

VIII. Daily Drilling Reports

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/9/2013
Report #: 1
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -18.27							
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Final Job Status DRILLED		Final Report? Yes					
Daily Cost Total (Cost) 61,279.66		Cumulative Cost (Cost) 61,279.66		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19					
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 105.0		Personnel Total Hours (hr) 1,080.00	
Cum Personnel Total Hours (hr) 1,080.00							
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -36		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting with OK Drilling, Canol, rig hands, medics and Conoco reps.							Wellbore Original Hole

Last 24hr Summary

No incidents or accidents.

Fly Beaver #2 rig personnel, service hands and Conoco reps to Norman Wells from Calgary and Edmonton using Canadian North chartered flight. Set everyone up with accommodations at the construction camp (on the rack site) and the 2 Hodgsons camp in Norman Wells. Round up transportation for all services, rig hands and Conoco reps. Held safety orientation meetings in Conoco's office in Norman Wells with all services prior to them commencing work with ConocoPhillips. Could not cross river until Tuesday morning due to warm weather and construction working on ice bridge. Wait until morning to hold safety meeting prior to crossing river, warming up equipment, remove snow from all trucks and equipment, set up ratholders and drill conductor.

24hr Forecast

Hold safety meeting with OK Drilling, Canol, rig hands, medics and Conoco reps, cross river, warm up equipment, remove snow from all trucks and equipment, set up ratholders and drill conductor.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	13:00	13.00	MIRU	MOVE	MOB	P		0.00	0.00	Fly Beaver #2 rig personnel, service hands and Conoco reps to Norman Wells from Calgary and Edmonton using Canadian North chartered flight. Set everyone up with accommodations at the construction camp (on the rack site) and the 2 Hodgsons camp in Norman Wells. Round up transportation for all services, rig hands and Conoco reps. Held safety orientation meetings in Conoco's office in Norman Wells with all services prior to them commencing work with ConocoPhillips. Could not cross river until Tuesday morning due to warm weather and construction working on ice bridge.
13:00	00:00	11.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to hold safety meeting prior to crossing river, warming up equipment, remove snow from all trucks and equipment, set up ratholders and drill conductor.

Fluid/Mud Chks: Mud Engineer: <Mud Engineer>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)
API Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)			
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)				

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	789.00	Days Since Recordable Incident (days)	789.00	

Safety Incidents

Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/9/2013
Report #: 1
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Comment

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
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Drilling Parameter: <depthstart> - <depthend> mKB

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

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/20/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note
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Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units
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Survey Data

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

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/9/2013

Report #: 1

Depth Progress: m

Depth End: 0.00mKB

Rig Release Date: 1/23/2014

Rig:

Formations			
Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/10/2013
Report #: 2
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
						Days From Spud (days) -17.27	
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Daily Cost Total (Cost) 53,459.03		Cumulative Cost (Cost) 114,738.69		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 105.0		Personnel Total Hours (hr) 1,080.00	
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm) 2,160.00	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -32		Wind NW	

Ops and Depth @ Morning Report

Hold safety meeting prior to crossing river, warming up equipment and drilling conductor.

Wellbore

Original Hole

Last 24hr Summary

No incidents or accidents. 1 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting with OK Drilling, Canol, rig hands, medics and Conoco reps. Cross river, construction working on ice bridge and iceroads to location, warm up equipment, remove snow from all trucks and equipment, set up ratholers and drill 20" x 20m conductor. Shut down, wait until morning to finish drilling and cementing the 20" x 20m conductor, drilling mousehole and rathole and then setting up wellsite shacks with generators on E-76 65-10 126-45 location.

24hr Forecast

Finish drilling and cementing the 20" x 20m conductor, drill and set 6 x 3 crib, mousehole and rathole and then move and set up wellsite shacks with generators and miscellaneous loads on E-76 65-10 126-45 location. Wait until morning to move Beaver #2 rig.

Daily Contacts

Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with OK Drilling, Canol, rig hands, medics and Conoco reps.
07:15	21:00	13.75	MIRU	MOVE	MOB	P		0.00	0.00	Cross river, construction working on ice bridge and iceroads to location, warm up equipment, remove snow from all trucks and equipment, set up ratholers and drill 20" x 20m conductor.
21:00	00:00	3.00	MIRU	MOVE	WODL	P		0.00	0.00	Shut down, wait until morning to finish drilling and cementing the 20" x 20m conductor, drilling mousehole and rathole and then setting up wellsite shacks with generators on E-76 65-10 126-45 location.

Fluid/Mud Chks: Mud Engineer: <Mud Engineer>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)			Cumulative Mud Cost (Cost)	

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	790.00			Days Since Recordable Incident (days) 790.00

Safety Incidents

Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/10/2013
Report #: 2
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Comment

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
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Drilling Parameter: <depthstart> - <depthend> mKB

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

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/20/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz: X	Scr Sz: Y	Note
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Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units
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Survey Data

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

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/10/2013
Report #: 2
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Formations			
Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/11/2013
Report #: 3
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470					
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013		Days From Spud (days) -16.27			
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes	
Daily Cost Total (Cost) 101,530.46		Cumulative Cost (Cost) 216,269.15		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817		Estimated Days 34.19	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 128.0		Personnel Total Hours (hr) 1,146.00		Cum Personnel Total Hours (hr) 3,306.00			
Avg Connection Gas			Avg Background Gas			Avg Trip Gas			Max H2S (ppm)		
Road Condition Ice/Snow			Weather Windy			Temperature (°C) -35			Wind NW		
Ops and Depth @ Morning Report Hold safety meeting prior to moving Beaver #2 rig and drilling mousehole and rathole.									Wellbore Original Hole		

Last 24hr Summary

No incidents or accidents. 2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting prior to crossing river, drilling conductor and moving wellsite shacks to location. Construction working on ice bridge and iceroads to location. Finish drilling the 20" x 20m conductor, drill and set 6' x 3' crib, mousehole and rathole and then move and set up wellsite shacks with generator on E-76 65-10 126-45 location. Hold safety meeting with Schlumberger cementers, Ok Rathole, Conoco rep, vac and water truck hands. Pump 10tonne/7.5m3 of Class "G" Arctic blend cement followed by 3.5m3 of fresh water leaving 2m of cement in the conductor to drill out prior to spud. Wait until morning to move Beaver #2 rig.

24hr Forecast

Hold safety meeting, drill mousehole and rathole, move Beaver #2 rig, rental equipment and miscellaneous loads to E-76 65-10 126-45 location. Wait until daylight to continue moving rig and rental equipment.

Daily Contacts

Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting prior to crossing river, drilling conductor and moving wellsite shacks to location.
07:15	17:45	10.50	MIRU	MOVE	MOB	P		0.00	0.00	Construction working on ice bridge and iceroads to location. Finish drilling the 20" x 20m conductor, drill and set 6' x 3' crib, mousehole and rathole and then move and set up wellsite shacks with generators on E-76 65-10 126-45 location.
17:45	18:00	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Schlumberger cementers, Ok Rathole, Conoco rep, vac and water truck hands.
18:00	21:00	3.00	MIRU	MOVE	CMNT	P		0.00	0.00	Pump 10tonne/7.5m3 of Class "G" Arctic blend cement followed by 3.2m3 of fresh water leaving 3m of cement in the conductor to drill out prior to spud.
21:00	00:00	3.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to move Beaver #2 rig.

Fluid/Mud Chks: Mud Engineer: <Mud Engineer>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost)		

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Since Lost Time Incident (days)		Days Since Recordable Incident (days)		
791.00		791.00		

Safety Incidents

Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/11/2013
Report #: 3
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

String: 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)		Max Rotating Hook Load (daN)					
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)	Total Drill Hrs (hr)					
Comment											
Drill String Components											
Item Des		ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)					
Drilling Parameter: <depthstart> - <depthend> mKB											
Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq
Hydraulic Calculations											
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)				
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...					
Error											
Mud Pump: 1, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)							
1	NATIONAL	8-P-80	140.0	216.0							
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/20/2014 00:00	2,909.00	0.499	5,150	64							
1/20/2014 00:00	2,909.00	1.014	17,500	130							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/20/2014	1/21/2014	127.0									
1/22/2014	1/22/2014	127.0									
Mud Pump: 2, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)							
2	NATIONAL	8-P-80	140.0	216.0							
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/19/2014 00:00	2,513.00	0.647	6,855	83							
1/19/2014 00:00	2,513.00	0.897	15,000	115							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/19/2014	1/19/2014	127.0	15,000								
1/21/2014		127.0									
Shaker Screens											
Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note						
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
1	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200					
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
2	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200					
Fluid / Mud Additive Amounts											
Des	Consumed	Cost	Size	Units							
Survey Data											
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)		



Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/11/2013
Report #: 3
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Formations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/12/2013
Report #: 4
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
						Days From Spud (days) -15.27	
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Daily Cost Total (Cost) 58,109.03		Cumulative Cost (Cost) 274,378.18		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 113.0		Personnel Total Hours (hr) 1,155.00	
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -39		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting prior to moving Beaver #2 rig.							Wellbore Original Hole

Last 24hr Summary

No incidents or accidents. 3 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting with OK Drilling, Beaver hands, Canol Trucking and Conoco reps. Drill mousehole and rathole, lay down environmental liner, move and spot Beaver #2 rig matting and some rental equipment to E-76 65-10 126-45 location. Load substructure to be hauled out and spotted first thing in the morning. Wait until daylight to continue moving rig and rental equipment.

24hr Forecast

Hold safety meeting, move and spot Beaver #2 substructure, buildings, rental equipment and miscellaneous loads to E-76 65-10 126-45 location. Wait until daylight to continue moving and spotting rig and rental equipment.

