FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161220_2A	RMS 2016.6.14.37064	2016	12	20

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

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

HOURS

Code	1	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	
Tour 1																										
Tour 2																										
Tour 3	3.00	1.00																		1.75	1.25					7.00
TOTAL	3.00	1.00																		1.75	1.25					7.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
14734	7100

WEATHER

Time	Temp
05:00	-4

Current Conditions: OVERCAST

Wind Direction	Wind Strength
SW	UP TO 39 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Shaun Low

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

BITS

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

CUTTING STRUCTURE

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

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe		Stands	
Drill Pipe		Singles	

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☐ Oil ☐ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP

TOUR 2

SIGNATURE OF DRILLER: Shaun Low

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

BITS

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

CUTTING STRUCTURE

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

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe		Stands	
Drill Pipe		Singles	

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up	Down	
Torque At Bottom			
Fill On Bottom			

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP

TOUR 3

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 14.3 14.3 14.3
Depth Out (m)	
Depth In (m)	6.60
Total Drilled (m)	112.40
Hrs Run Today	1.00
Cumulative Hrs Run	1.00
Entry Date	20-Dec-2016

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	112.40
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
6.60	119.00	DRILL	120	7

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	279mm PDC Bit	279	1	0.22
1	Mud Motor	203	1	9.14
1	X/O	165	71	0.80
1	UBHO Sub	165	63	0.75
2	NM Slick	155	71	17.71
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
3	4" CDS40 HWDP	101	65	28.50

0	Drill Pipe	Stands	0.00
0	Drill Pipe	Singles	0.00

Kelly Down	-1.34
Total	119.00
Weight of DC	29.00
Weight of String	32.00

HOLE CONDITION

Hole Drag	Up	0 Down	0
Torque At Bottom			7000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	20:00	23:15
Density	1000	1020
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	tank 4	shaker
Depth	0.00	69.81
PVT	56.6	71.93

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	152	99	12000	2.00
2	COMBINED	152	99	12000	2.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
23:15	45.84	0.30	43.1	DIRECTIONAL
23:45	74.05	0.10	30.1	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinaw Centrifuge #1	2.00	1020	1005	1770
Mackinaw Centrifuge #2	2.00	1020	1005	1770

MUD MATERIALS ADDED

Product	Amount	Type
TKPP	2	SXS
Humalite	12	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	7.00	10.5	450
2	7.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
17:00	17:30	0.50	21F	Review JSA & visually inspect rig prior to walking to next well.
17:30	19:00	1.50	1A	Walk Beaver Rig#15AC 10m from F12-07-081-16W6M to E12-07-081-16W6M .
19:00	20:30	1.50	1	Rig up Beaver Rig#15AC to Spud. Adjust suitcases & cable festoon. Rig up PipeCat & casing racks for drilling operations. Rig up cellar trash pumps & circulating system. Install mat under catch tank & spot shale bin. Prepare rig floor for drilling operations.
20:30	20:45	0.25	21F	Pre-Spud rig inspection, hazard hunt & correct all deficencies.
20:45	21:00	0.25	21D	Pre-Spud safety meeting. Discussed ERP & stick diagram. STARS site# 3187.
21:00	21:15	0.25	21D	Safety meeting & review JSA with Dynamic directional drilling.
21:15	21:45	0.50	20D	Handle directional tools. Make up PDC Bit #1A. Break monels & install MWD tool. Warm up Top Drive, mudline & BHA with steam.
21:45	22:45	1.00	2	Spud in with 279mm PDC Sicotte Bit #1A. Drill 279mm Surface hole from 6.6m to 119m MD. Pump Rate: 1.5m3/min, Rotary: 120 RPM, WOB: 7 kdaN, Pump Pressure: 12,000 kPa, Torque: 7,000 ft/lbs, Diff Pressure: 2,500 kPa.
22:45	24:00	1.25	20A	Accumulated MWD survey & connection time.

Remarks

Hazard id: Worker on the rig floor brought wash gun into the rotary table area and was too close to the rotating drill string / pulled off bottom and shut down the top drive until he was clear and we discussed the danger and the severity of what he just did.

SAFETY

Safety Topic	MEHL	MACP
Walk rig & Pre-spud.	32	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161221_1A	RMS 2016.6.14.37064	2016	12	21

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required		
(4.) Well Licence & Slick 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	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	
Tour 1		1.75			0.50	1.75	0.50													3.00	0.50					8.00
Tour 2					0.75	2.50	0.50					3.25								0.50	0.50					8.00
Tour 3					1.00							2.25	2.00								0.75					6.00
TOTAL		1.75			2.25	4.25	1.00					5.50	2.00							3.50	1.75					22.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
11259	7100
Time	Temp
05:00	1

WEATHER

Current Conditions	
CLEAR	
Wind Direction	Wind Strength
SW	UP TO 87 KM/H
Road Condition	
FAIR	

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 / 14.3 14.3 14.3
Depth Out (m)	459.00
Depth In (m)	6.60
Total Drilled (m)	452.40
Hrs Run Today	1.75
Cumulative Hrs Run	2.75
Entry Date	20-Dec-2016

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/ft)	164.51
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
119.00	459.00	DRILL	160	10

DRILLING ASSEMBLY

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

Kelly Down	-3.11
Total	459.00
Weight of DC	
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			12000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	00:45	02:45
Density	1040	1060
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	shaker	shaker
Depth	151.52	280.20
PVT	68.2	58.74

Circulation

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

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:15	103.34	0.50	19.7	DIRECTIONAL
00:30	131.80	0.70	14.7	DIRECTIONAL
01:00	160.19	0.60	280	DIRECTIONAL
01:45	188.61	0.50	247.4	DIRECTIONAL
02:00	217.11	1.00	252.6	DIRECTIONAL
02:45	245.64	0.00	14.9	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinlow Centrifuge #1	3.00	1060	1010	1770
Mackinlow Centrifuge #2	3.00	1060	1010	1770

MUD MATERIALS ADDED

Product	Amount	Type
Bentonite Natural Gel	25	sxs
Sawdust	50	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	0:15	0.25	2	Drill 279mm Surface hole from 119m to 205m MD. Pump Rate: 3.3m3/min, Rotary: 160 RPM, WOB: 10 kdaN, Pump Pressure: 18,000 kPa, Torque: 10,000 ft/lbs, Diff Pressure: 4,500 kPa.
0:15	1:15	1.00	20A	Accumulated MWD survey & connection time.
1:15	1:45	0.50	7	Rig & Top Drive Service. Function test Rig Smart crown saver, MCWS, ZMS, high & low travel stops / limits. Perform visual inspection of PS-21 hydraulic slips and inserts. Perform level 1 visual inspection of mast and all over-head equipment, ok. Grease hydraulic I-BOP and function lower kelly cock.
1:45	3:15	1.50	2	Drill 279mm Surface hole from 205m to 459m MD. Pump Rate: 3.3m3/min, Rotary: 165 RPM, WOB: 10 kdaN, Pump Pressure: 30,000 kPa, Torque: 14,000 ft/lbs, Diff Pressure: 4,500 kPa.
3:15	5:15	2.00	20A	Accumulated MWD survey & connection time.
5:15	5:45	0.50	5D	Circulate hole clean prior to wiper trip.
5:45	7:30	1.75	6M	Review JSA. Trip out of hole from 459m to 91m MD @ 30m/min.
7:30	8:00	0.50	21D	Crew hand-over meeting. Discuss hazard id's & daily tasks.

Remarks
Boiler #2 fuel @ 05:00hrs: 6624 litres.

SAFETY

Safety Topic	MEHL	MACP
IRS	50	0

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 / 14.3 14.3 14.3
Depth Out (m)	459.00
Depth In (m)	6.60
Total Drilled (m)	452.40
Hrs Run Today	0.00
Cumulative Hrs Run	2.75
Entry Date	20-Dec-2016

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	PN
MDC	WT	Reason Pulled	TD
LOC	S	Total Run (m/ft)	164.51
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

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

Kelly Down	-3.11
Total	459.00
Weight of DC	29.00
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			2000
Fill On Bottom			1.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	09:45	11:30
Density	1250	1250
Funnel Viscosity	85	79
Fluid Loss	0	0
pH	11	11
Location Of Sample	Shaker	Trough
Depth	459.00	459.00
PVT	26.6	25.62

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	10	600	8.00
2	PARALLEL	152	10	600	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
Mackinlow Centrifuge #1	0.00	0	0	0
Mackinlow Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Enerzan	1	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	9:00	1.00	6M	Wiper trip in hole at 30m/min from 91m to 459m MD. Wash through bridge at 245m & 405m.
9:00	9:45	0.75	5D	Reciprocate drill string & circulate the hole clean at 3.0 m3/min. Review JSA.
9:45	11:15	1.50	6B	Trip out of hole at 30m/min to run casing.
11:15	11:30	0.25	21D	Safety meeting & JSA review with Dynamic directional drilling.
11:30	12:00	0.50	20D	Handle directional tools. Lay down Jars, break monels & remove MWD tool. Clean bit, drain motor & break off PDC bit #1A.
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. Conducted level 1 visual inspection of mast & all over-head equipment.
12:30	13:00	0.50	12A	Review JSA with Copperhead. Rig up to run 219.1mm surface casing. Remove BX-4 500 ton hydraulic elevators. Install 6' bail extensions & 150 ton casing elevators (cert # 100995). Pickup & install power tong.
13:00	13:15	0.25	21D	Safety meeting with Copperhead prior to running 219.1mm surface casing.
13:15	16:00	2.75	12B	Make up shoe and float collars. Run 33 of 39 joints of 219.1mm surface casing at 30m/min from 6.6m to 380m MD.

Remarks
Hazard ID
3rd party hand performing maintenance was standing on handrail / Stopped him and provided a ladder and informed him of hazard.

SAFETY

Safety Topic	MEHL	MACP
Handle directional tools / Run casing.	48	0

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/ft)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
	Drill Pipe Stands			
	Drill Pipe Singles			

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

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

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	17:30	
Density	1250	
Funnel Viscosity	80	
Fluid Loss	0	
pH	11	
Location Of Sample	Trough	
Depth	459.00	
PVT	38	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	33	1400	
2	PARALLEL	152	33	1400	

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp
1	6.00	10.5	450
2	6.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	16:30	0.50	12	Continue to run 39 of 39 joints of 219.1mm surface casing at 30m/min from 380m to 459m MD.
16:30	17:30	1.00	5D	Circulate at 1.0m3/min. Remove PS-21 hydraulic slips & land casing bowl at 459m MD. Rig out 219.1mm casing handling equipment. Reciprocate casing string & circulate. Prepare to cement.
17:30	17:45	0.25	21D	Safety meeting & JSA review with Trican.
17:45	19:30	1.75	12C	Rig to & cement surface casing. 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. 8m´‡ cement returns to surface Plug down @ 19:15 Hrs. No fall back.
19:30	20:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily tasks.
20:00	22:00	2.00	13	Wait on Cement & prepare to walk Beaver Rig#15AC to next well.

Remarks
Hazard ID
Water hauler drove away and a hose at fell off of truck. / Stopped him, picked up and secured hose so it does not fall off on the road.

SAFETY

Safety Topic	MEHL	MACP
Cementing.	35	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161221_1A	RMS 2016.6.14.37064	2016	12	21

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

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

Code	1 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		1.75			0.50	1.75	0.50													3.00	0.50					8.00
Tour 2					0.75	2.50	0.50					3.25								0.50	0.50					8.00
Tour 3					1.00							2.25	2.00								0.75					6.00
TOTAL		1.75			2.25	4.25	1.00					5.50	2.00							3.50	1.75					22.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig	Boiler
11259	7100
Time	Temp
05:00	1

WEATHER

Current Conditions	
CLEAR	
Wind Direction	Wind Strength
SW	UP TO 87 KM/H
Road Condition	
FAIR	

TOUR 1

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
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	1.75
Cumulative Hrs Run	2.75
Entry Date	20-Dec-2016

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/ft)	164.51
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

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

Kelly Down	-3.11
Total	459.00
Weight of DC	
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			12000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	04:45	05:45
Density	1200	1210
Funnel Viscosity	65	68
Fluid Loss		
pH	10.5	10.5
Location Of Sample	shaker	suction
Depth	433.20	459.00
PVT	34.25	27.77

Circulation

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

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
03:00	274.19	0.30	67.2	DIRECTIONAL
03:30	302.60	0.10	48.5	DIRECTIONAL
03:45	331.17	0.60	327.3	DIRECTIONAL
04:30	359.66	0.40	35.3	DIRECTIONAL
04:30	388.13	0.30	96.7	DIRECTIONAL
05:00	416.66	0.20	217.9	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	3.00	1060	1010	1770
Mudcleaner Centrifuge #2	3.00	1060	1010	1770

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: 6624 litres.

SAFETY

Safety Topic	MEHL	MACP
IRS	50	0

TOUR 2

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
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	2.75
Entry Date	20-Dec-2016

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	PN
MDC	WT	Reason Pulled	TD
LOC	S	Total Run (m/ft)	164.51
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

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

Kelly Down	-3.11
Total	459.00
Weight of DC	29.00
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			2000
Fill On Bottom			1.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	13:00	15:00
Density	1250	1260
Funnel Viscosity	78	74
Fluid Loss	0	0
pH	11	
Location Of Sample	Suction	Suction
Depth	459.00	459.00
PVT	22.96	20.35

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	152	10	600	8.00
2	PARALLEL	152	10	600	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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID
3rd party hand performing maintenance was standing on handrail / Stopped him and provided a ladder and informed him of hazard.

SAFETY

Safety Topic	MEHL	MACP
Handle directional tools / Run casing.	48	0

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/ft)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
	Drill Pipe	Stands		
	Drill Pipe	Singles		

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up 1	Down	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	PARALLEL	152	33	1400	
2	PARALLEL	152	33	1400	

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID
Water hauler drove away and a hose at fell off of truck. / Stopped him, picked up and secured hose so it does not fall off on the road.

SAFETY

Safety Topic	MEHL	MACP
Cementing.	35	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20161221_1A	RMS 2016.6.14.37064	2016	12	21

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

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

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		1.75			0.50	1.75	0.50													3.00	0.50					8.00
Tour 2					0.75	2.50	0.50					3.25								0.50	0.50					8.00
Tour 3					1.00							2.25	2.00								0.75					6.00
TOTAL		1.75			2.25	4.25	1.00					5.50	2.00							3.50	1.75					22.00

Kelly Bushing: 6.6 | Op Fuel:

FUEL @ 08:00 HRS

Rig: 11259 | Boiler: 7100 | Time: 05:00 | Temp: 1

WEATHER

Current Conditions: CLEAR | Wind Direction: SW | Wind Strength: UP TO 87 KM/H | Road Condition: FAIR

TOUR 1

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 14.3 14.3 14.3
Depth Out (m)	459.00
Depth In (m)	6.60
Total Drilled (m)	452.40
Hrs Run Today	1.75
Cumulative Hrs Run	2.75
Entry Date	20-Dec-2016

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/ft)	164.51
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

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

Kelly Down	-3.11
Total	459.00
Weight of DC	
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			12000
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	152	110	30000	8.00
2	COMBINED	152	110	30000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
05:15	445.11	0.50	219.4	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	3.00	1060	1010	1770
Mudcleaner Centrifuge #2	3.00	1060	1010	1770

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: 6624 litres.

SAFETY

Safety Topic	MEHL	MACP
IRS	50	0

TOUR 2

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

BITS

Bit Number	1A
Size	279
IADC Code	
Manufacturer	Sicotte
Type	SS516GB
Serial No	12807
Jets	14.3 14.3 14.3 14.3 14.3 14.3 14.3
Depth Out (m)	459.00
Depth In (m)	6.60
Total Drilled (m)	452.40
Hrs Run Today	0.00
Cumulative Hrs Run	2.75
Entry Date	20-Dec-2016

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	PN
MDC	WT	Reason Pulled	TD
LOC	S	Total Run (m/ft)	164.51
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

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

Kelly Down	-3.11
Total	459.00
Weight of DC	29.00
Weight of String	45.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			2000
Fill On Bottom			1.00

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	10	600	8.00
2	PARALLEL	152	10	600	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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID
3rd party hand performing maintenance was standing on handrail / Stopped him and provided a ladder and informed him of hazard.

SAFETY

Safety Topic	MEHL	MACP
Handle directional tools / Run casing.	48	0

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/ft)	
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
	Drill Pipe Stands			
	Drill Pipe Singles			

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up 1	Down	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	PARALLEL	152	33	1400	
2	PARALLEL	152	33	1400	

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID
Water hauler drove away and a hose at fell off of truck. / Stopped him, picked up and secured hose so it does not fall off on the road.

SAFETY

Safety Topic	MEHL	MACP
Cementing.	35	0

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170131_2A	RMS 2016.6.14.37064	2017	01	31

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required	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.) 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	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																										
Tour 2	0.50																				0.50					1.00
Tour 3	3.50						0.50							2.50	0.75						0.75					8.00
TOTAL	4.00						0.50							2.50	0.75						1.25					9.00

Kelly Bushing	Op Fuel
6.6	3166

FUEL @ 08:00 HRS

Rig	Boiler
19460	7100

WEATHER

Time	Temp
06:00	-9

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
NW	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Shaun Low

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

BITS

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

CUTTING STRUCTURE

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

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe Stands | Drill Pipe Singles

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

HOLE CONDITION

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

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP

TOUR 2

SIGNATURE OF DRILLER: 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

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
1	1.00	10.5	450
2	1.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
15:00	15:30	0.50	21F	Review JSA & visually inspect rig prior to walking to next well.
15:30	16:00	0.50	1A	Walk Beaver Rig#15AC 10m from D12-07-081-16W6M to E12-07-081-16W6M.

