691792

V30

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig:

Report Date: 3/25/2013
Report #: 33
Depth Progress: 0.00 m
Depth End: 2,146.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	28.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
60,710.50	6,579,339.84	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		49.0	492.00	16,752.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)

Road Condition	Weather	Temperature (°C)	Wind
Good	Partly Cloudy	-8	East 20km/hr.

Ops and Depth @ Morning Report
Rest crew and truck drivers to finish racking rig.

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations: Move rig to rack site and load out rental equipment for demobilization,

24hr Forecast
Finish racking rig on rack site

Daily Contacts
Drilling Superintend, Sheldon Vamplew, 403-999-1302; Rig Manager, Rick Yavis; WS Supervisor, Mike Hobmaier, 403-844-3210; Rig Manager, RICK YAVIS; WS Supervisor, Dave Forsberg, 780-361-6417; Command, Center, 587-794-4599; Drilling Engineer, Mike Greener,

Last Casing String
Production, 2,146.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:15	0.25	DEMOB	MOVE	DMOB	P	Held prejob safety meeting with Beaver crews,Mullen trucking and Conoco representitives prior to tearing out rig and moving to rack site.
00:15	12:00	11.75	DEMOB	MOVE	DMOB	P	Tear outrig and move to rack site,along with rentals

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost

Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost
		135,910.70

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
410.00	410.00

Comment	No. Rpts

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	6	3/19/2013	-5	3/20/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # <BHA No.?>

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Drilling Parameters:

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig:

Report Date: 3/25/2013
Report #: 33
Depth Progress: 0.00 m
Depth End: [illegible].00 mKB
Rig R[illegible]se Date:

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/20/2013 00:00	2,145.00	0.782	1,619	80
3/23/2013 08:00				75

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	2,093.00

697792

V29

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/24/2013
Report #: 32
Depth Progress: 0.00 m
Depth End: 2,146.00 mKB
Rig Release Date: 3/24/2013

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	27.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
77,315.89	6,518,629.34	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		44.0	464.00	16,260.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-15	East 115kméhr.

Ops and Depth @ Morning Report
Rest crew and truck drivers.

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations:Wait on cement, Nipple down BOP`s, Set casing slips with 50,000 Dan, Rig down and clean mud tanks, Prepare to move to rack site and load out rental equipment

24hr Forecast
Tear out rig and move to rack site.

Daily Contacts
Command, Center, 587-794-4599; WS Supervisor, Mike Hobmaier, 403-844-3210; Rig Manager, Rick Yavis; Drilling Engineer, Mike Greener, 403-771-5039; Drilling Superintend, Sheldon Vamplew, 403-999-1302; WS Supervisor, Dave Forsberg, 780-361-6417; Rig Manager

Last Casing String
Production, 2,146.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	01:30	1.50	PROD1	CEMENT	WOC	P	Wait on cement
01:30	01:45	0.25	PROD1	DRILL	SFTY	P	Safety meeting tear out b.o.p
01:45	05:15	3.50	PROD1	WHDBOP	NUND	P	Nipple down b.o.p & set slips
05:15	07:45	2.50	DEMOB	MOVE	DMOB	P	Tear out rig wait on vac trucks to clean tanks
07:45	08:00	0.25	DEMOB	DRILL	SFTY	P	Crew hand over meeting
08:00	10:00	2.00	DEMOB	MOVE	DMOB	P	Inspect Drrick and lay down
10:00	14:00	4.00	DEMOB	MOVE	DMOB	P	Continue tear out rig
14:00	16:00	2.00	DEMOB	MOVE	DMOB	P	Clean tanks and general tear out of rig.
16:00	20:00	4.00	DEMOB	MOVE	DMOB	P	Clean tanks and general tear out of rig.
20:00	00:00	4.00	DEMOB	MOVE	DMOB	P	Clean tanks and general tear out of rig,flush Boiler and water tank Rig release March 24 @ 24:00 Hrs.

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost

Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost
		135,910.70

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
409.00	409.00

Comment
"DESCRIPTION: Rathole was left uncovered

ACTION TAKEN: Placed plank over rathole

REPORTED BY: Derrickhand
CORRECTED: YES LIKELYHOOD: 2 SEVERITY: 2
DATE NOTED: 03/24/13 DATE CORRECTED: 03/24/13"

No. Rpts
11,220

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	5	3/19/2013	-4	3/20/2013

Safety Incidents

Time	Comment	Type

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45
Rig: Beaver Drilling Ltd. 2

Report Date: 3/24/2013
Report #: 32
Depth Progress: 0.00 m
Depth End: [illegible].00 mKB
Rig Release Da[illegible]3/24/2013

Drill Strings: BHA # <BHA No.?>

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Drilling Parameters:

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/20/2013 00:00	2,145.00	0.782	1,619	80
3/23/2013 08:00				75

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00

Formations

Formation Name	Drill Top MD (mKB)
Hare Indian	
Bluefish Member	
Hume	2,093.00

697792

V28

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/23/2013
Report #: 31
Depth Progress: 0.00 m
Depth End: 2,146.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	26.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
832,412.79	6,441,313.45	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		51.0	2,156.00	15,760.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-16	Calm

Ops and Depth @ Morning Report
Clear tanks and tear out rig.

Wellbore

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations:Run wireline logs with Schlumberger,Rig to and run 177.8mm casing, Circulate and prepare to and cement with Schlumberger, wait on cement.

24hr Forecast
Nipple down ,Clean tanks and tear out rig

Daily Contacts
Command, Center, 587-794-4599; WS Supervisor, Dave Forsberg, 780-361-6417; Drilling Superintend, Sheldon Vamplew, 403-999-1302; WS Supervisor, Mike Hobmaier, 403-844-3210; Drilling Engineer, Mike Greener, 403-771-5039; Rig Manager, Rick Yavis

Last Casing String
Production, 2,146.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	02:00	2.00	PROD1	DRILL	ELOG	P	Wireline logs with schlumberger
02:00	02:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test crown saver & blind rams 3 sec
02:15	02:30	0.25	PROD1	DRILL	SFTY	P	Safety meeting with Hallmark & pipe handlers
02:30	03:45	1.25	PROD1	CASING	RNCS	P	Rig up tong hand & Trottier pipe handlers
03:45	07:45	4.00	PROD1	CASING	RNCS	P	Run casing
07:45	08:00	0.25	PROD1	DRILL	SFTY	P	Crew hand over meeting
08:00	08:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service
08:15	09:45	1.50	PROD1	CASING	RNCS	P	Run casing to 1155m w/hallmark tong hands
09:45	10:30	0.75	PROD1	DRILL	CIRC	P	Circulate casing @1155m
10:30	12:15	1.75	PROD1	CASING	RNCS	P	Run casing from 1155m to 1556m w/hallmark tong hand
12:15	12:45	0.50	PROD1	DRILL	CIRC	P	Circulate casing @1556m
12:45	15:30	2.75	PROD1	CASING	RNCS	P	Run casing from 1556m to 2146m.Ran 1-177.8mm Float Shoe,1jt. 177.8mm X 38.6kg/m P110 LT&C casing,1 177.8mm Float Collar and 178 joints 177.8mm X 38.6kg/m P110 LT&C casing.Total length 2147.87m set at 2146m
15:30	16:00	0.50	PROD1	DRILL	CIRC	P	Circ & condition hole
16:00	16:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service
16:15	17:30	1.25	PROD1	DRILL	CIRC	P	Circulate casing on bottom
17:30	17:45	0.25	PROD1	DRILL	SFTY	P	Safety meeting with Schlumberger cementers
17:45	21:15	3.50	PROD1	CEMENT	CMNT	P	Rig to and cement 177.8mm production casing as follows,pumped 5m3 Preflush ahead,from 200m to 1600m 30.6m3 slurry (27tonne) 1400kg/m3 HiLite cement with 1.2%FLACB348,0.3% Retarder and 0.2% AntiFoam,From 1600m to 2146m 11.5m3 1600kg/m3 slurry (12tonne) Class `G`cement with 0.4 % Fluid Loss,0.5 % Dispersant.0.2 % Antifoam and 0.3 % Retarder.Displaced with 43m3 water,Full circulation through job until the last 10m3 of displacement with total losses at that point estemaited cement top at 200m,Floats held ,pressure test casing to 18200kpa.
21:15	00:00	2.75	PROD1	CEMENT	SFTY	P	Wait on cement

