FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170101_2A	RMS 2016.6.14.37064	2017	01	01

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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 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																					1.00					1.00
Tour 2	3.50	1.00					0.50													2.25	0.75					8.00
Tour 3		1.00			1.00	3.75														2.25						8.00
TOTAL	3.50	2.00			1.00	3.75	0.50													4.50	1.75					17.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig: 25715 | Boiler: 7100

WEATHER

Time: 07:00 | Temp: -15

Current Conditions: LIGHT SNOW

Wind Direction: W | Wind Strength: UP TO 19 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	
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
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	1.00	10.5	450
2	1.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
7:00	7:30	0.50	21D	Crew hand-over meeting. Discuss hazard id'' ' s & daily events.
7:30	8:00	0.50	21F	Review JSA & visually inspect rig prior to walking to next well.

Remarks: **Boiler #2 fuel @ 07:00hrs = 4932 litres.**

SAFETY

Safety Topic	MEHL	MACP
Visual inspection prior to walking rig.		

TOUR 2 | SIGNATURE OF DRILLER: Jordan Cawsey | START TIME: 8:00 | END TIME: 16:00

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12627
Jets	14.3 14.3 14.3 14.3 14.3 14.3
Depth Out (m)	
Depth In (m)	6.60
Total Drilled (m)	226.40
Hrs Run Today	1.00
Cumulative Hrs Run	1.00
Entry Date	01-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 226.40 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
6.60	233.00	DRILL	170	10

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.27
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
15	4" CDS40 HWDP	101	65	142.27
0	Drill Pipe: Stands			0.00
0	Drill Pipe: Singles			0.00

Kelly Down: -1.16 | Total: 233.00 | Weight of DC: 28.00 | Weight of String: 35.00

HOLE CONDITION

Hole Drag: Up 1 | Down 1

Torque At Bottom: 9000

Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	14:00	16:00
Density	1060	1090
Funnel Viscosity	33	32
Fluid Loss		
pH	9	9
Location Of Sample	shaker	shaker
Depth	72.18	217.57
PVT	59.78	61.09

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	110	22000	4.00
2	PARALLEL	152	110	22000	4.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:00	45.89	0.40	327.6	DIRECTIONAL
14:30	74.89	0.30	350.8	DIRECTIONAL
15:00	103.39	0.70	322.5	DIRECTIONAL
15:15	131.85	0.30	94	DIRECTIONAL
15:45	160.24	0.30	92.6	DIRECTIONAL
16:00	188.66	0.40	138.2	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	4.00	1060	1010	1680
Mudcleaner Centrifuge #2	4.00	1060	1010	1680

MUD MATERIALS ADDED

Product	Amount	Type
Humalite	12	SXS
TKPP	2	SXS
Sawdust	75	SXS
EnerPac Regular	1	SXS
Bentonite Natural Gel	8	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	1A	Walk Beaver Rig#15AC 10m from B12-07-081-16W6M to A12-07-081-15W6M.
10:00	11:30	1.50	1	Rig up Beaver Rig#15AC to Spud. Add a suitcase, adjust all 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.
11:30	11:45	0.25	21F	Pre-Spud rig inspection, hazard hunt & correct all deficencies.
11:45	12:00	0.25	21D	Pre-Spud safety meeting. Discussed ERP & stick diagram. STARS site# 3187.
12:00	12:15	0.25	21D	Safety meeting & review JSA with Dynamic directional drilling.
12:15	13:00	0.75	20D	Handle Dynamic directional tools. Make up PDC Bit #1A. Break monels & install MWD tool. Warm up Top Drive, mudline & BHA with steam.
13:00	14:00	1.00	2	Spud in with 279mm PDC Sicotte Bit #1A. Drill 279mm Surface hole from 6.6m to 233m MD. Pump Rate: 3.3m3/min, Rotary: 170 RPM, WOB: 10 kdaN, Pump Pressure: 22,000 kPa. Torque: 9,000 ft/lbs, Diff Pressure: 3,500 kPa.
14:00	14:30	0.50	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.
14:30	16:00	1.50	20A	Accumulated MWD survey & connection time.

Remarks

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	37	0

TOUR 3 | SIGNATURE OF DRILLER: Stefan Polny | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12627
Jets	14.3 14.3 14.3 14.3 14.3 14.3
Depth Out (m)	
Depth In (m)	6.60
Total Drilled (m)	452.40
Hrs Run Today	1.00
Cumulative Hrs Run	2.00
Entry Date	01-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 226.20 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
233.00	459.00	DRILL	170	10

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.27
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: -3.16 | Total: 459.00 | Weight of DC: 28.00 | Weight of String: 44.00

HOLE CONDITION

Hole Drag: Up 3 | Down 3

Torque At Bottom: 15000

Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	17:30	22:45
Density	1090	1240
Funnel Viscosity	31	73
Fluid Loss		
pH	9	10
Location Of Sample	trough	Shakers
Depth	376.00	459.00
PVT	55.89	102.19

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	110	30000	8.00
2	PARALLEL	152	110	30000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	217.16	0.20	217.3	DIRECTIONAL
16:30	245.29	0.70	228.1	DIRECTIONAL
17:00	274.24	0.10	348.4	DIRECTIONAL
17:15	302.65	0.10	263.7	DIRECTIONAL
17:30	331.22	0.30	197.6	DIRECTIONAL
17:30	360.71	0.30	203.5	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	17:00	1.00	2	Drill 279mm Surface hole from 233m to 459m MD. Pump Rate: 3.3m3/min, Rotary: 170 RPM, WOB: 10 kdaN, Pump Pressure: 30,000 kPa. Torque: 15,000 ft/lbs, Diff Pressure: 4,500 kPa.
17:00	18:45	1.75	20A	Accumulated MWD survey & connection time.
18:45	19:00	0.25	5D	Circulate and condition well prior to wiper trip.
19:00	19:30	0.50	20D	Crew hand-over & safety discussion. Discuss hazard id's and daily events.
19:30	22:15	2.75	6M	Review JSA. Wiper trip out of hole from 459m to 91m MD @ 30m/min (Back ream bridge at 189m MD). Trip in hole from 91m to 459m MD @ 30m/min. (Wash & clean at 136m, & 231m. Wash to bottom from 251m).
22:15	23:00	0.75	5D	Circulate and condition well prior to pulling out to run surface casing. Review JSA.
23:00	24:00	1.00	6B	Trip out of hole from 459m to 114m MD @ 30m/min.

Remarks: **Hazard ID : Fall protection lanyard was no put away after use. / Picked it up and stored it in the apropriate space.**

SAFETY

Safety Topic	MEHL	MACP
Hazard assessment.	59	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170101_2A	RMS 2016.6.14.37064	2017	01	01

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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																					1.00					1.00
Tour 2	3.50	1.00					0.50													2.25	0.75					8.00
Tour 3		1.00			1.00	3.75														2.25						8.00
TOTAL	3.50	2.00			1.00	3.75	0.50													4.50	1.75					17.00

WEATHER

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
25715	7100

Time	Temp
07:00	-15

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
W	UP TO 19 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	
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
Mackinnon Centrifuge #1	0.00	0	0	0
Mackinnon 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 @ 07:00hrs = 4932 litres.

SAFETY

Safety Topic	MEHL	MACP
Visual inspection prior to walking rig.		

TOUR 2

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12627
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)	226.40
Hrs Run Today	1.00
Cumulative Hrs Run	1.00
Entry Date	01-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 226.40 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.27
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
15	4" CDS40 HWDP	101	65	142.27
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down: -1.16 | Total: 233.00 | Weight of DC: 28.00 | Weight of String: 35.00

HOLE CONDITION

Hole Drag Up: 1 | Down: 1 | 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	152	110	22000	4.00
2	PARALLEL	152	110	22000	4.00

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 Centrifuge #1	4.00	1060	1010	1680
Mackinnon Centrifuge #2	4.00	1060	1010	1680

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
Hazard Assessment	37	0

TOUR 3

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12627
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)	452.40
Hrs Run Today	1.00
Cumulative Hrs Run	2.00
Entry Date	01-Jan-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 226.20 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.27
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: -3.16 | Total: 459.00 | Weight of DC: 28.00 | Weight of String: 44.00

HOLE CONDITION

Hole Drag Up: 3 | Down: 3 | Torque At Bottom: 15000 | 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	30000	8.00
2	PARALLEL	152	110	30000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
17:45	488.18	0.40	206.7	DIRECTIONAL
18:30	416.71	0.60	263.7	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon Centrifuge #1	0.00	0	0	0
Mackinnon 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 : Fall protection lanyard was no put away after use. / Picked it up and stored it in the apropriate space.

SAFETY

Safety Topic	MEHL	MACP
Hazard assessment.	59	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170102_1A	RMS 2016.6.14.37064	2017	01	02

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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					1.50	0.50	0.50					3.75								0.75	1.00					8.00
Tour 2												1.75	2.00								0.25					4.00
Tour 3																										
TOTAL					1.50	0.50	0.50					5.50	2.00							0.75	1.25					12.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
22101	7100

WEATHER

Time	Temp
05:00	-12

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
N	UP TO 39 KM/H

Road Condition: FAIR

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12627
Jets	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	0.00
Cumulative Hrs Run	2.00
Entry Date	01-Jan-2017

CUTTING STRUCTURE

		Gage	1
TI	4	ODC	WT
TO	2	Reason Pulled	TD
MDC	BT	Total Run (m/hr)	226.20
LOC	M		
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.27
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	376.27
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-3.16
Total	459.00
Weight of DC	28.00
Weight of String	44.00

HOLE CONDITION

Hole Drag	Up	7	Down	2
Torque At Bottom		0		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	02:00	05:00
Density	1240	1240
Funnel Viscosity	71	71
Fluid Loss	0	0
pH	10	10
Location Of Sample	Shaker	Shaker
Depth	23.00	205.00
PVT	98	23

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	35	1100	8.00
2	PARALLEL	152	35	1100	8.00

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
0:00	0:30	0.50	6B	Trip out of hole from 114m to 34m MD @ 30m/min.
0:30	0:45	0.25	21D	Safety meeting & JSA review with Dynamic Directional Drilling prior to handling directional tools.
0:45	1:30	0.75	20D	Handle directional tools. 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 and rack back stand of directional tools in derrick.
1:30	2:00	0.50	7A	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. Conducted level 1 visual inspection of mast & all over-head equipment.
2:00	2:30	0.50	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.
2:30	2:45	0.25	21D	Safety meeting & JSA review with Copperhead prior to running 219.1mm Surface Casing.
2:45	6:00	3.25	12B	Make up float, shoe and run 39 joints of 219.1mm 41.67kg/m J55 surface casing at 30m/min from 6.6m to 459m MD.
6:00	7:30	1.50	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.
7:30	8:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 7128 litres

Hazard ID : Preparing to open lid on PS21 while blocks in motion. / Ensured all was stopped and hands were aware of overhead action prior to using winch line.

SAFETY

Safety Topic	MEHL	MACP
Running casing.	35	0

TOUR 2 | SIGNATURE OF DRILLER: Jordan Cawsey | 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

		Gage	
TI		ODC	
TO		Reason Pulled	
MDC		Total Run (m/hr)	
LOC			
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	COMBINED	152	1	0	0.00
2	COMBINED	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	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	8:15	0.25	21D	Safety meeting with Trican prior to cementing surface casing.
8:15	10:00	1.75	12C	Review JSA, rig to and cement 219.1mm Surface 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. 7m´‡ cement returns to surface Plug down @ 09:15 Hrs. No fall back. Pressure test casing & Rig out Trican.
10:00	12:00	2.00	13	Wait on cement & prepare to walk Beaver Rig#15AC to next well. **Well paused for batch drilling at 12:00hrs Jan.02/2017**

Remarks

SAFETY

Safety Topic	MEHL	MACP
Cement surface casing	20	0

TOUR 3 | SIGNATURE OF DRILLER: Shaun Low | 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

		Gage	
TI		ODC	
TO		Reason Pulled	
MDC		Total Run (m/hr)	
LOC			
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_20170102_1A	RMS 2016.6.14.37064	2017	01	02

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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					1.50	0.50	0.50					3.75								0.75	1.00					8.00
Tour 2												1.75	2.00								0.25					4.00
Tour 3																										
TOTAL					1.50	0.50	0.50					5.50	2.00							0.75	1.25					12.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig: 22101 | Boiler: 7100

WEATHER

Time: 05:00 | Temp: -12
Current Conditions: LIGHT SNOW
Wind Direction: N | Wind Strength: UP TO 39 KM/H
Road Condition: FAIR

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12627
Jets	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	0.00
Cumulative Hrs Run	2.00
Entry Date	01-Jan-2017

CUTTING STRUCTURE

		Gage	1
TI	4	ODC	WT
TO	2	Reason Pulled	TD
MDC	BT	Total Run (m/hr)	226.20
LOC	M		
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.27
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	376.27
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-3.16
Total	459.00
Weight of DC	28.00
Weight of String	44.00

HOLE CONDITION

Hole Drag	Up	7	Down 2
Torque At Bottom		0	
Fill On Bottom		0.00	

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	07:00
Density	1100
Funnel Viscosity	36
Fluid Loss	
pH	9
Location Of Sample	shaker
Depth	459.00
PVT	96.34

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	35	1100	8.00
2	PARALLEL	152	35	1100	8.00

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 CentriSage #1	0.00	0	0	0
Blackhawk 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 = 7128 litres

Hazard ID : Preparing to open lid on PS21 while blocks in motion. / Ensured all was stopped and hands were aware of overhead action prior to using winch line.

