FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161229_2A	RMS 2016.6.14.37064	2016	12	29

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	

Operator's AFE	Contractor's Job No	Spud Date Time
17DRL0010	0X47	

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dan Meyer	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required		
(4.) Well Licence & Stick Diagram Posted	DM	SL
(5.) Flare Lines Staked		
(6.) BOP Drills Performed		
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines		
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	TOTAL
	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	
HOURS Tour 1																										
Tour 2																										
Tour 3	3.50																				0.50					4.00
TOTAL	3.50																				0.50					4.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
26410	7100

WEATHER

Time	Temp
05:00	-6

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
SW	UP TO 29 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Shaun Low

START TIME: 0:00 END TIME: 8:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe	Stands
Drill Pipe	Singles
Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☐ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP

TOUR 2

SIGNATURE OF DRILLER: Shaun Low

START TIME: 8:00 END TIME: 16:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe	Stands
Drill Pipe	Singles
Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☐ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 16:00 END TIME: 24:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe	Stands
Drill Pipe	Singles
Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1		152	1	0	0.00
2		152	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinaw Centrifuge #1	0.00	0	0	0
Mackinaw Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	4.00	10.5	450
2	4.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
20:00	20:30	0.50	21F	Review JSA & visually inspect rig prior to walking to next well.
20:30	23:00	2.50	1A	Walk Beaver Rig#15AC 10m from D12-07-081-16W6M to C12-07-081-15W6M.
23:00	24:00	1.00	1	Rig up Beaver Rig#15AC to Spud. Adjust suitcases & cable festoon. Rig up PipeCat & casing racks for drilling operations. Rig up cellar trash pumps & circulating system. Install mat under catch tank & spot shale bin. Prepare rig floor for drilling operations.

Remarks

SAFETY

Safety Topic	MEHL	MACP
Walking Rig		

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161230_1A	RMS 2016.6.14.37064	2016	12	30

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dan Meyer	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required		
(4.) Well Licence & Stick Diagram Posted	DM	SL
(5.) Flare Lines Staked		
(6.) BOP Drills Performed		
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines		
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1	0.50	1.75							0.75											3.50	1.50					8.00
Tour 2		1.25			1.00	3.25	0.25													2.00	0.25					8.00
Tour 3					1.00							6.00									1.00					8.00
TOTAL	0.50	3.00			2.00	3.25	0.25		0.75			6.00								5.50	2.75					24.00

WEATHER

Kelly Bushing	Up Fuel
6.6	

FUEL @ 08:00 HRS

Rig	Boiler
23769	7100
Time	Temp
05:00	-10

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
SW	UP TO 29 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 0:00 END TIME: 8:00

BITS

Bit Number	1A RR
Size	279
IADC Code	S 4 2 3
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 / 14.3 14.3 14.3
Depth Out (m)	
Depth In (m)	6.60
Total Drilled (m)	255.40
Hrs Run Today	1.75
Cumulative Hrs Run	1.75
Entry Date	30-Dec-2016

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	145.94
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
6.60	262.00	DRILL	160	10

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.22
1	Mud Motor	203	1	9.14
1	X/O	165	71	0.80
1	UBHO Sub	165	63	0.75
2	NM Slick	155	71	17.73
1	Jars	163	60	5.41
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
18	4" CDS40 HWDP	101	65	170.69
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-0.64
Total	262.00
Weight of DC	
Weight of String	36.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			70002
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	03:15	05:45
Density	1030	1050
Funnel Viscosity	29	33
Fluid Loss	0	0
pH	10	10
Location Of Sample	Shaker	Shaker
Depth	41.86	113.00
PVT	35.48	34.2

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	110	15000	5.00
2	PARALLEL	152	110	15000	5.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
04:45	45.89	0.30	251.2	DIRECTIONAL
05:45	74.10	0.40	255.8	DIRECTIONAL
06:15	103.34	0.20	273	DIRECTIONAL
06:30	131.80	0.50	339.5	DIRECTIONAL
07:30	188.61	0.30	236.9	DIRECTIONAL
07:45	217.11	0.10	281.5	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1050	1025	1610
Mudcleaner Centrifuge #2	8.00	1050	1025	1610

MUD MATERIALS ADDED

Product	Amount	Type
Sawdust	25	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	1	Rig up Beaver Rig#15AC to Spud. Adjust suitcases & cable festoon. Rig up PipeCat & casing racks for drilling operations. Rig up cellar trash pumps & circulating system. Install mat under catch tank & spot shale bin. Prepare rig floor for drilling operations.
0:30	1:15	0.75	9A	Review JSA, slip & cut 16.17m of drilling line @ 11,329.5mJ. Deadman anchor bolts re-torqued to 360ft/lbs. Performed full block height calibration. Brake capacity test, ok. Greased crown & travelling blocks.
1:15	1:45	0.50	21F	Pre-Spud rig inspection, hazard hunt & correct all deficencies.
1:45	2:00	0.25	21D	Pre-Spud safety meeting. Discussed ERP & stick diagram. STARS site# 3187.
2:00	2:15	0.25	21D	Safety meeting & review JSA with Dynamic directional drilling.
2:15	2:45	0.50	20D	Handle Dynamic directional tools. Make up PDC Bit #1A. Break monels & install MWD tool. Warm up Top Drive, mudline & BHA with steam.
2:45	4:30	1.75	2	Spud in with 279mm PDC Sicotte Bit #1A RR. Drill 279mm Surface hole from 6.6m to 262m MD. Pump Rate: 3.3m3/min, Rotary: 160 RPM, WOB: 7 kdaN, Pump Pressure: 15,000 kPa. Torque: 8,000 ft/lbs, Diff Pressure: 3,000 kPa.
4:30	7:30	3.00	20A	Accumulated time on reciprocating drill string, directional surveys & connections. Issues with MWD and with trash pumps loosing prime.
7:30	8:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 5040 litres

Hazard ID = Picking up elevators from the corner of the rig floor / use boom line with the winch line to reduce swing inertia.

SAFETY

Safety Topic	MEHL	MACP
Pre spud / handle directional tools.	35	0

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 8:00 END TIME: 16:00

BITS

Bit Number	1A RR
Size	279
IADC Code	S 4 2 3
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 / 14.3 14.3 14.3
Depth Out (m)	459.00
Depth In (m)	6.60
Total Drilled (m)	452.40
Hrs Run Today	1.25
Cumulative Hrs Run	3.00
Entry Date	30-Dec-2016

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	BT
MDC	CT	Reason Pulled	TD
LOC	A	Total Run (m/hr)	150.80
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB
262.00	459.00	DRILL	160	10

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.22
1	Mud Motor	203	1	9.14
1	X/O	165	71	0.80
1	UBHO Sub	165	63	0.75
2	NM Slick	155	71	17.73
1	Jars	163	60	5.41
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-3.11
Total	459.00
Weight of DC	
Weight of String	44.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			14000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	09:00	11:00
Density	1075	1100
Funnel Viscosity	35	74
Fluid Loss		
pH	10	10
Location Of Sample	shaker	shaker
Depth	347.00	459.00
PVT	50.38	101.24

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	152	110	29000	8.00
2	COMBINED	152	110	29000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:30	274.19	0.30	337.3	DIRECTIONAL
08:45	302.60	0.30	280.6	DIRECTIONAL
09:00	331.17	0.70	278.6	DIRECTIONAL
09:15	331.17	0.70	278.6	DIRECTIONAL
10:00	359.66	1.30	175.1	DIRECTIONAL
10:15	388.13	1.00	142.7	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1100	1050	1660
Mudcleaner Centrifuge #2	8.00	1100	1050	1660

MUD MATERIALS ADDED

Product	Amount	Type
Bentonite Natural Gel	30	SXS
Enerzan	1	SXS
Sawdust	45	SXS
EnerPac Regular	1	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	9:15	1.25	2	Drill 279mm Surface hole from 262m to 459m MD. Pump Rate: 3.3m3/min, Rotary: 160 RPM, WOB: 10 kdaN, Pump Pressure: 29,000 kPa. Torque: 14,000 ft/lbs, Diff Pressure: 4,500 kPa.
9:15	10:45	1.50	20A	Accumulated MWD survey & connection time.
10:45	11:15	0.50	5D	Circulate and condition well prior to wiper trip.
11:15	13:00	1.75	6M	Review JSA. Wiper trip out of hole from 459m to 91m MD @ 30m/min (Tight hole @ 404m, 348m, 280m, 193m). Trip in hole from 91m to 459m MD @ 30m/min. Tight hole @ 163m, 193m, 230m, 370m. Wash through bridge @ 230m.
13:00	13:30	0.50	5D	Circulate and condition well prior to pulling out to run surface casing.
13:30	15:00	1.50	6B	Review JSA. Trip out of hole from 459m to 34m MD @ 30m/min.
15:00	15:15	0.25	21D	Safety meeting with Dynamic Directional Drilling prior to handling directional.
15:15	15:45	0.50	20D	Review JSA. Break off 4H90 - 4 1/2 X/H X/O and lay down drilling jars. Break apart monels and lay down MWD tool. Break off 279mm Sicotte PDC bit # 1A RR and rack back stand of directional tools in derrick.
15:45	16:00	0.25	7	Rig & Top Drive Service. Function test Rig Smart crown saver, MCWS, ZMS, high & low travel stops / limits, ok. Performed level 1 visual inspection of mast and all over-head equipment, ok. Greased hydraulic I-BOP and functioned manual kelly cock. Performed visual inspection and service of PS-21 hydraulic slips and inserts, ok. Performed brake capacity test, ok.

Remarks

SAFETY

Safety Topic	MEHL	MACP
IRS	53	0

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 16:00 END TIME: 24:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
	Drill Pipe	Stands		
	Drill Pipe	Singles		

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up 1	Down	7
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	20:15	23:45
Density	1110	1010
Funnel Viscosity	70	40
Fluid Loss		
pH	10	10
Location Of Sample	Shakers	Shakers
Depth	459.00	459.00
PVT	30.5	30

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	35	500	5.00
2	PARALLEL	152	35	500	5.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Centrifuge #1	0.00	0	0	0
Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Bentonite Natural Gel	10	SXS
EnerPac Regular	1	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	16:15	0.25	21D	Safety meeting with Copperhead prior to running 219.1mm Surface Casing.
16:15	16:30	0.25	12A	Review JSA. Rig up to run 219.1mm Surface Casing. Remove BX4-500 hydraulic elevators. Install bail extensions and 219.1mm side door casing elevators Cert # 100995. Pick up and install Copperhead power tongs.
16:30	19:00	2.50	12B	Review JSA. Make up float and shoe and run 10 joints of 219.1mm surface casing from 6.6m to 115m MD. Wash and push down every joint of casing.
19:00	19:30	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events. Discussed Rig Rider escape device installation, use and inspection procedures. Review JSA with Copperhead.
19:30	21:45	2.25	12B	Cont t/ run 39 joints 219.1mm 41.67kg/m J55 surface casing set at 459m. Makeup casing bowl landing joint.
21:45	22:45	1.00	5D	Circulate at 1.0 m3/min. Remove PS21 hydraulic slips. Land casing bowl at 459m MD. Reinstall PS21. Remove casing handling equipment. Continue to circulate & reciprocate drill string. Prepare to cement.
22:45	23:00	0.25	21D	Safety meeting & JSA review with Trican.
23:00	24:00	1.00	12C	Rig to & cement 219.1mm surface casing.

Remarks

Hazard ID. Preparing PS21 lifting slings the winch line got snagged on a Derrick pin. / Stopped operation and cleared the winch line from the pin prior to proceding.

SAFETY

Safety Topic	MEHL	MACP
Rig Rider escape device. / Cementing.	38	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161230_1A	RMS 2016.6.14.37064	2016	12	30

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dan Meyer	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required		
(4.) Well Licence & Stick Diagram Posted	DM	SL
(5.) Flare Lines Staked		
(6.) BOP Drills Performed		
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines		
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1	0.50	1.75							0.75											3.50	1.50					8.00
Tour 2		1.25			1.00	3.25	0.25													2.00	0.25					8.00
Tour 3					1.00							6.00									1.00					8.00
TOTAL	0.50	3.00			2.00	3.25	0.25		0.75			6.00								5.50	2.75					24.00

WEATHER

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig: 23769 | Boiler: 7100 | Time: 05:00 | Temp: -10 | Current Conditions: PARTLY CLOUDY | Wind Direction: SW | Wind Strength: UP TO 29 KM/H | Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Stefan Polny | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	1A RR
Size	279
IADC Code	S 4 2 3
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 / 14.3 14.3 14.3
Depth Out (m)	
Depth In (m)	6.60
Total Drilled (m)	255.40
Hrs Run Today	1.75
Cumulative Hrs Run	1.75
Entry Date	30-Dec-2016

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 145.94 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.22
1	Mud Motor	203	1	9.14
1	X/O	165	71	0.80
1	UBHO Sub	165	63	0.75
2	NM Slick	155	71	17.73
1	Jars	163	60	5.41
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
18	4" CDS40 HWDP	101	65	170.69
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down: -0.64 | Total: 262.00 | Weight of DC | Weight of String: 36.00

HOLE CONDITION

Hole Drag: Up 1 Down 1 | Torque At Bottom: 70002 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	110	15000	5.00
2	PARALLEL	152	110	15000	5.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1050	1025	1610
Mudcleaner Centrifuge #2	8.00	1050	1025	1610

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 5040 litres

Hazard ID = Picking up elevators from the corner of the rig floor / use boom line with the winch line to reduce swing inertia.

SAFETY

Safety Topic	MEHL	MACP
Pre spud / handle directional tools.	35	0

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 8:00 | END TIME: 16:00

BITS

Bit Number	1A RR
Size	279
IADC Code	S 4 2 3
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 / 14.3 14.3 14.3
Depth Out (m)	459.00
Depth In (m)	6.60
Total Drilled (m)	452.40
Hrs Run Today	1.25
Cumulative Hrs Run	3.00
Entry Date	30-Dec-2016

CUTTING STRUCTURE

TI 1 | Gage 1 | TO 1 | ODC BT | MDC CT | Reason Pulled TD | LOC A | Total Run (m/hr) 150.80 | BRG X

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.22
1	Mud Motor	203	1	9.14
1	X/O	165	71	0.80
1	UBHO Sub	165	63	0.75
2	NM Slick	155	71	17.73
1	Jars	163	60	5.41
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down: -3.11 | Total: 459.00 | Weight of DC | Weight of String: 44.00

HOLE CONDITION

Hole Drag: Up 2 Down 2 | Torque At Bottom: 14000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	15:15
Density	1125
Funnel Viscosity	76
Fluid Loss	
pH	10
Location Of Sample	shaker
Depth	459.00
PVT	96.29

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	152	110	29000	8.00
2	COMBINED	152	110	29000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
10:30	416.66	0.80	180.9	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1100	1050	1660
Mudcleaner Centrifuge #2	8.00	1100	1050	1660

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP
IRS	53	0

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
	Drill Pipe	Stands		
	Drill Pipe	Singles		

Kelly Down | Total | Weight of DC | Weight of String

HOLE CONDITION

Hole Drag: Up 1 Down 7 | Torque At Bottom: 0 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	35	500	5.00
2	PARALLEL	152	35	500	5.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Centrifuge #1	0.00	0	0	0
Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID. Preparing PS21 lifting slings the winch line got snagged on a Derrick pin. / Stopped operation and cleared the winch line from the pin prior to proceding.

SAFETY

Safety Topic	MEHL	MACP
Rig Rider escape device. / Cementing.	38	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161231_1A	RMS 2016.6.14.37064	2016	12	31

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dan Meyer	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required		
(4.) Well Licence & Stick Diagram Posted	DM	SL
(5.) Flare Lines Staked		
(6.) BOP Drills Performed		
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines		
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	TOTAL
HOURS Tour 1												0.50	1.50													2.00
Tour 2																										
Tour 3																										
TOTAL												0.50	1.50													2.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
19321	7100

WEATHER

Time	Temp
02:00	-3

Current Conditions: OVERCAST

Wind Direction	Wind Strength
W	UP TO 29 KM/H

Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER: Stefan Polny | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe	Stands
Drill Pipe	Singles
Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	01:30
Density	1010
Funnel Viscosity	40
Fluid Loss	
pH	10
Location Of Sample	Suction 1
Depth	0.00
PVT	101.05

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1		152	1	0	0.00
2		152	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	2.00	10.5	450
2	2.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	12C	Cement Casing as follows; Pumped 3m´‡ H2O ahead, 24T TSC 1700KG 1% CACL2 2% AFA-6 2% LCM-2 (21.72m´‡). Displaced with 14.55m´‡ Fresh H2O. Bump Plug 3500 Kpa over FCP, Floats Held. 06m´‡ cement returns to surface Plug down @ 00:30 Hrs. No fall back.
0:30	2:00	1.50	13	Wait on cement & Prepare to walk Beaver Rig#15AC to next well. **Well Paused for batch drilling @ 02:00hrs Dec.31/2016**

Remarks

Boiler #2 fuel @ 02:00hrs = 4932 litres.