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost 135,910.70

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/23/2013
Report #: 31
Depth Progress: 0.00 m
Depth End: 2[redacted].00 mKB
Rig R[redacted]se Date:

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
408.00	408.00

Comment	No. Rpts
"OBSERVATION: When running casing, use a two hands for rolling, good communication, keep away from pipe racks and stay clear of laydown truck and catwalk. Well done, everyone following the instruction. OBSERVER: Assistant driller DATE NOTED: 03/23/13"	12,000

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	4	3/19/2013	-3	3/20/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # <BHA No.?>

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Drilling Parameters:

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/20/2013 00:00	2,145.00	0.782	1,619	80
3/23/2013 08:00				75

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	2,093.00

697792

V27

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/22/2013
Report #: 30
Depth Progress: 0.00 m
Depth End: 2,146.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	25.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
77,273.37	5,608,900.66	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		41.0	450.00	13,604.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)

Road Condition	Weather	Temperature (°C)	Wind
Good	Partly Cloudy	-20	East 10km/hr

Ops and Depth @ Morning Report
Run 177.8mm Production casing at 400m

Wellbore

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations:Run wireline logs with Schlumberger.

24hr Forecast
Run and cement 177.8mm production casing

Daily Contacts
Rig Manager, Rick Yavis; WS Supervisor, Mike Hobmaier, 403-844-3210; WS Supervisor, Dave Forsberg, 780-361-6417; Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; Command, Center, 587-794-4599

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test crown saver
00:15	08:00	7.75	PROD1	DRILL	ELOG	P	Continue Open Hole program with Schlumberger run #2 with UBI,Dual OBMI,GPIT,PPC,MISP,PBC,EDTC.Log depth 2148m Run #3 rerun UBI
08:00	08:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service
08:15	14:30	6.25	PROD1	DRILL	ELOG	P	Continue Open Hole program with Schlumberger, Run #3 rerun UBI
14:30	16:00	1.50	PROD1	DRILL	ELOG	P	Open hole program with Sclumberger run #4 tools ran RST,CMR,ADT,HNGS, log depth 2148m
16:00	16:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service
16:15	00:00	7.75	PROD1	DRILL	ELOG	P	Continue open hole log program with Sclumberger,Continue with run #4 tools ran RST,CMR,ADT,HNGS, log depth 2148m,RTS tool failed Run #5 Cement Bond Log

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
13:45	2,115.00	990.0	88		13.0	4.5

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
10.2		83/17	227,135	37,500	13	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
774.0			10.4			5.5

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
3.50		342.87

Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost
69.70		135,910.70

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
407.00	407.00

Comment
"DESCRIPTION: While we were picking up subs and tong jaws to the floor with winch line,I observed hand standing at bottom of v-door creating a hazardous situation if slings were to slip off subs

ACTION TAKEN: Stopped and explained at bottom of v-door is dangerous. Slings are cold and do not grab as well as they should.

REPORTED BY: Driller
CORRECTED: YES LIKELYHOOD: 2 SEVERITY: 3
DATE NOTED: 03/22/13 DATE CORRECTED: 03/22/13"

No. Rpts
11,230

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	3	3/19/2013	-2	3/20/2013

Safety Incidents

Time	Comment	Type

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/22/2013
Report #: 30
Depth Progress: 0.00 m
Depth End: [redacted].00 mKB
Rig R[redacted]se Date:

Drill Strings: BHA # <BHA No.?>

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Drilling Parameters:

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/19/2013 23:45	2,142.00	1.271	3,700	130
3/20/2013 00:00	2,145.00	0.782	1,619	80

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
FED ZAN D - 11.34 KG	3.0	114.290		sks

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00

Formations

Formation Name	Drill Top MD (mKB)
Hare Indian	
Bluefish Member	
Hume	2,093.00

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v26

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/21/2013
Report #: 29
Depth Progress: 0.00 m
Depth End: 2,146.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	24.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
461,230.50	5,022,234.04	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		39.0	426.00	13,154.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-30	East 10km/hr

Ops and Depth @ Morning Report
Continue to run Open hole logs.

Wellbore

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations:Run wireline logs with Schlumberger.

24hr Forecast
Continue to run Open hole logs.

Daily Contacts
Drilling Superintend, Sheldon Vamplew, 403-999-1302; WS Supervisor, Dave Forsberg, 780-361-6417; Drilling Engineer, Mike Greener, 403-771-5039; Command, Center, 587-794-4599; Rig Manager, Rick Yavis; WS Supervisor, Mike Hobmaier, 403-844-3210

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:15	0.25	PROD2	RIGMNT	SVRG	P	Rig service function test crown saver
00:15	08:00	7.75	PROD2	EVALFM	ELOG	P	Wireline logs with schlumberger ,Run #1 AIT,NEXT,PEX,TLO2 Log depth 2148m, Start Run #2 with UBI,Dual OBMI,GPIT,PPC,MISP,PBC,EDTC.
08:00	08:15	0.25	PROD2	RIGMNT	SVRG	P	Rig service
08:15	16:00	7.75	PROD2	EVALFM	ELOG	P	Continue Open Hole program with Schlumberger run #2 with UBI,Dual OBMI,GPIT,PPC,MISP,PBC,EDTC.Log depth 2148m
16:00	16:15	0.25	PROD2	RIGMNT	SVRG	P	Rig service
16:15	00:00	7.75	PROD2	EVALFM	ELOG	P	Continue Open Hole program with Schlumberger run #2 with UBI,Dual OBMI,GPIT,PPC,MISP,PBC,EDTC.Log depth 2148m

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
Low Gravity Solids (%)	**MBT (kg/m³)**	**Oil Water Ratio**	**Chlorides (mg/L)**	**Calcium (mg/L)**	**Lime (kg/m³)**	**Potassium (mg/L)**
Electric Stab (V)	**ECD - Manual Entry (...**	**Sand (%)**	**Solids, Corr. (%)**	**T (fl) (°C)**	**HTHP Pressure (kPa)**	**HTHP Filt (mL/30min)**

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
Cum Mud Lost to Surface (m³)	**Cum Mud Lost to Hole (m³)**	**Cumulative Mud Cost**
		134,734.13

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
406.00	406.00

Comment
"DESCRIPTION: Laying down pipe hand was trying to put protector on before pipe cleared stump

ACTION TAKEN: Told hand to wait until pipe cleared stump

REPORTED BY: Assistant driller
CORRECTED: YES LIKELYHOOD: 2 SEVERITY: 3
DATE NOTED: 03/21/13 DATE CORRECTED: 03/21/13"

No. Rpts
11,230

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	2	3/19/2013	-1	3/20/2013

Safety Incidents

Time	Comment	Type

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/21/2013
Report #: 29
Depth Progress: 0.00 m
Depth End: [illegible]6.00 mKB
Rig Release Date:

Drill Strings: BHA # <BHA No.?>

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Drilling Parameters:

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/19/2013 23:45	2,142.00	1.271	3,700	130
3/20/2013 00:00	2,145.00	0.782	1,619	80

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00

Formations

Formation Name	Drill Top MD (mKB)
Hare Indian	
Bluefish Member	
Hume	2,093.00

697792
V25

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/20/2013
Report #: 28
Depth Progress: 8.00 m
Depth End: 2,146.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	23.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
137,614.50	4,561,003.54	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		39.0	450.00	12,688.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)
63	63	66	0

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-35	South East 10km/hr

Ops and Depth @ Morning Report
Continue to run Open hole logs.