SAFETY

Safety Topic	MEHL	MACP
Running casing.	35	0

TOUR 2 | SIGNATURE OF DRILLER: Jordan Cawsey | 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

		Gage	
TI		ODC	
TO		Reason Pulled	
MDC		Total Run (m/hr)	
LOC			
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	COMBINED	152	1	0	0.00
2	COMBINED	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
Blackhawk CentriSage #1	0.00	0	0	0
Blackhawk 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

SAFETY

Safety Topic	MEHL	MACP
Cement surface casing	20	0

TOUR 3 | SIGNATURE OF DRILLER: Shaun Low | 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

		Gage	
TI		ODC	
TO		Reason Pulled	
MDC		Total Run (m/hr)	
LOC			
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_20170318_1A	RMS 2016.6.14.37064	2017	03	18

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		
(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	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	5.25													1.75							1.00					8.00
Tour 2						1.00	0.50		0.75					1.25	2.00					0.75	1.50				0.25	8.00
Tour 3		5.25			0.25															2.00	0.50					8.00
TOTAL	5.25	5.25			0.25	1.00	0.50		0.75					3.00	2.00					2.75	3.00				0.25	24.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
13872	6750

WEATHER

Time	Temp
06:00	-12

Current Conditions: SNOW

Wind Direction	Wind Strength
N	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	
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
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	21F	Review JSA & visually inspect rig prior to walking to next well.
0:30	4:00	3.50	1A	Walk Beaver Rig #15AC 10m from 12-07-081-16W6M to A12-07-081-16W6M.
4:00	5:45	1.75	1	Install well head on casing bowl for well 12-07-081-16W6M with Cameron. Rig up Beaver Rig #15AC on Well A12-07-081-16W6M. Adjust suitcases & cable festoon. Rig up PipeCat for drilling operations. Spot flare tank & rig up flare lines. Install mat under catch tank & spot shale bin. Install escape line & cement anchor.
5:45	7:30	1.75	14A	Review JSA. Nipple up Schaffer 13 5/8" BOP's & all related equipment.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards.

Remarks

Boiler #2 fuel @ 05:00hrs: 7452 litres.
****John Deere 644K loader & JCB 550-140 Zoom Boom in use while walking to next well & rig up****

SAFETY

Safety Topic	MEHL	MACP
Walking the rig.		

TOUR 2

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	18-Mar-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	200mm PDC Bit	200	1	0.29
1	6.5° Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
34	4" CDS40 HWDP	101	65	322.23
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down: 0.00 | Total: 441.88 | Weight of DC: 24.00 | Weight of String: 29.00

HOLE CONDITION

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

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	13:00
Density	1165
Funnel Viscosity	32
Fluid Loss	
pH	10
Location Of Sample	Suction
Depth	459.00
PVT	60.36

Circulation

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

Remarks

Installed corrosion ring in mud tank # 2.

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	9:15	1.25	14A	Review JSA. Nipple up Schaffer 13 5/8" 5000# BOP's & all related equipment.
9:15	9:30	0.25	21D	JSA review & safety meeting with Semerra prior to pressure testing.
9:30	11:00	1.50	15A	Pressure test Schaffer 13 5/8" 5000# BOP's & all related equipment with Semerra. Pick up 1- joint of 4FH & make up cup tester. Pressure test upper Pipe Rams, Upper & lower manual HCR valves, casing bowl & casing bowl valves, to 1,000kPa low & 21,000kPa high. held each test for 10 minutes, ok.
11:00	11:30	0.50	15B	Perform Accumulator function test; Start pressure 19,000. Remaining pressure after 4 functions 11,500. Recharge time of Accumlator pump #2, 2 minutes & 34 seconds. Precharge pressure 7,000. 6 x Nitrogen back up bottleswith an average pressure of 16,458kPa. Remove cup tester.
11:30	11:45	0.25	25	Set wear bushing @ 6.6m MD.
11:45	12:30	0.75	9A	Reviewed JSA. Slip & cut 36.96m of drilling line @ 13363.2 mJ. Deadman anchor bolts retorqued to 360 ft/lbs. Performed full block height calibration. Brake capacity test, ok. Greased Crown & Travelling Blocks.
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. Visual inspection & service of PS-21 slips & inserts. Functioned Blind Rams, 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all overhead equipment. Completed Pre-shift fall protection inspectionequipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boenhert.
13:00	13:15	0.25	21F	Pre-drill out safety inspection, hazard hunt with Beaver & Arc representatives.

Remarks

****Rig tour completed by Beaver Drilling representatives Kevin Krausert (CEO), Jason Blahun (HSE Manager), Robb Phillips (Business Analyst)****
Hazard ID: While working in the upper sub i was getting close to being at max length on my SRL. / Tied off with a lanyard and moved the SRL to a better working position.

SAFETY

Safety Topic	MEHL	MACP
Driving Home Long Change.	44	3040

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	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	300.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 57.14 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
459.00	759.00	DRILL	70	14.5

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5° Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
7	Drill Pipe Stands			203.92
0	Drill Pipe Singles			0.00

Kelly Down: -0.60 | Total: 759.00 | Weight of DC: 24.00 | Weight of String: 51.00

HOLE CONDITION

Hole Drag Up: 1 | Down: 1 | Torque At Bottom: 6000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	18:00	19:45
Density	1145	1145
Funnel Viscosity	30	31
Fluid Loss	0	0
pH	10.5	11.5
Location Of Sample	Suction	Suction
Depth	495.95	556.00
PVT	40.41	52.54

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	105	24000	8.00
2	PARALLEL	127	105	24000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2200	@	60	@	759.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
18:15	483.50	0.60	234.3	DIRECTIONAL
19:00	526.84	3.00	276.8	DIRECTIONAL
19:45	540.28	4.50	280.4	DIRECTIONAL
20:15	569.42	5.00	285.7	DIRECTIONAL
21:00	598.56	5.40	294.4	DIRECTIONAL
21:15	627.67	3.80	295.7	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1145	1110	1450
Mudcleaner Centrifuge #2	8.00	1145	1115	1450

MUD MATERIALS ADDED

Product	Amount	Type
Defoamer Gemini	1	pail
Enerhib C	1	bbl
Enerscav C	1	bbl
Lime Hydrated	20	sxs
Sawdust	44	sxs
EnerClear F 1802	3	sxs
Chemclean Green	1	pail
EnerFiber	6	sxs
Limestone 325	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
16:00	17:00	1.00	2C	Drill out cement from 436m to 459m MD. Float at 446m & shoe at 459m MD. Pump Rate - 1.2 m3/min, WOB - 3 kdaN, Rotary - 30 RPM.
17:00	17:15	0.25	5C	Displace wellbore from H20 to 1140 kg/m3 CaCl brine.
17:15	19:00	1.75	2	Drill vertical section of 200mm main hole from 459m to 527m MD. Pump Rate - 1.8m3/min, WOB - 13 kdaN, Rotary - 70 RPM, Pump Pressure - 15,500 kPa, Torque - 4,000 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	22:00	2.50	2	Drill vertical section of 200mm main hole from 527m to 759m MD. Pump Rate - 2.2m3/min, WOB - 14.5 kdaN, Rotary - 70 RPM, Pump Pressure - 24,000 kPa, Torque - 6,000 ft/lbs, Diff Pressure - 4,500 kPa.
22:00	24:00	2.00	20A	Accumulated EM survey & connection time.

Remarks

Hazard id: Worker was bringing man rider down too soon risking a potential snag in the top drive / stopped him and instructed him when the top drive was clear.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	55	3220

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170318_1A	RMS 2016.6.14.37064	2017	03	18

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		
(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	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													1.75							1.00					8.00
Tour 2						1.00	0.50		0.75					1.25	2.00					0.75	1.50				0.25	8.00
Tour 3		5.25			0.25															2.00	0.50					8.00
TOTAL	5.25	5.25			0.25	1.00	0.50		0.75					3.00	2.00					2.75	3.00				0.25	24.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
13872	6750

WEATHER

Time	Temp
06:00	-12

Current Conditions: SNOW

Wind Direction	Wind Strength
N	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	
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

Boiler #2 fuel @ 05:00hrs: 7452 litres.
****John Deere 644K loader & JCB 550-140 Zoom Boom in use while walking to next well & rig up****

SAFETY

Safety Topic	MEHL	MACP
Walking the rig.		

TOUR 2

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	18-Mar-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	200mm PDC Bit	200	1	0.29
1	6.5° Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
34	4" CDS40 HWDP	101	65	322.23

0	Drill Pipe Stands	0.00
0	Drill Pipe Singles	0.00
Kelly Down		0.00
Total		441.88
Weight of DC		24.00
Weight of String		29.00

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
Installed corrosion ring in mud tank # 2.

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
13:15	13:30	0.25	21D	Pre-drill out safety meeting with Beaver & Arc representatives. Safety meeting & JSA review with New Discovery prior to handling directional tools.
13:30	13:45	0.25	21A	BOP drill & discussion prior to drill out. 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.
13:45	14:30	0.75	20D	Handle New Discovery directional tools; Pick up new Mud Motor with non-ported float. Makeup PDC Bit #2. Pick up 1- stand of NM Slick Monels. Run 1- NM Slick Monel & break out. Pick up 1- Gap sub. Build EM tool & program EM tool. Make up Gap sub to stand of NM Slick Monels. Install corrosion ring in top of NM Slick Monels. make up 4 1/2XH x 4H90 X/O.
14:30	15:00	0.50	6A	Review JSA. Pick, make up & trip in 2- stands of 165mm DC's, 1- stand of CDS40 HWDP, 1- Drilling Jar @ 50m/min from 38m to 128m MD.
15:00	15:15	0.25	21	Crew hand-over meeting. Discuss hazard id's & daily hazards.
15:15	15:30	0.25	21A	BOP drill & discussion prior to drill out. 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.
15:30	16:00	0.50	6A	Trip in hole at 40m/min from 128m to 436m (Tag cement at 436m MD.)

Remarks
****Rig tour completed by Beaver Drilling representatives Kevin Krausert (CEO), Jason Blahun (HSE Manager), Robb Phillips (Business Analyst)****
Hazard ID: While working in the upper sub i was getting close to being at max length on my SRL. / Tied off with a lanyard and moved the SRL to a better working position.

SAFETY

Safety Topic	MEHL	MACP
Driving Home Long Change.	44	3040

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	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	300.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	57.14
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5° Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03

7	Drill Pipe Stands	203.92
0	Drill Pipe Singles	0.00
Kelly Down		-0.60
Total		759.00
Weight of DC		24.00
Weight of String		51.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			6000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	21:30	23:30
Density	1135	1135
Funnel Viscosity	31	31
Fluid Loss	0	0
pH	11.5	11.5
Location Of Sample	Suction	Trough
Depth	648.00	738.00
PVT	60.5	57.14

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	105	24000	8.00
2	PARALLEL	127	105	24000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2200	@	60	@	759.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
22:00	656.81	2.80	319.5	DIRECTIONAL
22:45	685.93	2.60	313.7	DIRECTIONAL
23:15	715.07	2.10	316	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1145	1110	1450
Mudcleaner Centrifuge #2	8.00	1145	1115	1450

MUD MATERIALS ADDED

Product	Amount	Type
Limestone 0 grade	4	sxs
water	15	m3

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard id: Worker was bringing man rider down too soon risking a potential snag in the top drive / stopped him and instructed him when the top drive was clear.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	55	3220

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170318_1A	RMS 2016.6.14.37064	2017	03	18

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		
(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.) CADDC 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

CADDC — NOV

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	5.25													1.75							1.00					8.00
Tour 2						1.00	0.50		0.75					1.25	2.00					0.75	1.50				0.25	8.00
Tour 3		5.25			0.25															2.00	0.50					8.00
TOTAL	5.25	5.25			0.25	1.00	0.50		0.75					3.00	2.00					2.75	3.00				0.25	24.00

Kelly Bushing: 6.6 — Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
13872	6750

Time	Temp
06:00	-12

WEATHER

Current Conditions: SNOW

Wind Direction	Wind Strength
N	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	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

Boiler #2 fuel @ 05:00hrs: 7452 litres.
****John Deere 644K loader & JCB 550-140 Zoom Boom in use while walking to next well & rig up****

SAFETY

Safety Topic	MEHL	MACP
Walking the rig.		

TOUR 2

SIGNATURE OF DRILLER: Justin Holt — START TIME: 8:00 — END TIME: 16:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	18-Mar-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	200mm PDC Bit	200	1	0.29
1	6.5" Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
34	4" CDS40 HWDP	101	65	322.23
0	Drill Pipe — Stands			0.00
0	Drill Pipe — Singles			0.00

Kelly Down: 0.00
Total: 441.88
Weight of DC: 24.00
Weight of String: 29.00

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
Installed corrosion ring in mud tank # 2.

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

****Rig tour completed by Beaver Drilling representatives Kevin Krausert (CEO), Jason Blahun (HSE Manager), Robb Phillips (Business Analyst)****
Hazard ID: While working in the upper sub i was getting close to being at max length on my SRL. / Tied off with a lanyard and moved the SRL to a better working position.

SAFETY

Safety Topic	MEHL	MACP
Driving Home Long Change.	44	3040

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	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	300.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 57.14 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5" Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
7	Drill Pipe — Stands			203.92
0	Drill Pipe — Singles			0.00

Kelly Down: -0.60
Total: 759.00
Weight of DC: 24.00
Weight of String: 51.00

HOLE CONDITION

Hole Drag — Up: 1 — Down: 1

Torque At Bottom: 6000

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	105	24000	8.00
2	PARALLEL	127	105	24000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure	@	Strokes/min	@	Depth
1	2200	@	60	@	759.00
		@		@	
		@		@	

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	1145	1110	1450
Mudcleaner Centrifuge #2	8.00	1145	1115	1450

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 bringing man rider down too soon risking a potential snag in the top drive / stopped him and instructed him when the top drive was clear.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	55	3220

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170319_1A	RMS 2016.6.14.37064	2017	03	19

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		
(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	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		5.50					0.50													1.00					1.00	8.00
Tour 3		6.75																		0.50	0.75					8.00
TOTAL		17.50					1.00													3.00	1.50				1.00	24.00

Kelly Bushing 6.6 | Up Fuel 3524

FUEL @ 08:00 HRS

Rig 10564 | Boiler 6750

WEATHER

Time 06:00 | Temp -18 | Current Conditions CLEAR | Wind Direction W | 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	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	718.00
Hrs Run Today	5.25
Cumulative Hrs Run	10.50
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 68.38 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
759.00	1177.00	DRILL	70	14.5

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5° Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
21	Drill Pipe	Stands		611.91
1	Drill Pipe	Singles		9.71

Kelly Down -0.30 | Total 1177.00 | Weight of DC 30.00 | Weight of String 57.00

HOLE CONDITION

Hole Drag Up 2 Down 2 | Torque At Bottom 9500 | Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	01:30	03:00
Density	1120	1115
Funnel Viscosity	30	31
Fluid Loss		
pH	11	11
Location Of Sample	trough	trough
Depth	819.00	883.00
PVT	55	48.42

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	105	26000	8.00
2	PARALLEL	127	105	26000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2400	@	60	@	904.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:00	744.20	2.30	316.9	DIRECTIONAL
00:45	773.35	2.20	328.7	DIRECTIONAL
01:15	802.50	2.20	323	DIRECTIONAL
02:00	831.61	1.90	324.1	DIRECTIONAL
02:30	860.78	1.10	333.8	DIRECTIONAL
03:30	889.98	2.50	304.4	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1135	1110	1470
Mudcleaner Centrifuge #2	8.00	1135	1115	1470

MUD MATERIALS ADDED

Product	Amount	Type
EnerFiber	14	sxs
Limestone 0 grade	5	sxs
Limestone 325	5	sxs
Sawdust	24	sxs
Enerhib C	1	bbl
Enerscav C	1	bbl
water	10	m3
Lime Hydrated	8	sxs
Sulphamic Acid	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. 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 overhead equipment. Completed Pre-shift fall protection inspectionequipment visual inspection. Visual inspection of BOP & valves completed by Rodney Ewing & Dan Meyer.
0:30	0:45	0.25	21A	BOP drill & discussion while drilling. Simulated a hard shut in. Crew assumed CAODC designated positions. Well secured in 74 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.
0:45	6:00	5.25	2	Drill vertical section of 200mm main hole from 759m to 1177m MD. Pump Rate - 2.2m3/min, WOB - 15 kdaN, Rotary - 70 RPM, Pump Pressure - 26,000 kPa, Torque - 9,500 ft/lbs, Diff Pressure - 5,500 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 hazards.