Remarks

****644K John Deere Loader & JCB Zoom Boom used while walking rig & rigging up****

SAFETY

Safety Topic	MEHL	MACP
Walking Rig.		

TOUR 3

SIGNATURE OF DRILLER: Luke Hardy

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
Mackinlaw Centrifuge #1	0.00	0	0	0
Mackinlaw Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	18:00	2.00	1A	Walk Beaver Rig#15AC 10m from D12-07-081-16W6M to E12-07-081-16W6M.
18:00	19:00	1.00	1	Install well head on casing bowl for well D12-07-081-16W6M with Cameron. Rig up Beaver Rig#15AC on well E12-07-081-16W6M . 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.
19:00	19:30	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.
19:30	20:00	0.50	1	Install well head on casing bowl for well D12-07-081-16W6M with Cameron. Rig up Beaver Rig#15AC on well E12-07-081-16W6M . 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.
20:00	22:30	2.50	14A	Review JSA. Nipple up Schaffer 13 5/8" 5000# BOP´´´s & all related equipment.
22:30	23:00	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 Blind Rams, 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed tourly fall protection equipment inspection. Install PS-21 Hydraulic slips, BX4-500 hydraulic elevators. Visual inspection of BOP & valves completed by Murray Allen & Chris Baehl.
23:00	23:15	0.25	21D	Safety Meeting & JSA review prior to pressure testing with Semerra.
23:15	24:00	0.75	15A	Pressure test 13 5/8" Schaffer BOP equipment with Semerra; Pick up 1- joint of 4FH, make up to Test Cup. Attempt to test Casing Bowl, Upper Pipe Rams, Manual HCR

Remarks

****Level III BOP visual inspection performed by Rig Manager Shaun Low****

Hazard ID: Equipment operator was moving the machine while workers were working with the machine without hand signals. Worker asked the operator to not move unless he is signaled or radioed.

SAFETY

Safety Topic	MEHL	MACP
Nippling up BOP's		

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170131_2A	RMS 2016.6.14.37064	2017	01	31

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required	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	
	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																										
Tour 2	0.50																				0.50					1.00
Tour 3	3.50						0.50							2.50	0.75						0.75					8.00
TOTAL	4.00						0.50							2.50	0.75						1.25					9.00

HOURS

Kelly Bushing	Op Fuel
6.6	3166

FUEL @ 08:00 HRS

Rig	Boiler
19460	7100

WEATHER

Time	Temp
06:00	-9

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
NW	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER: Shaun Low | START TIME: 0:00 | END TIME: 8:00

BITS

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

CUTTING STRUCTURE

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

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe: Stands | Drill Pipe: Singles

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag: Up | Down

Torque At Bottom	
Fill On Bottom	

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

SAFETY

Safety Topic	MEHL	MACP

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

BITS / DRILLING ASSEMBLY / MUD RECORD / DEVIATION SURVEYS / SOLIDS CONTROL / MUD MATERIALS ADDED / BOILER / CUTTING STRUCTURE / METRES DRILLED / HOLE CONDITION / Circulation / REDUCED PUMP SPEED — same structure as TOUR 1

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

****644K John Deere Loader & JCB Zoom Boom used while walking rig & rigging up****

SAFETY

Safety Topic	MEHL	MACP
Walking Rig.		

TOUR 3 | SIGNATURE OF DRILLER: Luke Hardy | START TIME: 16:00 | END TIME: 24:00

BITS / DRILLING ASSEMBLY / MUD RECORD / DEVIATION SURVEYS / 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 / BOILER / CUTTING STRUCTURE / METRES DRILLED / HOLE CONDITION / Circulation / REDUCED PUMP SPEED — same structure as TOUR 1

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
				valves, inside Kill line valves. Lower Pipe Ram door leaked, replaced DS Ram door gasket.

Remarks

****Level III BOP visual inspection performed by Rig Manager Shaun Low****
Hazard ID: Equipment operator was moving the machine while workers were working with the machine without hand signals. Worker asked the operator to not move unless he is signaled or radioed.

SAFETY

Safety Topic	MEHL	MACP
Nippling up BOP's		

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170201_1A	RMS 2016.6.14.37064	2017	02	01

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required	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 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				1.75			0.75						1.00					2.00	1.50				0.50	8.00
Tour 2		5.25			0.25		0.50													1.75	0.25					8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		11.50			0.25	1.75	0.50		0.75						1.00					5.50	2.25				0.50	24.00

Kelly Bushing 6.6 | Op Fuel 2686

FUEL @ 08:00 HRS

Rig 36974 | Boiler 7100 | Time 05:00 | Temp -15

WEATHER

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

TOUR 1 | SIGNATURE OF DRILLER: Luke Hardy | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
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	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 0.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
37	4" CDS40 HWDP	101	65	351.31
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-3.26
Total	459.00
Weight of DC	29.00
Weight of String	44.00

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	05:00	
Density	1165	
Funnel Viscosity	32	
Fluid Loss	0	
pH	10	
Location Of Sample	Suction#1	
Depth	38.05	
PVT	45	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	20	0	4.00
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
Brine	45	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	0:45	0.75	15A	Pressure test 13 5/8" Schaffer BOP equipment with Semmera; Test Casing Bowl, Upper Pipe Rams, Manual HCR valves, inside Kill line valves to 1,000kPa- low & 21,000kPa high for 10 minutes each.
0:45	1:00	0.25	15B	Accumulator function test; Start pressure 21,000 kPa. Close Annular Preventer 16 seconds, close Upper Pipe Rams 6 seconds, close lower Pipe Rams 6 seconds, open HCR 2 seconds. After 4 functions remaining pressure 10,750kPa. 2 minutes 52 seconds recharge time. 7,000 kPa precharge pressure. Backup nitrogen, 6 bottles with an average of 16,548. Rig out Semmera equipment.
1:00	1:30	0.50	25	Set Wear Bushing @ 6.6m MD.
1:30	2:15	0.75	9A	Reviewed JSA. Slip & cut 34.65m of drilling line @ 12,574mJ. Deadman anchor bolts retorqued to 360 ft/lbs. Performed full block height calibration. Brake capacity test, ok. Greased Crown Block & Travelling Block.
2:15	2:30	0.25	21F	Complete Pre Drillout Rig Inspection & Hazard Hunt. Repair all deficiencies.
2:30	2:45	0.25	21D	Pre Drillout safety meeting. Discussed ERP & stick diagram. STARS site# 3187.
2:45	3:00	0.25	21A	BOP drill & discussion while out of the hole. Simulated a hard shut in. Crew assumed CAODC designated positions. Well secured in 90 seconds. Discussed stick diagram, kick warning signs / causes, shut in & flowcheck procedures, ERP & emergency contact list. STARS site # 3187. Verified BOP & choke manifold valve alignment. Functioned both chokes & flare igniter.
3:00	3:15	0.25	21	Safety meeting & JSA review prior to handlin Dynamic directional tools.
3:15	5:15	2.00	20D	Handle Dynamic directional tools. Pick up Mud Motor. Make up 1- stand with 2-

Remarks

Boiler#2 fuel @ 05:00hrs = 8496 litres.

Hazard ID: Driller had communicated to the crew that he was going to move the PS-21 Hydraulic slips. One of the workers as confused & reached his hand into the slips as the driller was about to begin roataing the slips... Driller stopped & explained to the crew that when the driller is moving equipment that the equipment is not to be touched.

SAFETY

Safety Topic	MEHL	MACP
Making up Directional tools.		

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	529.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 100.76 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
459.00	988.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-25.43
Total	988.00
Weight of DC	29.00
Weight of String	56.00

HOLE CONDITION

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

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	08:15	11:15
Density	1160	1160
Funnel Viscosity	31	32
Fluid Loss		
pH	10.5	10.5
Location Of Sample	suction #1	trough
Depth	459.00	669.00
PVT	7	34.19

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	105	28800	8.00
2	COMBINED	127	105	28800	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2355	@	60	@	750.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
09:00	476.63	0.53	234.64	DIRECTIONAL
09:15	505.08	0.48	257.93	DIRECTIONAL
09:45	533.61	0.79	222.6	DIRECTIONAL
10:15	562.72	0.57	145.61	DIRECTIONAL
10:30	591.83	0.31	165.82	DIRECTIONAL
10:45	620.93	0.26	254.94	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	6.00	1160	1140	1570
Mudcleaner Centrifuge #2	6.00	1160	1140	1570

MUD MATERIALS ADDED

Product	Amount	Type
EnerClear F 1802	4	sxs
Sawdust	24	sxs
EnerFiber	10	sxs
Enerhib C	2	bbl
Caustic Soda	1	sxs
Lime Hydrated	4	sxs
Enerscav C	1	bbl
Limestone 0 grade	18	sxs
EnerPac Regular	1	sxs

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	8:15	0.25	5C	Displace well to CaCl Brine Water @ 1.3m3/min. 17m3 of total displacement.
8:15	12:00	3.75	2	Drill vertical section of 200mm main hole from 459m to 751m MD. Pump Rate - 2.2 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 26,800 kPa, Torque - 6,200 ft/lbs, Diff Pressure - 4,800 kPa.
12:00	12:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Upper Pipe Rams 6 seconds to close, ok. 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 & Dan Meyer.
12:30	12:45	0.25	21A	BOP drill & discussion while drilling. Simulated a hard shut in. Crew assumed CAODC designated positions. Well secured in 45 seconds. Discussed stick diagram, kick warning signs / causes, shut in & flowcheck procedures, ERP & emergency contact list. STARS site # 3187. Verified BOP & choke manifold valve alignment. Functioned both chokes & flare igniter, ok.
12:45	14:15	1.50	2	Drill vertical section of 200mm main hole from 751m to 988m MD. Pump Rate - 2.2 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 28,800 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 5,200 kPa.
14:15	16:00	1.75	20A	Accumulated EM Surveys & Connection time.

Remarks

Hazard ID: During rig service worker walked between pipe and linked out elevators / explained how major of a pinch point that was and made an agreement that he wouldnt do it again.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill	62	3085

TOUR 3 | SIGNATURE OF DRILLER: Justin Holt | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	903.00
Hrs Run Today	5.75
Cumulative Hrs Run	11.00
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 82.09 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
988.00	1362.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
28	Drill Pipe	Stands		815.10
0	Drill Pipe	Singles		0.00

Kelly Down	-0.71
Total	1362.00
Weight of DC	29.00
Weight of String	66.00

HOLE CONDITION

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

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	16:15	18:30
Density	1160	1170
Funnel Viscosity	30	31
Fluid Loss		
pH	10	10
Location Of Sample	trough	trough
Depth	1013.00	1129.00
PVT	47.79	40.01

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	23000	8.00
2	PARALLEL	127	90	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3092	@	60	@	1393.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:00	970.29	0.18	254.94	DIRECTIONAL
16:30	999.43	0.31	287.64	DIRECTIONAL
17:00	1028.50	0.44	107.64	DIRECTIONAL
17:15	1057.64	0.31	72.04	DIRECTIONAL
18:00	1086.74	0.22	41.46	DIRECTIONAL
18:30	1115.83	0.31	24.76	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1140	1310
Mudcleaner Centrifuge #2	8.00	1170	1145	1320

MUD MATERIALS ADDED

Product	Amount	Type
Lime Hydrated	4	sxs
Caustic Soda	1	sxs
Sawdust	60	sxs
Defoamer Gemini	4	sxs
EnerPac Regular	1	sxs
Cal Carb 0	16	sxs
Enercure	1	sxs
Brine	10	m3
EnerClear F 1802	3	sxs

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	2	Drill vertical section of 200mm main hole from 988m to 1160m MD. Pump Rate - 2.0 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 28,800 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 4,800 kPa. (Reduce Pump Rate to 1.8m3/min for Bluesky formation)
19:00	19:30	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idā s & daily events.
19:30	22:15	2.75	2	Drill vertical section of 200mm main hole from 1160m to 1362m MD. Pump Rate - 1.9 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 22,500 kPa, Torque - 8,700 ft/lbs, Diff Pressure - 3,800 kPa. (Reduced Pump Rate and W.O.B to 1.8m3/min and 10 DaN for Top of Cadomin)
22:15	24:00	1.75	20A	Accumulated EM Surveys & Connection time.

Remarks

Hazard ID: While making a connection I noticed that the elevators knocked the hole cover off the mouse hole. Notified the hands on the floor of open hole and they covered it up as soon as elevators were out of the way.

SAFETY

Safety Topic	MEHL	MACP
Waste Management	96	3040

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170201_1A	RMS 2016.6.14.37064	2017	02	01

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required	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.) 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		0.50				1.75			0.75						1.00					2.00	1.50				0.50	8.00
Tour 2		5.25			0.25		0.50													1.75	0.25					8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		11.50			0.25	1.75	0.50		0.75						1.00					5.50	2.25				0.50	24.00

Kelly Bushing 6.6 | Op Fuel 2686

FUEL @ 08:00 HRS

Rig 36974 | Boiler 7100

WEATHER

Time 05:00 | Temp -15 | Current Conditions OVERCAST | Wind Direction SW | Wind Strength UP TO 19 KM/H | Road Condition FAIR

TOUR 1

SIGNATURE OF DRILLER: Luke Hardy

START TIME 0:00 | END TIME 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
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	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 0.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
37	4" CDS40 HWDP	101	65	351.31
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down -3.26 | Total 459.00 | Weight of DC 29.00 | Weight of String 44.00

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	20	0	4.00
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
				NMDC's, run in & break out handling joint of DP. Break NMDC's, pick up Gap sub, make up EM tool, make up Gap sub to NMDC's. Highside tools, program EM tool. Make up PDC Bit #2.
5:15	7:00	1.75	6A	Review JSA. Trip in 2- stands of DC's, 2- joints of DS40 HWDP, pick up Drilling Jars. Trip in the hole @ 55m/min From 86m to 443m MD.
7:00	7:30	0.50	2C	Drill out 219.1mm Surface Casing; Cement @ 443.80m, Plug @ 445.8m, Shoe @ 458m MD.
7:30	8:00	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idā s & daily events.

Remarks

Boiler#2 fuel @ 05:00hrs = 8496 litres.

Hazard ID: Driller had communicated to the crew that he was going to move the PS-21 Hydraulic slips. One of the workers as confused & reached his hand into the slips as the driller was about to begin roataing the slips... Driller stopped & explained to the crew that when the driller is moving equipment that the equipment is not to be touched.

SAFETY

Safety Topic	MEHL	MACP
Making up Directional tools.		

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 8:00 | END TIME 16:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	529.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 100.76 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down -25.43 | Total 988.00 | Weight of DC 29.00 | Weight of String 56.00

HOLE CONDITION

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

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	14:15
Density	1160
Funnel Viscosity	30
Fluid Loss	
pH	10
Location Of Sample	trough
Depth	859.00
PVT	46.92

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	105	28800	8.00
2	COMBINED	127	105	28800	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2355	@	60	@	750.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
11:00	650.03	0.35	279.82	DIRECTIONAL
11:30	679.13	0.44	46.12	DIRECTIONAL
11:45	708.22	0.57	15.27	DIRECTIONAL
12:15	737.34	0.22	335.8	DIRECTIONAL
13:00	766.45	0.62	357.25	DIRECTIONAL
13:30	795.61	0.31	94.98	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	6.00	1160	1140	1570
Mudcleaner Centrifuge #2	6.00	1160	1140	1570

MUD MATERIALS ADDED

Product	Amount	Type
Enercure	1	SXS

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: During rig service worker walked between pipe and linked out elevators / explained how major of a pinch point that was and made an agreement that he wouldnt do it again.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill	62	3085

TOUR 3

SIGNATURE OF DRILLER: Justin Holt

START TIME 16:00 | END TIME 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	903.00
Hrs Run Today	5.75
Cumulative Hrs Run	11.00
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 82.09 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
28	Drill Pipe Stands			815.10
0	Drill Pipe Singles			0.00

Kelly Down -0.71 | Total 1362.00 | Weight of DC 29.00 | Weight of String 66.00

HOLE CONDITION

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

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	21:45
Density	1180
Funnel Viscosity	31
Fluid Loss	
pH	10
Location Of Sample	Shakers
Depth	1216.00
PVT	49.34

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	23000	8.00
2	PARALLEL	127	90	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3092	@	60	@	1303.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
19:00	1144.96	0.53	357.51	DIRECTIONAL
19:30	1174.08	0.66	329.92	DIRECTIONAL
20:30	1203.23	0.62	220.76	DIRECTIONAL
21:15	1232.31	0.66	155.19	DIRECTIONAL
21:45	1261.42	0.62	158.79	DIRECTIONAL
22:15	1290.52	0.35	175.93	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1140	1310
Mudcleaner Centrifuge #2	8.00	1170	1145	1320

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: While making a connection I noticed that the elevators knocked the hole cover off the mouse hole. Notified the hands on the floor of open hole and they covered it up as soon as elevators were out of the way.

