.

1, 650.00-2,853.00mKB

Top Depth (mKB) 650.00	Bottom Depth (mKB) 2,853.00	Full Return? Yes	Vol Cement Ret (m³) 1.000	Top Plug? Yes	Bottom Plug? Yes
Initial Pump Rate (m³/min) 1.000	Final Pump Rate (m³/min) 0.500	Avg Pump Rate (m³/min) 1.000		Final Pump Pressure (kPa) 12,000	Plug Bump Pressure (kPa) 16,000
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (mKB) 2,820.00	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 2,853.00	Drill Out Diameter (mm) 155.6	Drill Out Date 13/06/2013	

Lead

Fluid Type Lead	Fluid Description Lead Slurry @1665kg/m3	Amount (1000kg) 27.0	Class G	Volume Pumped (m³) 29.20
Estimated Top (mKB) 650.00	Estimated Bottom Depth (mKB) 2,300.00	Percent Excess Pumped (%) 10.0	Yield (m³/tonne) 1.080	Mix H2O Ratio (m³/tonne) 0.73
Free Water (%)	Density (kg/m³) 1,665.0	Plastic Viscosity (Pa·s)	Thickening Time (hr) 4.00	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
Bentonite		1.6
High Temp Retarder		0.2

Tail

Fluid Type Tail	Fluid Description Tail slurry @1895kg/m3	Amount (1000kg) 12.8	Class G	Volume Pumped (m³) 9.70
Estimated Top (mKB) 2,300.00	Estimated Bottom Depth (mKB) 2,300.00	Percent Excess Pumped (%) 10.0	Yield (m³/tonne) 0.760	Mix H2O Ratio (m³/tonne) 0.44
Free Water (%)	Density (kg/m³) 1,895.0	Plastic Viscosity (Pa·s)	Thickening Time (hr) 3.50	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
High Temp Retarder		0.3



Cement

Liner Cement

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Liner Cement, Casing, 25/06/2013 06:10

Type Casing	Cementing Start Date 25/06/2013	Cementing End Date 25/06/2013	Wellbore Original Hole	String Liner, 3,349.00mKB
Cementing Company Halliburton Energy Services	Evaluation Method Returns to Surface	Cement Evaluation Results Maintained full circulation throughout		

Comment
Set liner hanger,rigged in cementers.Pumped 3m3 weighted spacer @ 1300 kg/m3,8 tonnes of HalCemG w/.5% Halad 567. 3%HR-5 6m3 slurry @1895kg/m3, pumped out lines, dropped plug & displ. w/19.3m3 of inhibited H2O,bumped plug @3500kpa over final circulating pressure, bled off floats held.Plug down 07:32hr

1, 2,744.00-3,349.00mKB

Top Depth (mKB) 2,744.00	Bottom Depth (mKB) 3,349.00	Full Return? Yes	Vol Cement Ret (m³)	Top Plug? Yes	Bottom Plug? Yes
Initial Pump Rate (m³/min) 0.800	Final Pump Rate (m³/min) 0.400	Avg Pump Rate (m³/min) 0.700		Final Pump Pressure (kPa) 14,000	Plug Bump Pressure (kPa) 18,000
Pipe Reciprocated? No	Reciprocation Stroke Length (m)	Reciprocation Rate (spm)		Pipe Rotated? No	Pipe RPM (rpm)
Tagged Depth (mKB) 3,238.00	Tag Method Drill Bit	Depth Plug Drilled Out To (mKB) 3,333.70		Drill Out Diameter (mm) 100.0	Drill Out Date 26/06/2013

Tail

Fluid Type Tail	Fluid Description	Amount (1000kg) 8.0	Class G	Volume Pumped (m³) 6.00
Estimated Top (mKB) 2,744.00	Estimated Bottom Depth (mKB) 3,349.00	Percent Excess Pumped (%) 0.760		Mix H2O Ratio (m³/tonne) 0.44
Free Water (%)	Density (kg/m³) 1,895.0	Plastic Viscosity (Pa*s)	Thickening Time (hr)	1st Compressive Strength (kPa)

Cement Fluid Additives

Add	Type	Conc
Halad567		0.5
HR-5		0.3

APPENDIX IV - BIT SUMMARY



Bit Summary

Well Name: NCY Ehnjuu Choo B-73

Job Type: Drilling - original

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Bits																		
BHA #	Bit Run	Size (mm)	Make	Model	SN	IADC Codes	TFA (incl Noz) (mm ²)	Nozzles (mm)	Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	BHA ROP (m/hr)	WOB Max (daN)	WOB Min (daN)	Max RPM (rpm)	Min RPM (rpm)	Bit Dull
1	1A	444.0	VAREL	HRO 4JMRSV	1312056	---	882	17.5/17.5/17.5/14.3	0.00	246.00	245.00	27.75	8.8	19,000	4,000	180	70	-----
2	2A	311.0	SMITH	GFI30BODVCPS	PS 7821	537X	920	17.5/17.5/17.5/15.9	246.00	352.00	106.00	13.50	7.9	17,000	17,000	130	130	1-1-NO-A-E--NO-BHA
3	1A RR	444.0	VAREL	HRO 4JMRSV	1312056	---	882	17.5/17.5/17.5/14.3	352.00	366.00	14.00	2.28	6.1	26,000	26,000	130	130	1-8-BT-A-E-3-WT-CP
4	1	311.0	SMITH	GFI28BODVCPS	PW1028	527X	722	17.5/17.5/17.5	366.00	408.00	42.00	6.00	7.0	20,000	19,000	126	121	2-8-CT-G-E--BT-BHA
5	2RR	311.0	SMITH	GFI30B	PS7821	537X	722	17.5/17.5/17.5	408.00	649.00	241.00	60.50	4.0	21,000	18,000	128	120	4-8-FC-H-F-9-BT-PR
6	3	311.0	SMITH	GFI35BOD1VCPS	PY4700	547X	1,161	22.2/22.2/22.2	649.00	906.00	257.00	63.25	4.1	22,000	17,000	30	30	2-6-BT-A-E-2-WT-PR
7	4	311.0	HUGHES	GX-35DXO	5186909	547X	1,161	22.2/22.2/22.2	906.00	942.00	36.00	6.75	5.3	20,000	20,000	30	30	1-5-CT-G-1--BT-BHA
8	4C	222.0	QUEST	DC-813	1012	---	1,062	13.0/13.0/13.0/13.0/13.0/13.0/13.0	942.00	956.00	14.00	2.50	5.6	5,000	5,000	50	50	0-0-NO-N-X--NO-BHA
9	4 RR	311.0	HUGHES	GX-35DXO	5186909	547X	1,161	22.2/22.2/22.2	956.00	1,252.00	296.00	62.50	4.7	20,000	18,000	40	35	2-6-BT-A-E-5-WT-CP
10	5	222.0	SMITH	XR+PS	PY1259	117X	482	14.3/14.3/14.3	1,268.00	1,361.00	93.00	13.00	7.2	18,000	9,000	40	40	7-7-WT-A-E-0-WT-PR
11	6	222.0	SECURITY	FX54R	12073707	---	737	11.0/11.0/11.0/12.0/12.0/12.0/12.0	1,279.00	1,577.00	216.00	32.50	6.6	8,000	8,000	150	30	5-8-CT-A-X-17-BC-PR
12	7	222.0	SMITH	MDSsi613 UBXP	J1131	---	737	12.0/12.0/12.0/13.0/13.0/13.0	1,577.00	1,585.00	8.00	3.50	2.3	15,000	6,000	178	158	2-4-BC-H-X--CC-PR
13	8	222.0	HUGHES	28DX2	5207920	---	603	16.0/16.0/16.0	1,605.00	1,697.00	92.00	16.00	5.8	20,000	20,000	160	40	6-8-NO-A-E-2-BT-PR
14	9	222.0	SMITH	SDi513MHSBPX	JE2077	---	385	8.7/8.7/8.7/8.7/7.9/7.9/7.9	1,697.00	1,860.00	163.00	12.00	13.6	8,000	7,000	160	160	1-2-NO-H-X-2-CC-DTF
15	10	222.0	SMITH	SDi513MHSBPX	JE8798	---	385	8.7/8.7/8.7/8.7/7.9/7.9/7.9	1,860.00	1,959.00	99.00	14.50	6.8	8,000	7,000	165	160	2-8-CC-H-X-21-BC-PR
16	11	222.0	SMITH	SDi513MHSBPX	JE3506	---	385	8.7/8.7/8.7/8.7/7.9/7.9/7.9	1,959.00	2,061.00	102.00	16.50	6.2	8,000	8,000	40	40	8-8-CC-A-X-23-BC-PR
17	12	222.0	HUGHES	DP605X	7140873	---	354	9.5/9.5/9.5/9.5/9.5	2,061.00	2,417.00	356.00	76.00	4.7	9,500	8,000	40	40	3-5-CC-N-X-5-CC-PR
19	13	222.0	SMITH	FHI35ODIVPS	PY2874	547X	334	11.9/11.9/11.9	2,417.00	2,501.00	84.00	20.26	4.1	24,000	18,000	40	40	5-7-BT-A-E-2-WT-PR
20	14	222.0	ULTERRA	U516M	12008	---	343	7.9/7.9/7.9/7.9/7.9/7.9/7.9	2,501.00	2,855.00	354.00	72.64	4.9	8,000	6,000	45	40	2-4-BC-H-X-4-CC-PR
22	14 RR	222.0	ULTERRA	U516M	12008	---	343	7.9/7.9/7.9/7.9/7.9/7.9/7.9										2-4-BC-H-X-4-CC-LOG
24	15	222.0	HALLIBURTON	EXH22J3R	11613241	517X	722	17.5/17.5/17.5										-----
25	16	156.0	UNITED DIAMOND	U613M	17301	---	667	11.9/11.9/11.9/11.9/11.9/11.9	2,855.00	2,908.00	53.00	18.25	2.9	9,000	9,000	20	20	1-1-NO-N-X--NO-CP
26	17	156.0	CORPRO	DC-813LS	1084	---	499	9.5/9.5/9.5/9.5/9.5/9.5/9.5	2,908.00	2,912.00	4.00	6.25	0.6	8,000	8,000	65	65	-----
27	18RR	156.0	UNITED DIAMOND	U613M	17301	---	294	7.9/7.9/7.9/7.9/7.9/7.9/7.9	2,912.00	2,930.00	18.00	9.00	2.0	9,500	9,500	70	70	-----
29	19	156.0	CORPRO	RS-713	1112	---	496	9.5/9.5/9.5/9.5/9.5/9.5/9.5	2,930.00	2,948.00	18.00	17.50	1.0	9,000	9,000	68	68	-----
30	20RR	156.0	UNITED DIAMOND	U613M	17301	---	618	9.5/6.4/9.5/6.4/6.4/9.5/6.4/9.5/6.4/9.5	2,948.00	3,350.00	515.00	81.75	6.3	8,000	3,000	40	40	1-1-WT-H-X--CT-TD