Hazard ID. = Was stopped when approaching VDoor stairs. / Cement lines were undergoing a pressure test.

SAFETY

Safety Topic	MEHL	MACP
Mixing mud products.	17	0

TOUR 2 | SIGNATURE OF DRILLER: Shaun Low | START TIME: 8:00 | END TIME: 16:00

BITS / DRILLING ASSEMBLY / MUD RECORD / DEVIATION SURVEYS / TIME LOG — same structure as TOUR 1; no entries.

SAFETY

Safety Topic	MEHL	MACP

TOUR 3 | SIGNATURE OF DRILLER: Shaun Low | START TIME: 16:00 | END TIME: 24:00

BITS / DRILLING ASSEMBLY / MUD RECORD / DEVIATION SURVEYS / TIME LOG — same structure as TOUR 1; no entries.

SAFETY

Safety Topic	MEHL	MACP

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170115_1A	RMS 2016.6.14.37064	2017	01	15

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1														1.25	6.00						0.75					8.00
Tour 2		2.50			0.25	0.75	0.50													2.50	1.00				0.50	8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		8.25			0.25	0.75	0.50							1.25	6.00					4.25	2.25				0.50	24.00

Kelly Bushing 6.6 | Dp Fuel 2121

FUEL @ 08:00 HRS

WEATHER: Rig 26410 | Boiler 7100 | Time 06:00 | Temp 1 | Current Conditions: PARTLY CLOUDY | Wind Direction: SW | Wind Strength: UP TO 50 KM/H | Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER: Stefan Polny | START TIME 0:00 | END TIME 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	0.00
Entry Date	

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
37	4" CDS40 HWDP	101	65	351.31
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-2.31
Total	459.00
Weight of DC	28.00
Weight of String	45.00

HOLE CONDITION

Hole Drag Up 0 Down 0 | Torque At Bottom 0 | Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	07:00		
Density	1140		
Funnel Viscosity	35		
Fluid Loss	0		
pH			
Location Of Sample	Tank #2		
Depth	459.00		
PVT			

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	1	0	0.00
2	PARALLEL	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerScav C	1	bbl
Enerhib C	1	bbl

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	1:15	1.25	14A	Review JSA. Nipple up Schaffer 13 5/8" 5000# BOP''''s & all related equipment.
1:15	1:30	0.25	21D	Safety meeting & JSA review with Semerra.
1:30	3:15	1.75	15A	Pressure test choke manifold, valves, lines, inside BOP & stabbing valve to 1,000 kPa low and 21,000 kPa high. All tests held for 10 minutes, ok.
3:15	6:30	3.25	15A	Make up cup tester to joint of 4"FH DP. Pressure test upper & lower pipe rams to 1,000 kPa low and 21,000 kPa high. All tests held for 10 minutes, ok. Pressure test Annular Preventer to 1,000 kPa low and 10,500 kPa high. All tests held for 10 minutes, ok. Pressure test HCR and all choke line valves, kill line valves, check valves, casing bowl valves and lower kelly cock valve to 1,000 kPa low and 21,000 kPa high. All tests held for 10 minutes, ok.
6:30	7:15	0.75	15A	Makeup cup tester with hangoff tool. Set cup tester and test blind rams to 1,000 kPa low and 21,000 kPa high. All tests held for 10 minutes, ok.
7:15	7:45	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
7:45	8:00	0.25	15B	Perform Accumulator function. Start pressure 20,500 kPa. Open HCR, 1 seconds, close upper pipe rams, 6 seconds, close annular preventer, 16 seconds, close lower pipe rams, 6 seconds each. After 4 functions, remaining pressure 11,500 kPa. 2 minutes 48 seconds recharge time. 7,000 kPa precharge pressure. Backup nitrogen, 6 bottles with an average of 16,548 kPa.

Remarks

****John Deere 644K Loader & JCB Zoom Boom used to rig up after walking the rig****
Boiler #2 Fuel @ 05:00 Hrs = 6732 litres
Hazard ID : Noticed a hose pinched between suitcases / Corrected the hose and examined for damage, it was ok.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill.	0	3805

TOUR 2 | SIGNATURE OF DRILLER: Luke Hardy | START TIME 8:00 | END TIME 16:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	69.00
Hrs Run Today	1.25
Cumulative Hrs Run	1.25
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 55.20 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
459.00	528.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-18.66
Total	528.00
Weight of DC	28.00
Weight of String	45.00

HOLE CONDITION

Hole Drag Up 1 Down 1 | Torque At Bottom 5000 | Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	15:00		
Density	1140		
Funnel Viscosity	30		
Fluid Loss	0		
pH			
Location Of Sample	Shakers		
Depth	540.00		
PVT	35.51		

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	92	22900	3.00
2	COMBINED	127	92	22900	6.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6000	@	50	@	470.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
15:15	476.68	0.92	229.37	DIRECTIONAL
15:45	505.13	0.62	120.74	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Bentonite Natural Gel	1	SXS
Sulphamic Acid	6	SXS
Caustic Soda	1	SXS
Lime	4	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	8:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Lower Pipe Rams, 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Shaun Low & Dean Boehnert.
8:30	9:00	0.50	21F	Pre drill out rig inspection & corrected all deficiencies.
9:00	9:15	0.25	21A	BOP drill (out of hole). Simulated a hard shut in. Crew assumed CAODC designated positions. Well secured in 90 seconds. Discussed stick diagram, kick warning signs / causes, shut in & flowcheck procedures, ERP & emergency contact list. STARS site # 3187. Verified BOP & choke manifold valve alignment. Functioned both chokes & flare igniter.
9:15	9:45	0.50	25	Install wear bushing set @ 6.6m.
9:45	10:00	0.25	21D	Pre-Drill out Safety meeting & JSA review with Dynamic.
10:00	12:00	2.00	20D	Handle directional tools. Pickup 6.5" mud motor & makeup PDC bit #2. Makeup stand of slick monels. Break monels & install gap sub. Assemble and program Em tool. Makeup 2 stands of 6.5" DC's with 2 - x/o's, 2 - 101.6mm HWDP & Drilling Jars.
12:00	12:45	0.75	6A	Review JSA. Trip in the hole @ 45m/min from 110m to 422m MD.
12:45	14:00	1.25	2C	Fill pipe, Drill out Cement @ 428m MD, Float Collar @ 446.2m MD, Shoe @ 458.6m MD.
14:00	14:30	0.50	2	Drill vertical section of 200mm main hole from 459m to 471m MD. Pump Rate - 1.27

Remarks

Hazard ID: Mixing new product / Reviewed MSDS prior to handling.
****Rear egress of Rig Rider simulated lauch done by Stirling Caverly****

SAFETY

Safety Topic	MEHL	MACP
Pre Drill out operations.	45	3175

TOUR 3 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME 16:00 | END TIME 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	586.00
Hrs Run Today	5.75
Cumulative Hrs Run	7.00
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 83.71 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
528.00	1045.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
18	Drill Pipe	Stands		524.03
0	Drill Pipe	Singles		0.00

Kelly Down	-25.69
Total	1045.00
Weight of DC	28.00
Weight of String	56.00

HOLE CONDITION

Hole Drag Up 1 Down 1 | Torque At Bottom 10000 | Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	19:45	21:45	
Density	1190	1160	
Funnel Viscosity	31	30	
Fluid Loss	0	0	
pH	10.5	10.5	
Location Of Sample	Trough	Trough	
Depth	780.11	897.00	
PVT	52.79	47.46	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	103	28000	8.00
2	PARALLEL	127	103	28000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3000	@	60	@	982.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	533.66	0.53	128.21	DIRECTIONAL
16:45	562.77	0.62	156.07	DIRECTIONAL
17:15	591.88	0.62	39.7	DIRECTIONAL
17:15	591.88	0.62	39.7	DIRECTIONAL
17:30	620.98	0.44	343.8	DIRECTIONAL
18:00	650.08	0.40	320.25	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1125	1810
Mudcleaner Centrifuge #2	8.00	1160	1125	1815

MUD MATERIALS ADDED

Product	Amount	Type
Limestone 0 grade	19	SXS
Limestone 325	4	SXS
EnerPac Regular	2	SXS
Enercure	1	SXS
Sawdust	7	SXS
EZ Gel CES	1	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	2	Drill vertical section of 200mm main hole from 528m to 738m MD. Pump Rate - 2.2 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 25,000 kPa, Torque - 6,000 ft/lbs, Diff Pressure - 4,000 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	22:15	2.75	2	Drill vertical section of 200mm main hole from 738m to 1045m MD. Pump Rate - 2.2 m3/min, WOB - 13 kdaN, Rotary - 70 RPM, Pump Pressure - 28,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 5,000 kPa.
22:15	24:00	1.75	20A	Accumulated EM survey & connection time.

Remarks

Hazard ID: Noticed a quick coupler on supplied air manifold was not fully attached. / I pressed the fitting back on properly and checked the other couplers as well.

SAFETY

Safety Topic	MEHL	MACP
IRS	60	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170115_1A	RMS 2016.6.14.37064	2017	01	15

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
HOURS	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	TOTAL
Tour 1														1.25	6.00						0.75					8.00
Tour 2		2.50			0.25	0.75	0.50													2.50	1.00				0.50	8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		8.25			0.25	0.75	0.50							1.25	6.00					4.25	2.25				0.50	24.00

Kelly Bushing: 6.6 | Op Fuel: 2121

FUEL @ 08:00 HRS

Rig: 26410 | Boiler: 7100 | Time: 06:00 | Temp: 1

WEATHER

Current Conditions: PARTLY CLOUDY | Wind Direction: SW | Wind Strength: UP TO 50 KM/H | Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: **Stefan Polny** | START TIME: **0:00** | END TIME: **8:00**

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	0.00
Entry Date	

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
37	4" CDS40 HWDP	101	65	351.31
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-2.31
Total	459.00
Weight of DC	28.00
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 0	Down	0
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	1	0	0.00
2	PARALLEL	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	0.00	0	0	0
Mackinnon CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

****John Deere 644K Loader & JCB Zoom Boom used to rig up after walking the rig****
Boiler #2 Fuel @ 05:00 Hrs = 6732 litres
Hazard ID : Noticed a hose pinched between suitcases / Corrected the hose and examined for damage, it was ok.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill.	0	3805

TOUR 2

SIGNATURE OF DRILLER: **Luke Hardy** | START TIME: **8:00** | END TIME: **16:00**

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	69.00
Hrs Run Today	1.25
Cumulative Hrs Run	1.25
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 55.20 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-18.66
Total	528.00
Weight of DC	28.00
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			5000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	92	22900	3.00
2	COMBINED	127	92	22900	6.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6000	@	50	@	470.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	0.00	0	0	0
Mackinnon CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
				m3/min, WOB - 7 kdaN, Rotary - 30 RPM, Pump Pressure - 8,100 kPa, Torque - 4,600 ft/lbs, Diff Pressure - 3,000 kPa.
14:30	14:45	0.25	5C	Displace H2O to CaCl Brine drilling fluid @ 1.2m3/min, Pump pressure 6,000 kPa. Total Volume of 21m3.
14:45	15:30	0.75	2	Drill vertical section of 200mm main hole from 471m to 528m MD. Pump Rate - 2.0 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 22,900 kPa, Torque - 5,000 ft/lbs, Diff Pressure - 4,000 kPa.
15:30	16:00	0.50	20A	Accumulated time on reciprocating drill string, directional surveys & connections.

Remarks

Hazard ID: Mixing new product / Reviewed MSDS prior to handling.
****Rear egress of Rig Rider simulated lauch done by Stirling Caverly****

SAFETY

Safety Topic	MEHL	MACP
Pre Drill out operations.	45	3175

TOUR 3

SIGNATURE OF DRILLER: **Jordan Cawsey** | START TIME: **16:00** | END TIME: **24:00**

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	586.00
Hrs Run Today	5.75
Cumulative Hrs Run	7.00
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 83.71 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
18	Drill Pipe	Stands		524.03
0	Drill Pipe	Singles		0.00

Kelly Down	-25.69
Total	1045.00
Weight of DC	28.00
Weight of String	56.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			10000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	23:45
Density	1160
Funnel Viscosity	30
Fluid Loss	0
pH	10.5
Location Of Sample	Trough
Depth	1029.15
PVT	53.52

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	103	28000	8.00
2	PARALLEL	127	103	28000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3000	@	60	@	982.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
18:30	679.18	0.44	315.68	DIRECTIONAL
19:00	708.27	0.26	319.54	DIRECTIONAL
19:15	737.39	0.44	300.74	DIRECTIONAL
20:15	795.66	0.31	3.05	DIRECTIONAL
20:45	824.74	0.09	333.34	DIRECTIONAL
21:00	853.87	0.13	319.28	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1160	1125	1810
Mackinnon CentriSage #2	8.00	1160	1125	1815

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: Noticed a quick coupler on supplied air manifold was not fully attached. / I pressed the fitting back on properly and checked the other couplers as well.

SAFETY

Safety Topic	MEHL	MACP
IRS	60	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170115_1A	RMS 2016.6.14.37064	2017	01	15

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CADOC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1														1.25	6.00						0.75					8.00
Tour 2		2.50			0.25	0.75	0.50													2.50	1.00				0.50	8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		8.25			0.25	0.75	0.50							1.25	6.00					4.25	2.25				0.50	24.00

Kelly Bushing 6.6 | Op Fuel 2121

FUEL @ 08:00 HRS

Rig 26410 | Boiler 7100 | Time 06:00 | Temp 1

WEATHER

Current Conditions: PARTLY CLOUDY
Wind Direction: SW | Wind Strength: UP TO 50 KM/H
Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Stefan Polny

START TIME 0:00 | END TIME 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	0.00
Entry Date	

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
37	4" CDS40 HWDP	101	65	351.31
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-2.31
Total	459.00
Weight of DC	28.00
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 0	Down	0
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	1	0	0.00
2	PARALLEL	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
****John Deere 644K Loader & JCB Zoom Boom used to rig up after walking the rig****
Boiler #2 Fuel @ 05:00 Hrs = 6732 litres
Hazard ID : Noticed a hose pinched between suitcases / Corrected the hose and examined for damage, it was ok.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill.	0	3805

TOUR 2

SIGNATURE OF DRILLER: Luke Hardy

START TIME 8:00 | END TIME 16:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	69.00
Hrs Run Today	1.25
Cumulative Hrs Run	1.25
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 55.20 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-18.66
Total	528.00
Weight of DC	28.00
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			5000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	92	22900	3.00
2	COMBINED	127	92	22900	6.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6000	@	50	@	470.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID: Mixing new product / Reviewed MSDS prior to handling.
****Rear egress of Rig Rider simulated lauch done by Stirling Caverly****

SAFETY

Safety Topic	MEHL	MACP
Pre Drill out operations.	45	3175

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 16:00 | END TIME 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	586.00
Hrs Run Today	5.75
Cumulative Hrs Run	7.00
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 83.71 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
18	Drill Pipe	Stands		524.03
0	Drill Pipe	Singles		0.00

Kelly Down	-25.69
Total	1045.00
Weight of DC	28.00
Weight of String	56.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			10000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	103	28000	8.00
2	PARALLEL	127	103	28000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3000	@	60	@	982.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
21:45	882.98	0.40	316.2	DIRECTIONAL
22:00	912.10	0.70	185.07	DIRECTIONAL
22:30	941.24	0.66	227	DIRECTIONAL
23:00	970.34	0.26	148.42	DIRECTIONAL
23:30	999.48	0.26	228.75	DIRECTIONAL
	1028.55	0.53	87.86	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1125	1810
Mudcleaner Centrifuge #2	8.00	1160	1125	1815

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID: Noticed a quick coupler on supplied air manifold was not fully attached. / I pressed the fitting back on properly and checked the other couplers as well.