Daily Contacts

Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with OK Drilling, Beaver hands, Canol Trucking and Conoco reps.
07:15	20:00	12.75	MIRU	MOVE	MOB	P		0.00	0.00	Drill mousehole and rathole, lay down environmental liner, move and spot Beaver #2 rig matting and some rental equipment to E-76 65-10 126-45 location. Load substructure to be hauled out and spotted first thing in the morning.
20:00	00:00	4.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until daylight to continue moving rig and rental equipment.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost)		

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	792.00	Days Since Recordable Incident (days)	792.00	

Safety Incidents

Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/12/2013
Report #: 4
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

String: 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)		Max Rotating Hook Load (daN)					
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)	Total Drill Hrs (hr)					
Comment											
Drill String Components											
Item Des		ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)					
Drilling Parameter: <depthstart> - <depthend> mKB											
Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq
Hydraulic Calculations											
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)				
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...					
Error											
Mud Pump: 1, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)		Stroke Length (mm)						
1	NATIONAL	8-P-80	140.0		216.0						
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/20/2014 00:00	2,909.00	0.499	5,150	64							
1/20/2014 00:00	2,909.00	1.014	17,500	130							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/20/2014	1/21/2014	127.0									
1/22/2014	1/22/2014	127.0									
Mud Pump: 2, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)		Stroke Length (mm)						
2	NATIONAL	8-P-80	140.0		216.0						
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/19/2014 00:00	2,513.00	0.647	6,855	83							
1/19/2014 00:00	2,513.00	0.897	15,000	115							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/19/2014	1/19/2014	127.0	15,000								
1/21/2014		127.0									
Shaker Screens											
Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note						
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
1	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200					
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
2	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200					
Fluid / Mud Additive Amounts											
Des	Consumed	Cost	Size	Units							
Survey Data											
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)		



Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/12/2013

Report #: 4

Depth Progress: m

Depth End: 0.00mKB

Rig Release Date: 1/23/2014

Rig:

mations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/13/2013
Report #: 5
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -14.27							
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Final Job Status DRILLED		Final Report? Yes					
Daily Cost Total (Cost) 177,910.46		Cumulative Cost (Cost) 452,288.64		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19					
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 113.0		Personnel Total Hours (hr) 1,155.00	
Cum Personnel Total Hours (hr) 5,616.00							
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -29		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting prior to moving Beaver #2 rig.							Wellbore Original Hole

Last 24hr Summary

2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting with Beaver hands, Canol Trucking and Conoco reps. Move and attempt to spot Beaver #2 substructure when the cable wedge (pressed on bell) on main winch line on the big Canol bed truck broke dropping the substructure 2 feet from the ground at 11:00am on Friday, December 13th. Shut down rig moving and construction operations until tomorrow morning. Wait until morning to move and spot rig and rental equipment.

24hr Forecast

Hold safety meeting, spot Beaver #2 substructure, buildings, rental equipment and miscellaneous loads to E-76 65-10 126-45 location. Wait until daylight to continue moving and spotting rig and rental equipment.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands, Canol Trucking and Conoco reps.
07:15	10:45	3.50	MIRU	MOVE	MOB	P		0.00	0.00	Move and attempt to spot Beaver #2 substructure when the cable wedge (pressed on bell) on main winch line on the big Canol bed truck broke dropping the substructure 2 feet from the ground at 11:00am on Friday, December 13th.
10:45	00:00	13.25	MIRU	MOVE	WODL	P		0.00	0.00	Shut down rig moving and construction operations until tomorrow morning. Wait until morning to move and spot rig and rental equipment.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)		Mud Lost to Surface (m³)	Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)	
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)			Cumulative Mud Cost (Cost)	

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	793.00	Days Since Recordable Incident (days)	793.00	

Safety Incidents

Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/13/2013
Report #: 5
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Comment

Drill String Components

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

Drilling Parameter: <depthstart> - <depthend> mKB

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

Hydraulic Calculations

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/20/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz. X	Scr Sz. Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units

Survey Data

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



Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/13/2013
Report #: 5
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Formations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/14/2013
Report #: 6
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -13.27		Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00	
End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes			
Daily Cost Total (Cost) 58,109.03		Cumulative Cost (Cost) 510,397.67		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19		Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB) 113.0	
Head Count 113.0		Personnel Total Hours (hr) 1,155.00		Cum Personnel Total Hours (hr) 6,771.00			
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -31		Wind NW	

Ops and Depth @ Morning Report

Hold safety meeting prior to setting up Beaver #2 rig.

Wellbore

Original Hole

Last 24hr Summary

No incidents or accidents. 2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting with Beaver hands, Canol Trucking and Conoco reps. Move and spot Beaver #2 substructure and drawworks. Split and move derrick, move rig buildings and some rental equipment to E-76 65-10 126-45 location from rack site. Wait until morning to spot rig and rental equipment.

24hr Forecast

Hold safety meeting, spot Beaver #2 buildings, rental equipment and miscellaneous loads on E-76 65-10 126-45 location. Wait until daylight to finish spotting rig and rental equipment.

Daily Contacts

Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P. T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
07:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with OK Drilling, Beaver hands, Canol Trucking and Conoco reps.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Move and spot Beaver #2 substructure and drawworks. Split and move derrick, move rig buildings and some rental equipment to E-76 65-10 126-45 location from rack site.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to spot rig and rental equipment.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)

API Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)
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Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)
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Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
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Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)
794.00	794.00

Safety Incidents

Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
h In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Comment

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/14/2013
Report #: 6
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

String Components

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

Drilling Parameter: <depthstart> - <depthend> mKB

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

Hydraulic Calculations

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)

Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00		2,909.00	0.499	5,150
1/20/2014 00:00		2,909.00	1.014	17,500

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00		2,513.00	0.647	6,855
1/20/2014 00:00		2,513.00	0.897	15,000

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Red	800.50	800.46	76.40
Lin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/15/2013
Report #: 7
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
						Days From Spud (days) -12.27	
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Final Job Status DRILLED		Final Report? Yes					
Daily Cost Total (Cost) 58,109.03		Cumulative Cost (Cost) 568,506.70		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19					
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 113.0		Personnel Total Hours (hr) 1,155.00	
						Cum Personnel Total Hours (hr) 7,926.00	
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather High Wind		Temperature (°C) -32		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting prior to spotting rig and rental equipment.							Wellbore Original Hole

Last 24hr Summary

No incidents or accidents. 5 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting with Beaver hands, Canol Trucking and Conoco reps. Move and pin derrick together, install monkey board, spot mud tanks, raise a-legs, move miscellaneous rental loads onto E-76 65-10 126-45 location. Wait until morning to finish spotting rig and rental equipment.

24hr Forecast

Hold safety meeting, finish spotting rig and rental equipment on E-76 65-10 126-45 location. Wait until morning to hook up sewer lines to sleeper shack, rigging up boiler and water lines to finish spotting rig and rental equipment.

Daily Contacts

Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
07:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands, Canol Trucking and Conoco reps.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Move and pin derrick together, install monkey board, spot mud tanks, raise a-legs, move miscellaneous rental loads onto E-76 65-10 126-45 location.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to finish spotting rig and rental equipment.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)			
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)				

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	795.00	Days Since Recordable Incident (days)	795.00	

Safety Incidents

Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Comment

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/15/2013
Report #: 7
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

String Components

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

Drilling Parameter: <depthstart> - <depthend> mKB

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

Hydraulic Calculations

Hydraulic Calculations							
Bit Hydraulic Power (kW)	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/min)	Max Open Hole AV (m/min)	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/20/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz. X	Scr Sz. Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
	800.50	800.46	76.40
	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/16/2013
Report #: 8
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -11.27		Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00	
End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes		Daily Cost Total (Cost) 343,763.53	
Cumulative Cost (Cost) 912,270.23		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817	
Estimated Days 34.19		Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB) 113.0		Head Count 1,155.00	
Cum Personnel Total Hours (hr) 9,081.00		Avg Connection Gas		Avg Background Gas		Avg Trip Gas	
Max H2S (ppm)		Road Condition Ice/Snow		Weather Windy		Temperature (°C) -39	
Wind NW		Ops and Depth @ Morning Report Hold safety meeting prior to rigging up rig.		Wellbore Original Hole			

Last 24hr Summary
No incidents or accidents. 3 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting with Beaver hands, Canol Trucking and Conoco reps. Finish spotting rig and rental equipment on E-76 65-10 126-45 location. Wait until morning to warm up rig buildings to hook up power cords, rig up boiler and water lines.

24hr Forecast

Hold safety meeting, warm up rig buildings to hook up power cords, rig up boiler and water lines. Wait until morning to rig to raise derrick.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
07:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:15	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands, Canol Trucking and Conoco reps.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Finish spotting rig and rental equipment on E-76 65-10 126-45 location.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to warm up rig buildings to hook up power cords, rig up boiler and water lines.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)
API Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)	Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	796.00	Days Since Recordable Incident (days)	796.00	

Safety Incidents

Date	Com	Category
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Drill String: 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)	Max Rotating Hook Load (daN)	Depth In (mKB)	Depth Out (mKB)
Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)	Total Drill Hrs (hr)	

Comment

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
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Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/16/2013
Report #: 8
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Logging Parameter: <depthstart> - <depthend> mKB

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

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
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Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...
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Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/17/2013
Report #: 9
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -10.27							
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Final Job Status DRILLED		Final Report? Yes					
Daily Cost Total (Cost) 45,806.53		Cumulative Cost (Cost) 958,076.76		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19					
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 75.0		Personnel Total Hours (hr) 711.00	
Cum Personnel Total Hours (hr) 9,792.00							
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -36		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting prior to rigging up to raise derrick..							Wellbore Original Hole

Last 24hr Summary
No incidents or accidents. 2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting, warm up rig buildings, plug in power cords, rig up boiler lines and circulate steam around the rig. Wait until morning to rig up derrick to raise, raise derrick and rig up pre-fabs.

24hr Forecast
Hold safety meeting, rig up derrick to raise, raise derrick and rig up pre-fabs. Wait until morning to rig up water lines and rental equipment.

Daily Contacts
Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String
Conductor, 20.00mKB

Time Log										
Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
07:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:15	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands and Conoco reps.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Warm up rig buildings, plug in power cords, rig up boiler lines and circulate steam around the rig.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to rig up derrick to raise, raise derrick and rig up pre-fabs.