Remarks

Boiler #2 fuel @ 05:00hrs: 7236 litres.

Hazard id: Ice built up on platform creating a major slip hazard at the bottom of the stairs / steamed all the ice and laid down some ice melter to prevent a slip or fall.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill	60	3310

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	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1028.00
Hrs Run Today	5.75
Cumulative Hrs Run	16.25
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 63.26 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1177.00	1487.00	DRILL	70	14

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5° Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
32	Drill Pipe	Stands		932.10
0	Drill Pipe	Singles		0.00

Kelly Down -0.78 | Total 1487.00 | Weight of DC 30.00 | Weight of String 65.00

HOLE CONDITION

Hole Drag Up 2 Down 2 | Torque At Bottom 9900 | Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	08:45	11:00
Density	1090	1100
Funnel Viscosity	29	30
Fluid Loss	0	0
pH	10.5	10.5
Location Of Sample	Suction	Suction
Depth	1198.00	1258.27
PVT	46.6	46.49

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	96	24000	8.00
2	PARALLEL	127	96	24000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5000	@	95	@	1311.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
10:15	1210.42	2.30	318.3	DIRECTIONAL
11:00	1152.19	1.50	311.1	DIRECTIONAL
11:00	1239.52	1.90	319.7	DIRECTIONAL
11:00	1181.31	1.80	317.5	DIRECTIONAL
11:45	1269.06	2.50	318.9	DIRECTIONAL
12:15	1297.73	2.70	315.3	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1095	1490
Mudcleaner Centrifuge #2	8.00	1140	1095	1490

MUD MATERIALS ADDED

Product	Amount	Type
Enercure	6	sxs
EnerPac Regular	5	sxs
Limestone 0 grade	15	sxs
Limestone 325	15	sxs
EnerFiber	40	sxs
Sawdust	35	sxs
Brine	35	m3
Lime Hydrated	6	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	8:45	0.75	2	Drill vertical section of 200mm main hole from 1177m to 1312m MD. Pump Rate - 2.2m3/min, WOB - 15 kdaN, Rotary - 70 RPM, Pump Pressure - 26,000 kPa, Torque - 9,500 ft/lbs, Diff Pressure - 5,500 kPa.
8:45	9:45	1.00	25	NOV Rig Sense Application Server shut down; Attempt to restart & reboot. Troubleshoot & repair problem with NOV computer technicians.
9:45	10:15	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, 6 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boehnert.
10:15	15:00	4.75	2	Drill vertical section of 200mm main hole from 1312m to 1487m MD. Pump Rate - 2.2m3/min, WOB - 15 kdaN, Rotary - 70 RPM, Pump Pressure - 24,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 5,000 kPa.
15:00	16:00	1.00	20A	Accumulated time on reciprocating drill string, directional surveys & connections.

Remarks

**** Completed service & visual inspection of TDS-11SA top drive ****

Hazard ID : Cleaning a closed tank it was difficult to monitor worker inside. / Removed side hatch prior to entering and resealed it upon completion.

SAFETY

Safety Topic	MEHL	MACP
Hazard assessment.	70	3130

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	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1203.00
Hrs Run Today	6.75
Cumulative Hrs Run	23.00
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 52.30 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1487.00	1662.00	DRILL	70	17

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5° Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
38	Drill Pipe	Stands		1106.68
0	Drill Pipe	Singles		0.00

Kelly Down 0.00 | Total 1662.36 | Weight of DC 24.00 | Weight of String 72.00

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	18:00	20:00
Density	1135	1140
Funnel Viscosity	31	31
Fluid Loss	0	0
pH	10.5	10
Location Of Sample	Suction	Trough
Depth	1528.00	1577.00
PVT	37.78	52.13

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	105	28000	8.00
2	PARALLEL	127	105	28000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2756	@	60	@	1662.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
17:00	1501.44	1.70	284.7	DIRECTIONAL
18:15	1530.53	2.00	301	DIRECTIONAL
19:30	1559.65	2.20	290.7	DIRECTIONAL
21:30	1588.75	3.00	309.6	DIRECTIONAL
22:45	1617.84	2.80	326.8	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1120	1445
Mudcleaner Centrifuge #2	8.00	1140	1120	1445

MUD MATERIALS ADDED

Product	Amount	Type
Lime Hydrated	10	sxs
Sawdust	20	sxs
EnerFiber	8	sxs
EnerClear F 1802	3	sxs
Limestone 0 grade	4	sxs
Limestone 325	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
16:00	16:15	0.25	21A	H2S man down drill while drilling. Simulated a hard shut in. Crew evacuated to upwind muster area. Well secured in 90 seconds. Practiced rescue routes. 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.
16:15	19:00	2.75	2	Drill vertical section of 200mm main hole from 1487m to 1570m MD. Pump Rate - 2.0 m3/min, WOB - 15 kdaN, Rotary - 70 RPM, Pump Pressure - 24,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 5,000 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily hazards.
19:30	23:30	4.00	2	Drill vertical section of 200mm main hole from 1570m to 1662m MD. Pump Rate - 2.2 m3/min, WOB - 17 kdaN, Rotary - 70 RPM, Pump Pressure - 28,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure -4,700 kPa.
23:30	24:00	0.50	20A	Accumulated EM survey & connection time.

Remarks

Hazard id: Icey walkways around rig / steamed them and laid down de-icer to prevent further ice build up.

SAFETY

Safety Topic	MEHL	MACP
H2S man down drill.	76	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170319_1A	RMS 2016.6.14.37064	2017	03	19

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		
(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.) CADOC 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		5.25					0.50													1.50	0.75					8.00
Tour 2		5.50					0.50													1.00					1.00	8.00
Tour 3		6.75																		0.50	0.75					8.00
TOTAL		17.50					1.00													3.00	1.50				1.00	24.00

Kelly Bushing 6.6 | Op Fuel 3524

FUEL @ 08:00 HRS

WEATHER: Rig 10564 | Boiler 6750 | Time 06:00 | Temp -18 | Current Conditions CLEAR | Wind Direction W | 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	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 / 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	718.00
Hrs Run Today	5.25
Cumulative Hrs Run	10.50
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 68.38 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5" Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
21	Drill Pipe	Stands		611.91
1	Drill Pipe	Singles		9.71

Kelly Down	-0.30
Total	1177.00
Weight of DC	30.00
Weight of String	57.00

HOLE CONDITION

Hole Drag Up 2 Down 2

Torque At Bottom	9500
Fill On Bottom	0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	04:30	
Density	1110	
Funnel Viscosity	31	
Fluid Loss		
pH	11	
Location Of Sample	trough	
Depth	963.00	
PVT	52.97	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	105	26000	8.00
2	PARALLEL	127	105	26000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2400	@	60	@	904.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
04:15	919.14	2.60	304.6	DIRECTIONAL
04:30	948.27	1.80	301	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1135	1110	1470
Mudcleaner Centrifuge #2	8.00	1135	1115	1470

MUD MATERIALS ADDED

Product	Amount	Type
EnerPac Regular	2	SXS
Enercure	1	SXS
EnerClear F 1802	4	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 fuel @ 05:00hrs: 7236 litres.

Hazard id: Ice built up on platform creating a major slip hazard at the bottom of the stairs / steamed all the ice and laid down some ice melter to prevent a slip or fall.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill	60	3310

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	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 / 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1028.00
Hrs Run Today	5.75
Cumulative Hrs Run	16.25
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 63.26 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5" Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
32	Drill Pipe	Stands		932.10
0	Drill Pipe	Singles		0.00

Kelly Down	-0.78
Total	1487.00
Weight of DC	30.00
Weight of String	65.00

HOLE CONDITION

Hole Drag Up 2 Down 2

Torque At Bottom	9900
Fill On Bottom	0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	13:30	15:30
Density	1110	1140
Funnel Viscosity	30	31
Fluid Loss	0	0
pH	10.5	10.5
Location Of Sample	Suction	Suction
Depth	1387.00	1471.00
PVT	51.87	53.14

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	96	24000	8.00
2	PARALLEL	127	96	24000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5000	@	95	@	1311.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
12:45	1326.84	3.40	305.8	DIRECTIONAL
13:15	1355.95	3.40	302.9	DIRECTIONAL
14:00	1385.06	2.90	307.3	DIRECTIONAL
14:30	1414.17	2.50	292.3	DIRECTIONAL
15:00	1443.28	2.10	297.9	DIRECTIONAL
16:00	1472.38	1.60	278.6	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1095	1490
Mudcleaner Centrifuge #2	8.00	1140	1095	1490

MUD MATERIALS ADDED

Product	Amount	Type
Enerhib C	1	bbl
Enerscav C	1	bbl
Defoamer Gemini	1	pail
EnerClear F 1802	5	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

**** Completed service & visual inspection of TDS-11SA top drive ****

Hazard ID : Cleaning a closed tank it was difficult to monitor worker inside. / Removed side hatch prior to entering and resealed it upon completion.

SAFETY

Safety Topic	MEHL	MACP
Hazard assessment.	70	3130

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	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 / 7.94 7.94 7.94
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1203.00
Hrs Run Today	6.75
Cumulative Hrs Run	23.00
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 52.30 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5" Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
38	Drill Pipe	Stands		1106.68
0	Drill Pipe	Singles		0.00

Kelly Down	0.00
Total	1662.36
Weight of DC	24.00
Weight of String	72.00

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	22:00	23:45
Density	1140	1135
Funnel Viscosity	30	30
Fluid Loss	0	0
pH	11	11
Location Of Sample	Trough	Trough
Depth	1617.00	1656.00
PVT	49.42	60.63

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	105	28000	8.00
2	PARALLEL	127	105	28000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2756	@	60	@	1662.00
		@		@	
		@		@	

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	1120	1445
Mudcleaner Centrifuge #2	8.00	1140	1120	1445

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: Icey walkways around rig / steamed them and laid down de-icer to prevent further ice build up.

SAFETY

Safety Topic	MEHL	MACP
H2S man down drill.	76	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170320_1A	RMS 2016.6.14.37064	2017	03	20

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		1.75				4.50	0.50													0.50	0.75					8.00
Tour 2						3.75	0.50													3.00	0.25				0.50	8.00
Tour 3		5.25	0.25			0.75														1.25	0.50					8.00
TOTAL		7.00	0.25			9.00	1.00													4.75	1.50				0.50	24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	4056

Rig	Boiler
7228	6500

WEATHER

Time	Temp
05:00	-21

Current Conditions	
CLEAR	

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	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	1720.00
Depth In (m)	459.00
Total Drilled (m)	1261.00
Hrs Run Today	1.75
Cumulative Hrs Run	24.75
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	50.95
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1662.00	1720.00	DRILL	70	18

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5" Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
41	Drill Pipe	Stands		1193.99
0	Drill Pipe	Singles		0.00

Kelly Down	-29.67
Total	1720.00
Weight of DC	24.00
Weight of String	74.00

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	01:45	04:00
Density	1140	1140
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	trough	trough
Depth	1695.00	1720.00
PVT	57.45	42.02

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	105	29000	3.00
2	COMBINED	127	105	29000	3.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2700	@	60	@	1719.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:15	1646.96	2.70	335.9	DIRECTIONAL
01:30	1676.06	2.40	347.9	DIRECTIONAL
02:30	1705.14	2.80	1.1	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	3.00	1140	1120	1490
Mudcleaner Centrifuge #2	3.00	1140	1120	1490

MUD MATERIALS ADDED

Product	Amount	Type
Sawdust	11	sxs
Brine	4	m3
EnerClear F 1802	1	sxs
Enerhib C	1	bbl
Enerscav 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	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 I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned upper pipe rams, 6 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Rodney Ewing & Dan Meyer.
0:30	0:45	0.25	21A	H2S man down drill while drilling. Simulated a hard shut in. Crew evacuated to upwind muster area. Well secured in 52 seconds. Practiced rescue routes and SCBA pack up procedures. 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.
0:45	2:30	1.75	2	Drill vertical section of 200mm main hole from 1662m to 1720m MD (End of 200mm vertical section). Pump Rate - 2.2 m3/min, WOB - 18 kdaN, Rotary - 70 RPM, Pump Pressure - 29,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 4,700 kPa.
2:30	3:00	0.50	20A	Accumulated EM survey & connection time.
3:00	7:30	4.50	6B	Review JSA. Pump 3.0m3 of 1345kg/m3 weighed slug with a recovery of 0.55m3. Trip out of hole for BHA change @ 30m/min from 1720m to 222m MD. Flowcheck @ 1719m, 1641m, 855m, 222m MD.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards.