APPENDIX V – BHA SUMMARY



NORTHERN CROSS

BHA Summary

Job Type: Drilling - original

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Bit Run	BHA #	String Name	BHA	Drill Bit	Bit Dull	Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	BHA ROP (m/hr)
1A	1	Drilling Assembly	VAREL HRO 4JMRSV, MOTOR LS, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, DC (8.00 IN), X/O, DC (7.00 IN), PONY SUB, JARS-HYD/MECH, DC (7.00 IN)	444.0mm, HRO 4JMRSV, 1312056	-----	0.00	246.00	245.00	27.75	8.8
2A	2	Drilling Assembly	SMITH GF30BODVCPS, MOTOR LS, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, DC (8.00 IN), X/O, DC (7.00 IN), PONY SUB, JARS-HYD/MECH, DC (7.00 IN), X/O, HWDP(5.0 IN)	311.0mm, GF30BODVCPS, PS 7821	1-1-NO-A-E--NO-BHA	246.00	352.00	106.00	13.50	7.9
1A RR	3	Drilling Assembly	VAREL HRO 4JMRSV, BIT SUB, SHOCK SUB, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, DC (8.00 IN), X/O, DC (7.00 IN), PONY SUB, JARS-HYD/MECH, DC (7.00 IN), X/O, HWDP(5.0 IN)	444.0mm, HRO 4JMRSV, 1312056	1-8-BT-A-E-3-WT-CP	352.00	366.00	14.00	2.28	6.1
1	4	Drilling Assembly	SMITH GF128BODVCPS, MOTOR LS, STAB-STRING, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, SHOCK SUB, X/O, DC (7.00 IN), JARS-HYD/MECH, PONY SUB, DC (7.00 IN), X/O, HWDP(5.0 IN)	311.0mm, GF128BODVCPS, PW1028	2-8-CT-G-E--BT-BHA	366.00	408.00	42.00	6.00	7.0
2R R	5	Drilling Assembly	SMITH GF30B, MOTOR LS, STAB-STRING, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-UNDER, SHOCK SUB, X/O, DC (7.00 IN), JARS-HYD/MECH, PONY SUB, DC (7.00 IN), X/O, HWDP(5.0 IN)	311.0mm, GF30B, PS7821	4-8-FC-H-F-9-BT-PR	408.00	649.00	241.00	60.50	4.0
3	6	Drilling Assembly	SMITH GF35BOD1VCPS, MOTOR LS, STAB-STRING, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-UNDER, SHOCK SUB, X/O, DC (7.00 IN), JARS-HYD/MECH, PONY SUB, DC (7.00 IN), X/O, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	311.0mm, GF35BOD1VCPS, PY4700	2-6-BT-A-E-2-WT-PR	649.00	906.00	257.00	63.25	4.1
4	7	Drilling Assembly	HUGHES GX-35DXO, MOTOR LS, STAB-STRING, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-UNDER, SHOCK SUB, X/O, DC (7.00 IN), JARS-HYD/MECH, PONY SUB, DC (7.00 IN), X/O, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	311.0mm, GX-35DXO, 5186909	1-5-CT-G-1--BT-BHA	906.00	942.00	36.00	6.75	5.3
4C	8	Drilling Assembly	QUEST DC-813, CORE BIT, CORE BBL, CORING JARS, DOUBLE PIN, BIT SUB, DC (7.00 IN), X/O, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	222.0mm, DC-813, 1012	0-0-NO-N-X--NO-BHA	942.00	956.00	14.00	2.50	5.6
4 RR	9	Drilling Assembly	HUGHES GX-35DXO, MOTOR LS, STAB-STRING, NM SHORT DRILL COL, NM DRILL COLLAR, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-UNDER, SHOCK SUB, X/O, DC (7.00 IN), JARS-HYD/MECH, PONY SUB, DC (7.00 IN), X/O, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	311.0mm, GX-35DXO, 5186909	2-6-BT-A-E-5-WT-CP	956.00	1,252.00	296.00	62.50	4.7



BHA Summary

Job Type: Drilling - original

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Bit Run	BHA #	String Name	BHA	Drill Bit	Bit Dull	Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	BHA ROP (m/hr)
5	10	Drilling Assembly	SMITH XR+PS, MOTOR LS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	222.0mm, XR+PS, PY1259	7-7-WT-A-E-0-WT-PR	1,268.00	1,361.00	93.00	13.00	7.2
6	11	Drilling Assembly	SECURITY FX54R, MOTOR LS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	222.0mm, FX54R, 12073707	5-8-CT-A-X-17-BC-PR	1,279.00	1,577.00	216.00	32.50	6.6
7	12	Drilling Assembly	SMITH MDSsi613 UBXP, MOTOR LS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	222.0mm, MDSsi613 UBXP, J1131	2-4-BC-H-X--CC-PR	1,577.00	1,585.00	8.00	3.50	2.3
8	13	Drilling Assembly	HUGHES 28DX2, MOTOR LS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands	222.0mm, 28DX2, 5207920	6-8-NO-A-E-2-BT-PR	1,605.00	1,697.00	92.00	16.00	5.8
9	14	Drilling Assembly	SMITH SDi513MHSBPX, MOTOR LS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands	222.0mm, SDi513MHSBPX, JE2077	1-2-NO-H-X-2-CC-DTF	1,697.00	1,860.00	163.00	12.00	13.6
10	15	Drilling Assembly	SMITH SDi513MHSBPX, MOTOR LS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	222.0mm, SDi513MHSBPX, JE8798	2-8-CC-H-X-21-BC-PR	1,860.00	1,959.00	99.00	14.50	6.8
11	16	Drilling Assembly	SMITH SDi513MHSBPX, MOTOR LS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	222.0mm, SDi513MHSBPX, JE3506	8-8-CC-A-X-23-BC-PR	1,959.00	2,061.00	102.00	16.50	6.2
12	17	Drilling Assembly	HUGHES DP605X, MOTOR HS, SUB FLOAT, SHOCK SUB, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, REAMR-TPR BLD, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands	222.0mm, DP605X, 7140873	3-5-CC-N-X-5-CC-PR	2,061.00	2,417.00	356.00	76.00	4.7
13	19	Drilling Assembly	SMITH FHI35ODIVPS, MOTOR HS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands	222.0mm, FHI35ODIVPS, PY2874	5-7-BT-A-E-2-WT-PR	2,417.00	2,501.00	84.00	20.26	4.1



BHA Summary

Job Type: Drilling - original

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Bit Run	BHA #	String Name	BHA	Drill Bit	Bit Dull	Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	BHA ROP (m/hr)
14	20	Drilling Assembly	ULTERRA U516M, MOTOR HS, SUB FLOAT, REAMR-TPR BLD, NM DRILL COLLAR, X/O, GAP SUB, NM DRILL COLLAR, REAMR-TPR BLD, SHOCK SUB, X/O, X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands, Drill pipe - Singles	222.0mm, U516M, 12008	2-4-BC-H-X-4-CC-PR	2,501.00	2,855.00	354.00	72.64	4.9
14 RR	22	Drilling Assembly	ULTERRA U516M, BIT SUB, DC (7.00 IN), REAMR-3 PT ROLLER, DC (7.00 IN), X/O, HWDP(5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands	222.0mm, U516M, 12008	2-4-BC-H-X-4-CC-LOG					
15	24	Drilling Assembly	HALLIBURTON EXH22J3R, BIT SUB, DC (7.00 IN), X/O, HWDP (5.0 IN), JARS-HYD/MECH, PONY SUB, HWDP(5.0 IN), Drill pipe - Stands	222.0mm, EXH22J3R, 11613241	-----					
16	25	Drilling Assembly	UNITED DIAMOND U613M, MOTOR LS, FLOAT SUB, SECURE SUB, STAB/REAMR-3 PT, SHOCK SUB, NM MONEL, NM MONEL, FUSION SUB, NM MONEL, NM TBR 155MM, NM MONEL, NM MONEL, JARS-HYD, PUP HWDP, X/O, HWDP(4.0 IN), Drill pipe - Stands, Drill pipe - Singles	156.0mm, U613M, 17301	1-1-NO-N-X--NO-CP	2,855.00	2,908.00	53.00	18.25	2.9
17	26	Drilling Assembly	CORPRO DC-813LS, CORE BBL, JARS-HYD/MECH, DOUBLE PIN, BIT SUB, HWDP(4.0 IN), Drill pipe - Stands, Drill pipe - Singles	156.0mm, DC-813LS, 1084	-----	2,908.00	2,912.00	4.00	6.25	0.6
18 RR	27	Drilling Assembly 1	UNITED DIAMOND U613M, MOTOR LS, FLOAT SUB, SECURE SUB, STAB/REAMR-3 PT, SHOCK SUB, NM MONEL, NM MONEL, FUSION SUB, NM MONEL, NM TBR 155MM, NM MONEL, NM MONEL, JARS-HYD, PUP HWDP, X/O, HWDP(4.0 IN), Drill pipe - Stands, Drill pipe - Singles	156.0mm, U613M, 17301	-----	2,912.00	2,930.00	18.00	9.00	2.0
19	29	Drilling Assembly	CORPRO RS-713, CORE BBL, JARS-HYD/MECH, DOUBLE PIN, BIT SUB, HWDP(4.0 IN), Drill pipe - Stands, Drill pipe - Singles	156.0mm, RS-713, 1112	-----	2,930.00	2,948.00	18.00	17.50	1.0
20 RR	30	Drilling Assembly	UNITED DIAMOND U613M, MOTOR LS, FLOAT SUB, MOTOR LS, SECURE SUB, FLOAT SUB, STAB/REAMR-3 PT, SECURE SUB, SHOCK SUB, STAB/REAMR-3 PT, NM MONEL, SHOCK SUB, NM MONEL, NM MONEL, FUSION SUB, NM MONEL, NM MONEL, FUSION SUB, NM TBR 155MM, NM MONEL, NM MONEL, NM TBR 155MM, NM MONEL, NM MONEL, JARS-HYD, NM MONEL, PUP HWDP, JARS-HYD, X/O, PUP HWDP, HWDP (4.0 IN), X/O, HWDP(4.0 IN), Drill pipe - Stands, Drill pipe - Singles, Drill pipe - Stands	156.0mm, U613M, 17301	1-1-WT-H-X--CT-TD	2,948.00	3,350.00	515.00	81.75	6.3