SAFETY

Safety Topic	MEHL	MACP
IRS	60	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170116_1A	RMS 2016.6.14.37064	2017	01	16

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time	
Dean Boehnert	Shaun Low		

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		5.00					0.50													1.75	0.75					8.00
Tour 2		6.25					0.50													1.25						8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		17.00					1.00													4.75	1.25					24.00

Kelly Bushing	Op Fuel
6.6	2852

FUEL @ 08:00 HRS

Rig	Boiler
23630	7100

WEATHER

Time	Temp
06:00	3

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
S	UP TO 50 KM/H

Road Condition: FAIR

TOUR 1 — SIGNATURE OF DRILLER: Jordan Cawsey — START TIME: 0:00 — END TIME: 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	902.00
Hrs Run Today	5.00
Cumulative Hrs Run	12.00
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	75.17
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1045.00	1361.00	DRILL	70	13

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
28	Drill Pipe	Stands		815.10
0	Drill Pipe	Singles		0.00

Kelly Down	-0.76
Total	1361.00
Weight of DC	28.00
Weight of String	64.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	02:00	04:30
Density	1150	1150
Funnel Viscosity	30	30
Fluid Loss	0	0
pH	10.5	10.5
Location Of Sample	Trough	Trough
Depth	1131.70	1253.61
PVT	38.31	40

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	95	23000	8.00
2	PARALLEL	127	95	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	1850	@	60	@	1070.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
01:00	1057.69	0.26	50.07	DIRECTIONAL
01:15	1086.79	0.26	12.81	DIRECTIONAL
02:00	1115.88	0.40	339.41	DIRECTIONAL
02:30	1145.01	0.50	335.45	DIRECTIONAL
03:30	1203.28	0.70	339.23	DIRECTIONAL
04:30	1232.36	0.44	72.13	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1150	1120	1850
Mudcleaner Centrifuge #2	8.00	1150	1125	1850

MUD MATERIALS ADDED

Product	Amount	Type
Limestone 325	4	sxs
Limestone 0 grade	19	sxs
Sawdust	20	sxs
EnerPac Regular	1	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual kelly cock. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 24 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Shaun Low & Chris Baehl.
0:30	0:45	0.25	21A	BOP drill (while drilling). Simulated a hard shut in. Crew assumed CAODC designated positions. Well secured in 45 seconds. Discussed stick diagram, kick warning signs / causes, shut in & flowcheck procedures, ERP & emergency contact list. STARS site # 3187. Verified BOP & choke manifold valve alignment. Functioned both chokes & flare igniter, ok.
0:45	5:45	5.00	2	Drill vertical section of 200mm main hole from 1045m to 1361m MD. Pump Rate - 1.8 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 21,000 kPa, Torque - 7,000 ft/lbs, Diff Pressure - 4,000 kPa. Reduce Pump Rate to 1.8m3/min and WOB to 10 kdaN for Bluesky and Cadomin formations.
5:45	7:30	1.75	20A	Accumulated EM survey & connection time.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6660 litres

Hazard ID : While rig servicing worker tied himself on to the man rider before equipment was stationary and locked out / stopped the operation and told him to make sure never to tie on to it while any equipment is in use in case something was to snag the cable.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill	65	3130

TOUR 2 — SIGNATURE OF DRILLER: Stefan Polny — START TIME: 8:00 — END TIME: 16:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1143.00
Hrs Run Today	6.25
Cumulative Hrs Run	18.25
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	62.63
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1361.00	1602.00	DRILL	70	15

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
37	Drill Pipe	Stands		1077.10
0	Drill Pipe	Singles		0.00

Kelly Down	-21.76
Total	1602.00
Weight of DC	28.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom	7000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	08:00	12:00
Density	1130	1140
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	Shakers	Shakers
Depth	1403.00	1536.00
PVT	39.94	44.87

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	92	23000	8.00
2	PARALLEL	127	92	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6500	@	93	@	1536.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:15	1406.97	0.48	53.94	DIRECTIONAL
09:00	1436.09	0.97	356.11	DIRECTIONAL
09:45	1465.22	0.31	64.49	DIRECTIONAL
10:45	1494.30	0.31	20.36	DIRECTIONAL
12:00	1523.41	0.79	134.18	DIRECTIONAL
13:15	1552.54	0.66	155.63	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1155	1130	1390
Mudcleaner Centrifuge #2	8.00	1155	1130	1390

MUD MATERIALS ADDED

Product	Amount	Type
Sawdust	155	sxs
Caustic Soda	1	sxs
Lime Hydrated	4	sxs
Brine	32	m3
Enercure	1	sxs
Limestone 0 grade	15	sxs
EnerClear F 1802	7	sxs
Enerscav C	1	bbl
Enerhib C	1	bbl

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	12:00	4.00	2	Drill vertical section of 200mm main hole from 1361m to 1536m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 70 RPM, Pump Pressure - 23,000 kPa, Torque - 7,000 ft/lbs, Diff Pressure - 4,000 kPa.
12:00	12:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned upper pipe rams 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Shaun Low & Dean Boehnert.
12:30	14:45	2.25	2	Drill vertical section of 200mm main hole from 1536m to 1602m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 70 RPM, Pump Pressure - 23,000 kPa, Torque - 7,000 ft/lbs, Diff Pressure - 4,000 kPa. (Begin 3 degree tangent at 1575m MD). Sliding parameters: WOB - 10 kdaN, Diff Pressure - 1,500 kPa.
14:45	16:00	1.25	20A	Accumulated time on reciprocating drill string, directional surveys & connections.

Remarks

Hazard ID : Examined plug board connections and ensured all connections are tight / Prior to washing nearby.

SAFETY

Safety Topic	MEHL	MACP
Confined space rescue drill.	71	3085

TOUR 3 — SIGNATURE OF DRILLER: Jordan Cawsey — START TIME: 16:00 — END TIME: 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1263.00
Hrs Run Today	5.75
Cumulative Hrs Run	24.00
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	52.63
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1602.00	1722.00	DRILL	70	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
41	Drill Pipe	Stands		1193.60
0	Drill Pipe	Singles		0.00

Kelly Down	-18.26
Total	1722.00
Weight of DC	28.00
Weight of String	74.00

HOLE CONDITION

Hole Drag	Up 1	Down	3
Torque At Bottom	8000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	17:30	19:30
Density	1150	1140
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10
Location Of Sample	Shakers	Trough
Depth	1620.00	1650.18
PVT	36.63	45.45

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	24500	8.00
2	PARALLEL	127	93	24500	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3060	@	60	@	1711.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	1591.35	1.14	201.24	DIRECTIONAL
16:45	1601.06	1.85	247.21	DIRECTIONAL
17:30	1610.76	2.59	260.66	DIRECTIONAL
18:15	1620.46	3.25	271.12	DIRECTIONAL
18:30	1630.17	3.16	273.93	DIRECTIONAL
19:15	1639.49	2.77	283.07	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1110	1790
Mudcleaner Centrifuge #2	8.00	1140	1110	1790

MUD MATERIALS ADDED

Product	Amount	Type
Limestone 0 grade	2	sxs
Limestone 325	2	sxs
Sawdust	20	sxs
EnerClear F 1802	2	sxs
Lime Hydrated	10	sxs
Caustic Soda	1	sxs
Defoamer Gemini	1	pail
Cal Chloride	10	sxs
Brine	8	m3

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:30	3.50	2	Drill vertical section of 200mm main hole from 1602m to 1652m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 70 RPM, Pump Pressure - 21,000 kPa, Torque - 7,000 ft/lbs, Diff Pressure - 2,500 kPa. Sliding parameters: WOB - 15 kdaN, Diff Pressure - 1,500 kPa.
19:30	20:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
20:00	22:15	2.25	2	Drill vertical section of 200mm main hole from 1652m to 1722m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 70 RPM, Pump Pressure - 22,000 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 4,000 kPa. Sliding parameters: WOB - 12 kdaN, Diff Pressure - 1,400 kPa.
22:15	24:00	1.75	20A	Accumulated EM survey & connection time.

Remarks

Hazard ID: Worker left 2 pipe wrenches on stairs creating a trip hazard / put them away to eliminate hazard.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	75	3175

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170116_1A	RMS 2016.6.14.37064	2017	01	16

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CADOC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		5.00					0.50													1.75	0.75					8.00
Tour 2		6.25					0.50													1.25						8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		17.00					1.00													4.75	1.25					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Op Fuel
6.6	2852

Rig	Boiler
23630	7100

Time	Temp
06:00	3

WEATHER

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
S	UP TO 50 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 0:00 END TIME: 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	902.00
Hrs Run Today	5.00
Cumulative Hrs Run	12.00
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	75.17
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
28	Drill Pipe	Stands		815.10
0	Drill Pipe	Singles		0.00

Kelly Down	-0.76
Total	1361.00
Weight of DC	28.00
Weight of String	64.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	06:15	
Density	1150	
Funnel Viscosity	30	
Fluid Loss	0	
pH	10.5	
Location Of Sample	Trough	
Depth	1332.21	
PVT	45.62	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	95	23000	8.00
2	PARALLEL	127	95	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	1850	@	60	@	1070.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1150	1120	1850
Mackinnon CentriSage #2	8.00	1150	1125	1850

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6660 litres

Hazard ID : While rig servicing worker tied himself on to the man rider before equipment was stationary and locked out / stopped the operation and told him to make sure never to tie on to it while any equipment is in use in case something were to snag the cable.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill	65	3130

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 8:00 END TIME: 16:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1143.00
Hrs Run Today	6.25
Cumulative Hrs Run	18.25
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	62.63
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
37	Drill Pipe	Stands		1077.10
0	Drill Pipe	Singles		0.00

Kelly Down	-21.76
Total	1602.00
Weight of DC	28.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom	7000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	15:00	
Density	1155	
Funnel Viscosity	30	
Fluid Loss		
pH	10.5	
Location Of Sample	Shakers	
Depth	1588.00	
PVT	29.04	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	92	23000	8.00
2	PARALLEL	127	92	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6500	@	93	@	1536.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:00	1562.24	0.66	139.81	DIRECTIONAL
14:30	1571.93	0.75	132.6	DIRECTIONAL
15:15	1581.63	0.57	171.89	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1155	1130	1390
Mackinnon CentriSage #2	8.00	1155	1130	1390

MUD MATERIALS ADDED

Product	Amount	Type
Chemclean Green	1	pail

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID : Examined plug board connections and ensured all connections are tight / Prior to washing nearby.

SAFETY

Safety Topic	MEHL	MACP
Confined space rescue drill.	71	3085

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 16:00 END TIME: 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	T507F
Serial No	7162363
Jets	7.1 7.1 7.9 7.9 / 7.1 7.1 7.9
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1263.00
Hrs Run Today	5.75
Cumulative Hrs Run	24.00
Entry Date	15-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	52.63
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
41	Drill Pipe	Stands		1193.60
0	Drill Pipe	Singles		0.00

Kelly Down	-18.26
Total	1722.00
Weight of DC	28.00
Weight of String	74.00

HOLE CONDITION

Hole Drag	Up 1	Down	3
Torque At Bottom	8000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	21:30	23:30
Density	1140	1140
Funnel Viscosity	30	30
Fluid Loss		
pH	11	11
Location Of Sample	Trough	Trough
Depth	1681.00	1713.80
PVT	45.5	55.31

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	24500	8.00
2	PARALLEL	127	93	24500	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3060	@	60	@	1711.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
20:45	1659.30	2.50	299.86	DIRECTIONAL
21:30	1669.01	2.81	298.36	DIRECTIONAL
22:00	1678.72	3.34	293.88	DIRECTIONAL
22:45	1688.44	3.52	294.06	DIRECTIONAL
23:15	1698.15	3.25	293.97	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1140	1110	1790
Mackinnon CentriSage #2	8.00	1140	1110	1790

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: Worker left 2 pipe wrenches on stairs creating a trip hazard / put them away to eliminate hazard.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	75	3175

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170117_1A	RMS 2016.6.14.37064	2017	01	17

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

CAODC

NOV

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drilg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		0.75			0.75	3.50	0.25													2.00	0.75					8.00
Tour 2		1.50	0.50			3.75	0.50													1.50	0.25					8.00
Tour 3		5.25																		2.25	0.50					8.00
TOTAL		7.50	0.50		0.75	7.25	0.75													5.75	1.50					24.00

FUEL @ 08:00 HRS

Kelly Bushing 6.6 | Op Fuel 3399 | Rig 32943 | Boiler 7100 | Time 06:00 | Temp 3

WEATHER

Current Conditions: PARTLY CLOUDY | Wind Direction: SW | Wind Strength: UP TO 39 KM/H | Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 0:00 END TIME: 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 51.76 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1722.00	1740.00	DRILL	70	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
41	Drill Pipe	Stands		1193.60
0	Drill Pipe	Singles		0.00

Kelly Down	-1.26
Total	1739.00
Weight of DC	28.00
Weight of String	74.00

HOLE CONDITION

Hole Drag Up 2 Down 3

Torque At Bottom	8000
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	02:00	04:00
Density	1140	1140
Funnel Viscosity	30	30
Fluid Loss	0	0
pH	11	11
Location Of Sample	Suction	Suction
Depth	1739.93	1739.93
PVT	42.66	34.69

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	93	24500	3.00
2	COMBINED	127	93	24500	3.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3280	@	60	@	1738.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
01:15	1727.26	3.16	284.56	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1110	1790
Mudcleaner Centrifuge #2	8.00	1140	1110	1790

MUD MATERIALS ADDED

Product	Amount	Type
Brine	9	m3
Sawdust	5	sxs
Enercure	1	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:45	0.75	2	Drill vertical section of 200mm main hole from 1722m to 1740m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 70 RPM, Pump Pressure - 24,500 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 4,000 kPa. Sliding parameters: WOB - 12 kdaN, Diff Pressure - 1,400 kPa.
0:45	1:15	0.50	20A	Accumulated EM survey & connection time.
1:15	1:30	0.25	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual kelly cock. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 16 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Shaun Low & Dan Meyer.
1:30	2:15	0.75	5D	Circulate and condition well prior to tripping out of hole. Pump 6.0m3 Groute Sweep and circulate bottoms up.
2:15	5:45	3.50	6B	Review JSA. Pump 3.0m3 of 1335kg/m3 density pill. Pill recovery of 0.51m3. Trip out of hole to change BHA from 1740m to 30m MD @ 30m/min. Flowchecks @ 1642m, 856m and 106m.
5:45	6:00	0.25	21D	Safety meeting with Dynamic Directional Drilling.
6:00	7:30	1.50	20D	Review JSA. Handle directional tools. Lay down 2 slick monels and Gap Sub. Break off 200mm Baker Hughes bit and lay down mud motor. Trip Record; Measured: 14.8m3, Calculated: 8.88m3, Difference: 5.92m3. Flow check @ 0m. Function Test Blind Rams out of hole, 6 seconds to close.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6588 litres

Hazard ID: Worker was greasing STV and another worker walked across the rig floor / Told him to get out from under the guy working overhead and we all had a chat about better communication.