Fluid/Mud Chks: Mud Engineer: <Mud Engineer?>													
Time		Depth (mKB)		Density (kg/m³)		Funnel Viscosity (s/L)		pH		PV Override (Pa·s)		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 (k...)		Sand (%)		Solids, Corr. (%)		T Flowline (°C)		HTHP Pressure (kPa)		HTHP Filtrate (mL/30...)	
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)							
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost)									

Last BOP Drill			
Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next... Next Check Date
Days Since Lost Time Incident (days)	797.00		Days Since Recordable Incident (days) 797.00

Safety Incidents		
Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
Total Drill Hrs (hr)					

Drill String Components					
Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/17/2013
Report #: 9
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Logging Parameter: <depthstart> - <depthend> mKB											
Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq
Hydraulic Calculations											
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)				
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...					
Error											
Mud Pump: 1, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)							
1	NATIONAL	8-P-80	140.0	216.0							
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/20/2014 00:00	2,909.00	0.499	5,150	64							
1/20/2014 00:00	2,909.00	1.014	17,500	130							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/21/2014	1/21/2014	127.0									
1/22/2014	1/22/2014	127.0									
Mud Pump: 2, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)							
2	NATIONAL	8-P-80	140.0	216.0							
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/19/2014 00:00	2,513.00	0.647	6,855	83							
1/19/2014 00:00	2,513.00	0.897	15,000	115							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/21/2014	1/19/2014	127.0	15,000								
1/21/2014		127.0									
Shaker Screens											
Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note						
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
1	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200					
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
2	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200					
Fluid / Mud Additive Amounts											
Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)								
Little Bear	31.00	31.00	31.00								
Slater River	76.00	76.00	76.00								
Arctic Red	800.50	800.46	76.40								
Martin House	938.50	938.44	76.40								
Imperial	975.50	975.43	76.40								
er Canol	1,665.00	1,658.53	1,653.40								
Lower Canol	1,700.72	1,689.07	1,694.40								

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/18/2013
Report #: 10
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
						Days From Spud (days) -9.27	
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Daily Cost Total (Cost) 40,181.53		Cumulative Cost (Cost) 998,258.29		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 113.0		Personnel Total Hours (hr) 1,155.00	
						Cum Personnel Total Hours (hr) 10,947.00	
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -31		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting prior to rigging up to circulate water around rig.							Wellbore Original Hole

Last 24hr Summary
No incidents or accidents. 2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting, rig up derrick to raise, raise derrick and rig up pre-fabs. Wait until morning to rig up water lines and rental equipment.

24hr Forecast
Hold safety meeting, rig up rig up water lines and rental equipment. Wait until morning to rig up rig floor and fill the mud tanks.

Daily Contacts
Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String
Conductor, 20.00mKB

Time Log										
Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands and Conoco reps.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Rig up derrick to raise, raise derrick and rig up pre-fabs.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to rig up water lines and rental equipment.

Fluid/Mud Chks: Mud Engineer: <Mud Engineer>							
Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)	
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)	
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost)			

Last BOP Drill			
Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next... Next Check Date
Days Since Lost Time Incident (days)	Days Since Recordable Incident (days)		
	798.00		

Safety Incidents		
Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
Total Drill Hrs (hr)					

String Components											
Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)						
Drilling Parameter: <depthstart> - <depthend> mKB											
Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/18/2013
Report #: 10
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Hydraulic Calculations							
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Marker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/19/2013
Report #: 11
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -8.27							
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Final Job Status DRILLED		Final Report? Yes					
Daily Cost Total (Cost) 40,181.53		Cumulative Cost (Cost) 1,038,439.82		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19					
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 113.0		Personnel Total Hours (hr) 1,155.00	
Cum Personnel Total Hours (hr) 12,102.00							
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -33		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting prior to rigging up to fill mud tanks.							Wellbore Original Hole

Last 24hr Summary

No incidents or accidents. 2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting, rig up water lines and rental equipment. Wait until morning to rig up rig floor and fill the mud tanks.

24hr Forecast

Hold safety meeting, rig up rig floor and fill the mud tanks. Wait until morning to set up and load pipe racks with surface BHA.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Rig up water lines and rental equipment.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to rig up rig floor and fill the mud tanks.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa*s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)
API Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)			
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)				

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	799.00	Days Since Recordable Incident (days)	799.00	

Safety Incidents

Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
Total Drill Hrs (hr)					

Comment

Drill String Components

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

Drilling Parameter: <depthstart> - <depthend> mKB

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

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/19/2013
Report #: 11
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Hydraulic Calculations							
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Marker Screens

Des	Start Date	End Date	Scr Sz. X	Scr Sz. Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/21/2013
Report #: 13
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

I / UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -6.27							
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Final Job Status DRILLED		Final Report? Yes					
Daily Cost Total (Cost) 40,181.53		Cumulative Cost (Cost) 1,118,802.88		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19					
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 113.0		Personnel Total Hours (hr) 1,155.00	
Cum Personnel Total Hours (hr) 14,412.00							
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -30		Wind NW	

Ops and Depth @ Morning Report

Hold safety meeting prior to laying diverter lines.

Wellbore

Original Hole

Last 24hr Summary

No incidents or accidents. 2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting, fill the mud tanks, set up, load pipe racks with surface BHA and start to rig up diverter lines to flare tank. Wait until morning to prep cellar for rotating head and rig up diverter lines to flare tank.

24hr Forecast

Hold safety meeting, prep cellar for rotating head and rig up diverter lines to flare tank. Wait until morning to finish rigging up diverter lines and weld on RCD Head.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
07:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Fill the mud tanks, set up, load pipe racks with surface BHA and start to rig up diverter lines to flare tank.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to prep cellar for rotating head and rig up diverter lines to flare tank.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa*s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)			
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)				

Last BOP Drill

Type	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
BOP Drill				
Days Since Lost Time Incident (days)	801.00	Days Since Recordable Incident (days)	801.00	

Safety Incidents

Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Drill String Components

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

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/21/2013
Report #: 13
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Logging Parameter: <depthstart> - <depthend> mKB											
Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq

Hydraulic Calculations							
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	
Error							

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/20/2014 00:00	2,909.00	0.499	5,150	64							
1/20/2014 00:00	2,909.00	1.014	17,500	130							

Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/21/2014	1/21/2014	127.0									
1/22/2014	1/22/2014	127.0									

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/19/2014 00:00	2,513.00	0.647	6,855	83							
1/19/2014 00:00	2,513.00	0.897	15,000	115							

Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/21/2014	1/21/2014	127.0	15,000								
1/21/2014		127.0									

Shaker Screens											
Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note						

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200					

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200					

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)								
Little Bear	31.00	31.00	31.00								
Slater River	76.00	76.00	76.00								
Arctic Red	800.50	800.46	76.40								
Martin House	938.50	938.44	76.40								
Imperial	975.50	975.43	76.40								
er Canol	1,665.00	1,658.53	1,653.40								
Lower Canol	1,700.72	1,689.07	1,694.40								

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/22/2013
Report #: 14
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -5.27							
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
Final Job Status DRILLED		Final Report? Yes					
Daily Cost Total (Cost) 40,181.53		Cumulative Cost (Cost) 1,158,984.41		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19					
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 113.0		Personnel Total Hours (hr) 1,155.00	
Cum Personnel Total Hours (hr) 15,567.00							
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Windy		Temperature (°C) -31		Wind NW	
Ops and Depth @ Morning Report Hold safety meeting prior to prepping cellar to weld on RCD Head.							Wellbore Original Hole

Last 24hr Summary

No incidents or accidents. 2 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting, prep cellar for rotating head and rig up diverter lines to flare tank. Wait until morning to install weight indicator, prep cellar for rotating head, weld on 20" adapter flange to the 20" conductor, install and hammer on spool.

24hr Forecast

Install weight indicator, prep cellar for rotating head, weld on 20" adapter flange to the 20" conductor, install 20" spool.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.
00:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands.
07:15	19:00	11.75	MIRU	MOVE	MOB	P		0.00	0.00	Prep cellar for rotating head and rig up diverter lines to flare tank.
19:00	00:00	5.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning to prep cellar for rotating head, weld on RCD Head and begin rigging up torque tube.

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)
API Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)			
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)				

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	802.00	Days Since Recordable Incident (days)	802.00	

Safety Incidents

Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

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Drill String Components

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

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/22/2013
Report #: 14
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig:

Drilling Parameter: <depthstart> - <depthend> mKB

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

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
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Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...
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Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
9/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Imperial Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/23/2013
Report #: 15
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -4.27		Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00	
End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes		Daily Cost Total (Cost) 83,003.53	
Cumulative Cost (Cost) 1,241,987.94		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817	
Estimated Days 34.19		Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB) 113.0		Head Count 1,155.00	
Cum Personnel Total Hours (hr) 16,722.00		Avg Connection Gas		Avg Background Gas		Avg Trip Gas	
Max H2S (ppm)		Road Condition Ice/Snow		Weather Windy		Temperature (°C) -32	
Wind NW		Ops and Depth @ Morning Report Rig up torque tube.		Wellbore Original Hole			

Last 24hr Summary
No incidents or accidents. 3 - HID, 0 - OBS and 0 - ASA (all closed out).

Wait until morning. Hold safety meeting, install weight indicator, prep cellar for rotating head, weld on 20" adapter flange to the 20" conductor, install 20" spool.

24hr Forecast
Weld on 20" adaptor flanges onto 20" conductor. Rig up Schlumberger 8068 Rotating Head, 2 x hydraulic valves, 10" flow line and 8" flare tank. Rig up torque tube and pick up top drive.

Daily Contacts
Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962

Last Casing String
Conductor, 20.00mKB

Time Log											
Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation	
07:00	07:00	7.00	MIRU	MOVE	WODL	P		0.00	0.00	Wait until morning.	
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Hold safety meeting with Beaver hands.	
07:15	00:00	16.75	MIRU	MOVE	RURD	P		0.00	0.00	Install weight indicator, prep cellar for rotating head, weld on 20" adapter flange to the 20" conductor, install 20" spool.	

Fluid/Mud Chks: Mud Engineer: <Mud Engineer?>						
Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost)		

Last BOP Drill			
Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next... Next Check Date
Days Since Lost Time Incident (days)	803.00		Days Since Recordable Incident (days) 803.00

Safety Incidents		
Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
Total Drill Hrs (hr)					

Drill String Components					
Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/23/2013
Report #: 15
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

Logging Parameter: <depthstart> - <depthend> mKB

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

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
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Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...
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Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/24/2013
Report #: 16
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
						Days From Spud (days) -3.27	
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59	
				Final Job Status DRILLED		Final Report? Yes	
Daily Cost Total (Cost) 66,343.53		Cumulative Cost (Cost) 1,308,331.47		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
				AFE / RFE / Maint.# 10351817		Estimated Days 34.19	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 44.0		Personnel Total Hours (hr) 516.00	
						Cum Personnel Total Hours (hr) 17,238.00	
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Clear		Temperature (°C) -38		Wind Calm	
Ops and Depth @ Morning Report Rig up top drive.							Wellbore Original Hole

Last 24hr Summary

No incidents or accidents. 6 - HID, 0 - OBS and 0 - ASA (all closed out).