SAFETY

Safety Topic	MEHL	MACP
Waste Management	96	3040

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170201_1A	RMS 2016.6.14.37064	2017	02	01

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

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

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	DM	SL
(2.) Detailed Inspection - Weekly (Using Check List)	DM	SL
(3.) H2S Signs Posted if Required	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

CAODC

NOV

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				1.75			0.75						1.00					2.00	1.50				0.50	8.00
Tour 2		5.25			0.25		0.50													1.75	0.25					8.00
Tour 3		5.75																		1.75	0.50					8.00
TOTAL		11.50			0.25	1.75	0.50		0.75						1.00					5.50	2.25				0.50	24.00

Kelly Bushing	Op Fuel
6.6	2686

FUEL @ 08:00 HRS

Rig	Boiler
36974	7100

WEATHER

Time	Temp
05:00	-15

Current Conditions: OVERCAST

Wind Direction	Wind Strength
SW	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Luke Hardy

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
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	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 0.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
37	4" CDS40 HWDP	101	65	351.31
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-3.26
Total	459.00
Weight of DC	29.00
Weight of String	44.00

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	20	0	4.00
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 = 8496 litres.

Hazard ID: Driller had communicated to the crew that he was going to move the PS-21 Hydraulic slips. One of the workers as confused & reached his hand into the slips as the driller was about to begin roataing the slips... Driller stopped & explained to the crew that when the driller is moving equipment that the equipment is not to be touched.

SAFETY

Safety Topic	MEHL	MACP
Making up Directional tools.		

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	529.00
Hrs Run Today	5.25
Cumulative Hrs Run	5.25
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 100.76 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 x DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-25.43
Total	988.00
Weight of DC	29.00
Weight of String	56.00

HOLE CONDITION

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

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	105	28800	8.00
2	COMBINED	127	105	28800	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2355	@	60	@	750.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:00	824.69	0.13	135.15	DIRECTIONAL
14:15	853.82	0.04	107.64	DIRECTIONAL
14:45	882.93	0.13	287.64	DIRECTIONAL
15:00	912.05	0.48	287.64	DIRECTIONAL
15:30	941.19	0.35	152.38	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	6.00	1160	1140	1570
Mudcleaner Centrifuge #2	6.00	1160	1140	1570

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: During rig service worker walked between pipe and linked out elevators / explained how major of a pinch point that was and made an agreement that he wouldnt do it again.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill	62	3085

TOUR 3

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	903.00
Hrs Run Today	5.75
Cumulative Hrs Run	11.00
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 82.09 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
28	Drill Pipe	Stands		815.10
0	Drill Pipe	Singles		0.00

Kelly Down	-0.71
Total	1362.00
Weight of DC	29.00
Weight of String	66.00

HOLE CONDITION

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

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	23000	8.00
2	PARALLEL	127	90	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3092	@	60	@	1303.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
22:45	1319.60	0.48	169.08	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1140	1310
Mudcleaner Centrifuge #2	8.00	1170	1145	1320

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: While making a connection I noticed that the elevators knocked the hole cover off the mouse hole. Notified the hands on the floor of open hole and they covered it up as soon as elevators were out of the way.

SAFETY

Safety Topic	MEHL	MACP
Waste Management	96	3040

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170202_1A	RMS 2016.6.14.37064	2017	02	02

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

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

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		5.25					0.50													1.50	0.75					8.00
Tour 2		6.50					0.50													0.75	0.25					8.00
Tour 3		0.75			0.75	4.50														1.25	0.75					8.00
TOTAL		12.50			0.75	4.50	1.00													3.50	1.75					24.00

Kelly Bushing 6.6 | Op Fuel 5075

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
32943	7100
Time	Temp
05:00	-17
Current Conditions	
PARTLY CLOUDY	
Wind Direction	Wind Strength
SW	UP TO 19 KM/H
Road Condition	
FAIR	

TOUR 1 | SIGNATURE OF DRILLER Justin Holt | START TIME 0:00 | END TIME 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1145.00
Hrs Run Today	5.25
Cumulative Hrs Run	16.25
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 70.46 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1362.00	1604.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
37	Drill Pipe	Stands		1077.10
0	Drill Pipe	Singles		0.00

Kelly Down	-20.71
Total	1604.00
Weight of DC	29.00
Weight of String	69.00

HOLE CONDITION

Hole Drag Up 2 Down 2

Torque At Bottom	9000
Fill On Bottom	0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	02:45	04:15
Density	1160	1160
Funnel Viscosity	31	31
Fluid Loss		
pH	10.5	10.5
Location Of Sample	Shakers	Shakers
Depth	1460.00	1502.00
PVT	44.1	38.22

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	23000	8.00
2	PARALLEL	127	90	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3141	@	60	@	1478.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:00	1348.71	0.79	253.36	DIRECTIONAL
00:45	1377.82	0.48	246.07	DIRECTIONAL
01:30	1406.92	0.22	42.95	DIRECTIONAL
02:45	1436.04	0.48	25.73	DIRECTIONAL
03:45	1465.17	0.18	287.64	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcloser Centrifuge #1	8.00	1160	1135	1380
Mudcloser Centrifuge #2	8.00	1160	1140	1380

MUD MATERIALS ADDED

Product	Amount	Type
Cal Nitrate	1	sxs
Lime Hydrated	4	sxs
Cal Carb 0	5	sxs
EnerFiber	4	sxs
EnerPac Regular	1	sxs
Brine	10	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	3:00	3.00	2	Drill vertical section of 200mm main hole from 1362m to 1478m MD. Pump Rate - 1.9 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 22,500 kPa, Torque - 8,700 ft/lbs, Diff Pressure - 3,800 kPa.
3:00	3:30	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 16 seconds to close, ok. 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 and Chris Baehl.
3:30	3:45	0.25	21A	H2S man down drill prior to entering Baldonnel formation. Simulated a hard shut in. Crew evacuated to upwind muster area. Well secured in 55 seconds. Practiced rescue routes. Reviewed 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.
3:45	6:00	2.25	2	Drill vertical section of 200mm main hole from 1478m to 1604m MD. Pump Rate - 1.9 m3/min, WOB - 14 kdaN, Rotary - 70 RPM, Pump Pressure - 23,000 kPa, Torque - 9,000 ft/lbs, Diff Pressure - 3,000 kPa.
6:00	7:30	1.50	20A	Accumulated EM Surveys & Connection time.
7:30	8:00	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.

Remarks

Boiler#2 fuel @ 05:00hrs = 7452 litres.

Hazard ID: Observed a hand walk towards a set of stairs with two pails full of fluid. Once the worker got to the stairs he stopped & left one pail at the bottom of the stairs to maintain three point contact.

SAFETY

Safety Topic	MEHL	MACP
H2S Man Down Drill	80	3130

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1230.00
Hrs Run Today	6.50
Cumulative Hrs Run	22.75
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 54.07 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1604.00	1689.00	DRILL	70	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
40	Drill Pipe	Stands		1164.49
0	Drill Pipe	Singles		0.00

Kelly Down	-23.10
Total	1689.00
Weight of DC	29.00
Weight of String	71.00

HOLE CONDITION

Hole Drag Up 2 Down 2

Torque At Bottom	6500
Fill On Bottom	0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	08:15	12:15
Density	1150	1150
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10
Location Of Sample	trough	trough
Depth	1568.00	1637.00
PVT	36.9	34

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	23300	8.00
2	COMBINED	127	90	23300	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2800	@	60	@	1650.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
09:30	1581.58	0.88	103.95	DIRECTIONAL
11:15	1610.71	0.79	99.55	DIRECTIONAL
13:00	1639.84	1.10	71.69	DIRECTIONAL
15:15	1668.96	1.36	72.04	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcloser Centrifuge #1	8.00	1150	1145	1545
Mudcloser Centrifuge #2	8.00	1150	1145	1545
Mudcloser Centrifuge #3	8.00	1150	1145	1545

MUD MATERIALS ADDED

Product	Amount	Type
EnerFiber	22	sxs
Cal Carb 0	35	sxs
Enercure	3	sxs
EnerPac Regular	2	sxs
Brine	13	m3
Enerhib C	1	bbl
Enerscav C	1	bbl
EnerClear F 1802	3	sxs
Lime Hydrated	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	13:00	5.00	2	Drill vertical section of 200mm main hole from 1604m to 1652m MD. Pump Rate - 1.9 m3/min, WOB - 15 kdaN, Rotary - 70 RPM, Pump Pressure - 23,300 kPa, Torque - 6,000 ft/lbs, Diff Pressure - 3,300 kPa.
13:00	13:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Lower Pipe Rams 6 seconds to close, ok. 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 and Chris Baehl.
13:30	13:45	0.25	21A	H2S man down drill while drilling. Simulated a hard shut in. Crew evacuated to upwind muster area. Well secured in 42 seconds. Practiced rescue routes and SCBA pack up procedures. Reviewed 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	15:15	1.50	2	Drill vertical section of 200mm main hole from 1652m to 1689m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 70 RPM, Pump Pressure - 23,300 kPa, Torque - 6,500 ft/lbs, Diff Pressure - 3,300 kPa.
15:15	16:00	0.75	20A	Accumulated EM Surveys & Connection time.

Remarks

****Drilling Services Manager Steve Schembri on location for rig tour****

Hazard ID: After a connection the floorhands forgot to replace the rotary barrier sign / I called them back up and reminded them to do it.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	75	3130

TOUR 3 | SIGNATURE OF DRILLER Justin Holt | START TIME 16:00 | END TIME 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1243.00
Hrs Run Today	0.75
Cumulative Hrs Run	23.50
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 52.89 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
1689.00	1702.00	DRILL	70	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
40	Drill Pipe	Stands		1164.49
0	Drill Pipe	Singles		0.00

Kelly Down	-10.10
Total	1702.00
Weight of DC	29.00
Weight of String	71.00

HOLE CONDITION

Hole Drag Up 2 Down 2

Torque At Bottom	5000
Fill On Bottom	0.00

MUD RECORD

Mud Type Water ☑ Oil ☐ Other

Time	17:15	22:00
Density	1155	1155
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	trough	Suction #2
Depth	1711.00	1702.00
PVT	37.89	36.9

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	20500	2.00
2	COMBINED	127	90	20500	2.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3000	@	60	@	1700.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
17:00	1688.39	1.01	78.72	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcloser Centrifuge #1	0.00	0	0	0
Mudcloser 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	16:45	0.75	2	Drill vertical section of 200mm main hole from 1689m to 1702m MD (KOP). Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 70 RPM, Pump Pressure - 20,500 kPa, Torque - 5,000 ft/lbs, Diff Pressure - 3,900 kPa.
16:45	17:00	0.25	20A	Accumulated EM Surveys & Connection time.
17:00	17:45	0.75	5	Circulate well clean and condition mud. Pump 6.0m3 Groute sweep prior to tripping out of hole.
17:45	19:00	1.25	6B	Review JSA. Pump 3.0m3 of 1355kg/m3 weighted pill, pill recovery = 0.53m3. Trip out of hole to change BHA for build section @ 30m/min from 1702m to 1206m MD. Flowchecks @ 1700m and 1614m MD.
19:00	19:30	0.50	21D	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events. Review JSA prior to contiuing to trip out.
19:30	22:45	3.25	6B	Continue to Trip out of hole to change BHA for build section @ 30m/min from 1206m to 112m MD. Flowchecks @ 798m, 112m.
22:45	23:00	0.25	21	Safety meeting & JSA review prior to handling Dynamic directional tools.
23:00	24:00	1.00	20D	Handle Dynamic directional tools; make up X/O & handling joint of 4FH DP to Slick NMDC's. Break out Gap sub, disassemble EM tool, lay down Gap sub. Make up Slick NMDC's & rack in derrick.

Remarks

Hazard ID: Worker was signalling the Driller to link out while the Top Drive was in the area of the Monkey board when handling tools... Stopped worker from signalling the Driller & explained to him that we can't link out close to the Monkey Board as the monkey board collision system will not alow it.

SAFETY

Safety Topic	MEHL	MACP
Tripping/Handling directional tools.	76	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170202_1A	RMS 2016.6.14.37064	2017	02	02

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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	
	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		6.50					0.50													0.75	0.25					8.00
Tour 3		0.75			0.75	4.50														1.25	0.75					8.00
TOTAL		12.50			0.75	4.50	1.00													3.50	1.75					24.00

Kelly Bushing 6.6 | Op Fuel 5075

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
32943	7100
Time	Temp
05:00	-17
Current Conditions: PARTLY CLOUDY	
Wind Direction: SW	Wind Strength: UP TO 19 KM/H
Road Condition: FAIR	

TOUR 1

SIGNATURE OF DRILLER: Justin Holt | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1145.00
Hrs Run Today	5.25
Cumulative Hrs Run	16.25
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	70.46
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
37	Drill Pipe	Stands		1077.10
0	Drill Pipe	Singles		0.00

Kelly Down	-20.71
Total	1604.00
Weight of DC	29.00
Weight of String	69.00

HOLE CONDITION

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

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	05:30
Density	1150
Funnel Viscosity	31
Fluid Loss	
pH	10.5
Location Of Sample	Shakers
Depth	1514.00
PVT	53.37

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	23000	8.00
2	PARALLEL	127	90	23000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3141	@	60	@	1478.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Blackstone CentriSage #1	8.00	1160	1135	1380
Blackstone CentriSage #2	8.00	1160	1140	1380

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.

Hazard ID: Observed a hand walk towards a set of stairs with two pails full of fluid. Once the worker got to the stairs he stopped & left one pail at the bottom of the stairs to maintain three point contact.

SAFETY

Safety Topic	MEHL	MACP
H2S Man Down Drill	80	3130

TOUR 2

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

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1230.00
Hrs Run Today	6.50
Cumulative Hrs Run	22.75
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	54.07
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
40	Drill Pipe	Stands		1164.49
0	Drill Pipe	Singles		0.00

Kelly Down	-23.10
Total	1689.00
Weight of DC	29.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			6500
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	15:15
Density	1155
Funnel Viscosity	31
Fluid Loss	
pH	10
Location Of Sample	trough
Depth	1682.00
PVT	50.22

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	23300	8.00
2	COMBINED	127	90	23300	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	2800	@	60	@	1650.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Blackstone CentriSage #1	8.00	1150	1145	1545
Blackstone CentriSage #2	8.00	1150	1145	1545
Blackstone CentriSage #3	8.00	1150	1145	1545

MUD MATERIALS ADDED

Product	Amount	Type
Caustic Soda	1	sxs
Cal Chloride	10	sxs

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

****Drilling Services Manager Steve Schembri on location for rig tour****

Hazard ID: After a connection the floorhands forgot to replace the rotary barrier sign / I called them back up and reminded them to do it.

SAFETY

Safety Topic	MEHL	MACP
Brine Exposure	75	3130

TOUR 3

SIGNATURE OF DRILLER: Justin Holt | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	2
Size	200
IADC Code	
Manufacturer	Baker Hughes
Type	TX23988R
Serial No	7162426
Jets	7.1 7.1 7.1 7.1 / 7.1 7.1 7.1
Depth Out (m)	
Depth In (m)	459.00
Total Drilled (m)	1243.00
Hrs Run Today	0.75
Cumulative Hrs Run	23.50
Entry Date	01-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	52.89
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.30
1	650ML Motor	165	1	8.49
1	NMDC Slick	164	72	9.48
1	Gap Sub	161	79	1.61
1	NMDC Slick	164	72	9.08
1	4H90 x 4.5XH X/O	171	72	0.46
4	6 1/2" Drill Collar	167	59	37.88
1	6.5" Drill Collar	166	59	9.33
1	6 1/2" Drill Collar	167	59	9.33
1	4H90 X DS40 X/O	163	58	0.79
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
40	Drill Pipe	Stands		1164.49
0	Drill Pipe	Singles		0.00

Kelly Down	-10.10
Total	1702.00
Weight of DC	29.00
Weight of String	71.00

HOLE CONDITION

Hole Drag	Up 2	Down	2
Torque At Bottom			5000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	23:45
Density	1155
Funnel Viscosity	30
Fluid Loss	
pH	10.5
Location Of Sample	Suction#2
Depth	1702.00
PVT	36.24

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	20500	2.00
2	COMBINED	127	90	20500	2.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3000	@	60	@	1700.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: Worker was signalling the Driller to link out while the Top Drive was in the area of the Monkey board when handling tools... Stopped worker from signalling the Driller & explained to him that we can't link out close to the Monkey Board as the monkey board collision system will not alow it.

SAFETY

Safety Topic	MEHL	MACP
Tripping/Handling directional tools.	76	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170203_1A	RMS 2016.6.14.37064	2017	02	03

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time	
Chris Baehl	Shaun Low		

DAILY CHECKS

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

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1						4.75	0.25													2.50	0.50					8.00
Tour 2		4.00	0.75			0.75	0.50													2.00						8.00
Tour 3		5.50																		2.00	0.50					8.00
TOTAL		9.50	0.75			5.50	0.75													6.50	1.00					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	3974

Rig	Boiler
29329	7100

Time	Temp
05:00	-14

WEATHER

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
N	UP TO 29 KM/H

Road Condition: POOR

TOUR 1 | SIGNATURE OF DRILLER: Justin Holt | START TIME: 0:00 | END TIME: 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	3	ODC	WT
MDC	BT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	52.89
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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
42	Drill Pipe	Stands		1222.72
0	Drill Pipe	Singles		0.00

Kelly Down	-20.66
Total	1702.00
Weight of DC	24.00
Weight of String	53.00

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	02:00	04:00
Density	1155	1155
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10.5
Location Of Sample	Suction 2	Suction 2
Depth	1702.00	1702.00
PVT	36.84	41.49

Circulation

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

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	2130	@	60	@	469.00
		@		@	
		@		@	

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
0:00	2:30	2.50	20D	Continue to handle Dynamic directional tools; Break out PDC Bit #2. Lay down Mud Motor. Pick up new Mud Motor, 1- stand of Flex NMDC's, lay down 1- joint of NMDC's. Break NMDC's, pick up Gap sub, build EM tool, make up Gap sub to NMDC's. Program EM tool. Offset Mud Motor to Gap sub. Make up PDC Bit #3. Pick up & make up 1- joint of NMDC's. Flow check @ 0m MD. Trip record; Measure 13.04m3, Calculated 7.98m3, Difference +5.06m3.
2:30	4:00	1.50	6A	Review JSA. Trip in 2- joints of CDS40 HWDP, pick up & make up Drilling Jars. Trip in the hole from 62m to 469m MD. Flow Check & fill pipe @ 469m MD. (Verify connection torque on all tubulars)
4:00	4:15	0.25	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Annular 16 seconds to close, ok. 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 and Dean Boenhert.
4:15	7:30	3.25	6A	Continue to trip in the hole @ 30m/min from 469m to 1250m MD. Flow check & fill pipe @ 857m MD. (Verify connection torque on all tubulars)
7:30	8:00	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idā s & daily events.