Remarks

Boiler #2 fuel @ 05:00hrs: 6516 litres.

Hazard id: Workers were too excited after blown kelly hose / talked to them and calmed everyone down prior to commencing work again.

SAFETY

Safety Topic	MEHL	MACP
Trip out of hole	78	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	12860043
Jets	7.9 7.9 8.7 8.7 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI	2	Gage	1
TO	3	ODC	WT
MDC	CT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	50.95
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
42	Drill Pipe	Stands		1223.10
0	Drill Pipe	Singles		0.00

Kelly Down	-13.91
Total	1720.00
Weight of DC	24.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 1	Down	3
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	15:00	
Density	1130	
Funnel Viscosity	31	
Fluid Loss	0	
pH	10.5	
Location Of Sample	Suction	
Depth	1720.00	
PVT	35	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	86	15000	1.00
2	PARALLEL	127	86	15000	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5000	@	90	@	1013.00
		@		@	
		@		@	

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	1090	1495
Mudcleaner Centrifuge #2	8.00	1130	1090	1495

MUD MATERIALS ADDED

Product	Amount	Type
Brine	28	m3
Limestone 0 grade	6	sxs
Limestone 325	6	sxs
EnerFiber	16	sxs
Enercure	2	sxs
EnerPac Regular	2	sxs
Defoamer Gemini	1	pail
Lime Hydrated	6	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	9:00	1.00	6B	Continue to trip out of hole for BHA change from 222m to 38m MD. Laydown Jars, x/o & 6 - 165mm drill collars.
9:00	9:15	0.25	21D	Safety meeting & JSA review with New Discovery prior to handling directional tools.
9:15	12:15	3.00	20D	Handle New Discovery directional tools; Laydown 200mm vertical section BHA. Laydown 3 - 165mm NM slick monels. Remove gap sub & disassemble EM tool. Drain mud motor, break PDC Bit #2. Laydown motor. Out of hole - Flow check at 0m, Function HCR 2 seconds to open & blind rams 4 seconds to close. Trip record; calculated 15.68m3, measured 8.49m3, difference +7.19m3. Makeup 200mm build section BHA. Pickup 1 - mud motor preset at 2.12 degrees, 1 - NM Flex monel with 1 - pony sub. Scribe tools. Makeup PDC Bit #3. Makeup Gap sub & build EM tool. Power on & program EM tool. Makeup 1 - UBHO sub & set muleshoe. Makeup NM flex monels & install MWD pulse tool. Makeup 1 - x/o, 2 - 101.6mm HWDP & Drilling Jars.
12:15	13:00	0.75	6A	Trip in hole at 30m/min from 74m to 464m MD. Flow check at 464m.
13:00	13:30	0.50	25	Review JSA. Remove leaking Kelly hose & install new Kelly hose.
13:30	14:00	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. 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. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boehnert.
14:00	16:00	2.00	6A	Continue to trip in hole at 30m/min from 464m to 1254m MD. Flow check at 1013m.

Remarks

Hazard ID : Nearly slipped on pipe stripper while working rig floor. / Ensured all trip hazards were picked up before continuing work.

SAFETY

Safety Topic	MEHL	MACP
10 Golden rules / 5 w's.	61	3220

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	12860043
Jets	7.9 7.9 8.7 8.7 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	130.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	24.76
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1720.00	1850.00	DRILL	32	14

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
46	Drill Pipe	Stands		1339.60
0	Drill Pipe	Singles		0.00

Kelly Down	-0.41
Total	1850.00
Weight of DC	0.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 3	Down	3
Torque At Bottom			10000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	18:00	20:00
Density	1140	1140
Funnel Viscosity	30	30
Fluid Loss	0	0
pH	10	11.5
Location Of Sample	Suction	Trough
Depth	1749.23	1782.00
PVT	37.88	51.51

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	96	28000	7.00
2	PARALLEL	127	96	28000	7.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7800	@	96	@	1733.00
1	6900	@	90	@	1849.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
17:30	1718.51	2.80	355	DIRECTIONAL
18:00	1733.05	2.60	355	DIRECTIONAL
18:45	1747.59	3.10	348.8	DIRECTIONAL
19:30	1762.14	6.30	340.8	DIRECTIONAL
20:15	1776.69	9.70	340.1	DIRECTIONAL
21:15	1791.27	12.40	339.2	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	7.00	1140	1120	1640
Mudcleaner Centrifuge #2	7.00	1140	1125	1640

MUD MATERIALS ADDED

Product	Amount	Type
Sawdust	28	sxs
EnerFiber	8	sxs
Lime Hydrated	18	sxs
Caustic Soda	3	sxs
Limestone 0 grade	2	sxs
Limestone 325	2	sxs
Enerhib C	1	bbl
Enerscav 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
16:00	16:45	0.75	6A	Continue to trip in hole at 30m/min from 1254m to 1675m MD. Fill pipe at 600m intervals.
16:45	17:00	0.25	3A	Wash 45m to bottom from 1675m to 1720m MD. Pump Rate - 2.0 m3/min, Rotary - 35 RPM. (No fill)
17:00	19:00	2.00	2	Directional drill build section of 200mm main hole from 1720m to 1770m MD (KOP 1748m MD). Pump Rate - 2.0 m3/min, WOB - 14 kdaN, Rotary - 32 RPM, Pump Pressure - 27,000 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 4,000 kPa. Sliding Parameters; WOB - 8 kdaN, Diff Pressure - 2,000 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily hazards.
19:30	22:45	3.25	2	Directional drill build section of 200mm main hole from 1770m to 1850m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - 29,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 4,200 kPa. Sliding Parameters; WOB - 12 kdaN, Diff Pressure - 1,800 kPa.
22:45	24:00	1.25	20A	Accumulated EM survey & connection time.

Remarks

Hazard id: Worker went to use tugger while top drive was rotating / stopped him and told him to wait until the Top Drive was not drilling.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	78	3220

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170320_1A	RMS 2016.6.14.37064	2017	03	20

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		1.75				4.50	0.50													0.50	0.75					8.00
Tour 2						3.75	0.50													3.00	0.25				0.50	8.00
Tour 3		5.25	0.25			0.75														1.25	0.50					8.00
TOTAL		7.00	0.25			9.00	1.00													4.75	1.50				0.50	24.00

WEATHER

Kelly Bushing	Op Fuel
6.6	4056

FUEL @ 08:00 HRS

Rig	Boiler
7228	6500

Time	Temp
05:00	-21

Current Conditions: CLEAR

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	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162364
Jets	7.94 7.94 7.94 7.94 7.94 7.94 7.94
Depth Out (m)	1720.00
Depth In (m)	459.00
Total Drilled (m)	1261.00
Hrs Run Today	1.75
Cumulative Hrs Run	24.75
Entry Date	18-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	50.95
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.29
1	6.5" Sealed 7/8 5.0 STG	165	1	8.24
1	Slick NMDC	167	72	9.27
1	165mm Gap Sub	164	79	1.72
2	Slick NMDC	167	72	18.17
1	4H90 x 4.5XH X/O	167	63	0.73
6	6 1/2" Drill Collar	167	59	56.54
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
41	Drill Pipe	Stands		1193.99
0	Drill Pipe	Singles		0.00

Kelly Down	-29.67
Total	1720.00
Weight of DC	24.00
Weight of String	74.00

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	COMBINED	127	105	29000	3.00
2	COMBINED	127	105	29000	3.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2700	@	60	@	1719.00
		@		@	
		@		@	

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	1140	1120	1490
Mudcleaner Centrifuge #2	3.00	1140	1120	1490

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 @ 05:00hrs: 6516 litres.

Hazard id: Workers were too excited after blown kelly hose / talked to them and calmed everyone down prior to commencing work again.

SAFETY

Safety Topic	MEHL	MACP
Trip out of hole	78	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	12860043
Jets	7.9 7.9 8.7 8.7 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI	2	Gage	1
TO	3	ODC	WT
MDC	CT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	50.95
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
42	Drill Pipe	Stands		1223.10
0	Drill Pipe	Singles		0.00

Kelly Down	-13.91
Total	1720.00
Weight of DC	24.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up	1	Down	3
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	86	15000	1.00
2	PARALLEL	127	86	15000	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5000	@	90	@	1013.00
		@		@	
		@		@	

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	1090	1495
Mudcleaner Centrifuge #2	8.00	1130	1090	1495

MUD MATERIALS ADDED

Product	Amount	Type
Sawdust	20	sxs

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 : Nearly slipped on pipe stripper while working rig floor. / Ensured all trip hazards were picked up before continuing work.

SAFETY

Safety Topic	MEHL	MACP
10 Golden rules / 5 w's.	61	3220

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	12860043
Jets	7.9 7.9 8.7 8.7 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	130.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	24.76
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
46	Drill Pipe	Stands		1339.60
0	Drill Pipe	Singles		0.00

Kelly Down	-0.41
Total	1850.00
Weight of DC	0.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up	3	Down	3
Torque At Bottom		10000		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	22:00
Density	1140
Funnel Viscosity	30
Fluid Loss	0
pH	11.5
Location Of Sample	Trough
Depth	1815.00
PVT	61.26

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	96	28000	7.00
2	PARALLEL	127	96	28000	7.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7800	@	96	@	1733.00
1	6900	@	90	@	1849.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
22:15	1805.85	15.80	333.5	DIRECTIONAL
23:00	1820.43	18.60	328.8	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	7.00	1140	1120	1640
Mudcleaner Centrifuge #2	7.00	1140	1125	1640

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 went to use tugger while top drive was rotating / stopped him and told him to wait until the Top Drive was not drilling.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	78	3220

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170321_1A	RMS 2016.6.14.37064	2017	03	21

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		5.75					0.50													1.25	0.50					8.00
Tour 2		6.00					0.50													1.50						8.00
Tour 3		4.50			1.50															1.25	0.75					8.00
TOTAL		16.25			1.50		1.00													4.00	1.25					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	6100

Rig	Boiler
11537	6500

Time	Temp
05:00	-13

WEATHER

Current Conditions	
PARTLY CLOUDY	
Wind Direction	Wind Strength
N	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	12860043
Jets	7.9 7.9 8.7 8.7 / 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	247.00
Hrs Run Today	5.75
Cumulative Hrs Run	11.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	22.45
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1850.00	1967.00	DRILL	32	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
50	Drill Pipe	Stands		1456.39
0	Drill Pipe	Singles		0.00

Kelly Down	-0.20
Total	1967.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up 3	Down 5
Torque At Bottom	10000	
Fill On Bottom	0.00	

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	02:00	04:00
Density	1140	1135
Funnel Viscosity	30	30
Fluid Loss	0	0
pH	11	11
Location Of Sample	Trough	Trough
Depth	1870.00	1899.00
PVT	58.56	56.8

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	25000	8.00
2	PARALLEL	127	90	25000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6950	@	90	@	1908.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
01:30	1849.59	25.20	325.3	DIRECTIONAL
02:30	1864.24	29.10	325.8	DIRECTIONAL
03:30	1878.84	32.40	324.8	DIRECTIONAL
04:30	1893.44	34.70	323.9	DIRECTIONAL
05:45	1907.89	35.60	325.7	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1120	1640
Mudcleaner Centrifuge #2	8.00	1140	1125	1640

MUD MATERIALS ADDED

Product	Amount	Type
Sawdust	24	sxs
EnerFiber	4	sxs
EnerClear F 1802	3	sxs
Limestone 325	2	sxs
Limestone 0 grade	2	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
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 I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned upper pipe rams, 6 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Rodney Ewing & Dan Meyer.
0:30	6:15	5.75	2	Directional drill build section of 200mm main hole from 1850m to 1967m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - 25,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 3,500 kPa. Sliding Parameters; WOB - 17 kdaN, Diff Pressure - 1,700 kPa.
6:15	7:30	1.25	20A	Accumulated EM survey & connection time.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards.

Remarks

Boiler #2 fuel @ 05:00hrs: 6100 litres.

Hazard id: While rolling casing the casing would roll back towards us on the racks / chalked the casing and secured it to prevent it from rolling back towards us.

SAFETY

Safety Topic	MEHL	MACP
IRS	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	12860043
Jets	7.9 7.9 8.7 8.7 / 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	338.00
Hrs Run Today	6.00
Cumulative Hrs Run	17.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	19.88
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1967.00	2058.00	DRILL	32	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
54	Drill Pipe	Stands		1573.05
0	Drill Pipe	Singles		0.00

Kelly Down	-25.86
Total	2058.00
Weight of DC	24.00
Weight of String	73.00

HOLE CONDITION

Hole Drag	Up 5	Down 10
Torque At Bottom	10000	
Fill On Bottom	0.00	

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	11:00	13:00
Density	1140	1155
Funnel Viscosity	30	30
Fluid Loss	0	0
pH	11	11
Location Of Sample	Suction	Suction
Depth	1980.00	2020.00
PVT	51.49	54.84

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	27700	8.00
2	PARALLEL	127	90	27700	8.00

Remarks

Transfer 70m3 of invert into mud tanks #2, 3 & 4 in preparation of wellbore displacement.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7300	@	90	@	2025.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:00	1937.07	43.00	325.4	DIRECTIONAL
09:15	1951.80	45.90	322.4	DIRECTIONAL
10:30	1966.39	50.10	323.2	DIRECTIONAL
12:00	1980.97	52.90	324.8	DIRECTIONAL
12:30	1995.55	56.20	325.2	DIRECTIONAL
13:30	2010.13	56.90	324.6	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1115	1490
Mudcleaner Centrifuge #2	8.00	1140	1115	1490

MUD MATERIALS ADDED

Product	Amount	Type
Enerhib C	1	bbl
Enerscav C	1	bbl
Defoamer Gemini	1	pail
Wetting Agent	2	bbls
Invert	71	bbls
Sawdust	20	sxs
EZ Gel CES	1	sxs
EnerBar	12	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	13:15	5.25	2	Directional drill build section of 200mm main hole from 1967m to 2025m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - 27,200 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 3,500 kPa. Sliding Parameters; WOB - 17 kdaN, Diff Pressure - 1,700 kPa.
13:15	13:45	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, 6 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boehnert.
13:45	14:30	0.75	2	Directional drill build section of 200mm main hole from 2025m to 2058m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - 27,200 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 3,500 kPa. Sliding Parameters; WOB - 17 kdaN, Diff Pressure - 1,700 kPa.
14:30	16:00	1.50	20A	Accumulated time on reciprocating drill string, directional surveys & connections.