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations: Rotary drill 222mm hole F/ 2130 - 2146m with rerun Reed MSR616 bit and slick rotary BHA,pumping at 1.3m3/min. WOB 9dan,average ROP 3m/hr, Circulate, Wiper trip 5 stands, Hole in good condition, Circulate, Pull out of hole laying down drill string, Rig in and run wireline logs with Schlumberger.

24hr Forecast
Continue to run Open hole logs.

Daily Contacts
WS Supervisor, Mike Hobmaier, 403-844-3210; Command, Center, 587-794-4599; Drilling Superintend, Sheldon Vamplew, 403-999-1302; WS Supervisor, Dave Forsberg, 780-361-6417; Drilling Engineer, Mike Greener, 403-771-5039; Rig Manager, Rick Yavis

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	01:00	1.00	PROD2	DRILL	DRLG	P	Drill 222mm hole from 2142m to 2146 m with rerun Reed MSR616 bit and slick rotary BHA, WOB 9dan, pumping @ 1.2m3.,RPM 80,Average ROP 3 .5 m/hr.
01:00	02:00	1.00	PROD2	DRILL	CIRC	P	Circulate & condition hole @ 2146 m T.D
02:00	02:15	0.25	PROD2	RIGMNT	SVRG	P	Rig service function test pipe rams 3 sec & crown saver
02:15	03:00	0.75	PROD2	DRILL	WPRT	P	Wiper trip 5 stds to 2040 m flow check @ 2136 m & 2040 m
03:00	04:30	1.50	PROD2	DRILL	CIRC	P	Circulate & condition hole @ 2146 m
04:30	04:45	0.25	PROD2	DRILL	SFTY	P	Safety meeting with Trottier
04:45	07:45	3.00	PROD2	DRILL	PULD	P	Lay down drill pipe with pipe spinner & Trottier pipe handlers flow checks @ 2136 m 2042 m
07:45	08:00	0.25	PROD2	DRILL	SFTY	P	Crew hand over meeting
08:00	08:15	0.25	PROD2	RIGMNT	SVRG	P	Rig service function hydrill 13 sec crown saver operating properly
08:15	15:45	7.50	PROD2	DRILL	PULD	P	Lay down drill pipe,brake down overhead lay down DC with trottier pipe handlers flow check@1080m/601m/OOH/reviewed JSA#159 lay down drill pipe with lay down truck
15:45	16:00	0.25	PROD2	DRILL	PULD	P	Rig out laydown truck
16:00	16:15	0.25	PROD2	RIGMNT	SVRG	P	Rig service function blind rams 3 sec crown saver operating properly
16:15	20:30	4.25	PROD2	DRILL	PULD	P	Pull wear bushing/lay down NOV X/O and tools/lay down kelly bar and swivel/clean and prepare floor for wire line logs
20:30	20:45	0.25	PROD2	EVALFM	SFTY	P	Safety meeting on wire line logs with schlumberger
20:45	00:00	3.25	PROD2	EVALFM	ELOG	P	Rig in and log with schlumberger,Run #1 AIT,NEXT,PEX,TLO2 ,Log depth 2148m

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
16:15	2,115.00	990.0	88		13.0	4.5

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
10.2		83/17	227,135	37,500	13	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
774.0			10.4			5.5

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
3.50		

Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost
62.70		134,734.13

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/20/2013
Report #: 28
Depth Progress: 8.00 m
Depth End: [illegible]6.00 mKB
Rig Release Date:

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
405.00	405.00

Comment	No. Rpts
"DESCRIPTION: While laying down pipe abserved green hand wanting to pull rope to open elevator while standing almost underneath drill pipe ACTION TAKEN: Immediately stopped operation and told greenhand to stand away to the side before opening elevators to ensure he does not get struck with pipe REPORTED BY: Derrickhand CORRECTED: YES LIKELYHOOD: SEVERITY: DATE NOTED: 03/20/13 DATE CORRECTED: 03/20/13"	11,000

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	1	3/19/2013	0	3/20/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # 2

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)
1	222.0mm, REED, MSR616M-A2C, A141415	0.28	1-1-CT-S-X-0-NO-CP	581	15.1

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)
11.1/11.1/11.1/11.1/11.1/11.1	4,026.26	232.0	66,000

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)
601.00	2,146.00	13.6	1,331.00	1,932.00	97.75	97.75

Comment
Dyna-Drill 7/8 5 Stage set @ 1.15*

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
Kelly	70.0	109.0	1	6.93	4,026.26
Drill pipe - Stands			106	2,039.65	4,009.73
Drill pipe - Singles	109.0	127.0	1	9.60	4,019.33
Drill pipe - Stands	109.0	127.0	89	1,713.19	1,969.47
X/0	74.0	166.0	1	0.61	1,970.08
X/O SUB	59.0	123.0	1	0.61	255.94
X/o	83.0	156.0	1	0.34	256.28
X/O Sub	58.0	134.0	1	0.51	254.59
x/o	58.0	148.0	1	0.74	255.33
6 D.C	60.0	160.0	12	112.00	160.11
6 D.C	60.0	160.0	10	93.97	254.08
X/O 4 H-90	62.0	162.0	1	0.48	47.16
Bit sub	70.0	232.0	1	0.95	48.11
Jar	76.0	157.0	1	9.18	46.68
N.M. DC	72.0	168.0	2	18.96	37.50
Landing Sub	86.0	164.0	1	0.55	18.54
X-PULSE	70.0	164.0	1	9.48	17.99
MUD MOTOR	34.0	131.0	1	8.23	8.51

Drilling Parameters: 2,142.00 - 2,146.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq
1,293.00	85.50	4.0		8,000.0	75	3,900					

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...