APPENDIX VI - DIRECTIONAL SURVEY DATA



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Wellbore Name Original Hole	Parent Wellbore	Kick Off Depth (mKB) 399.00	Vertical Section Direction (°)
Date 16/04/2013	Definitive? No	Description Directional Survey from Tour Sheet Import	Proposed? No
MD Tie In (mKB)	TVD Tie In (mKB)	Inclination Tie In (°)	Azimuth Tie In (°)
			NSTie In (m)
			EW Tie In (m)

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
				0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD	Cathedral Energy Services
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD	Cathedral Energy Services
	90.69	1.50	59.80	90.68	-0.17	0.60	1.03	0.50	0.50	19.78	1.19	MWD	Cathedral Energy Services
	118.56	2.20	50.50	118.54	-0.21	1.12	1.75	0.82	0.75	-10.01	2.08	MWD	Cathedral Energy Services
	145.30	2.60	48.20	145.25	-0.17	1.85	2.60	0.46	0.45	-2.58	3.20	MWD	Cathedral Energy Services
	172.84	2.70	49.30	172.76	-0.11	2.69	3.56	0.12	0.11	1.20	4.48	MWD	Cathedral Energy Services
	200.54	2.30	52.50	200.44	-0.09	3.45	4.50	0.46	-0.43	3.47	5.68	MWD	Cathedral Energy Services
	237.36	3.30	56.40	237.21	-0.20	4.49	5.96	0.83	0.81	3.18	7.48	MWD	Cathedral Energy Services
	246.60	2.90	51.40	246.44	-0.22	4.78	6.37	1.57	-1.30	-16.23	7.98	MWD	Cathedral Energy Services
	256.73	2.20	41.40	256.56	-0.18	5.09	6.70	2.45	-2.07	-29.62	8.43	MWD	Cathedral Energy Services
	266.19	1.10	19.70	266.01	-0.10	5.31	6.85	3.95	-3.49	-68.82	8.70	MWD	Cathedral Energy Services
	275.49	0.70	293.10	275.31	-0.01	5.42	6.83	4.09	-1.29	881.94	8.81	MWD	Cathedral Energy Services
	284.73	1.40	261.90	284.55	0.10	5.42	6.66	2.86	2.27	-101.30	8.97	MWD	Cathedral Energy Services
	294.10	1.60	260.40	293.92	0.22	5.39	6.42	0.65	0.64	-4.80	9.22	MWD	Cathedral Energy Services
	303.46	1.50	256.50	303.27	0.34	5.34	6.17	0.47	-0.32	-12.50	9.47	MWD	Cathedral Energy Services
	312.82	1.50	261.30	312.63	0.45	5.29	5.93	0.40	0.00	15.38	9.71	MWD	Cathedral Energy Services
	322.31	1.60	262.20	322.12	0.58	5.25	5.68	0.33	0.32	2.85	9.97	MWD	Cathedral Energy Services
	334.00	1.20	272.80	333.80	0.74	5.24	5.39	1.22	-1.03	27.20	10.26	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	353.00	1.30	284.40	352.80	1.04	5.30	4.99	0.43	0.16	18.32	10.67	MWD	Cathedral Energy Services
	379.24	1.30	282.20	379.03	1.51	5.44	4.41	0.06	0.00	-2.52	11.26	MWD	Cathedral Energy Services
	388.60	1.10	275.50	388.39	1.66	5.47	4.21	0.78	-0.64	-21.47	11.46	MWD	Cathedral Energy Services
	392.19	1.10	282.10	391.98	1.71	5.48	4.15	1.06	0.00	55.15	11.53	MWD	Cathedral Energy Services
	401.55	1.40	299.20	401.34	1.88	5.55	3.96	1.52	0.96	54.81	11.73	MWD	Cathedral Energy Services
	410.85	1.90	313.00	410.63	2.14	5.71	3.75	2.05	1.61	44.52	11.99	MWD	Cathedral Energy Services
	420.09	2.70	318.60	419.87	2.51	5.98	3.49	2.69	2.60	18.18	12.37	MWD	Cathedral Energy Services
	429.42	3.70	322.70	429.18	3.03	6.38	3.16	3.30	3.22	13.18	12.89	MWD	Cathedral Energy Services
	438.89	4.70	324.30	438.63	3.72	6.94	2.75	3.19	3.17	5.07	13.58	MWD	Cathedral Energy Services
	448.39	5.70	325.40	448.09	4.58	7.65	2.26	3.17	3.16	3.47	14.44	MWD	Cathedral Energy Services
	457.88	6.40	323.60	457.52	5.58	8.46	1.67	2.29	2.21	-5.69	15.44	MWD	Cathedral Energy Services
	467.35	7.10	320.10	466.93	6.69	9.33	0.99	2.57	2.22	-11.09	16.55	MWD	Cathedral Energy Services
	476.68	7.60	317.20	476.18	7.89	10.23	0.20	2.00	1.61	-9.32	17.75	MWD	Cathedral Energy Services
	485.98	8.50	316.30	485.39	9.18	11.18	-0.70	2.93	2.90	-2.90	19.05	MWD	Cathedral Energy Services
	495.28	8.90	316.30	494.58	10.58	12.19	-1.67	1.29	1.29	0.00	20.46	MWD	Cathedral Energy Services
	504.50	9.10	316.20	503.69	12.02	13.24	-2.67	0.65	0.65	-0.33	21.90	MWD	Cathedral Energy Services
	513.81	9.50	317.50	512.88	13.52	14.33	-3.69	1.46	1.29	4.19	23.40	MWD	Cathedral Energy Services
	523.27	9.60	318.60	522.21	15.09	15.50	-4.74	0.66	0.32	3.49	24.97	MWD	Cathedral Energy Services
	532.72	9.80	319.30	531.52	16.68	16.70	-5.79	0.74	0.63	2.22	26.56	MWD	Cathedral Energy Services
	542.16	10.00	320.00	540.82	18.30	17.94	-6.84	0.74	0.64	2.22	28.19	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	551.40	10.00	319.90	549.92	19.90	19.17	-7.87	0.06	0.00	-0.32	29.79	MWD	Cathedral Energy Services
	560.85	10.30	319.90	559.22	21.57	20.44	-8.94	0.95	0.95	0.00	31.46	MWD	Cathedral Energy Services
	570.35	10.40	320.10	568.57	23.27	21.75	-10.04	0.34	0.32	0.63	33.16	MWD	Cathedral Energy Services
	579.81	10.40	319.60	577.87	24.98	23.05	-11.14	0.29	0.00	-1.59	34.87	MWD	Cathedral Energy Services
	589.08	11.00	319.40	586.98	26.70	24.36	-12.26	1.95	1.94	-0.65	36.59	MWD	Cathedral Energy Services
	598.43	11.20	318.50	596.16	28.50	25.72	-13.44	0.85	0.64	-2.89	38.39	MWD	Cathedral Energy Services
	607.76	11.90	316.70	605.30	30.36	27.10	-14.70	2.53	2.25	-5.79	40.26	MWD	Cathedral Energy Services
	617.02	12.70	313.70	614.35	32.32	28.50	-16.09	3.32	2.59	-9.72	42.23	MWD	Cathedral Energy Services
	626.33	13.30	315.20	623.42	34.40	29.96	-17.59	2.22	1.93	4.83	44.33	MWD	Cathedral Energy Services
	639.62	14.00	317.80	636.33	37.52	32.24	-19.75	2.10	1.58	5.87	47.46	MWD	Cathedral Energy Services
	649.13	14.20	320.00	645.55	39.84	33.99	-21.27	1.80	0.63	6.94	49.78	MWD	Cathedral Energy Services
	658.43	14.40	319.10	654.57	42.13	35.73	-22.76	0.96	0.65	-2.90	52.07	MWD	Cathedral Energy Services
	667.87	14.70	318.50	663.70	44.50	37.52	-24.32	1.07	0.95	-1.91	54.45	MWD	Cathedral Energy Services
	677.18	14.90	318.20	672.70	46.88	39.29	-25.90	0.69	0.64	-0.97	56.82	MWD	Cathedral Energy Services
	686.94	15.50	318.50	682.12	49.43	41.21	-27.60	1.86	1.84	0.92	59.38	MWD	Cathedral Energy Services
	695.75	16.40	319.80	690.59	51.85	43.04	-29.18	3.30	3.06	4.43	61.80	MWD	Cathedral Energy Services
	705.27	17.30	321.60	699.71	54.61	45.17	-30.93	3.28	2.84	5.67	64.56	MWD	Cathedral Energy Services
	714.50	18.00	322.20	708.50	57.41	47.38	-32.66	2.35	2.28	1.95	67.36	MWD	Cathedral Energy Services
	724.30	18.50	323.50	717.81	60.48	49.82	-34.51	1.97	1.53	3.98	70.43	MWD	Cathedral Energy Services
	733.84	18.90	323.30	726.84	63.53	52.28	-36.33	1.27	1.26	-0.63	73.49	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	743.66	19.60	323.90	736.12	66.77	54.88	-38.25	2.22	2.14	1.83	76.73	MWD	Cathedral Energy Services
	753.39	20.30	323.50	745.26	70.09	57.56	-40.22	2.20	2.16	-1.23	80.05	MWD	Cathedral Energy Services
	762.74	20.80	322.20	754.02	73.37	60.18	-42.20	2.17	1.60	-4.17	83.33	MWD	Cathedral Energy Services
	772.61	21.00	320.50	763.24	76.89	62.93	-44.40	1.94	0.61	-5.17	86.85	MWD	Cathedral Energy Services
	782.39	21.40	320.20	772.36	80.42	65.65	-46.66	1.27	1.23	-0.92	90.39	MWD	Cathedral Energy Services
	792.15	21.90	320.30	781.43	84.02	68.42	-48.96	1.54	1.54	0.31	93.99	MWD	Cathedral Energy Services
	801.80	22.60	319.80	790.36	87.68	71.22	-51.31	2.25	2.18	-1.55	97.64	MWD	Cathedral Energy Services
	811.66	23.30	320.00	799.44	91.52	74.16	-53.78	2.14	2.13	0.61	101.49	MWD	Cathedral Energy Services
	821.34	24.20	321.40	808.30	95.42	77.18	-56.25	3.29	2.79	4.34	105.38	MWD	Cathedral Energy Services