Remarks

**** Completed service & visual inspection of PipeCat. ****

Hazard ID : Trouble shooting electric transfer pump. / Followed lockout procedure prior to disassembling cord end.

SAFETY

Safety Topic	MEHL	MACP
Electricity. Lock out / Tag out.	83	3130

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	12860043
Jets	7.9 7.9 8.7 8.7 / 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	422.00
Hrs Run Today	5.00
Cumulative Hrs Run	22.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	19.18
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2058.00	2142.00	DRILL	32	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
56	Drill Pipe	Stands		1631.34
0	Drill Pipe	Singles		0.00

Kelly Down	-0.15
Total	2142.00
Weight of DC	0.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down 7
Torque At Bottom	9000	
Fill On Bottom	0.00	

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	18:15	21:15
Density	1150	1140
Funnel Viscosity	30	86
Fluid Loss	0	
pH	10.5	
Location Of Sample	Suction 1	Suction 2
Depth	2085.00	2111.00
PVT	15.53	61.69

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	86	36000	8.00
2	PARALLEL	127	86	36000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	10000	@	86	@	2141.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:45	2053.88	67.10	327.4	DIRECTIONAL
18:00	2068.46	71.30	326	DIRECTIONAL
19:15	2083.04	75.50	324.4	DIRECTIONAL
21:15	2097.61	78.90	324.1	DIRECTIONAL
22:45	2112.18	82.10	323.9	DIRECTIONAL
	2126.75	86.60	323.5	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	7.00	1140	1115	1600
Mudcleaner Centrifuge #2	5.00	1150	1120	1500

MUD MATERIALS ADDED

Product	Amount	Type
Calcium Chloride	10	sxs
Lime Hydrated	35	sxs
Enermul P-100	1	bbl
Secondary CES	1	bbl
Wetting Agent	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	19:00	3.00	2	Directional drill build section of 200mm main hole from 2058m to 2095m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - 27,200 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 3,500 kPa. Sliding Parameters; WOB - 17 kdaN, Diff Pressure - 1,700 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily hazards.
19:30	19:45	0.25	2	Directional drill build section of 200mm main hole from 2090m to 2112m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - 27,200 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 3,500 kPa. Sliding Parameters; WOB - 17 kdaN, Diff Pressure - 1,700 kPa.
19:45	20:00	0.25	21D	Safety meeting with Canvac prior to wellbore displacement.
20:00	21:30	1.50	5B	Displace wellbore from 1150kg/m3 CaCl brine to 1140kg/m3 Invert. Total displacement of 62m3 with 4m3 polymer spacer. Shutdown & clean catch tank with Canvac Vacuum truck & a valid confined space entry permit.
21:30	22:45	1.25	2	Directional drill build section of 200mm main hole from 2112m to 2142m MD. Pump Rate - 1.8m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - -36,000 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 4,500 kPa. Sliding Parameters; WOB - 17 kdaN, Diff Pressure - 1,700 kPa.
22:45	24:00	1.25	20A	Accumulated EM survey & connection time.

Remarks

Hazard id: Worker was not looking up in the derrick as I worked the drill string on a connection / Reminded him to watch up to prevent any snags or accidents from occuring.

SAFETY

Safety Topic	MEHL	MACP
Invert exposure	79	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170321_1A	RMS 2016.6.14.37064	2017	03	21

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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	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		5.75					0.50													1.25	0.50					8.00
Tour 2		6.00					0.50													1.50						8.00
Tour 3		4.50			1.50															1.25	0.75					8.00
TOTAL		16.25			1.50		1.00													4.00	1.25					24.00

Kelly Bushing 6.6 | Op Fuel 6100

FUEL @ 08:00 HRS

Rig 11537 | Boiler 6500

WEATHER

Time 05:00 | Temp -13

Current Conditions: PARTLY CLOUDY

Wind Direction: N | 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	12860043
Jets	7.9 / 7.9 / 8.7 / 8.7
	7.9 / 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	247.00
Hrs Run Today	5.75
Cumulative Hrs Run	11.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 22.45 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5° Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
50	Drill Pipe	Stands		1456.39
0	Drill Pipe	Singles		0.00

Kelly Down	-0.20
Total	1967.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag: Up 3 | Down 5

Torque At Bottom	10000
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	05:30	07:45
Density	1135	1130
Funnel Viscosity	30	30
Fluid Loss		
pH	11	11
Location Of Sample	trough	Trough
Depth	1919.00	1947.00
PVT	56.14	54

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	25000	8.00
2	PARALLEL	127	90	25000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	6950	@	90	@	1908.00
		@		@	
		@		@	

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	1120	1640
Mudcleaner Centrifuge #2	8.00	1140	1125	1640

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 @ 05:00hrs: 6100 litres.

Hazard id: While rolling casing the casing would roll back towards us on the racks / chalked the casing and secured it to prevent it from rolling back towards us.

SAFETY

Safety Topic	MEHL	MACP
IRS	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	12860043
Jets	7.9 / 7.9 / 8.7 / 8.7
	7.9 / 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	338.00
Hrs Run Today	6.00
Cumulative Hrs Run	17.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 19.88 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5° Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
54	Drill Pipe	Stands		1573.05
0	Drill Pipe	Singles		0.00

Kelly Down	-25.86
Total	2058.00
Weight of DC	24.00
Weight of String	73.00

HOLE CONDITION

Hole Drag: Up 5 | Down 10

Torque At Bottom	10000
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	15:15	
Density	1155	
Funnel Viscosity	30	
Fluid Loss	0	
pH	11	
Location Of Sample	Suction 1	
Depth	2048.00	
PVT	15.76	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	27700	8.00
2	PARALLEL	127	90	27700	8.00

Remarks

Transfer 70m3 of invert into mud tanks #2, 3 & 4 in preparation of wellbore displacement.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7300	@	90	@	2025.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:45	2024.71	60.70	325.2	DIRECTIONAL
15:30	2039.29	63.90	327	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1140	1115	1490
Mudcleaner Centrifuge #2	8.00	1140	1115	1490

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

**** Completed service & visual inspection of PipeCat. ****

Hazard ID : Trouble shooting electric transfer pump. / Followed lockout procedure prior to disassembling cord end.

SAFETY

Safety Topic	MEHL	MACP
Electricity. Lock out / Tag out.	83	3130

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	12860043
Jets	7.9 / 7.9 / 8.7 / 8.7
	7.9 / 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	422.00
Hrs Run Today	5.00
Cumulative Hrs Run	22.00
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 19.18 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5° Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
56	Drill Pipe	Stands		1631.34
0	Drill Pipe	Singles		0.00

Kelly Down	-0.15
Total	2142.00
Weight of DC	0.00
Weight of String	71.00

HOLE CONDITION

Hole Drag: Up 2 | Down 7

Torque At Bottom	9000
Fill On Bottom	0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	23:45	
Density	1140	
Funnel Viscosity	64	
Fluid Loss		
pH		
Location Of Sample	Suction 2	
Depth	2141.00	
PVT	68.1	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	86	36000	8.00
2	PARALLEL	127	86	36000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	10000	@	86	@	2141.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	7.00	1140	1115	1600
Mudcleaner Centrifuge #2	5.00	1150	1120	1500

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 not looking up in the derrick as I worked the drill string on a connection / Reminded him to watch up to prevent any snags or accidents from occuring.

SAFETY

Safety Topic	MEHL	MACP
Invert exposure	79	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170322_1A	RMS 2016.6.14.37064	2017	03	22

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		0.50			0.75	4.25														1.75	0.75					8.00
Tour 2						5.00	0.50		0.75											1.75						8.00
Tour 3		0.25	0.50			5.00														1.75	0.50					8.00
TOTAL		0.75	0.50		0.75	14.25	0.50		0.75											5.25	1.25					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	5582

Rig	Boiler
14595	2000

Time	Temp
06:00	-3

WEATHER

Current Conditions	
LIGHT SNOW	

Wind Direction	Wind Strength
N	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	12860043
Jets	7.9 7.9 8.7 8.7 / 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	436.00
Hrs Run Today	0.50
Cumulative Hrs Run	22.50
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	19.38
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2142.00	2156.00	DRILL	32	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
57	Drill Pipe	Stands		1660.50
0	Drill Pipe	Singles		0.00

Kelly Down	0.00
Total	2171.31
Weight of DC	0.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 3	Down	7
Torque At Bottom	9000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	01:45
Density	1140
Funnel Viscosity	62
Fluid Loss	
pH	
Location Of Sample	Suction 2
Depth	2156.00
PVT	63.95

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	86	36000	2.00
2	COMBINED	127	86	36000	2.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	10000	@	86	@	2155.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:45	2141.00	89.40	324.9	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	2.00	1140	1115	1600
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	2	Directional drill 200mm build section of main hole from 2142m to 2156m MD (End of 200mm build section). Pump Rate - 1.8m3/min, WOB - 16 kdaN, Rotary - 32 RPM, Pump Pressure - -36,000 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 4,500 kPa. Sliding Parameters; WOB - 17 kdaN, Diff Pressure - 1,700 kPa.
0:30	1:00	0.50	20A	Accumulated EM survey & connection time.
1:00	1:45	0.75	5	Circulate and condition wellbore prior to tripping out of hole.
1:45	6:00	4.25	6B	Review JSA. Pump 3.0m3 of 1350kg/m3 weighted slug with a pill recovery of 0.52m3. Trip out of hole for BHA change @ 40m/min from 2156m to 75m MD. Flowchecks @ 2152m, 2024m, 1064m, 227m MD.
6:00	6:15	0.25	21D	Safety meeting with New Discovery prior to handling directional tools.
6:15	7:30	1.25	20D	Review JSA. Lay down directional tools. Lay down 1- X/O sub, 3- NM Flex Monels. Lay down 1- UBHO sub, pulse tool. Disassemble EM tool & lay down 1- Gap sub. Lay down 1- NM Flex Monel, 1- Pony Sub. Break off Halliburton PDC Bit #3 and lay down Mud Motor.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards. Review JSA with New Discovery.

Remarks

Boiler #2 fuel @ 05:00hrs: 1998 litres

Hazard id: Hand went to perform lbop service without putting a barrier around the stump to prevent tools from falling into the well bore / stopped hand and asked him to place a barrier around the stump.

SAFETY

Safety Topic	MEHL	MACP
Handle directional tools	79	3175

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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	2	ODC	NO
MDC	WT	Reason Pulled	BHA
LOC	A	Total Run (m/hr)	19.38
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	6.18
184	4" CDS40 Drill Pipe	102	64	1788.92
30	4" CDS40 HWDP	101	65	284.35
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-10.85
Total	2156.00
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	16:00
Density	1140
Funnel Viscosity	70
Fluid Loss	
pH	
Location Of Sample	Suction
Depth	2165.00
PVT	56.49

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	4500	@	60	@	453.00
1	4500	@	60	@	1020.00
		@		@	

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	9:45	1.75	20D	Handle directional tools; Out of hole - Flow check at 0m. Function HCR, 2 seconds to open & Blind Rams, 4 seconds to close. Trip record: Calculated 9.16m3, Measured 11.09m3, Difference +1.93m3. Make up 159mm Lateral section BHA; Pickup Mud Motor set at 1.75 degrees & makeup PDC Bit #4. Makeup 1- stand of NM Flex Monels, install 1- Gap sub, build EM tool & power on. Makeup 1- slide reamer, 1- 3 1/2IF x DS40 X/O, 5 - 101.6mm DP & Drilling Jars.
9:45	11:00	1.25	6A	Trip in hole at 30m/min from 95m to 453m MD. Check kelly hose screen, ok. Fill pipe & flowcheck at 453m.
11:00	11:45	0.75	9A	Reviewed JSA. Slip & cut 16.17m of drilling line @ 8428.3mJ. Deadman anchor bolts retorqued to 360 ft/lbs. Performed full block height calibration. Brake capacity test, ok. Greased Crown & Travelling Blocks.
11:45	12:15	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, 6 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boehnert.
12:15	13:45	1.50	6A	Continue to trip in hole at 40m/min from 453m to 1424m MD. Fill pipe at 600m intervals. Flow check at 1011m.
13:45	16:00	2.25	6B	Trip out of hole for EM tool from 1424m to 456m. Flow check & pump 2.75m3

Remarks

Hazard ID: knocking off kelly hose to inspect screen. / ensured it was pulled over the birdbath with no one beneath it to limit invert exposure.

SAFETY

Safety Topic	MEHL	MACP
Spring fever.	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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	9.00
Hrs Run Today	0.25
Cumulative Hrs Run	0.25
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	36.00
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2156.00	2165.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1788.92
30	4" CDS40 HWDP	101	65	284.35
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-0.60
Total	2165.00
Weight of DC	0.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 2	Down	4
Torque At Bottom	9000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	21:15	23:45
Density	1140	1160
Funnel Viscosity	84	97
Fluid Loss		
pH		
Location Of Sample	suction #2	trough
Depth	2156.00	2156.00
PVT	60	62.44

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	5000	@	60	@	1244.00
1	7700	@	75	@	1819.00
1	6750	@	60	@	2164.00

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
23:45	45.89	0.40	327.6	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	17:00	1.00	6B	Continue to trip out of hole for EM tool from 456m to 95m. Flow check 127m.
17:00	18:30	1.50	20D	Handle New Discovery directional tools; Laydown 1- Drilling Jar & 1 - 101.6mm DP. Rack in derrick 2- 101.6mm DP, 1- 3 1/2IF x DS40 X/O, 1- Slide Reamer & 1- NM Flex Monel. Break out Gap sub, rebuild EM tool & power on. Makeup Gap sub to Monels. Scribe Mud Motor. Out of hole - Flow check at 0m. Function HCR, 2 seconds to open & Blind Rams, 4 seconds to close. Trip record: Calculated 4.98m3, Measured 6.39m3, Difference +1.41m3. Makeup NM Flex Monels, 1- 3 1/2IF x DS40 X/O, 1- Slide Reamer, 5- 101.6mm DP & Drilling Jars.
18:30	19:00	0.50	6A	Trip in hole at 40m/min from 95m to 337m MD.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily hazards.
19:30	23:00	3.50	6A	Review JSA. Trip in hole @ 40m/min from 337m to 2025m MD. Fill pipe @ 600m intervals. Trip Record; Measured: 16.31m3, Calculated: 19.59m3, Difference: 3.28m3.
23:00	23:30	0.50	3A	Wash to bottom from 2025m to 2156m MD. Pump Rate - 1.27m3/min, Rotary - 50 RPM.
23:30	23:45	0.25	2	Directional drill 159mm lateral section of main hole from 2156m to 2165m MD. Pump Rate - 1.27m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 28,000 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 8,500 kPa.
23:45	24:00	0.25	20A	Accumulated EM survey & connection time.