Weld on 20" adaptor flanges onto 20" conductor. Rig up Schlumberger 8068 Rotating Head and install service loop.

24hr Forecast

Install 2 hydraulic valves, rig up 10" flow line and 8" flare tank. Rig up top drive. Pre-mix mud in mud tanks.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	00:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service
00:15	00:30	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Pre job safety meeting -Nipple up
00:30	05:00	4.50	MIRU	WHDBOP	NUND	P		0.00	0.00	Nipple up bottom section of rotating equipment, rig up flare lines
05:00	07:45	2.75	MIRU	MOVE	RURD	P		0.00	0.00	De-ice torque tube and prepare to install torque tube
07:45	08:00	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
08:00	08:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Safety meeting with day crew prior to picking up torque tube
08:15	08:30	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service, function test crown saver
08:30	12:00	3.50	MIRU	MOVE	RURD	P		0.00	0.00	Pick up and install torque tube
12:00	16:00	4.00	MIRU	WHDBOP	NUND	P		0.00	0.00	Cut conductor, weld on flange and install diverter spool
16:00	16:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service
16:15	19:45	3.50	MIRU	WHDBOP	NUND	P		0.00	0.00	Continue to weld flanges to install rotating head
19:45	20:00	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
20:00	00:00	4.00	MIRU	WHDBOP	NUND	P		0.00	0.00	Continue to weld and install rotating equipment

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa*s)	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 (k...	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)			Cumulative Mud Cost (Cost)	

Last BOP Drill

Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)	804.00		Days Since Recordable Incident (days)	804.00

Safety Incidents

Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/24/2013
Report #: 16
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

String: 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)		Max Rotating Hook Load (daN)					
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)	Total Drill Hrs (hr)					
Comment											
Drill String Components											
Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)						
Drilling Parameter: <depthstart> - <depthend> mKB											
Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq
Hydraulic Calculations											
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)				
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...					
Error											
Mud Pump: 1, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)		Stroke Length (mm)						
1	NATIONAL	8-P-80	140.0		216.0						
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/20/2014 00:00	2,909.00	0.499	5,150	64							
1/20/2014 00:00	2,909.00	1.014	17,500	130							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
7/2014	1/21/2014	127.0									
1/22/2014	1/22/2014	127.0									
Mud Pump: 2, NATIONAL, 8-P-80											
Pump Number	Make	Model	Rod Diameter (mm)		Stroke Length (mm)						
2	NATIONAL	8-P-80	140.0		216.0						
Pump Checks											
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)							
1/19/2014 00:00	2,513.00	0.647	6,855	83							
1/19/2014 00:00	2,513.00	0.897	15,000	115							
Pump Operations											
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)							
1/19/2014	1/19/2014	127.0	15,000								
1/21/2014		127.0									
Shaker Screens											
Des	Start Date	End Date	Scr Sz: X	Scr Sz: Y	Note						
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
1	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200					
Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500											
Number	Make	Model	Diameter (mm)								
2	BOS Solutions	5500									
Centrifuge/Cyclone Checks											
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)					
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200					
Fluid / Mud Additive Amounts											
Des	Consumed	Cost	Size	Units							
Survey Data											
Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)		
Rpt Template Revised: 8/11/2008											
Page 2/3											
Report Printed: 4/10/2014											



Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/24/2013
Report #: 16
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Formations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/25/2013
Report #: 17
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) -2.27		Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00	
End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes		Daily Cost Total (Cost) 99,893.53	
Cumulative Cost (Cost) 1,408,225.00		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817	
Estimated Days 34.19		Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB) 41.0		Head Count 483.00	
Personnel Total Hours (hr) 17,721.00		Cum Personnel Total Hours (hr) 17,721.00		Avg Connection Gas		Avg Background Gas	
Avg Trip Gas		Max H2S (ppm)		Road Condition Ice/Snow		Weather Clear	
Temperature (°C) -42		Wind Calm		Ops and Depth @ Morning Report Rig up and test top drive. Work on mud pumps.		Wellbore Original Hole	

Last 24hr Summary
No incidents or accidents. 9 - HID, 1 - OBS and 0 - ASA (all closed out)

Install service loop, rig up, test and troubleshoot PLC (programmable logic controller) issues with top drive. Rig up BOS III tank and centrifuge combo tank.

24hr Forecast
Install 2 hydraulic valves, rig up 10" flow line and 8" flare tank. Rig up top drive. Pre-mix mud in mud tanks.

Daily Contacts
Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357

Last Casing String
Conductor, 20.00mKB

Time Log										
Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	00:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service
00:15	02:45	2.50	MIRU	MOVE	RURD	P		0.00	0.00	Prepare service loop to hang from monkey board
02:45	03:00	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Pre job safety meeting on hanging service loop
03:00	07:45	4.75	MIRU	MOVE	RURD	P		0.00	0.00	Hang service loop
07:45	08:00	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
08:00	08:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Safety meeting prior to picking up top drive
08:15	08:30	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service, function test crown saver
08:30	16:00	7.50	MIRU	MOVE	RURD	P		0.00	0.00	Rig in top drive to service loop and test sensors
16:00	16:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service
16:15	19:00	2.75	MIRU	MOVE	RURD	P		0.00	0.00	Continue to rig up top drive to service loop and function sensors.
19:00	19:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
19:15	19:30	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Safety meeting on camp rules and etiquette
19:30	00:00	4.50	MIRU	MOVE	RURD	P		0.00	0.00	Rig up, de-ice and warm equipment prior to installing

Fluid/Mud Chks: Mud Engineer: <Mud Engineer?>						
Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min)		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost)		
Last BOP Drill						
Type BOP Drill	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date		
Days Since Lost Time Incident (days)	805.00		Days Since Recordable Incident (days)	805.00		

Safety Incidents		
Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/25/2013
Report #: 17
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Comment

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
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Drilling Parameter: <depthstart> - <depthend> mKB

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

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note
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Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units
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Survey Data

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

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/25/2013
Report #: 17
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Formations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/26/2013
Report #: 18
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470					
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013		Days From Spud (days) -1.27			
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes	
Daily Cost Total (Cost) 86,003.53		Cumulative Cost (Cost) 1,494,228.53		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817		Estimated Days 34.19	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 44.0		Personnel Total Hours (hr) 519.00		Cum Personnel Total Hours (hr) 18,240.00			
Avg Connection Gas		Avg Background Gas			Avg Trip Gas			Max H2S (ppm)			
Road Condition Ice/Snow		Weather Clear			Temperature (°C) -44			Wind NW			
Ops and Depth @ Morning Report Prep, strap BHA and troubleshoot PLC.									Wellbore Original Hole		

Last 24hr Summary

No incidents or accidents. 7 - HID, 0 - OBS and 0 - ASA (all closed out)

Rig up, test and troubleshoot PLC (programmable logic controller) issues with top drive. Rig up BOS III tank and centrifuge combo tank. Re-adjusted service loop. Rig in and weld diverter valves, lines, 10" flowline line and 8" booeey line. Held high angle rescue meetings with rig crews.

24hr Forecast

Troubleshoot PLC (programmable logic controller) issues with top drive, install anti-collision program to top drive, complete top drive checks and function, conduct pre-spud checklist, pre-mix mud in mud tanks, pick up and make up BHA, spud and drill 311mm surface hole.

Daily Contacts

Drilling Superintend, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	00:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service
00:15	01:15	1.00	MIRU	MOVE	SFTY	P		0.00	0.00	High angle rescue drill, confined space lift drill with tri-pod
01:15	01:30	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	BOP drill / diverter procedure, review for tripping and drilling
01:30	07:45	6.25	MIRU	MOVE	RURD	P		0.00	0.00	Inspect pump fluid ends, seats and valves, de-ice and warm up diverter valves
07:45	08:00	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
08:00	08:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service
08:15	10:00	1.75	MIRU	MOVE	SFTY	P		0.00	0.00	Safety meeting, review Beaver drilling J S.A's notification and high angel rescue drill
10:00	12:30	2.50	MIRU	MOVE	RURD	P		0.00	0.00	Work on top drive functions and calibrate sensors
12:30	16:00	3.50	MIRU	WHDBOP	NUND	P		0.00	0.00	Rig up R.C.D head, diverter system and prepare to weld on flanges for flow and flare lines
16:00	16:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service
16:15	16:30	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Safety meeting prior to welding valve flanges
16:30	19:00	2.50	MIRU	WHDBOP	NUND	P		0.00	0.00	Nipple up / rotating equipment and weld flanges, 10" and 8" lines, for flow and flare lines
19:00	19:30	0.50	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps. Safety meeting prior to installing diverter valves
19:30	00:00	4.50	MIRU	WHDBOP	NUND	P		0.00	0.00	Nipple up flow and flare line, diverter valves

Fluid/Mud Chks: Mud Engineer: <Mud Engineer>

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa·s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)

Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)	

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/26/2013
Report #: 18
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Lost BOP Drill

Type	Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
BOP Drill				
Days Since Lost Time Incident (days)	806.00			Days Since Recordable Incident (days)
				806.00

Safety Incidents

Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
					Total Drill Hrs (hr)

Comment

Drill String Components

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

Drilling Parameter: <depthstart> - <depthend> mKB

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

Hydraulic Calculations

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200



Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/26/2013
Report #: 18
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

id / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/27/2013
Report #: 19
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

... /UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470					
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013		Days From Spud (days) -0.27			
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes	
Daily Cost Total (Cost) 72,600.18		Cumulative Cost (Cost) 1,566,828.71		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817		Estimated Days 34.19	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 44.0		Personnel Total Hours (hr) 519.00		Cum Personnel Total Hours (hr) 18,759.00			
Avg Connection Gas			Avg Background Gas			Avg Trip Gas			Max H2S (ppm)		
Road Condition Ice/Snow			Weather Clear			Temperature (°C) -45			Wind NW		
Ops and Depth @ Morning Report Spud and drill 311mm surface hole at 6:30hrs on December 28, 2013.									Wellbore Original Hole		

Last 24hr Summary

No incidents or accidents. 8 - HID, 0 - OBS and 0 - ASA (all closed out)

Troubleshoot PLC (programmable logic controller) issues with top drive, install 10" flowline, install anti-collision program to top drive, complete top drive checks and function, pre-mix mud in mud tanks. Conduct pre-spud inspection, fill out pre-spud and rig inspection checklists. Make up surface BHA.