	830.89	25.40	322.30	816.97	99.42	80.33	-58.73	3.95	3.77	2.83	109.39	MWD	Cathedral Energy Services
	840.63	26.50	323.50	825.72	103.68	83.73	-61.30	3.75	3.39	3.70	113.65	MWD	Cathedral Energy Services
	850.08	27.70	322.90	834.14	107.99	87.17	-63.88	3.91	3.81	-1.90	117.96	MWD	Cathedral Energy Services
	859.88	29.20	322.00	842.75	112.65	90.87	-66.72	4.78	4.59	-2.76	122.62	MWD	Cathedral Energy Services
	869.63	30.10	321.50	851.23	117.48	94.66	-69.71	2.87	2.77	-1.54	127.45	MWD	Cathedral Energy Services
	879.53	31.00	320.60	859.75	122.51	98.57	-72.87	3.06	2.73	-2.73	132.48	MWD	Cathedral Energy Services
	888.62	32.30	320.60	867.49	127.28	102.26	-75.90	4.29	4.29	0.00	137.25	MWD	Cathedral Energy Services
	900.00	33.60	315.60	877.04	133.45	106.86	-80.03	7.94	3.43	-13.18	143.43	MWD	Cathedral Energy Services
	907.50	34.80	316.30	883.24	137.65	109.89	-82.96	5.05	4.80	2.80	147.65	MWD	Cathedral Energy Services
	916.92	35.30	317.30	890.96	143.04	113.83	-86.67	2.42	1.59	3.18	153.06	MWD	Cathedral Energy Services
	926.70	36.10	318.00	898.90	148.73	118.05	-90.51	2.76	2.45	2.15	158.77	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	936.43	36.30	318.80	906.75	154.47	122.35	-94.33	1.58	0.62	2.47	164.51	MWD	Cathedral Energy Services
	945.80	36.40	319.50	914.30	160.02	126.55	-97.96	1.37	0.32	2.24	170.07	MWD	Cathedral Energy Services
	955.89	36.40	319.40	922.42	166.00	131.10	-101.85	0.18	0.00	-0.30	176.05	MWD	Cathedral Energy Services
	965.01	36.30	319.10	929.76	171.40	135.19	-105.38	0.67	-0.33	-0.99	181.46	MWD	Cathedral Energy Services
	974.09	36.30	319.20	937.08	176.78	139.26	-108.90	0.20	0.00	0.33	186.83	MWD	Cathedral Energy Services
	983.37	35.70	319.50	944.59	182.23	143.40	-112.45	2.02	-1.94	0.97	192.29	MWD	Cathedral Energy Services
	993.24	35.40	320.60	952.62	187.96	147.80	-116.13	2.15	-0.91	3.34	198.03	MWD	Cathedral Energy Services
	1,002.79	35.10	321.00	960.42	193.47	152.07	-119.62	1.19	-0.94	1.26	203.54	MWD	Cathedral Energy Services
	1,012.58	35.20	320.10	968.42	199.11	156.42	-123.20	1.62	0.31	-2.76	209.18	MWD	Cathedral Energy Services
	1,022.13	35.40	320.30	976.22	204.63	160.66	-126.73	0.73	0.63	0.63	214.69	MWD	Cathedral Energy Services
	1,031.49	35.30	319.90	983.85	210.04	164.82	-130.20	0.81	-0.32	-1.28	220.11	MWD	Cathedral Energy Services
	1,040.96	35.20	320.10	991.59	215.50	169.00	-133.72	0.48	-0.32	0.63	225.57	MWD	Cathedral Energy Services
	1,050.36	35.40	320.40	999.26	220.93	173.18	-137.19	0.84	0.64	0.96	231.01	MWD	Cathedral Energy Services
	1,060.06	35.70	321.20	1,007.15	226.57	177.55	-140.76	1.71	0.93	2.47	236.65	MWD	Cathedral Energy Services
	1,069.61	36.10	321.90	1,014.88	232.17	181.93	-144.24	1.80	1.26	2.20	242.25	MWD	Cathedral Energy Services
	1,079.36	36.40	322.10	1,022.75	237.94	186.48	-147.79	0.99	0.92	0.62	248.01	MWD	Cathedral Energy Services
	1,088.58	36.90	322.10	1,030.14	243.44	190.82	-151.17	1.63	1.63	0.00	253.51	MWD	Cathedral Energy Services
	1,098.01	37.10	322.00	1,037.68	249.12	195.30	-154.66	0.66	0.64	-0.32	259.19	MWD	Cathedral Energy Services
	1,107.72	37.10	322.10	1,045.42	254.97	199.91	-158.26	0.19	0.00	0.31	265.05	MWD	Cathedral Energy Services
	1,117.05	37.10	322.20	1,052.86	260.60	204.36	-161.71	0.19	0.00	0.32	270.68	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	1,126.87	36.70	321.60	1,060.71	266.50	209.00	-165.35	1.64	-1.22	-1.83	276.57	MWD	Cathedral Energy Services
	1,136.55	36.50	321.40	1,068.49	272.27	213.51	-168.94	0.72	-0.62	-0.62	282.34	MWD	Cathedral Energy Services
	1,146.06	36.70	321.50	1,076.12	277.94	217.95	-172.48	0.66	0.63	0.32	288.01	MWD	Cathedral Energy Services
	1,155.52	36.70	320.70	1,083.71	283.59	222.35	-176.03	1.52	0.00	-2.54	293.67	MWD	Cathedral Energy Services
	1,165.04	36.70	320.60	1,091.34	289.28	226.75	-179.63	0.19	0.00	-0.32	299.36	MWD	Cathedral Energy Services
	1,174.75	36.70	320.10	1,099.12	295.08	231.22	-183.34	0.92	0.00	-1.54	305.16	MWD	Cathedral Energy Services
	1,184.19	36.60	319.60	1,106.70	300.71	235.52	-186.97	1.00	-0.32	-1.59	310.79	MWD	Cathedral Energy Services
	1,193.95	36.30	319.60	1,114.55	306.51	239.94	-190.73	0.92	-0.92	0.00	316.59	MWD	Cathedral Energy Services
	1,203.74	36.50	319.30	1,122.43	312.32	244.35	-194.51	0.82	0.61	-0.92	322.40	MWD	Cathedral Energy Services
	1,213.37	36.70	318.80	1,130.16	318.05	248.69	-198.27	1.12	0.62	-1.56	328.14	MWD	Cathedral Energy Services
	1,222.88	37.10	318.50	1,137.76	323.75	252.98	-202.04	1.38	1.26	-0.95	333.85	MWD	Cathedral Energy Services
	1,228.00	37.40	318.10	1,141.84	326.85	255.29	-204.10	2.26	1.76	-2.34	336.95	MWD	Cathedral Energy Services
	1,252.00	38.10	319.80	1,160.82	341.53	266.37	-213.75	1.57	0.88	2.12	351.64	MWD	Cathedral Energy Services
	1,276.58	38.90	321.50	1,180.05	356.82	278.20	-223.45	1.62	0.98	2.07	366.94	MWD	Cathedral Energy Services
	1,285.72	39.00	321.30	1,187.16	362.57	282.69	-227.03	0.53	0.33	-0.66	372.69	MWD	Cathedral Energy Services
	1,295.49	38.90	321.40	1,194.76	368.71	287.49	-230.87	0.36	-0.31	0.31	378.83	MWD	Cathedral Energy Services
	1,304.55	38.80	321.30	1,201.82	374.40	291.93	-234.42	0.39	-0.33	-0.33	384.51	MWD	Cathedral Energy Services
	1,314.21	38.80	320.70	1,209.34	380.45	296.63	-238.23	1.17	0.00	-1.86	390.57	MWD	Cathedral Energy Services
	1,323.73	38.60	320.10	1,216.77	386.40	301.22	-242.02	1.34	-0.63	-1.89	396.52	MWD	Cathedral Energy Services
	1,333.38	38.30	320.00	1,224.33	392.40	305.82	-245.88	0.95	-0.93	-0.31	402.52	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	1,342.78	38.20	320.10	1,231.71	398.22	310.28	-249.61	0.38	-0.32	0.32	408.34	MWD	Cathedral Energy Services
	1,352.42	38.10	320.30	1,239.29	404.17	314.86	-253.42	0.49	-0.31	0.62	414.30	MWD	Cathedral Energy Services
	1,362.11	38.00	321.10	1,246.92	410.14	319.48	-257.21	1.56	-0.31	2.48	420.27	MWD	Cathedral Energy Services
	1,371.58	38.10	321.30	1,254.38	415.98	324.03	-260.86	0.50	0.32	0.63	426.10	MWD	Cathedral Energy Services
	1,381.24	38.00	321.50	1,261.99	421.93	328.68	-264.58	0.49	-0.31	0.62	432.06	MWD	Cathedral Energy Services
	1,390.79	38.20	321.50	1,269.50	427.82	333.29	-268.25	0.63	0.63	0.00	437.95	MWD	Cathedral Energy Services
	1,400.21	37.80	321.10	1,276.93	433.62	337.82	-271.87	1.50	-1.27	-1.27	443.75	MWD	Cathedral Energy Services
	1,409.79	37.10	320.80	1,284.53	439.45	342.34	-275.54	2.27	-2.19	-0.94	449.58	MWD	Cathedral Energy Services
	1,419.52	36.20	320.40	1,292.34	445.26	346.83	-279.23	2.87	-2.77	-1.23	455.38	MWD	Cathedral Energy Services
	1,428.83	35.80	319.80	1,299.87	450.73	351.03	-282.74	1.72	-1.29	-1.93	460.86	MWD	Cathedral Energy Services
	1,437.92	35.90	319.80	1,307.24	456.05	355.09	-286.18	0.33	0.33	0.00	466.18	MWD	Cathedral Energy Services
	1,447.50	35.80	319.60	1,315.00	461.66	359.37	-289.80	0.48	-0.31	-0.63	471.79	MWD	Cathedral Energy Services
	1,456.84	35.80	318.90	1,322.58	467.11	363.51	-293.37	1.32	0.00	-2.25	477.25	MWD	Cathedral Energy Services