Error
A drill string component contains a null value in OD

Drill Strings: BHA # 5

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)
RR1	222.0mm, REED, MSR616M-A2C, A141415	0.28	-------	581	3.1

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)
11.1/11.1/11.1/11.1/11.1/11.1	2,145.89	166.0	73,000

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)
601.00	2,146.00	13.6	1,331.00	1,932.00	97.75	97.75

Comment
Slick Rotary assembly

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/20/2013
Report #: 28
Depth Progress: 8.00 m
Depth End: 2,146.00 mKB
Rig Release Date:

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
Kelly	70.0	114.3	1	9.35	2,145.89
Drill Pipe	101.6	127.0	106	2,039.65	2,136.54
XO Sub	74.0	166.0	1	0.61	96.89
XO Sub	83.0	156.0	1	0.34	96.28
XO Sub	58.0	148.0	1	0.74	95.94
Drill Collar	60.0	160.0	10	93.97	95.20
Bit Sub	70.0	160.0	1	0.95	1.23

Drilling Parameters: 2,142.00 - 2,146.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq
38.00	12.25	4.0	1.300	8,000.0	75	3,900	73,000	73,000	73,000	73,000	6,500.0

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
16.8	0.00043	20	37.3	773.4	460.8	990.0	1011.9

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...
16.85	80.43	16.12	44.4	48.4	19.8	76.2

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/19/2013 23:45	2,142.00	1.271	3,700	130
3/20/2013 00:00	2,145.00		1,619	80

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
BARITE - 40KG	42.0			SXS

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	2,093.00

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V24

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/19/2013
Report #: 27
Depth Progress: 34.00 m
Depth End: 2,142.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	22.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
1,068,093.85	4,423,390.04	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		41.0	474.00	12,238.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)
64	63	151	0

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-33	East 10km/hr

Ops and Depth @ Morning Report
Lay down Drill string at 1950m

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations: Pull out of hole, Lay down corre barrels and collars, Pick up drill collars and make up 222mm PDC bit (RR#1) Run in hole, Rotary drill 222mm hole F/ 2108 - 2142m with rerun Reed MSR616 bit and slick rotary BHA,pumping at 1.3m3/min. WOB 9dan,average ROP 3m/hr

24hr Forecast
Drill to TD, Lay down drill string.

Daily Contacts
WS Supervisor, Brian Neigum, 403-548-5013; WS Supervisor, Dave Forsberg, 780-361-6417; Rig Manager, Rick Yavis; Drilling Engineer, Mike Greener, 403-771-5039; Command, Center, 587-794-4599; Drilling Superintend, Sheldon Vamplew, 403-999-1302

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:30	0.50	PROD2	DRILL	TRIP	P	Trip out of hole
00:30	00:45	0.25	PROD2	RIGMNT	SVRG	P	Rig Service Function Annular Close 12 sec.
00:45	02:15	1.50	PROD2	DRILL	TRIP	P	Trip out of hole Flow checks @ 595m OOH
02:15	04:30	2.25	PROD2	DRILL	PULD	P	Laydown drill rod and laydown core barrels
04:30	06:15	1.75	PROD2	DRILL	TRIP	P	Make up BHA and Bit, pick up 10 drill collars
06:15	07:45	1.50	PROD2	DRILL	TRIP	P	Trip into the hole
07:45	08:00	0.25	PROD2	DRILL	SFTY	P	Crew hand over meeting
08:00	08:15	0.25	PROD2	RIGMNT	SVRG	P	Rig service function hydril 14 sec & crown saver
08:15	12:00	3.75	PROD2	DRILL	TRIP	P	Run in hole fill pipe @ 811m 1628m 2102m and flowchecks
12:00	12:15	0.25	PROD2	DRILL	SFTY	P	B.O.P. drill well secured in 85 seconds
12:15	16:00	3.75	PROD2	DRILL	DRLG	P	Drill 222mm hole from 2108m to 2122 m with rerun Reed MSR616 bit and slick rotary BHA, WOB 8dan, pumping @ 1.2m3.,RPM 90,Average ROP 3.7m/hr.
16:00	18:00	2.00	PROD2	DRILL	DRLG	P	Drill 222mm hole from 2122m to 2130 m with rerun Reed MSR616 bit and slick rotary BHA, WOB 9dan, pumping @ 1.2m3.,RPM 90,Average ROP 4m/hr.
18:00	18:15	0.25	PROD2	DRILL	SFTY	P	BOP drill crew in position well secure in 90 sec
18:15	18:30	0.25	PROD2	RIGMNT	SVRG	P	Rig service function pipe rams 3 sec crown saver operating properly,function test motor kills operating properly
18:30	00:00	5.50	PROD2	DRILL	DRLG	P	Drill 222mm hole from 2130m to 2142m with rerun Reed MSR616 bit and slick rotary BHA, WOB 9dan, pumping @ 1.2m3.,RPM 90,Average ROP 2.2m/hr.

Fluid / Mud Checks: Mud Engineer: Andreis Kolos

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
18:00	2,115.00	990.0	88		13.0	4.5

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
10.2		83/17	227,135	37,500	13	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
774.0			10.4	21		5.5

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
3.50		1,674.35
Cum Mud Lost to Surface (m³)	**Cum Mud Lost to Hole (m³)**	**Cumulative Mud Cost**
59.20		134,734.13

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/19/2013
Report #: 27
Depth Progress: 34.00 m
Depth End: [illegible]2.00 mKB
Rig Release Date:

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
404.00	404.00

Comment

"DESCRIPTION: While on a daily walk around, noticed a blown steam hose from pump house to mixing shack

ACTION TAKEN: Shut in bolier and replaced hose

REPORTED BY: Derrick hand
CORRECTED: YES LIKELYHOOD: 3 SEVERITY: 2
DATE NOTED: 03/19/13 DATE CORRECTED: 03/19/13"

No. Rpts: 11,320

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	7	3/12/2013	-6	3/13/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # 5

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)
RR1	222.0mm, REED, MSR616M-A2C, A141415	0.28	-------	581	3.0

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)
11.1/11.1/11.1/11.1/11.1/11.1	2,141.89	166.0	73,000

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)
601.00	2,142.00	13.8	1,323.00	1,924.00	95.75	95.75

Comment
Slick Rotary assembly

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
Kelly	70.0	114.3	1	5.35	2,141.89
Drill Pipe	101.6	127.0	106	2,039.65	2,136.54
XO Sub	74.0	166.0	1	0.61	96.89
XO Sub	83.0	156.0	1	0.34	96.28
XO Sub	58.0	148.0	1	0.74	95.94
Drill Collar	60.0	160.0	10	93.97	95.20
Bit Sub	70.0	160.0	1	0.95	1.23

Drilling Parameters: 2,122.00 - 2,142.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq
34.00	11.25	2.7	1.300	9,000.0	80	3,700	73,000	73,000	73,000	73,000	6,500.0

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
16.8	0.00043	21	37.3	773.4	460.1	990.0	1011.9

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...
16.83	80.43	16.11	44.4	48.4	19.8	76.2

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/19/2013 18:00	2,125.00	0.802	1,640	82
3/19/2013 23:45	2,142.00	1.271	3,700	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
BARITE - 40KG	42.0	19.850		sks
VERSATROL M - 22KG	17.0	49.450		sks

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	2,093.00

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v23

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/18/2013
Report #: 26
Depth Progress: 0.00 m
Depth End: 2,108.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	21.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
84,048.50	3,348,141.19	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		41.0	474.00	11,764.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)
	38		0

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-26	11 km

Ops and Depth @ Morning Report
Make up BHA to finish drilling

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations: Pull core #8 with Schlumberger wireline, Lay down core, (100% recovery) Circulate, Make up and set drill rod with wireline, Attempt to drill 222mm hole. Drill rod unseated, Attempt to reseat drill rod, (unsucessful) Pull out of hole.