Remarks

Hazard id: Worker went to do task without fully understanding the instructions / had a chat with him and explained that there are no stupid questions and to make sure he has a proper understanding before starting a job.

SAFETY

Safety Topic	MEHL	MACP
Trip in hole	75	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170322_1A	RMS 2016.6.14.37064	2017	03	22

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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.) CADOC 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		0.50			0.75	4.25														1.75	0.75					8.00
Tour 2						5.00	0.50		0.75											1.75						8.00
Tour 3		0.25	0.50			5.00														1.75	0.50					8.00
TOTAL		0.75	0.50		0.75	14.25	0.50		0.75											5.25	1.25					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Op Fuel
6.6	5582

Rig	Boiler
14595	2000

WEATHER

Time	Temp
06:00	-3

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
N	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	12860043
Jets	7.9 7.9 8.7 8.7 / 7.9 8.7
Depth Out (m)	
Depth In (m)	1720.00
Total Drilled (m)	436.00
Hrs Run Today	0.50
Cumulative Hrs Run	22.50
Entry Date	20-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	19.38
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	6.5" Sealed 7/8 5.0 STG	165	1	8.54
1	NM Pony	162	72	1.42
1	NM Flex Monel	162	72	9.40
1	Gap sub	164	79	1.72
1	UBHO Sub	165	65	0.80
3	NM Flex Monel	162	72	27.94
1	4.5XHxDS40 X/O	165	60	0.81
2	4" CDS40 HWDP	101	65	18.95
1	Jars	165	66	4.95
46	4" CDS40 HWDP	101	65	436.03
57	Drill Pipe	Stands		1660.50
0	Drill Pipe	Singles		0.00

Kelly Down	0.00
Total	2171.31
Weight of DC	0.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 3	Down	7
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	COMBINED	127	86	36000	2.00
2	COMBINED	127	86	36000	2.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	10000	@	86	@	2155.00
		@		@	
		@		@	

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	1140	1115	1600
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 @ 05:00hrs: 1998 litres

Hazard id: Hand went to perform lbop service without putting a barrier around the stump to prevent tools from falling into the well bore / stopped hand and asked him to place a barrier around the stump.

SAFETY

Safety Topic	MEHL	MACP
Handle directional tools	79	3175

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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	2	ODC	NO
MDC	WT	Reason Pulled	BHA
LOC	A	Total Run (m/hr)	19.38
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	6.18
184	4" CDS40 Drill Pipe	102	64	1788.92
30	4" CDS40 HWDP	101	65	284.35
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-10.85
Total	2156.00
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	1	0	0.00
2	SINGLE	127	1	0	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4500	@	60	@	453.00
1	4500	@	60	@	1020.00
		@		@	

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
				1350kg/m3 weighted pill with 0.48m3 recovery at 1219m MD.

Remarks

Hazard ID: knocking off kelly hose to inspect screen. / ensured it was pulled over the birdbath with no one beneath it to limit invert exposure.

SAFETY

Safety Topic	MEHL	MACP
Spring fever.	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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	9.00
Hrs Run Today	0.25
Cumulative Hrs Run	0.25
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	36.00
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1788.92
30	4" CDS40 HWDP	101	65	284.35
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-0.60
Total	2165.00
Weight of DC	0.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 2	Down	4
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	SINGLE	127	120	28000	1.00
2	SINGLE	127	1	28000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5000	@	60	@	1244.00
1	7700	@	75	@	1819.00
1	6750	@	60	@	2164.00

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: Worker went to do task without fully understanding the instructions / had a chat with him and explained that there are no stupid questions and to make sure he has a proper understanding before starting a job.

SAFETY

Safety Topic	MEHL	MACP
Trip in hole	75	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170323_1A	RMS 2016.6.14.37064	2017	03	23

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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 & Slick 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		4.75					0.50													2.25	0.50					8.00
Tour 2		4.25					0.50													3.25						8.00
Tour 3		4.75																		2.75	0.50					8.00
TOTAL		13.75					1.00													8.25	1.00					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	3511

Rig	Boiler
11120	2000

Time	Temp
05:00	-6

WEATHER

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
W	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	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E230773
Jets	9.5 9.5 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	403.00
Hrs Run Today	4.75
Cumulative Hrs Run	5.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 80.60 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
2165.00	2559.00	DRILL	70	14

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	5.0° Mud Motor	125	1	9.16
1	4.75° NM Flex Monel	115	70	9.21
1	4.75° Gap Sub	130	68	1.71
2	4.75° NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
7	Drill Pipe	Stands		203.80
2	Drill Pipe	Singles		19.40

Kelly Down: -0.43 | Total: 2559.00 | Weight of DC: 0.00 | Weight of String: 70.00

HOLE CONDITION

Hole Drag: Up 3 Down 8 | Torque At Bottom: 9000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	02:45	04:45
Density	1155	1155
Funnel Viscosity	67	67
Fluid Loss		
pH		
Location Of Sample	trough	trough
Depth	2265.00	2365.00
PVT	60	57.23

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	31000	8.00
2	SINGLE	127	1	31000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7300	@	60	@	2407.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:00	2150.20	89.20	324.6	DIRECTIONAL
00:45	2164.40	89.70	323	DIRECTIONAL
01:00	2178.59	90.50	319	DIRECTIONAL
01:30	2192.81	90.70	317.3	DIRECTIONAL
01:45	2207.03	90.90	314.9	DIRECTIONAL
02:00	2221.26	91.00	311.7	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1140	1530
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Invert	10	m3
Base Oil	4	m3
EnerTone D	1	sxs
Lime Hydrated	21	sxs
EnerBar	8	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 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. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dan Meyer.
0:30	5:15	4.75	2	Directional drill 159mm lateral section of main hole from 2165m to 2559m MD. Pump Rate - 1.27m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 31,000 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 8,500 kPa. Sliding Parameters; WOB - 10 kdaN, Diff Pressure - 3,500 kPa.
5:15	7:30	2.25	20A	Accumulated EM survey & connection time.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards.

Remarks

Boiler #2 fuel @ 05:00hrs: 1944 litres

Hazard id: Worker not using 3 point contact on stairs / stopped him and reminded him how icey it was outside and asked him to use 3 point contact at all times.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	76	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	E230773
Jets	9.5 9.5 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	896.00
Hrs Run Today	4.25
Cumulative Hrs Run	9.25
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 96.86 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
2559.00	3052.00	DRILL	70	10

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	5.0° Mud Motor	125	1	9.16
1	4.75° NM Flex Monel	115	70	9.21
1	4.75° Gap Sub	130	68	1.71
2	4.75° NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
25	Drill Pipe	Stands		727.82
0	Drill Pipe	Singles		0.00

Kelly Down: -12.05 | Total: 3052.00 | Weight of DC: 21.00 | Weight of String: 69.00

HOLE CONDITION

Hole Drag: Up 7 Down 12 | Torque At Bottom: 9000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	08:00	10:45
Density	1155	1155
Funnel Viscosity	68	65
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	2568.00	2743.69
PVT	51.25	59.58

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32800	8.00
2	SINGLE	127	1	32800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7500	@	60	@	2510.00
1	8100	@	60	@	2831.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:00	2553.97	89.70	286.6	DIRECTIONAL
08:30	2582.86	91.00	287.7	DIRECTIONAL
09:00	2611.97	90.00	286.8	DIRECTIONAL
09:30	2641.07	88.40	285.5	DIRECTIONAL
09:45	2670.22	92.00	288	DIRECTIONAL
10:15	2699.33	91.00	288.6	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1155	1130	1470
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Wetting Agent	2	bbl
Secondary CES	2	bbls
Enermul P-100	1	bbl
Base Oil	16	m3
EnerTone D	6	sxs
Lime Hydrated	40	sxs
EnerBar	84	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	12:00	4.00	2	Directional drill 159mm lateral section of main hole from 2559m to 2830m MD. Pump Rate - 1.27m3/min, WOB - 10 kdaN, Rotary - 70 RPM, Pump Pressure - 32,000 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 8,500 kPa. Sliding Parameters; WOB - 25 kdaN, Diff Pressure - 3,000 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 & lower pipe rams, 6 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dean Boehnert.
12:30	12:45	0.25	2	Directional drill 159mm lateral section of main hole from 2830m to 3052m MD. Pump Rate - 1.27m3/min, WOB - 10 kdaN, Rotary - 70 RPM, Pump Pressure - 32,800 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 8,500 kPa. Sliding Parameters; WOB - 27 kdaN, Diff Pressure - 2,500 kPa.
12:45	16:00	3.25	20A	Accumulated time on reciprocating drill string, directional surveys & connections.

Remarks

****Visual inspection & simulated launch of Rig Rider completed by Dave McDonald.****

****Completed service & visual inspection of Stand Transfer Vehicle.****

Hazard ID: Centrifuge PVC piping has a small leak. / Patched leak and continued to monitor.

SAFETY

Safety Topic	MEHL	MACP
Internal responsibility system.	82	3085

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	E230773
Jets	9.5 9.5 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	1264.00
Hrs Run Today	4.75
Cumulative Hrs Run	14.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 90.29 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
3052.00	3420.00	DRILL	70	11

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	5.0° Mud Motor	125	1	9.16
1	4.75° NM Flex Monel	115	70	9.21
1	4.75° Gap Sub	130	68	1.71
2	4.75° NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
38	Drill Pipe	Stands		1106.30
0	Drill Pipe	Singles		0.00

Kelly Down: -22.53 | Total: 3420.00 | Weight of DC: 0.00 | Weight of String: 68.00

HOLE CONDITION

Hole Drag: Up 10 Down 20 | Torque At Bottom: 10000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	18:15	20:15
Density	1155	1180
Funnel Viscosity	63	61
Fluid Loss	0	
pH		
Location Of Sample	Trough	Trough
Depth	3158.00	3270.00
PVT	48.87	60.8

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	34800	8.00
2	SINGLE	127	1	34800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8500	@	60	@	3092.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	3048.65	91.00	284.1	DIRECTIONAL
16:45	3077.75	89.40	285.5	DIRECTIONAL
17:15	3106.85	90.00	285.5	DIRECTIONAL
17:30	3135.97	89.70	283.2	DIRECTIONAL
18:30	3165.08	89.10	284.8	DIRECTIONAL
19:00	3194.19	90.40	284.4	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1180	1155	1490
Mudcleaner Centrifuge #2	3.00	1180	1155	1490

MUD MATERIALS ADDED

Product	Amount	Type
Graphite Nat Flake	7	sxs
Chemclean Green	1	pail
Base Oil	4	sxs
Invert	10	sxs
EnerTone D	2	sxs
Lime Hydrated	20	sxs
EnerBar	35	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 159mm lateral section of main hole from 3052m to 3323m MD. Pump Rate - 1.27m3/min, WOB - 10 kdaN, Rotary - 70 RPM, Pump Pressure - 33,400 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 8,500 kPa. Sliding Parameters; WOB - 29 kdaN, Diff Pressure - 3,500 kPa.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily hazards.
19:30	21:15	1.75	2	Directional drill 159mm lateral section of main hole from 3323m to 3420m MD. Pump Rate - 1.27m3/min, WOB - 11 kdaN, Rotary - 70 RPM, Pump Pressure - 34,800 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 8,500 kPa. Sliding Parameters; WOB - 32 kdaN, Diff Pressure - 3,500 kPa.
21:15	24:00	2.75	20A	Accumulated EM survey & connection time.

Remarks

Hazard id: Worker was going to carry a casing X/O down the stairs / stopped him and we laid it down with the tugger instead.

SAFETY

Safety Topic	MEHL	MACP
Waste Management	81	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170323_1A	RMS 2016.6.14.37064	2017	03	23

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		4.75					0.50													2.25	0.50					8.00
Tour 2		4.25					0.50													3.25						8.00
Tour 3		4.75																		2.75	0.50					8.00
TOTAL		13.75					1.00													8.25	1.00					24.00

Kelly Bushing 6.6 | Op Fuel 3511

FUEL @ 08:00 HRS — Rig 11120 | Boiler 2000

WEATHER — Time 05:00 | Temp -6 | Current Conditions: LIGHT SNOW | Wind Direction: W | Wind Strength: 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	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	403.00
Hrs Run Today	4.75
Cumulative Hrs Run	5.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	80.60
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
7	Drill Pipe	Stands		203.80
2	Drill Pipe	Singles		19.40

Kelly Down	-0.43
Total	2559.00
Weight of DC	0.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 3	Down	8
Torque At Bottom	9000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	06:00	
Density	1150	
Funnel Viscosity	66	
Fluid Loss		
pH		
Location Of Sample	trough	
Depth	2414.00	
PVT	56.56	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	31000	8.00
2	SINGLE	127	1	31000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7300	@	60	@	2407.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
02:30	2235.48	90.30	308.1	DIRECTIONAL
02:45	2249.77	89.30	307.7	
03:00	2264.05	87.50	305.4	DIRECTIONAL
03:30	2278.32	87.30	303.7	DIRECTIONAL
03:45	2292.39	88.60	302.7	DIRECTIONAL
04:00	2306.61	89.90	301.9	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1140	1530
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 @ 05:00hrs: 1944 litres

Hazard id: Worker not using 3 point contact on stairs / stopped him and reminded him how icey it was outside and asked him to use 3 point contact at all times.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	76	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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	896.00
Hrs Run Today	4.25
Cumulative Hrs Run	9.25
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	96.86
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
25	Drill Pipe	Stands		727.82
0	Drill Pipe	Singles		0.00

Kelly Down	-12.05
Total	3052.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 7	Down	12
Torque At Bottom	9000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	12:45	15:30
Density	1160	1155
Funnel Viscosity	65	62
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	2848.48	3017.00
PVT	50.34	60.87

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32800	8.00
2	SINGLE	127	1	32800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7500	@	60	@	2510.00
1	8100	@	60	@	2831.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
10:45	2728.46	90.00	287	DIRECTIONAL
11:15	2757.54	88.60	286.1	DIRECTIONAL
11:30	2786.68	88.40	287.6	DIRECTIONAL
12:15	2815.76	91.20	287.6	DIRECTIONAL
13:30	2844.85	90.50	288.5	DIRECTIONAL
13:30	2873.98	90.40	288.4	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1155	1130	1470
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

****Visual inspection & simulated launch of Rig Rider completed by Dave McDonald.****

****Completed service & visual inspection of Stand Transfer Vehicle.****

Hazard ID: Centrifuge PVC piping has a small leak. / Patched leak and continued to monitor.