	1,466.46	35.50	318.50	1,330.40	472.71	367.72	-297.07	1.18	-0.94	-1.25	482.86	MWD	Cathedral Energy Services
	1,476.27	35.50	318.10	1,338.38	478.40	371.98	-300.86	0.71	0.00	-1.22	488.56	MWD	Cathedral Energy Services
	1,485.43	35.30	318.80	1,345.85	483.70	375.95	-304.38	1.48	-0.66	2.29	493.86	MWD	Cathedral Energy Services
	1,494.81	35.00	321.10	1,353.52	489.10	380.08	-307.86	4.34	-0.96	7.36	499.26	MWD	Cathedral Energy Services
	1,504.07	34.40	323.40	1,361.13	494.37	384.25	-311.08	4.67	-1.94	7.45	504.53	MWD	Cathedral Energy Services
	1,513.45	34.20	324.30	1,368.88	499.65	388.52	-314.20	1.74	-0.64	2.88	509.82	MWD	Cathedral Energy Services
	1,523.19	34.10	324.10	1,376.94	505.11	392.95	-317.40	0.46	-0.31	-0.62	515.29	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	1,532.81	33.80	323.70	1,384.92	510.48	397.29	-320.56	1.17	-0.94	-1.25	520.66	MWD	Cathedral Energy Services
	1,542.31	33.90	322.90	1,392.81	515.77	401.53	-323.73	1.44	0.32	-2.53	525.95	MWD	Cathedral Energy Services
	1,552.05	34.20	322.20	1,400.88	521.22	405.86	-327.04	1.52	0.92	-2.16	531.40	MWD	Cathedral Energy Services
	1,560.55	34.70	320.80	1,407.89	526.03	409.63	-330.04	3.31	1.76	-4.94	536.21	MWD	Cathedral Energy Services
	1,571.35	34.90	321.10	1,416.76	532.19	414.41	-333.92	0.73	0.56	0.83	542.38	MWD	Cathedral Energy Services
	1,581.25	35.20	321.80	1,424.86	537.88	418.86	-337.46	1.52	0.91	2.12	548.06	MWD	Cathedral Energy Services
	1,590.91	35.20	321.20	1,432.76	543.45	423.22	-340.93	1.07	0.00	-1.86	553.63	MWD	Cathedral Energy Services
	1,600.05	34.90	321.90	1,440.24	548.69	427.33	-344.19	1.65	-0.98	2.30	558.88	MWD	Cathedral Energy Services
	1,609.30	34.40	322.60	1,447.85	553.95	431.49	-347.41	2.07	-1.62	2.27	564.14	MWD	Cathedral Energy Services
	1,619.08	34.20	323.40	1,455.93	559.46	435.89	-350.73	1.51	-0.61	2.45	569.65	MWD	Cathedral Energy Services
	1,628.67	33.80	324.80	1,463.88	564.82	440.23	-353.87	2.75	-1.25	4.38	575.01	MWD	Cathedral Energy Services
	1,638.38	33.60	324.60	1,471.96	570.20	444.63	-356.99	0.71	-0.62	-0.62	580.40	MWD	Cathedral Energy Services
	1,647.79	33.10	325.40	1,479.82	575.36	448.87	-359.95	2.12	-1.59	2.55	585.57	MWD	Cathedral Energy Services
	1,657.25	32.50	326.80	1,487.77	580.47	453.12	-362.81	3.07	-1.90	4.44	590.70	MWD	Cathedral Energy Services
	1,666.40	32.90	327.70	1,495.47	585.39	457.28	-365.49	2.06	1.31	2.95	595.64	MWD	Cathedral Energy Services
	1,676.08	33.40	328.20	1,503.57	590.65	461.76	-368.30	1.77	1.55	1.55	600.93	MWD	Cathedral Energy Services
	1,685.74	33.90	328.10	1,511.62	595.97	466.31	-371.12	1.56	1.55	-0.31	606.29	MWD	Cathedral Energy Services
	1,695.46	34.90	327.30	1,519.64	601.42	470.95	-374.06	3.39	3.09	-2.47	611.78	MWD	Cathedral Energy Services
	1,705.22	35.80	326.30	1,527.60	607.05	475.68	-377.15	3.29	2.77	-3.07	617.42	MWD	Cathedral Energy Services
	1,714.66	36.20	325.00	1,535.23	612.58	480.26	-380.28	2.74	1.27	-4.13	622.97	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	1,724.01	36.40	323.60	1,542.77	618.11	484.75	-383.51	2.74	0.64	-4.49	628.51	MWD	Cathedral Energy Services
	1,733.56	36.20	322.90	1,550.47	623.76	489.28	-386.89	1.45	-0.63	-2.20	634.16	MWD	Cathedral Energy Services
	1,743.03	36.30	322.10	1,558.10	629.36	493.72	-390.30	1.53	0.32	-2.53	639.76	MWD	Cathedral Energy Services
	1,752.39	36.30	322.40	1,565.65	634.90	498.10	-393.69	0.57	0.00	0.96	645.30	MWD	Cathedral Energy Services
	1,761.79	36.00	322.10	1,573.24	640.45	502.49	-397.09	1.11	-0.96	-0.96	650.85	MWD	Cathedral Energy Services
	1,771.49	35.80	321.60	1,581.09	646.13	506.96	-400.60	1.10	-0.62	-1.55	656.53	MWD	Cathedral Energy Services
	1,780.98	35.50	320.70	1,588.81	651.66	511.27	-404.07	1.91	-0.95	-2.85	662.06	MWD	Cathedral Energy Services
	1,790.43	35.00	320.00	1,596.52	657.12	515.47	-407.55	2.04	-1.59	-2.22	667.52	MWD	Cathedral Energy Services
	1,799.72	34.80	319.80	1,604.14	662.43	519.53	-410.97	0.74	-0.65	-0.65	672.83	MWD	Cathedral Energy Services
	1,809.43	34.80	319.40	1,612.12	667.97	523.75	-414.57	0.71	0.00	-1.24	678.38	MWD	Cathedral Energy Services
	1,818.43	34.80	319.20	1,619.51	673.10	527.65	-417.91	0.38	0.00	-0.67	683.51	MWD	Cathedral Energy Services
	1,827.83	34.60	319.20	1,627.23	678.45	531.70	-421.41	0.64	-0.64	0.00	688.86	MWD	Cathedral Energy Services
	1,837.46	34.50	320.10	1,635.17	683.91	535.86	-424.95	1.62	-0.31	2.80	694.32	MWD	Cathedral Energy Services
	1,847.05	34.40	319.10	1,643.07	689.33	539.99	-428.46	1.80	-0.31	-3.13	699.75	MWD	Cathedral Energy Services
	1,856.77	34.70	318.90	1,651.08	694.83	544.15	-432.08	0.99	0.93	-0.62	705.26	MWD	Cathedral Energy Services
	1,865.79	34.70	318.90	1,658.50	699.96	548.02	-435.46	0.00	0.00	0.00	710.40	MWD	Cathedral Energy Services
	1,875.53	34.70	317.40	1,666.50	705.50	552.15	-439.15	2.63	0.00	-4.62	715.94	MWD	Cathedral Energy Services
	1,885.14	34.80	318.50	1,674.40	710.97	556.22	-442.82	1.98	0.31	3.43	721.42	MWD	Cathedral Energy Services
	1,894.54	34.70	318.00	1,682.12	716.32	560.22	-446.39	0.96	-0.32	-1.60	726.78	MWD	Cathedral Energy Services
	1,904.26	34.90	319.30	1,690.10	721.86	564.38	-450.06	2.37	0.62	4.01	732.32	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	1,914.06	35.20	318.40	1,698.13	727.48	568.62	-453.76	1.83	0.92	-2.76	737.95	MWD	Cathedral Energy Services
	1,923.71	35.70	318.50	1,705.99	733.07	572.81	-457.47	1.56	1.55	0.31	743.55	MWD	Cathedral Energy Services
	1,933.37	35.80	317.00	1,713.83	738.70	576.99	-461.27	2.74	0.31	-4.66	749.19	MWD	Cathedral Energy Services
	1,943.26	35.80	317.00	1,721.85	744.46	581.22	-465.21	0.00	0.00	0.00	754.98	MWD	Cathedral Energy Services
	1,953.05	35.90	317.60	1,729.79	750.18	585.43	-469.10	1.12	0.31	1.84	760.71	MWD	Cathedral Energy Services
	1,962.78	35.80	318.80	1,737.67	755.87	589.68	-472.90	2.19	-0.31	3.70	766.41	MWD	Cathedral Energy Services
	1,972.47	35.60	317.40	1,745.54	761.52	593.89	-476.67	2.60	-0.62	-4.33	772.06	MWD	Cathedral Energy Services
	1,982.22	35.40	317.80	1,753.48	767.16	598.07	-480.49	0.94	-0.62	1.23	777.72	MWD	Cathedral Energy Services
	1,991.61	35.20	317.90	1,761.14	772.58	602.09	-484.13	0.67	-0.64	0.32	783.15	MWD	Cathedral Energy Services
	2,001.30	35.00	317.80	1,769.07	778.14	606.22	-487.87	0.64	-0.62	-0.31	788.72	MWD	Cathedral Energy Services
	2,010.70	34.70	317.80	1,776.78	783.50	610.20	-491.48	0.96	-0.96	0.00	794.09	MWD	Cathedral Energy Services
	2,019.98	34.60	317.70	1,784.42	788.76	614.11	-495.03	0.37	-0.32	-0.32	799.37	MWD	Cathedral Energy Services
	2,029.52	34.20	317.30	1,792.29	794.14	618.08	-498.67	1.44	-1.26	-1.26	804.76	MWD	Cathedral Energy Services
	2,039.27	34.00	316.70	1,800.36	799.59	622.08	-502.40	1.20	-0.62	-1.85	810.23	MWD	Cathedral Energy Services
	2,046.07	33.80	316.20	1,806.01	803.37	624.83	-505.01	1.51	-0.88	-2.21	814.02	MWD	Cathedral Energy Services
	2,055.54	33.80	316.70	1,813.88	808.62	628.64	-508.64	0.88	0.00	1.58	819.29	MWD	Cathedral Energy Services
	2,065.27	34.00	316.80	1,821.95	814.02	632.60	-512.36	0.64	0.62	0.31	824.71	MWD	Cathedral Energy Services