SAFETY

Safety Topic	MEHL	MACP
MSDS	78	3175

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 8:00 END TIME: 16:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	33.00
Hrs Run Today	1.50
Cumulative Hrs Run	1.50
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 22.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1740.00	1773.00	DRILL	30	14

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
44	Drill Pipe	Stands		1280.97
0	Drill Pipe	Singles		0.00

Kelly Down	-8.07
Total	1773.00
Weight of DC	23.00
Weight of String	67.00

HOLE CONDITION

Hole Drag Up 2 Down 3

Torque At Bottom	8000
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	14:15	14:45
Density	1140	1155
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	Shakers	Shakers
Depth	1742.00	1753.00
PVT	37.91	36.57

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	24700	3.00
2	PARALLEL	127	90	24700	3.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6500	@	90	@	1730.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:30	1737.95	3.25	281.58	DIRECTIONAL
15:15	1747.65	4.13	274.98	DIRECTIONAL
15:45	1757.36	6.02	282.45	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	2.00	1160	1130	1790
Mudcleaner Centrifuge #2	2.00	1160	1130	1790

MUD MATERIALS ADDED

Product	Amount	Type
Enerhib C	1	bbl
Enerscav C	1	bbl
EnerClear F 1802	1	sxs
Brine	7	m3
Lime Hydrated	4	sxs
Caustic Soda	1	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	9:15	1.25	20D	Handle directional tools. Pickup new motor preset at 2.1 degree. Makeup 1 - stand of flex monels. Laydown 1 - flex monel. Break monels and makeup Gap sub with EM tool. Scribe motor. Makeup PDC bit #3. Power on EM tool. Pickup 1 - flex monel. Install corrosion ring. Makeup 1 - x/o, 2 - 101.6mm HWDP & drilling Jars.
9:15	10:15	1.00	6A	Trip in hole at 30m/min from 63m to 500m MD. Fill pipe at 500m intervals.
10:15	11:30	1.25	6E	Pickup and run in hole 48 singles of 101.6mm drill pipe at 30m/min from 500m to 965m MD.
11:30	13:00	1.50	6A	Continue to trip in hole at 30m/min from 965m to 1615m MD. Fill pipe at 500m
13:00	13:30	0.50	3A	Clean through bridge at 1615m MD. Wash to bottom from 1615m to 1740m MD. Pump Rate 1.9m3/min. Rotary 30 RPM.
13:30	14:00	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned upper pipe rams 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Shaun Low & Dean Boehnert.
14:00	15:30	1.50	2	Directional Drill Build section of 200mm main hole from 1740m to 1773m MD. Pump Rate - 1.9 m3/min, WOB - 14 kdaN, Rotary - 30 RPM, Pump Pressure - 26,500 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 4,000 kPa. Sliding parameters: WOB - 10 kdaN, Diff Pressure - 1,500 kPa.
15:30	15:45	0.25	20A	Accumulated time on reciprocating drill string, directional surveys & connections.

Remarks

Hazard ID : Tripping in the hole; hand gave directions to proceed with lifting stand out of the birdbath, but the elevators were not properly latched. / Stopped and showed him what to look for on the elevators before signalling to hoist.

SAFETY

Safety Topic	MEHL	MACP
Drivers awareness (Long change).	85	3175

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 16:00 END TIME: 24:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	128.00
Hrs Run Today	5.25
Cumulative Hrs Run	6.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 18.96 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1773.00	1868.00	DRILL	35	15

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
47	Drill Pipe	Stands		1368.26
0	Drill Pipe	Singles		0.00

Kelly Down	-0.36
Total	1868.00
Weight of DC	
Weight of String	72.00

HOLE CONDITION

Hole Drag Up 3 Down 4

Torque At Bottom	8000
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	16:45	18:30
Density	1155	1150
Funnel Viscosity	30	29
Fluid Loss	0	0
pH	10.5	10.5
Location Of Sample	Trough	Trough
Depth	1789.00	1819.89
PVT	49.87	45.62

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	92	26500	8.00
2	PARALLEL	127	92	26500	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	3500	@	60	@	1837.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	1767.07	7.29	283.51	DIRECTIONAL
16:45	1776.78	8.09	282.72	DIRECTIONAL
17:30	1786.48	8.92	269.36	DIRECTIONAL
17:30	1786.48	8.92	269.36	DIRECTIONAL
18:00	1796.19	11.73	269.18	DIRECTIONAL
18:45	1805.88	13.10	267.2	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1150	1130	1795
Mudcleaner Centrifuge #2	8.00	1150	1130	1795

MUD MATERIALS ADDED

Product	Amount	Type
Cal Nitrate	10	sxs
Sawdust	10	sxs
EnerFiber	1	sxs
EnerClear F 1802	1	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	2	Directional Drill Build section of 200mm main hole from 1773m to 1822m MD. Pump Rate - 1.9 m3/min, WOB - 14 kdaN, Rotary - 30 RPM, Pump Pressure - 26,500 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 4,000 kPa. Sliding parameters: WOB - 10 kdaN, Diff Pressure - 1,500 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	21:45	2.25	2	Directional Drill Build section of 200mm main hole from 1822m to 1868m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 35 RPM, Pump Pressure - 26,500 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 4,000 kPa. Sliding parameters: WOB - 13 kdaN, Diff Pressure - 1,200 kPa.
21:45	24:00	2.25	20A	Accumulated EM survey & connection time.

Remarks

Hazard ID: New worker to the rig was unfamiliar with the way we make our connections / had him stand back and watch prior to being involved in the task.

****Performed weekly service and inspection on DSGD-375 Drawworks****

SAFETY

Safety Topic	MEHL	MACP
IRS	82	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170117_1A	RMS 2016.6.14.37064	2017	01	17

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CADDC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	TOTAL
	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	
HOURS Tour 1		0.75			0.75	3.50	0.25													2.00	0.75					8.00
Tour 2		1.50	0.50			3.75	0.50													1.50	0.25					8.00
Tour 3		5.25																		2.25	0.50					8.00
TOTAL		7.50	0.50		0.75	7.25	0.75													5.75	1.50					24.00

Kelly Bushing 6.6 | Up Fuel 3399

FUEL @ 08:00 HRS

Rig 32943 | Boiler 7100 | Time 06:00 | Temp 3

WEATHER

Current Conditions: PARTLY CLOUDY
Wind Direction: SW | Wind Strength: UP TO 39 KM/H
Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 0:00 | END TIME 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 / 7.94 / 7.94 / 7.94 / 7.94 / 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 51.76 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650 Motor	164	1	8.47
1	NM Slick	155	71	8.90
1	Gap Sub	161	79	1.51
1	NM Slick	155	71	8.83
1	x/o 4.5XH - 4"H90	165	57	0.46
6	6 1/2" Drill Collar	167	59	56.54
1	X/O SUB	165	57	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
41	Drill Pipe	Stands		1193.60
0	Drill Pipe	Singles		0.00

Kelly Down	-1.26
Total	1739.00
Weight of DC	28.00
Weight of String	74.00

HOLE CONDITION

Hole Drag Up 2 Down 3
Torque At Bottom 8000
Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	06:00
Density	1140
Funnel Viscosity	30
Fluid Loss	0
pH	11
Location Of Sample	Suction
Depth	1739.93
PVT	27.82

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	93	24500	3.00
2	COMBINED	127	93	24500	3.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3280	@	60	@	1738.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1110	1790
Mudcleaner Centrifuge #2	8.00	1140	1110	1790

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events. Reviewed JSA with Dynamic.

Remarks
Boiler #2 Fuel @ 05:00 Hrs = 6588 litres
Hazard ID: Worker was greasing STV and another worker walked across the rig floor / Told him to get out from under the guy working overhead and we all had a chat about better communication.

SAFETY

Safety Topic	MEHL	MACP
MSDS	78	3175

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME 8:00 | END TIME 16:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 / 7.94 / 7.94 / 7.94 / 7.94 / 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	33.00
Hrs Run Today	1.50
Cumulative Hrs Run	1.50
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 22.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
44	Drill Pipe	Stands		1280.97
0	Drill Pipe	Singles		0.00

Kelly Down	-8.07
Total	1773.00
Weight of DC	23.00
Weight of String	67.00

HOLE CONDITION

Hole Drag Up 2 Down 3
Torque At Bottom 8000
Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	15:45
Density	1155
Funnel Viscosity	30
Fluid Loss	
pH	10.5
Location Of Sample	Trough
Depth	1771.83
PVT	32.32

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	24700	3.00
2	PARALLEL	127	90	24700	3.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6500	@	90	@	1730.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	2.00	1160	1130	1790
Mudcleaner Centrifuge #2	2.00	1160	1130	1790

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
15:45	16:00	0.25	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks
Hazard ID : Tripping in the hole; hand gave directions to proceed with lifting stand out of the birdbath, but the elevators were not properly latched. / Stopped and showed him what to look for on the elevators before signalling to hoist.

SAFETY

Safety Topic	MEHL	MACP
Drivers awareness (Long change).	85	3175

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 16:00 | END TIME 24:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 / 7.94 / 7.94 / 7.94 / 7.94 / 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	128.00
Hrs Run Today	5.25
Cumulative Hrs Run	6.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 18.96 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
47	Drill Pipe	Stands		1368.26
0	Drill Pipe	Singles		0.00

Kelly Down	-0.36
Total	1868.00
Weight of DC	
Weight of String	72.00

HOLE CONDITION

Hole Drag Up 3 Down 4
Torque At Bottom 8000
Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	21:00	23:45
Density	1145	1135
Funnel Viscosity	30	29
Fluid Loss		
pH	10.5	10.5
Location Of Sample	trough	trough
Depth	1839.00	1864.00
PVT	37.85	30.18

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	92	26500	8.00
2	PARALLEL	127	92	26500	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	3500	@	60	@	1837.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
20:00	1815.59	14.99	269.45	DIRECTIONAL
21:00	1825.30	17.18	275.07	DIRECTIONAL
22:00	1834.97	20.52	281.4	DIRECTIONAL
23:30	1844.66	23.60	285.62	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1150	1130	1795
Mudcleaner Centrifuge #2	8.00	1150	1130	1795

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID: New worker to the rig was unfamiliar with the way we make our connections / had him stand back and watch prior to being involved in the task.
****Performed weekly service and inspection on DSGD-375 Drawworks****

SAFETY

Safety Topic	MEHL	MACP
IRS	82	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170118_1A	RMS 2016.6.14.37064	2017	01	18

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		5.25					0.50													1.50	0.75					8.00
Tour 2		2.75			1.50															3.75						8.00
Tour 3		6.50					0.50													0.50	0.50					8.00
TOTAL		14.50			1.50		1.00													5.75	1.25					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Op Fuel
6.6	2468

WEATHER

Rig	Boiler
30580	7100
Time	Temp
06:00	1
Current Conditions	
DRIZZLE / MIST	
Wind Direction	Wind Strength
SE	UP TO 19 KM/H
Road Condition	
POOR	

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey — START TIME: 0:00 — END TIME: 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 / 7.94 / 7.94 / 7.94 / 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	196.00
Hrs Run Today	5.25
Cumulative Hrs Run	12.00
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	16.33
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1868.00	1936.00	DRILL	35	15

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
49	Drill Pipe	Stands		1426.51
1	Drill Pipe	Singles		9.72

Kelly Down	-0.33
Total	1936.00
Weight of DC	28.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 4	Down	6
Torque At Bottom	8000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	01:45	04:45
Density	1130	1140
Funnel Viscosity	29	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	trough	trough
Depth	1879.00	1897.00
PVT	27	29.74

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	92	25500	8.00
2	COMBINED	127	92	25500	8.00

Remarks: Invert transfered into tanks#3 & #4.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3575	@	60	@	1866.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:45	1854.36	25.84	286.32	DIRECTIONAL
01:45	1864.08	28.83	284.04	DIRECTIONAL
02:45	1873.78	31.86	282.81	DIRECTIONAL
04:30	1883.49	34.54	282.45	DIRECTIONAL
05:30	1893.19	36.83	283.07	DIRECTIONAL
06:15	1902.90	38.06	282.45	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1130	1125	1765
Mudcleaner Centrifuge #2	8.00	1130	1125	1765

MUD MATERIALS ADDED

Product	Amount	Type
Brine	7	m3
EnerFiber	1	sxs
Sawdust	9	sxs
EZ Gel CES	1	sxs
EnerBAR	15	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual kelly cock. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 16 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Performed a brake capacity test, ok. Visual inspection of BOP & valves completed by Shaun Low & Dan Meyer.
0:30	0:45	0.25	21A	BOP and Man Down Drill (while Drilling). Crew members simulated a hard shut in, well secure in 49 seconds. Crew members evacuated rig to the upwind muster station and practiced SCBA pack up procedures and rescue routes. Discussed stick diagram, kick warning signs, kick causes, ERP, STARS # 3187 and Emergency Medical Transport Plan. Function tested flare igniter and Swaco electric choke, ok.
0:45	6:00	5.25	2	Directional Drill Build section of 200mm main hole from 1868m to 1936m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 35 RPM, Pump Pressure - 25,500 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 2,300 kPa. Sliding parameters: WOB - 13 kdaN, Diff Pressure - 1,200 kPa.
6:00	7:30	1.50	20A	Accumulated EM survey & connection time.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6480 litres

Hazard ID: Workers were bringing centralizers to rig floor on the pipecat trough and 2 of the guys had their backs turned to the trough / told them to stop talking and pay attention to the task being performed.

SAFETY

Safety Topic	MEHL	MACP
Man Down Drill	85	3220

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny — START TIME: 8:00 — END TIME: 16:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 / 7.94 / 7.94 / 7.94 / 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	227.00
Hrs Run Today	2.75
Cumulative Hrs Run	14.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	15.39
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1936.00	1967.00	DRILL	35	15

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
51	Drill Pipe	Stands		1484.74
0	Drill Pipe	Singles		0.00

Kelly Down	-17.84
Total	1967.00
Weight of DC	28.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 4	Down	6
Torque At Bottom	10000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	09:00	11:00
Density	1140	1140
Funnel Viscosity	29	29
Fluid Loss	0	0
pH	10.5	10.5
Location Of Sample	Trough	Trough
Depth	1941.12	1958.26
PVT	20.01	18.37

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	23700	8.00
2	PARALLEL	127	91	23700	8.00

Remarks: Displaced well from water based brine to oil based invert system @ 13:00hrs

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8500	@	83	@	1963.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:30	1922.33	41.00	279.82	DIRECTIONAL
09:15	1932.04	43.15	281.49	DIRECTIONAL
10:30	1941.74	44.65	282.28	DIRECTIONAL
15:45	1951.42	45.66	281.75	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	5.00	1140	1110	1790
Mudcleaner Centrifuge #2	5.00	1140	1110	1790

MUD MATERIALS ADDED

Product	Amount	Type
Enermul P-100	1	bbl
Wetting Agent	2	bbl
Lime Hydrated	32	sxs
Cal Chloride	10	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	10:00	2.00	2	Directional Drill Build section of 200mm main hole from 1936m to 1963m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 35 RPM, Pump Pressure - 25,500 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 4,200 kPa. Sliding parameters: WOB - 13 kdaN, Diff Pressure - 1,800 kPa.
10:00	13:15	3.25	20A	Accumulated time on directional surveys, downlinking to EM tool (poor signal quality), reciprocating drill string & connections.
13:15	14:45	1.50	5B	Displace wellbore from 1155kg/m3 CaCl Brine to 1160kg/m3 Invert. Total displacement of 62.79m3. Clean catch tank with Vac truck.
14:45	15:30	0.75	2	Directional Drill Build section of 200mm main hole from 1963m to 1967m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 35 RPM, Pump Pressure - 25,500 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 4,200 kPa. Sliding parameters: WOB - 13 kdaN, Diff Pressure - 1,800 kPa.
15:30	16:00	0.50	20A	Accumulated time on directional surveys, reciprocating drill string & connections.

Remarks

Hazard ID: Prior to well fluid displacement noted that my 2-way radio battery was low. / Replaced it and checked with other men involved.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment		

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey — START TIME: 16:00 — END TIME: 24:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 / 7.94 / 7.94 / 7.94 / 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	323.00
Hrs Run Today	6.00
Cumulative Hrs Run	20.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	15.57
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1967.00	2063.00	DRILL	35	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
54	Drill Pipe	Stands		1572.02
0	Drill Pipe	Singles		0.00

Kelly Down	-9.12
Total	2063.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 1	Down	4
Torque At Bottom	8		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	17:00	18:30
Density	1140	1150
Funnel Viscosity	65	66
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	1977.00	2008.00
PVT	65.45	63.75

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	33000	8.00
2	PARALLEL	127	93	33000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9700	@	92	@	1984.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
17:15	1961.13	47.77	280.7	DIRECTIONAL
18:45	1970.84	52.03	281.22	DIRECTIONAL
18:45	1980.53	53.53	282.1	DIRECTIONAL
19:30	1990.22	53.04	281.58	DIRECTIONAL
20:15	1991.91	55.06	279.91	DIRECTIONAL
21:00	2009.61	58.23	280.87	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	18:00	2.00	2	Directional Drill Build section of 200mm main hole from 1967m to 1984m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 35 RPM, Pump Pressure - 32,800 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 2,700 kPa. Sliding parameters: WOB - 17 kdaN, Diff Pressure - 1,600 kPa.
18:00	18:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned upper pipe rams, 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Shaun Low & Dean Boehnert.
18:30	19:00	0.50	2	Directional Drill Build section of 200mm main hole from 1984m to 2004m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 35 RPM, Pump Pressure - 32,800 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 2,700 kPa. Sliding parameters: WOB - 17 kdaN, Diff Pressure - 1,600 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	23:30	4.00	2	Directional Drill Build section of 200mm main hole from 2004m to 2063m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 33,000 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 3,500 kPa. Sliding parameters: WOB - 15 kdaN, Diff Pressure - 1,600 kPa.
23:30	24:00	0.50	20A	Accumulated EM survey & connection time.

