

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/27

T.W.L.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 84

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m

KB-GL: 6.7 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

GL: 481.3 m

KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear

TEMP: -7 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2273.00 m

PROGRESS: 0.00 m

PSTD: m

FORMATION:

8:00 a.m. DEPTH: 2273.00 m

8:00 a.m. OPERATION: At 2235mKB, reaming to bottom with mud motor (1.5 degrees).

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 100012 CUMULATIVE COST: \$ 9079585

1 311 mm	1 Mud Motor	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	6 228mm DC
1 X/O SUB	12 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS: 1289.0

LENGTH: 264.44 m WT. BELOW JARS: 10500 daN JAR HRS: 240.0 JAR SERIAL #: 10158

WT. ON BIT: 0 daN

ROTARY RPM: 0

STRING WT.: 101000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

12

BIT NO.	SIZE mm	MARK	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.								REMARKS			
					1	2	3	IN	OUT			DIL	RMD		WDM	RPM	I	Q	D	L	B	G	C	R		
24C	311.0	RBI	KL4838	C1	19.1	19.1	19.1	2214	2273	59	1.6	36.50	3.25	25-35	70	6	6	BT	A	8	4	LT	TQ			
25C	311.0	REED	LQ4241	EHP42H	19.1	19.1	19.1	2273		0				-												
										C				-												

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL es/30min	FC mm	PV/VP	GELS OAO	Tot Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	ON %	CI ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
84	1640/	10.0	9.0	2.0	20/ 27.0	25./36.	0.25		0.400	42		0.000	1500	280	0.2	1.2	/ 15
86	1640/	10.0	9.0	2.0	20/ 29.0	27./38.	0.25		0.400	42			1500	280	0.2	1.5	/ 15
CENTRIFUGE					DESILTER				DESANDER			DEGASSER			TOTAL MUD DUMPED		
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

P U M P	PUMP NO. 1				TYPE: F 1000				PUMP NO. 2				TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		JET	
	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DF m/MIN	DC m/MIN	VELOCITY m/sec	HP						
	Emsco	152	254			Emsco	152	254			0	0.0	0.0	0.0	0.00						

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	PRESS TEST 5.50	HNDL TOOLS 3.00
	DRILLING	SLIP & CUT
	CIRCULATE	REAMING
	TRIPPING 5.75	COND MUD
	RIG SERV 0.50	CLN TO BTM
	BOP DRILL	RIG INSP 9.25
	DRLG OUT	
	REPAIRS	
	SURVEYING	
	ORIENT TOO	CLN SCREEN
	TOTAL HOURS: 24.00	
		Lignite
		Starpak
		Percol
		Drispac
		Sod sulf
		Chemcide
		Gypsum
		Lime
		Pot Sulf
		Barite
		Biocide
		Alcomer110

MUD COMMENTS: K+Ion=26000, Sulfite=275, Polymer=2.8. Mud checks from surface pits.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.26 @ 00:00 Hours:

Hoisted bit #24C. Broke bit and laid down tools. Picked up RTTS packer. Ran in to 706mKB. Tested casing to 7000 kPa and 1500 kPa for 10 minutes each. Pulled out and laid down RTTS packer. Made up test plug and tested annular, top and bottom pipe rams, blind rams, upper and lower choke, kill lines,

HCR valve, upper and lower kelly cocks, stabbing and inside BOP, all tested to 1500 kPa low and 13000 kPa high. 10 minutes for each test. Filled choke and degasser lines with antifreeze. Functioned accumulator. Began inspecting drill collars at 16:00 hours, continued to 23:00 hours. Ran in bit #25C and mud motor to 24:00 hours 2000.10.26.

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/27

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 84

DEPTH: 2273.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -7 °C

8:00 a.m. OPERATION: At 2235mKB, reaming to bottom with mud motor (1.5 degrees).