24hr Forecast
Drill to TD

Daily Contacts
WS Supervisor, Brian Neigum, 403-548-5013; Drilling Superintend, Sheldon Vamplew, 403-999-1302; Rig Manager, Rick Yavis; Drilling Engineer, Mike Greener, 403-771-5039; Command, Center, 587-794-4599; WS Supervisor, Dave Forsberg, 780-361-6417

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test H.C.R
00:15	07:45	7.50	PROD1	CORING	ELNE	P	Wire line retrieve core #8
07:45	08:00	0.25	PROD1	CORING	SFTY	P	crew handover meeting
08:00	11:30	3.50	PROD1	CORING	ELNE	P	Retrieve core # 8 with schlumberger
11:30	11:45	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test hydril 13 sec & crown saver
11:45	12:00	0.25	PROD1	CORING	SFTY	P	Held safety meeting n.o.v & schlumberger
12:00	12:45	0.75	PROD1	CORING	RECR	P	Recover core # 8 & lay down
12:45	13:45	1.00	PROD2	DRILL	CIRC	P	Circ bottom up
13:45	14:00	0.25	PROD2	DRILL	SFTY	P	Safety meeting
14:00	16:00	2.00	PROD2	DRILL	PULD	P	Rig up drill rod & run in to set drill rod with n.o.v & schlumberger
16:00	17:15	1.25	PROD2	DRILL	ELNE	P	Attempt to and set drill rod & set rod with schlumberger & rig out
17:15	17:30	0.25	PROD2	RIGMNT	SVRG	P	Rig service function test pipe rams 3 sec and crown saver
17:30	17:45	0.25	PROD2	DRILL	TRIP	P	Run in 3 stds of d.p
17:45	18:30	0.75	PROD2	DRILL	DRLG	P	Attempt to drill no seat on drill rod
18:30	19:45	1.25	PROD2	DRILL	CIRC	T	Circ bottoms up
19:45	00:00	4.25	PROD2	DRILL	TRIP	T	Trip out of hole drill rod didnt seat, flo0w check @ 2097m,1046m,

Fluid / Mud Checks: Mud Engineer: Andreis Kolos

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
08:30	2,108.00	985.0	71		14.0	4.5

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
10.0		83/17	227,135	37,500	13	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
774.0			10.8			5.8

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
3.50		3,183.00

Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost
55.70		133,059.78

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
403.00	403.00

Comment
"DESCRIPTION: While laying out core barrel, hand was standing on top of laydown line

ACTION TAKEN: Hand was told never be on catwalk when laying anything down

REPORTED BY: Derrickhand
CORRECTED: YES LIKELYHOOD: 2 SEVERITY: 3
DATE NOTED: 03/18/13 DATE CORRECTED: 03/18/13"

No. Rpts
11,230

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/18/2013
Report #: 26
Depth Progress: 0.00 m
Depth End: [redacted]8.00 mKB
Rig Release Date:

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	6	3/12/2013	-5	3/13/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # 4

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)
2C	222.0mm, NOV, CEPR5135, A1/E140305	0.34	2-2-CT-M-X-0-NO-DTF	484	6.8

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)
11.1/11.1/11.1/11.1/11.1	2,108.00	165.0	66,000

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)
2,027.00	2,108.00	6.8	81.00	2,108.00	12.00	12.00

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
Kelly	109.0	165.0		10.39	2,108.00
Drill pipe - Singles	109.0	165.0	1	9.61	2,097.61
Drill pipe - Stands	109.0	165.0	103	1,981.87	2,088.00
X/O	109.0	165.0	1	0.77	106.13
Core Collers	108.0	165.0	8	75.82	105.36
Stabilizer	108.0	165.0	1	0.83	29.54
Seat sub	108.0	165.0	1	0.49	28.71
Core Barrel	108.0	165.0	1	9.57	28.22
Stabilizer	108.0	165.0	1	1.23	18.65
Core Barrel	108.0	165.0	1	7.93	17.42
Stabilizer	108.0	165.0	1	1.23	9.49
Core Barrel	108.0	165.0	1	7.92	8.26

Drilling Parameters: 2,108.00 - 2,108.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq
81.00	12.00	0.0	1.117	5,000.0	60	4,400	66,000	71,000	71,000	71,000	

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
15.2	0.00039	19	38.5	818.1	477.2	985.0	1008.1

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...
19.65	66.70	10.88	61.5	61.5	20.5	64.5

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/17/2013 19:00	2,103.00	1.144	4,700	117
3/18/2013 16:00	2,108.00	0.929	4,400	95

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
BARITE - 40KG	80.0	19.850		sks
VERSACLEAN INVERT	1.1	1,450.000		m3

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	2,093.00

697792
V22

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/17/2013
Report #: 25
Depth Progress: 27.00 m
Depth End: 2,108.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	20.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
83,341.10	3,270,092.69	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		41.0	474.00	11,290.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)
197	149		0

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-24	11 km nw

Ops and Depth @ Morning Report
Pull core 8 with wireline @ 600 mkb

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations: Pull core # 7 with Schlumberger wireline, Lay down core, (100% recovery) Circulate, Pump down inner sleeve, Cut core #8 F/ 2081 - 2108 mkb. Circulate bottoms up. Rig up wireliners and start in to pull core barrel.

24hr Forecast
Finish recovering core 8 & drill ahead to TD

Daily Contacts
Command, Center, 587-794-4599; WS Supervisor, Dave Forsberg, 780-361-6417; WS Supervisor, Brian Neigum, 403-548-5013; Rig Manager, Rick Yavis; Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:15	0.25	PROD1	RIGMNT	SVRG	P	RIG SERVICE
00:15	07:45	7.50	PROD1	CORING	ELNE	P	Wire line retrieve core #7 with schlumbger(Held a high angle rescue with crew went through all equitment.)
07:45	08:00	0.25	PROD1	CORING	SFTY	P	crew hand over meeting
08:00	11:45	3.75	PROD1	CORING	ELNE	P	Retrieve core # 7 with schlumberger
11:45	12:00	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test hydril 13 sec & crown saver
12:00	12:15	0.25	PROD1	CORING	SFTY	P	Safety meeting on laying down core # 7
12:15	13:30	1.25	PROD1	CORING	RECR	P	recover core # 7 & lay down
13:30	13:45	0.25	PROD1	CORING	TRIP	P	Run in 3 stds of d.p
13:45	15:00	1.25	PROD1	CORING	CIRC	P	Circ bottoms up
15:00	15:30	0.50	PROD1	CORING	RECR	P	Make up inner core bbl & pump down
15:30	16:00	0.50	PROD1	CORING	CIRC	P	Circ & pump down inner core bbl
16:00	16:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test pipe rams 3 sec & crown saver
16:15	20:00	3.75	PROD1	CORING	CORE	P	Core #8 89 mm core & drill 222 mm hole from 2081 m to 2108 m pump @ 1.2 m3 rotary @ 60 w.o.b 5 rop 7.2m/hr core #8
20:00	21:30	1.50	PROD1	CORING	CIRC	P	Circulate bottoms up
21:30	22:00	0.50	PROD1	CORING	TRIP	P	Trip out 3 stands
22:00	22:15	0.25	PROD1	CORING	SFTY	P	Safety meeting with nov core hands and schlumbger on wire line
22:15	00:00	1.75	PROD1	CORING	ELNE	P	Wire line retrieve core #8 with schlumbger

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
17:00	2,085.00	985.0	71		14.0	4.5

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
10.0		83/17	227,135	37,500	13	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
774.0	1016.5		10.8		3,500	5.8

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
1.10		6,575.60
Cum Mud Lost to Surface (m³)	**Cum Mud Lost to Hole (m³)**	**Cumulative Mud Cost**
52.20		129,876.78

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
402.00	402.00

Comment
"DESCRIPTION: Saw service hand fueling up his truck by jamming something in the spout and walking away

ACTION TAKEN: Told hand he was not to leave the pump unattended while fueling

REPORTED BY: Toolpush
CORRECTED: YES LIKELYHOOD: 3 SEVERITY: 3
DATE NOTED: 03/17/13 DATE CORRECTED: 03/17/13"

No. Rpts
11,330

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/17/2013
Report #: 25
Depth Progress: 27.00 m
Depth End: [illegible]8.00 mKB
Rig Release Date:

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	5	3/12/2013	-4	3/13/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # 4

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)
2C	222.0mm, NOV, CEPR5135, A1/E140305	0.34	-------	484	6.9

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)
11.1/11.1/11.1/11.1/11.1	2,108.38	165.0	66,000

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)
2,027.00	2,108.00	6.9	81.00	2,108.00	11.75	11.75

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
Kelly	109.0	165.0		10.77	2,108.38
Drill pipe - Singles	109.0	165.0	1	9.61	2,097.61
Drill pipe - Stands	109.0	165.0	103	1,981.87	2,088.00
X/O	109.0	165.0	1	0.77	106.13
Core Collers	108.0	165.0	8	75.82	105.36
Stabilizer	108.0	165.0	1	0.83	29.54
Seat sub	108.0	165.0	1	0.49	28.71
Core Barrel	108.0	165.0	1	9.57	28.22
Stabilizer	108.0	165.0	1	1.23	18.65
Core Barrel	108.0	165.0	1	7.93	17.42
Stabilizer	108.0	165.0	1	1.23	9.49
Core Barrel	108.0	165.0	1	7.92	8.26

Drilling Parameters: 2,081.00 - 2,108.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq
81.00	11.75	7.2	1.117	5,000.0	60	4,700	66,000	71,000	71,000	71,000	

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
15.2	0.00039	17	38.5	818.1	514.4	985.0	1009.9

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...
19.65	66.70	10.88	61.5	61.5	20.5	64.5

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/17/2013 16:00	2,080.00	0.811	2,360	83
3/17/2013 19:00	2,103.00	1.144	4,700	117

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
LIME - 20KG	5.0	8.680		sks
CAL-CHLR 94-97%-40KG	5.0	46.970		sks
VERSAMUL - 208LT	5.0	940.470		bbl
VERSACLEAN INVERT	1.1	1,450.000		m3

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	2,093.00

697792
V21

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/16/2013
Report #: 24
Depth Progress: 27.00 m
Depth End: 2,081.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	19.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
78,837.15	3,186,751.59	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		39.0	450.00	10,812.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)
363	204		0

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-26	7 km NM

Ops and Depth @ Morning Report
Pull core with wireline @ 930 mkb

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 4 Hazard ID's: 0 Job observations: Pull core #6 with Schlumberger wireline, Lay down core, (100% recovery) Circulate, Pump down inner sleeve, Cut core #7 F/ 2054 - 2081 mkb. Circulate bottoms up. Rig up wireliners and start in to pull core barrel.

24hr Forecast
Pull core # 7 & cut core #8

Daily Contacts
Drilling Foreman, DAVE FORSBERG; Drilling Superintend, Sheldon Vamplew, 403-999-1302; Rig Manager, Rick Yavis; WS Supervisor, Brian Neigum, 403-548-5013; Command, Center, 587-794-4599; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Dave For

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:30	0.50	PROD1	CORING	CIRC	P	Circulate bottoms up sample
00:30	00:45	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test annular 13 sec to close function test crown saver working proper
00:45	01:00	0.25	PROD1	CORING	TRIP	P	Trip out 3 stands
01:00	01:15	0.25	PROD1	CORING	SFTY	P	Safety meeting with nov core hands and schlumbger on wire line retrieving
01:15	07:45	6.50	PROD1	CORING	ELOG	P	Rig up wire line with schlumbger and wire line retrieve core #6
07:45	08:00	0.25	PROD1	CORING	SFTY	P	Crew handover meeting
08:00	13:15	5.25	PROD1	CORING	ELOG	P	Retrieve core # 6 with schlumberger
13:15	13:30	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test pIPE RAMS 3 SEC & CROWN SAVER
13:30	13:45	0.25	PROD1	CORING	SFTY	P	Safety meeting on laying down core bbl
13:45	15:00	1.25	PROD1	CORING	RECR	P	Handle core bbl & lay down core # 6
15:00	15:15	0.25	PROD1	CORING	TRIP	P	Run in 3 stds d.p
15:15	16:00	0.75	PROD1	CORING	CIRC	P	circ bottoms up
16:00	16:30	0.50	PROD1	CORING	CIRC	P	Circ bottoms up
16:30	16:45	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test hydril 14 sec & crown saver
16:45	18:00	1.25	PROD1	CORING	RECR	P	Make up inner core bbl & pump down inner bbl
18:00	21:00	3.00	PROD1	CORING	CORE	P	cut 89 mm core & 222 mm hole from 2054 m to 2081 m pump @ 1.2 m3 & rotary 60 & w.o.b 5 7m/hr core # 7
21:00	22:15	1.25	PROD1	CORING	CIRC	P	Circulate bottoms up
22:15	22:45	0.50	PROD1	CORING	TRIP	P	Trip out 3 stands
22:45	23:00	0.25	PROD1	CORING	SFTY	P	Safety meeting with nov core hands and schlumbger wireline Rig up wire line
23:00	00:00	1.00	PROD1	CORING	ELOG	P	Wireline retrieve core #7 with schlumbger

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
10:00	2,054.00	980.0	85		17.0	4.5

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
10.0		83/17	229,827	36,000	12	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
773.0			10.8			5.8

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
1.10		321.65

Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost
51.10		123,301.18

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/16/2013
Report #: 24
Depth Progress: 27.00 m
Depth End: [illegible]1.00 mKB
Rig Release Date:

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
401.00	401.00

Comment

"DESCRIPTION: When pulling pipe from the catwalk to the floor, leasehand and roughneck did not make the sling tight. Could slip out and fall back down catwalk

ACTION TAKEN: Stopped them and showed them proper way to sling and make them tight

REPORTED BY: Motorman
CORRECTED: YES LIKELYHOOD: 2 SEVERITY: 3
DATE NOTED: 03/16/13 DATE CORRECTED: 03/16/13"

No. Rpts: 11,230

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	4	3/12/2013	-3	3/13/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # 4

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)
2C	222.0mm, NOV, CEPR5135, A1/E140305	0.34	-------	484	6.8

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)
11.1/11.1/11.1/11.1/11.1	2,081.00	165.0	65,000

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)
2,027.00	2,081.00	6.8	54.00	2,081.00	8.00	8.00

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
Kelly	109.0	165.0		10.54	2,081.00
Drill pipe - Singles	109.0	165.0	1	1.57	2,070.46
Drill pipe - Stands	109.0	165.0	102	1,962.76	2,068.89
X/O	109.0	165.0	1	0.77	106.13
Core Collers	108.0	165.0	8	75.82	105.36
Stabilizer	108.0	165.0	1	0.83	29.54
Seat sub	108.0	165.0	1	0.49	28.71
Core Barrel	108.0	165.0	1	9.57	28.22
Stabilizer	108.0	165.0	1	1.23	18.65
Core Barrel	108.0	165.0	1	7.93	17.42
Stabilizer	108.0	165.0	1	1.23	9.49
Core Barrel	108.0	165.0	1	7.92	8.26

Drilling Parameters: 2,054.00 - 2,081.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq
54.00	8.00	9.0	1.170	5,500.0	65	5,200	65,000	71,000	71,000	71,000	

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
17.4	0.00045	17	40.3	893.0	564.2	980.0	1007.7

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...
19.40	66.70	10.88	64.4	64.4	21.4	67.5

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/16/2013 16:00	2,041.00	0.772	1,720	79
3/16/2013 18:34	2,060.00	1.144	5,400	117

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/16/2013
Report #: 24
Depth Progress: 27.00 m
Depth End: 2,081.00 mKB
Rig Release Date:

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
CAL-CHLR 94-97%-40KG	5.0	46.970		sks
LIME - 20KG	10.0	8.680		sks

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	

697792

V70

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/15/2013
Report #: 23
Depth Progress: 27.00 m
Depth End: 2,054.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50	281.63	2/25/2013	18.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
91,832.02	3,107,914.44	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		39.0	450.00	10,362.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)
428	143	425	0

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-36	2 km

Ops and Depth @ Morning Report
Pull core with wireline @ 1050 mkb

Wellbore
Original Hole

Last 24hr Summary
No accidents or incidents 3 Hazard ID's: 1 Job observations: Run in hole with core barrels, Drift all pipe, Circulate bottoms up, Attempt to pull bit insert and drill rods with Schlumberger wireline, Pin sheared on overshot on first attempt, Make up 1 more sinker bar,Hydrauilic jar with Spanger bar and run in on wireline, Pull drill rod, Make up and pump down core sleeve, Cut core #6 F/ 2027 - 2054 mkb. Circulate bottoms up.

24hr Forecast
Pull core # 6 & cut core #7

Daily Contacts
Rig Manager, Rick Yavis; WS Supervisor, Brian Neigum, 403-548-5013; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Dave Forsberg, 780-361-6417; Command, Center, 587-794-4599; Drilling Superintend, Sheldon Vamplew, 403-999-1302

Last Casing String
Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:30	0.50	PROD1	CORING	TRIP	T	Trip in hole drifting pipe
00:30	01:15	0.75	PROD1	RIGMNT	SLPC	T	Slip and cut 18m MJ 3165
01:15	07:45	6.50	PROD1	CORING	TRIP	T	Trip in hole drifting pipe
07:45	08:00	0.25	PROD1	CORING	SFTY	T	Crew change safety meeting
08:00	09:30	1.50	PROD1	CORING	TRIP	T	Run in hole & pick up 21 singles
09:30	09:45	0.25	PROD1	RIGMNT	SVRG	T	Rig service function test hydril 14 sec & crown saver
09:45	10:45	1.00	PROD1	CORING	CIRC	T	Circulate & condition hole @ 2026 m
10:45	11:00	0.25	PROD1	CORING	TRIP	T	Pull 3 stds of d.p
11:00	11:15	0.25	PROD1	CORING	SFTY	T	Safety meeting with n.o.v
11:15	15:45	4.50	PROD1	CORING	ELOG	T	Rig up schlumberger & Attempt to retrieve drill rod
15:45	16:15	0.50	PROD1	CORING	ELOG	T	Pull out drill rod & lay down drill rod
16:15	16:30	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test pipe rams 3 sec & crown saver
16:30	17:30	1.00	PROD1	CORING	RECR	P	Rig up inner core bbl
17:30	17:45	0.25	PROD1	CORING	TRIP	P	Run in 3 stds d.p
17:45	18:15	0.50	PROD1	CORING	CIRC	P	Pump down inner core bbl assembly
18:15	23:15	5.00	PROD1	CORING	CORE	P	Core 222mm hole from 2027m to 2054m Pump rate at 1.2m3 rotary @ 60 RPM WOB 5dan R.O.P 5.4 m/hr Core #6
23:15	23:45	0.50	PROD1	CORING	CIRC	P	Circulate bottoms up sample

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
23:00	2,030.00	985.0	85		17.0	4.0

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
11.6		82/18	206,659	36,000	11	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
737.0			10.5			5.8

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
0.20		1,305.52
Cum Mud Lost to Surface (m³)	**Cum Mud Lost to Hole (m³)**	**Cumulative Mud Cost**
50.00		122,979.53

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
400.00	400.00

Comment
"OBSERVATION: Weather has been very cold in AM again. Take the time to warm up and wear proper winter gear.

OBSERVER: Ruffneck DATE NOTED: 03/15/13"

No. Rpts
12,000

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	3	3/12/2013	-2	3/13/2013

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/15/2013
Report #: 23
Depth Prog[illegible]s: 27.00 m
Depth End[illegible]4.00 mKB
Rig Release Date:

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # 4

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)
2C	222.0mm, NOV, CEPR5135, A1/E140305	0.34	-------	484	5.4

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)
11.1/11.1/11.1/11.1/11.1	2,054.02	165.0	65,000

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)
2,027.00	2,054.00	5.4	27.00	2,054.00	5.00	5.00

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
Kelly	109.0	165.0		11.00	2,054.02
Drill pipe - Singles	109.0	165.0	1	9.63	2,043.02
Drill pipe - Stands	109.0	165.0	101	1,927.26	2,033.39
X/O	109.0	165.0	1	0.77	106.13
Core Collers	108.0	165.0	8	75.82	105.36
Stabilizer	108.0	165.0	1	0.83	29.54
Seat sub	108.0	165.0	1	0.49	28.71
Core Barrel	108.0	165.0	1	9.57	28.22
Stabilizer	108.0	165.0	1	1.23	18.65
Core Barrel	108.0	165.0	1	7.93	17.42
Stabilizer	108.0	165.0	1	1.23	9.49
Core Barrel	108.0	165.0	1	7.92	8.26

Drilling Parameters: 2,027.00 - 2,054.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq
27.00	5.00	5.4	1.150	5,000.0	60	5,200	65,000	71,000	71,000	71,000	

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
16.6	0.00043	17	39.6	867.2	564.2	985.0	1013.0

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...
19.15	66.70	10.88	63.3	63.3	21.1	66.4

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/15/2013 16:00	2,025.00	0.782	1,815	80
3/15/2013 23:00	2,050.00	1.124	5,289	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
VERSAMUL - 208LT	1.0	940.470		bbl
CAL-CHLR 94-97%-40KG	5.0	46.970		sks
LIME - 20KG	15.0	8.680		sks

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	

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V19

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/14/2013
Report #: 22
Depth Progress: 0.00 m
Depth End: 2,027.00 mKB
Rig Release Date:

API / UWI	Surface Legal Location	MaxWell Job Number	License No.
200/C-011-L/094-P-16/99	C-011-L/94-P-16	JOB01@2006	EL470

Ground Elevation (m)	Original KB/RT Elevation (m)	Casing Flange Elevation (m)	Original Spud Date	Days From Spud (days)
281.30	286.50		2/25/2013	17.29

Daily Cost Total	Cumulative Cost	Total Job AFE Amount	Total AFE+Sup	AFE / RFE / Maint.#	Estimated Days
90,075.50	3,021,637.42	10,274,600.00	10,274,600.00	10343209	36.29

Planned Depth (TMD) (mKB)	Override TVD (mKB)	Head Count	Personnel Total Hours (hrs)	Cum Personnel Total Hours (hrs)
2,156.00		39.0	450.00	9,912.00

Avg Connection Gas	Avg Background Gas	Avg Trip Gas	Max H2S (ppm)

Road Condition	Weather	Temperature (°C)	Wind
Good	Clear	-37	2 km SE

Ops and Depth @ Morning Report	Wellbore
Trip core barrel in @ 1561 mkb	Original Hole

Last 24hr Summary

No accidents or incidents 4 Hazard ID's: 1 Job oberservations: Pull core #5. with Schlumberger Wire Line unit, Lost core @ surface, Upper shoe backed off from inner barrel allowing core to drop out, Wireline wieght chart showed loss while pulling out, Found core wedged in the first 5 stands of drill pipe, Recovered 18m +-, Pull out of hole and found the rest of the core in the core barrel, we got full recovery. Put a new bit on the core barrel and start running in.
We changed the bit because one of the inside gauge cutters was broke to keep the core in gauge.