SAFETY

Safety Topic	MEHL	MACP
Internal responsibility system.	82	3085

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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	1264.00
Hrs Run Today	4.75
Cumulative Hrs Run	14.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	90.29
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
38	Drill Pipe	Stands		1106.30
0	Drill Pipe	Singles		0.00

Kelly Down	-22.53
Total	3420.00
Weight of DC	0.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 10	Down	20
Torque At Bottom	10000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	22:15	23:45
Density	1170	1160
Funnel Viscosity	61	62
Fluid Loss		
pH		
Location Of Sample	Trough	Trough
Depth	3356.00	3418.00
PVT	56.39	49

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	34800	8.00
2	SINGLE	127	1	34800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8500	@	60	@	3092.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
19:15	3223.30	89.60	284.3	DIRECTIONAL
20:00	3252.40	89.90	282.7	DIRECTIONAL
20:45	3281.53	89.50	285.2	DIRECTIONAL
21:15	3310.62	91.30	287.3	DIRECTIONAL
21:45	3339.75	92.70	286.5	DIRECTIONAL
22:45	3368.86	91.20	286	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1180	1155	1490
Mudcleaner Centrifuge #2	3.00	1180	1155	1490

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 going to carry a casing X/O down the stairs / stopped him and we laid it down with the tugger instead.

SAFETY

Safety Topic	MEHL	MACP
Waste Management	81	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170323_1A	RMS 2016.6.14.37064	2017	03	23

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		4.75					0.50													2.25	0.50					8.00
Tour 2		4.25					0.50													3.25						8.00
Tour 3		4.75																		2.75	0.50					8.00
TOTAL		13.75					1.00													8.25	1.00					24.00

Kelly Bushing 6.6 | Op Fuel 3511

FUEL @ 08:00 HRS

WEATHER: Rig 11120 | Boiler 2000 | Time 05:00 | Temp -6 | Current Conditions: LIGHT SNOW | Wind Direction: W | Wind Strength: 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	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	403.00
Hrs Run Today	4.75
Cumulative Hrs Run	5.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	80.60
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
7	Drill Pipe	Stands		203.80
2	Drill Pipe	Singles		19.40

Kelly Down	-0.43
Total	2559.00
Weight of DC	0.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 3	Down	8
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	SINGLE	127	120	31000	8.00
2	SINGLE	127	1	31000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7300	@	60	@	2407.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
04:15	2320.83	90.10	300.1	DIRECTIONAL
04:30	2335.38	90.00	299	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1160	1140	1530
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 @ 05:00hrs: 1944 litres

Hazard id: Worker not using 3 point contact on stairs / stopped him and reminded him how icey it was outside and asked him to use 3 point contact at all times.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	76	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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	896.00
Hrs Run Today	4.25
Cumulative Hrs Run	9.25
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	96.86
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
25	Drill Pipe	Stands		727.82
0	Drill Pipe	Singles		0.00

Kelly Down	-12.05
Total	3052.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 7	Down	12
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	SINGLE	127	120	32800	8.00
2	SINGLE	127	1	32800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7500	@	60	@	2510.00
1	8100	@	60	@	2831.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
13:45	2903.11	91.20	286.2	DIRECTIONAL
14:15	2932.26	91.10	285.4	DIRECTIONAL
14:45	2961.37	88.50	284.8	DIRECTIONAL
15:15	2990.45	88.90	285.3	DIRECTIONAL
15:45	3019.55	90.10	284.8	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1155	1130	1470
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

****Visual inspection & simulated launch of Rig Rider completed by Dave McDonald.****

****Completed service & visual inspection of Stand Transfer Vehicle.****

Hazard ID: Centrifuge PVC piping has a small leak. / Patched leak and continued to monitor.

SAFETY

Safety Topic	MEHL	MACP
Internal responsibility system.	82	3085

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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	1264.00
Hrs Run Today	4.75
Cumulative Hrs Run	14.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	90.29
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
38	Drill Pipe	Stands		1106.30
0	Drill Pipe	Singles		0.00

Kelly Down	-22.53
Total	3420.00
Weight of DC	0.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 10	Down	20
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	SINGLE	127	120	34800	8.00
2	SINGLE	127	1	34800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8500	@	60	@	3092.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
23:30	3397.99	90.50	286.9	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon CentriSage #1	8.00	1180	1155	1490
Mackinnon CentriSage #2	3.00	1180	1155	1490

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 going to carry a casing X/O down the stairs / stopped him and we laid it down with the tugger instead.

SAFETY

Safety Topic	MEHL	MACP
Waste Management	81	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170324_1A	RMS 2016.6.14.37064	2017	03	24

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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

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		1.00			3.75	1.50	0.50													0.50	0.75					8.00
Tour 2						6.75	0.50	0.75																		8.00
Tour 3						4.00						1.50								1.25	1.00				0.25	8.00
TOTAL		1.00			3.75	12.25	1.00	0.75				1.50								1.75	1.75				0.25	24.00

Kelly Bushing	Op Fuel
6.6	3825

FUEL @ 08:00 HRS

Rig	Boiler
7367	2000

WEATHER

Time	Temp
06:00	-8

Current Conditions	
PARTLY CLOUDY	
Wind Direction	Wind Strength
NE	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	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	1364.00
Hrs Run Today	1.00
Cumulative Hrs Run	15.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	90.93
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
3420.00	3520.00	DRILL	70	11

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm Reed PDC	159	1	0.22
1	5.0° Mud Motor	125	1	9.16
1	4.75° NM Flex Monel	115	70	9.21
1	4.75° Gap Sub	130	68	1.71
2	4.75° NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4° CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4° CDS40 Drill Pipe	102	64	1786.80
48	4° CDS40 HWDP	101	65	454.99
41	Drill Pipe	Stands		1193.65
0	Drill Pipe	Singles		0.00

Kelly Down	-9.88
Total	3520.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 8	Down	21
Torque At Bottom			11000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	00:00	02:30
Density	1160	1160
Funnel Viscosity	62	61
Fluid Loss		
pH		
Location Of Sample	Trough	Trough
Depth	3418.00	3520.00
PVT	49	43.33

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	34800	6.00
2	SINGLE	127	1	34800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8700	@	60	@	3441.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:15	3427.13	89.30	288.4	DIRECTIONAL
01:00	3456.25	89.80	288.7	DIRECTIONAL
01:15	3485.36	90.70	287.2	DIRECTIONAL
01:45	3505.00	89.30	286.4	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	7.00	1160	1145	1460
Mudcleaner Centrifuge #2	7.00	1160	1145	1460

MUD MATERIALS ADDED

Product	Amount	Type
Liquislide S	1	bbl
Enerslide C	10	sxs
Graphite Nat Flake	3	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	0:30	0.50	2	Directional drill 159mm lateral section of main hole from 3420m to 3442m MD. Pump Rate - 1.27m3/min, WOB - 11 kdaN, Rotary - 70 RPM, Pump Pressure - 34,800 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 8,500 kPa. Sliding Parameters; WOB - 28 kdaN, Diff Pressure - 2,500 kPa.
0:30	1:00	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. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dan Meyer.
1:00	1:30	0.50	2	Directional drill 159mm lateral section of main hole from 3442m to 3520m MD (TD). Pump Rate - 1.27m3/min, WOB - 11 kdaN, Rotary - 70 RPM, Pump Pressure - 34,800 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 8,500 kPa. Sliding Parameters; WOB - 28 kdaN, Diff Pressure - 2,500 kPa.
1:30	2:00	0.50	20A	Accumulated EM survey & connection time.
2:00	5:45	3.75	5	Reciprocate drill string & circulate hole clean prior to laying down pipe at TD of well. Spot 17m3 of Lubricious pill in lateral section of 159mm main hole and pump 3m3 of 1520kg/m3 weighted slug with a pill recovery of 0.92m3. 3475 total strokes to spot pill.
5:45	6:00	0.25	21D	Review JSA & safety meeting prior to laying down drill string.
6:00	7:30	1.50	6F	Lay down drill string @ 40m/min from 3520m to 3178m MD. Flowcheck @ 3509m,

Remarks

Hazard id: Workers were talking in the doghouse behind me as I laid down pipe / aske them to be quiet to quit distracting me.

SAFETY

Safety Topic	MEHL	MACP
Lay Down Pipe	82	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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	1364.00
Hrs Run Today	0.00
Cumulative Hrs Run	15.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	90.93
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	5.0° Mud Motor	125	1	9.16
1	4.75° NM Flex Monel	115	70	9.21
1	4.75° Gap Sub	130	68	1.71
2	4.75° NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4° CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4° CDS40 Drill Pipe	102	64	1786.80
48	4° CDS40 HWDP	101	65	454.99
41	Drill Pipe	Stands		1193.65
0	Drill Pipe	Singles		0.00

Kelly Down	-9.88
Total	3520.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 8	Down	0
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	12:00	
Density	1150	
Funnel Viscosity	65	
Fluid Loss	0	
pH		
Location Of Sample	Mud Pits	
Depth	3520.00	
PVT	40	

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	8.00	1160	1130	1410
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	20	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	12:00	4.00	6F	Review JSA & lay down drill string at 40m/min from 3178m to 1627m MD. Flowcheck at 1762m & 1627 MD.
12:00	12:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Visual inspection & service of PS-21 slips & inserts. Functioned upper & lower pipe rams, 6 seconds to close each. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Shaun Low & Dean Boehnert.
12:30	13:15	0.75	8I	Replace blown 43 foot long 3/4" hydraulic hose inside PipeCat trough.
13:15	16:00	2.75	6F	Lay down drill string at 40m/min from 1627m to 645m MD.

Remarks

Hazard ID: Hand operating the iron roughneck had the clamp closed before the string was set in the slips. / Stopped him and asked that he waits until he can see slack in the elevators before making clamp and break functions.
****Boiler #2 shut in, cooled down & cleaned out @ 16:00hrs.****

SAFETY

Safety Topic	MEHL	MACP
Invert exposure control plan.	85	3085

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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	3520.00
Depth In (m)	2156.00
Total Drilled (m)	1364.00
Hrs Run Today	0.00
Cumulative Hrs Run	15.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI	1	Gage	0
TO	1	ODC	NO
MDC	ER	Reason Pulled	TD
LOC	M	Total Run (m/hr)	90.93
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	5.0° Mud Motor	125	1	9.16
1	4.75° NM Flex Monel	115	70	9.21
1	4.75° Gap Sub	130	68	1.71
2	4.75° NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4° CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4° CDS40 Drill Pipe	102	64	1786.80
48	4° CDS40 HWDP	101	65	454.99
41	Drill Pipe	Stands		1193.65
0	Drill Pipe	Singles		0.00

Kelly Down	-9.88
Total	3520.00
Weight of DC	21.00
Weight of String	68.00

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	20:00	
Density	1150	
Funnel Viscosity	79	
Fluid Loss		
pH		
Location Of Sample	suction	
Depth	3520.00	
PVT	34.73	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	1	0	0.00
2	SINGLE	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	8.00	10.5	450
2	0.00	1	0

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	16:30	0.50	6F	Lay down drill string at 40m/min from 645m to 453m MD. Flow check at 453m. Trip record; Calculated 11.38m3, Measured 12.97m3, Difference 1.59m3.
16:30	17:30	1.00	6A	Trip remaining stands of drill pipe in hole from 453m to 1003m MD. Trip record; Calculated 4.75m3, Measured 3.49m3, Difference 1.26m3.
17:30	19:00	1.50	6B	Lay down drill string at 40m/min from 1003m to 560m MD. Flow check at 560m.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily hazards.
19:30	20:30	1.00	6F	Review JSA. Continue to trip out of hole and lay down drill pipe @ 45m/min from 560m to 40m MD.
20:30	20:45	0.25	21D	Safety meeting & JSA review with New Discovery prior to handling directional tools.
20:45	22:00	1.25	20D	Lay down directional tools; Lay down 1- 3 1/2IF x DS40 X/O Sub, 1- 4.75° Slide Reamer, 3 - 4.75° NM Flex Monels. Break out Gap Sub & disassemble EM tool. Break out Reed 159mm PDC Bit #4 and lay down 5° Mud Motor. Trip Record: Measured 5.45m3, Calculated 3.6m3, Difference +1.85m3. Function test Blind Rams out of hole 6 seconds to close.
22:00	22:15	0.25	25	Retrieve wear bushing @ 6.6m.
22:15	23:00	0.75	12A	Review JSA. Prepare to run 114.3mm X 139.7mm tapered production casing string. Remove PS21 hydraulic slips and install master bushing. Remove BX4-500 hydraulic elevators. Install bail extensions and 114.3mm 100ton center latch casing elevators (Cert # 86676) & 139.7mm 150ton center latch casing elevators (Cert # 16128). Pick up and install Copperhead power tongs.
23:00	23:15	0.25	21D	Safety meeting & JSA review with Copperhead prior to running casing.

Remarks

Hazard ID: Stopped operation of running casing because rotary table area was slippery / cleaned up floor and operations resumed.