	2,074.97	35.00	318.20	1,829.95	819.50	636.65	-516.07	3.95	3.09	4.33	830.21	MWD	Cathedral Energy Services
	2,084.67	35.10	318.50	1,837.89	825.07	640.81	-519.77	0.62	0.31	0.93	835.78	MWD	Cathedral Energy Services
	2,094.13	35.80	320.00	1,845.59	830.55	644.97	-523.35	3.54	2.22	4.76	841.26	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	2,103.65	36.10	321.70	1,853.30	836.14	649.30	-526.88	3.28	0.95	5.36	846.85	MWD	Cathedral Energy Services
	2,113.11	35.80	321.20	1,860.96	841.69	653.64	-530.34	1.33	-0.95	-1.59	852.41	MWD	Cathedral Energy Services
	2,122.57	35.60	320.70	1,868.64	847.21	657.93	-533.82	1.12	-0.63	-1.59	857.93	MWD	Cathedral Energy Services
	2,132.44	35.30	320.60	1,876.68	852.93	662.36	-537.45	0.93	-0.91	-0.30	863.65	MWD	Cathedral Energy Services
	2,142.11	35.00	320.80	1,884.59	858.50	666.67	-540.97	1.00	-0.93	0.62	869.22	MWD	Cathedral Energy Services
	2,151.73	33.90	321.40	1,892.52	863.94	670.90	-544.39	3.59	-3.43	1.87	874.66	MWD	Cathedral Energy Services
	2,161.50	32.90	321.50	1,900.68	869.32	675.11	-547.74	3.08	-3.07	0.31	880.04	MWD	Cathedral Energy Services
	2,171.03	32.70	321.90	1,908.69	874.48	679.16	-550.94	0.93	-0.63	1.26	885.20	MWD	Cathedral Energy Services
	2,180.61	32.50	322.20	1,916.76	879.64	683.23	-554.12	0.81	-0.63	0.94	890.36	MWD	Cathedral Energy Services
	2,189.94	33.20	322.90	1,924.60	884.70	687.25	-557.19	2.56	2.25	2.25	895.42	MWD	Cathedral Energy Services
	2,199.21	33.40	323.10	1,932.35	889.79	691.31	-560.26	0.74	0.65	0.65	900.51	MWD	Cathedral Energy Services
	2,208.80	33.70	324.10	1,940.34	895.09	695.58	-563.40	1.97	0.94	3.13	905.81	MWD	Cathedral Energy Services
	2,218.37	34.50	322.30	1,948.26	900.45	699.87	-566.62	4.04	2.51	-5.64	911.18	MWD	Cathedral Energy Services
	2,227.94	35.20	322.00	1,956.12	905.92	704.19	-569.97	2.26	2.19	-0.94	916.65	MWD	Cathedral Energy Services
	2,237.54	35.80	321.80	1,963.93	911.49	708.58	-573.41	1.91	1.88	-0.62	922.22	MWD	Cathedral Energy Services
	2,247.23	35.60	321.80	1,971.80	917.15	713.02	-576.91	0.62	-0.62	0.00	927.88	MWD	Cathedral Energy Services
	2,256.81	34.70	322.10	1,979.63	922.66	717.36	-580.31	2.87	-2.82	0.94	933.39	MWD	Cathedral Energy Services
	2,266.49	34.20	322.00	1,987.62	928.14	721.68	-583.68	1.56	-1.55	-0.31	938.87	MWD	Cathedral Energy Services
	2,275.62	33.90	322.10	1,995.18	933.25	725.71	-586.82	1.00	-0.99	0.33	943.98	MWD	Cathedral Energy Services
	2,285.06	34.70	321.80	2,002.98	938.57	729.90	-590.10	2.60	2.54	-0.95	949.30	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	2,294.64	35.10	321.30	2,010.84	944.05	734.19	-593.51	1.54	1.25	-1.57	954.78	MWD	Cathedral Energy Services
	2,304.37	35.90	320.90	2,018.76	949.70	738.59	-597.05	2.57	2.47	-1.23	960.43	MWD	Cathedral Energy Services
	2,313.83	36.60	320.90	2,026.39	955.29	742.93	-600.58	2.22	2.22	0.00	966.02	MWD	Cathedral Energy Services
	2,323.41	36.80	320.00	2,034.07	961.02	747.35	-604.23	1.80	0.63	-2.82	971.75	MWD	Cathedral Energy Services
	2,332.98	37.40	320.00	2,041.70	966.79	751.77	-607.94	1.88	1.88	0.00	977.52	MWD	Cathedral Energy Services
	2,342.21	36.70	319.80	2,049.07	972.35	756.02	-611.52	2.31	-2.28	-0.65	983.08	MWD	Cathedral Energy Services
	2,351.92	36.40	319.30	2,056.87	978.13	760.42	-615.27	1.31	-0.93	-1.54	988.86	MWD	Cathedral Energy Services
	2,361.52	37.20	319.00	2,064.55	983.87	764.77	-619.03	2.56	2.50	-0.94	994.61	MWD	Cathedral Energy Services
	2,371.25	36.40	319.10	2,072.35	989.70	769.18	-622.85	2.47	-2.47	0.31	1,000.44	MWD	Cathedral Energy Services
	2,380.64	35.60	318.50	2,079.94	995.21	773.33	-626.49	2.79	-2.56	-1.92	1,005.96	MWD	Cathedral Energy Services
	2,390.35	34.40	318.70	2,087.90	1,000.77	777.51	-630.17	3.72	-3.71	0.62	1,011.53	MWD	Cathedral Energy Services
	2,402.69	33.50	318.90	2,098.13	1,007.65	782.69	-634.71	2.20	-2.19	0.49	1,018.42	MWD	Cathedral Energy Services
	2,412.28	33.40	318.80	2,106.13	1,012.94	786.67	-638.19	0.36	-0.31	-0.31	1,023.71	MWD	Cathedral Energy Services
	2,421.77	34.80	318.50	2,113.99	1,018.25	790.66	-641.70	4.46	4.43	-0.95	1,029.03	MWD	Cathedral Energy Services
	2,431.45	36.70	320.00	2,121.85	1,023.90	794.95	-645.39	6.48	5.89	4.65	1,034.68	MWD	Cathedral Energy Services
	2,441.03	37.80	320.50	2,129.47	1,029.70	799.41	-649.10	3.57	3.44	1.57	1,040.48	MWD	Cathedral Energy Services
	2,450.81	37.50	321.90	2,137.22	1,035.67	804.06	-652.85	2.78	-0.92	4.29	1,046.46	MWD	Cathedral Energy Services
	2,460.14	37.00	321.90	2,144.64	1,041.32	808.51	-656.33	1.61	-1.61	0.00	1,052.10	MWD	Cathedral Energy Services
	2,469.70	35.60	323.40	2,152.35	1,046.98	813.01	-659.76	5.20	-4.39	4.71	1,057.76	MWD	Cathedral Energy Services
	2,478.71	34.50	322.40	2,159.72	1,052.15	817.13	-662.89	4.13	-3.66	-3.33	1,062.94	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	2,488.33	33.90	322.30	2,167.68	1,057.55	821.41	-666.19	1.88	-1.87	-0.31	1,068.34	MWD	Cathedral Energy Services
	2,498.04	34.60	322.30	2,175.71	1,063.02	825.74	-669.53	2.16	2.16	0.00	1,073.81	MWD	Cathedral Energy Services
	2,507.64	35.10	321.30	2,183.58	1,068.50	830.05	-672.92	2.37	1.56	-3.13	1,079.29	MWD	Cathedral Energy Services
	2,517.22	35.50	323.00	2,191.40	1,074.04	834.42	-676.32	3.32	1.25	5.32	1,084.83	MWD	Cathedral Energy Services
	2,526.97	35.00	321.90	2,199.37	1,079.67	838.88	-679.75	2.49	-1.54	-3.38	1,090.46	MWD	Cathedral Energy Services
	2,536.70	34.50	323.00	2,207.36	1,085.21	843.28	-683.13	2.47	-1.54	3.39	1,096.00	MWD	Cathedral Energy Services
	2,546.30	34.80	321.80	2,215.26	1,090.67	847.60	-686.46	2.33	0.94	-3.75	1,101.46	MWD	Cathedral Energy Services
	2,555.89	35.20	320.00	2,223.11	1,096.17	851.87	-689.93	3.46	1.25	-5.63	1,106.96	MWD	Cathedral Energy Services
	2,565.10	35.60	320.20	2,230.62	1,101.50	855.96	-693.35	1.36	1.30	0.65	1,112.30	MWD	Cathedral Energy Services
	2,574.64	35.20	318.90	2,238.40	1,107.02	860.17	-696.93	2.68	-1.26	-4.09	1,117.82	MWD	Cathedral Energy Services
	2,584.25	35.10	320.20	2,246.26	1,112.55	864.38	-700.52	2.36	-0.31	4.06	1,123.35	MWD	Cathedral Energy Services
	2,593.84	34.40	319.20	2,254.13	1,118.02	868.55	-704.06	2.82	-2.19	-3.13	1,128.82	MWD	Cathedral Energy Services
	2,603.43	34.20	320.50	2,262.06	1,123.42	872.68	-707.54	2.38	-0.63	4.07	1,134.22	MWD	Cathedral Energy Services
	2,612.98	34.50	320.40	2,269.94	1,128.81	876.83	-710.97	0.96	0.94	-0.31	1,139.61	MWD	Cathedral Energy Services
	2,622.70	34.90	321.70	2,277.93	1,134.34	881.14	-714.45	2.60	1.23	4.01	1,145.15	MWD	Cathedral Energy Services
	2,632.22	34.90	322.10	2,285.74	1,139.79	885.42	-717.81	0.72	0.00	1.26	1,150.59	MWD	Cathedral Energy Services
	2,641.80	34.30	320.90	2,293.63	1,145.23	889.68	-721.20	2.84	-1.88	-3.76	1,156.03	MWD	Cathedral Energy Services
	2,651.53	34.40	321.20	2,301.66	1,150.72	893.95	-724.65	0.61	0.31	0.92	1,161.52	MWD	Cathedral Energy Services
	2,661.12	34.20	320.30	2,309.58	1,156.12	898.13	-728.07	1.71	-0.63	-2.82	1,166.93	MWD	Cathedral Energy Services
	2,670.85	34.60	321.30	2,317.61	1,161.62	902.39	-731.54	2.13	1.23	3.08	1,172.42	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	2,680.41	34.90	322.10	2,325.47	1,167.06	906.67	-734.92	1.71	0.94	2.51	1,177.87	MWD	Cathedral Energy Services
	2,690.01	35.20	321.80	2,333.32	1,172.58	911.01	-738.32	1.08	0.94	-0.94	1,183.39	MWD	Cathedral Energy Services
	2,699.60	35.30	322.20	2,341.16	1,178.11	915.37	-741.73	0.79	0.31	1.25	1,188.92	MWD	Cathedral Energy Services
	2,709.33	35.10	322.50	2,349.11	1,183.72	919.81	-745.15	0.82	-0.62	0.92	1,194.53	MWD	Cathedral Energy Services
	2,718.68	34.50	322.60	2,356.78	1,189.06	924.05	-748.40	1.93	-1.93	0.32	1,199.87	MWD	Cathedral Energy Services
	2,728.19	34.10	321.70	2,364.64	1,194.41	928.28	-751.69	2.04	-1.26	-2.84	1,205.22	MWD	Cathedral Energy Services
	2,737.54	34.00	322.60	2,372.39	1,199.65	932.42	-754.90	1.65	-0.32	2.89	1,210.46	MWD	Cathedral Energy Services
	2,746.65	33.60	322.80	2,379.96	1,204.72	936.45	-757.97	1.37	-1.32	0.66	1,215.53	MWD	Cathedral Energy Services
	2,756.21	33.10	321.80	2,387.94	1,209.97	940.61	-761.18	2.33	-1.57	-3.14	1,220.78	MWD	Cathedral Energy Services
	2,765.69	32.60	321.40	2,395.91	1,215.11	944.64	-764.38	1.72	-1.58	-1.27	1,225.93	MWD	Cathedral Energy Services
	2,775.22	32.10	321.50	2,403.96	1,220.21	948.62	-767.55	1.58	-1.57	0.31	1,231.02	MWD	Cathedral Energy Services
	2,784.78	31.50	322.20	2,412.08	1,225.25	952.59	-770.67	2.21	-1.88	2.20	1,236.06	MWD	Cathedral Energy Services
	2,794.34	30.80	321.90	2,420.27	1,230.19	956.48	-773.71	2.25	-2.20	-0.94	1,241.01	MWD	Cathedral Energy Services
	2,803.90	30.10	322.20	2,428.51	1,235.04	960.30	-776.69	2.25	-2.20	0.94	1,245.85	MWD	Cathedral Energy Services
	2,813.45	29.60	322.50	2,436.79	1,239.79	964.07	-779.59	1.64	-1.57	0.94	1,250.61	MWD	Cathedral Energy Services
	2,823.01	29.30	323.20	2,445.11	1,244.49	967.81	-782.43	1.43	-0.94	2.20	1,255.31	MWD	Cathedral Energy Services
	2,832.59	29.00	322.10	2,453.48	1,249.16	971.52	-785.26	1.92	-0.94	-3.44	1,259.97	MWD	Cathedral Energy Services
	2,853.00	28.10	322.80	2,471.41	1,258.91	979.26	-791.21	1.41	-1.32	1.03	1,269.73	MWD	Cathedral Energy Services
	2,865.74	27.60	323.30	2,482.67	1,264.86	984.01	-794.78	1.30	-1.18	1.18	1,275.68	MWD	Cathedral Energy Services
	2,875.49	26.90	324.00	2,491.34	1,269.32	987.61	-797.43	2.37	-2.15	2.15	1,280.14	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	2,881.00	26.50	324.40	2,496.26	1,271.79	989.62	-798.88	2.39	-2.18	2.18	1,282.62	MWD	Cathedral Energy Services
	2,895.02	25.20	325.30	2,508.88	1,277.89	994.61	-802.40	2.91	-2.78	1.93	1,288.73	MWD	Cathedral Energy Services
	2,903.00	24.30	326.20	2,516.13	1,281.23	997.37	-804.28	3.67	-3.38	3.38	1,292.07	MWD	Cathedral Energy Services
	2,914.40	23.80	326.70	2,526.54	1,285.86	1,001.25	-806.85	1.42	-1.32	1.32	1,296.72	MWD	Cathedral Energy Services
	2,924.12	22.70	327.00	2,535.47	1,289.68	1,004.46	-808.94	3.41	-3.40	0.93	1,300.55	MWD	Cathedral Energy Services
	2,933.85	22.20	327.20	2,544.46	1,293.37	1,007.58	-810.96	1.56	-1.54	0.62	1,304.27	MWD	Cathedral Energy Services
	2,943.59	22.90	327.70	2,553.46	1,297.09	1,010.73	-812.97	2.24	2.16	1.54	1,308.00	MWD	Cathedral Energy Services
	2,953.34	22.50	327.70	2,562.45	1,300.83	1,013.91	-814.98	1.23	-1.23	0.00	1,311.77	MWD	Cathedral Energy Services
	2,963.12	21.60	326.80	2,571.52	1,304.48	1,017.00	-816.97	2.95	-2.76	-2.76	1,315.44	MWD	Cathedral Energy Services
	2,972.88	20.60	326.40	2,580.62	1,307.98	1,019.93	-818.90	3.11	-3.07	-1.23	1,318.95	MWD	Cathedral Energy Services
	2,982.62	19.60	326.10	2,589.77	1,311.32	1,022.71	-820.76	3.10	-3.08	-0.92	1,322.30	MWD	Cathedral Energy Services
	2,992.33	18.70	326.10	2,598.94	1,314.49	1,025.36	-822.54	2.78	-2.78	0.00	1,325.48	MWD	Cathedral Energy Services
	3,002.07	17.80	325.70	2,608.19	1,317.53	1,027.88	-824.25	2.80	-2.77	-1.23	1,328.53	MWD	Cathedral Energy Services
	3,011.83	17.10	324.70	2,617.50	1,320.45	1,030.29	-825.92	2.34	-2.15	-3.07	1,331.46	MWD	Cathedral Energy Services
	3,021.58	16.40	324.80	2,626.84	1,323.26	1,032.58	-827.54	2.16	-2.15	0.31	1,334.27	MWD	Cathedral Energy Services
	3,031.33	15.70	324.10	2,636.21	1,325.95	1,034.77	-829.11	2.23	-2.15	-2.15	1,336.97	MWD	Cathedral Energy Services
	3,041.04	14.80	323.90	2,645.58	1,328.50	1,036.84	-830.61	2.79	-2.78	-0.62	1,339.52	MWD	Cathedral Energy Services
	3,050.77	13.70	326.30	2,655.01	1,330.89	1,038.80	-831.98	3.85	-3.39	7.40	1,341.92	MWD	Cathedral Energy Services
	3,060.50	13.40	326.50	2,664.47	1,333.16	1,040.70	-833.24	0.94	-0.92	0.62	1,344.20	MWD	Cathedral Energy Services
	3,070.22	13.30	326.60	2,673.92	1,335.40	1,042.57	-834.48	0.32	-0.31	0.31	1,346.44	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data													
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	3,079.97	13.30	326.10	2,683.41	1,337.64	1,044.44	-835.72	0.35	0.00	-1.54	1,348.68	MWD	Cathedral Energy Services
	3,089.69	13.40	326.70	2,692.87	1,339.87	1,046.31	-836.96	0.53	0.31	1.85	1,350.93	MWD	Cathedral Energy Services
	3,099.46	13.30	325.90	2,702.37	1,342.12	1,048.19	-838.21	0.64	-0.31	-2.46	1,353.18	MWD	Cathedral Energy Services
	3,109.18	13.30	325.80	2,711.83	1,344.35	1,050.04	-839.47	0.07	0.00	-0.31	1,355.42	MWD	Cathedral Energy Services
	3,118.91	13.40	325.10	2,721.30	1,346.59	1,051.89	-840.74	0.59	0.31	-2.16	1,357.67	MWD	Cathedral Energy Services
	3,128.65	13.40	325.10	2,730.78	1,348.84	1,053.74	-842.04	0.00	0.00	0.00	1,359.92	MWD	Cathedral Energy Services
	3,138.38	13.40	325.20	2,740.24	1,351.09	1,055.59	-843.32	0.07	0.00	0.31	1,362.18	MWD	Cathedral Energy Services
	3,148.15	13.30	325.20	2,749.75	1,353.35	1,057.44	-844.61	0.31	-0.31	0.00	1,364.43	MWD	Cathedral Energy Services
	3,157.89	13.40	325.20	2,759.22	1,355.59	1,059.29	-845.90	0.31	0.31	0.00	1,366.68	MWD	Cathedral Energy Services
	3,167.68	13.30	326.20	2,768.75	1,357.84	1,061.16	-847.17	0.77	-0.31	3.06	1,368.94	MWD	Cathedral Energy Services
	3,177.43	13.20	325.30	2,778.24	1,360.07	1,063.00	-848.43	0.71	-0.31	-2.77	1,371.18	MWD	Cathedral Energy Services
	3,187.16	13.10	326.20	2,787.71	1,362.28	1,064.83	-849.67	0.70	-0.31	2.77	1,373.39	MWD	Cathedral Energy Services
	3,196.89	13.00	325.90	2,797.19	1,364.47	1,066.66	-850.90	0.37	-0.31	-0.92	1,375.59	MWD	Cathedral Energy Services
	3,206.67	12.90	326.40	2,806.72	1,366.65	1,068.48	-852.12	0.46	-0.31	1.53	1,377.78	MWD	Cathedral Energy Services
	3,216.42	12.70	326.00	2,816.23	1,368.81	1,070.27	-853.32	0.67	-0.62	-1.23	1,379.94	MWD	Cathedral Energy Services
	3,226.19	12.60	326.40	2,825.76	1,370.94	1,072.05	-854.51	0.41	-0.31	1.23	1,382.08	MWD	Cathedral Energy Services
	3,235.94	12.50	326.20	2,835.28	1,373.05	1,073.81	-855.69	0.34	-0.31	-0.62	1,384.20	MWD	Cathedral Energy Services
	3,245.69	12.40	325.60	2,844.80	1,375.15	1,075.55	-856.87	0.50	-0.31	-1.85	1,386.30	MWD	Cathedral Energy Services
	3,255.42	12.30	325.30	2,854.31	1,377.22	1,077.27	-858.05	0.37	-0.31	-0.92	1,388.38	MWD	Cathedral Energy Services
	3,265.16	12.20	325.00	2,863.83	1,379.29	1,078.96	-859.23	0.37	-0.31	-0.92	1,390.45	MWD	Cathedral Energy Services