Remarks

Boiler#2 fuel @ 05:00hrs = 7092 litres.

Hazard ID: Pipecat camera lens was starting to get dirty. / Had a hand clean it so Driller could operate the top drive and see clearly.

SAFETY

Safety Topic	MEHL	MACP
Fall Protection	53	3085

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

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	101.00
Hrs Run Today	4.00
Cumulative Hrs Run	4.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	25.25
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1702.00	1803.00	DRILL	35	13

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
45	Drill Pipe	Stands		1310.09
0	Drill Pipe	Singles		0.00

Kelly Down	-7.03
Total	1803.00
Weight of DC	24.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 0	Down	3
Torque At Bottom			10000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	08:15	10:00
Density	1155	1155
Funnel Viscosity	30	30
Fluid Loss		
pH	10.5	10
Location Of Sample	suction#2	trough
Depth	1702.00	1712.90
PVT	43	42

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	85	22000	7.00
2	SINGLE	127	85	22000	7.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3300	@	60	@	1750.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
10:00	1698.95	0.83	80.83	DIRECTIONAL
10:45	1708.66	0.75	82.94	DIRECTIONAL
11:15	1718.36	2.77	57.1	DIRECTIONAL
12:00	1728.07	5.45	50.6	DIRECTIONAL
12:30	1737.79	7.73	44.62	DIRECTIONAL
13:15	1747.49	9.45	38.56	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1155	1140	1620
Mudcleaner Centrifuge #2	8.00	1155	1140	1620

MUD MATERIALS ADDED

Product	Amount	Type
Brine	8	m3
EnerFiber	5	sxs
Lime Hydrated	5	sxs
Enerhib C	1	bbl
Enerscav C	1	bbl
EnerClear F 1802	4	sxs
Caustic Soda	1	sxs

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	8:45	0.75	6A	Review JSA. Continue to trip in the hole @ 30m/min from 1250m to 1610m MD. Fill pipe @ 600m intervals. Wash through bridge at 1542m and 1610m MD. (Verify connection torque of all tubulars) Trip Record: Measured; 8.32m3, Calculated; 13.79m3, Difference; 5.47m3.
8:45	9:30	0.75	3A	Wash to bottom from 1610m to 1702m MD. Pump Rate- 1.4m3/min and Rotary- 30 RPM.
9:30	12:30	3.00	2	Directional Drill Build section of 200mm main hole from 1702m to 1751m MD. Pump Rate - 1.8 m3/min, WOB - 13 kdaN, Rotary - 30 RPM, Pump Pressure - 20,000 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 4,000 kPa. (Sliding Parameters: WOB- 11 kdaN, Diff Pressure- 2,200 kPa.) KOP @ 1712m MD.
12:30	13:00	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Upper Pipe Rams 6 seconds to close, ok. 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 and Chris Baehl.
13:00	14:00	1.00	2	Directional Drill Build section of 200mm main hole from 1751m to 1803m MD. Pump Rate - 1.8 m3/min, WOB - 13 kdaN, Rotary - 35 RPM, Pump Pressure - 22,000 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 4,000 kPa. (Sliding Parameters: WOB- 12kdaN, Diff Pressure- 2,200 kPa.)

Remarks

****Performed weekly service and inspection of STV****

****Performed weekly inspection of rear e-gress equipment and simulated a launch by Matt Zebedee****

Hazard ID: Elevators were not fully latched on connection and worker gave me thumbs up that they were / stopped and showed him what to look for so he wasn't giving me false signals.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	75	3130

TOUR 3 | SIGNATURE OF DRILLER: Justin Holt | START TIME: 16:00 | END TIME: 24:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	179.00
Hrs Run Today	5.50
Cumulative Hrs Run	9.50
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	18.84
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1803.00	1881.00	DRILL	35	14

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
48	Drill Pipe	Stands		1397.39
0	Drill Pipe	Singles		0.00

Kelly Down	-16.33
Total	1881.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up 3	Down	5
Torque At Bottom			11000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	18:45	21:30
Density	1145	1145
Funnel Viscosity	30	30
Fluid Loss		
pH	11	11
Location Of Sample	trough	Shakers
Depth	1840.00	1861.00
PVT	39.7	41.77

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	77	17500	8.00
2	COMBINED	127	77	17500	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3300	@	60	@	1750.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	1796.03	17.71	40.32	DIRECTIONAL
17:00	1805.72	20.26	40.4	DIRECTIONAL
17:45	1815.43	22.76	39.61	DIRECTIONAL
18:30	1825.14	25.40	40.14	DIRECTIONAL
19:45	1834.81	28.65	41.81	DIRECTIONAL
21:00	1844.50	30.50	40.67	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1145	1120	1390
Mudcleaner Centrifuge #2	8.00	1145	1125	1390

MUD MATERIALS ADDED

Product	Amount	Type
EnerClear F 1802	1	sxs
Chemclean Green	1	pail

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	2	Directional Drill Build section of 200mm main hole from 1803m to 1842m MD. Pump Rate - 1.6 m3/min, WOB - 13 kdaN, Rotary - 35 RPM, Pump Pressure - 18,100 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 3,900 kPa. (Sliding Parameters: WOB- 12kdaN, Diff Pressure- 1,900 kPa.) Reduce Pump Rate and WOB for Halfway and Doig formations.
19:00	19:30	0.50	21D	Crew hand-over meeting & safety discussion. Discuss hazard idā s & daily events.
19:30	22:00	2.50	2	Directional Drill Build section of 200mm main hole from 1842m to 1881m MD. Pump Rate - 1.6 m3/min, WOB - 14 kdaN, Rotary - 35 RPM, Pump Pressure - 16,500 kPa, Torque - 10,000 ft/lbs, Diff Pressure - 2,000 kPa. (Sliding Parameters: WOB- 16 kdaN, Diff Pressure- 1,200 kPa.)
22:00	24:00	2.00	20A	Accumulated EM survey & connection time.

Remarks

Hazard ID: While walking through festoon hanger I slipped on the rubber mat that's used to protect the power cords. / Had a hand ribbon off hanger to prevent people from walking through that area.

SAFETY

Safety Topic	MEHL	MACP
Fall Protection	78	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170203_1A	RMS 2016.6.14.37064	2017	02	03

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

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

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1						4.75	0.25													2.50	0.50					8.00
Tour 2		4.00	0.75			0.75	0.50													2.00						8.00
Tour 3		5.50																		2.00	0.50					8.00
TOTAL		9.50	0.75			5.50	0.75													6.50	1.00					24.00

Kelly Bushing 6.6 | Up Fuel 3974

FUEL @ 08:00 HRS

Rig 29329 | Boiler 7100

WEATHER: Time 05:00 | Temp -14 | Current Conditions: LIGHT SNOW | Wind Direction: N | Wind Strength: UP TO 29 KM/H | Road Condition: POOR

TOUR 1 | SIGNATURE OF DRILLER: Justin Holt | START TIME 0:00 | END TIME 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 / 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	3	ODC	WT
MDC	BT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	52.89
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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
42	Drill Pipe	Stands		1222.72
0	Drill Pipe	Singles		0.00

Kelly Down	-20.66
Total	1702.00
Weight of DC	24.00
Weight of String	53.00

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	05:45	
Density	1155	
Funnel Viscosity	30	
Fluid Loss		
pH	10.5	
Location Of Sample	Suction 2	
Depth	1702.00	
PVT	42.42	

Circulation

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

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	2130	@	60	@	469.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler#2 fuel @ 05:00hrs = 7092 litres.

Hazard ID: Pipecat camera lens was starting to get dirty. / Had a hand clean it so Driller could operate the top drive and see clearly.

SAFETY

Safety Topic	MEHL	MACP
Fall Protection	53	3085

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

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 / 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	101.00
Hrs Run Today	4.00
Cumulative Hrs Run	4.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	25.25
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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
45	Drill Pipe	Stands		1310.09
0	Drill Pipe	Singles		0.00

Kelly Down	-7.03
Total	1803.00
Weight of DC	24.00
Weight of String	70.00

HOLE CONDITION

Hole Drag	Up 0	Down	3
Torque At Bottom			10000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	12:00	15:00
Density	1155	1155
Funnel Viscosity	30	30
Fluid Loss		
pH	10	10.5
Location Of Sample	trough	trough
Depth	1751.50	1789.17
PVT	39	48

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	85	22000	7.00
2	SINGLE	127	85	22000	7.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3300	@	60	@	1750.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:00	1757.20	11.12	42.6	DIRECTIONAL
14:30	1766.91	12.66	45.33	DIRECTIONAL
15:15	1776.62	14.24	41.55	DIRECTIONAL
15:45	1786.32	15.78	39.96	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1155	1140	1620
Mudcleaner Centrifuge #2	8.00	1155	1140	1620

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
14:00	16:00	2.00	20A	Accumulated EM survey & connection time.

Remarks

****Performed weekly service and inspection of STV****

****Performed weekly inspection of rear e-gress equipment and simulated a launch by Matt Zebedee****

Hazard ID: Elevators were not fully latched on connection and worker gave me thumbs up that they were / stopped and showed him what to look for so he wasn't giving me false signals.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	75	3130

TOUR 3 | SIGNATURE OF DRILLER: Justin Holt | START TIME 16:00 | END TIME 24:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 / 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	179.00
Hrs Run Today	5.50
Cumulative Hrs Run	9.50
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	18.84
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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
48	Drill Pipe	Stands		1397.39
0	Drill Pipe	Singles		0.00

Kelly Down	-16.33
Total	1881.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up 3	Down	5
Torque At Bottom			11000
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	23:45	
Density	1145	
Funnel Viscosity	30	
Fluid Loss		
pH	11	
Location Of Sample	Shakers	
Depth	1878.00	
PVT	40.94	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	77	17500	8.00
2	COMBINED	127	77	17500	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3300	@	60	@	1750.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
22:15	1854.20	32.52	42.34	DIRECTIONAL
23:30	1863.92	34.67	43.13	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1145	1120	1390
Mudcleaner Centrifuge #2	8.00	1145	1125	1390

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Hazard ID: While walking through festoon hanger I slipped on the rubber mat that's used to protect the power cords. / Had a hand ribbon off hanger to prevent people from walking through that area.

SAFETY

Safety Topic	MEHL	MACP
Fall Protection	78	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170204_1A	RMS 2016.6.14.37064	2017	02	04

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

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

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		4.50					0.50													2.50	0.50					8.00
Tour 2		5.50			1.25		0.50													0.75						8.00
Tour 3		5.50																		2.50						8.00
TOTAL		15.50			1.25		1.00													5.75	0.50					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	4468

Rig	Boiler
25437	7100

WEATHER

Time	Temp
05:00	-17

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
W	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	233.00
Hrs Run Today	4.50
Cumulative Hrs Run	14.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	16.64
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1881.00	1945.00	DRILL	35	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
50	Drill Pipe	Stands		1455.64
0	Drill Pipe	Singles		0.00

Kelly Down	-20.58
Total	1935.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up	5	Down	5
Torque At Bottom		9500		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	01:30	04:00
Density	1145	1140
Funnel Viscosity	30	30
Fluid Loss		
pH	11	10.5
Location Of Sample	Shakers	Shakers
Depth	1888.00	1905.00
PVT	40.14	39.51

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	22000	8.00
2	PARALLEL	127	90	22000	8.00

Remarks: Transferred Invert from Tank Farm into Complex Rig Mud Pits #2, #3, & #4 Prepared for Displacement.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3329	@	60	@	1895.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
01:30	1873.62	37.05	41.9	DIRECTIONAL
02:45	1883.33	39.90	42.07	DIRECTIONAL
04:15	1893.03	42.41	43.66	DIRECTIONAL
05:45	1902.74	43.81	42.86	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinaw Centrifuge #1	8.00	1145	1135	1390
Mackinaw Centrifuge #2	8.00	1145	1130	1390

MUD MATERIALS ADDED

Product	Amount	Type
Enerhib C	2	bbl
Enerscav C	1	bbl
EZ Gel CES	1	sxs
EnerBar	6	sxs

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
0:00	2:30	2.50	2	Directional Drill Build section of 200mm main hole from 1881m to 1896m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 21,000 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 2,000 kPa. (Sliding Parameters: WOB- 20 kdaN, Diff Pressure- 1,200 kPa.)
2:30	3:00	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 Lower Pipe Rams 6 seconds to close, ok. 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 and Dean Boenhert.
3:00	5:00	2.00	2	Directional Drill Build section of 200mm main hole from 1896m to 1935m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 22,000 kPa, Torque - 9,500 ft/lbs, Diff Pressure - 2,500 kPa. (Sliding Parameters: WOB- 20 kdaN, Diff Pressure- 1,200 kPa.)
5:00	7:30	2.50	20A	Accumulated EM survey & connection time.
7:30	8:00	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.

Remarks: Boiler#2 fuel @ 05:00hrs = 6516 litres.
Hazard ID: Invert drilling fluid needed to be transfered to mud tanks from tank farm. Transfer hoses were replaced days prior to and had not been tested. / Pressure tested lines with steam to check for leaks prior to use.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill and Discussion	79	3130

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	292.00
Hrs Run Today	5.50
Cumulative Hrs Run	19.50
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	14.97
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1945.00	1994.00	DRILL	35	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
52	Drill Pipe	Stands		1513.81
0	Drill Pipe	Singles		0.00

Kelly Down	-19.75
Total	1994.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up	1	Down	5
Torque At Bottom		10500		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	08:30	12:15
Density	1150	1160
Funnel Viscosity	30	63
Fluid Loss		
pH	10.5	
Location Of Sample	trough	trough
Depth	1936.00	1965.00
PVT	15.64	59

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	33000	6.00
2	COMBINED	127	90	33000	8.00

Remarks: Replaced 2 pistons & 1 liner in Pump#1.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4650	@	60	@	1983.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:15	1922.17	48.38	40.58	DIRECTIONAL
10:30	1931.88	50.93	40.58	DIRECTIONAL
11:30	1941.58	52.34	40.14	DIRECTIONAL
12:15	1951.26	54.05	40.05	DIRECTIONAL
13:00	1960.97	55.55	39.09	DIRECTIONAL
14:15	1970.68	57.83	40.93	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinaw Centrifuge #1	8.00	1160	1130	1630
Mackinaw Centrifuge #2	8.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Wetting Agent	2	bbl

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	9:15	1.25	2	Directional Drill Build section of 200mm main hole from 1935m to 1946m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 23,000 kPa, Torque - 10,500 ft/lbs, Diff Pressure - 3,500 kPa. (Sliding Parameters: WOB- 20 kdaN, Diff Pressure- 1,800 kPa.)
9:15	10:30	1.25	5B	Displace well from 1150kg/m3 CaCl Brine to 1150kg/m3 Invert @ 1.3m3/min. Pump 3.0m3 polymer spacer prior to pumping invert. Total displacement of 60.5m3, invert to surface. Shut down and clean Catch Tank with valid confined spaces entry permit.
10:30	14:00	3.50	2	Directional Drill Build section of 200mm main hole from 1946m to 1984m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 33,000 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 4,500 kPa. (Sliding Parameters: WOB- 18 kdaN, Diff Pressure- 2,800 kPa.)
14:00	14:30	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, ok. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-job fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Shaun Low and Chris Baehl.
14:30	15:15	0.75	2	Directional Drill Build section of 200mm main hole from 1984m to 1994m MD. Pump Rate - 1.27 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 16,700 kPa, Torque - 8,000 ft/lbs, Diff Pressure - 2,500 kPa. (Sliding Parameters: WOB- 20 kdaN,

Remarks: Hazard ID: Worker noticed an ice plug in a stand of drill pipe / steamed it prior to making connection and got hot water in the bird bath to prevent any further ice plugs.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	82	3085

TOUR 3

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 7.95 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	360.00
Hrs Run Today	5.50
Cumulative Hrs Run	25.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	14.40
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
1994.00	2062.00	DRILL	35	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
54	Drill Pipe	Stands		1572.02
0	Drill Pipe	Singles		0.00

Kelly Down	-9.96
Total	2062.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up	1	Down	4
Torque At Bottom		10500		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	17:00	20:30
Density	1160	1165
Funnel Viscosity	62	61
Fluid Loss		
pH		
Location Of Sample	trough	Shakers
Depth	2001.00	2038.00
PVT	54	52.24

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	90	30300	8.00
2	SINGLE	127	90	30300	6.00

Remarks: Replaced 3 pistons in Pump#2.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4451	@	60	@	2032.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	1980.37	59.55	40.23	DIRECTIONAL
17:15	1990.06	60.64	40.84	DIRECTIONAL
18:15	1999.75	62.80	41.99	DIRECTIONAL
19:15	2009.45	63.76	41.63	DIRECTIONAL
20:00	2019.16	65.74	41.28	DIRECTIONAL
21:00	2028.86	68.07	42.43	DIRECTIONAL

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type
Enermul P-100	1	bbl
Secondary CES	1	bbl
Lime Hydrated	25	sxs
Base Oil	4	m3
Invert	4	m3

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	2	Directional Drill Build section of 200mm main hole from 1994m to 2022m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 30,500 kPa, Torque - 10,500 ft/lbs, Diff Pressure - 4,200 kPa. (Sliding Parameters: WOB- 22 kdaN, Diff Pressure- 2,200 kPa.)
19:00	19:30	0.50	20A	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.
19:30	22:00	2.50	2	Directional Drill Build section of 200mm main hole from 2022m to 2062m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 30,300 kPa, Torque - 10,500 ft/lbs, Diff Pressure - 4,200 kPa. (Sliding Parameters: WOB- 22 kdaN, Diff Pressure- 2,200 kPa.)
22:00	24:00	2.00	20A	Accumulated EM survey & connection time.

Remarks: Hazard ID: While driving to work I came across a bunch of deer coming up a hill. At the top of the hill I met another vehicle. / I flashed my headlights at the oncoming driver to make him aware of the potential hazard up ahead.

SAFETY

Safety Topic	MEHL	MACP
Invert Exposure Plan	78	3040

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170204_1A	RMS 2016.6.14.37064	2017	02	04

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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

CADDC — Canadian Association of Drilling Engineers

NOV

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off 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		4.50					0.50													2.50	0.50					8.00
Tour 2		5.50			1.25		0.50													0.75						8.00
Tour 3		5.50																		2.50						8.00
TOTAL		15.50			1.25		1.00													5.75	0.50					24.00

FUEL @ 08:00 HRS

Kelly Bushing 6.6 | Op Fuel 4468

Rig 25437 | Boiler 7100

Time 05:00 | Temp -17

WEATHER

Current Conditions: PARTLY CLOUDY

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

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Justin Holt

START TIME 0:00 | END TIME 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 / 7.95 / 8.7 / 8.7 / 7.95 / 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	233.00
Hrs Run Today	4.50
Cumulative Hrs Run	14.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 16.64 | 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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
50	Drill Pipe	Stands		1455.64
0	Drill Pipe	Singles		0.00

Kelly Down	-20.58
Total	1935.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag: Up 5 | Down 5

Torque At Bottom: 9500

Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☑ Oil ☐ Other

Time	06:00
Density	1150
Funnel Viscosity	30
Fluid Loss	
pH	10.5
Location Of Sample	Shakers
Depth	1920.00
PVT	18.1

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	22000	8.00
2	PARALLEL	127	90	22000	8.00

Remarks: Transferred Invert from Tank Farm into Complex Rig Mud Pits #2, #3, & #4 Prepared for Displacement.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	3329	@	60	@	1895.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon Centrifuge #1	8.00	1145	1135	1390
Mackinnon Centrifuge #2	8.00	1145	1130	1390

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: Invert drilling fluid needed to be transfered to mud tanks from tank farm. Transfer hoses were replaced days prior to and had not been tested. / Pressure tested lines with steam to check for leaks prior to use.

SAFETY

Safety Topic	MEHL	MACP
BOP Drill and Discussion	79	3130

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

START TIME 8:00 | END TIME 16:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 / 7.95 / 8.7 / 8.7 / 7.95 / 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	292.00
Hrs Run Today	5.50
Cumulative Hrs Run	19.50
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 14.97 | 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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
52	Drill Pipe	Stands		1513.81
0	Drill Pipe	Singles		0.00

Kelly Down	-19.75
Total	1994.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag: Up 1 | Down 5

Torque At Bottom: 10500

Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	15:00
Density	1160
Funnel Viscosity	62
Fluid Loss	
pH	
Location Of Sample	trough
Depth	1986.00
PVT	55

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	33000	6.00
2	COMBINED	127	90	33000	8.00

Remarks: Replaced 2 pistons & 1 liner in Pump#1.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4650	@	60	@	1983.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mackinnon Centrifuge #1	8.00	1160	1130	1630
Mackinnon Centrifuge #2	8.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
				Diff Pressure- 1,800 kPa.)
15:15	16:00	0.75	20A	Accumulated EM survey & connection time.

Remarks: Hazard ID: Worker noticed an ice plug in a stand of drill pipe / steamed it prior to making connection and got hot water in the bird bath to prevent any further ice plugs.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment	82	3085

TOUR 3

SIGNATURE OF DRILLER: Justin Holt

START TIME 16:00 | END TIME 24:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 / 7.95 / 8.7 / 8.7 / 7.95 / 8.7
Depth Out (m)	
Depth In (m)	1702.00
Total Drilled (m)	360.00
Hrs Run Today	5.50
Cumulative Hrs Run	25.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 14.40 | 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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
54	Drill Pipe	Stands		1572.02
0	Drill Pipe	Singles		0.00

Kelly Down	-9.96
Total	2062.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag: Up 1 | Down 4

Torque At Bottom: 10500

Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	23:30
Density	1170
Funnel Viscosity	61
Fluid Loss	
pH	
Location Of Sample	Shakers
Depth	2059.00
PVT	61.49

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	90	30300	8.00
2	SINGLE	127	90	30300	6.00

Remarks: Replaced 3 pistons in Pump#2.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	4451	@	60	@	2032.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
22:00	2038.56	70.44	42.69	DIRECTIONAL
23:45	2048.26	72.69	42.51	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: While driving to work I came across a bunch of deer coming up a hill. At the top of the hill I met another vehicle. / I flashed my headlights at the oncoming driver to make him aware of the potential hazard up ahead.

SAFETY

Safety Topic	MEHL	MACP
Invert Exposure Plan	78	3040

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170205_1A	RMS 2016.6.14.37064	2017	02	05

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

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

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drilg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1		5.00					0.50													2.00	0.50					8.00
Tour 2					0.75	3.75	0.50													2.75	0.25					8.00
Tour 3		1.00	0.50			4.25			0.75											1.00	0.50					8.00
TOTAL		6.00	0.50		0.75	8.00	1.00		0.75											5.75	1.25					24.00

Kelly Bushing 6.6 | Up Fuel 3475

FUEL @ 08:00 HRS

Rig 21962 | Boiler 7100

WEATHER

Time 06:00 | Temp -23

Current Conditions: OVERCAST

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

Road Condition: FAIR

TOUR 1 | SIGNATURE OF DRILLER: Justin Holt | START TIME 0:00 | END TIME 8:00

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 / 7.95 8.7
Depth Out (m)	2140.00
Depth In (m)	1702.00
Total Drilled (m)	438.00
Hrs Run Today	5.00
Cumulative Hrs Run	30.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	14.60
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2062.00	2140.00	DRILL	35	16

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	200mm PDC Bit	200	1	0.25
1	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
56	Drill Pipe	Stands		1630.25
1	Drill Pipe	Singles		9.71

Kelly Down	0.10
Total	2140.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up	2	Down	5
Torque At Bottom		10500		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	01:15	02:45
Density	1175	1165
Funnel Viscosity	60	60
Fluid Loss		
pH		
Location Of Sample	Shakers	Shakers
Depth	2076.00	2091.00
PVT	60.29	59.18

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	32000	8.00
2	PARALLEL	127	90	32000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	4045	@	60	@	2099.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:45	2057.96	74.79	42.34	DIRECTIONAL
01:45	2067.67	77.08	41.9	DIRECTIONAL
02:45	2077.37	79.10	41.9	DIRECTIONAL
03:45	2087.08	81.47	42.6	DIRECTIONAL
05:15	2096.78	83.94	43.3	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	4.00	1165	1085	1630
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	31	sxs
Enermul P-100	1	bbl
Secondary CES	1	bbl
Wetting Agent	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	3:45	3.75	2	Directional Drill Build section of 200mm main hole from 2062m to 2100m MD. Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 30,300 kPa, Torque - 10,500 ft/lbs, Diff Pressure - 4,200 kPa. (Sliding Parameters: WOB- 22 kdaN, Diff Pressure- 2,200 kPa.)
3:45	4:15	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 Pipe Rams 6 seconds to close, ok. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Brake Capacity Test, ok. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Luke Hardy and Dean Boehnert.
4:15	5:30	1.25	2	Directional Drill Build section of 200mm main hole from 2100m to 2140m MD (end of 200mm build section). Pump Rate - 1.9 m3/min, WOB - 16 kdaN, Rotary - 35 RPM, Pump Pressure - 30,300 kPa, Torque - 10,500 ft/lbs, Diff Pressure - 3,000 kPa. (Sliding Parameters: WOB- 22 kdaN, Diff Pressure- 2,200 kPa.)
5:30	7:30	2.00	20A	Accumulated EM survey & connection time.
7:30	8:00	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.

Remarks

Boiler#2 fuel @ 05:00hrs = 6660 litres.

Hazard ID: Mud pump needed to be repaired and hand assisting me had never done so before. / Reviewed the JSA , Locked it out, tagged it, tried it. Took the time to explain things while we worked on the pump.

SAFETY

Safety Topic	MEHL	MACP
IRS	78	3085

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	3	ODC	FC
MDC	BT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	14.60
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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
56	Drill Pipe	Stands		1630.25
1	Drill Pipe	Singles		9.71

Kelly Down	0.10
Total	2140.00
Weight of DC	20.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up	2	Down	5
Torque At Bottom		0		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	08:00	10:00
Density	1145	1145
Funnel Viscosity	60	65
Fluid Loss		
pH		
Location Of Sample	trough	Tank #2
Depth	2140.00	2140.00
PVT	46.62	45.02

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	27000	1.00
2	COMBINED	127	90	27000	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5500	@	60	@	2129.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	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
8:00	8:45	0.75	5	Circulate and work hole clean @ 1.9m3/min prior to tripping out of hole for BHA change. Pump 3.0m3 of 1470kg/m3 weighted slug, pill recovery = 0.83m3.
8:45	12:30	3.75	6B	Review JSA. Trip out of hole to change BHA for lateral section of main hole from 2140m to 1239m MD @ 35 - 45m/min. Flowchecks @ 2129m, 2022m, 1239m & 90m MD.
12:30	13:00	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Lower Pipe Rams 6 seconds to close, ok. 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 and Chris Baehl.
13:00	13:15	0.25	21D	Safety meeting with Dynamic Directional Drilling.
13:15	16:00	2.75	20D	Review JSA. Handle Dynamic directional tools. Break off and lay down 1- X/O Sub and 1- Gap Sub. Rack back 1- stand of NM Flex Monels, break off 200mm PDC Bit #3 and lay down Mud Motor. Flow Check @ 0m MD. Function Test Blind Rams while out of hole, 6 seconds to close, ok. Trip Record: Measured; 10.54m3, Calculated; 8.83m3, Difference; +2.16m3. Pick up Mud Motor and 1 stand of 475 NM Flex Monels. Install 1- Gap Sub, build EM tool, make up Gap sub . Make up 1- X/O, 1- Slide Reamer, Drilling Jars and 1- Agitator.

Remarks

SAFETY

Safety Topic	MEHL	MACP
Handle Directional Tools	80	3130

TOUR 3 | SIGNATURE OF DRILLER: Justin Holt | START TIME 16:00 | END TIME 24:00

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	61.00
Hrs Run Today	1.00
Cumulative Hrs Run	1.00
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	61.00
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2140.00	2201.00	DRILL	60	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
159	4" CDS40 Drill Pipe	102	64	1533.16
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-0.78
Total	2201.00
Weight of DC	20.00
Weight of String	66.00

HOLE CONDITION

Hole Drag	Up	1	Down	3
Torque At Bottom		8300		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	18:45	23:00
Density	1150	1155
Funnel Viscosity	130	82
Fluid Loss		
pH		
Location Of Sample	tank#3	Shakers
Depth	2140.00	2157.00
PVT	48.33	45.29

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	30000	2.00
2	SINGLE	127	1	30000	0.00

Remarks

Recieved 26.5m3 of Used Invert

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	6700	@	75	@	480.00
1	7234	@	60	@	2140.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
22:45	2139.19	90.35	47	DIRECTIONAL
23:00	2148.90	89.52	48.67	DIRECTIONAL
23:15	2158.60	88.70	50.16	DIRECTIONAL
23:45	2173.22	88.99	52.44	DIRECTIONAL
	2187.78	89.25	54.99	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	2.00	1155	1135	1620
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	26	sxs
Enermul P-100	1	bbl
Secondary CES	1	bbl
Wetting Agent	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	17:00	1.00	6A	Review JSA. Trip in hole from 95m to 484m @ 45m/min. Fill pipe & flowcheck @ 484m MD.
17:00	17:45	0.75	9A	Review JSA. Slip & Cut 13.86m of 1 1/4" drill line @ 9,674 mJ. Deadman anchor bolts re-torqued to 360ft/lbs. Performed full block height calibration. Greased Crown Block and Travelling Blocks.
17:45	19:00	1.25	6A	Continue to trip in hole from 484m to 1035m MD @ 45m/min. Fill pipe & flowcheck @ 1035m MD.
19:00	19:30	0.50	21D	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.
19:30	21:30	2.00	6A	Review JSA. Continue to trip in hole from 1035m to 2085m MD @ 45m/min. Fill pipe @ 1684m MD. Trip Volume Calculated - 19.0m3 Measured - 17.5m3 Difference - -1.50m3.
21:30	22:00	0.50	3A	Wash in from 2085m to 2140m MD. Pump rate 1.27m3/min, rotary 60 RPM.
22:00	23:00	1.00	2	Directional drill 159mm lateral section of main hole from 2140m 2201m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 60 RPM, Pump Pressure - 30,500 kPa, Torque - 7,500 ft/lbs, Diff Pressure - 7,000 kPa. (Sliding Parameters: WOB- 7.5 kdaN, Diff Pressure- 2,500 kPa.)
23:00	24:00	1.00	20A	Accumulated EM survey & connection time.

Remarks

Hazard ID: I noticed a hand scrub brush stuck in a walkway grating. / I pulled the scrub brush out and put it away.

SAFETY

Safety Topic	MEHL	MACP
Mixing Mud Product / MSDS	66	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170205_1A	RMS 2016.6.14.37064	2017	02	05

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

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

HOURS

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
Tour 1		5.00					0.50													2.00	0.50					8.00
Tour 2					0.75	3.75	0.50													2.75	0.25					8.00
Tour 3		1.00	0.50			4.25			0.75											1.00	0.50					8.00
TOTAL		6.00	0.50		0.75	8.00	1.00		0.75											5.75	1.25					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	3475

Rig	Boiler
21962	7100

WEATHER

Time	Temp
06:00	-23

Current Conditions	
OVERCAST	

Wind Direction	Wind Strength
N	UP TO 19 KM/H

Road Condition
FAIR

TOUR 1

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	3
Size	200
IADC Code	
Manufacturer	Halliburton
Type	MMD64M
Serial No	12875725
Jets	7.95 7.95 8.7 8.7 / 7.95 8.7
Depth Out (m)	2140.00
Depth In (m)	1702.00
Total Drilled (m)	438.00
Hrs Run Today	5.00
Cumulative Hrs Run	30.00
Entry Date	02-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	14.60
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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
56	Drill Pipe	Stands		1630.25
1	Drill Pipe	Singles		9.71

Kelly Down	0.10
Total	2140.00
Weight of DC	24.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up	2	Down	5
Torque At Bottom		10500		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	05:45	
Density	1160	
Funnel Viscosity	60	
Fluid Loss		
pH		
Location Of Sample	Shakers	
Depth	2118.00	
PVT	55.06	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	PARALLEL	127	90	32000	8.00
2	PARALLEL	127	90	32000	8.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	4045	@	60	@	2099.00
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	4.00	1165	1085	1630
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 = 6660 litres.

Hazard ID: Mud pump needed to be repaired and hand assisting me had never done so before. / Reviewed the JSA , Locked it out, tagged it, tried it. Took the time to explain things while we worked on the pump.

SAFETY

Safety Topic	MEHL	MACP
IRS	78	3085

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	0.00
Hrs Run Today	0.00
Cumulative Hrs Run	0.00
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	3	ODC	FC
MDC	BT	Reason Pulled	BHA
LOC	S	Total Run (m/hr)	14.60
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	650ML Motor	165	1	8.51
1	NM Flex	164	72	9.41
1	Gap Sub	161	79	1.61
2	NM Flex	164	72	18.54
1	CDS40B x 4.5XHP X/O	163	60	0.76
2	4" CDS40 HWDP	101	65	18.96
1	Drilling Jars	163	60	5.24
46	4" CDS40 HWDP	101	65	436.66
56	Drill Pipe	Stands		1630.25
1	Drill Pipe	Singles		9.71

Kelly Down	0.10
Total	2140.00
Weight of DC	20.00
Weight of String	72.00

HOLE CONDITION

Hole Drag	Up	2	Down	5
Torque At Bottom		0		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	12:15	15:30
Density	1145	1150
Funnel Viscosity	72	84
Fluid Loss		
pH		
Location Of Sample	tank #2	tank #3
Depth	2140.00	2140.00
PVT	44.69	43.27

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	COMBINED	127	90	27000	1.00
2	COMBINED	127	90	27000	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5500	@	60	@	2129.00
		@		@	
		@		@	

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

SAFETY

Safety Topic	MEHL	MACP
Handle Directional Tools	80	3130

TOUR 3

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	61.00
Hrs Run Today	1.00
Cumulative Hrs Run	1.00
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	61.00
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
159	4" CDS40 Drill Pipe	102	64	1930.19
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down	-0.78
Total	2201.00
Weight of DC	20.00
Weight of String	66.00

HOLE CONDITION

Hole Drag	Up	1	Down	3
Torque At Bottom		8300		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	23:45	
Density	1155	
Funnel Viscosity	76	
Fluid Loss		
pH		
Location Of Sample	Shakers	
Depth	2189.00	
PVT	61.4	

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	30000	2.00
2	SINGLE	127	1	30000	0.00

Remarks

Recieved 26.5m3 of Used Invert

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
2	6700	@	75	@	480.00
1	7234	@	60	@	2140.00
		@		@	

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	1155	1135	1620
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: I noticed a hand scrub brush stuck in a walkway grating. / I pulled the scrub brush out and put it away.

SAFETY

Safety Topic	MEHL	MACP
Mixing Mud Product / MSDS	66	3130

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170206_1B	RMS 2016.6.14.37064	2017	02	06

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

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

Code	1 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drilg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1		4.50					0.50													2.50	0.50					8.00
Tour 2		0.75			0.75	3.50	0.50													2.00	0.50					8.00
Tour 3						3.50														3.75	0.75					8.00
TOTAL		5.25			0.75	7.00	1.00													8.25	1.75					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	3948

Rig	Boiler
18626	7100

Time	Temp
06:00	-30

WEATHER

Current Conditions: PARTLY CLOUDY

Wind Direction	Wind Strength
N	UP TO 19 KM/H

Road Condition: FAIR

TOUR 1

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	346.00
Hrs Run Today	4.50
Cumulative Hrs Run	5.50
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	62.91
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2201.00	2486.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.39
27	4" CDS40 HWDP	101	65	256.33
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-1.22
Total	2486.00
Weight of DC	20.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up 2	Down	4
Torque At Bottom	8700		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	02:15	04:30
Density	1160	1160
Funnel Viscosity	63	61
Fluid Loss		
pH		
Location Of Sample	Shakers	Shakers
Depth	2268.00	2348.00
PVT	59.93	57.82

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	6.00
2	SINGLE	127	120	32500	2.00

Remarks: Recieved 25m3 of Used Invert

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7971	@	60	@	2258.00
2	7633	@	60	@	2258.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
00:15	2202.38	89.21	56.84	DIRECTIONAL
00:45	2216.89	89.82	57.63	DIRECTIONAL
01:15	2231.25	90.44	60	DIRECTIONAL
01:45	2245.39	90.44	62.64	DIRECTIONAL
02:30	2259.64	90.22	63.78	DIRECTIONAL
02:45	2273.85	90.31	66.07	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1140	1620
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Base Oil	4	m3
Invert	10	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	1:30	1.50	2	Directional drill 159mm lateral section of main hole from 2201m to 2259m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 32,500 kPa, Torque - 8,700 ft/lbs, Diff Pressure - 7,500 kPa. (Sliding Parameters: WOB- 9 kdaN, Diff Pressure- 2,500 kPa.)
1:30	2:00	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 16 seconds to close, ok. 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 and Dean Boehnert.
2:00	5:00	3.00	2	Directional drill 159mm lateral section of main hole from 2259m to 2486m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 32,500 kPa, Torque - 8,700 ft/lbs, Diff Pressure - 7,500 kPa. (Sliding Parameters: WOB- 9 kdaN, Diff Pressure- 2,500 kPa.)
5:00	7:30	2.50	20A	Accumulated EM survey & connection time.
7:30	8:00	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.

Remarks

Boiler#2 fuel @ 05:00hrs = 6048 litres.

Hazard ID: Had to clean inside the generator building. / Made sure to notify driller and use the buddy system due to loud work area.

SAFETY

Safety Topic	MEHL	MACP
Working in Cold Weather	69	3085

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	2582.00
Depth In (m)	2140.00
Total Drilled (m)	442.00
Hrs Run Today	0.75
Cumulative Hrs Run	6.25
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	70.72
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
2486.00	2582.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.39
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-19.16
Total	2582.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 3	Down	10
Torque At Bottom	11000		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	08:00	12:45
Density	1155	1155
Funnel Viscosity	62	59
Fluid Loss		
pH		
Location Of Sample	trough	tank #2
Depth	2486.00	2582.00
PVT	49.83	43.95

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	3.00
2	SINGLE	127	120	32500	1.00

Remarks

REDUCED PUMP SPEED

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

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:00	2473.22	89.30	97.88	DIRECTIONAL
08:15	2487.47	88.42	102.19	DIRECTIONAL
08:45	2501.71	89.12	104.48	DIRECTIONAL
09:00	2515.96	89.65	106.59	DIRECTIONAL
09:30	2530.18	89.87	108.61	DIRECTIONAL
09:45	2544.43	89.43	112.83	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	4.00	1155	1140	1610
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	82	sxs
Wetting Agent	1	bbl

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	8:45	0.75	2	Directional drill 159mm lateral section of main hole from 2486m to 2582m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 32,500 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 8,000 kPa. (Sliding Parameters: WOB- 17 kdaN, Diff Pressure- 5,000 kPa.)
8:45	10:45	2.00	20A	Accumulated EM survey & connection time.
10:45	11:15	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 Pipe Rams 6 seconds to close, ok. 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 and Chris Baehl.
11:15	12:00	0.75	5	Circulate and condition well while troubleshooting for pressure losses. Pump strands of flagging tape down drill string for a total of 12.83m3 surface to bit volume.
12:00	15:30	3.50	6B	Review JSA. Trip wet out of hole to verify pressure loss in drill string @ 30m/min from 2582m to 1674m MD. Flowchecks @ 2571m, 2457m.
15:30	16:00	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events.

Remarks

Hazard ID: Worker had invert on his face / Sent him to go and clean up and get the invert off himself.

SAFETY

Safety Topic	MEHL	MACP
Driving home on long change	78	3085

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	442.00
Hrs Run Today	0.00
Cumulative Hrs Run	6.25
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	NO
MDC	NO	Reason Pulled	PP
LOC	A	Total Run (m/hr)	70.72
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.39
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-19.16
Total	2582.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 3	Down	10
Torque At Bottom	0		
Fill On Bottom	0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	21:00	23:30
Density	1155	1155
Funnel Viscosity	100	100
Fluid Loss		
pH		
Location Of Sample	Suction 3	Suction 3
Depth	2582.00	2582.00
PVT	35.77	35.81

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
16:00	19:00	3.00	6B	Continue to trip wet out of hole to verify pressure loss in string @ 30m/min from 1674m to 458m MD. Flowchecks @ 1299m, 458m.
19:00	19:30	0.50	21	Crew hand-over meeting & safety discussion. Discuss hazard idâ s & daily events. Reviewed JSA.
19:30	20:00	0.50	6B	Continue to trip wet out of hole to verify pressure loss in string @ 30m/min from 458m to 96m MD.
20:00	21:45	1.75	20D	Review JSA. Inspect BHA. Laydown Jars. Break and remove x/o. Rack slide reamer with 3- 101.6mm DP. Laydown 1- flex monel. ***Pressure loss due to missing plug in gap sub***. Break Gap sub & remove EM tool. Laydown Gap sub. Drain mud motor & inspect 159mm PDC Bit #4. Out of hole - Flow check at 0m. Function HCR, 2 seconds to open & Blind Rams, 4 seconds to close. Trip record; Calculated 9.72 m3, Measured 10.56m3, Difference 0.84m3.
21:45	22:00	0.25	21A	BOP / H2S man down drill while out of hole. 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.
22:00	24:00	2.00	20D	Prepare new Gap sub. Break flex monels. Makeup new Gap sub & EM tool. Power on EM tool. Scribe motor. Makeup 1-flex monel, x/o, slide reamer and Jars with 5-101.6mm DP.

Remarks

Hazard ID: Removing pipe guides from PS21, lid was positioned in a pinch point with ST100. / waited until PS21 was rotated and de-energized before removing guide.

SAFETY

Safety Topic	MEHL	MACP
BOP / H2S man down drill.	35	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170206_1B	RMS 2016.6.14.37064	2017	02	06

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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

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		4.50					0.50													2.50	0.50					8.00
Tour 2		0.75			0.75	3.50	0.50													2.00	0.50					8.00
Tour 3						3.50														3.75	0.75					8.00
TOTAL		5.25			0.75	7.00	1.00													8.25	1.75					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Op Fuel
6.6	3948

Rig	Boiler
18626	7100

Time	Temp
06:00	-30

WEATHER

Current Conditions	
PARTLY CLOUDY	
Wind Direction	Wind Strength
N	UP TO 19 KM/H
Road Condition	
FAIR	

TOUR 1

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	346.00
Hrs Run Today	4.50
Cumulative Hrs Run	5.50
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	62.91
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
27	4" CDS40 HWDP	101	65	256.33
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-1.22
Total	2486.00
Weight of DC	20.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up	2	Down	4
Torque At Bottom		8700		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	06:00
Density	1160
Funnel Viscosity	61
Fluid Loss	
pH	
Location Of Sample	Shakers
Depth	2401.00
PVT	57.98

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	6.00
2	SINGLE	127	120	32500	2.00

Remarks: Recieved 25m3 of Used Invert

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7971	@	60	@	2258.00
2	7633	@	60	@	2258.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
03:15	2288.10	90.62	69.06	DIRECTIONAL
03:30	2302.24	90.26	70.55	DIRECTIONAL
04:00	2316.49	89.96	74.59	DIRECTIONAL
04:15	2330.66	90.04	76.09	DIRECTIONAL
04:45	2344.91	88.95	78.9	DIRECTIONAL
05:00	2359.16	89.08	79.95	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1140	1620
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 = 6048 litres.
Hazard ID: Had to clean inside the generator building. / Made sure to notify driller and use the buddy system due to loud work area.

SAFETY

Safety Topic	MEHL	MACP
Working in Cold Weather	69	3085

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	2582.00
Depth In (m)	2140.00
Total Drilled (m)	442.00
Hrs Run Today	0.75
Cumulative Hrs Run	6.25
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	70.72
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-19.16
Total	2582.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up	3	Down	10
Torque At Bottom		11000		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	14:45
Density	1155
Funnel Viscosity	74
Fluid Loss	
pH	
Location Of Sample	TANK #2
Depth	2582.00
PVT	43.3

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	3.00
2	SINGLE	127	120	32500	1.00

Remarks:

REDUCED PUMP SPEED

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

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
10:15	2558.71	89.87	115.46	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	4.00	1155	1140	1610
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 had invert on his face / Sent him to go and clean up and get the invert off himself.

SAFETY

Safety Topic	MEHL	MACP
Driving home on long change	78	3085

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	442.00
Hrs Run Today	0.00
Cumulative Hrs Run	6.25
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	NO
MDC	NO	Reason Pulled	PP
LOC	A	Total Run (m/hr)	70.72
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-19.16
Total	2582.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up	3	Down	10
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	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: Removing pipe guides from PS21, lid was positioned in a pinch point with ST100. / waited until PS21 was rotated and de-energized before removing guide.

SAFETY

Safety Topic	MEHL	MACP
BOP / H2S man down drill.	35	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170206_1B	RMS 2016.6.14.37064	2017	02	06

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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	
	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		4.50					0.50													2.50	0.50					8.00
Tour 2		0.75			0.75	3.50	0.50													2.00	0.50					8.00
Tour 3						3.50														3.75	0.75					8.00
TOTAL		5.25			0.75	7.00	1.00													8.25	1.75					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Op Fuel
6.6	3948

Rig	Boiler
18626	7100

Time	Temp
06:00	-30

WEATHER

Current Conditions	
PARTLY CLOUDY	
Wind Direction	Wind Strength
N	UP TO 19 KM/H
Road Condition	
FAIR	

TOUR 1

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	346.00
Hrs Run Today	4.50
Cumulative Hrs Run	5.50
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	62.91
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
27	4" CDS40 HWDP	101	65	256.33
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-1.22
Total	2486.00
Weight of DC	20.00
Weight of String	68.00

HOLE CONDITION

Hole Drag	Up	2	Down	4
Torque At Bottom		8700		
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	32500	6.00
2	SINGLE	127	120	32500	2.00

Remarks: Recieved 25m3 of Used Invert

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	7971	@	60	@	2258.00
2	7633	@	60	@	2258.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
05:45	2373.41	89.65	82.42	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1160	1140	1620
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 = 6048 litres.
Hazard ID: Had to clean inside the generator building. / Made sure to notify driller and use the buddy system due to loud work area.

SAFETY

Safety Topic	MEHL	MACP
Working in Cold Weather	69	3085

TOUR 2

SIGNATURE OF DRILLER: Jordan Cawsey

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

BITS

Bit Number	4
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	2582.00
Depth In (m)	2140.00
Total Drilled (m)	442.00
Hrs Run Today	0.75
Cumulative Hrs Run	6.25
Entry Date	05-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	70.72
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-19.16
Total	2582.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up	3	Down	10
Torque At Bottom		11000		
Fill On Bottom		0.00		

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	3.00
2	SINGLE	127	120	32500	1.00

Remarks

REDUCED PUMP SPEED

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

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	4.00	1155	1140	1610
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 had invert on his face / Sent him to go and clean up and get the invert off himself.

SAFETY

Safety Topic	MEHL	MACP
Driving home on long change	78	3085

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	442.00
Hrs Run Today	0.00
Cumulative Hrs Run	6.25
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	1	ODC	NO
MDC	NO	Reason Pulled	PP
LOC	A	Total Run (m/hr)	70.72
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down	-19.16
Total	2582.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up	3	Down	10
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	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: Removing pipe guides from PS21, lid was positioned in a pinch point with ST100. / waited until PS21 was rotated and de-energized before removing guide.

SAFETY

Safety Topic	MEHL	MACP
BOP / H2S man down drill.	35	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170207_1A	RMS 2016.6.14.37064	2017	02	07

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time	
Chris Baehl	Shaun Low		

DAILY CHECKS

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

Code	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	TOTAL
	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	
HOURS Tour 1		0.25	0.25			5.75	0.50		0.75												0.50					8.00
Tour 2		5.00					0.50													2.50						8.00
Tour 3		4.50																		3.00	0.50					8.00
TOTAL		9.75	0.25			5.75	1.00		0.75											5.50	1.00					24.00

Kelly Bushing: 6.6 | Up Fuel: 4464

FUEL @ 08:00 HRS

Rig: 26132 | Boiler: 7100

WEATHER: Time: 05:30 | Temp: -24 | Current Conditions: OVERCAST | Wind Direction: SW | 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	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5
	9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	460.00
Hrs Run Today	0.25
Cumulative Hrs Run	6.50
Entry Date	06-Feb-2017

CUTTING STRUCTURE: TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 70.77 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
2582.00	2600.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down: -1.16 | Total: 2600.00 | Weight of DC: 21.00 | Weight of String: 69.00

HOLE CONDITION: Hole Drag Up 2 Down 4 | Torque At Bottom: 11000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ | Other:

Time	04:15	06:15
Density	1160	1165
Funnel Viscosity	100	100
Fluid Loss		
pH		
Location Of Sample	Suction 2	Suction 2
Depth	2582.35	2582.35
PVT	45.1	45.72

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	1.00
2	SINGLE	127	1	32500	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5200	@	60	@	426.00
1	6200	@	60	@	987.00
1	6700	@	60	@	1541.00

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
0:00	1:15	1.25	6A	Trip in hole at 35m/min from 96m to 426m MD. Fill pipe and flow check at 426m.
1:15	2:00	0.75	9A	Reviewed JSA. Slip & cut 9.24m of drilling line at 4685.7mJ. Deadman anchor bolts retorqued to 360 ft/lbs. Performed full block height calibration. Brake capacity test, ok. Greased Crown & Travelling Blocks.
2:00	2:30	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 & Dean Boehnert.
2:30	7:00	4.50	6A	Continue to trip in hole at 40m/min from 426m to 2572m MD. Fill pipe at 600m intervals. Flow check at 1541m.
7:00	7:15	0.25	3A	Wash 10m to bottom from 2572m to 2582m MD. Pump rate 1.27m3/min. Rotary 70 RPM. Trip In Volumes Calculated - 22.42m3 Measured - 21.29m3 Difference - -1.13m3.
7:15	7:30	0.25	2	Directional drill 159mm lateral section of main hole from 2582m to 2600m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 32,500 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 8,000 kPa. (Sliding Parameters: WOB- 17 kdaN, Diff Pressure- 5,000 kPa.)
7:30	8:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks
Boiler #2 Fuel @ 05:00 Hrs = 5616 litres
****Completed weekly service & visual inspection of DSGD-375 Drawworks.****
Hazard ID: Worker placed hands under EM tool to gain leverage while assembling to Gap sub. / Stopped and reminded him that it is a suspended load and to keep hands out from underneath.