Remarks

Hazard ID: While changing a head on pump #1 the guys were running to get all of their tools ready / I told them to slow down because we dont need someone tripping or falling and hurting themselves just to save a few seconds.

SAFETY

Safety Topic	MEHL	MACP
IRS	76	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170118_1A	RMS 2016.6.14.37064	2017	01	18

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	TOTAL
HOURS Tour 1		5.25					0.50													1.50	0.75					8.00
Tour 2		2.75			1.50															3.75						8.00
Tour 3		6.50					0.50													0.50	0.50					8.00
TOTAL		14.50			1.50		1.00													5.75	1.25					24.00

Kelly Bushing 6.6 | Op Fuel 2468

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
30580	7100
Time	Temp
06:00	1
Current Conditions	
DRIZZLE / MIST	
Wind Direction	Wind Strength
SE	UP TO 19 KM/H
Road Condition	
POOR	

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	196.00
Hrs Run Today	5.25
Cumulative Hrs Run	12.00
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	16.33
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
49	Drill Pipe	Stands		1426.51
1	Drill Pipe	Singles		9.72

Kelly Down	-0.33
Total	1936.00
Weight of DC	28.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 4	Down	6
Torque At Bottom	8000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	06:15
Density	1140
Funnel Viscosity	29
Fluid Loss	
pH	10.5
Location Of Sample	trough
Depth	1917.00
PVT	27.8

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	92	25500	8.00
2	COMBINED	127	92	25500	8.00

Remarks: **Invert transfered into tanks#3 & #4.**

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3575	@	60	@	1866.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1130	1125	1765
Mudcleaner Centrifuge #2	8.00	1130	1125	1765

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks:
Boiler #2 Fuel @ 05:00 Hrs = 6480 litres
Hazard ID: Workers were bringing centralizers to rig floor on the pipecat trough and 2 of the guys had their backs turned to the trough / told them to stop talking and pay attention to the task being performed.

SAFETY

Safety Topic	MEHL	MACP
Man Down Drill	85	3220

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny | START TIME: 8:00 | END TIME: 16:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	227.00
Hrs Run Today	2.75
Cumulative Hrs Run	14.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	15.39
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
51	Drill Pipe	Stands		1484.74
0	Drill Pipe	Singles		0.00

Kelly Down	-17.84
Total	1967.00
Weight of DC	28.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 4	Down	6
Torque At Bottom	10000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	15:15
Density	1160
Funnel Viscosity	88
Fluid Loss	0
pH	
Location Of Sample	Trough
Depth	1966.08
PVT	65.5

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	23700	8.00
2	PARALLEL	127	91	23700	8.00

Remarks: **Displaced well from water based brine to oil based invert system @ 13:00hrs**

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8500	@	83	@	1963.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	5.00	1140	1110	1790
Mudcleaner Centrifuge #2	5.00	1140	1110	1790

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks:
Hazard ID: Prior to well fluid displacement noted that my 2-way radio battery was low. / Replaced it and checked with other men involved.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment		

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	1740.00
Total Drilled (m)	323.00
Hrs Run Today	6.00
Cumulative Hrs Run	20.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	15.57
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
54	Drill Pipe	Stands		1572.02
0	Drill Pipe	Singles		0.00

Kelly Down	-9.12
Total	2063.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 1	Down	4
Torque At Bottom	8		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	23:00
Density	1150
Funnel Viscosity	66
Fluid Loss	0
pH	
Location Of Sample	trough
Depth	2053.00
PVT	61.31

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	33000	8.00
2	PARALLEL	127	93	33000	8.00

Remarks:

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9700	@	92	@	1984.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
21:30	2019.32	60.29	281.05	DIRECTIONAL
22:15	2029.02	61.92	281.66	DIRECTIONAL
23:00	2038.72	63.85	281.14	DIRECTIONAL
23:45	2048.42	65.48	280.87	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks:
Hazard ID: While changing a head on pump #1 the guys were running to get all of their tools ready / I told them to slow down because we dont need someone tripping or falling and hurting themselves just to save a few seconds.

SAFETY

Safety Topic	MEHL	MACP
IRS	76	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170119_1A	RMS 2016.6.14.37064	2017	01	19

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CADOC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drilg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1		3.00			0.75	2.00	0.50													1.25	0.50					8.00
Tour 2						4.00	0.50		0.75											2.50	0.25					8.00
Tour 3		2.75	0.25			2.75														1.75	0.50					8.00
TOTAL		5.75	0.25		0.75	8.75	1.00		0.75											5.50	1.25					24.00

Kelly Bushing 6.6 | Op Fuel 3861

FUEL @ 08:00 HRS

Rig 26827 | Boiler 7100

WEATHER

Time 06:00 | Temp -13

Current Conditions: PARTLY CLOUDY

Wind Direction: S | Wind Strength: UP TO 19 KM/H

Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94
Depth Out (m)	2111.00
Depth In (m)	1740.00
Total Drilled (m)	371.00
Hrs Run Today	3.00
Cumulative Hrs Run	23.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI	2	Gage	0
TO	3	ODC	WT
MDC	CT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	15.62
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB
2063.00	2111.00	DRILL	35	17

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
56	Drill Pipe	Stands		1630.25
0	Drill Pipe	Singles		0.00

Kelly Down	-19.35
Total	2111.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	6
Torque At Bottom			9000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	01:45	04:15
Density	1150	1150
Funnel Viscosity	63	61
Fluid Loss		
pH		
Location Of Sample	trough	trough
Depth	2074.00	2104.00
PVT	58.59	57.87

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	33200	6.00
2	PARALLEL	127	93	33200	6.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4850	@	60	@	2071.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
01:15	2058.12	67.06	281.93	DIRECTIONAL
02:15	2067.83	67.17	280.87	DIRECTIONAL
03:00	2077.53	70.93	282.37	DIRECTIONAL
03:45	2087.24	72.38	281.05	DIRECTIONAL
04:15	2096.94	74.66	280.52	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBAR	42	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic l-BOP & functioned lower manual kelly cock. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 16 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Performed a brake capacity test, ok. Visual inspection of BOP & valves completed by Shaun Low & Dan Meyer.
0:30	3:30	3.00	2	Directional Drill Build section of 200mm main hole from 2063m to 2111m MD. Pump Rate - 1.9 m3/min, WOB - 17 kdaN, Rotary - 35 RPM, Pump Pressure - 33,200 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 2,500 kPa. Sliding parameters: WOB - 19 kdaN, Diff Pressure - 1,600 kPa.
3:30	4:45	1.25	20A	Accumulated EM survey & connection time.
4:45	5:30	0.75	5D	Circulate and condition well prior to tripping out of hole.
5:30	7:30	2.00	6B	Review JSA. Pump 2.5m3 of 1450kg/m3 weighted slug, pill recovery = 0.65m3. Trip out of hole @ 30m/min from 2110m to 1488m MD. Flowchecks @ 2099m and 1981m.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6372 litres

Hazard ID: Worker was not using 3 point contact while walking down the stairs / stopped him and reminded him to use 3 point contact to prevent an unneccesary fall.

SAFETY

Safety Topic	MEHL	MACP
Trip Pipe	85	3130

TOUR 2 | SIGNATURE OF DRILLER: Stefan Polny | START TIME: 8:00 | END TIME: 16:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
3	Drill Pipe	Stands		87.32
0	Drill Pipe	Singles		0.00

Kelly Down	-20.61
Total	2111.00
Weight of DC	23.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	09:15	12:15
Density	1150	1150
Funnel Viscosity	60	60
Fluid Loss	0	0
pH		
Location Of Sample	Suction	Suction
Depth	2111.43	2111.43
PVT	46.61	43.67

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	10:30	2.50	6B	Continue to trip out of hole @ 30m/min from 1488m to 39m MD. Flow Check @ 1051m, 526m.
10:30	10:45	0.25	21D	Safety meeting & JSA review with Dynamic.
10:45	13:15	2.50	20D	Handle directional tools. Break flex monels. Remove Gap sub & EM tool. Rack 1 - stand of flex monels in the derrick. Drain motor & break 200mm PDC bit #3. Laydown motor. Out of hole - Function HCR 2 seconds to open & blind rams 4 seconds to close. Trip record calculated 9.18m3, measured 10.43m3, difference 1.25m3. Flow Check @ 0m. Pickup new motor & Make up 159mm PDC bit #4. Break flex monels, install Gap sub & EM tool. Scribe motor. Power on EM tool. Makeup Monels, x/o, slide reamer & Jars with 6 - 101.6mm DP.
13:15	14:15	1.00	6A	Trip in hole @ 30m/min from 96m to 454m MD. Flow Check @ 454m.
14:15	15:00	0.75	9A	Reviewed JSA. Slip & cut 23.1m of drilling line @ 12089.1mJ. Deadman anchor bolts retorqued to 360 ft/lbs. Performed full block height calibration. Brake capacity test, ok. Greased Crown & Travelling Blocks.
15:00	15:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic l-BOP & functioned lower manual l-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned lower pipe rams 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Shaun Low & Dean Boehnert.
15:30	16:00	0.50	6A	Continue to trip in hole @ 30m/min from 454m to 703m MD.

Remarks

Hazard ID: During slip & cut operations, hand stopped himself before entring the drum. / He was wearing a fall arrest belt. Asked another hand to enter drum area.

SAFETY

Safety Topic	MEHL	MACP
10 Golden rules.	45	3130

TOUR 3 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	224.00
Hrs Run Today	2.75
Cumulative Hrs Run	2.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	81.45
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2111.00	2335.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
10	Drill Pipe	Stands		291.08
0	Drill Pipe	Singles		0.00

Kelly Down	-0.37
Total	2335.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	6
Torque At Bottom			11000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	19:30	22:00
Density	1160	1165
Funnel Viscosity	84	77
Fluid Loss		
pH		
Location Of Sample	trough	trough
Depth	2121.00	2221.00
PVT	50	51.87

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	33700	8.00
2	SINGLE	127	1	33700	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7500	@	60	@	2085.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
20:15	2107.91	77.30	276.48	DIRECTIONAL
20:15	2117.61	81.04	277.36	DIRECTIONAL
20:15	2127.32	85.65	279.64	DIRECTIONAL
20:45	2137.03	87.28	281.22	DIRECTIONAL
21:00	2146.73	88.15	283.33	DIRECTIONAL
21:15	2156.45	90.35	285.88	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	5.00	1160	1070	2080
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBAR	27	SXS
Lime Hydrated	25	SXS
EnerTone D	1	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	18:45	2.75	6A	Continue to trip in hole @ 30m/min from 703m to 2085m MD. Fill pipe at 600m intervals. Flow Check @ 1275m.
18:45	19:00	0.25	3A	Wash 26m to bottom from 2085m to 2111m MD. Pump rate 1.27m3/min. Rotary 60 RPM.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	22:15	2.75	2	Directional Drill Lateral section of 159mm main hole from 2111m to 2335m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 33,700 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 8,200 kPa. Sliding parameters: WOB - 10 kdaN, Diff Pressure - 3,200 kPa.
22:15	24:00	1.75	20A	Accumulated EM Survey & Connection time.

Remarks

Hazard ID: Worker left his respirator laying on the grating of the mud tank / told him to keep it clean and put away in the box when not in use to prevent any invert exposure or damage to the mask.

SAFETY

Safety Topic	MEHL	MACP
Invert Exposure	87	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170119_1A	RMS 2016.6.14.37064	2017	01	19

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CADOC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		3.00			0.75	2.00	0.50													1.25	0.50					8.00
Tour 2						4.00	0.50		0.75											2.50	0.25					8.00
Tour 3		2.75	0.25			2.75														1.75	0.50					8.00
TOTAL		5.75	0.25		0.75	8.75	1.00		0.75											5.50	1.25					24.00

WEATHER

Kelly Bushing	Op Fuel
6.6	3861

FUEL @ 08:00 HRS

Rig	Boiler
26827	7100
Time	Temp
06:00	-13

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
S	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 0:00 END TIME: 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	2111.00
Depth In (m)	1740.00
Total Drilled (m)	371.00
Hrs Run Today	3.00
Cumulative Hrs Run	23.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

TI	2	Gage	0
TO	3	ODC	WT
MDC	CT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	15.62
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
56	Drill Pipe	Stands		1630.25
0	Drill Pipe	Singles		0.00

Kelly Down	-19.35
Total	2111.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	6
Torque At Bottom			9000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	06:15
Density	1150
Funnel Viscosity	60
Fluid Loss	
pH	
Location Of Sample	suction
Depth	2111.00
PVT	50.54

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	33200	6.00
2	PARALLEL	127	93	33200	6.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4850	@	60	@	2071.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner CentriSurge #1	0.00	0	0	0
Mudcleaner CentriSurge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6372 litres

Hazard ID: Worker was not using 3 point contact while walking down the stairs / stopped him and reminded him to use 3 point contact to prevent an unneccesary fall.

SAFETY

Safety Topic	MEHL	MACP
Trip Pipe	85	3130

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 8:00 END TIME: 16:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
3	Drill Pipe	Stands		87.32
0	Drill Pipe	Singles		0.00

Kelly Down	-20.61
Total	2111.00
Weight of DC	23.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	15:15
Density	1150
Funnel Viscosity	60
Fluid Loss	0
pH	
Location Of Sample	Suction
Depth	2111.43
PVT	48.35

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner CentriSurge #1	0.00	0	0	0
Mudcleaner CentriSurge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
				Fill pipe at 600m intervals.

Remarks

Hazard ID: During slip & cut operations, hand stopped himself before entring the drum. / He was wearing a fall arrest belt. Asked another hand to enter drum area.

SAFETY

Safety Topic	MEHL	MACP
10 Golden rules.	45	3130

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 16:00 END TIME: 24:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	224.00
Hrs Run Today	2.75
Cumulative Hrs Run	2.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	81.45
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
10	Drill Pipe	Stands		291.08
0	Drill Pipe	Singles		0.00

Kelly Down	-0.37
Total	2335.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	6
Torque At Bottom			11000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	23:45
Density	1170
Funnel Viscosity	72
Fluid Loss	
pH	
Location Of Sample	trough
Depth	2319.00
PVT	63

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	33700	8.00
2	SINGLE	127	1	33700	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7500	@	60	@	2085.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
21:30	2166.15	90.40	286.15	DIRECTIONAL
21:45	2175.84	88.90	287.64	DIRECTIONAL
22:00	2185.54	88.51	288.52	DIRECTIONAL
22:00	2204.94	88.51	288.52	DIRECTIONAL
22:30	2234.08	91.36	286.5	DIRECTIONAL
23:00	2263.15	89.56	286.23	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner CentriSurge #1	5.00	1160	1070	2080
Mudcleaner CentriSurge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: Worker left his respirator laying on the grating of the mud tank / told him to keep it clean and put away in the box when not in use to prevent any invert exposure or damage to the mask.

SAFETY

Safety Topic	MEHL	MACP
Invert Exposure	87	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170119_1A	RMS 2016.6.14.37064	2017	01	19

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1		3.00			0.75	2.00	0.50													1.25	0.50					8.00
Tour 2						4.00	0.50		0.75											2.50	0.25					8.00
Tour 3		2.75	0.25			2.75														1.75	0.50					8.00
TOTAL		5.75	0.25		0.75	8.75	1.00		0.75											5.50	1.25					24.00

Kelly Bushing 6.6 | Op Fuel 3861

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
26827	7100
Time	Temp
06:00	-13

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
S	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 0:00 | END TIME 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12860042
Jets	7.94 / 7.94 / 7.94 / 7.94 / 7.94
Depth Out (m)	2111.00
Depth In (m)	1740.00
Total Drilled (m)	371.00
Hrs Run Today	3.00
Cumulative Hrs Run	23.75
Entry Date	17-Jan-2017

CUTTING STRUCTURE

		Gage	0
TI	2		
TO	3	ODC	WT
MDC	CT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	15.62
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.26
1	650ML Motor	165	1	8.76
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.51
2	NM Flex	164	72	18.54
1	x/o 4.5XHB-CDS40	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
56	Drill Pipe	Stands		1630.25
0	Drill Pipe	Singles		0.00

Kelly Down	-19.35
Total	2111.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	6
Torque At Bottom			9000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time			
Density			
Funnel Viscosity			
Fluid Loss			
pH			
Location Of Sample			
Depth			
PVT			

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	93	33200	6.00
2	PARALLEL	127	93	33200	6.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4850	@	60	@	2071.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6372 litres

Hazard ID: Worker was not using 3 point contact while walking down the stairs / stopped him and reminded him to use 3 point contact to prevent an unneccesary fall.