SAFETY

Safety Topic	MEHL	MACP
Running casing	23	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170324_1A	RMS 2016.6.14.37064	2017	03	24

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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		1.00			3.75	1.50	0.50													0.50	0.75					8.00
Tour 2						6.75	0.50	0.75																		8.00
Tour 3						4.00						1.50								1.25	1.00				0.25	8.00
TOTAL		1.00			3.75	12.25	1.00	0.75				1.50								1.75	1.75				0.25	24.00

Kelly Bushing 6.6 | Op Fuel 3825

FUEL @ 08:00 HRS

Rig 7367 | Boiler 2000

WEATHER

Time 06:00 | Temp -8

Current Conditions: PARTLY CLOUDY

Wind Direction: NE | Wind Strength: 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	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	1364.00
Hrs Run Today	1.00
Cumulative Hrs Run	15.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	90.93
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
41	Drill Pipe Stands			1193.65
0	Drill Pipe Singles			0.00

Kelly Down	-9.88
Total	3520.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up	8	Down	21
Torque At Bottom		11000		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	05:45
Density	1160
Funnel Viscosity	62
Fluid Loss	
pH	
Location Of Sample	Suction
Depth	3520.00
PVT	52.86

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	34800	6.00
2	SINGLE	127	1	34800	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8700	@	60	@	3441.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	7.00	1160	1145	1460
Mudcleaner Centrifuge #2	7.00	1160	1145	1460

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
				3349m MD.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards.

Remarks: **Hazard id: Workers were talking in the doghouse behind me as I laid down pipe / aske them to be quiet to quit distracting me.**

SAFETY

Safety Topic	MEHL	MACP
Lay Down Pipe	82	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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2156.00
Total Drilled (m)	1364.00
Hrs Run Today	0.00
Cumulative Hrs Run	15.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	90.93
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
41	Drill Pipe Stands			1193.65
0	Drill Pipe Singles			0.00

Kelly Down	-9.88
Total	3520.00
Weight of DC	21.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up	8	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	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	8.00	1160	1130	1410
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: Hand operating the iron roughneck had the clamp closed before the string was set in the slips. / Stopped him and asked that he waits until he can see slack in the elevators before making clamp and break functions.**
****Boiler #2 shut in, cooled down & cleaned out @ 16:00hrs.****

SAFETY

Safety Topic	MEHL	MACP
Invert exposure control plan.	85	3085

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	E230773
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	3520.00
Depth In (m)	2156.00
Total Drilled (m)	1364.00
Hrs Run Today	0.00
Cumulative Hrs Run	15.00
Entry Date	22-Mar-2017

CUTTING STRUCTURE

TI	1	Gage	0
TO	1	ODC	NO
MDC	ER	Reason Pulled	TD
LOC	M	Total Run (m/hr)	90.93
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	5.0" Mud Motor	125	1	9.16
1	4.75" NM Flex Monel	115	70	9.21
1	4.75" Gap Sub	130	68	1.71
2	4.75" NM Flex Monel	115	70	18.40
1	Slide reamer	125	58	1.44
1	3.5IF x CDS40 X/O	128	60	0.80
5	4" CDS40 Drill Pipe	102	64	48.56
1	Drilling Jars	130	58	4.93
184	4" CDS40 Drill Pipe	102	64	1786.80
48	4" CDS40 HWDP	101	65	454.99
41	Drill Pipe Stands			1193.65
0	Drill Pipe Singles			0.00

Kelly Down	-9.88
Total	3520.00
Weight of DC	21.00
Weight of String	68.00

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	SINGLE	127	1	0	0.00
2	SINGLE	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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
23:15	24:00	0.75	12	Run in 114.3mm 20.09 kg/m P-110 LT&C X 139.7mm 29.76 kg/m3 P-110 DPLS tapered production casing string at 30m/min from 0m to 150m MD.

Remarks: **Hazard ID: Stopped operation of running casing because rotary table area was slippery / cleaned up floor and operations resumed.**

SAFETY

Safety Topic	MEHL	MACP
Running casing	23	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170325_1A	RMS 2016.6.14.37064	2017	03	25

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

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							0.50					7.00									0.50					8.00
Tour 2					3.50							4.25									0.25					8.00
Tour 3												1.00		6.25							0.75					8.00
TOTAL					3.50		0.50					12.25		6.25							1.50					24.00

Kelly Bushing 6.6 | Op Fuel 3112

FUEL @ 08:00 HRS

WEATHER: Rig 6255 | Boiler 2000 | Time 06:00 | Temp -2 | Current Conditions OVERCAST | Wind Direction SE | Wind Strength 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	
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	07:15	08:00
Density	1150	1150
Funnel Viscosity	84	81
Fluid Loss		0
pH		
Location Of Sample	suction#2	Suction #2
Depth	3520.00	3520.00
PVT	41	46.21

Circulation

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	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 l-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Annular Preventer 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy & Dan Meyer.
0:30	7:30	7.00	12B	Continue to run 114.3mm 20.09 kg/m P-110 LT&C X 139.7mm 29.76 kg/m3 P-110 DPLS tapered production casing string at 35m/min from 150m to 2679m MD.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards. Review JSA.

Remarks

Hazard id: Workers were not watching up as the blocks were in motion / stopped the job and reminded them to always watch for snags.

SAFETY

Safety Topic	MEHL	MACP
Working on mud pumps	65	3085

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 5	Down	10
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	12:45	14:45
Density	1150	1150
Funnel Viscosity	62	63
Fluid Loss	0	0
pH		
Location Of Sample	Suction	Suction
Depth	3520.00	3520.00
PVT	27.65	25.03

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	152	66	4400	4.00
2	SINGLE	152	1	4400	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	1400	@	33	@	3520.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinlove Centrifuge #1	6.00	1150	1125	1390
Mackinlove Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	60	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	9:45	1.75	12	Continue to run 114.3mm 20.09 kg/m P-110 LT&C X 139.7mm 29.76 kg/m3 P-110 DPLS tapered production casing string at 35m/min from 2679m to 3520m MD.
9:45	13:15	3.50	5	Circulate bottoms up at 0.5m3/min. Rig out casing handling equipment & prepare to cement. Continue to reciprocate casing string & circulate at 1.0m3/min.
13:15	13:30	0.25	21D	Safety meeting & JSA review with Trican & NOV prior to cementing.
13:30	16:00	2.50	12C	Break Top Drive out & Break x/oâ s connections to Casing with Rotary tongs. Blow back mud lines and top drive. Rig to & Cement 114.3mm 20.09 kg/m P-110 LT&C X 139.7mm 29.76 kg/m3 P-110 Tenaris Blue tapered production casing string with Trican; Pump 5.0m´‡ Optiflush with S-4W & M-S8 & TWR-2 @ 1300kg/m´‡. Pump 1.5 Tonne 2.5m´‡ Scavenger T.A.C. @ 1350kg/m´‡, Pump 36.5Tonne, (36.5m´‡) T.A.C. 0.2% AFA-6, 0.35% TDH-2, @ 1600 Kg/m´‡ Cement. Followed by 31Tonne (31m´‡) 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, & 31.60m´‡ of inhibited water, 5L/m´‡ Tricorr 134, 2L/m‡ DF-2W. 10m´‡ of good cement returns to surface. Bump plug 3500 Kpa over 22,000kpa FCP, Plug held, Floats held, No fall-back in annulus.

Remarks

Hazard ID : Hammer union snagged on the mousehole while lowering a 2" hose to cellar. / Stopped lowering & repositioned.

SAFETY

Safety Topic	MEHL	MACP
Cementing.	76	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

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
Mackinlove Centrifuge #1	0.00	0	0	0
Mackinlove Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	17:00	1.00	12C	Bumped Wiper Plug @ 16:10hrs. 10m3 Cement to surface. Pressure test casing to 21,000kPa for 10 minutes. Flush 5000# BOP, Bell Nipple & Flow Line with Trican. Rig out Trican cement equipment.
17:00	17:15	0.25	21D	Safety meeting with Cameron prior to setting casing slips and nippling down Schaffer 13 5/8" 5000# BOP.
17:15	19:00	1.75	14B	Review JSA. Flush & blow out all choke manifold & degasser lines. Rig to, lower casing slips through BOPâ s & set casing slips in tension @ 70,000 daN at 18:10hrs on Mar.25/2017. Nipple down 13 5/8" Schaffer 5000# BOPâ s & all related equipment in preparation for spring break up. Clean mud tanks with confined space entry permit.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily hazards. Review JSA.
19:30	24:00	4.50	14B	Lift BOP's & cut casing w/ Cameron services. Laydown cut off. Nipple down 13 5/8" Schaffer 5000# BOPâ s & all related equipment in preparation for spring break up. Clean mud tanks with confined space entry permit.

Remarks

Hazard id: Worker was using poor rigging for a lift with a come along / stopped him and we used the proper slings to do the lift safely.

SAFETY

Safety Topic	MEHL	MACP
Nipple down BOP.	70	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170326_1A	RMS 2016.6.14.37064	2017	03	26

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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
17DRL0008	0X47	01-Jan-2017	13:00

Signature Of Operator's Representative

Signature Of Contractor's Rig Manager

Rig Release Date Time

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	DM	SL
(4.) Well Licence & Stick Diagram Posted	DM	SL
(5.) Flare Lines Staked	DM	SL
(6.) BOP Drills Performed	DM	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DM	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														7.50							0.50					8.00
Tour 2														3.00								5.00				8.00
Tour 3																					0.50	7.50				8.00
TOTAL														10.50							1.00	12.50				24.00

Kelly Bushing 6.6 | Up Fuel 3963

FUEL @ 08:00 HRS

Rig 7645 | Boiler 4000

Time 06:00 | Temp -3

WEATHER: Current Conditions CLEAR | Wind Direction SW | Wind Strength UP TO 19 KM/H | Road Condition FAIR

TOUR 1 SIGNATURE OF DRILLER 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
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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	7:30	7.50	14B	Continue to Nipple down 13 5/8" Schaffer 5000# BOPâ s & all related equipment in preparation for spring break up. Open all Ram doors, clean & complete level III Inspection of 13 5/8" Schaffer 5000# BOP. Lubricate seals and reassemble ram doors. Connect BOP's to dolly & lay over BOP's. (Cleaning Mud Tanks on going with Confined Space permit)
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards. Review JSA.

Remarks
Hazard id: Worker unknowingly walked under overhead work / stopped the job and waited until he was clear and informed that we were working above.

SAFETY

Safety Topic	MEHL	MACP
Tear Out	40	0

TOUR 2 SIGNATURE OF DRILLER 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		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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	9:00	1.00	14B	Continue to Nipple down 13 5/8" Schaffer 5000# BOPâ s & all related equipment in preparation for spring break up. (Cleaning Mud Tanks on going with Confined Space permit)
9:00	11:00	2.00	14E	Install well head on casing bowl with Cameron Canada Corperation.
11:00	16:00	5.00	22	**Rig Released @ 11:00hrs on Mar-26/2017** Tear out Beaver Rig#15AC & rentals to shutdown for spring break. Tear out & load out invert tank farm. Tear out front end of rig. Tear out accumulator building. Tear out, lay down rig floor pre-fabs & load into securement skid for transport. Tear out rig floor.

Remarks
Hazard ID: Worker was rigging out the tank farm while the vac haulers were still sucking fluid. Did not remove the ground lugs until the vac haulers had completed sucking fluid.

SAFETY

Safety Topic	MEHL	MACP
Tear out rig.		

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
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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	18:00	2.00	22	Tear out Beaver Rig#15AC & rentals to shutdown for spring break. Open up Maverick mud pumps, inspect & winterize. Tear out rig floor & ST-100 iron ruffneck.
18:00	19:00	1.00	22B	Review JSA & tear out TDS-11SA Top Drive. Remove & lay down top drive bails. Replace grabber box die blocks & stabbing guide from 4" to 5". Remove connection clamp torque rings.
19:00	19:30	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards. Review JSA.
19:30	24:00	4.50	22B	Review JSA & tear out TDS-11SA Top Drive. Remove connection clamp torque rings, break out saver sub, lower IBOP, Hydraulic IBOP with dual crank actuator for spring inspection. Grease 400 hp AC drilling motors. Change oil, oil filters & clean magnetic drain plugs in TDS-11SA Gear oil & Hydraulic oil resevoirs.

Remarks
Hazard ID: Worker had a large ratchet tucked into his waste belt as he was about to go up on the man rated winch / stopped him got him a tool lanyard and tool bag before he proceeded.

SAFETY

Safety Topic	MEHL	MACP
Tear out rig.	18	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170327_1A	RMS 2016.6.14.37064	2017	03	27

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32316	ARCRES HZ PARKLAND A12-07-081-16	12-7-81-16 W6	BC	DLS	104/04-13-081-17W6/00

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	
17DRL0008	0X47	01-Jan-2017	13:00

Signature Of Operator's Representative

Signature Of Contractor's Rig Manager

Rig Release Date Time

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	DM	SL
(4.) Well Licence & Stick Diagram Posted	DM	SL
(5.) Flare Lines Staked	DM	SL
(6.) BOP Drills Performed	DM	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	DM	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																					0.50	7.50				8.00
Tour 2																										
Tour 3																										
TOTAL																					0.50	7.50				8.00

Kelly Bushing 6.6 | Op Fuel 3863

FUEL @ 08:00 HRS

Rig 5282 | Boiler 2500

WEATHER

Time 06:00 | Temp -4

Current Conditions: PARTLY CLOUDY

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

Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER | 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
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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	8.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	4:30	4.50	22B	Review JSA & continue to tear out TDS-11SA Top Drive. Disconnect, coil up & lay out inner service loops for TDS-11SA. Pin TDS-11SA in derrick. Remove becket pin & un-hook travelling blocks.
4:30	7:30	3.00	22	Review JSA. Tear out Beaver Rig #15AC. Lower bridal lines to rig floor and bridal up travelling blocks. Tear out complex mud tanks and lower roofs. Tear out walking system electrical cables & hydraulic hoses.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily hazards.

Remarks

Hazard ID: Worker wasn't looking up while he was using the tension limiter / I explained to him that he should always be looking up so that he doesnt snag the tension limiter and break it.

SAFETY

Safety Topic	MEHL	MACP
Working at heights	18	0

TOUR 2 | SIGNATURE OF DRILLER | 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 | 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