SAFETY

Safety Topic	MEHL	MACP
Slip & cut.	69	3085

TOUR 2 | SIGNATURE OF DRILLER: Justin Holt | START TIME: 8:00 | END TIME: 16:00

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5
	9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1022.00
Hrs Run Today	5.00
Cumulative Hrs Run	11.50
Entry Date	06-Feb-2017

CUTTING STRUCTURE: TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 88.87 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
2600.00	3162.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
0	Drill Pipe	Stands		0.00
0	Drill Pipe	Singles		0.00

Kelly Down: -19.40 | Total: 3162.00 | Weight of DC: 21.00 | Weight of String: 69.00

HOLE CONDITION: Hole Drag Up 8 Down 15 | Torque At Bottom: 11000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ | Other:

Time	08:15	11:15
Density	1160	1160
Funnel Viscosity	67	63
Fluid Loss	0	0
pH		
Location Of Sample	Shaker	Shaker
Depth	2662.00	2891.00
PVT	62.3	54.53

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	38250	8.00
2	SINGLE	127	1	38250	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9216	@	60	@	2772.00
1	9825	@	60	@	2976.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:00	2643.95	89.52	119.59	DIRECTIONAL
08:30	2672.48	89.74	119.33	DIRECTIONAL
09:00	2701.16	90.04	118.1	DIRECTIONAL
09:45	2730.71	90.75	117.84	DIRECTIONAL
10:15	2759.82	88.86	119.15	DIRECTIONAL
10:15	2788.90	88.99	118.63	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1160	1580
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Lime Hydrated	15	sxs
Enermul P-100	1	bbl
Wetting Agent	1	bbl
Secondary CES	1	bbl
Invert	6	m3
Base Oil	5	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
8:00	13:00	5.00	2	Directional drill 159mm lateral section of main hole from 2600m to 3162m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 38,250 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 8,500 kPa. (Sliding Parameters: WOB- 19.5 kdaN, Diff Pressure- 3,500 kPa.)
13:00	13:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. Serviced hydraulic I-BOP & functioned lower manual I-BOP. Visual inspection & service of PS-21 slips & inserts. Functioned Upper Pipe Rams 6 seconds to close. Conducted level 1 visual inspection of Drawworks, PipeCat, Mast & all over-head equipment. Completed pre-shift fall protection equipment visual inspection. Visual inspection of BOP & valves completed by Shaun Low and Chris Baehl.
13:30	16:00	2.50	20A	Accumulated time on reciprocating drill string, directional EM surveys & connections.

Remarks
Hazard ID: A hand was about to lay out elevator inserts that were placed on a elevator insert rack, and did not have safety pins installed. / The hand made sure to installed safety pins so that the inserts could not fall off the rack while laying down.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment Meeting	78	3040

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5
	9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1408.00
Hrs Run Today	4.50
Cumulative Hrs Run	16.00
Entry Date	06-Feb-2017

CUTTING STRUCTURE: TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 88.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB
3162.00	3548.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
30	Drill Pipe	Stands		873.37
0	Drill Pipe	Singles		0.00

Kelly Down: -11.85 | Total: 3548.00 | Weight of DC: 21.00 | Weight of String: 68.00

HOLE CONDITION: Hole Drag Up 11 Down 22 | Torque At Bottom: 12900 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ | Other:

Time	20:00	21:30
Density	1170	1155
Funnel Viscosity	59	57
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	3356.27	3442.99
PVT	65.51	60.11

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	37000	7.00
2	SINGLE	127	120	37000	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8634	@	60	@	3238.00
1	9000	@	60	@	3384.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
16:15	3167.40	91.01	120.21	DIRECTIONAL
16:45	3196.52	89.52	119.24	DIRECTIONAL
17:15	3225.65	89.43	118.19	DIRECTIONAL
17:45	3254.79	89.91	117.84	DIRECTIONAL
18:30	3283.91	91.85	118.98	DIRECTIONAL
19:30	3313.00	90.88	119.33	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1120	1560
Mudcleaner Centrifuge #2	1.00	1170	1120	1560

MUD MATERIALS ADDED

Product	Amount	Type
Enerslide C	1	bbl
Graphite Nat Flake	15	sxs
Base Oil	5	m3
Invert	7	m3
Enermul P-100	1	bbl
EnerTone D	1	sxs
Lime Hydrated	15	sxs
EnerBar	17	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 3162m to 3301m MD. Pump Rate - 1.27 m3/min, WOB - 12 kdaN, Rotary - 70 RPM, Pump Pressure - 38,250 kPa, Torque - 11,000 ft/lbs, Diff Pressure - 8,500 kPa. (Sliding Parameters: WOB- 19.5 kdaN, Diff Pressure- 3,500 kPa.)
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	21:00	1.50	2	Directional drill 159mm lateral section of main hole from 3301m to 3548m MD. Pump Rate - 1.27 m3/min, WOB - 11.5 kdaN, Rotary - 70 RPM, Pump Pressure - 37,000 kPa, Torque - 12,900 ft/lbs, Diff Pressure - 8,000 kPa. (Sliding Parameters: WOB- 27 kdaN, Diff Pressure- 3,000 kPa.)
21:00	24:00	3.00	20A	Accumulated time on reciprocating drill string, directional EM surveys & connections.

Remarks
Hazard ID: Hands used boom line to hoist casing jewelry to rig floor rather than carrying up the stairs and compromising 3 point contact.

SAFETY

Safety Topic	MEHL	MACP
Worker/Task competency.	81	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170207_1A	RMS 2016.6.14.37064	2017	02	07

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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		0.25	0.25			5.75	0.50		0.75												0.50					8.00
Tour 2		5.00					0.50													2.50						8.00
Tour 3		4.50																		3.00	0.50					8.00
TOTAL		9.75	0.25			5.75	1.00		0.75											5.50	1.00					24.00

Kelly Bushing 6.6 | Up Fuel 4464

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
26132	7100
Time	Temp
05:30	-24
Current Conditions: OVERCAST	
Wind Direction: SW	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	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	460.00
Hrs Run Today	0.25
Cumulative Hrs Run	6.50
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 70.77 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down: -1.16 | Total: 2600.00 | Weight of DC: 21.00 | Weight of String: 69.00

HOLE CONDITION

Hole Drag Up: 2 Down: 4 | Torque At Bottom: 11000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	1.00
2	SINGLE	127	1	32500	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5200	@	60	@	426.00
1	6200	@	60	@	987.00
1	6700	@	60	@	1541.00

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 5616 litres
****Completed weekly service & visual inspection of DSGD-375 Drawworks.****
Hazard ID: Worker placed hands under EM tool to gain leverage while assembling to Gap sub. / Stopped and reminded him that it is a suspended load and to keep hands out from underneath.

SAFETY

Safety Topic	MEHL	MACP
Slip & cut.	69	3085

TOUR 2

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1022.00
Hrs Run Today	5.00
Cumulative Hrs Run	11.50
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 88.87 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down: -19.40 | Total: 3162.00 | Weight of DC: 21.00 | Weight of String: 69.00

HOLE CONDITION

Hole Drag Up: 8 Down: 15 | Torque At Bottom: 11000 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	14:30
Density	1170
Funnel Viscosity	62
Fluid Loss	0
pH	
Location Of Sample	Shaker
Depth	3064.00
PVT	66.9

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	38250	8.00
2	SINGLE	127	1	38250	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9216	@	60	@	2772.00
1	9825	@	60	@	2976.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
10:45	2818.03	90.40	119.42	DIRECTIONAL
11:00	2847.16	90.62	118.45	DIRECTIONAL
11:30	2876.27	91.41	122.41	DIRECTIONAL
12:00	2905.38	89.91	121.44	DIRECTIONAL
12:30	2934.51	91.27	119.94	DIRECTIONAL
13:00	2963.61	90.53	122.58	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1160	1580
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: A hand was about to lay out elevator inserts that were placed on a elevator insert rack, and did not have safety pins installed. / The hand made sure to installed safety pins so that the inserts could not fall off the rack while laying down.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment Meeting	78	3040

TOUR 3

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1408.00
Hrs Run Today	4.50
Cumulative Hrs Run	16.00
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr): 88.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
30	Drill Pipe Stands			873.37
0	Drill Pipe Singles			0.00

Kelly Down: -11.85 | Total: 3548.00 | Weight of DC: 21.00 | Weight of String: 68.00

HOLE CONDITION

Hole Drag Up: 11 Down: 22 | Torque At Bottom: 12900 | Fill On Bottom: 0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	23:30
Density	1160
Funnel Viscosity	56
Fluid Loss	0
pH	
Location Of Sample	Trough
Depth	3508.97
PVT	53.78

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	37000	7.00
2	SINGLE	127	120	37000	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8634	@	60	@	3238.00
1	9000	@	60	@	3384.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
20:00	3342.08	90.22	120.91	DIRECTIONAL
20:45	3371.21	88.95	119.94	DIRECTIONAL
21:00	3400.28	89.21	118.45	DIRECTIONAL
21:30	3429.39	89.08	117.31	DIRECTIONAL
22:30	3458.51	90.66	117.84	DIRECTIONAL
23:15	3487.61	90.48	118.98	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1120	1560
Mudcleaner Centrifuge #2	1.00	1170	1120	1560

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: Hands used boom line to hoist casing jewelry to rig floor rather than carrying up the stairs and compromising 3 point contact.

SAFETY

Safety Topic	MEHL	MACP
Worker/Task competency.	81	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170207_1A	RMS 2016.6.14.37064	2017	02	07

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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	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		0.25	0.25			5.75	0.50		0.75												0.50					8.00
Tour 2		5.00					0.50													2.50						8.00
Tour 3		4.50																		3.00	0.50					8.00
TOTAL		9.75	0.25			5.75	1.00		0.75											5.50	1.00					24.00

Kelly Bushing 6.6 | Up Fuel 4464

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
26132	7100
Time	Temp
05:30	-24
Current Conditions	
OVERCAST	
Wind Direction	Wind Strength
SW	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	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	460.00
Hrs Run Today	0.25
Cumulative Hrs Run	6.50
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 70.77 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.97
161	4" CDS40 Drill Pipe	102	64	1565.24
39	4" CDS40 HWDP	101	65	370.27
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down -1.16 | Total 2600.00 | Weight of DC 21.00 | Weight of String 69.00

HOLE CONDITION

Hole Drag Up 2 Down 4 | Torque At Bottom 11000 | Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☐ Oil ☑ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	32500	1.00
2	SINGLE	127	1	32500	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	5200	@	60	@	426.00
1	6200	@	60	@	987.00
1	6700	@	60	@	1541.00

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 5616 litres

****Completed weekly service & visual inspection of DSGD-375 Drawworks.****

Hazard ID: Worker placed hands under EM tool to gain leverage while assembling to Gap sub. / Stopped and reminded him that it is a suspended load and to keep hands out from underneath.

SAFETY

Safety Topic	MEHL	MACP
Slip & cut.	69	3085

TOUR 2

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1022.00
Hrs Run Today	5.00
Cumulative Hrs Run	11.50
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 88.87 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
0	Drill Pipe Stands			0.00
0	Drill Pipe Singles			0.00

Kelly Down -19.40 | Total 3162.00 | Weight of DC 21.00 | Weight of String 69.00

HOLE CONDITION

Hole Drag Up 8 Down 15 | Torque At Bottom 11000 | Fill On Bottom 0.00

MUD RECORD

Mud Type Water ☐ Oil ☑ Other

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

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	38250	8.00
2	SINGLE	127	1	38250	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9216	@	60	@	2772.00
1	9825	@	60	@	2976.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
14:00	2992.75	88.77	121.35	DIRECTIONAL
14:15	3021.87	89.12	121.26	DIRECTIONAL
14:30	3050.98	89.12	120.47	DIRECTIONAL
15:00	3080.08	88.86	118.63	DIRECTIONAL
15:30	3109.20	90.08	121.26	DIRECTIONAL
15:45	3138.30	90.48	120.82	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	8.00	1170	1160	1580
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: A hand was about to lay out elevator inserts that were placed on a elevator insert rack, and did not have safety pins installed. / The hand made sure to installed safety pins so that the inserts could not fall off the rack while laying down.

SAFETY

Safety Topic	MEHL	MACP
Hazard Assessment Meeting	78	3040

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1408.00
Hrs Run Today	4.50
Cumulative Hrs Run	16.00
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI | Gage | TO | ODC | MDC | Reason Pulled | LOC | Total Run (m/hr) 88.00 | BRG

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
30	Drill Pipe Stands			873.37
0	Drill Pipe Singles			0.00

Kelly Down -11.85 | Total 3548.00 | Weight of DC 21.00 | Weight of String 68.00

HOLE CONDITION

Hole Drag Up 11 Down 22 | Torque At Bottom 12900 | 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	37000	7.00
2	SINGLE	127	120	37000	1.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	8634	@	60	@	3238.00
1	9000	@	60	@	3384.00
		@		@	

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	1170	1120	1560
Mudcleaner Centrifuge #2	1.00	1170	1120	1560

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: Hands used boom line to hoist casing jewelry to rig floor rather than carrying up the stairs and compromising 3 point contact.

SAFETY

Safety Topic	MEHL	MACP
Worker/Task competency.	81	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170208_1B	RMS 2016.6.14.37064	2017	02	08

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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 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		4.50					0.50													2.50	0.50					8.00
Tour 2		2.75			4.00		0.50													0.75						8.00
Tour 3					0.50	7.00															0.50					8.00
TOTAL		7.25			4.50	7.00	1.00													3.25	1.00					24.00

FUEL @ 08:00 HRS

Kelly Bushing	Up Fuel
6.6	4010

Rig	Boiler
22518	7100

Time	Temp
06:00	-21

WEATHER

Current Conditions	
CLEAR	

Wind Direction	Wind Strength
S	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	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1758.00
Hrs Run Today	5.00
Cumulative Hrs Run	21.00
Entry Date	06-Feb-2017

CUTTING STRUCTURE

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

METRES DRILLED

From	To	D-R-C	RPM	WOB
3548.00	3898.00	DRILL	70	12.5

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
42	Drill Pipe Stands			1222.79
0	Drill Pipe Singles			0.00

Kelly Down	-11.27
Total	3898.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 11	Down 25
Torque At Bottom		13000
Fill On Bottom		0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	01:45	04:15
Density	1160	1160
Funnel Viscosity	57	58
Fluid Loss	0	0
pH		
Location Of Sample	Trough	Trough
Depth	3619.10	3734.32
PVT	50.04	62.66

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	37200	8.00
2	SINGLE	127	1	37200	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9000	@	60	@	3559.00
1	9200	@	60	@	3704.00
		@		@	

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	1160	1135	1470
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
EnerBar	30	sxs
Wetting Agent	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 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.
0:30	5:00	4.50	2	Directional drill 159mm lateral section of main hole from 3548m to 3898m MD. Pump Rate - 1.27 m3/min, WOB - 12.5 kdaN, Rotary - 70 RPM, Pump Pressure - 37,200 kPa, Torque - 13,000 ft/lbs, Diff Pressure - 8,000 kPa. (Sliding Parameters: WOB- 27 kdaN, Diff Pressure- 3,000 kPa.)
5:00	7:30	2.50	20A	Accumulated time on reciprocating drill string, directional surveys & connections.
7:30	8:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 5220 litres

****Completed service & visual inspection of ST-100 iron roughneck****

Hazard ID: Gap in the matting near entrance of accumulator building. / Filled the gap with lumber.

SAFETY

Safety Topic	MEHL	MACP
Internal Responsibility System.	80	3085

TOUR 2

SIGNATURE OF DRILLER: Justin Holt

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1935.00
Hrs Run Today	2.75
Cumulative Hrs Run	23.75
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	81.47
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB
3898.00	4075.00	DRILL	70	12

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
48	Drill Pipe Stands			1397.43
0	Drill Pipe Singles			0.00

Kelly Down	-8.91
Total	4075.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 3	Down 15
Torque At Bottom		13000
Fill On Bottom		0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	09:45	13:15
Density	1180	1160
Funnel Viscosity	60	60
Fluid Loss	0	0
pH		
Location Of Sample	Shaker	Trough
Depth	3997.00	4075.00
PVT	66.91	60.82

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	120	38250	8.00
2	SINGLE	127	1	38250	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
1	9667	@	60	@	3908.00
1	10228	@	60	@	4073.00
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type
08:15	3924.37	89.65	120.56	DIRECTIONAL
08:45	3953.46	90.44	119.42	DIRECTIONAL
09:30	3982.57	90.44	120.91	DIRECTIONAL
10:30	4011.68	89.74	121.35	DIRECTIONAL
10:45	4040.82	91.01	120.47	DIRECTIONAL
11:45	4061.00	90.00	118.89	DIRECTIONAL

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Mudcleaner Centrifuge #1	5.00	1160	1145	1590
Mudcleaner Centrifuge #2	0.00	0	0	0

MUD MATERIALS ADDED

Product	Amount	Type
Invert	7	m3
Base Oil	5	m3
EnerBar	56	sxs
Graphite Nat Flake	15	sxs
Enerslide C	10	sxs

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	10:45	2.75	2	Directional drill 159mm lateral section of main hole from 3916m to 4075m MD (TD). Pump Rate - 1.27 m3/min, WOB - 12.5 kdaN, Rotary - 70 RPM, Pump Pressure - 38,200 kPa, Torque - 13,000 ft/lbs, Diff Pressure - 8,000 kPa. (Sliding Parameters: WOB- 27 kdaN, Diff Pressure- 3,000 kPa.)
10:45	11:30	0.75	20A	Accumulated time on reciprocating drill string, directional surveys & connections.
11:30	12:00	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 Lower Pipe Rams 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 Shaun Low & Chris Baehl.
12:00	16:00	4.00	5	Reviewed JSA. Reciprocate drill string & circulate the hole clean at TD. Spot 20m3 Lubricity pill in lateral section of annulus.