SAFETY

Safety Topic	MEHL	MACP
Trip Pipe	85	3130

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME 8:00 | END TIME 16:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 / 9.53 / 9.53 / 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	19-Jan-2017

CUTTING STRUCTURE

		Gage	
TI			
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
3	Drill Pipe	Stands		87.32
0	Drill Pipe	Singles		0.00

Kelly Down	-20.61
Total	2111.00
Weight of DC	23.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time			
Density			
Funnel Viscosity			
Fluid Loss			
pH			
Location Of Sample			
Depth			
PVT			

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: During slip & cut operations, hand stopped himself before entring the drum. / He was wearing a fall arrest belt. Asked another hand to enter drum area.

SAFETY

Safety Topic	MEHL	MACP
10 Golden rules.	45	3130

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 16:00 | END TIME 24:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 / 9.53 / 9.53 / 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	224.00
Hrs Run Today	2.75
Cumulative Hrs Run	2.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

		Gage	
TI			
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	81.45
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
10	Drill Pipe	Stands		291.08
0	Drill Pipe	Singles		0.00

Kelly Down	-0.37
Total	2335.00
Weight of DC	
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	6
Torque At Bottom			11000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time			
Density			
Funnel Viscosity			
Fluid Loss			
pH			
Location Of Sample			
Depth			
PVT			

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	33700	8.00
2	SINGLE	127	1	33700	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7500	@	60	@	2085.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
23:30	2292.26	90.31	287.46	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	5.00	1160	1070	2080
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: Worker left his respirator laying on the grating of the mud tank / told him to keep it clean and put away in the box when not in use to prevent any invert exposure or damage to the mask.

SAFETY

Safety Topic	MEHL	MACP
Invert Exposure	87	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170120_1B	RMS 2016.6.14.37064	2017	01	20

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CADOC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1		5.00					0.50													2.00	0.50					8.00
Tour 2		3.00					0.50													4.50						8.00
Tour 3		3.25			1.00															3.25	0.50					8.00
TOTAL		11.25			1.00		1.00													9.75	1.00					24.00

Kelly Bushing 6.6 | Up Fuel 3336

FUEL @ 08:00 HRS

Rig 23491 | Boiler 7100

WEATHER

Time 06:00 | Temp -1

Current Conditions: PARTLY CLOUDY

Wind Direction: SW | Wind Strength: UP TO 19 KM/H

Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME 0:00 | END TIME 8:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	660.00
Hrs Run Today	5.00
Cumulative Hrs Run	7.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 85.16 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
2335.00	2771.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
25	Drill Pipe Stands			727.59
0	Drill Pipe Singles			0.00

Kelly Down -0.88 | Total 2771.00 | Weight of DC 19.00 | Weight of String 70.00

HOLE CONDITION

Hole Drag Up 3 Down 8 | Torque At Bottom 11500 | Fill On Bottom 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	01:00	03:00
Density	1170	1160
Funnel Viscosity	74	72
Fluid Loss		
pH		
Location Of Sample	trough	trough
Depth	2365.00	2474.00
PVT	60	56.7

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	33900	8.00
2	SINGLE	127	1	33900	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8450	@	60	@	2333.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:15	2234.08	91.36	286.5	DIRECTIONAL
00:45	2263.15	89.56	286.23	DIRECTIONAL
01:00	2292.26	90.31	287.46	DIRECTIONAL
01:00	2321.37	88.37	286.59	DIRECTIONAL
01:15	2350.48	87.63	286.32	DIRECTIONAL
01:45	2379.59	89.34	284.04	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mud/Water Centrifuge #1	8.00	1170	1120	1945
Mud/Water Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerTone D	1	sxs
EnerBAR	27	sxs
Lime Hydrated	25	sxs
Base Oil	2	m3
Invert	6	m3

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual kelly cock. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 16 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Added hydraulic oil to TDS-11SA Top Drive. Visual inspection of BOP & valves completed by Murray Allan & Dan Meyer.
0:30	5:30	5.00	2	Directional Drill Lateral section of 159mm main hole from 2335m to 2771m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 33,900 kPa, Torque - 11,500 ft/lbs, Diff Pressure - 8,400 kPa. Sliding parameters: WOB - 12 kdaN, Diff Pressure - 2,800 kPa.
5:30	7:30	2.00	20A	Accumulated EM Survey & Connection time.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6372 litres

Hazard ID: Worker was running across location / stopped him and told him to slow down and watch his footing on the ice.

SAFETY

Safety Topic	MEHL	MACP
MSDS	85	3085

TOUR 2 | SIGNATURE OF DRILLER: Stefan Polny | START TIME 8:00 | END TIME 16:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1029.00
Hrs Run Today	3.00
Cumulative Hrs Run	10.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 95.72 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
2771.00	3140.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
38	Drill Pipe Stands			1106.75
0	Drill Pipe Singles			0.00

Kelly Down -11.04 | Total 3140.00 | Weight of DC 23.00 | Weight of String 69.00

HOLE CONDITION

Hole Drag Up 8 Down 13 | Torque At Bottom 12500 | Fill On Bottom 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	08:00	10:45
Density	1160	1165
Funnel Viscosity	68	69
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	2743.45	2906.95
PVT	57.35	51.3

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	36000	8.00
2	SINGLE	127	1	36000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9000	@	60	@	2975.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:00	2728.80	89.30	283.86	DIRECTIONAL
08:30	2757.88	90.66	285	DIRECTIONAL
08:45	2786.98	90.44	284.65	DIRECTIONAL
09:15	2816.14	91.19	285.71	DIRECTIONAL
09:45	2845.30	88.68	285.97	DIRECTIONAL
10:30	2874.53	90.83	285.97	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mud/Water Centrifuge #1	8.00	1160	1110	1940
Mud/Water Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Wetting Agent	1	bbl
Chemclean Green	1	pail
Cal Nitrate	1	sxs
EnerBar	86	sxs
Lime Hydrated	15	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	10:00	2.00	2	Directional Drill Lateral section of 159mm main hole from 2771m to 2976m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 35,000 kPa, Torque - 12,000 ft/lbs, Diff Pressure - 8,900 kPa. Sliding parameters: WOB - 16 kdaN, Diff Pressure - 2,800 kPa.
10:00	10:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned upper & lower pipe rams 4 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boehnert.
10:30	11:30	1.00	2	Directional Drill Lateral section of 159mm main hole from 2976m to 3140m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 36,000 kPa, Torque - 12,500 ft/lbs, Diff Pressure - 9,000 kPa. Sliding parameters: WOB - 20 kdaN, Diff Pressure - 3,200 kPa.
11:30	16:00	4.50	20A	Accumulated time on reciprocating drill string, Toolface orientation, conditioning hole, directional surveys & connections.

Remarks

Grasslands Safety Services, Frank Pfefferle completing Rig & Location Inspection.

Hazard ID: Skiff of ice on matting by the mix room. / Placed ice melt and notified mud engineers to beware.

SAFETY

Safety Topic	MEHL	MACP
Electricity, Lockout / Tagout Policy	87	3040

TOUR 3 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME 16:00 | END TIME 24:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1279.00
Hrs Run Today	3.50
Cumulative Hrs Run	14.25
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 89.75 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
3140.00	3390.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
47	Drill Pipe Stands			1369.05
0	Drill Pipe Singles			0.00

Kelly Down -23.34 | Total 3390.00 | Weight of DC 23.00 | Weight of String 69.00

HOLE CONDITION

Hole Drag Up 7 Down 17 | Torque At Bottom 12500 | Fill On Bottom 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	16:15	18:15
Density	1155	1150
Funnel Viscosity	63	62
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	3151.37	3239.57
PVT	56.73	51.4

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	37500	7.00
2	SINGLE	127	120	37500	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	9100	@	60	@	3165.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:00	3137.04	92.55	286.5	DIRECTIONAL
16:30	3151.59	91.01	286.85	DIRECTIONAL
17:00	3166.20	90.53	286.76	DIRECTIONAL
17:30	3195.30	89.43	290.01	DIRECTIONAL
17:30	3195.30	89.43	290.01	DIRECTIONAL
18:15	3224.47	87.28	287.29	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mud/Water Centrifuge #1	8.00	1165	1110	1920
Mud/Water Centrifuge #2	8.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	2	Directional Drill Lateral section of 159mm main hole from 3140m to 3271m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 37,500 kPa, Torque - 12,500 ft/lbs, Diff Pressure - 9,000 kPa. Sliding parameters: WOB - 18 kdaN, Diff Pressure - 2,800 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	19:45	0.25	2	Directional Drill Lateral section of 159mm main hole from 3271m to 3390m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 37,500 kPa, Torque - 12,500 ft/lbs, Diff Pressure - 9,000 kPa. Sliding parameters: WOB - 19 kdaN, Diff Pressure - 2,500 kPa.
19:45	23:00	3.25	20A	Accumulated EM Survey & Connection time.
23:00	24:00	1.00	5D	Circulate and condition well prior to tripping out of hole for motor failure.

Remarks

Hazard ID: While blowing back the top drive a worker went to hammer off the air hose before he was instructed to do it / I explained to wait until he was instructed so there was no chance that the air valve was still open.

SAFETY

Safety Topic	MEHL	MACP
Spill Response	85	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170120_1B	RMS 2016.6.14.37064	2017	01	20

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	TOTAL
	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	
HOURS Tour 1		5.00					0.50													2.00	0.50					8.00
Tour 2		3.00					0.50													4.50						8.00
Tour 3		3.25			1.00															3.25	0.50					8.00
TOTAL		11.25			1.00		1.00													9.75	1.00					24.00

Kelly Bushing 6.6 | Up Fuel 3336

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
23491	7100
Time	Temp
06:00	-1
Current Conditions	
PARTLY CLOUDY	
Wind Direction	Wind Strength
SW	UP TO 19 KM/H
Road Condition	
FAIR	

TOUR 1 | SIGNATURE OF DRILLER Jordan Cawsey | START TIME 0:00 | END TIME 8:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	660.00
Hrs Run Today	5.00
Cumulative Hrs Run	7.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	85.16
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
25	Drill Pipe	Stands		727.59
0	Drill Pipe	Singles		0.00

Kelly Down	-0.88
Total	2771.00
Weight of DC	19.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 3	Down	8
Torque At Bottom			11500
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	05:15	06:45
Density	1165	1165
Funnel Viscosity	71	73
Fluid Loss		
pH		
Location Of Sample	trough	trough
Depth	2614.00	2680.00
PVT	49	61.78

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	33900	8.00
2	SINGLE	127	1	33900	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8450	@	60	@	2333.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
02:15	2408.70	91.05	284.21	DIRECTIONAL
02:30	2437.80	90.92	283.16	DIRECTIONAL
03:00	2466.86	92.72	286.06	DIRECTIONAL
04:00	2495.95	90.79	287.11	DIRECTIONAL
04:00	2525.07	90.40	287.46	DIRECTIONAL
04:15	2556.17	90.44	288.08	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1120	1945
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6372 litres

Hazard ID: Worker was running across location / stopped him and told him to slow down and watch his footing on the ice.

SAFETY

Safety Topic	MEHL	MACP
MSDS	85	3085

TOUR 2 | SIGNATURE OF DRILLER Stefan Polny | START TIME 8:00 | END TIME 16:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1029.00
Hrs Run Today	3.00
Cumulative Hrs Run	10.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	95.72
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
38	Drill Pipe	Stands		1106.75
0	Drill Pipe	Singles		0.00

Kelly Down	-11.04
Total	3140.00
Weight of DC	23.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 8	Down	13
Torque At Bottom			12500
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	13:15	15:15
Density	1160	1160
Funnel Viscosity	67	67
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	3034.00	3121.57
PVT	46.83	57.79

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	36000	8.00
2	SINGLE	127	1	36000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9000	@	60	@	2975.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
11:00	2903.73	90.40	285.88	DIRECTIONAL
11:30	2932.91	89.47	285.36	DIRECTIONAL
12:00	2962.09	90.44	285.18	DIRECTIONAL
12:30	2991.26	89.12	284.04	DIRECTIONAL
13:00	3020.42	88.51	283.51	DIRECTIONAL
13:45	3049.58	90.44	285	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1110	1940
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Grasslands Safety Services, Frank Pfefferle completing Rig & Location Inspection.

Hazard ID: Skiff of ice on matting by the mix room. / Placed ice melt and notified mud engineers to beware.

SAFETY

Safety Topic	MEHL	MACP
Electricity, Lockout / Tagout Policy	87	3040

TOUR 3 | SIGNATURE OF DRILLER Jordan Cawsey | START TIME 16:00 | END TIME 24:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1279.00
Hrs Run Today	3.50
Cumulative Hrs Run	14.25
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	89.75
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
47	Drill Pipe	Stands		1369.05
0	Drill Pipe	Singles		0.00

Kelly Down	-23.34
Total	3390.00
Weight of DC	23.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 7	Down	17
Torque At Bottom			12500
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	19:45	23:45
Density	1165	1165
Funnel Viscosity	67	66
Fluid Loss		
pH		
Location Of Sample	trough	trough
Depth	3291.00	3390.00
PVT	48.45	42.36

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	37500	7.00
2	SINGLE	127	120	37500	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	9100	@	60	@	3165.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
18:45	3239.02	88.15	285.27	DIRECTIONAL
18:45	3253.62	88.42	285.97	DIRECTIONAL
19:30	3268.12	88.99	284.56	DIRECTIONAL
19:45	3282.74	91.05	283.33	DIRECTIONAL
20:15	3297.65	92.20	285.71	DIRECTIONAL
20:45	3311.91	92.42	287.11	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1165	1110	1920
Mudcleaner Centrifuge #2	8.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: While blowing back the top drive a worker went to hammer off the air hose before he was instructed to do it / I explained to wait until he was instructed so there was no chance that the air valve was still open.

SAFETY

Safety Topic	MEHL	MACP
Spill Response	85	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170120_1B	RMS 2016.6.14.37064	2017	01	20

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DB	SL
(3.) H2S Signs Posted if Required	DB	SL
(4.) Well Licence & Stick Diagram Posted	DB	SL
(5.) Flare Lines Staked	DB	SL
(6.) BOP Drills Performed	DB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	SL
(1.) Rig Site Health & Safety Meeting (one/crew/month)		SL
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		SL
(3.) Mast Inspection before Raising or Lowering		SL
(4.) Crown Saver Checked		SL
(5.) Motor Kills Checked		SL

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	TOTAL
	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	
HOURS Tour 1		5.00					0.50													2.00	0.50					8.00
Tour 2		3.00					0.50													4.50						8.00
Tour 3		3.25			1.00															3.25	0.50					8.00
TOTAL		11.25			1.00		1.00													9.75	1.00					24.00

Kelly Bushing 6.6 | Up Fuel 3336

FUEL @ 08:00 HRS

Rig 23491 | Boiler 7100

WEATHER

Time 06:00 | Temp -1

Current Conditions: PARTLY CLOUDY

Wind Direction: SW | Wind Strength: UP TO 19 KM/H

Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	660.00
Hrs Run Today	5.00
Cumulative Hrs Run	7.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 85.16 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
25	Drill Pipe	Stands		727.59
0	Drill Pipe	Singles		0.00

Kelly Down	-0.88
Total	2771.00
Weight of DC	19.00
Weight of String	70.00

HOLE CONDITION

Hole Drag: Up 3 | Down 8

Torque At Bottom	11500
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time			
Density			
Funnel Viscosity			
Fluid Loss			
pH			
Location Of Sample			
Depth			
PVT			

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	33900	8.00
2	SINGLE	127	1	33900	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8450	@	60	@	2333.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1170	1120	1945
Mackinnon CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6372 litres

Hazard ID: Worker was running across location / stopped him and told him to slow down and watch his footing on the ice.