24hr Forecast

Trip in Cut core # 6 & pull core on wireline

Daily Contacts

Drilling Engineer, Mike Greener, 403-771-5039; Command, Center, 587-794-4599; WS Supervisor, Dave Forsberg, 780-361-6417; Rig Manager, Rick Yavis; WS Supervisor, Brian Neigum, 403-548-5013; Drilling Superintend, Sheldon Vamplew, 403-999-1302

Last Casing String

Surface, 599.00mKB

Time Log

Start Time	End Time	Dur (hrs)	Phase	Op Code	Activity Code	Time P-T-X	Operation
00:00	00:15	0.25	PROD1	RIGMNT	SVRG	P	Rig service function test H.C.R
00:15	02:15	2.00	PROD1	CORING	ELOG	P	Retrieve core #5 with schlumberger
02:15	03:00	0.75	PROD1	CORING	RECR	T	Lay down core #5, Core barrel was empty, the core catcher had backed off down the hole.
03:00	07:45	4.75	PROD1	CORING	TRIP	T	Trip out of hole to recover core,lay down singles while recovering core flow checks @1841m
07:45	08:00	0.25	PROD1	CORING	SFTY	T	Crew change safety meeting
08:00	09:15	1.25	PROD1	CORING	RECR	T	Recover core from 5 singles layed down
09:15	09:30	0.25	PROD1	RIGMNT	SVRG	T	Rig service function test hydril 14 sec & crown saver
09:30	09:45	0.25	PROD1	CORING	SFTY	T	Safety meeting
09:45	16:45	7.00	PROD1	CORING	TRIP	T	Pull out of hole to recover core
16:45	17:00	0.25	PROD1	CORING	SFTY	T	Safety meeting on lay down core bbl & recover core
17:00	17:30	0.50	PROD1	CORING	RECR	T	Handle core barrels
17:30	19:00	1.50	PROD1	CORING	RECR	T	Recover 8m core
19:00	19:15	0.25	PROD1	CORING	SFTY	T	Crew change safety meeting
19:15	19:45	0.50	PROD1	CORING	EQRP	T	Lay down core collars inspect for core stuck in barrels.
19:45	21:00	1.25	PROD1	CORING	PULD	T	Make up bit run collars in the hole circulate collars clean
21:00	21:30	0.50	PROD1	CORING	TRIP	T	Pull 4 stands of collars out of hole
21:30	22:00	0.50	PROD1	CORING	CORE	T	Pick up drill rod
22:00	00:00	2.00	PROD1	CORING	TRIP	T	Trip in the hole drifting pipe on the way in

Fluid / Mud Checks: Mud Engineer: <Mud Engineer?>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (cp)	YP Override (Pa)
08:15	2,000.00	985.0	85		17.0	4.0

Low Gravity Solids (%)	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L)	Calcium (mg/L)	Lime (kg/m³)	Potassium (mg/L)
11.6		82/18	204,064	35,500	14	

Electric Stab (V)	ECD - Manual Entry (...	Sand (%)	Solids, Corr. (%)	T (fl) (°C)	HTHP Pressure (kPa)	HTHP Filt (mL/30min)
737.0			10.5			5.8

Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Cost
0.20		435.00
Cum Mud Lost to Surface (m³)	**Cum Mud Lost to Hole (m³)**	**Cumulative Mud Cost**
49.80		121,674.01

Hazard IDs, Near Misses & PJHAs

Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
399.00	399.00

Comment	No. Rpts
"OBSERVATION: Pay attention to your surroundings and whats around you, stay alert, heads up at all times. Head in the game. OBSERVER: Ruffneck DATE NOTED: 03/14/13"	12,000

ConocoPhillips

Daily Drilling

COPRC MIRROR LAKE N-20 65-00 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 3/14/2013
Report #: 22
Depth Progress: 0.00 m
Depth End: [redacted].00 mKB
Rig Release Date:

Last BOP Drill

Type	Days Since Last Check (days)	Last Date	Days Until Next Check (days)	Next Date
BOP Drill (Pit)	2	3/12/2013	-1	3/13/2013

Safety Incidents

Time	Comment	Type

Drill Strings: BHA # <BHA No.?>

Bit Run	Drill Bit	Length (m)	IADC Bit Dull	TFA (incl Noz) (mm²)	BHA ROP (m/hr)

Nozzles (mm)	String Length (m)	OD (mm)	Rotating Hook Load (maximum) (daN)

Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled ...	Job Drill Hrs (hrs)	Total Drill Hrs (hrs)

Comment

Drill String Components

Item Description	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Drilling Parameters:

Cum Depth (m)	Cum Drill...	Int ROP (...	Flow Rat...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (da...	PU Str Wt (da...	Off-Btm Str ...	Drill Tq

Hydraulic Calculations

Bit Hydraulic Pow...	HP/Area (kW/mm²)	% P @ bit (%)	Jet Vel (m/s)	Bit dP (kPa)	Ann. dP (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (...	Bit to Shoe Volume (...	Shoe to Top of Casin...	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m...	Max Open Hole AV (...

Error

Mud Pumps: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/13/2013 08:00	1,987.00	0.772	2,033	79
3/13/2013 10:00	2,012.00	1.105	5,300	113

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		

Mud Pumps: 2, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80		216.0

Pump Checks

Date	Depth (mKB)	Q (m³/min)	Pres (kPa)	Strokes (spm)
3/11/2013 14:00	1,957.00	1.173	4,900	120
3/11/2013 16:00	1,962.00	0.616	1,651	63

Pump Operations

Start Date	End Date	Liner Size (mm)	P (max) (kPa)	Vol/Stk OR (m³/stk)
1/29/2013		140.0		
2/5/2013		140.0		

Shaker Screens

Description	Make	Model	Deck No.	Start Date	End Date	Screen No.	Scr Sz X	Scr Sz Y
1	NOV	KING COBRA	2	2/25/2013	3/3/2013	1	84	84

Centrifuges/Cyclones: HGS Centrifuge, Brandt, 4000

Number	Make	Model	Diameter (mm)
1	Brandt	4000	

Centrifuge/Cyclone Checks

Date	Hrs (hrs)	RPM (rpm)	Dens OF (kg/m³)	Q (ovrflw) (L/min)	Dens UF (kg/m³)	Q (undrflw) (L/min)

Fluid / Mud Additive Amounts

Description	Consumed	Cost	Size	Units
VERSACLEAN INVERT	0.3	1,450.000		m3

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)

Formations

Formation Name	Drill Top MD (mKB)
Little Bear	20.00
Slater River	241.00

Formations

Formation Name	Drill Top MD (mKB)
Arctic Red	829.00
Sans Sault	988.00
Martin House	1,138.00
Imperial	1,172.00
Upper Canol	1,931.00
Lower Canol	1,967.00
Hare Indian	
Bluefish Member	
Hume	