Remarks

Hazard ID: I had not performed a certain task before. / Made sure to ask my supervisor for his assistance prior to the commencing the task.

SAFETY

Safety Topic	MEHL	MACP
Electricity / Lock Out, Tag Out Policy	82	3085

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

Bit Number	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	
Depth In (m)	2140.00
Total Drilled (m)	1935.00
Hrs Run Today	0.00
Cumulative Hrs Run	23.75
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI		Gage	
TO		ODC	
MDC		Reason Pulled	
LOC		Total Run (m/hr)	81.47
BRG			

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.24
48	4" CDS40 HWDP	101	65	455.62
48	Drill Pipe Stands			1397.43
0	Drill Pipe Singles			0.00

Kelly Down	-8.91
Total	4075.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

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

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	19:30	23:30
Density	1170	1170
Funnel Viscosity	62	62
Fluid Loss		
pH		
Location Of Sample	TROUGH	TROUGH
Depth	4075.00	4075.00
PVT	59.84	48.48

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
16:00	16:30	0.50	5	Continue to reciprocate drill string & circulate the hole clean at TD. Review JSA. Spot 20m3 Lubricity pill in lateral section of annulus. Pump 2.83m3 of 1460kg/m3 weighted pill with a recovery of 0.71m3.
16:30	19:00	2.50	6B	Reviewed JSA. Trip out of the hole @ 30m/min from 4075m to 3026m MD. Flow check at 4073m & 3957m.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events. Reviewed JSA.
19:30	24:00	4.50	6B	Continue to trip out of the hole at 30m/min from 3026m to 472m MD. Flow check at 2034m.

Remarks

Hazard ID: Pipe stripper was worn out. / Replaced it during flow check to minimize invert exposure.

SAFETY

Safety Topic	MEHL	MACP
Invert exposure control plan.	79	3085

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170209_1A	RMS 2016.6.14.37064	2017	02	09

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time	
Chris Baehl	Shaun Low		

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	
HOURS	Rig Up	Drill Actual	Reaming	Coring	Cond Mud & Circ	Trips	Rig Service	Repair Rig	Cut Off Drlg Line	Dev Survey	Wireline Logs	Run Csg & Cement	Wait On Cement	Nipple BOP	Test BOP	Drillstem Test	Plug Back	Squeeze Cement	Fishing	Dir Work	Safety Meeting	Tear Down	Waiting On	Rig Watch	Other	TOTAL
Tour 1						1.25	0.50					3.00								2.00	1.00				0.25	8.00
Tour 2							0.50					7.50														8.00
Tour 3					1.00							3.00														8.00
TOTAL					1.00	1.25	1.00					13.50								2.00	1.50		3.50		0.25	24.00

Kelly Bushing	Op Fuel
6.6	4489

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
18209	7100
Time	Temp
06:00	-18
Current Conditions	
PARTLY CLOUDY	
Wind Direction	Wind Strength
E	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	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5
	9.5 9.5
Depth Out (m)	4075.00
Depth In (m)	2140.00
Total Drilled (m)	1935.00
Hrs Run Today	0.00
Cumulative Hrs Run	23.75
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	3	ODC	CT
MDC	WT	Reason Pulled	TD
LOC	S	Total Run (m/hr)	81.47
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.20
48	4" CDS40 HWDP	101	65	455.62
48	Drill Pipe	Stands		1397.43
0	Drill Pipe	Singles		0.00

Kelly Down	-8.91
Total	4075.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

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

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	04:45
Density	1170
Funnel Viscosity	65
Fluid Loss	
pH	
Location Of Sample	Suction 3
Depth	4075.00
PVT	46.79

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	1:15	1.25	6B	Continue to trip out of the hole at 30m/min from 472m to 41m MD. Flow check at 472m.
1:15	1:30	0.25	21D	Safety meeting & JSA review with Dynamic prior to handling directional tools.
1:30	3:30	2.00	20D	Handle Dynamic directional tools; Rack slide reamer in derrick with 3 - 101.6mm DP. Laydown 3 - 121mm NM flex monels, 1 - Gap sub & 1 - x/o. Drain mud motor & break 159mm PDC Bit #5RR. Laydown mud motor. Flow check @ 0m. Function HCR 2 seconds to open & blind rams out of hole, 4 seconds to close. Trip record; Calculated 14.86m3, Measured 16.61m3, Difference 1.75m3. Run in & laydown vertical section & build section BHA's; 3 - 164mm NM flex monels, 2 - 164mm NM slick monels, 1 - x/o.
3:30	3:45	0.25	25	Retrieve wear bushing set at 6.6m.
3:45	4:15	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. 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.
4:15	5:15	1.00	12A	Review JSA. Prepare to run tapered production casing string. Remove PS-21 hydraulic slips & install master bushings. Remove BX-4 500 ton hydraulic elevators & install 6' bail extensions, 114.3mm 100ton center latch elevators (cert#113840), 139.7mm 150ton center latch elevators (cert#114695) & rig up power tongs.
5:15	5:30	0.25	21D	Safety meeting & JSA review with Copperhead prior to running in 114.3mm x

Remarks

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

Hazard ID: Prior to hoisting master bushings from the catwalk. / Cleared catwalk from any items obstructing the hold back winch.

SAFETY

Safety Topic	MEHL	MACP
Laydown directional tools.	37	3040

TOUR 2

SIGNATURE OF DRILLER: Justin Holt

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	20
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	09:45	12:45
Density	1170	1170
Funnel Viscosity	70	70
Fluid Loss	0	0
pH		
Location Of Sample	Suction 4	suction4
Depth	1429.00	2040.00
PVT	56	54.1

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	90	2500	1.00
2	SINGLE	127	1	2500	0.00

Remarks

Transfer Invert to tank farm.

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	13:00	5.00	12B	Run in 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110, DPLS Tapered Production Casing String at 30m/min from 500m to 2040m MD. Fill casing at 1064m, 1766m, 2032m, 2040m. Break circulation and circulate bottoms up at 2040m MD.
13:00	13:30	0.50	7	Rig & Top Drive Service. Functioned Rig Smart crown saver, high & low travel stops / limits, MCWS & ZMS. 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 Shaun Low & Chris Baehl.
13:30	16:00	2.50	12B	Run in 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110, DPLS Tapered Production Casing String at 30m/min from 2040m to 3074m MD.

Remarks

Hazard ID: Third party hand needed to do some work on his equipment and was using a large crescent wrench. / I went to the tool board and grabbed the proper size ratchet and socket for him.

SAFETY

Safety Topic	MEHL	MACP
Run Casing	50	3040

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

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

CUTTING STRUCTURE

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

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length

Drill Pipe Stands

Drill Pipe Singles

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up 5	Down	20
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	22:00	23:45
Density	1170	1160
Funnel Viscosity	72	70
Fluid Loss		
pH		
Location Of Sample	Trough	Trough
Depth	4075.00	4075.00
PVT	29.26	28.66

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	93	5000	4.00
2	SINGLE	127	1	5000	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	1.00	1170	1140	1390

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

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

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
16:00	19:00	3.00	12B	Run in 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110, DPLS Tapered Production Casing String at 30m/min from 3074 to 4075m MD.
19:00	19:30	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.
19:30	20:30	1.00	5	Reciprocate casing string, circulate & condition wellbore at 1.0m3/min. Rig out power tong & casing handling equipment. Prepare to cement.
20:30	24:00	3.50	23F	Reciprocate casing string, circulate & condition wellbore at 1.0m3/min. Prepare to cement. Wait on NOV cement head.

Remarks

Hazard ID: Rigging out pipe racks in preparation for rig walk. / Alerted cementers to stay clear until racks are secure.

SAFETY

Safety Topic	MEHL	MACP
Spill response drill.	70	3040

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170209_1A	RMS 2016.6.14.37064	2017	02	09

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time
Chris Baehl	Shaun Low	

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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 Rig Up	2 Drill Actual	3 Reaming	4 Coring	5 Cond Mud & Circ	6 Trips	7 Rig Service	8 Repair Rig	9 Cut Off Drlg Line	10 Dev Survey	11 Wireline Logs	12 Run Csg & Cement	13 Wait On Cement	14 Nipple BOP	15 Test BOP	16 Drillstem Test	17 Plug Back	18 Squeeze Cement	19 Fishing	20 Dir Work	21 Safety Meeting	22 Tear Down	23 Waiting On	24 Rig Watch	25 Other	TOTAL
HOURS Tour 1						1.25	0.50					3.00								2.00	1.00				0.25	8.00
Tour 2							0.50					7.50														8.00
Tour 3					1.00							3.00									0.50		3.50			8.00
TOTAL					1.00	1.25	1.00					13.50								2.00	1.50		3.50		0.25	24.00

Kelly Bushing 6.6 | Up Fuel 4489

FUEL @ 08:00 HRS

WEATHER

Rig	Boiler
18209	7100
Time	Temp
06:00	-18

Current Conditions: PARTLY CLOUDY
Wind Direction: E | 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	5RR
Size	159
IADC Code	
Manufacturer	Reed
Type	SK413M-A1G-Z
Serial No	E231879
Jets	9.5 9.5 / 9.5 9.5
Depth Out (m)	4075.00
Depth In (m)	2140.00
Total Drilled (m)	1935.00
Hrs Run Today	0.00
Cumulative Hrs Run	23.75
Entry Date	06-Feb-2017

CUTTING STRUCTURE

TI	1	Gage	1
TO	3	ODC	CT
MDC	WT	Reason Pulled	TD
LOC	S	Total Run (m/hr)	81.47
BRG	X		

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
1	159mm PDC Bit	159	1	0.22
1	475 Mud Motor	121	1	9.10
1	4.75" Flex monel	121	68	9.49
1	Gap sub	121	62	1.71
2	4.75" Flex monel	121	68	18.77
1	3.5IF x CDS40 X/O	128	57	0.82
1	Slide reamer	127	58	1.38
5	4" CDS40 Drill Pipe	102	64	48.50
1	126mm Jars	126	60	6.18
58	4" CDS40 Drill Pipe	102	64	563.51
1	Agitator	120	58	7.94
161	4" CDS40 Drill Pipe	102	64	1565.39
48	4" CDS40 HWDP	101	65	455.62
48	Drill Pipe	Stands		1397.43
0	Drill Pipe	Singles		0.00

Kelly Down	-8.91
Total	4075.00
Weight of DC	21.00
Weight of String	69.00

HOLE CONDITION

Hole Drag	Up 1	Down	1
Torque At Bottom			1
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	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
				139.7mm tapered production casing string.
5:30	7:30	2.00	12B	Run in 114.3mm, 20.09kg/m, P-110, LTC X 139.7mm, 29.763kg/m, P-110, DPLS Tapered Production Casing String at 30m/min from 0m to 500m MD.
7:30	8:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks
Boiler #2 Fuel @ 05:00 Hrs = 5040 litres
Hazard ID: Prior to hoisting master bushings from the catwalk. / Cleared catwalk from any items obstructing the hold back winch.

SAFETY

Safety Topic	MEHL	MACP
Laydown directional tools.	37	3040

TOUR 2

SIGNATURE OF DRILLER: Justin Holt

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	20
Torque At Bottom			0
Fill On Bottom			0.00

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	15:45
Density	1170
Funnel Viscosity	70
Fluid Loss	0
pH	
Location Of Sample	suction4
Depth	3010.00
PVT	26.53

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	90	2500	1.00
2	SINGLE	127	1	2500	0.00

Remarks
Transfer Invert to tank farm.

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

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

MUD MATERIALS ADDED

Product	Amount	Type

BOILER

BoilerNo	HoursRun	pH	StackTemp

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks

Remarks
Hazard ID: Third party hand needed to do some work on his equipment and was using a large crescent wrench. / I went to the tool board and grabbed the proper size ratchet and socket for him.

SAFETY

Safety Topic	MEHL	MACP
Run Casing	50	3040

TOUR 3

SIGNATURE OF DRILLER: Stefan Polny

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

BITS

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

CUTTING STRUCTURE

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

METRES DRILLED

From	To	D-R-C	RPM	WOB

DRILLING ASSEMBLY

No	Component	OD	ID	Length
	Drill Pipe	Stands		
	Drill Pipe	Singles		

Kelly Down	
Total	
Weight of DC	
Weight of String	

HOLE CONDITION

Hole Drag	Up 5	Down	20
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	93	5000	4.00
2	SINGLE	127	1	5000	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	1.00	1170	1140	1390

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: Rigging out pipe racks in preparation for rig walk. / Alerted cementers to stay clear until racks are secure.

SAFETY

Safety Topic	MEHL	MACP
Spill response drill.	70	3040

FRONT PAGE SUMMARY

Tour Sheet Serial Number	Vender Software Version	Year	Month	Day
BEAV15AC_20170210_1A	RMS 2016.6.14.37064	2017	02	10

License No	Well Name	Surface Location	Prov	Loc Type	Unique Well Id
32312	ARCRES HZ PARKLAND E12-07-081-16	12-7-81-16 W6	BC	DLS	100/05-08-081-16W6/00

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	
17DRL0012	0X47	20-Dec-2016	21:45

Signature Of Operator's Representative	Signature Of Contractor's Rig Manager	Rig Release Date Time	
Chris Baehl	Shaun Low	10-Feb-2017	11:00

DAILY CHECKS

	OP	RM
(1.) Daily Walk Around Inspection	CB	SL
(2.) Detailed Inspection - Weekly (Using Check List)	CB	SL
(3.) H2S Signs Posted if Required	CB	SL
(4.) Well Licence & Stick Diagram Posted	CB	SL
(5.) Flare Lines Staked	CB	SL
(6.) BOP Drills Performed	CB	SL
(7.) Visually Inspected BOPs-Flare Lines & Degasser Lines	CB	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												4.00		0.75							0.75		2.50			8.00
Tour 2														1.75								1.25				3.00
Tour 3																										
TOTAL												4.00		2.50							0.75	1.25	2.50			11.00

Kelly Bushing	Op Fuel
6.6	2821

FUEL @ 08:00 HRS

Rig	Boiler
15568	7100

WEATHER

Time	Temp
06:00	-18

Current Conditions: LIGHT SNOW

Wind Direction	Wind Strength
N	UP TO 19 KM/H

Road Condition: POOR

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	10	Down 10
Torque At Bottom		0	
Fill On Bottom		0.00	

MUD RECORD

Mud Type: Water ☐ Oil ☑ Other

Time	04:00
Density	1160
Funnel Viscosity	70
Fluid Loss	
pH	
Location Of Sample	Trough
Depth	4075.00
PVT	32.86

Circulation

Pump #	Type	Liner Size	SPM	Pressure	Hrs Run
1	SINGLE	127	93	5000	2.00
2	SINGLE	127	1	5000	0.00

Remarks

REDUCED PUMP SPEED

Pump #	Pressure		Strokes/min		Depth
		@		@	
		@		@	

DEVIATION SURVEYS

Time	Depth	Deviation	Direction	Type

SOLIDS CONTROL

Equipment Name	Hours Run	Intake Density	Over Flow Density	Under Flow Density
Blackstone Centrifuge #1	0.00	0	0	0
Blackstone Centrifuge #2	1.00	1160	1130	1390

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	2:30	2.50	23F	Reciprocate casing string, circulate & condition wellbore at 1.0m3/min. Prepare to cement. Wait on NOV cement head.
2:30	2:45	0.25	21D	Safety meeting & JSA review with Trican & NOV.
2:45	6:45	4.00	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, 20.09kg/m, P-110, LTC X 139.7mm Tapered Production Casing string with Trican; Pump 2m3 H2O, 34m3 Lead cement (36.45 ton & 1.5 ton Scavenger) 1600kg/m3, 38m3 Tail cement (38 ton) 1600kg/m3, Launch Wiper Plug & displace 39.3m3. Bumped Wiper Plug @ 05:45hrs. 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.
6:45	7:30	0.75	14B	Rig to, lower casing slips through BOPâ s & set casing slips in tension @ 70,000 daN at 07:00hrs on Feb.10/2017. Nipple down Schaffer 5000# BOPâ s & all related equipment in preparation to walk rig to the next well. Clean mud tanks with confined space entry permit.
7:30	8:00	0.50	21	Crew hand-over meeting. Discuss hazard id's & daily events.

Remarks

Boiler #2 Fuel @ 05:00 Hrs = 4860 litres

Hazard ID : Lowering cementing iron to tighten a hammer union. / Waited for cementers to confirm pump off before lowering iron.

SAFETY

Safety Topic	MEHL	MACP
Cementing.	70	3040

TOUR 2 | SIGNATURE OF DRILLER: Justin Holt | 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
1	3.00	10.5	450
2	3.00	10.5	450

TIME LOG

From	To	Elapsed	Code	Details Of Operations In Sequance & Remarks
8:00	9:45	1.75	14B	Nipple down Schaffer 5000# BOPâ s & all related equipment in preparation to walk rig to the next well. Lift BOP's & cut casing w/ Cameron services. Laydown cut off. Clean mud tanks with confined space entry permit.
9:45	11:00	1.25	22	Tear out Beaver Rig #15AC in preparation to walk rig to the next well. Adjust suitcases & Festoon hangers. remove shale bin. Clean mud tanks with confined space entry permit. **Rig Released @ 11:00 hrs on Feb.10/2017**

Remarks

****644K John Deere Loader & JCB Zoom Boom used prior to walking rig.****

SAFETY

Safety Topic	MEHL	MACP
Tear out rig to walk.		

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

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