SAFETY

Safety Topic	MEHL	MACP
MSDS	85	3085

TOUR 2 | SIGNATURE OF DRILLER: Stefan Polny | START TIME: 8:00 | END TIME: 16:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1029.00
Hrs Run Today	3.00
Cumulative Hrs Run	10.75
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 95.72 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
38	Drill Pipe	Stands		1106.75
0	Drill Pipe	Singles		0.00

Kelly Down	-11.04
Total	3140.00
Weight of DC	23.00
Weight of String	69.00

HOLE CONDITION

Hole Drag: Up 8 | Down 13

Torque At Bottom	12500
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time			
Density			
Funnel Viscosity			
Fluid Loss			
pH			
Location Of Sample			
Depth			
PVT			

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	36000	8.00
2	SINGLE	127	1	36000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9000	@	60	@	2975.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:15	3078.75	88.64	284.12	DIRECTIONAL
14:45	3093.30	90.30	283.68	DIRECTIONAL
15:15	3107.90	91.89	283.07	DIRECTIONAL
15:45	3122.45	93.69	286.15	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1160	1110	1940
Mackinnon CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Grasslands Safety Services, Frank Pfefferle completing Rig & Location Inspection.

Hazard ID: Skiff of ice on matting by the mix room. / Placed ice melt and notified mud engineers to beware.

SAFETY

Safety Topic	MEHL	MACP
Electricity, Lockout / Tagout Policy	87	3040

TOUR 3 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1279.00
Hrs Run Today	3.50
Cumulative Hrs Run	14.25
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 89.75 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
47	Drill Pipe	Stands		1369.05
0	Drill Pipe	Singles		0.00

Kelly Down	-23.34
Total	3390.00
Weight of DC	23.00
Weight of String	69.00

HOLE CONDITION

Hole Drag: Up 7 | Down 17

Torque At Bottom	12500
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time			
Density			
Funnel Viscosity			
Fluid Loss			
pH			
Location Of Sample			
Depth			
PVT			

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	37500	7.00
2	SINGLE	127	120	37500	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	9100	@	60	@	3165.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
21:15	3326.50	91.32	287.82	DIRECTIONAL
22:00	3355.50	89.65	287.99	DIRECTIONAL
22:15	3370.21	88.73	288.96	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1165	1110	1920
Mackinnon CentriSage #2	8.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: While blowing back the top drive a worker went to hammer off the air hose before he was instructed to do it / I explained to wait until he was instructed so there was no chance that the air valve was still open.

SAFETY

Safety Topic	MEHL	MACP
Spill Response	85	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170121_1B	RMS 2016.6.14.37064	2017	01	21

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Luke Hardy	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	LH
(2.) Detailed Inspection - Weekly (Using Check List)	DB	LH
(3.) H2S Signs Posted if Required	DB	LH
(4.) Well Licence & Stick Diagram Posted	DB	LH
(5.) Flare Lines Staked	DB	LH
(6.) BOP Drills Performed	DB	LH
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	LH
(1.) Rig Site Health & Safety Meeting (one/crew/month)		LH
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		LH
(3.) Mast Inspection before Raising or Lowering		LH
(4.) Crown Saver Checked		LH
(5.) Motor Kills Checked		LH

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drilg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1						6.00	0.50													0.75	0.75					8.00
Tour 2						5.00	0.50		0.75											1.50	0.25					8.00
Tour 3		1.25	0.25		2.00	2.75														0.75	1.00					8.00
TOTAL		1.25	0.25		2.00	13.75	1.00		0.75											3.00	2.00					24.00

Kelly Bushing	Op Fuel
6.6	4108

FUEL @ 08:00 HRS

Rig	Boiler
19599	7100

WEATHER

Time	Temp
05:00	-14

Current Conditions	
BLOWING SNOW	
Wind Direction	Wind Strength
N	UP TO 50 KM/H
Road Condition	
FAIR	

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 0:00 END TIME: 8:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53, 9.53, 9.53, 9.53
Depth Out (m)	3390.00
Depth In (m)	2111.00
Total Drilled (m)	1279.00
Hrs Run Today	0.00
Cumulative Hrs Run	14.25
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	WT
MDC	BU	Reason Pulled	DMF
LOC	M	Total Run (m/hr)	89.75
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
47	Drill Pipe Stands			1369.05
0	Drill Pipe Singles			0.00

Kelly Down	-23.34
Total	3390.00
Weight of DC	23.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 1	Down	17
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	01:00	03:00
Density	1165	1165
Funnel Viscosity	77	80
Fluid Loss		
pH		
Location Of Sample	tank 4	tank 4
Depth	3390.00	3390.00
PVT	40.3	40.3

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	28000	1.00
2	SINGLE	127	1	28000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8460	@	60	@	3382.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	72	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual kelly cock. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 16 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Murray Allan & Dan Meyer.
0:30	6:30	6.00	6B	Review JSA. Pump 2.8m3 of 1520kg/m3 weighted slug, pill recovery: 0.87m3. Trip out of hole for directional tools @ 30m/min from 3390m to 41m. Flowchecks @ 3382m, 3247m, 1901m, 41m.
6:30	6:45	0.25	21D	Safety meeting & JSA review with Dynamic Directional Drilling prior to handling tools.
6:45	7:30	0.75	20D	Handle directional tools. Rack back Agitator, lay down Drilling Jars, rack back Reamer. Pick up 1 wild joint of 4"FH DP & rack back x/o & 2 - NM Flex Monels.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6156 litres

Hazard ID: Trip hazards on rig floor while tripping / removed trip hazards for a safe work environment.

SAFETY

Safety Topic	MEHL	MACP
Handle directional tools	86	3085

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 8:00 END TIME: 16:00

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53, 9.53, 9.53, 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1279.00
Hrs Run Today	0.00
Cumulative Hrs Run	14.25
Entry Date	21-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	89.75
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.73
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
47	Drill Pipe Stands			1369.05
0	Drill Pipe Singles			0.00

Kelly Down	-23.17
Total	3390.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	13:30	15:30
Density	1170	1170
Funnel Viscosity	89	89
Fluid Loss	0	0
pH		
Location Of Sample	Catch Tank	Catch Tank
Depth	3390.60	3390.60
PVT	34.75	37.73

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	21500	1.00
2	SINGLE	127	1	21500	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5700	@	60	@	685.00
1	6000	@	60	@	1285.00
1	6600	@	60	@	1890.00

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	9:30	1.50	20D	Break out Reed 159mm PDC Bit #4 and lay down Mud Motor. Out of hole - Flow check at 0m. Function HCR 2 seconds to open & Blind Rams, 4 seconds to close. Trip record: Calculated 12.97m3, Measured 14.43m3, Difference +1.46m3. Pick up new motor & makeup 159mm PDC Bit #5RR. Scribe motor. Verify EM tool in good repair. Makeup 3- Flex Monels, x/o & Slide Reamer with 6 - 101.6mm DP.
9:30	10:45	1.25	6A	Trip in hole at 30m from 96m to 456m MD. Flow check at 456m MD.
10:45	11:30	0.75	9A	Reviewed JSA. Slip & cut 20.79m of drilling line @ 8001.7mJ. Deadman anchor bolts retorqued to 360 ft/lbs. Performed full block height calibration. Brake capacity test, ok. Greased Crown & Travelling Blocks.
11:30	11:45	0.25	21A	H2S man down drill, Simulated a hard shut in. Crew assumed CAODC designated positions. Well secured in 90 seconds. Discussed stick diagram, kick warning signs / causes, shut in & flowcheck procedures, ERP & emergency contact list. STARS site # 3187. Verified BOP & choke manifold valve alignment. Functioned both chokes & flare igniter.
11:45	12:30	0.75	6A	Trip in hole at 30m/min from 456m to 686m MD. Fill pipe at 600m intervals.
12:30	13:00	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 16 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Replaced Washpipe assembly. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boehnert.

Remarks

Grasslands Safety Services, Frank Pfefferle completing Rig & Location Inspection. Completed weekly service & inspection of John Deere 644K loader & JCB 550-140 Zoom Boom.

Hazard ID: Noticed the air hose for the H2S air horn on the rig floor was pinched in the door and cut apart. / I re-routed the hose and fixed the end to get it back in operating order.

SAFETY

Safety Topic	MEHL	MACP
H2S man down drill.	70	3040

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 16:00 END TIME: 24:00

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53, 9.53, 9.53, 9.53
Depth Out (m)	3490.00
Depth In (m)	2111.00
Total Drilled (m)	1379.00
Hrs Run Today	1.25
Cumulative Hrs Run	15.50
Entry Date	21-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	88.97
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
3390.00	3490.00	DRILL	70	10

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.73
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
50	Drill Pipe Stands			1456.45
0	Drill Pipe Singles			0.00

Kelly Down	-10.57
Total	3490.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 5	Down	15
Torque At Bottom			13500
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	17:30	20:45
Density	1170	1165
Funnel Viscosity	90	74
Fluid Loss	0	
pH		
Location Of Sample	Catch Tank	trough
Depth	3390.60	3445.00
PVT	42.67	58

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	120	0	5.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8350	@	60	@	2414.00
1	9100	@	60	@	3412.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
21:30	3399.17	87.80	288.87	DIRECTIONAL
22:00	3414.00	88.64	288.08	DIRECTIONAL
22:15	3428.29	88.64	287.99	DIRECTIONAL
22:15	3457.43	90.13	285.97	DIRECTIONAL
22:30	3476.00	90.53	284.74	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	3.00	1170	1150	1645
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
ENERSLIDE	10	SXS
Liquislide	1	bbl
EnerBar	42	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	18:45	2.75	6A	Continue to trip in hole at 30m/min from 2134m to 3354m MD. Fill pipe at 600m intervals. Flow check at 2400m.
18:45	19:00	0.25	3A	Wash 36m to bottom from 3354m to 3390m MD. Pump Rate - 1.27 m3/min, Rotary - 60 RPM.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	20:45	1.25	2	Directional Drill lateral section of 159mm main hole from 3390m to 3490m MD (TD). Pump Rate - 1.27 m3/min, WOB - 10 kdaN, Rotary - 70 RPM, Pump Pressure - 38,500 kPa, Torque 13,500 ft/lbs, Diff Pressure- 8,000 kPa. Sliding parameters: WOB - 16 kdaN, Diff Pressure - 3,000 kPa.
20:45	21:30	0.75	20A	Accumulated EM survey & connection time.
21:30	22:00	0.50	21G	PAUSE. Crew members assembled in the Drillers Cabin for an after incident review with representatives from Beaver Drilling Ltd and Arc Resources.
22:00	23:30	1.50	5D	Circulate and condition well prior to spotting lubricity pill and tripping out of hole.
23:30	24:00	0.50	5	Pump 20.0m3 of lubricity pill with Liquislide S, Enerslide C Beads and Graphite. Spot pill in lateral section of 159mm main hole by chasing pill with 2266 total strokes. Pump 3.0m3 of 1520kg/m3 weighted slug, pill recovery = 0.96m3.

Remarks

Hazard ID: Worker was trying to lift a X/O using poor lifting techniques / told him to lift with his legs not his back and told him to wait and we could use the winch line instead of hurting our backs.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	87	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170121_1B	RMS 2016.6.14.37064	2017	01	21

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Luke Hardy	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	LH
(2.) Detailed Inspection - Weekly (Using Check List)	DB	LH
(3.) H2S Signs Posted if Required	DB	LH
(4.) Well Licence & Stick Diagram Posted	DB	LH
(5.) Flare Lines Staked	DB	LH
(6.) BOP Drills Performed	DB	LH
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	LH
(1.) Rig Site Health & Safety Meeting (one/crew/month)		LH
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		LH
(3.) Mast Inspection before Raising or Lowering		LH
(4.) Crown Saver Checked		LH
(5.) Motor Kills Checked		LH

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1						6.00	0.50													0.75	0.75					8.00
Tour 2						5.00	0.50		0.75											1.50	0.25					8.00
Tour 3		1.25	0.25		2.00	2.75														0.75	1.00					8.00
TOTAL		1.25	0.25		2.00	13.75	1.00		0.75											3.00	2.00					24.00

Kelly Bushing 6.6 | Op Fuel 4108

FUEL @ 08:00 HRS

Rig 19599 | Boiler 7100

WEATHER

Time 05:00 | Temp -14

Current Conditions: BLOWING SNOW

Wind Direction: N | Wind Strength: UP TO 50 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	3390.00
Depth In (m)	2111.00
Total Drilled (m)	1279.00
Hrs Run Today	0.00
Cumulative Hrs Run	14.25
Entry Date	19-Jan-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	WT
MDC	BU	Reason Pulled	DMF
LOC	M	Total Run (m/hr)	89.75
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.90
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
47	Drill Pipe	Stands		1369.05
0	Drill Pipe	Singles		0.00

Kelly Down	-23.34
Total	3390.00
Weight of DC	23.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 1	Down	17
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	06:30
Density	1165
Funnel Viscosity	84
Fluid Loss	
pH	
Location Of Sample	tank 4
Depth	3390.00
PVT	28.65

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	28000	1.00
2	SINGLE	127	1	28000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8460	@	60	@	3382.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 6156 litres

Hazard ID: Trip hazards on rig floor while tripping / removed trip hazards for a safe work environment.

SAFETY

Safety Topic	MEHL	MACP
Handle directional tools	86	3085

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 8:00 | END TIME: 16:00

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1279.00
Hrs Run Today	0.00
Cumulative Hrs Run	14.25
Entry Date	21-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	89.75
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.73
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
47	Drill Pipe	Stands		1369.05
0	Drill Pipe	Singles		0.00

Kelly Down	-23.17
Total	3390.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	21500	1.00
2	SINGLE	127	1	21500	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5700	@	60	@	685.00
1	6000	@	60	@	1285.00
1	6600	@	60	@	1890.00

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	0.00	0	0	0
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
13:00	16:00	3.00	6A	Trip in hole at 30m/min from 686m to 2134m MD. Fill pipe at 600m intervals. Flow check at 1274m.

Remarks

Grasslands Safety Services, Frank Pfefferle completing Rig & Location Inspection. Completed weekly service & inspection of John Deere 644K loader & JCB 550-140 Zoom Boom.

Hazard ID: Noticed the air hose for the H2S air horn on the rig floor was pinched in the door and cut apart. / I re-routed the hose and fixed the end to get it back in operating order.

SAFETY

Safety Topic	MEHL	MACP
H2S man down drill.	70	3040

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53 9.53 9.53 9.53
Depth Out (m)	3490.00
Depth In (m)	2111.00
Total Drilled (m)	1379.00
Hrs Run Today	1.25
Cumulative Hrs Run	15.50
Entry Date	21-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	88.97
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.73
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
50	Drill Pipe	Stands		1456.45
0	Drill Pipe	Singles		0.00

Kelly Down	-10.57
Total	3490.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 5	Down	15
Torque At Bottom			13500
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	22:45
Density	1160
Funnel Viscosity	72
Fluid Loss	
pH	
Location Of Sample	trough
Depth	3490.00
PVT	55.85

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	120	0	5.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8350	@	60	@	2414.00
1	9100	@	60	@	3412.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	3.00	1170	1150	1645
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: Worker was trying to lift a X/O using poor lifting techniques / told him to lift with his legs not his back and told him to wait and we could use the winch line instead of hurting our backs.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	87	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170122_1A	RMS 2016.6.14.37064	2017	01	22

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Dean Boehnert	Luke Hardy	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	LH
(2.) Detailed Inspection - Weekly (Using Check List)	DB	LH
(3.) H2S Signs Posted if Required	DB	LH
(4.) Well Licence & Stick Diagram Posted	DB	LH
(5.) Flare Lines Staked	DB	LH
(6.) BOP Drills Performed	DB	LH
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	LH
(1.) Rig Site Health & Safety Meeting (one/crew/month)		LH
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		LH
(3.) Mast Inspection before Raising or Lowering		LH
(4.) Crown Saver Checked		LH
(5.) Motor Kills Checked		LH

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1						7.00	0.50														0.50					8.00
Tour 2												6.75								0.75	0.25				0.25	8.00
Tour 3					0.25							7.50									0.25					8.00
TOTAL					0.25	7.00	0.50					14.25								0.75	1.00				0.25	24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	3758

Rig	Boiler
32943	7100

Time	Temp
05:00	-17

WEATHER

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
N	UP TO 29 KM/H

Road Condition: FAIR

TOUR 1 — SIGNATURE OF DRILLER: Jordan Cawsey — START TIME 0:00 — END TIME 8:00

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53, 9.53, 9.53, 9.53
Depth Out (m)	
Depth In (m)	2111.00
Total Drilled (m)	1379.00
Hrs Run Today	0.00
Cumulative Hrs Run	15.50
Entry Date	21-Jan-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	88.97
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.73
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
50	Drill Pipe — Stands			1456.45
0	Drill Pipe — Singles			0.00

Kelly Down	-10.57
Total	3490.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 5	Down	13
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	01:45	04:15
Density	1160	1160
Funnel Viscosity	73	77
Fluid Loss		
pH		
Location Of Sample	tank 4	tank4
Depth	3490.95	3490.95
PVT	51.28	45.35

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	29500	0.00
2	SINGLE	127	120	29500	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinlow CentriSage #1	0.00	0	0	0
Mackinlow CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	0:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual kelly cock. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer, 16 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Visual inspection of BOP & valves completed by Murray Allan & Dan Meyer.
0:30	7:30	7.00	6B	Review JSA. Trip out of hole @ 30m/min from 3490m to 41m MD. Flowchecks @ 3469m, 3315m, 1891m, 233m.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs 6012 = litres

Hazard ID: Worker had invert on his face while stripping pipe / stopped the trip and let him go clean himself up prior to commencing again.