Directional Survey

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	Field Name Ehnjuu Choo	License # 1128	State/Province Yukon	Well Configuration Type Deviated
Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)	Spud Date 16/04/2013 02:00	Rig Release Date 26/06/2013 23:45

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	VS (m)	NS (m)	EW (m)	DLS (°/30m)	Build (°/30m)	Turn (°/30m)	Unwrap Displace (m)	Method	Survey Company
	3,274.89	12.20	325.30	2,873.34	1,381.34	1,080.65	-860.40	0.20	0.00	0.92	1,392.50	MWD	Cathedral Energy Services
	3,284.64	12.10	325.40	2,882.87	1,383.38	1,082.34	-861.57	0.31	-0.31	0.31	1,394.56	MWD	Cathedral Energy Services
	3,294.37	12.10	325.30	2,892.38	1,385.42	1,084.02	-862.73	0.06	0.00	-0.31	1,396.60	MWD	Cathedral Energy Services
	3,304.11	11.80	324.60	2,901.91	1,387.43	1,085.67	-863.89	1.03	-0.92	-2.16	1,398.61	MWD	Cathedral Energy Services
	3,313.83	11.70	324.60	2,911.43	1,389.41	1,087.28	-865.03	0.31	-0.31	0.00	1,400.59	MWD	Cathedral Energy Services
	3,323.00	11.60	325.10	2,920.41	1,391.26	1,088.79	-866.10	0.46	-0.33	1.64	1,402.44	MWD	Cathedral Energy Services
	3,350.00	11.30	326.00	2,946.87	1,396.60	1,093.21	-869.13	0.39	-0.33	1.00	1,407.80	MWD	Cathedral Energy Services

APPENDIX VI - CORING SUMMARY



Cores - Bottomhole and Sidewall

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Bottom Hole Cores

Date	Core #	Type	Top Depth (mKB)	Bottom Depth (mKB)	Recovered (m)	% Recov (%)	Core Diameter (mm)	Oriented?	Coring Company	Formation
06/05/2013 12:30	1	Conventional	942.00	956.00	13.9	99		No	Corpro	

Comment

Date	Core #	Type	Top Depth (mKB)	Bottom Depth (mKB)	Recovered (m)	% Recov (%)	Core Diameter (mm)	Oriented?	Coring Company	Formation
16/06/2013 23:45	2	Conventional	2,908.00	2,912.00	4.0	100	156.0		Corpro	

Comment

Date	Core #	Type	Top Depth (mKB)	Bottom Depth (mKB)	Recovered (m)	% Recov (%)	Core Diameter (mm)	Oriented?	Coring Company	Formation
18/06/2013 12:00	3	Conventional	2,930.00	2,948.00	18.0	100	156.0		Corpro	

Comment

Sidewall Cores

Date	Run No	Type	Top Depth (mKB)	Bottom Depth (mKB)	Coring Company
12/05/2013		Wireline	369.90	1,225.00	Schlumberger

# Samples Planned	# Samples Recovered	# Bullets Fired	# Bullets Misfired	# Samples Empty	# Samples Lost in Hole

Sidewall Core Samples

Sample Depth (mKB)	Sample Depth (TVD) (mKB)	Sample Length (m)	Result	Formation
1,225.00	1,139.45		recovered	
1,214.00	1,130.66		recovered	
1,031.20	983.61		recovered	
1,031.10	983.53		recovered	
1,031.00	983.45		recovered	
1,030.90	983.37		recovered	
991.70	951.36		recovered	
991.60	951.28		recovered	
991.50	951.20		recovered	
991.40	951.12		recovered	
969.70	933.54		recovered	
969.60	933.46		recovered	
969.50	933.38		recovered	
969.40	933.30		recovered	
955.20	921.86		recovered	
955.10	921.78		recovered	
955.00	921.70		recovered	
954.90	921.62		recovered	
943.20	912.20		recovered	
943.10	912.12		recovered	
943.00	912.04		recovered	
942.90	911.96		recovered	
914.10	888.65		recovered	
907.00	882.83		recovered	
890.50	869.08		recovered	



Cores - Bottomhole and Sidewall

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Sidewall Core Samples

Sample Depth (mKB)	Sample Depth (TVD) (mKB)	Sample Length (m)	Result	Formation
871.10	852.50		recovered	
871.00	852.41		recovered	
832.50	818.42		recovered	
829.20	815.44		recovered	
829.10	815.35		recovered	
829.00	815.26		recovered	
828.90	815.17		recovered	
969.60	933.46		recovered	
969.50	933.38		recovered	
955.00	921.70		recovered	
954.90	921.62		recovered	
914.10	888.65		recovered	
890.50	869.08		recovered	
783.20	773.11		recovered	
783.10	773.02		recovered	
783.00	772.92		recovered	
782.90	772.83		recovered	
736.70	729.55		recovered	
736.60	729.45		recovered	
736.50	729.36		recovered	
736.40	729.26		recovered	
712.70	706.79		recovered	
712.60	706.69		recovered	
712.50	706.60		recovered	
712.40	706.50		recovered	
677.50	673.01		recovered	
418.10	417.88		recovered	
411.00	410.78		recovered	
398.20	397.99		recovered	
379.00	378.79		recovered	
369.90	369.70		recovered	

Date 07/06/2013	Run No	Type Wireline	Top Depth (mKB) 1,384.50	Bottom Depth (mKB) 2,815.00	Coring Company Schlumberger
# Samples Planned	# Samples Recovered	# Bullets Fired	# Bullets Misfired	# Samples Empty	# Samples Lost in Hole

Sidewall Core Samples

Sample Depth (mKB)	Sample Depth (TVD) (mKB)	Sample Length (m)	Result	Formation
2,815.00	2,438.14		recovered	
2,811.00	2,434.66		recovered	
2,791.10	2,417.49		recovered	
2,791.00	2,417.40		recovered	



Cores - Bottomhole and Sidewall

Well Name: **NCY Ehnjuu Choo B-73**

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Sidewall Core Samples

Sample Depth (mKB)	Sample Depth (TVD) (mKB)	Sample Length (m)	Result	Formation
2,790.90	2,417.31		recovered	
2,748.20	2,381.25		recovered	
2,748.10	2,381.17		recovered	
2,260.20	1,982.42		recovered	
2,260.10	1,982.34		recovered	
2,260.00	1,982.26		recovered	
2,259.90	1,982.18		recovered	
2,184.20	1,919.78		recovered	
2,184.10	1,919.70		recovered	
2,184.00	1,919.61		recovered	
2,183.90	1,919.53		recovered	
2,748.00	2,381.08		recovered	
2,747.90	2,381.00		recovered	
2,735.40	2,370.61		recovered	
2,586.10	2,247.77		recovered	
1,929.00	1,710.28		recovered	
1,887.70	1,676.50		recovered	
1,887.60	1,676.42		recovered	
1,887.50	1,676.34		recovered	
1,887.40	1,676.26		recovered	
1,871.20	1,662.94		recovered	
1,764.00	1,575.03		recovered	
1,763.90	1,574.94		recovered	
1,717.20	1,537.28		recovered	
1,717.10	1,537.20		recovered	
1,717.00	1,537.12		recovered	
1,716.90	1,537.04		recovered	
1,690.50	1,515.56		recovered	
1,487.90	1,347.87		recovered	
1,487.80	1,347.78		recovered	
1,487.70	1,347.70		recovered	
1,487.60	1,347.62		recovered	
1,487.50	1,347.54		recovered	
1,530.60	1,383.09		recovered	
1,530.50	1,383.00		recovered	
1,530.40	1,382.92		recovered	
1,530.30	1,382.84		recovered	
1,530.20	1,382.75		recovered	
1,395.50	1,273.21		recovered	



Cores - Bottomhole and Sidewall

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Sidewall Core Samples							
Sample Depth (mKB)	Sample Depth (TVD) (mKB)	Sample Length (m)	Result	Formation			
1,391.50	1,270.06		recovered				
1,386.50	1,266.13		recovered				
1,384.50	1,264.56		recovered				
Date 23/06/2013		Run No		Type Wireline		Top Depth (mKB) 2,973.90	
				Bottom Depth (mKB) 3,327.50		Coring Company Schlumberger	
# Samples Planned		# Samples Recovered		# Bullets Fired		# Bullets Misfired	
						# Samples Empty	
						# Samples Lost in Hole	

Sidewall Core Samples							
Sample Depth (mKB)	Sample Depth (TVD) (mKB)	Sample Length (m)	Result	Formation			
3,327.50	2,924.82		recovered				
3,222.80	2,822.46		recovered				
3,211.20	2,811.14		recovered				
3,209.60	2,809.58		recovered				
3,194.60	2,794.96		recovered				
3,088.60	2,691.81		recovered				
3,070.00	2,673.71		recovered				
3,059.00	2,663.01		recovered				
3,058.00	2,662.03		recovered				
3,055.90	2,659.99		recovered				
3,055.80	2,659.89		recovered				
3,055.70	2,659.80		recovered				
3,055.60	2,659.70		recovered				
3,050.20	2,654.45		recovered				
3,050.10	2,654.36		recovered				
3,050.00	2,654.26		recovered				
3,049.90	2,654.16		recovered				
3,047.20	2,651.54		recovered				
3,047.10	2,651.44		recovered				
3,047.00	2,651.35		recovered				
3,046.90	2,651.25		recovered				
3,021.50	2,626.76		recovered				
3,021.40	2,626.66		recovered				
3,021.30	2,626.57		recovered				
3,021.20	2,626.47		recovered				
3,006.40	2,612.32		recovered				
3,006.30	2,612.22		recovered				
3,006.20	2,612.13		recovered				
3,006.10	2,612.03		recovered				
2,974.20	2,581.86		recovered				
2,974.10	2,581.76		recovered				
2,974.00	2,581.67		recovered				



NORTHERN CROSS

Cores - Bottomhole and Sidewall

Well Name: NCY Ehnjuu Choo B-73

API/UWI 300H606620136450	Surface Legal Location 66:12:10.35N/136:59:01.56W	License # 1128	Well Configuration Type Deviated	Ground Elevation (m) 673.20	Casing Flange Elevation (m)	KB-Ground Distance (m) 8.50	KB-Casing Flange Distance (m)
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Sidewall Core Samples

Sample Depth (mKB)	Sample Depth (TVD) (mKB)	Sample Length (m)	Result	Formation
2,973.90	2,581.58		recovered	