Midnight to 6:30hrs: Make up BHA, circulate and check for leaks. Perform 'Hazard Hunt' with rig crew. Spud and drill 311mm surface hole at 6:30hrs on December 28, 2013. Sent pre-spud Beyond Compliance, pre-spud inspection and rig inspection checklists prior to spudding.

24hr Forecast

Drill 311mm surface hole with accumulated wireline surveys, rig services, connections and circulation times. Wiper trip at 200m+/-.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	00:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig Service, function motor shut off's, work ok.
00:15	07:00	6.75	MIRU	MOVE	RURD	P		0.00	0.00	Rig in pipe rack and load with BHA, HWDP, finish tie in flare line to flare tanck and check all connections on lis and diverter
07:00	07:15	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
07:15	08:00	0.75	MIRU	MOVE	SFTY	P		0.00	0.00	Rig inspection walk around with driller and Conoco rep.
08:00	08:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service.
08:15	08:30	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Safety meeting prior to setting up rig smart anti collision system.
08:30	16:00	7.50	MIRU	MOVE	RURD	P		0.00	0.00	Rig in rig smart anti collision system with system hand.
16:00	16:15	0.25	MIRU	RIGMNT	SVRG	P		0.00	0.00	Rig service, function horn.
16:15	19:00	2.75	MIRU	MOVE	RURD	P		0.00	0.00	Finish rigging up top drive, recalibrate all functions
19:00	19:30	0.50	MIRU	MOVE	SFTY	P		0.00	0.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
19:30	23:30	4.00	MIRU	MOVE	RURD	P		0.00	0.00	Continue to rig up top drive, mud saver valve and saver sub, recalibrate rig smart.
23:30	23:45	0.25	MIRU	MOVE	SFTY	P		0.00	0.00	Safety meeting prior to picking up 9" drill collars and installing 311mm tooth bit.
23:45	00:00	0.25	MIRU	MOVE	PULD	P		0.00	0.00	Pick up and steam heat 9" drill collar, bit sub and 311mm bit

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

Time	Depth (mKB)	Density (kg/m³)	Funnel Viscosity (s/L)	pH	PV Override (Pa*s)	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 (k...)	Sand (%)	Solids, Corr. (%)	T Flowline (°C)	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...

Filtrate (mL/30min)	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)	

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/27/2013
Report #: 19
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Type BOP Drill		Days Last Chk (...)	Last Date	Days Until Next...	Next Check Date
Days Since Lost Time Incident (days)			Days Since Recordable Incident (days)		
807.00			807.00		

Safety Incidents		
Date	Com	Category

Drill String: 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)	Max Rotating Hook Load (daN)		
Depth In (mKB)	Depth Out (mKB)	Avg ROP (m/hr)	Depth This Job (m)	Total Depth Drilled b...	Job Drill Hrs (hr)
Total Drill Hrs (hr)					

Comment

Drill String Components					
Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)

Drilling Parameter: <depthstart> - <depthend> mKB											
Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq

Hydraulic Calculations							
Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	

Error

Mud Pump: 1, NATIONAL, 8-P-80			
Pump Number	Make	Model	Stroke Length (mm)
1	NATIONAL	8-P-80	216.0

Pump Checks				
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations				
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

Mud Pump: 2, NATIONAL, 8-P-80			
Pump Number	Make	Model	Stroke Length (mm)
2	NATIONAL	8-P-80	216.0

Pump Checks				
Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations				
Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens				
Des	Start Date	End Date	Scr Sz X	Scr Sz Y

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500			
Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks						
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500			
Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks						
Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200



Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/27/2013
Report #: 19
Depth Progress: m
Depth End: 0.00mKB
Rig Release Date: 1/23/2014

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units
Gel	41.0	7.200	40.0	SX
Kelzan	2.0	360.450	25.0	SX
Soda Ash	1.0	14.550	22.68	SX

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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/28/2013
Report #: 20
Depth Progress: 146.00m
Depth End: 146.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

... /UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470					
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013		Days From Spud (days) 0.73			
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes	
Daily Cost Total (Cost) 73,141.63		Cumulative Cost (Cost) 1,639,970.34		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817		Estimated Days 34.19	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 40.0		Personnel Total Hours (hr) 470.00		Cum Personnel Total Hours (hr) 19,229.00			
Avg Connection Gas			Avg Background Gas			Avg Trip Gas			Max H2S (ppm)		
Road Condition Ice/Snow			Weather Clear			Temperature (°C) -47			Wind NW		
Ops and Depth @ Morning Report Wait on top drive parts to fix PLC issues, pump and work drill string at 155m.									Wellbore Original Hole		

Last 24hr Summary

No incidents or accidents. 7 - HID, 0 - OBS and 0 - ASA (all closed out)

Conduct pre-spud inspection, fill out pre-spud and rig inspection checklists. Make up BHA, circulate and check for leaks, perform 'Hazard Hunt' and pre-spud meetings with rig crews. Spud and drill 311mm surface hole from 0m to 146m with accumulated wireline surveys, rig services, connections and circulation times. Last survey at 146m was 0.1°. Sent pre-spud Beyond Compliance, pre-spud inspection and rig inspection checklists prior to spudding. Spud and drill 311mm surface hole at 6:30hrs on December 28, 2013.

From midnight to 6:00am: Drill 311mm surface hole to 155m. Wait on top drive parts to fix PLC issues, pump and work drill string at 155m.

24hr Forecast

Wait on top drive parts to fix PLC issues, pump and work drill string at 155m. Drill 311mm surface hole with accumulated wireline surveys, rig services, connections and circulation times. Wiper trip at 200m+/-.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357

Last Casing String

Conductor, 20.00mKB

Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P: T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	00:15	0.25	SURFAC	RIGMNT	SVRG	P		0.00	0.00	Rig service, function test crown saver
00:15	03:45	3.50	SURFAC	DRILL	PULD	P		0.00	0.00	Pick up and warm up BHA, circulate check for leaks, extend hydraulic hose for top drive
03:45	06:30	2.75	SURFAC	DRILL	SFTY	P		0.00	0.00	Pre spud safety meeting and hazard hunt
06:30	07:00	0.50	SURFAC	DRILL	DRLG	P		0.00	20.00	Spud well & drill 311 mm hole 0m to 20m
07:00	08:00	1.00	SURFAC	DRILL	SFTY	P		20.00	20.00	Crew change safety meeting & prespud meeting with second crew
08:00	08:15	0.25	SURFAC	DRILL	SFTY	P		20.00	20.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
08:15	08:30	0.25	SURFAC	RIGMNT	SVRG	P		20.00	20.00	Rig service, function test lower crown saver
08:30	10:30	2.00	SURFAC	WHDBOP	NUND	P		20.00	20.00	Install rubber seal in rotating head on diverter
10:30	15:30	5.00	SURFAC	DRILL	DRLG	P		20.00	80.00	Rotary drill 311mm hole from 0m to 80 m
15:30	16:00	0.50	SURFAC	DRILL	SRVY	P		80.00	80.00	accumulated time for surveys
16:00	16:15	0.25	SURFAC	RIGMNT	SVRG	P		80.00	80.00	Rig service, function test crown saver and air horn
16:15	18:00	1.75	SURFAC	DRILL	DRLG	P		80.00	100.00	Rotary drill 311mm hole from 80m to 100m
18:00	19:30	1.50	SURFAC	DRILL	CIRC	P		100.00	100.00	Hole tight, circulate and condition hole at 100 m
19:30	20:00	0.50	SURFAC	DRILL	SFTY	P		100.00	100.00	Crew hand over meeting with rig crews, rig manager and Conoco reps.
20:00	23:45	3.75	SURFAC	DRILL	DRLG	P		100.00	146.00	Drill 311mm hole from 100m to 146m
23:45	00:00	0.25	SURFAC	DRILL	SRVY	P		146.00	146.00	Accumulated time for surveys

Fluid/Mud Chks: Mud Engineer: Ed Thompson

Time 16:00	Depth (mKB) 95.00	Density (kg/m³) 1,040.0	Funnel Viscosity (s/L) 33	pH 9.5	PV Override (Pa·s) 4.0	YP Override (Pa) 3.0
Low Gravity Solids (%) 2.4	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L) 100	Calcium (mg/L) 80	Lime (kg/m³)	Potassium (mg/L)
Electric Stab (V)	ECD - Manual Entry (k... 1,060.0	Sand (%) 0.0	Solids, Corr. (%) 2.5	T Flowline (°C) 25	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
API Filtrate (mL/30min) 25.0		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost) 872.10
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost) 1,902.75		

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/28/2013
Report #: 20
Depth Progress: 146.00m
Depth End: 146.00mKB
Rig Release Date: 1/23/2014

BOP Drill

Type BOP Drill	Days Last Chk (...) 0	Last Date 12/28/2013	Days Until Next... 3	Next Check Date 12/31/2013
Days Since Last Time Incident (days) 808.00		Days Since Recordable Incident (days) 808.00		

Safety Incidents

Date	Com	Category

Drill String: BHA # 1

Bit Run 1A	Drill Bit 311.0mm, J&L, B181332	Length (m) 0.34	IADC Bit Dull 1-2-NO-S-1-0-WT-TD	TFA (incl Noz) (mm²) 722	BHA ROP (m/hr) 12.1
Nozzles (mm) 15.9/15.9/15.9/12.7		String Length (m) 603.00	OD (mm) 311.0	Max Rotating Hook Load (daN) 55,000	
Depth In (mKB) 0.00	Depth Out (mKB) 603.00	Avg ROP (m/hr) 12.1	Depth This Job (m) 603.00	Total Depth Drilled b... 603.00	Job Drill Hrs (hr) 50.00
Total Drill Hrs (hr) 50.00					

Comment

Rotary drill 311mm slick

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
4" HW	70.0	132.0	51	464.80	603.00
X/O 4" H-90	62.0	162.0	1	0.80	138.20
6" D.C	60.0	160.0	9	84.00	137.40
Jar	76.0	157.0	1	4.73	53.40
6" D.C	60.0	160.0	3	27.90	48.67
Bell sub	69.0	232.0	1	0.66	20.77
9" D.C	71.0	233.0	2	18.50	20.11
Bit sub	70.0	255.0	1	0.93	1.61
311mm BIT	72.0	311.0	1	0.34	0.68

Drilling Parameter: 80.00 - 146.00 mKB

Depth (m) 146.00	Cum Drill... 11.00	Int ROP (...) 12.0	Flow Rate... 2.600	WOB (daN) 10	RPM (r... 101	SPP (kPa) 9,200	Drill Str Wt (d... 33,000	SO Str Wt (daN) 33,000	PU Str Wt (daN) 33,000	Off-Btm Str W... 33,000	Drill Tq
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Hydraulic Calculations

Bit Hydraulic Powe... 91.0	HP/Area (kW/mm²) 0.00120	% P @ bit (%) 23	Bit Jet Velocity (m/s) 60.0	Bit dP (kPa) 2,099.8	P Drop Annular (kPa) 18.1	Mud Density (kg/m³) 1,040.0	ECD End (kg/m³) 1,052.7
Drill String Volume (m³) 0.45	Bit to Shoe Volume (m³) 6.54	Vol Shoe to Top (m³) 3.35	Min Casing AV (m/min) 15.1	Max Casing AV (m/min) 15.8	Min Open Hole AV (m/min) 45.9	Max Open Hole AV (m/min) 104.4	

Error

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

Pump Number 1	Make NATIONAL	Model 8-P-80	Rod Diameter (mm) 140.0	Stroke Length (mm) 216.0
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Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number 2	Make NATIONAL	Model 8-P-80	Rod Diameter (mm) 140.0	Stroke Length (mm) 216.0
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Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

ker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number 1	Make BOS Solutions	Model 5500	Diameter (mm)
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Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/28/2013
Report #: 20
Depth Progress: 146.00m
Depth End: 146.00mKB
Rig Release Date: 1/23/2014

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units
Gel	21.0	7.200	40.0	SX
Kelzan	2.0	360.450	25.0	SX

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)
12/28/2013	29.00	0.40	0.00	29.00	0.10	0.10	0.00	0.05	0.41
12/28/2013	62.00	0.50	0.00	62.00	0.36	0.36	0.00	0.17	0.09
12/28/2013	90.00	0.20	0.00	90.00	0.53	0.53	0.00	0.26	0.32
12/28/2013	118.00	0.20	0.00	118.00	0.63	0.63	0.00	0.31	0.00
12/28/2013	147.00	0.10	0.00	147.00	0.71	0.71	0.00	0.34	0.10
12/28/2013	157.00	0.10	0.00	157.00	0.72	0.72	0.00	0.35	0.00

Formations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/29/2013
Report #: 21
Depth Progress: 10.00m
Depth End: 156.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) 1.73		Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00	
End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes		Daily Cost Total (Cost) 239,229.53	
Cumulative Cost (Cost) 1,879,199.87		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817	
Estimated Days 34.19		Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB) 43.0		Head Count 506.00	
Cum Personnel Total Hours (hr) 19,735.00		Avg Connection Gas		Avg Background Gas		Avg Trip Gas	
Max H2S (ppm)		Road Condition Ice/Snow		Weather Clear		Temperature (°C) -43	
Wind NW		Ops and Depth @ Morning Report Wait on top drive parts to fix PLC issues, pump and work drill string at 155m.		Wellbore Original Hole			

Last 24hr Summary
No incidents or accidents. 7 - HID, 1 - OBS and 0 - ASA (all closed out)

Drill 311mm surface hole to 155m. Wait on top drive parts to fix PLC issues, pump and work drill string at 155m.

24hr Forecast

Wait on top drive parts to fix PLC issues, pump and work drill string at 155m. Fix PLC issues, drill 311mm surface hole with accumulated wireline surveys, rig services, connections and circulation times. Wiper trip at 200m+/-.

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	00:15	0.25	SURFAC	RIGMNT	SVRG	P		146.00	146.00	Rig service function test crown saver
00:15	00:30	0.25	SURFAC	DRILL	DRLG	P		146.00	156.00	Drill 311mm hole from 146m to 156m
00:30	02:00	1.50	SURFAC	DRILL	SFTY	P		156.00	156.00	Diverter drill, review crew positions and procedures
02:00	07:45	5.75	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Circulate and move pipe, wait on top drive parts
07:45	08:00	0.25	SURFAC	DRILL	SFTY	P		156.00	156.00	Crew hand over meeting with rig crews, rig manager, Conoco reps
08:00	08:15	0.25	SURFAC	RIGMNT	SVRG	P		156.00	156.00	Rig Service Function Test Crown Saver
08:15	08:30	0.25	SURFAC	DRILL	SFTY	P		156.00	156.00	Diverter drill, review crew positions and procedures
08:30	16:00	7.50	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Circulate, work pipe and wait on top drive parts
16:00	16:15	0.25	SURFAC	RIGMNT	SVRG	P		156.00	156.00	Rig service function test crown saver
16:15	19:00	2.75	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Circulate, work pipe and wait on top drive parts
19:00	19:15	0.25	SURFAC	DRILL	SFTY	P		156.00	156.00	Crew hand over meeting with rig crews, rig manager, conoco reps
19:15	00:00	4.75	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Circulate, work pipe and wait on top drive parts

Fluid/Mud Chks: Mud Engineer: Ed Thompson

Time 16:00	Depth (mKB) 95.00	Density (kg/m³) 1,040.0	Funnel Viscosity (s/L) 33	pH 9.5	PV Override (Pa·s) 4.0	YP Override (Pa) 3.0
Low Gravity Solids (%) 2.4	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L) 100	Calcium (mg/L) 80	Lime (kg/m³)	Potassium (mg/L)
Electric Stab (V)	ECD - Manual Entry (k... 1,060.0	Sand (%) 0.0	Solids, Corr. (%) 2.5	T Flowline (°C) 25	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...)

API Filtrate (mL/30min) 25.0	Mud Lost to Surface (m³)	Mud Lost to Hole (m³)	Daily Mud Field Est (Cost)
Cum Mud Lost to Surface (m³)	Cum Mud Lost to Hole (m³)	Cumulative Mud Cost (Cost)	1,902.75

Last BOP Drill

Type BOP Drill	Days Last Chk (...) 1	Last Date 12/28/2013	Days Until Next... 2	Next Check Date 12/31/2013
Days Since Lost Time Incident (days) 809.00	Days Since Recordable Incident (days) 809.00			

Fety Incidents

Date	Com	Category

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/29/2013
Report #: 21
Depth Progress: 10.00m
Depth End: 156.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

String: BHA # 1

Bit Run 1A	Drill Bit 311.0mm, J&L, B181332	Length (m) 0.34	IADC Bit Dull 1-2-NO-S-1-0-WT-TD	TFA (incl Noz) (mm²) 722	BHA ROP (m/hr) 12.1
Nozzles (mm) 15.9/15.9/15.9/12.7	String Length (m) 603.00	OD (mm) 311.0	Max Rotating Hook Load (daN) 55,000		
Depth In (mKB) 0.00	Depth Out (mKB) 603.00	Avg ROP (m/hr) 12.1	Depth This Job (m) 603.00	Total Depth Drilled b... 603.00	Job Drill Hrs (hr) 50.00
			Total Drill Hrs (hr) 50.00		

Comment
Rotary drill 311mm slick

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
4" HW	70.0	132.0	51	464.80	603.00
X/O 4" H-90	62.0	162.0	1	0.80	138.20
6" D.C	60.0	160.0	9	84.00	137.40
Jar	76.0	157.0	1	4.73	53.40
6" D.C	60.0	160.0	3	27.90	48.67
Bell sub	69.0	232.0	1	0.66	20.77
9" D.C	71.0	233.0	2	18.50	20.11
Bit sub	70.0	255.0	1	0.93	1.61
311mm BIT	72.0	311.0	1	0.34	0.68

Drilling Parameter: 146.00 - 156.00 mKB

Cum Depth (m)	Cum Drill...	Int ROP (...)	Flow Rate...	WOB (daN)	RPM (r...	SPP (kPa)	Drill Str Wt (d...	SO Str Wt (daN)	PU Str Wt (daN)	Off-Btm Str W...	Drill Tq
156.00	11.25	40.0	2.600	10	101	9,200	33,000	33,000	33,000	33,000	

Hydraulic Calculations

Bit Hydraulic Powe...	HP/Area (kW/mm²)	% P @ bit (%)	Bit Jet Velocity (m/s)	Bit dP (kPa)	P Drop Annular (kPa)	Mud Density (kg/m³)	ECD End (kg/m³)
91.0	0.00120	23	60.0	2,099.8	19.4	1,040.0	1,052.7
Drill String Volume (m³)	Bit to Shoe Volume (m³)	Vol Shoe to Top (m³)	Min Casing AV (m/min)	Max Casing AV (m/min)	Min Open Hole AV (m/...	Max Open Hole AV (m/...	
0.49	7.10	3.42	15.1	15.8	45.9	104.4	

Error

Pump: 1, NATIONAL, 8-P-80

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
1	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number	Make	Model	Rod Diameter (mm)	Stroke Length (mm)
2	NATIONAL	8-P-80	140.0	216.0

Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
1	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
9/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	



Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/29/2013
Report #: 21
Depth Progress: 10.00m
Depth End: 156.00mKB
Rig Release Date: 1/23/2014

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	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)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/30/2013
Report #: 22
Depth Progress: 56.00m
Depth End: 212.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470	
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013	
Days From Spud (days) 2.73		Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00	
End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes			
Daily Cost Total (Cost) 84,792.19		Cumulative Cost (Cost) 1,963,992.06		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00	
AFE / RFE / Maint.# 10351817		Estimated Days 34.19		Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB) 46.0	
Head Count 552.00		Personnel Total Hours (hr) 20,287.00		Cum Personnel Total Hours (hr)			
Avg Connection Gas		Avg Background Gas		Avg Trip Gas		Max H2S (ppm)	
Road Condition Ice/Snow		Weather Clear		Temperature (°C) -47		Wind NE 10 kms	
Ops and Depth @ Morning Report							
Wiper trip at 212m. Last survey at 211m was 0.3°.							
Last 24hr Summary							
No incidents or accidents. 5 - HID, 0 - OBS and 0 - ASA (all closed out)							
Wait on top drive parts to fix HPU issues, pump and work drill string at 155m. Fix HPU issues. Drill 311mm surface hole from 155m to 212m with accumulated wireline surveys, rig services, connections and circulation times. Wiper trip at 212m. Last survey at 211m was 0.3°.							
24hr Forecast							
Drill 311mm surface hole with accumulated wireline surveys, rig services, connections and circulation times. Wiper trip at 400m+/-.							
Daily Contacts							
Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357							
Last Casing String							
Conductor, 20.00mKB							

Time Log											
Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation	
07:00	07:15	0.15	SURFAC	RIGMNT	SVRG	P		156.00	156.00	Rig Service function test crown saver	
07:15	07:45	0.30	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Circulate and work pipe wait on Top Drive parts	
07:45	08:00	0.15	SURFAC	DRILL	SFTY	P		156.00	156.00	Crew hand over meeting with rig crews, rig manager, Conoco reps	
08:00	08:15	0.15	SURFAC	RIGMNT	SVRG	P		156.00	156.00	Rig service function test crown saver	
08:15	14:15	6.00	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Circulate and work pipe wait on top drive mechanic	
14:15	15:45	1.30	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Down time - top drive repair HPU with wajax mechanical.	
15:45	16:00	0.15	SURFAC	DRILL	SFTY	P		156.00	156.00	Crew hand over meeting with rig crews, rig manager, Conoco reps	
16:00	16:15	0.15	SURFAC	RIGMNT	SVRG	P		156.00	156.00	Rig service function test crown saver operating properly	
16:15	17:00	0.45	SURFAC	RIGMNT	RGRP	T	Rig	156.00	156.00	Down time - top drive repair HPU with wajax mechanical.	
17:00	18:15	1.15	SURFAC	DRILL	CIRC	P		156.00	156.00	Circulate top drive to warm up system	
18:15	21:15	3.00	SURFAC	DRILL	DRLG	P		156.00	212.00	Rotary drill 311mm surface hole from 156mKB to 212m	
21:15	21:30	0.15	SURFAC	DRILL	CIRC	P		212.00	212.00	Circulate hole clean to wiper trip	
21:30	21:45	0.15	SURFAC	DRILL	SRVY	P		212.00	212.00	Wire line survey at 211m, 0.3 deg.	
21:45	22:15	0.30	SURFAC	DRILL	WPRT	P		212.00	212.00	Wiper trip out of hole to 194m	
22:15	23:00	0.45	SURFAC	DRILL	TRIP	P		212.00	212.00	work tight hole @193m circ and work string	
23:00	23:15	0.15	SURFAC	DRILL	SFTY	P		212.00	212.00	Crew hand over safety meeting	
23:15	00:00	0.45	SURFAC	DRILL	WPRT	P		212.00	212.00	Wiper trip out of hole	

Fluid/Mud Chks: Mud Engineer: Ed Thompson							
Time 16:00	Depth (mKB) 95.00	Density (kg/m³) 1,040.0	Funnel Viscosity (s/L) 33	pH 9.5	PV Override (Pa·s) 4.0	YP Override (Pa) 3.0	
Low Gravity Solids (%) 2.4	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L) 100	Calcium (mg/L) 80	Lime (kg/m³)	Potassium (mg/L)	
Electric Stab (V)	ECD - Manual Entry (k... 1,060.0	Sand (%) 0.0	Solids, Corr. (%) 2.5	T Flowline (°C) 25	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...	
API Filtrate (mL/30min) 25.0		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost) 72.00	
Cum Mud Lost to Surface (m³)		Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost) 1,974.75			

Lost BOP Drill			
Type BOP Drill	Days Last Chk (...) 2	Last Date 12/28/2013	Days Until Next... 1
Next Check Date 12/31/2013	Days Since Lost Time Incident (days) 810.00	Days Since Recordable Incident (days)	810.00

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/30/2013
Report #: 22
Depth Progress: 56.00m
Depth End: 212.00mKB
Rig Release Date: 1/23/2014

Incidents

Date	Com	Category

Drill String: BHA # 1

Bit Run 1A	Drill Bit 311.0mm, J&L, B181332	Length (m) 0.34	IADC Bit Dull 1-2-NO-S-1-0-WT-TD	TFA (incl Noz) (mm²) 722	BHA ROP (m/hr) 12.1
Nozzles (mm) 15.9/15.9/15.9/12.7	String Length (m) 603.00	OD (mm) 311.0	Max Rotating Hook Load (daN) 55,000		
Depth In (mKB) 0.00	Depth Out (mKB) 603.00	Avg ROP (m/hr) 12.1	Depth This Job (m) 603.00	Total Depth Drilled b... 603.00	Job Drill Hrs (hr) 50.00
				Total Drill Hrs (hr) 50.00	

Comment

Rotary drill 311mm slick

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
4" HW	70.0	132.0	51	464.80	603.00
X/O 4" H-90	62.0	162.0	1	0.80	138.20
6" D.C	60.0	160.0	9	84.00	137.40
Jar	76.0	157.0	1	4.73	53.40
6" D.C	60.0	160.0	3	27.90	48.67
Bell sub	69.0	232.0	1	0.66	20.77
9" D.C	71.0	233.0	2	18.50	20.11
Bit sub	70.0	255.0	1	0.93	1.61
311mm BIT	72.0	311.0	1	0.34	0.68

Drilling Parameter: 156.00 - 212.00 mKB

Cum Depth (m) 212.00	Cum Drill... 14.25	Int ROP (... 18.7	Flow Rate... 2.600	WOB (daN) 9,000	RPM (r... 120	SPP (kPa) 9,000	Drill Str Wt (d... 39,000	SO Str Wt (daN) 38,000	PU Str Wt (daN) 40,000	Off-Btm Str W... 39,000	Drill Tq 4,420.0
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Hydraulic Calculations

Bit Hydraulic Powe... 91.0	HP/Area (kW/mm²) 0.00120	% P @ bit (%) 23	Bit Jet Velocity (m/s) 60.0	Bit dP (kPa) 2,099.8	P Drop Annular (kPa) 25.3	Mud Density (kg/m³) 1,040.0	ECD End (kg/m³) 1,052.2
String Volume (m³) 0.70	Bit to Shoe Volume (m³) 10.58	Vol Shoe to Top (m³) 3.43	Min Casing AV (m/min) 15.1	Max Casing AV (m/min) 15.1	Min Open Hole AV (m/... 41.7	Max Open Hole AV (m/... 104.4	

Error

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

Pump Number 1	Make NATIONAL	Model 8-P-80	Rod Diameter (mm) 140.0	Stroke Length (mm) 216.0
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Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number 2	Make NATIONAL	Model 8-P-80	Rod Diameter (mm) 140.0	Stroke Length (mm) 216.0
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Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

Shaker Screens

Des	Start Date	End Date	Scr Sz X	Scr Sz Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number 1	Make BOS Solutions	Model 5500	Diameter (mm)
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Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/30/2013
Report #: 22
Depth Progress: 56.00m
Depth End: 212.00mKB
Rig Release Date: 1/23/2014

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units
Gel	10.0	7.200	40.0	SX

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)
12/30/2013	183.00	0.20	0.00	183.00	0.79	0.79	0.00	0.38	0.12
12/30/2013	211.00	0.30	0.00	211.00	0.91	0.91	0.00	0.44	0.11

Formations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
Martin House	938.50	938.44	76.40
Imperial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Report Date: 12/31/2013
Report #: 23
Depth Progress: 184.00m
Depth End: 396.00mKB
Rig Release Date: 1/23/2014

Rig: Beaver Drilling Ltd. 2

/ UWI 300E7665-10126-45		Surface Legal Location E-76 65-10 126-45		MaxWell Job Number JOB01@2006		License No. EL 470					
Ground Elevation (m) 268.20		Original KB/RT Elevation (m) 273.40		Casing Flange Elevation (m) 268.00		Original Spud Date 12/28/2013		Days From Spud (days) 3.73			
Job Category DRILLING		Primary Job Type DRILLING ORIGINAL		Actual Start Date 12/9/2013 00:00		End Date 1/23/2014 23:59		Final Job Status DRILLED		Final Report? Yes	
Daily Cost Total (Cost) 95,875.06		Cumulative Cost (Cost) 2,059,867.12		Total AFE (Cost) 6,820,300.00		AFE+Supp Amt (Cost) 6,820,300.00		AFE / RFE / Maint.# 10351817		Estimated Days 34.19	
Planned Depth (TMD) (mKB) 2,881.00		Override TVD (mKB)		Head Count 47.0		Personnel Total Hours (hr) 554.00		Cum Personnel Total Hours (hr) 20,841.00			
Avg Connection Gas			Avg Background Gas			Avg Trip Gas			Max H2S (ppm)		
Road Condition Ice/Snow			Weather Clear			Temperature (°C) -43			Wind SW		
Ops and Depth @ Morning Report Wiper trip from 396m at 173m. Last survey at 378m was 0.4°.									Wellbore Original Hole		

Last 24hr Summary

No incidents or accidents. 4 - HID, 0 - OBS and 0 - ASA (all closed out)

Wiper trip at 212m, wash through tight spots at 183m and 136m. Drill 311mm surface hole from 212m to 396m with accumulated wireline surveys, rig services, connections and circulation times. Wiper trip at 396m. Last survey at 378m was 0.4°.

24hr Forecast

Drill 311mm surface hole with accumulated wireline surveys, rig services, connections and circulation times. Wiper trip at 590 m+/- (strap out).

Daily Contacts

Drilling Superintendent, Sheldon Vamplew, 403-999-1302; Drilling Engineer, Mike Greener, 403-771-5039; WS Supervisor, Richard Turgeon, 780-387-1706; WS Supervisor, Dave Oppen, 403-863-8205; Rig Manager, Rick Yavis, 780-718-2962; Command Centre, 403-910-0357

Last Casing String

Conductor, 20.00mKB

Time Log

Start Time	End Time	Dur (hr)	Phase	Op Code	Activity Code	Time P-T-X	Trbl Code	Start Depth (mKB)	End Depth (mKB)	Operation
00:00	03:30	3.50	SURFAC	DRILL	WPRT	P		212.00	212.00	Wiper trip into conductor, back ream from 196m to 58m
03:30	03:45	0.25	SURFAC	RIGMNT	SVRG	P		212.00	212.00	Rig service, function test crown saver
03:45	04:30	0.75	SURFAC	DRILL	WPRT	P		212.00	212.00	Pull out to 9" collars, remove 6" rotating head rubber
04:30	06:00	1.50	SURFAC	DRILL	WPRT	P		212.00	212.00	Trip in hole to 4" HWDP
06:00	06:45	0.75	SURFAC	DRILL	WPRT	P		212.00	212.00	Install 4" rubber in rotating head
06:45	07:45	1.00	SURFAC	DRILL	WASH	P		212.00	212.00	Wash to bottom from 88m
07:45	08:00	0.25	SURFAC	DRILL	SFTY	P		212.00	212.00	Crew hand over meeting with rig crews, rig manager, Conoco reps
08:00	08:30	0.50	SURFAC	DRILL	DRLG	P		212.00	230.00	Rotary drill 311mm hole from 212m to 230m
08:30	08:45	0.25	SURFAC	RIGMNT	SVRG	P		230.00	230.00	Rig service function test rig smart function test crown saver grease all moving parts check engine fluid levels
08:45	14:30	5.75	SURFAC	DRILL	DRLG	P		230.00	330.00	Rotary drill 311 hole from 230m to 330m
14:30	16:00	1.50	SURFAC	DRILL	SRVY	P		330.00	330.00	Connections and surveys
16:00	17:00	1.00	SURFAC	DRILL	DRLG	P		330.00	340.00	Rotary drill 311mm hole from 330m to 340m
17:00	17:15	0.25	SURFAC	RIGMNT	SVRG	P		340.00	340.00	Rig service crown saver operating properly
17:15	19:00	1.75	SURFAC	DRILL	DRLG	P		340.00	368.00	Rotary drill 311mm hole from 340m to 368 m
19:00	19:15	0.25	SURFAC	DRILL	SFTY	P		368.00	368.00	Crew hand over meeting with rig crews, rig manager, Conoco reps
19:15	22:00	2.75	SURFAC	DRILL	DRLG	P		368.00	396.00	Rotary drill 311 mm hole from 368 m to 396m
22:00	22:30	0.50	SURFAC	DRILL	SRVY	P		396.00	396.00	Accumulated time for surveys
22:30	23:00	0.50	SURFAC	DRILL	CIRC	P		396.00	396.00	Circ & condition hole
23:00	00:00	1.00	SURFAC	DRILL	WPRT	P		396.00	396.00	Trip out of hole, back ream from 396 m to 359 m

Fluid/Mud Chks: Mud Engineer: Ed Thompson

Time 14:30	Depth (mKB) 331.00	Density (kg/m³) 1,040.0	Funnel Viscosity (s/L) 40	pH 8.0	PV Override (Pa*s) 11.0	YP Override (Pa) 3.5
Low Gravity Solids (%) 8.7	MBT (kg/m³)	Oil Water Ratio	Chlorides (mg/L) 2,000	Calcium (mg/L) 160	Lime (kg/m³)	Potassium (mg/L)
Electric Stab (V)	ECD - Manual Entry (k...) 1,164.0	Sand (%) 0.0	Solids, Corr. (%) 8.8	T Flowline (°C) 35	HTHP Pressure (kPa)	HTHP Filtrate (mL/30...
Filtrate (mL/30min) 13.0		Mud Lost to Surface (m³)		Mud Lost to Hole (m³)		Daily Mud Field Est (Cost) 480.53
Cum Mud Lost to Surface (m³)			Cum Mud Lost to Hole (m³)		Cumulative Mud Cost (Cost) 2,455.28	

Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/31/2013
Report #: 23
Depth Progress: 184.00m
Depth End: 396.00mKB
Rig Release Date: 1/23/2014

BOP Drill

Type BOP Drill	Days Last Chk (...) 3	Last Date 12/28/2013	Days Until Next... 0	Next Check Date 12/31/2013
Days Since Lost Time Incident (days) 811.00		Days Since Recordable Incident (days) 811.00		

Safety Incidents

Date	Com	Category

Drill String: BHA # 1

Bit Run 1A	Drill Bit 311.0mm, J&L, B181332	Length (m) 0.34	ADC Bit Dull 1-2-NO-S-1-0-WT-TD	TFA (incl Noz) (mm²) 722	BHA ROP (m/hr) 12.1
Nozzles (mm) 15.9/15.9/15.9/12.7		String Length (m) 603.00	OD (mm) 311.0	Max Rotating Hook Load (daN) 55,000	
Depth In (mKB) 0.00	Depth Out (mKB) 603.00	Avg ROP (m/hr) 12.1	Depth This Job (m) 603.00	Total Depth Drilled b... 603.00	Job Drill Hrs (hr) 50.00
				Total Drill Hrs (hr) 50.00	

Comment
Rotary drill 311mm slick

Drill String Components

Item Des	ID (mm)	OD (mm)	Jts	Len (m)	Cum Len (m)
4" HW	70.0	132.0	51	464.80	603.00
X/O 4" H-90	62.0	162.0	1	0.80	138.20
6" D.C	60.0	160.0	9	84.00	137.40
Jar	76.0	157.0	1	4.73	53.40
6" D.C	60.0	160.0	3	27.90	48.67
Bell sub	69.0	232.0	1	0.66	20.77
9" D.C	71.0	233.0	2	18.50	20.11
Bit sub	70.0	255.0	1	0.93	1.61
311mm BIT	72.0	311.0	1	0.34	0.68

Drilling Parameter: 330.00 - 396.00 mKB

Depth (m) 396.00	Cum Drill... 26.00	Int ROP (...) 12.0	Flow Rate... 2.600	WOB (daN) 12,000	RPM (r... 120	SPP (kPa) 13,000	Drill Str Wt (d... 49,000	SO Str Wt (daN) 47,000	PU Str Wt (daN) 51,000	Off-Btm Str W... 49,000	Drill Tq 8,000.0
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Hydraulic Calculations

Bit Hydraulic Powe... 91.0	HP/Area (kW/mm²) 0.00120	% P @ bit (%) 16	Bit Jet Velocity (m/s) 60.0	Bit dP (kPa) 2,099.8	P Drop Annular (kPa) 36.8	Mud Density (kg/m³) 1,040.0	ECD End (kg/m³) 1,049.5
Drill String Volume (m³) 1.41	Bit to Shoe Volume (m³) 22.03	Vol Shoe to Top (m³) 3.43	Min Casing AV (m/min) 15.1	Max Casing AV (m/min) 15.1	Min Open Hole AV (m/... 41.7	Max Open Hole AV (m/... 104.4	

Error

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

Pump Number 1	Make NATIONAL	Model 8-P-80	Rod Diameter (mm) 140.0	Stroke Length (mm) 216.0
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Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/20/2014 00:00	2,909.00	0.499	5,150	64
1/20/2014 00:00	2,909.00	1.014	17,500	130

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/21/2014	1/21/2014	127.0		
1/22/2014	1/22/2014	127.0		

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

Pump Number 2	Make NATIONAL	Model 8-P-80	Rod Diameter (mm) 140.0	Stroke Length (mm) 216.0
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Pump Checks

Date	Depth (mKB)	Q Flow (m³/min)	P (kPa)	Strokes (spm)
1/19/2014 00:00	2,513.00	0.647	6,855	83
1/19/2014 00:00	2,513.00	0.897	15,000	115

Pump Operations

Start Date	End Date	Liner Size (mm)	P Max (kPa)	Vol/Stk OR (m³/stk)
1/19/2014	1/19/2014	127.0	15,000	
1/21/2014		127.0		

ker Screens

Des	Start Date	End Date	Scr Sz. X	Scr Sz. Y	Note

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number 1	Make BOS Solutions	Model 5500	Diameter (mm)
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Daily Drilling

COPRC DODO CANYON E-76 65-10 126-45

Rig: Beaver Drilling Ltd. 2

Report Date: 12/31/2013
Report #: 23
Depth Progress: 184.00m
Depth End: 396.00mKB
Rig Release Date: 1/23/2014

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 07:00	2.00	1800	1,000.0	0.400	2,100.0	0.200

Centrifuge/Cyclone: HGS Centrifuge, BOS Solutions, 5500

Number	Make	Model	Diameter (mm)
2	BOS Solutions	5500	

Centrifuge/Cyclone Checks

Date	Hrs (hr)	RPM (rpm)	Dens OF (kg/m³)	Q OF (L/min)	Dens UF (kg/m³)	Q UF (L/min)
1/19/2014 13:00	3.00	2000	990.0	0.400	1,700.0	0.200

Fluid / Mud Additive Amounts

Des	Consumed	Cost	Size	Units
Caustic	1.0	24.650	50.0	SX
FED PAC R	1.0	190.000	22.68	SX
Gel	3.0	7.200	40.0	SX
Sawdust	20.0	2.980	7.3	SX
SOAP STICKS	12.0	15.390	0.5	STICK

Survey Data

Date	MD (mKB)	Incl (°)	Azm (°)	TVD (mKB)	Depart (m)	NS (m)	EW (m)	VS (m)	DLS (°/30m)
12/31/2013	240.00	0.50	0.00	240.00	1.12	1.12	0.00	0.54	0.21
12/31/2013	269.00	0.80	0.00	268.99	1.44	1.44	0.00	0.70	0.31
12/31/2013	306.00	1.00	0.00	305.99	2.03	2.03	0.00	0.98	0.16
12/31/2013	348.00	0.90	0.00	347.98	2.72	2.72	0.00	1.32	0.07
12/31/2013	378.00	0.40	0.00	377.98	3.06	3.06	0.00	1.49	0.50

Formations

Formation Name	Drill Top MD (mKB)	Drill Top (TVD) (mKB)	Prog Top TVD (mKB)
Little Bear	31.00	31.00	31.00
Slater River	76.00	76.00	76.00
Arctic Red	800.50	800.46	76.40
tin House	938.50	938.44	76.40
erial	975.50	975.43	76.40
Upper Canol	1,665.00	1,658.53	1,653.40
Lower Canol	1,700.72	1,689.07	1,694.40