SAFETY

Safety Topic	MEHL	MACP
Tripping out of hole	87	3130

TOUR 2 — SIGNATURE OF DRILLER: Stefan Polny — START TIME 8:00 — END TIME 16:00

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E212941
Jets	9.53, 9.53, 9.53, 9.53
Depth Out (m)	3490.00
Depth In (m)	2111.00
Total Drilled (m)	1379.00
Hrs Run Today	0.00
Cumulative Hrs Run	15.50
Entry Date	21-Jan-2017

CUTTING STRUCTURE

TI	1	Gage	0
TO	2	ODC	NO
MDC	CT	Reason Pulled	TD
LOC	S	Total Run (m/hr)	88.97
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	4.75" motor	124	1	8.73
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.72
2	4.75" Flex monel	121	68	18.77
1	CDS40B-3.5IFP x/o	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.52
1	Slim Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	562.83
1	Agitator	120	58	7.97
95	4" CDS40 Drill Pipe	102	64	921.87
48	4" CDS40 HWDP	101	65	455.62
50	Drill Pipe — Stands			1456.45
0	Drill Pipe — Singles			0.00

Kelly Down	-10.57
Total	3490.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	09:45	12:45
Density	1160	1170
Funnel Viscosity	83	86
Fluid Loss	0	0
pH		
Location Of Sample	Tank #4	Tank #4
Depth	3490.95	3490.95
PVT	16.21	17.22

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	1250	@	59	@	2090.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinlow CentriSage #1	0.00	0	0	0
Mackinlow CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Chemclean Green	1	pail

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	8:45	0.75	20D	Handle direcional tools. Rack 1 - slide reamer & 1 - x/o in derrick with 3 - 101.6mm DP. Break gap sub & remove EM tool. Laydown gap sub. Rack 3 - flex monels in the Derrick. Drain motor, break PDC Bit #5RR & laydown Mud Motor. Out of hole - Flow check at 0m. Function HCR, 2 seconds to open & Blind Rams, 4 seconds to close. Trip record: Calculated 14.72m3, Measured 13.27m3, Difference -1.45m3.
8:45	9:00	0.25	25	Retrieve wear bushing set at 6.6m.
9:00	10:30	1.50	12A	Organize rig floor & prepare to run production casing string. Review JSA. Remove PS-21 hydraulic slips & install master bushing. Remove BX-4 500 ton hydraulic elevators. Install 6' bail extensions & 114.3mm 100 ton casing elevators, certification #113840. 139.7mm 150 ton elevators, certification #114695. Rig up integral power tongs, casing fill hose.
10:30	10:45	0.25	21D	Safety meeting & JSA review with Copperhead prior to running in Tapered Production string.
10:45	16:00	5.25	12B	Run in 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110 VA Roughneck X 139.7mm, 29.763kg/m, P-110, LTC Tapered Production Casing string @ 30m/min from 0m to 1437m MD.

Remarks

Hazard ID: Picking up the PS21 with the winch line; noticed winch cable caught on Top Drive hydraulic hose. / Stopped lift and corrected the line before proceeding.

SAFETY

Safety Topic	MEHL	MACP
Internal responsibility System.	35	3130

TOUR 3 — SIGNATURE OF DRILLER: Jordan Cawsey — START TIME 16:00 — END TIME 24:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
0	Drill Pipe — Stands			0.00
0	Drill Pipe — Singles			0.00

Kelly Down	0.00
Total	
Weight of DC	
Weight of String	59.00

HOLE CONDITION

Hole Drag	Up 9	Down	14
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	18:15
Density	1190
Funnel Viscosity	94
Fluid Loss	0
pH	
Location Of Sample	Tank #4
Depth	3490.95
PVT	45.67

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	1200	0.00
2	SINGLE	127	59	1200	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinlow CentriSage #1	0.00	0	0	0
Mackinlow CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	12B	Run in 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110 VA Roughneck X 139.7mm, 29.763kg/m, P-110, LTC Tapered Production Casing string @ 30m/min from 1437m to 2089m MD. Circulate at 1756m & 2080m, MD.
19:00	19:15	0.25	21	Crew hand-over meeting. Discuss hazard id's & daily events. Safety meeting & JSA review with Copperhead prior to running in Tapered Production string.
19:15	23:45	4.50	12B	Continue to run in 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110 VA Roughneck X 139.7mm, 29.763kg/m, P-110, LTC Tapered Production Casing string @ 30m/min from 2089m to 3488m MD. Circulate @ 3488m MD.
23:45	24:00	0.25	5	Circulate 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110 VA Roughneck X 139.7mm, 29.763kg/m, P-110, LTC Tapered Production Casing string @ 0.8m3/min @ 3476m MD. Reciprocate casing string and work hole clean.

Remarks

Hazard ID: Third party worker came to the rig floor without safety glasses / I gave him my spare set prior to commencing any work.

SAFETY

Safety Topic	MEHL	MACP
Run Casing	69	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170123_1A	RMS 2016.6.14.37064	2017	01	23

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time	
Dean Boehnert	Luke Hardy	23-Jan-2017	12:00

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	LH
(2.) Detailed Inspection - Weekly (Using Check List)	DB	LH
(3.) H2S Signs Posted if Required	DB	LH
(4.) Well Licence & Stick Diagram Posted	DB	LH
(5.) Flare Lines Staked	DB	LH
(6.) BOP Drills Performed	DB	LH
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	LH
(1.) Rig Site Health & Safety Meeting (one/crew/month)		LH
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		LH
(3.) Mast Inspection before Raising or Lowering		LH
(4.) Crown Saver Checked		LH
(5.) Motor Kills Checked		LH

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1					2.75							3.50		1.00							0.75					8.00
Tour 2														2.50								1.50				4.00
Tour 3																										
TOTAL					2.75							3.50		3.50							0.75	1.50				12.00

Kelly Bushing 6.6 | Up Fuel 3166

FUEL @ 08:00 HRS

Rig 31275 | Boiler 7100

WEATHER

Time 05:00 | Temp -12

Current Conditions: LIGHT SNOW

Wind Direction: SE | Wind Strength: UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 0:00 | END TIME 8:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI | Gage
TO | ODC
MDC | Reason Pulled
LOC | Total Run (m/hr)
BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

0	Drill Pipe Stands	0.00
0	Drill Pipe Singles	0.00
	Kelly Down	0.00
	Total	
	Weight of DC	
	Weight of String	78.00

HOLE CONDITION

Hole Drag: Up 9 | Down 14
Torque At Bottom
Fill On Bottom

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	04:00
Density	1190
Funnel Viscosity	85
Fluid Loss	0
pH	
Location Of Sample	Tank #4
Depth	3490.95
PVT	50.08

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	3000	0.00
2	SINGLE	127	76	3000	2.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Blackstone CentriSage #1	0.00	0	0	0
Blackstone CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerTone D	1	sxs
EnerBar	42	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450
2	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	2:45	2.75	5	Circulate 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110 VA Roughneck X 139.7mm, 29.763kg/m, P-110, LTC Tapered Production Casing string @ 0.8m3/min. Reciprocate drill string and work hole clean.
2:45	3:00	0.25	21D	Safety meeting & JSA review with Trican and NOV prior to cement job.
3:00	6:30	3.50	12C	Break Top Drive out & Break x/oâ s connections to Casing with Rotary tongs. Rig to & Cement 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110 VA Roughneck X 139.7mm, 29.763kg/m, P-110, LTC Tapered Production Casing string with Trican; Pump 5.0m´‡ Optiflush with S-4W & M-S8 & TWR-2 @ 1260kg/m´‡. Pump 1.7 Tonne 2.5m´‡ Scavenger T.A.C. @ 1350kg/m´‡, Pump 36.45Tonne, (36.45m´‡) T.A.C. 0.2% AFA-6, 0.35% TDH-2, @ 1600 Kg/m´‡ Cement. Followed by 29Tonne (29m´‡) T.A.C.& 0.2% AFA-6, 0.2% CFR-12, 0.3% TWR-4, 0.25% TDH-2 @ 1600kg/m´‡ Tail Cement. Clean out lines. Launch IMPORT Latch down plug and displace with 5m´‡ of inhibited retarded water, 2L/m´‡ DF-2W, & 29m´‡ of inhibited water, 5L/m´‡ Tricorr 134, 2L/m´‡ DF-2W. 8m´‡ of good cement returns to surface. Bump plug 3500 Kpa over 22,600kpa FCP, Plug held, Floats held, No fall-back in annulus. Plug down at 05:30hrs Flush 5000# BOP, Bell Nipple & Flow Line with Trican. Rig out Trican cement equipment.
6:30	7:30	1.00	14B	Rig to, lower casing slips through BOPâ s & set casing slips in tension @ 70,000 daN at 07:00hrs on Jan.23/2017. Nipple down Schaffer 5000# BOPâ s & all related equipment in preparation to walk rig to the next well. Clean mud tanks with confined space entry permit.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 5904 litres

Hazard ID: Workers were rushing creating a hostile and possibly unsafe environment / took a PAUSE and we regrouped to become more organized and efficient.

SAFETY

Safety Topic	MEHL	MACP
Cement casing	78	3130

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME 8:00 | END TIME 16:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI | Gage
TO | ODC
MDC | Reason Pulled
LOC | Total Run (m/hr)
BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

	Drill Pipe Stands	
	Drill Pipe Singles	
	Kelly Down	
	Total	
	Weight of DC	
	Weight of String	

HOLE CONDITION

Hole Drag: Up | Down
Torque At Bottom
Fill On Bottom

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	08:00
Density	1190
Funnel Viscosity	95
Fluid Loss	0
pH	
Location Of Sample	Tank #4
Depth	3490.95
PVT	10

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Blackstone CentriSage #1	0.00	0	0	0
Blackstone CentriSage #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	4.00	10.5	450
2	4.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	10:30	2.50	14B	Review JSA. Nipple down Schaffer 5000# BOP & all related equipment in preparation to walk to next well. Lift BOP stack & cut casing with Cameron services. Laydown cut off. Prepare Beaver rig #15AC to walk to next well. Clean mud tanks with confined space entry permit ongoing.
10:30	12:00	1.50	22	Tear out Beaver Rig #15AC in preparation to walk rig to the next well. Adjust Festoon hangers. Clean mud tanks with confined space entry permit. **Rig Released @ 12:00hrs on Jan. 23/2017**

Remarks

Hazard ID: Ladder to enter the mudtanks became quite icy during cleaning proccess. / Cleaned ladder of ice prior to descending.

SAFETY

Safety Topic	MEHL	MACP
Walk rig.	38	0

TOUR 3

SIGNATURE OF DRILLER:

START TIME 16:00 | END TIME 24:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI | Gage
TO | ODC
MDC | Reason Pulled
LOC | Total Run (m/hr)
BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

	Drill Pipe Stands	
	Drill Pipe Singles	
	Kelly Down	
	Total	
	Weight of DC	
	Weight of String	

HOLE CONDITION

Hole Drag: Up | Down
Torque At Bottom
Fill On Bottom

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170123_1A	RMS 2016.6.14.37064	2017	01	23

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32314	ARCRES HZ PARKLAND C12-07-081-16	12-7-81-16 W6	BC	DLS	104/13-12-081-17W6/00

Operator	Contractor	Rig No	Well Type	Re-Entry
ARC Resources Ltd.	Beaver Drilling Ltd.	15AC	HORIZ	☐

Operator's AFE	Contractor's Job No	Spud Date Time	
17DRL0010	0X47	30-Dec-2016	02:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time	
Dean Boehnert	Luke Hardy	23-Jan-2017	12:00

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DB	LH
(2.) Detailed Inspection - Weekly (Using Check List)	DB	LH
(3.) H2S Signs Posted if Required	DB	LH
(4.) Well Licence & Stick Diagram Posted	DB	LH
(5.) Flare Lines Staked	DB	LH
(6.) BOP Drills Performed	DB	LH
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DB	LH
(1.) Rig Site Health & Safety Meeting (one/crew/month)		LH
(2.) CAODC Rig Safety Inspection Checklist (one/rig/month)		LH
(3.) Mast Inspection before Raising or Lowering		LH
(4.) Crown Saver Checked		LH
(5.) Motor Kills Checked		LH

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1					2.75							3.50		1.00							0.75					8.00
Tour 2														2.50								1.50				4.00
Tour 3																										
TOTAL					2.75							3.50		3.50							0.75	1.50				12.00

FUEL @ 08:00 HRS

Kelly Bushing	Op Fuel
6.6	3166

Rig	Boiler
31275	7100

Time	Temp
05:00	-12

WEATHER

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
SE	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME: 0:00 END TIME: 8:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI | Gage
TO | ODC
MDC | Reason Pulled
LOC | Total Run (m/hr)
BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

0	Drill Pipe Stands	0.00
0	Drill Pipe Singles	0.00
	Kelly Down	0.00
	Total	
	Weight of DC	
	Weight of String	78.00

HOLE CONDITION

Hole Drag: Up 9 Down 14
Torque At Bottom
Fill On Bottom

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	3000	0.00
2	SINGLE	127	76	3000	2.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Blackhawk Centrifuge #1	0.00	0	0	0
Blackhawk Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
7:30	8:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks
Boiler #2 Fuel @ 05:00 Hrs = 5904 litres
Hazard ID: Workers were rushing creating a hostile and possibly unsafe environment / took a PAUSE and we regrouped to become more organized and efficient.

SAFETY

Safety Topic	MEHL	MACP
Cement casing	78	3130

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

START TIME: 8:00 END TIME: 16:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI | Gage
TO | ODC
MDC | Reason Pulled
LOC | Total Run (m/hr)
BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

	Drill Pipe Stands	
	Drill Pipe Singles	
	Kelly Down	
	Total	
	Weight of DC	
	Weight of String	

HOLE CONDITION

Hole Drag: Up Down
Torque At Bottom
Fill On Bottom

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Blackhawk Centrifuge #1	0.00	0	0	0
Blackhawk Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID: Ladder to enter the mudtanks became quite icy during cleaning proccess. / Cleaned ladder of ice prior to descending.

SAFETY

Safety Topic	MEHL	MACP
Walk rig.	38	0

TOUR 3

SIGNATURE OF DRILLER:

START TIME: 16:00 END TIME: 24:00

BITS

Bit Number	
Size	
IADC Code	
Manufacturer	
Type	
Serial No	
Jets	
Depth Out (m)	
Depth In (m)	
Total Drilled (m)	
Hrs Run Today	
Cumulative Hrs Run	
Entry Date	

CUTTING STRUCTURE

TI | Gage
TO | ODC
MDC | Reason Pulled
LOC | Total Run (m/hr)
BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

	Drill Pipe Stands	
	Drill Pipe Singles	
	Kelly Down	
	Total	
	Weight of DC	
	Weight of String	

HOLE CONDITION

Hole Drag: Up Down
Torque At Bottom
Fill On Bottom

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	
Density	
Funnel Viscosity	
Fluid Loss	
pH	
Location Of Sample	
Depth	
PVT	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP