FOLD HERE →

139798

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-0360-1-3	DEULAN ET-AL THUNDER RIVER N-73
OPERATOR: DEVON EXPLORATION	CONTRACTOR: AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER: Mel Zerr

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HPS Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR 81 | MONTH 03 | DAY 15

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

TIME-HRS

CODE NO.	1 RIG UP & TEAR DOWN	2 DRILL ACTUAL	3 REAMING	4 CORING	5 COND. MUD & CIRC.	6 TRIPS	7 RIG SERVICE	8 REPAIR RIG	9 CUT OFF DRILL LINE	10 DEV. SURVEY	11 WIRE LINE LOGS	12 RUN CASE & CEMENT	13 WAIT ON CEMENT	14 NIPPLE UP B.O.P.	15 TEST B.O.P.	16 DRILL STEM TEST	17 PLUG BACK	18 SQUEEZE CEMENT	19 FISHING	20 DIR. WORK	21 SAFETY MTG.	22 MONITOR WELL	23	24	25	26
OPER.																										
MORN.					3/4							2 3/4										5				
DAY																						8				
EVE.	6																					2				
TOTAL																										

TOTALS: 8

SHALE SHAKER(S): NO. 1 TYPE TOFTS 500; SCREENS CHANGED ☐ YES ☐ NO; TOP 120; MIDDLE 80; BOTTOM 45

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m

WT. OF DC 1000 daN

WT. OF STRING 1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0000 Cemented w/
DENSITY kg/m³	1610 me "F:11-1:fc" 2-1004 1% Ca Cl2
FUNNEL VIS. - (S/L)	1610 me: 0:1:0 "6" 4.3% FL-63 +.5%
W.L. (cm³)	
pH	cement upto 865m. then stumped

to A15 with N constant set:

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Plug down @	
03:00 Hrs:	
MARCH 15 - 2001	

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE: Darren Barber

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0045	3/4	5	CIRC
0045	0300	2 1/4	12	Cement CSG (PRE JOB SAFETY MTG)
0300	0800	5	22	Monitor Well
		8		HRS
				Plug Down 3:08

NOTES: Boiler #1 Blown 2x 22 LITRES Function HCR 25sec.
Boiler #2 Blown 2x 18 LITRES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m

WT. OF DC 1000 daN

WT. OF STRING 1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0800
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

GUY LA

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE:

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1600	8	22	Monitor Well
		8		HRS

NOTES: Boiler #1 Blown 2x 21 LITRES Function Hydril Sec
Boiler #2 Blown 2x 19 LITRES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m

WT. OF DC 1000 daN

WT. OF STRING 1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE:

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1800	2	22	Monitor Well
1800	2100	3	1	Cut Casing, Set Slips, Tear out BOP, Install
2100	2400	3	1	Tear out Rig & Building. Bx Mak Tree
		8		
				Rig Released @
				23-59 Hrs. MAR 15 - 2001

NOTES: Boiler #1 8 HRS Blown 2x 20 LITRES
Boiler #2 8 HRS Blown 2x 19 LITRES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

FOLD HERE →

139797

LICENCE NO.:	WELL NAME AND NO.:
NED92116066T3	DEVLAN ET AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR	MONTH	DAY
91	05	19

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL. LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26
MORN.						8																TMP P, U			
DAY						8																			
EVE.						1½																6½			
TOTAL																									

TOTALS

8			
8			
8			

SHALE SHAKER(S)

NO. 1 TYPE DF-73 500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN.	DAY	EVE.

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0100	0330	0600
DENSITY kg/m³	1050	1050	1040
FUNNEL VIS. - (S/L)	63	64	64
W.L. (cm³)	9	9	9.5
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	42
Soda Ash	1
Aqua Pac	

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0800	8	5	CIRC STAGE TOOL
		8		HRS

NOTES BOILER #1 BLOWN 20 LITRES
BOILER #2 BLOWN 21 LITRES

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0800	1200	1600
DENSITY kg/m³	1040	1040	1040
FUNNEL VIS. - (S/L)	62	60	57
W.L. (cm³)	10.0	9.5	9.5
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	56
Sawdust	15
Kwikseal	7
Caco	3

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1600	8	5	CIRC STAGE TOOL
		8		HRS

NOTES Boiler #1 Blown 2x 16 Litres.
Boiler #2 Blown 2x 18 Litres.

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1800	2200	
DENSITY kg/m³	1040	1040	
FUNNEL VIS. - (S/L)	61	73	
W.L. (cm³)	9.5	9.5	
pH	9.5	10.5	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Kwikseal	6 sks

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0600	1730	11½	5	CIRC STAGE TOOL.
1730	2400	6½	22	PUMP PILL + STAGE CIRC.
		8		HR

NOTES Boiler #1 Blown 2x 18 Litres ~~Correct Sauer~~
Boiler #2 Blown 2x 19 Litres

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

FOLD HERE →

139796

LICENCE NO.:	WELL NAME AND NO.:
NER 9211036-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR	MONTH	DAY
01	03	13

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F-500	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	1 RIG UP & TEAR DOWN	2 DRILL ACTUAL	3 REAMING	4 CORING	5 COND. MUD & CIRC	6 TRIPS	7 RIG SERVICE	8 REPAIR RIG	9 CUT OFF DRILL LINE	10 DEV. SURVEY	11 WIRE LINE LOGS	12 RUN CASE & CEMENT	13 WAIT ON CEMENT	14 NIPPLE UP B.O.P.	15 TEST B.O.P.	16 DRILL STEM TEST	17 PLUG BACK	18 SQUEEZE CEMENT	19 FISHING	20 DIR. WORK	21 SAFETY MTG.	22	23	24	25	26
OPER.																						Pump Pills	Top Hill			
MORN.					5¾							2¼														
DAY					5¾																	¼	2			
EVE.					8																					
TOTAL																										

TOTALS

					8																					
					8																					

SHALE SHAKER(S)

NO. 1 TYPE TOFTS 500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN.	DAY	EVE.

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE	☐ WATER BASED	☐ OIL BASED
TIME	Close 6 time 0:10 "6"	
DENSITY kg/m³	.3% FL-63 + .5% CD31	
FUNNEL VIS. - (S/L)		
W.L. (cm³)	Plug down 0430	
pH		

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0345	3¾	5	CIRC
0345	0600	2¼	12	Cement CSG STAGE ONE (PRE Job SAFETY MTG)
0600	0800	2	5	CIRC STAGE TOOL
		8		HRS

NOTES Boiler #1 Blown 2x 18 LITRES ✓CROWN SAVER
Boiler #2 Blown 2x 20 LITRES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE	☐ WATER BASED	☐ OIL BASED	
TIME	0800	1100	1600
DENSITY kg/m³	1065	1050	1040
FUNNEL VIS. - (S/L)	60	LS	57
W.L. (cm³)	9.5	10.0	9.0
pH	10.0	10.0	10.0

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	26sx
Sawdust	20sx
Kwikseal	10sx
Cello	4sx
Polymer	1sx
Soda Ash	1sx
Envirotrol	1sx

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0945	1¾	5	CIRC STAGE TOOL
0945	1000	¼	29	Pump Pill
1000	1200	2	23	Top Fill
1200	1600	4	5	CIRC STAGE TOOL
		8		HRS.

NOTES Boiler #1 Blown 2x 21 LITRES ✓ Crown Saver
Boiler #2 Blown 2x 19 LITRES ✓ Function HCR 4 sec.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE	☐ WATER BASED	☐ OIL BASED	
TIME	1800	20:00	23:00
DENSITY kg/m³	1075	1050	1050
FUNNEL VIS. - (S/L)	63	66	70
W.L. (cm³)	9.5	9	8.5
pH	10.0	10	10

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	28
Soda Ash	1 sx

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	2400	8	5	CIRC STAGE TOOL
		8		HRS

NOTES Boiler #1 BLOWN 2x 17 LITRES
Boiler #2 BLOWN 2x 18 LITRES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

FOLD HERE ➔

139795

LICENCE NO.: NEB 9211-026-1-3 | WELL NAME AND NO.: DEVLAN ET-AL THUNDER RIVER N-73

OPERATOR: DEVLAN EXPLORATION | CONTRACTOR: AKITA DRILLING

SURFACE LOCATION: | UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS (OPR. Initial / R.M. Initial)

- (1) Daily Walk Around Inspection
- (2) Detailed Inspection-Weekly (using checklist)
- (3) H_2S Signs Posted (if required)
- (4) Well License & Stick Diagram Posted
- (5) Flare Lines Staked
- (6) BOP Drills Performed
- (7) Visually inspect BOP's - Flarelines & Degasser Lines

- (1) Rig Site Health and Safety Meeting (one/crew/month)
- (2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)
- (3) Mast Inspection Before Raising or Lowering
- (4) Crown Saver Checked
- (5) Motor Kills checked

YEAR 81 | MONTH 05 | DAY 12

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F-500	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	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	26	TOTALS
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.						
MORN.						3					5																8
DAY					3½	4½																					8
EVE.						3						5															8
TOTAL																											

SHALE SHAKER(S)

NO. 3 TYPE DFTS 500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN	DAY	EVE

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	0200		
DENSITY kg/m³	1080		
FUNNEL VIS. - (S/L)	71		
W.L. (cm³)	85		
pH	9		

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Barite	18 sks
Gel	40 sks
Sodaash	3 sks
Aquapac	1 sks

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

Darren Babyn

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0500	5	11	RIG TO + LOG W/TUCKER GRT/CNT/LOT/CST/PIT
				TD 1146m LOG ON BTM 0105 HRS
0500	0800	3	6	R.I.H Flow @ 113m, 315m
		8		HRS

NOTES Boiler #1 BLOWN 2x 22 LITRES ✓CROWN SAVER
Boiler #2 BLOWN 2x 18 LITRES. FUNCTION BLIND RAMS 25sec

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	0800	1100	0300
DENSITY kg/m³	1090	1085	1085
FUNNEL VIS. - (S/L)	65	70	68
W.L. (cm³)	7.5	7.5	7.5
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Barite	47 sx
Gel	41 sx
Sodaash	1 sx
Aquapac	1 sx
Sawdust	22 sx
Cellophane	5 sx
Kwikseal	10 sx

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

Darren Babyn

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0815	¼	6	RIH
0815	0915	1	5	CIRC & CONDITION Mud.
0915	1000	¾	6	RIH
1000	1100	1	5	CIRC & CONDITION Mud
1100	1130	½	6	P.O.O.H Flow 1138m 1010m
1130	1300	1½	5	CIRC
1300	1600	3	6	P.O.O.H Flow 890m, 589m 400m, 106m
		8½		HRS

NOTES Boiler #1 2x 20 LITRES ✓Crown Saver
Boiler #2 2x 20 LITRES Function Hydril 5sec.

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	RAN B33 jts: 139.1/22.9/J-55/STC		
DENSITY kg/m³	EOP of stage tool = 1147.68m		
FUNNEL VIS. - (S/L)	Top of packer @ 964 m		
W.L. (cm³)	Stage tool @ 953 m		
pH			

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	10sks
Soda Ash	1sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
Meas	5.07	
Calc	4.53	
DIFF	.56	

DRILLER SIGNATURE

Darren Babyn

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1900	3	6	P.O.O.H Flow 589m, 400m, 106m
1900	2400	5	12	RIG TO + RUN CSG (PRE JOB SAFETY MTG)
		8		HRS

NOTES Boiler #1 Blown 2x 18 LITRES ✓CROWN SAVER
Boiler #2 Blown 2x 22 LITRES Function BLIND RAMS 3sec

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

FOLD HERE →

139794

LICENCE NO.:	WELL NAME AND NO.:
WEB2011-06-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR: DEVLAN EXPLORATION	CONTRACTOR: AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) HPS Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR	MONTH	DAY
01	03	11

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F-500	Emsco	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	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	26
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL. LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.					
MORN.		7¾					¼																			
DAY		4¼			2½	1	¼																			
EVE.					3	5																				
TOTAL																										

TOTALS

	8
	8
	8

SHALE SHAKER(S)

NO. | TYPE: 1 DFTS ▶500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1.5	Hack	Sub	2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
		BHA	114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
105	D.P.	SINGLES	1015.28 m
	KELLY DOWN		5.01 m
	TOTAL		1135.00 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		42,000	1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	1640088
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	191
TOTAL HOURS RUN	63¾

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	01:00	04:00	06:00
DENSITY kg/m³	1050	1050	1050
FUNNEL VIS. - (S/L)	47	46	47
W.L. (cm³)	8	8	8
pH	9	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
aqapac	1sk
caustic	1sk
Gel	20sk
Sawdust	15sk
Kw. Seal	4sk
Cellophane	2sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1040	1210
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1110	1135	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
6200	152	110		

REDUCED PUMP SPEED

2570 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0015	¼	7	RIG SERVICE
0015	0800	7¾	2	DRILL 200mm Hole F 1110m - 1135m
		8		HRS

NOTES: Boiler #1 BLOWN 2x 18 LITRES ✓ CROWN SAVER
Boiler #2 BLOWN 2x 22 LITRES FUNCTION HYDRIL 6 sec.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	Shock Sub	159	2.75 m
12	D.C	159	110.80 m
1			.91 m
			m
		BHA	114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
106	D.P.	SINGLES	1024.99 m
	KELLY DOWN		6.30 m
	TOTAL		1146 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		43,000	1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD 17XG
SERIAL NO.	1640088
JETS (mm)	3/11.1
DEPTH OUT (m)	1146
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	202
TOTAL HOURS RUN	68

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
2	2	2	A	2	IN	2	TD	68

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0800	1200	1600
DENSITY kg/m³	1050	1055	1060
FUNNEL VIS. - (S/L)	53	49	72
W.L. (cm³)	9.5	7.5	7.5
pH	7.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	27sk
aqapac	1sk
Vis Plus	1sk
Sawdust	4sk
Barite	20sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1060	1045	1205
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1135	1146 TD	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5530	152	110		

REDUCED PUMP SPEED

2340 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0815	¼	7	RIG SERVICE
0815	1230	4¼	2	DRILL 200mm Hole F 1135m - 1146m
1230	1500	2½	5	CIRC & Blow KELLY
1500	1600	1	6	P.O.O.H TO LOG. Flow ✓ 1138m, 1088m
		8		HRS.

NOTES: Boiler #1 Blown 17 LITRES ✓ Crown Saver
Boiler #2 Blown 16 LITRES Function Pipe Rams 4 sec

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1800	1945	
DENSITY kg/m³	weight	1080	
FUNNEL VIS. - (S/L)	up	69	
W.L. (cm³)	suction	7.5	
pH	tank	9.5	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Barite	3 t

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1146 TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
6,700	152	110		

REDUCED PUMP SPEED

2,600 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	¼	6	P.O.O.H TO LOG.
1615	1630	¼	5	Circ (swabbing) Flow ✓ 1003 (FBW)
1630	1700	½	6	R.I.H.
1700	1945	2¾	5	Circ Condition mud (Mix Weight) mud
1945	2400	4¼	6	P.O.O.H to Log Flow @ 1139, 1088, 944, 846, 749, 652, 112, O.O.H.
		8		HRS

Meas 9.04
Calc 4.53
DIFF 4.51 m³

Shock Sub Cracked

NOTES: Boiler #1 BLOWN 2x 20 LITRES ✓ CROWN SAVER
Boiler #2 BLOWN 2x 20 LITRES FUNCTION HYDRIL 6 sec

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

EVENING TOUR

FOLD HERE →

139793

LICENCE NO.:	WELL NAME AND NO.:
NEB9211-036-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR	MONTH	DAY
81	03	10

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS
102	20.83	X	70	121	FH	170
159	134.6			159	XH	12

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
F-500	EMSCO	191

TIME-HRS

CODE NO.	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	26
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.					
MORN.		7¾					¼																			
DAY		7¼					¼																			
EVE.		7½					¼			¼																
TOTAL																										

TOTALS

	8
	8
	8

SHALE SHAKER(S)

NO. 1 TYPE 10FTS 500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN	DAY	EVE

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			-.25 m
1	SHOCK SUB	159	2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
97	D.P.	SINGLES	938.23 m
	KELLY DOWN		8.06 m
	TOTAL		1061.00 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		40,500	1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	164008
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	117
TOTAL HOURS RUN	40¾

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	Lost circ. Material
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	25 sks
Aqua-Pac	2 sk
Lignite	1 sk
Kw.Kool	6 sk
Cellophane	5 sk
Sawdust	10 sks

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1041	1061	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7,900	152	100		

REDUCED PUMP SPEED

3,300 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0015	¼	7	RIG SERVICE
0015	08:00	7¾	2	DRILL 200 mm Hole F 1041m - 1061m
				8 HRS

NOTES Boiler #1 BLOWN 2x 20 LITRES √CROWN SAVER
Boiler #2 BLOWN 2x 21 LITRES FUNCTION PIPE RAMS 35sec.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	Shock Sub	159	2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
100	D.P.	SINGLES	967.25 m
	KELLY DOWN		5.04 m
	TOTAL		1087.00 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		41,000	1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	164008
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	143
TOTAL HOURS RUN	48½

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	11:30	1400	1600
DENSITY kg/m³	1030	1040	1045
FUNNEL VIS. - (S/L)	46	49	51
W.L. (cm³)	10.0	10.5	10.5
pH	10.0	10.0	10.0

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Aquapac	2sk
Lignite	2sk
Gel	26sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
2			
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1061	1087	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
6910	152	100		

REDUCED PUMP SPEED

2840 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0815	¼	7	Rig Service
0815	1600	7¾	2	DRILL 200mm Hole F 1061m - 1087m
				8HRS.

NOTES Boiler #1 Blown 2x 19 Litres √Crown Saver
Boiler #2 Blown 2x 18 Litres Function Hydril 35sec.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	Shock Sub	159	2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
			m
102	D.P.	STANDS	m
1	D.P.	SINGLES	986.20 m
	KELLY DOWN		9.09 m
	TOTAL		1110.00 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		41,500	1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	164008
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	166
TOTAL HOURS RUN	56

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1800	2400	2300
DENSITY kg/m³	1040	1040	1040
FUNNEL VIS. - (S/L)	47	48	44
W.L. (cm³)	10.5	8	8
pH	10.0	19.5	9

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
aquapac	1sk
caustic	1sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1040	1035	1200
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1087	1110	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7,200	152	100		

REDUCED PUMP SPEED

2,700 @ 55 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
1100m	2¼	

DRILLER SIGNATURE

Darren Baker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	¼	7	Rig Service
1615	2115	5	2	DRILL 200mm Hole F 1087m - 1102m
2115	2130	¼	10	Survey @ 1100m
2130	2400	2½	2	DRILL 200mm Hole F 1102m - 1110m
				8 HRS

NOTES Boiler #1 BLOWN 2x 22 LITRES √CROWN SAVER FUNCTION PIPE RAMS 35sec.
Boiler #2 BLOWN 2x 17 LITRES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

FOLD HERE ➔

139792

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-026-1-3	DEULAN ET-AL THUNDER RIVER N-73
OPERATOR: DEULAN EXPLORATION	CONTRACTOR: AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY
01	03	04

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F-500	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	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	26
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	MW LCM	CIRC CHOKE			
MORN.		7¾					¼																			
DAY																						8				
EVE.		5¼			1¼		¼																1¼			
TOTAL																										

TOTALS

	8
	8
	8

SHALE SHAKER(S)

NO. 1 TYPE DFTS 500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN.	DAY	EVE.

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			-25 m
1	SHOCKSUB		2.75 m
12	D.C		110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
93	D.P.	SINGLES	899.71 m
	KELLY DOWN		6.58 m
	TOTAL		1021.00 m

WT. OF DC 12,000 1000 daN

WT. OF STRING 40,000 1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	164008
JETS (mm)	B/11-1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	77
TOTAL HOURS RUN	27¾

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	02:00	04:00	06:00
DENSITY kg/m³	1050	1040	1040
FUNNEL VIS. - (S/L)	45	46	44
W.L. (cm³)	7.5	7.5	7.5
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1040	1030	1200
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
999	1021	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5800	152	110		

REDUCED PUMP SPEED

2220 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
Lost Circ @1020 m:		
OT: 30 HRS!		

DRILLER SIGNATURE

Darren Babych.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0000	0015	¼	7
0015	0800	7¾	2
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIG SERVICE

DRILL 200mm HOLE F 999m - 1021m

FUNCTION HYDRIL 6 SEC.

NOTES Boiler #1 8 HRS BLOWN 2x 18 LITRES ✓CROWN SAVER

Boiler #2 8 HRS BLOWN 2x 22 LITRES

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHOCKSUB	159	2.75 m
12	D.C	159	112.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
93	D.P.	SINGLES	899.71 m
	KELLY DOWN		6.58 m
	TOTAL		1021.00 m

WT. OF DC 12,000 1000 daN

WT. OF STRING 40,000 1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD 17X6
SERIAL NO.	164008
JETS (mm)	B/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	0
TOTAL HOURS RUN	27 3/4

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	0800	1100	1300
DENSITY kg/m³	Loss	Loss	Loss
FUNNEL VIS. - (S/L)	circulation	circ.	circ.
W.L. (cm³)	Mi-Lea		
pH	Mil		

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Sawdust	160 SKS
Fine Seal	70 SK
Cello	35 SK
LCM	1 Pack
CAUSTIC	3 SK
SHALE	30 SK

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
6	1010	1035	1205
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1021		D		

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0800	1600	8	22
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

MIX LCM & PUMP PILLS

FUNCTION PIPE RAMS 3x

NOTES Boiler #1 8 HRS Blown 2x 19 Litres ✓ Crown Saver

Boiler #2 8 HRS. Blown 2x 20 Litres

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHOCKSUB	159	2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
95	D.P.	SINGLES	919.04 m
	KELLY DOWN		7.25 m
	TOTAL		1041.00 m

WT. OF DC 12,000 1000 daN

WT. OF STRING 40,000 1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD 17XG
SERIAL NO.	164008
JETS (mm)	B/11/1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	97
TOTAL HOURS RUN	33

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	1800		
DENSITY kg/m³	Loss		
FUNNEL VIS. - (S/L)	circ.		
W.L. (cm³)			
pH			

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	40 SK.
CAUSTIC	15 SK

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
1021	1041	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7650	152	110		

REDUCED PUMP SPEED

3240 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

Darren Babych.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
1600	1615	¼	7
1615	1915	3	2
1915	2030	1¼	23
2030	2145	1¼	5
2145	2400	2¼	2
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIG SERVICE

DRILL 200mm HOLE F 1021m - 1035m

CIRC CHOKE

@ OPEN B.O.P.S & CIRC.

DRILL 200mm HOLE F 1035m - 1041m

FUNCTION HCR 25 SEC.

FUNCTION HYDRIL 6 SEC.

NOTES Boiler #1 8 HRS BLOWN 2x 16 LITRES ✓CROWN SAVER

Boiler #2 8 HRS BLOWN 2x 17 LITRES

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

FOLD HERE ➔

139791

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-026-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR: DEVLAN EXPLORATION LTD	CONTRACTOR: AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H^2S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR	MONTH	DAY
81	03	08

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F-500	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26
	MORN.		4¾				3	¼																	
	DAY		7½					¼			¼														
	EVE.		7¾					¼																	
	TOTAL																								

TOTALS

8	
8	
8	

SHALE SHAKER(S)

NO. 1 TYPE DFTS 500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN.	DAY	EVE.

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			-25 m
1	SHock Sub		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
		BHA	114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
96	D.P.	SINGLES	831.93 m
	KELLY DOWN		11.38 m
	TOTAL		958.98 m
WT. OF DC			12,000 1000 daN
WT. OF STRING			38,500 1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	164008
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	14
TOTAL HOURS RUN	4¾

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	03:30	06:00
DENSITY kg/m³	1050	1050
FUNNEL VIS. - (S/L)	45	44
W.L. (cm³)	7.5	7.5
pH	9	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Caust.c	1sk
Gaudust	2sks

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1046	1220
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
944	958	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5,400	152	110		

REDUCED PUMP SPEED

2010 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE: Darren Barker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0000	0300	3	6
0300	0315	¼	7
0315	0800	4¾	2
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

B.I.T TRIP Flow✓@ 813m, 317m, 482m
RIG SERVICE
DRILL 200mm Hole F 944m - 958m

NOTES: ✓CROWN SAVER
FUNCTION PIPE RAMS 3Sec

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2X		19 LITRES		

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHock Sub	159	2.75 m
12	D.C.	159	110.80 m
1	X/O		.91 m
			m
		BHA	114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
88	D.P.	SINGLES	851.27 m
	KELLY DOWN		9.77 m
	TOTAL		975.75 m
WT. OF DC			12,000 1000 daN
WT. OF STRING			38,500 1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	164008
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	31
TOTAL HOURS RUN	12¼

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0800	1200	1600
DENSITY kg/m³	1040	1040	1040
FUNNEL VIS. - (S/L)	44	45	44
W.L. (cm³)	8.5	8.0	7.5
pH	10.0	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Sawdust	8sx
Aquaflo L	1sx
Lignite	1sx

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1040	1045	1315
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
958	975	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5440	152	110		

REDUCED PUMP SPEED

2020 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
945	2¼	

DRILLER SIGNATURE: Darren Barker

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0800	0815	¼	7
0815	0830	¼	10
0830	1600	7½	2
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIG SERVICE
SURVEY @ 945m
DRILL 200mm Hole F 958m - 975m

NOTES: ✓Crown Saver
Function Hydril 5sec

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2X	21 LITRES			

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHock Sub		2.75 m
12	D.C		110.80 m
1	X/O		.91 m
			m
		BHA	114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
91	D.P.	SINGLES	880.37 m
	KELLY DOWN		3.92 m
	TOTAL		999.00 m
WT. OF DC			12,000 1000 daN
WT. OF STRING			37,000 1000 daN

BIT RECORD

BIT NO.	#4 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	164008
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	944
TOTAL METRES DRILLED (m)	55
TOTAL HOURS RUN	20

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1800	21:00	2400
DENSITY kg/m³	1040	1040	1040
FUNNEL VIS. - (S/L)	43	44	45
W.L. (cm³)	7.5	7.5	7.5
pH	7.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	10sks
Sawdust	2cks

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1040	1035	1220
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
975	999	D	80/100	

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5,560	152	110		

REDUCED PUMP SPEED

2080 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE: Darren Barker.

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
1600	1615	¼	07
1615	2400	7¾	2
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIG SERVICE
DRILL 200mm Hole F 975m - 999m

NOTES: ✓CROWN SAVER
FUNCTION PIPE RAMS 3Sec.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2X	16 LITRES			

FOLD HERE ➔

139790

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-086-13	DEVLAN ET AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION LTD	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H^2S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY
81	03	07

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
109	20.83	X	70	121	FH	170	F500	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	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	26
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.					
MORN.		7¼					¼																			
DAY		13¼					¼																			
EVE.		5½			½	17½	¼	¼																		
TOTAL																										

TOTALS

	8
	8
	9

SHALE SHAKER(S)

NO. 1 TYPE DERRICK 500

SCREENS CHANGED ☐ YES ☐ NO

TOP 120	TOP
MIDDLE 80	MIDDLE
BOTTOM 145	BOTTOM

RENTALS/SERVICES | MORN | DAY | EVE

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.95 m
1	SHOCK SUB		2.75 m
12	DC	159	110.60 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
81	D.P.	SINGLES	783.54 m
	KELLY DOWN		9.71 m
	TOTAL		908.00 m
WT. OF DC		12000	1000 daN
WT. OF STRING		37000	1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	200
IADC CODE	5 1 7
MFG.	VAREL
TYPE	ETD17x6
SERIAL NO.	163953
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	793
TOTAL METRES DRILLED (m)	115
TOTAL HOURS RUN	31

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0100	0300	0530
DENSITY kg/m³	1040	1040	1040
FUNNEL VIS. - (S/L)	48	47	45
W.L. (cm³)	7.5	7.5	8
pH	9.5	9	9

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Aquaklear LV	1 sk.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1040	1035	1016
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
880	908	D	80/100	10/12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
4970	152	110		

REDUCED PUMP SPEED

1910 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0015	¼	7	RIG SERVICE
0015	0600	7¾	2	DRILL 200 mm HOLE 880 m - 908 m

NOTES

FUNCTION PIPE RAMS 3 SECS. ✓CROWN SAVER

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2		181 LITRES		

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.95 m
1	SHock Sub		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
84	D.P.	SINGLES	812.61 m
	KELLY DOWN		2.68 m
	TOTAL		930.00 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		38,000	1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	200
IADC CODE	5 1 7
MFG.	VAREL
TYPE	ETD17xG
SERIAL NO.	163953
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	793
TOTAL METRES DRILLED (m)	137
TOTAL HOURS RUN	383/4

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	08.00	12:00	1600
DENSITY kg/m³	1040	1040	1040
FUNNEL VIS. - (S/L)	45	45	44
W.L. (cm³)	7.5	7.5	7.5
pH	9	9	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Caustic	1 sk
Gel	9 sk.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1040	1035	1200
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
908	930	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5,200	152	110		

REDUCED PUMP SPEED

1970 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0815	¼	7	RIG SERVICE
0815	1600	7¾	2	DRILL 200 mm HOLE F 908m - 930m
				8 HRS

NOTES

✓CROWN SAVER
FUNCTION HYDRIL 7 SEC.

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2		22 LITRES		

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHock Sub		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
93	D.P.	SINGLES	822.37 m
	KELLY DOWN		7.2 m
	TOTAL		944.18 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		34,200	1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	200
IADC CODE	5 1 7
MFG.	VAREL
TYPE	ETD17xG
SERIAL NO.	163953
JETS (mm)	3/11.1
DEPTH OUT (m)	944
DEPTH IN (m)	793
TOTAL METRES DRILLED (m)	151
TOTAL HOURS RUN	44¼

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	18:00	21:00	
DENSITY kg/m³	1040		
FUNNEL VIS. - (S/L)	46		
W.L. (cm³)	8.5		
pH	9.5		

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
930	944	D	80/100	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5500	152	110		

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	¼	7	RIG SERVICE
1615	2145	5½	2	DRILL 200 mm Hole F 930m - 944m
2145	2215	½	5	Circ & Blow Kelly
2215	2400	1¾	6	Bit trip. Flowr 936m, 913m, 456m, 120
				9 HRS

NOTES

✓Crown Saver
Function HCR 3 sec.

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown 2X		19 LITRES		

FOLD HERE ➔

139789

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-026-1-D	DEVLIN ET-AL THUNDER RIDGE N-73
OPERATOR: DEVLIN EXPLORATION LTD	CONTRACTOR: AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER: Mel Zorn

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MZ
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial MZ
(5) Flare Lines Staked	Initial	Initial MZ
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial MZ
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial MZ
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY
01	03	06

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS
	102	20.83	X	70	121	FH	170
	159	134.6			159	XH	12

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
F500	Emsco	191

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23 MIX LCM	24	25	26
	MORN.		6 1/4			1		1/4														1/2				
	DAY		7 3/4					1/4			1/4															
	EVE.		7 3/4					1/4																		
	TOTAL																									

TOTALS	
	8
	8
	8

SHALE SHAKER(S)

NO. 1 TYPE DFE 5 500

SCREENS CHANGED ☐ YES ☑ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH m
1			.25
1	SHOCK SUB		2.75
12	DC	159	110.80
1	X/O		.91
	BHA		114.71
	D.P.	STANDS	
72	D.P.	SINGLES	694.34
	KELLY DOWN		11.38
	TOTAL		892.43

WT. OF DC 12000 1000 daN

WT. OF STRING 35000 1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	200
IADC CODE	5 1 7
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	163953
JETS (mm)	3/11-1
DEPTH OUT (m)	RNG
DEPTH IN (m)	793
TOTAL METRES DRILLED (m)	99
TOTAL HOURS RUN	8

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	0130	0300	0600
DENSITY kg/m³	1050	1050	1050
FUNNEL VIS. - (S/L)	44	45	46
W.L. (cm³)	7.5	7	7
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Caustic	1sk
Gel	13sks.
Sawdust	50sks.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1040	1010

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
799	822	D	70-100	8/10

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
6020	152	129		

REDUCED PUMP SPEED

1930 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0015	1/4	7	Rig Service
0015	0415	4	2	Drill 200mm Hole 799m - 816m
0415	0445	1/2	22	Mix LCM. Flow
0445	0545	1	5	Pump LCM. Pill Flow
0545	0700	1 1/4	2	Drill 200mm Hole 816m - 822m
		8hrs		

NOTES

Function Pipe Rams 3 secs. ✓ Crown Saver

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	2 x 12 Trees			

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH m
1			.25
1	SHOCK SUB		2.75
12	D.C	159	110.80
1	X/O		.91
	BHA		114.71
	D.P.	STANDS	
76	D.P.	SINGLES	735.11
	KELLY DOWN		7.18
	TOTAL		857.00

WT. OF DC 12,000 1000 daN

WT. OF STRING 36,000 1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	200
IADC CODE	5 1 7
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	163953
JETS (mm)	3/11-1
DEPTH OUT (m)	RNG
DEPTH IN (m)	793
TOTAL METRES DRILLED (m)	64
TOTAL HOURS RUN	15 1/2

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	08:00	12:00	16:00
DENSITY kg/m³	1050	1040	1040
FUNNEL VIS. - (S/L)	47	64	54
W.L. (cm³)	7	7	7.5
pH	9	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	43
sawdust	44 sks
aquagel	2 sks
Lignite	2 sks
Caustic	1 sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1040	1230

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
822	857	D	100	10-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5,600	152	110		

REDUCED PUMP SPEED

1,600 @ 55 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
849	1 3/4°	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0815	1/4	7	RIG SERVICE
0815	1415	6	2	Drill 200mm Hole F 822m - 851m
1415	1430	1/4	10	Survey @ 849m
1430	1600	1 1/2	2	Drill 200mm Hole F 851m - 857m
		8	HRS	

NOTES

✓ Crown Saver

Function HCR 2 sec.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	2 x 21 Trees			

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH m
1			.25
1	SHOCK	SUB	2.75
12	D.C	159	110.80
1	X/O		.91
	BHA		114.71
	D.P.	STANDS	
78	D.P.	SINGLES	754.52
	KELLY DOWN		11.37
	TOTAL		880.57

WT. OF DC 12,000 1000 daN

WT. OF STRING 36,000 1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	200
IADC CODE	5 1 7
MFG.	VAREL
TYPE	ETD17XG
SERIAL NO.	163953
JETS (mm)	3/11-1
DEPTH OUT (m)	RNG
DEPTH IN (m)	793
TOTAL METRES DRILLED (m)	87
TOTAL HOURS RUN	23 1/4

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED			
TIME	18:00	2000	2300
DENSITY kg/m³	1050	1050	1040
FUNNEL VIS. - (S/L)	53	52	47
W.L. (cm³)	7.5	8	7.5
pH	9	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
[illegible]	[illegible]
Aqua Hac	1sk
lignite	1sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1040	1240

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
857	880	D	70/90	10-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5090	152	110		

REDUCED PUMP SPEED

1930 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	1/4	7	RIG SERVICE
1615	2400	7 3/4	2	Drill 200 mm Hole F 857m - 880 m
		8hrs		

NOTES

Function Hydril 6 secs ✓ Crown Saver

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	2 x 19 Trees			

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139788

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-026-1-3	DEVLAN ET AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION LTD	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MZ
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial MZ
(4) Well License & Stick Diagram Posted	Initial	Initial MZ
(5) Flare Lines Staked	Initial	Initial MZ
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial MZ
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial MZ
(5) Motor Kills checked		Initial

YEAR	MONTH	DAY
01	03	05

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	174	F800	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL. LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26
	MORN.		7¼					¼																		
	DAY		7¾				4¾	4¼																		
	EVE.		3				4¾	7																		
	TOTAL																									

TOTALS	
	8
	8
	8

SHALE SHAKER(S)

NO. 1 TYPE DE 55 500

SCREENS CHANGED ☐ YES ☑ NO

TOP 120 TOP

MIDDLE 80 MIDDLE

BOTTOM 45 BOTTOM

RENTALS/SERVICES

	MORN.	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
12	DC	12	m
1	SHOCK SUB		2.75 m
12	DC	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
66	D.P.	SINGLES	638.87 m
	KELLY DOWN		50.2 m
	TOTAL		758.00 m
	WT. OF DC		12,000 1000 daN
	WT. OF STRING		34,000 1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD09XG
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	327
TOTAL HOURS RUN	71

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0130	0300	0545
DENSITY kg/m³	1050	1050	1050
FUNNEL VIS. - (S/L)	45	44	43
W.L. (cm³)	7.5	7.5	7.5
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	7 sks.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1040	1230
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
730	758	D	80	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7700	152	124		

REDUCED PUMP SPEED

2450 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0000	0115	1¼	2
0115	0130	¼	7
0130	0800	6½	2
		8 HRS	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DRILL 200 mm HOLE 730m - 735m
RIG SERVICE
DRILL 200 mm HOLE 735m - 758m

NOTES

FUNCTION HYDRIL 6 SECS. ✓CROWN SAVER

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2 X 17 LITRES				

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	SHock Sub		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
69	D.P.	SINGLES	667.33 m
	KELLY DOWN		6.96 m
	TOTAL		789.00 m
	WT. OF DC		12,000 1000 daN
	WT. OF STRING		35,000 1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD09XG
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	358
TOTAL HOURS RUN	78¾

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☑ WATER BASED ☐ OIL BASED

TIME	08:00	12:00	16:00
DENSITY kg/m³	1050	1050	1050
FUNNEL VIS. - (S/L)	44	46	44
W.L. (cm³)	7.5	7	7.5
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	12 sks

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1040	1225
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
758	789	D	80	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
6100	152	120		

REDUCED PUMP SPEED

1970 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0800	0815	¼	7
0815	1600	7¾	2
		8 HRS	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIG SERVICE
DRILL 200 mm Hole 758m - 789m

NOTES

✓CROWN SAVER
FUNCTION PIPE RAMS 3 SEC.

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2 X				

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	SHock Sub		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
70	D.P.	SINGLES	803.13 m
	KELLY DOWN		7.25 m
	TOTAL		789.00 m
	WT. OF DC		12,000 1000 daN
	WT. OF STRING		35,000 1000 daN

BIT RECORD

BIT NO.	#2 NEW	#3 NEW
SIZE (mm)	200	200
IADC CODE		5 1 7
MFG.	VAREL	VAREL
TYPE	ETD09XG	ETD17-XG
SERIAL NO.	164838	163953
JETS (mm)	3/11.1	
DEPTH OUT (m)	793	RNG
DEPTH IN (m)	431	793
TOTAL METRES DRILLED (m)	362	6
TOTAL HOURS RUN	80	1¾

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.
2	2	2	3	1	1	CR	PR	80

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	17:30	2330	1050
DENSITY kg/m³	1050	1050	43
FUNNEL VIS. - (S/L)	44	43	8
W.L. (cm³)	7.5	8	9.5
pH	9.5	9	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Aqua Pac	1 sk
Lignite	1 sk.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1050	1040	1010
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
789	793	D	80	11-12
793		D	80	8-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
6040	152	120		

REDUCED PUMP SPEED

1920 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
1600	1615	¼	7
1615	1730	1¼	2
1730	2015	2¾	6
2015	2215	2	6
2215	2400	1¾	2
		8 HRS	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIG SERVICE
DRILL 200 mm Hole F 789m - 793m
BIT TRIP FLOW @ 781m, 731m, 354m, 113m, OOH
RIH w/BIT #3 FLOW @ 113m, 310m
DRILL 200 mm - HOLE 793m - 799m

NOTES

FUNCTION HYDRIL 6 SECS. ✓CROWN SAVER

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN 2 X 20 LITERS				

FOLD HERE →

139787

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-026-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR:	CONTRACTOR:
DEVLAN EXPLORATION LTD	AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MH
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H^2S Signs Posted (if required)	Initial	Initial MH
(4) Well License & Stick Diagram Posted	Initial	Initial MH
(5) Flare Lines Staked	Initial	Initial MH
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial MH
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	Initial MH
(4) Crown Saver Checked	Initial	Initial MH
(5) Motor Kills checked	Initial	Initial

YEAR	MONTH	DAY
81	03	07

RIG NO. 14

FUEL @ 8:00

RIG	BOILER

WEATHER

TEMPERATURE	°C
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F500	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26
MORN.			7¾					¼																	
DAY			7¾					¼																	
EVE.			7½					¼			¼														
TOTAL																									

TOTALS

8	
8	
8	

SHALE SHAKER(S)

NO.	TYPE		
1	DFE TS	500	
SCREENS CHANGED	☐ YES ☑ NO		
TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	4/5	BOTTOM	

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.			LENGTH
1	BIT	O.D.mm	.25 m
1	SHOCK SUB		2.75 m
12	DC		110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
57	D.P.	SINGLES	551.07 m
	KELLY DOWN		6.22 m
	TOTAL		672.00 m
WT. OF DC	12,000	1000 daN	
WT. OF STRING	32000	1000 daN	

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	UAREL
TYPE	ETD09XG
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	241
TOTAL HOURS RUN	4/8

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE	☐ WATER BASED	☐ OIL BASED	
TIME	0130	0300	0530
DENSITY kg/m³	1050	1050	1050
FUNNEL VIS. - (S/L)	45	44	45
W.L. (cm^3)	7.5	8	7.5
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8	1050	1040	1240
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
642	672	D	80	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7450	152	120		

REDUCED PUMP SPEED

2400 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0145	1¾	2	DRILL 200mm HOLE 642m - 648m
0145	0200	¼	7	RIG SERVICE
0200	0800	6	2	DRILL 200mm HOLE 648m - 672m
				8 HRS

NOTES

FUNCTION PIPE RAMS 3 SECS ✓CROWN SAVER

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BROWN 2X		9X SOLITES		

DRILLING ASSEMBLY (At End of Tour)

NO.			LENGTH
1	BIT	O.D.mm	.25 m
1	Shock Sub		2.75 m
12	D.C		110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
60	D.P.	SINGLES	580.16 m
	KELLY DOWN		3.13 m
	TOTAL		698.00 m
WT. OF DC	12,000	1000 daN	
WT. OF STRING	33,000	1000 daN	

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	UAREL
TYPE	ETD09XG
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	267
TOTAL HOURS RUN	55 3/4

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE	☐ WATER BASED	☐ OIL BASED	
TIME	08:00	12.00	16.00
DENSITY kg/m³	1050	1050	1050
FUNNEL VIS. - (S/L)	44	43	43
W.L. (cm^3)	7.5	7.5	7.5
pH	9.5	9	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Caustic	1 SK
Sawdust	2 SKS

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8	1050	1040	1230
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
672	698	D	80	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7550	152	120		

REDUCED PUMP SPEED

2450 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
704	1°	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0815	¼	7	RIG SERVICE
0815	1600	7¾	2	DRILL 200mm Hole F 672m - 698m
				8 HRS

NOTES

✓CROWN SAVER
FUNCTION HYDRIL 6 SEC.

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BROWN 2X		18 LITRES		

DRILLING ASSEMBLY (At End of Tour)

NO.			LENGTH
1	BIT	O.D.mm	.25 m
1	Shock	Sub	2.75 m
12	D.C		110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
63	D.P.	SINGLES	609.21 m
	KELLY DOWN		608 m
	TOTAL		730.50 m
WT. OF DC	12 000	1000 daN	
WT. OF STRING	33 500	1000 daN	

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	UAREL
TYPE	ETD09XG
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	299
TOTAL HOURS RUN	63¼

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE	☐ WATER BASED	☐ OIL BASED	
TIME	18:30	2030	2300
DENSITY kg/m³	1050	1050	1050
FUNNEL VIS. - (S/L)	43	43	42
W.L. (cm^3)	7.5	7.5	7
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8	1050	1040	1220
HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
698	730	D	80	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7640	152	120		

REDUCED PUMP SPEED

2400 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
704m	1°	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	¼	7	RIG SERVICE
1615	1815	2	2	DRILL 200mm Hole F 698m - 706m
1815	1830	¼	10	Survey @ 704m
1830	2400	5½	2	DRILL 200mm Hole F 706m - 730m

NOTES

FUNCTION PIPE RAMS 3 SECS. ✓CROWN SAVER

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BROWN 2X		19 LITRES		

FOLD HERE ➔

139786

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-026-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION LTD	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**
	Mel Sen

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MB
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial MB
(5) Flare Lines Staked	Initial	Initial MB
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial MB
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial MB
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 01 MONTH 03 DAY 03

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F500	EMSCO	191
159	134.6			159	XH	12			

TIME-HRS

CODE NO.	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	26	TOTALS
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.						
MORN.		7¾					¼																				8
DAY		7½					¼			¼																	8
EVE.		7¾					¼																				8
TOTAL																											

SHALE SHAKER(S)

NO. 1 TYPE DFTS 500

SCREENS CHANGED ☐ YES ☑ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	SHOCK SUB		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
47	D.P.	SINGLES	4454.61 m
	KELLY DOWN		8.69 m
	TOTAL		578.00 m
WT. OF DC		12000	1000 daN
WT. OF STRING		30000	1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD09X6
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	147
TOTAL HOURS RUN	25

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0130	0400	0530
DENSITY kg/m³	1060	1060	1060
FUNNEL VIS. - (S/L)	42	45	46
W.L. (cm³)	7.5	8	7
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Caustic	1 SK.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1060	1040	1250
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
543	578	D	65-70	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5220	152	120		

REDUCED PUMP SPEED

1740 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0000	0015	¼	7
0015	0800	7¾	2
		8 HRS	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

FUNCTION HYDRIL 6 SECS ✓CROWN SAVER

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	7.3	BLOWN DOWN	87X17 LITRES		

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	SHock Sub		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
51	D.P.	SINGLES	493.29 m
	KELLY DOWN		4.00 m
	TOTAL		612.00 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		31,000	1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD09X6
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	181
TOTAL HOURS RUN	32½

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	08:00	12:00	16:00
DENSITY kg/m³	1060	1060	1060
FUNNEL VIS. - (S/L)	46	44	45
W.L. (cm³)	7	7.5	8
pH	9.5	9.5	9

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	10 sks
square	1 sk
Lignite	1 sk
Sawdust	3 sk

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
8	1060	1014	1246
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
578	612	D	60/80	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
6,900	152	120		

REDUCED PUMP SPEED

2,270 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
598m	1¼	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0800	0815	¼	7
0815	1230	4¼	2
1230	1245	¼	10
1245	1600	3¼	2
		8 HRS	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

✓CROWN SAVER

FUNCTION PIPE RAMS 35 SEC.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	8.2	DOWN 3 X	22 LITRES		

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	SHock Sub		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
54	D.P.	SINGLES	522.30 m
	KELLY DOWN		4.99 m
	TOTAL		642.00 m
WT. OF DC		12000	1000 daN
WT. OF STRING		31000	1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	ETD09X6
SERIAL NO.	164838
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	431
TOTAL METRES DRILLED (m)	211
TOTAL HOURS RUN	40½

CUTTING STRUCTURE T_i	T_o	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG	
TORQUE AT BOTTOM	
FILL ON BOTTOM (m)	

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1700	2030	2300
DENSITY kg/m³	1060	1050	1050
FUNNEL VIS. - (S/L)	44	43	45
W.L. (cm³)	2.5	7.5	7.5
pH	9	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	7 SKS.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
612	642	D	70/80	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
7360	152	120		

REDUCED PUMP SPEED

2850 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
1600	1615	¼	7
1615	2400	7¾	2
		8 HRS	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

NOTES

FUNCTION HYDRIL 6 SECS. ✓CROWN SAVER

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	8.1	BLOWN DOWN	3 X 19 LITRES		

EVENING TOUR

FOLD HERE →

139785

LICENCE NO.: NEB 9211-026-43 | WELL NAME AND NO.: DEVLAN ET-AL THUNDER RIVER N-73

OPERATOR: DEVLIN EXPLORATION LTD | CONTRACTOR: AKITA DRILLING INC

SURFACE LOCATION: | UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER: Mel Sym

DAILY CHECKS (OPR. / R.M.)

(1) Daily Walk Around Inspection — Initial / Initial MT
(2) Detailed Inspection-Weekly (using checklist) — Initial / Initial
(3) H²S Signs Posted (if required) — Initial / Initial
(4) Well License & Stick Diagram Posted — Initial / Initial MT
(5) Flare Lines Staked — Initial / Initial MT
(6) BOP Drills Performed — Initial / Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines — Initial / Initial MT

(1) Rig Site Health and Safety Meeting (one/crew/month) — Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month) — Initial
(3) Mast Inspection Before Raising or Lowering — Initial MT
(4) Crown Saver Checked — Initial
(5) Motor Kills checked — Initial

YEAR 81 | MONTH 03 | DAY 02

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C | CURRENT CONDITIONS | WIND DIRECTION | ROAD

LAST CASING TUBING OR LINER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS
	102	20.83	X	70	121	FH	170
	159	134.6			159	XH	12

PUMP TYPE: F500 | PUMP MANUFACTURER: EMSCO | STROKE LTH. (mm): 191

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26
MORN.			5¼			¼	2¼	¼																	
DAY			7½					¼			¼														
EVE.			7¾					¼																	
TOTAL																									

TOTALS: 8 / 8 / 8

SHALE SHAKER(S): NO. 1 | TYPE DFTS 500 | SCREENS CHANGED ☐ YES ☒ NO | TOP 120 | MIDDLE 80 | BOTTOM 45 | TOP | MIDDLE | BOTTOM

RENTALS/SERVICES

	MORN.	DAY	EVE.

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH m
1			.25
1	Shock Sub		2.75
12	DC	159	110.80
1	X/O		.91
	BHA		114.71
	D.P.	STANDS	
33	D.P.	SINGLES	319.20
	KELLY DOWN		11.38
	TOTAL		445.29
WT. OF DC	12000	1000 daN	
WT. OF STRING	27000	1000 daN	

BIT RECORD

BIT NO.	#1 NEW	#2 NEW
SIZE (mm)	200	200
IADC CODE	127	
MFG.	VAREL	VAREL
TYPE	L187	ETD09-XG
SERIAL NO.	158872	164838
JETS (mm)	3/11.1	3/11.1
DEPTH OUT (m)	431	RNG
DEPTH IN (m)	310	431
TOTAL METRES DRILLED (m)	125	10
TOTAL HOURS RUN	19¼	2

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.
2 | 8 | WT | A | E | 1/16 | WT | PR | 19¼

HOLE CONDITION: HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0030	0300	0630
DENSITY kg/m³	1090	1080	1070
FUNNEL VIS. - (S/L)	43	42	40
W.L. (cm³)	8	8	9
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
AQUAPAC	1 SK
lignite	1 SK

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8	1080	1070	1070

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
426	435	D	130/150	11-12
435	445	D	80	11-12

CIRCULATION PRESSURE (kPa): 5090 | PUMP NO. 1 LINER SIZE (mm): 152 | S.P.M.: 120 | PUMP NO. 2 LINER SIZE (mm) | S.P.M.

REDUCED PUMP SPEED: 1690 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

TRIP MUD DIFF. .16

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0000	0315	3¼	2
0315	0330	¼	5
0330	0345	¼	7
0345	0445	1	6
0445	0600	1¼	6
0600	0800	2	2
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DRILL 200 mm HOLE 426m - 435m
CIRC
RIG SERVICE
TRIP FOR BIT #1 FLOW 423m 375m 211m
RIH W/BIT #2 211m 309m E 445m 004H
DRILL 200 mm HOLE 435m - 445m

FUNCTION BLIND RAMS 3 SECS.

NOTES: BOILER #1 BLOWN 2 x 21 LITRES FUNCTION PIPE RAMS 3 SECS. CROWN SAVER

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH m
1			.25
1	Shock Sub		2.75
12	D.C	159	110.80
1	X/O		.91
	BHA		114.71
	D.P.	STANDS	
40	D.P.	SINGLES	386.74
	KELLY DOWN		2.55
	TOTAL		504.00
WT. OF DC	12,000	1000 daN	
WT. OF STRING	29000	1000 daN	

BIT RECORD

BIT NO.	#2 NEW	
SIZE (mm)	200	
IADC CODE		
MFG.	VAREL	
TYPE	ETD09-XG	
SERIAL NO.	164838	
JETS (mm)	3/11.1	
DEPTH OUT (m)	RNG	
DEPTH IN (m)	431	
TOTAL METRES DRILLED (m)	73	
TOTAL HOURS RUN	9½	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	08:00	12:00	16:00
DENSITY kg/m³	1070	1070	1070
FUNNEL VIS. - (S/L)	45	42	42
W.L. (cm³)	2.5	2.5	2.3
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	6 SK
Poly-Pac	1 SK
Lignite	1 SK

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8	1070	1040	1260

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
445	504	D	60/90	9-10

CIRCULATION PRESSURE (kPa): 5,100 | PUMP NO. 1 LINER SIZE (mm): 152 | S.P.M.: 120 | PUMP NO. 2 LINER SIZE (mm) | S.P.M.

REDUCED PUMP SPEED: 1,800 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
452	2°	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0800	0900	1	2
0900	0915	¼	10
0915	0930	¼	7
0930	1600	6½	2
		8	HRS

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

DRILL 200 mm HOLE F 445m - 454m
SURVEY @ 452m
RIG SERVICE
DRILL 200 mm HOLE F 454m - 504m

NOTES: CROWN SAVER
FUNCTION HYDRIL 7 SEC.

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN		2 x 16 LITRES		

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH m
1			.25
1	Shock Sub		2.75
12	D.C	159	110.80
1	X/O		.91
	BHA		114.71
	D.P.	STANDS	
44	D.P.	SINGLES	425.54
	KELLY DOWN		55 12.74
	TOTAL		543.00
WT. OF DC	12,000	1000 daN	
WT. OF STRING	30,000	1000 daN	

BIT RECORD

BIT NO.	#2 NEW	
SIZE (mm)	200	
IADC CODE		
MFG.	VAREL	
TYPE	ETD09XG	
SERIAL NO.	164838	
JETS (mm)	3/11.1	
DEPTH OUT (m)	RNG	
DEPTH IN (m)	431	
TOTAL METRES DRILLED (m)	112	
TOTAL HOURS RUN	17¼	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION: HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	18:00	00:30	23:00
DENSITY kg/m³	1070	1070	1060
FUNNEL VIS. - (S/L)	42	45	43
W.L. (cm³)	7.5	7.5	8
pH	9.5	9	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	6 SKS.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m³)	OVERFLOW DENSITY (kg/m³)	UNDERFLOW DENSITY (kg/m³)
8	1070	1050	1780

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
504	543	D	60/85	10-12

CIRCULATION PRESSURE (kPa): 5150 | PUMP NO. 1 LINER SIZE (mm): 152 | S.P.M.: 120 | PUMP NO. 2 LINER SIZE (mm) | S.P.M.

REDUCED PUMP SPEED: 1710 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
1600	1615	¼	7
1615	24:00	7¾	2

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

RIG SERVICE
DRILL 200 mm HOLE F 504m - 543m

NOTES: FUNCTION PIPE RAMS 3 SECS. CROWN SAVER

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	BLOWN		2 x 17 LITRES		

FOLD HERE ➔

139784

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-090-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR: DEVLAN EXPLORATION LTD	CONTRACTOR: AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR	MONTH	DAY
01	03	01

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS
102	30.83	E	70	121	FH	170
159	134.6			159	XH	12

PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
F500	EMSCO	191

TIME-HRS

CODE NO.	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	26
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV. SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.					
MORN.		2			1/4	1	1/4								2 1/2							BOP DRILL 1/4	DLNCOST 1 1/4	LEAK OFF TEST 1/2		
DAY		6 1/4					1/4	1 1/4		1/4												1/4				
EVE.		7 1/4					1/4																			
TOTAL																										

TOTALS

	8
	8

SHALE SHAKER(S)

NO. 1 TYPE BFTS 500

SCREENS CHANGED ☐ YES ☐ NO

TOP 120	TOP
MIDDLE 80	MIDDLE
BOTTOM 45	BOTTOM

RENTALS/SERVICES

	MORN	DAY	EVE

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHOCK SUB		2.75 m
12	DC	159	110.98 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
21	D.P.	SINGLES	203.35 m
	KELLY DOWN		11.36 m
	TOTAL		339.47 m

WT. OF DC 12000 1000 daN

WT. OF STRING 23 000 1000 daN

BIT RECORD

BIT NO.	#1 NEW
SIZE (mm)	200
IADC CODE	127
MFG.	VAREL
TYPE	L127
SERIAL NO.	158872
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	310
TOTAL METRES DRILLED (m)	19
TOTAL HOURS RUN	2

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	16 SKS

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
310	329	D	60/100	2/5

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
4250	158	120		

REDUCED PUMP SPEED

1200 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
3 Function Accum. Check		
Initial Pres. 13000 KPA		
3 Function Test 9500 KPA		
Remainder Precharge 2000 KPA		
Precharge 7000 KPA		

DRILLER SIGNATURE

Mike Englot

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0100	1	15	PRESS. TEST
0100	0900	1	6	R I H w/BIT #1
0900				PRES. TEST PIPE RAMS, HYDRIL, HCR & STACK VALVES, STABBING VALVE, INSIDE
	0330	1 1/2	15	BOP, UPPER KELLY COCK 1400 & 700 KPA 10 min
0330	0345	1/4	28	TSOP DRILL w/CREW LEAK
0345	0500	1 1/4	23	DRILL OUT
0500	0615	1 1/4	2	DRILL 200 mm HOLE 310m - 320m
0615	0630	1/4	5	CIRC
0630	0700	1/2	24	LEAK OFF TEST
0700	0713	1/4	1	VISUALLY INSPECT DEGASSER FLARE LINES & DEGASSER LINES
0713	0715			RIG SERVICE
0715	0900	1 1/4	2	DRILL 319m - 329m

NOTES: BOILER #1 BLOWN 2x 18 LITRES CROWN SAVER; BOILER #2 BLOWN 2x 17 LITRES MOTOR KILLS

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHOCK SUB		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
27	D.P.	SINGLES	261.30 m
	KELLY DOWN		11.38 m
	TOTAL		387.39 m

WT. OF DC 12,000 1000 daN

WT. OF STRING 26,000 1000 daN

BIT RECORD

BIT NO.	#1 NEW
SIZE (mm)	200
IADC CODE	127
MFG.	VAREL
TYPE	L127
SERIAL NO.	158872
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	310
TOTAL METRES DRILLED (m)	77
TOTAL HOURS RUN	8 1/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	09:30	12:00	16:00
DENSITY kg/m³	1010	1030	1040
FUNNEL VIS. - (S/L)	34	41	46
W.L. (cm³)			7.5
pH	10	10	10

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	15 SKS
Aquapac	2 SK
Barite	2 SK
Bicarb	3 SK
Soda Ash	3 SKS

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
3	1040	1030	1240

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
329	387	D	60/60	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5100	152	120		

REDUCED PUMP SPEED

1400 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
346m	1/2	

DRILLER SIGNATURE

Darren Baker

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0915	1 1/4	8	RIG REPAIR (REWIRE SHAKER MOTOR)
0915	1230	3 1/4	2	DRILL 200mm HOLE F 329m - 348m
1230	1245	1/4	10	SURVEY @ 346m
1245	1300	1/4	22	~~RIG SERVICE~~ B.O.P DRILL
1300	1600	3	2	DRILL 200mm HOLE F 348m - 387m
		8		HRS

NOTES: BOILER #1 BLOWN 2x 22 LITRES CROWN SAVER; BOILER #2 BLOWN 2x 23 LITRES FUNCTION PIPE RAMS 3 SEC.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8					

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	SHOCK SUB		2.75 m
12	D.C	159	110.80 m
1	X/O		.91 m
			m
	BHA		114.71 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
31	D.P.	SINGLES	300.03 m
	KELLY DOWN		11.38 m
	TOTAL		426.12 m

WT. OF DC 12,000 1000 daN

WT. OF STRING 26,500 1000 daN

BIT RECORD

BIT NO.	#1 NEW
SIZE (mm)	200
IADC CODE	127
MFG.	VAREL
TYPE	L127
SERIAL NO.	158872
JETS (mm)	3/11.1
DEPTH OUT (m)	RNG
DEPTH IN (m)	310
TOTAL METRES DRILLED (m)	116
TOTAL HOURS RUN	16

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	18:00	21:00	
DENSITY kg/m³	1080	1090	
FUNNEL VIS. - (S/L)	44	45	
W.L. (cm³)	8	7.5	
pH	9.5	9.5	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
387	426	D	130/140	11-12

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
5020	152	120		

REDUCED PUMP SPEED

1660 @ 60 @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

Mike Englot

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	1/4	7	RIG SERVICE
1615	2400	7 3/4	2	DRILL 200mm HOLE F 387m - 426m
		8		HRS

NOTES: BOILER #1 BLOWN 2x 20 LITRES FUNCTION HYDRIL 6 SECS. CROWN SAVER; BOILER #2 BLOWN 2x 19 LITRES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

FOLD HERE ➔

139783

LICENCE NO.: NEB (2)1-WL-1-3 | WELL NAME AND NO.: DEVLAN ET-AL THUNDER RIVER N-73

OPERATOR: DEVLAN EXPLORATION LTD | CONTRACTOR: AKITA DRILLING

SURFACE LOCATION: | UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER: Mel Serr

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	
(5) Motor Kills checked	Initial	

YEAR 81 | MONTH 8 | DAY 14 | RIG NO.

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C | CURRENT CONDITIONS | WIND DIRECTION | ROAD

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	[illegible]	FH	170	F-500	Emsco	191
159	139.6			[illegible]	XH	12			

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23 CUT & WELD BOWL	24	25	26
	MORN.					2½							2½	3												
	DAY													5¼	1¼								2½			
	EVE.														4¼											
	TOTAL																									

TOTALS: 8 | 8 | 8 | 8

SHALE SHAKER(S): NO. 1 | TYPE DFTS 500 | SCREENS CHANGED ☐ YES ☐ NO | TOP 120 | MIDDLE 80 | BOTTOM 40

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	Ran 22 Jnts: 219.1 mm
DENSITY kg/m³	35.72 Kg/m: J-55: STC
FUNNEL VIS. - (S/L)	G/S+F/C -- 311.18 m!
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Cemented w/	
30 tons (75%	Exc-ess)
polar Set+.1%	KTC
plugdown @05:[illegible]	
w/8.25 m³ Reto	
Float held	
No Slurry	

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0030	½	12	Run Casing
0030	0300	2½	5	Circ. Csng
0300	0500	2	12	Rig +0+ cement.
0500	0800	3	13	W.O.C.
		8HRS		

NOTES: Boiler #1 - 17 Litres | Boiler #2 18 Litres | Crown Saver.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown		2t		

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Desco	1sx

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
310				
TD				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1315	5¼	13	WOC.
1315	1545	2½	22	Cut Casing, Condition, & Weld Bowl
1545	1600	¼	14	Nipple up
		8hrs		

NOTES: Slip & cut 11 m., Change oil Gen #1, Pump. | Boiler #1 - 18 ℓ Boiler #2 19 ℓ.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	2	x 19 Litres		

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Soda Ash	2sx
caustic	1sx

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	2000	4	14	Nipple up B.O.P.
2000				Press Test Manifold, Blind Rams, HCR Valves
	2400	4	15	10 min each valve 1400 - kPa & 7000 KPA

NOTES: Boiler #1 - 8 HRS - 19 Litres | Boiler #2 - 8 HRS - 17 Litres

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown				

FOLD HERE →

139782

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-026-1-3	DEVLAN ET-AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION LTD	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MJ
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H'S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial MJ
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial MJ
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	Initial MJ
(5) Motor Kills checked	Initial	

YEAR 81 MONTH 02 DAY 07

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	25.83	X	70	121	FH	176	F-500	Emsco	191
159	139.6			159	XH	12			

TIME-HRS

CODE NO.	1 RIG UP & TEAR DOWN	2 DRILL ACTUAL	3 REAMING	4 CORING	5 COND. MUD & CIRC.	6 TRIPS	7 RIG SERVICE	8 REPAIR RIG	9 CUT OFF DRILL LINE	10 DEV. SURVEY	11 WIRE LINE LOGS	12 RUN CASE & CEMENT	13 WAIT ON CEMENT	14 NIPPLE UP B.O.P.	15 TEST B.O.P.	16 DRILL STEM TEST	17 PLUG BACK	18 SQUEEZE CEMENT	19 FISHING	20 DIR. WORK	21 SAFETY MTG.	22	23	24	25	26	TOTALS
OPER.																										
MORN.		4 3/4	1/4			1 1/2	1/4			1/4																8
DAY		6 1/4			1	2 1/2	1/4			1/4																8
EVE					1	4						3														8
TOTAL																										

SHALE SHAKER(S)

NO. 1 TYPE BFTS 500

SCREENS CHANGED ☐ YES ☐ NO

TOP	120	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN.	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D.mm	LENGTH
1			.31 m
1	BIT SUB		.76 m
12	D.C	159	110.80 m
1	X/O		.91 m
	BHA		112.78 m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
17	D.P.	SINGLES	164.65 m
	KELLY DOWN		11.34 m
	TOTAL		288.81 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		21,500	1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	311
IADC CODE	
MFG.	VAREL
TYPE	L127
SERIAL NO.	137231
JETS (mm)	11/12.7
DEPTH OUT (m)	RWG
DEPTH IN (m)	240
TOTAL METRES DRILLED (m)	48
TOTAL HOURS RUN	4 3/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0400	0600
DENSITY kg/m³	1235	1235
FUNNEL VIS. - (S/L)	68	67
W.L. (cm³)		
pH	9.0	9.0

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	23sx

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
240	288	D	100	6-8

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
3400	152	120		

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
247	2 1/4	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0015	1/4	7	Rig Service
0015	0045	1/2	6	P.O.O.H.
0045	0145	1	6	RIH with BIT #3.
0145	0300	1 1/4	3	Ream from 155m - 240m
0300	0500	2	2	DRILL 311mm Hole F 240m - 259m
0500	0515	1/4	10	Survey @ 247m
0515	0800	2 3/4	2	DRILL 311mm Hole F 259m - 288m
		8 HRS.		

NOTES Boiler #1 - 8 HRS 17 Litres ✓Crown Saver

Boiler #2 - 8 HRS. 17 Litres

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Brown		2x		

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.31 m
1	BIT SUB		.76 m
12	DC	159	110.80 m
1	X/O		.91 m
	BHA		112.78 m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
20	D.P.	SINGLES	183.69 m
	KELLY DOWN		3.53 m
	TOTAL		310.00 m
WT. OF DC		18000	1000 daN
WT. OF STRING		22 000	1000 daN

BIT RECORD

BIT NO.	#3 NEW
SIZE (mm)	311
IADC CODE	
MFG.	VAREL
TYPE	L127
SERIAL NO.	137231
JETS (mm)	11/12.7
DEPTH OUT (m)	310
DEPTH IN (m)	240
TOTAL METRES DRILLED (m)	70
TOTAL HOURS RUN	8 3/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0900	1100
DENSITY kg/m³	1235	1240
FUNNEL VIS. - (S/L)	70	80
W.L. (cm³)		
pH	9	9

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	19 sks

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
288	310	D	100	6-8

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
3480	152	120		

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
305	2 1/4	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1200	4	2	DRILL 311mm HOLE 288m - 310m
1200	1300	1	5	Circ
1300	1315	1/4	7	Rig Service
1315	1330	1/4	10	Survey @ 305m
1330	1600	2 1/2	6	Wiper Trip
		8 HRS		

NOTES ✓Crown Saver

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Brown	2x	19 Litres		

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1845	
DENSITY kg/m³	1280	
FUNNEL VIS. - (S/L)	101	
W.L. (cm³)		
pH	9	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
310				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
3420	152	120		

REDUCED PUMP SPEED

@ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1830	2 1/2	6	Wiper Trip (Ream 206m - 310m)
1830	1930	1	5	Circ & Blow Kelly
1930	2100	1 1/2	6	P.O.O.H.
2100	2400	3	12	Rig to & Run Casing
		6 HRS		

NOTES Boiler #1 - 18L

Boiler #2 - 19L ✓Crown Saver

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Brown	340	2x		

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139781

LICENCE NO.: NEB 7-11-026-1-3 | WELL NAME AND NO.: DEVLAN ET-AL THUNDER RIVER N-73

OPERATOR: DEVLAN EXPLORATION LTD. | CONTRACTOR: AKITA DRILLING

SURFACE LOCATION: | UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER: Mel Sen

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial mj
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial mj
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually Inspect BOP's - Flarelines & Degasser Lines	Initial	Initial mj
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	Initial mj
(4) Crown Saver Checked	Initial	Initial
(5) Motor Kills checked	Initial	Initial

YEAR: 81 | MONTH: 02 | DAY: 26

RIG NO.: 14

FUEL @ 8:00

RIG | BOILER

WEATHER

	°C
TEMPERATURE	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

	DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
	102	20.43	X	70	121	FH	170	F-500	Emsco	191
	159	139.6			159	XH	12			

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26
MORN.			5/4			3/4		1/4			1/4														
DAY			2	1			23/4	1/4	2																
EVE.			5/4			1/4	1 1/4	1/4			1/4														
TOTAL																									

TOTALS

4	
8	
9	

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ☐ YES ☑ NO

TOP 80 | TOP

MIDDLE 80 | MIDDLE

BOTTOM 45 | BOTTOM

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.25 m
1	Bit Sub		.76 m
12	D.C.	152	110.80 m
1	X/O		.71 m
			m
	BHA		112.72 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
20	D.P.	SINGLES	193.69 m
	KELLY DOWN		3.59 m
	TOTAL		310 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		23,000	1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	L127
SERIAL NO.	158870
JETS (mm)	3/12.7
DEPTH OUT (m)	310
DEPTH IN (m)	173
TOTAL METRES DRILLED (m)	137
TOTAL HOURS RUN	22 1/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0200	0400	0600
DENSITY kg/m³	1215	1225	1230
FUNNEL VIS. - (S/L)	61	60	60
W.L. (cm³)			
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	5sx

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
279	310	D	60	5-6

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
4460	152	120		

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
276	2 1/4	
305	2	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0015	1/4	7	Rig Service
0015	0145	1 1/2	2	Drill 200mm Hole F. 277m - 288m
0145	0200	1/4	10	Survey @ 276m
0200	0615	4 1/4	2	Drill 200mm Hole F 288m -
0615	0700	3/4	5	Circ & Blow Kelly - Survey
0700	0800	1	6	P.O.O.H For B.H.
				8 HRS.

NOTES: Boiler #1 - 8 hrs - 18 l; Boiler #2 - 8 hrs. - 18 l; Crown Saver

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
	Blown 2	X			

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.31 m
1	Bit Sub		.76 m
12	D.C.	159	110.80 m
1	X/O		.91 m
			m
	BHA		112.72 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
7	D.P.	SINGLES	67.79 m
	KELLY DOWN		11.38 m
	TOTAL		191.95 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		21,000	1000 daN

BIT RECORD

BIT NO.	#1 RR
SIZE (mm)	311
IADC CODE	
MFG.	VAREL
TYPE	L127
SERIAL NO.	140640
JETS (mm)	3/12.7
DEPTH OUT (m)	RUN
DEPTH IN (m)	173
TOTAL METRES DRILLED (m)	19
TOTAL HOURS RUN	2

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	T.	1430	1430
DENSITY kg/m³		1220	57
FUNNEL VIS. - (S/L)		57	
W.L. (cm³)			
pH		9	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
173	192	D	60/110	5-6

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
9700	152	120		

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
199	2 1/2	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0600	0645	3/4	6	T.O.O.H w/Bit #2
0645	0900	2 1/4	7	Rig Service
0900	1100	2	6	R.I.H w/Bit #1
1100	1300	2	8	Repair Shaker
1300	1400	1	3	Ream To Bottom 93m-133, 160-173m
1400	1600	2	2	Drill 311mm Hole 173m - 192m
				8 hrs

NOTES: Crown Saver

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown 2X	200 Litres			

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1			.31 m
1	Bit Sub		.76 m
12	DC	159	110.80 m
1	X/O		.91 m
			m
	BHA		112.72 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
12	D.P.	SINGLES	116.20 m
	KELLY DOWN		11.38 m
	TOTAL		240.36 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		21,000	1000 daN

BIT RECORD

BIT NO.	#1 RR
SIZE (mm)	311
IADC CODE	
MFG.	VAREL
TYPE	L127
SERIAL NO.	140640
JETS (mm)	3/12.7
DEPTH OUT (m)	240
DEPTH IN (m)	173
TOTAL METRES DRILLED (m)	67
TOTAL HOURS RUN	7 3/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1800	2000	2330
DENSITY kg/m³	1230	1235	TR.
FUNNEL VIS. - (S/L)	50	49	TR.
W.L. (cm³)			
pH	9	9	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Soda Ash	1sx
Gel	1sx
Driscal	1 Pail
Sawdust	10sx
Gel	11sx

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
192				

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
	152			

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
199	2 1/2	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1605	1730	1 1/2	2	Drill 311mm Hole 192m - 211m
1730	1745	1/4	7	Rig Service
1745	1800	1/4	10	Survey @ 199m
1800	2215	4 1/4	2	Drill 311mm Hole 199m - 240m
2215	2230	1/4	5	Circ
2230	2400	1 1/2	6	P.O.O.H For B.H. (Tight Hole) @ 233m - 140m = (92m)
				8 HRS.

NOTES: Boiler #1 - 8 HRS - ML; Boiler #2 - 8 HRS - 20L

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	2X			

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139780

LICENCE NO.: NEB 9211-026-13 | WELL NAME AND NO.: DEVLAN ET-AL THUNDER RIVER N-73

OPERATOR: DEVLAN EXPLORATION LTD | CONTRACTOR: AKITA DRILLING

SURFACE LOCATION: | UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MJ
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial MJ
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial MJ
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	Initial MJ
(5) Motor Kills checked	Initial	Initial MJ

YEAR 01 | MONTH 04 | DAY 25

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

LAST CASING TUBING OR LINER	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

WEATHER

TEMPERATURE	-43°C
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	20.83	X	70	121	FH	170	F-500	Emsco	R1
159	134.6			159	XH	12			
171.5	160.7		57.2	171.5	HT90	3			

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26	TOTALS
	MORN.		1 1/4	1/2			5 1/2	1/4																		8
	DAY		7 1/4					1/4			1/4															8
	EVE.		7 1/2					1/4			1/2															8
	TOTAL																									

SHALE SHAKER(S)

NO. 1 TYPE DFTS 500

SCREENS CHANGED ☐ YES ☑ NO

TOP	80	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES

	MORN	DAY	EVE

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	BIT SUB		1.76 m
12	D.C.	159	110.80 m
1	X/O		1.91 m
	BHA		112.72 m
	D.P.	STANDS	m
6	D.P.	SINGLES	58.14 m
	KELLY DOWN		11.38 m
	TOTAL		182.24 m
WT. OF DC		12,000	1000 daN
WT. OF STRING		20,000	1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	
MFG.	VAREL
TYPE	L127
SERIAL NO.	158870
JETS (mm)	3/12/7
DEPTH OUT (m)	RNG
DEPTH IN (m)	173
TOTAL METRES DRILLED (m)	9
TOTAL HOURS RUN	1 3/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
173	182	D	110/IN	5-6

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
3820	152	120		

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0030	1/2	6	TRIP FOR BIT Work tight spot 151m
0030	0330	3	6	TRIP FOR BIT
0330	0345	1/4	7	Rig Service
0345	0545	2	6	RIH
0545	0615	1/2	3	Ream From 160m-173m
0615	0800	1 3/4	2	Drill 200mm Hole From 173m - 182m
		8 1/4 HRS		

NOTES

V Crown Saver.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	13	Down	24	20 Litres	

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	BIT SUB		.76 m
18	DC	159	110.80 m
1	X/O		.91 m
	BHA		112.72 m
	D.P.	STANDS	m
11	D.P.	SINGLES	106.51 m
	KELLY DOWN		11.38 m
	TOTAL		230.61 m
WT. OF DC		12 000	1000 daN
WT. OF STRING		22,000	1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	127
MFG.	VAREL
TYPE	L127
SERIAL NO.	158870
JETS (mm)	3/12/7
DEPTH OUT (m)	RNG
DEPTH IN (m)	173
TOTAL METRES DRILLED (m)	57
TOTAL HOURS RUN	9 1/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0830	1230	1540
DENSITY kg/m³	1260	1250	1230
FUNNEL VIS. - (S/L)	45	57	57
W.L. (cm³)			
pH	9	9	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Caustic	1 sk
Gel	27 sks.

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
182	230	D	110/IN	5-6

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
4110	152	120		

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
190	2 1/4	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1045	2 1/2	2	Drill 200 mm Hole 182m - 201m
1045	1100	1/4	7	Rig Service
1100	1115	1/4	10	Survey @ 190m
1115	1600	4 1/2	2	Drill 200mm Hole 201m - 230m
		8 HRS		

NOTES

V Crown Saver

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	Dr	19 Litres		

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.		O.D. mm	LENGTH
1	BIT		.25 m
1	BIT SUB		.76 m
12	DC	159	110.80 m
1	X/O		.98 m
	BHA		112.72 m
	D.P.	STANDS	m
16	D.P.	SINGLES	154.96 m
	KELLY DOWN		11.38 m
	TOTAL		279.06 m
WT. OF DC		12000	1000 daN
WT. OF STRING		23,000	1000 daN

BIT RECORD

BIT NO.	#2 NEW
SIZE (mm)	200
IADC CODE	127
MFG.	VAREL
TYPE	L127
SERIAL NO.	158870
JETS (mm)	3/12/7
DEPTH OUT (m)	RNG
DEPTH IN (m)	173
TOTAL METRES DRILLED (m)	106
TOTAL HOURS RUN	16 1/2

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	1800	2000	2330
DENSITY kg/m³	1230	1230	1200
FUNNEL VIS. - (S/L)	60	61	60
W.L. (cm³)			
pH	9.5	9.5	9.5

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	4 sx

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

HOURS RUN | INTAKE DENSITY (kg/m³) | OVERFLOW DENSITY (kg/m³) | UNDERFLOW DENSITY (kg/m³)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
230		D	110/IN	5-6
918			2 1/8	
247			2.	

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
4550	152	120		

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1615	1/4	7	Rig Service
1615	1630	1/4	10	Survey @ 218m
1630	2045	4 1/4	2	Drill 200mm Hole F230m - 247m
2045	2100	1/4	10	Survey @ 247m
2100	2400	3	2	Drill 200mm Hole F247m - 279m
		8 1/4 HRS.		

NOTES

Boiler #1 - 8 hrs Blown 2x 20 Litres V Crown Saver

Boiler #2 - 8 hrs Blown 2x 19 Litres.

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

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139779

LICENCE NO.:	WELL NAME AND NO.:
NED 9211-0661-3	DEVLANET-AL THUNDER RIVER N-73
OPERATOR:	**CONTRACTOR:**
DEVLAN EXPLORATION LTD.	AKITA DRILLING
SURFACE LOCATION:	**UNIQUE ID.:**
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	**SIGNATURE OF CONTRACTOR'S RIG MANAGER:**

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial mz
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H_2S Signs Posted (if required)	Initial	Initial mz
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial mz
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	
(4) Crown Saver Checked	Initial	Initial mz
(5) Motor Kills checked	Initial	Initial mz

YEAR	MONTH	DAY
2001	02	24

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C	
CURRENT CONDITIONS	
WIND DIRECTION	
ROAD	

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)
102	90.83	X	70	121	FH	120	F500	EMSCO	191
159	134.6			159	XH	12			
171.5	160.7		51.2	171.5	HD 90	3			

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23 DRILL RAT HOLE	24 DRILL 311mm	25	26
	MORN.		1/2					1/4	1/4						2 1/2							1/4	1 3/4	2		
	DAY		6 3/4			1/2		1/4			1/2															
	EVE.																									
	TOTAL																									

TOTALS

1	8
2	8

SHALE SHAKER(S)

NO. 1 TYPE DFTS 500

SCREENS CHANGED ☐ YES ☑ NO

TOP	80	TOP	
MIDDLE	80	MIDDLE	
BOTTOM	45	BOTTOM	

RENTALS/SERVICES — MORN. | DAY | EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1	BIT		.31 m
1	Bit Sub		.91 m
1	X/O		1.0 m
			m
	BHA		2.22 m
			m
			m
			m
			m
			m
3	D.C.	170	28.05 m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		12.14 m
	TOTAL		42.41 m
WT. OF DC		4,500	1000 daN
WT. OF STRING		10,500	1000 daN

BIT RECORD

BIT NO.	1 RR
SIZE (mm)	311
IADC CODE	
MFG.	VAREL
TYPE	TGC2791
SERIAL NO.	140640
JETS (mm)	4/12/7
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	1/2

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	0600
DENSITY kg/m³	Drill
FUNNEL VIS. - (S/L)	Cement
W.L. (cm³)	out
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	28sx

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1	~~Bit~~		.31 m
1	BIT SUB		.91 m
1	X/O		1.00 m
3	DC	170	28.05 m
1	X/O		.76 m
			m
10	DC	159	92.57 m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		11.50 m
	TOTAL		135.15 m
WT. OF DC		18,500	1000 daN
WT. OF STRING		24,000	1000 daN

BIT RECORD

BIT NO.	#1 RR
SIZE (mm)	311
IADC CODE	
MFG.	VAREL
TYPE	L197
SERIAL NO.	140640
JETS (mm)	4/12/7
DEPTH OUT (m)	RNG
DEPTH IN (m)	15
TOTAL METRES DRILLED (m)	120
TOTAL HOURS RUN	7 3/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
SAPP	3 SKS
Bicarb	3 SKS
Gel	20 SKS.

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
1	BIT		.31 m
1	BIT SUB		.91 m
1	X/O		1.00 m
3	DC	171.5	98.05 m
1	X/O		.76 m
			m
12	DC	159	110.76 m
1	X/O		.98 m
	BHA		142.24 m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC		16,500	1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	#1 RR
SIZE (mm)	311
IADC CODE	
MFG.	VAREL
TYPE	L197
SERIAL NO.	140640
JETS (mm)	4/12/7
DEPTH OUT (m)	173
DEPTH IN (m)	15
TOTAL METRES DRILLED (m)	158
TOTAL HOURS RUN	15 1/4

CUTTING STRUCTURE: T_i | T_o | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG | TORQUE AT BOTTOM | FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

CENTRIFUGE: HOURS RUN | INTAKE DENSITY (kg/m) | OVERFLOW DENSITY (kg/m) | UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
13	42	D		

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0015	1/4	7	RIG SERVICE
0015	0200	1 3/4	22	DRILL RAT HOLE
0200	0430	2 1/2	14	FINISH NIPPLING UP DIVERTER
0430	0445	1/4	21	PRE-SPUD MEETING
0445	0615	1 1/2	23	DRILL 311mm HOLE F15m - 23m CEMENT
0615	0700	3/4	8	Rig Repair
0700	0730	1/2	23	DRILL 311mm HOLE FROM 23m - 32m CEMENT
0730	0800	1/2	2	DRILL 311mm HOLE FROM 32m - 42m
				8 HRS.

NOTES: CEMENT AT 15m. ✓CROWN SAVER Function Diverter ✓MOTOR KILLS

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown		2x 18 LITRES		

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
42	135	D	90/180	3-13

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
2950	120	180		

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
60	3/4	
95	1/4	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1045	2 3/4	2	DRILL 311mm HOLE 48m - 70m
1045	1100	1/4	10	SURVEY @ 60m
1100	1115	1/4	7	RIG SERVICE
1115	1145	1/2	2	DRILL 311mm HOLE 70m - 80m
1145	1815	1/2	5	CIRC & MIX MUD (GRAVEL)
1815	1400	1 1/2	2	DRILL 311mm HOLE 80m - 107m
1400	1415	1/4	10	SURVEY @ 95
1415	1600	1 1/2	2	DRILL 311mm HOLE 107m - 135m
				8 HRS

NOTES: ✓CROWN SAVER

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	8x 20 LITRES			

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)
135		D	140	3-13

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
3100	152	120		

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION
133	2	

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1630	1/2	2	DRILL 311mm HOLE 135m - 144m
1630	1645	1/4	7	RIG SERVICE
1645	1700	1/4	10	SURVEY @ 133m
1700	2215	5 1/2	2	DRILL 311mm HOLE 144m - 173m
2215	2230	1/4	10	SURVEY @
2230	2400	1 1/2	6	TRIP

NOTES: ✓CROWN SAVER

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	8x 19 LITRES			

FOLD HERE →

139778

LICENCE NO.: NEB 9311-D26-T3 | WELL NAME AND NO.: DEVLAN ET-AL THRONDER RIVER N-73

OPERATOR: DEVLAN EXPLORATION LTD | CONTRACTOR: AKITA DRILLING

SURFACE LOCATION: | UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE: | SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MG
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial MG
(4) Well License & Stick Diagram Posted	Initial	Initial MG
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)	Initial	
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)	Initial	
(3) Mast Inspection Before Raising or Lowering	Initial	Initial MG
(4) Crown Saver Checked	Initial	Initial
(5) Motor Kills checked	Initial	

YEAR 2001 | MONTH 2 | DAY 23

RIG NO. T4

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE -38 °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD 42Km ROUEN

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

TIME-HRS

CODE NO.	1 RIG UP & TEAR DOWN	2 DRILL ACTUAL	3 REAMING	4 CORING	5 COND. MUD & CIRC.	6 TRIPS	7 RIG SERVICE	8 REPAIR RIG	9 CUT OFF DRILL LINE	10 DEV. SURVEY	11 WIRE LINE LOGS	12 RUN CASE & CEMENT	13 WAIT ON CEMENT	14 NIPPLE UP B.O.P.	15 TEST B.O.P.	16 DRILL STEM TEST	17 PLUG BACK	18 SQUEEZE CEMENT	19 FISHING	20 DIR. WORK	21 SAFETY MTG.	22	23	24	25	26
OPER.																						W.O. Cement Bulker	W.O. Vac & Cut Conductor + Weld Flange	Drill Rat Hole		
MORN.												11/2										4	2 1/2			
DAY												3/4-5 1/2												1 3/4		
EVE.														3										IV-1	3 3/4	
TOTAL																										

TOTALS 8 | 8

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS/SERVICES

	MORN	DAY	EVE

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

MORNING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	04 00	4	22	W.O. Cement Bulker
0400	06.30	2 1/2	23	W.O. Vac
6.30	800	1 1/2	12	Cement

NOTES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown Dt 20 Litres				

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	Conductor: mixed Cement -
DENSITY kg/m³	Fill returns @ Surface:
FUNNEL VIS. - (S/L)	displaced 2.75 m³ Fresh H₂O
W.L. (cm³)	mixed 13 tone Poly Set-20
pH	in place @ 08:45 Hrs:
	23m³ flow Surface!

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT
Gel	15 sxs.

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

DAY TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.
	152			

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	0845	3/4	12	Cement Conductor
0845	1415	5 1/2	13	W.O.C.
1415	1600	1 3/4	24	Cut off Conductor Barrel & Weld on Flange
				8 hrs

NOTES

Rig

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown Dt		18 Litres		

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

EVENING TOUR

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	1715	1 1/4	24	Weld on Flange for Diverter
1715	2015	3	14	Nipple up Diverter
2015	2400	3 3/4	25	Drill Rat Hole
				8 hrs.

NOTES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown Dt		21 Litres		

FOLD HERE ➔

139777

LICENCE NO.: NEB 9211-D26-1-3

WELL NAME AND NO.: DEVLAN et-al THUNDER RIVER N-73

OPERATOR: DEVLAN EXPLORATION LTD

CONTRACTOR: AKITA DRILLING

SURFACE LOCATION:

UNIQUE ID.:

SIGNATURE OF OPERATOR'S REPRESENTATIVE:

SIGNATURE OF CONTRACTOR'S RIG MANAGER: Mel Sen

DAILY CHECKS

	OPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial MS
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H²S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial MS
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial MS.
(5) Motor Kills checked		Initial

YEAR: 2001 MONTH: 02 DAY: 22

RIG NO.: 14

FUEL @ 8:00

RIG | BOILER

WEATHER

TEMPERATURE °C

CURRENT CONDITIONS

WIND DIRECTION

ROAD

LAST CASING TUBING OR LINER

O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

TIME-HRS

CODE NO.	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	26
OPER.	RIG UP & TEAR DOWN	DRILL ACTUAL	REAMING	CORING	COND. MUD & CIRC.	TRIPS	RIG SERVICE	REPAIR RIG	CUT OFF DRILL LINE	DEV SURVEY	WIRE LINE LOGS	RUN CASE & CEMENT	WAIT ON CEMENT	NIPPLE UP B.O.P.	TEST B.O.P.	DRILL STEM TEST	PLUG BACK	SQUEEZE CEMENT	FISHING	DIR. WORK	SAFETY MTG.	W.O.C.				
MORN.																										
DAY																										
EVE.																						8				
TOTAL																										

TOTALS

SHALE SHAKER(S)

NO. | TYPE

SCREENS CHANGED ☐ YES ☐ NO

TOP | TOP

MIDDLE | MIDDLE

BOTTOM | BOTTOM

RENTALS/SERVICES

	MORN	DAY	EVE

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_I | T_O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0000	0800	8		W.O. CREW.

NOTES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8 Hrs	Blown	2x 18 L.			

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_I | T_O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
0800	1100	3		FINISH SPOTTING LOADS
1100	1600	5		RIG UP
				2 HOURS DRIVING
				EXTRA HOUR TRAVEL TIME
				42Km 1 WAY ROUGH ROADS
				Mel Sen.

NOTES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	2x 2L Litres			

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
			m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE: T_I | T_O | MDC | LOC | B | Gage | ODC | Reason Pulled | Total Run m/hr.

HOLE CONDITION

HOLE DRAG

TORQUE AT BOTTOM

FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED

@ | @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

DRILLER SIGNATURE

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.	DETAILS OF OPERATION IN SEQUENCE AND REMARKS
1600	2400	8	22	W.O. CEMENT BULKER
		8 HRS.		

NOTES

BOILER HRS. RAN	BOILER ph	BOILER STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown	2x 2L Litres			

FOLD HERE →

139776

LICENCE NO.:	WELL NAME AND NO.:
NEB 9211-D26-1-3	DEVLAN et al THUNDER RIVER N-73
OPERATOR: DEVLAN EXPLORATION LTD	CONTRACTOR: AKITA DRILLING
SURFACE LOCATION:	UNIQUE ID.:
SIGNATURE OF OPERATOR'S REPRESENTATIVE:	SIGNATURE OF CONTRACTOR'S RIG MANAGER:

DAILY CHECKS

	DPR.	R.M.
(1) Daily Walk Around Inspection	Initial	Initial
(2) Detailed Inspection-Weekly (using checklist)	Initial	Initial
(3) H_2S Signs Posted (if required)	Initial	Initial
(4) Well License & Stick Diagram Posted	Initial	Initial
(5) Flare Lines Staked	Initial	Initial
(6) BOP Drills Performed	Initial	Initial
(7) Visually inspect BOP's - Flarelines & Degasser Lines	Initial	Initial
(1) Rig Site Health and Safety Meeting (one/crew/month)		Initial
(2) C.A.O.D.C. Rig Safety Inspection Checklist (one/rig/month)		Initial
(3) Mast Inspection Before Raising or Lowering		Initial
(4) Crown Saver Checked		Initial
(5) Motor Kills checked		Initial

YEAR 01 MONTH 02 DAY 21

RIG NO. 14

FUEL @ 8:00

RIG | BOILER

WEATHER: TEMPERATURE °C; CURRENT CONDITIONS; WIND DIRECTION; ROAD

LAST CASING TUBING OR LINER

	O.D. (mm)	MIN. I.D. (mm)	kg/m	MAKE	GRADE	NO. OF JOINTS	TOTAL(m) LENGTH	KB. TO CSG HEAD (m)	SET AT (m)

DC/DP SIZE (mm)	LINEAR MASS (kg/m)	GRADE	MIN. ID (mm)	TOOL JT O.D. (mm)	TYPE THREAD	NO. OF JOINTS	PUMP TYPE	PUMP MANUFACTURER	STROKE LTH. (mm)

TIME-HRS

CODE NO.	1 OPER.	2 RIG UP & TEAR DOWN	3 DRILL ACTUAL	4 REAMING	5 CORING	6 COND. MUD & CIRC.	7 TRIPS	8 RIG SERVICE	9 REPAIR RIG	10 CUT OFF DRILL. LINE	11 DEV. SURVEY	12 WIRE LINE LOGS	13 RUN CASE & CEMENT	14 WAIT ON CEMENT	15 NIPPLE UP B.O.P.	16 TEST B.O.P.	17 DRILL STEM TEST	18 PLUG BACK	19 SQUEEZE CEMENT	20 FISHING	21 DIR. WORK	22 SAFETY MTG.	23	24	25	26
MORN.																						W.O. Daylight			
DAY			8																			8			
EVE.																									
TOTAL																									

TOTALS: 8

SHALE SHAKER(S): NO. | TYPE; SCREENS CHANGED ☐ YES ☐ NO; TOP | TOP; MIDDLE | MIDDLE; BOTTOM | BOTTOM

RENTALS/SERVICES

	MORN	DAY	EVE

MORNING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
		7 7/8	m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0000	0800	8	22

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Wait on Daylight

No crew flight fr. airstrip to Inuvik - stormed in.

Had to drive fr camp to Inuvik.

NOTES

DRILLER SIGNATURE: Darren Balsh

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
8	Blown 2x		18 L.		

DAY TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
		7 7/8	m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
0800	1600	8	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Move Akita #14 for Devlan fr. Tree River B-10 to Thunder River N-73 w/4 Pentastar Trucks 16 Km.

No Relief.

NOTES

DRILLER SIGNATURE

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.

EVENING TOUR

DRILLING ASSEMBLY (At End of Tour)

NO.	BIT	O.D. mm	LENGTH
		7 7/8	m
			m
			m
			m
			m
			m
			m
			m
	D.P.	STANDS	m
	D.P.	SINGLES	m
	KELLY DOWN		m
	TOTAL		m
WT. OF DC			1000 daN
WT. OF STRING			1000 daN

BIT RECORD

BIT NO.	
SIZE (mm)	
IADC CODE	
MFG.	
TYPE	
SERIAL NO.	
JETS (mm)	
DEPTH OUT (m)	
DEPTH IN (m)	
TOTAL METRES DRILLED (m)	
TOTAL HOURS RUN	

CUTTING STRUCTURE T_I	T_O	MDC	LOC	B	Gage	ODC	Reason Pulled	Total Run m/hr.

HOLE CONDITION: HOLE DRAG; TORQUE AT BOTTOM; FILL ON BOTTOM (m)

MUD RECORD

MUD TYPE ☐ WATER BASED ☐ OIL BASED

TIME	
DENSITY kg/m³	
FUNNEL VIS. - (S/L)	
W.L. (cm³)	
pH	

MUD MATERIALS ADDED

PRODUCT	AMOUNT X UNIT

SOLIDS CONTROL

DESILTER

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

CENTRIFUGE

HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)
HOURS RUN	INTAKE DENSITY (kg/m)	OVERFLOW DENSITY (kg/m)	UNDERFLOW DENSITY (kg/m)

METRES DRILLED

FROM	TO	DR-D RM-R CORE-C	ROTARY R.P.M.	WT. ON BIT (1000 daN)

CIRCULATION PRESSURE (kPa)	PUMP NO. 1 LINER SIZE (mm)	PUMP NO. 1 S.P.M.	PUMP NO. 2 LINER SIZE (mm)	PUMP NO. 2 S.P.M.

REDUCED PUMP SPEED: @ @

DEVIATION SURVEY

DEPTH (m)	DEVIATION (°)	DIRECTION

TIME LOG

FROM	TO	ELAP. TIME	CODE NO.
1600	2200	6	
2200	2400	2	

DETAILS OF OPERATION IN SEQUENCE AND REMARKS

Moving W.O. Crew.

Crew Flight - EDM to Inuvik 2 Hours Late.

Crew had to drive fr Inuvik to Camp. Stormed in.

NOTES Boiler fired @ 2000 hrs.

DRILLER SIGNATURE

BOILER HRS. RAN	ph	STACK TEMP.	MAXIMUM EXPERIENCED HOOKLOAD	SAFETY TOPIC	M.A.C.P.
4 Hrs	Blown	Fine	9T.		