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Functioned blind rams, closed in 8 seconds.
Note 2: Functioned annular, closed in 19 seconds.
Note 3: Safety topic was on checking collars.
Note 4: Laid down 2-171mm DC and 1 crossover (9" to 6 3/4") as the threads were pulled due to over torquing.
Note 5: Pressure testing went very well with no problems.
Note 6: 1.5 degree in mud motor.
Note 7: Trip Record: Calculated = 15.28m³, Measured = 15.81m³, Difference = +/- .15m³.
Note 8: Next bit is a Reed EHP 42H, type 4-2-7.
Note 9: Akita Drilling hoisting limits on drill string = 160,039 daN. Mast = 235,800 daN.
Note 10: Randy Nelson of Canadian Forest Oil, Mickey Sutherland of Pajak Engineering and Craig Willis of Dynamic Drilling Fluids, as well as Akita Drilling personnel, Robert Hunt, Fred Henzel and Merle Parks arrived and inspected the C-31 wellsite. Dan Quevillon, Diand Land Use Inspector, arrived and also inspected the C-31 wellsite, no concerns with the operation.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/26

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 83

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m KB-GL: 6.7 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: CLEAR SKIES

TEMP: -7 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2273.00 m

PROGRESS: 23.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2273.00 m

8:00 a.m. OPERATION: PRESSURE TESTING BOP EQUIPMENT (30 DAY TEST)

AFE #: AFE AMT: \$12658500 DAILY COST: \$ 96485 CUMULATIVE COST: \$ 8979573

1 311 mm	1 3 Pt NBR	1 Short DC	1 3Pt Reamer	1 FLOAT SUB
1 RESTRIC.SUB	1 MONEL MWD	1 MONEL	1 SHOCK SUB	3 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	12 6 3/4" DC	1 X/O SUB

TOTAL ROTATING HOURS: 1289.0

LENGTH: 234.96 m WT. BELOW JARS: 10500 daN JAR HRS: 240.0 JAR SERIAL #: 10158

WT. ON BIT: 35000 daN

ROTARY RPM: 80-90

STRING WT.: 101000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IP

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228	H90	9
171	H90	12

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT								REMARKS		
					1	2	3	IN	OUT			DRL	RMD	WT daN	RPM	Q	D	L	B	G	O	R				
23CR	311.0	DBS	5997062	FM2743	17.5	17.5	17.5	2197	2214	17	1.3	12.75	5.25	16-27	60											
24C	311.0	RBI	KL4838	C1	19.1	19.1	19.1	2214	2273	59	1.6	36.50	3.25	25-35	70	6	6	BT	A	8	4	LT	TQ			
										0				-												

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL 24/30min	FC mm	PV/VP O/D	GELS O/D	TAL SOL kg/m3	Drid Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
78	1640/	10.3	9.6	2.0	20/ 24.0	31./34.	0.25		0.400	42		0.000	1500	280	0.2	1.2	/ 72
80	1630/	10.0	9.0	2.0	22/ 26.0	29./33.	0.25		0.400	42			1500	280	0.2	1.5	/ 72
CENTRIFUGE					DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED						
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3					

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		KPa	DP m/MIN	DC m/MIN	VELOCITY m/sec.
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	17500	37.7	70.6		0.00

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST	HNDL TOOLS			Lignite	5
2.50 °	@	2245.19 m	161.20	DRILLING	14.00	SLIP & CUT	1.00	Starpak	5
2.80 °	@	2253.91 m	168.90	CIRCULATE	2.25	REAMING		Percol	
2.70 °	@	2257.81 m	171.00	TRIPPING	5.50	COND MUD		Driscap	4
°	@	m		RIG SERV	0.25	CLN TO BTM	0.25	Sod sulf	1
°	@	m		BOP DRILL				Chemecide	2
°	@	m		DRLG OUT				Gypsum	
°	@	m		REPAIRS				Lime	2
°	@	m		SURVEYING	0.75			Pot Sulf	
°	@	m		ORIENT TOO		CLN SCREEN		Barite	378
°	@	m		TOTAL HOURS: 24.00				Biocide	1
								Alcomer110	1

MUD COMMENTS: K+ION - 26,000, POLYMER - 2.8, SULFITE - 275.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)
2000.10.25 @ 00:00 HOURS:

DRILLED 311mm HOLE FROM 2250-2273mKB, WITH SURVEYS AND RIG SERVICES AS REQUIRED. CIRCULATED BOTTOMS UP. TRIPPED OUT BIT 24C DUE TO INCREASED AND IRREGULAR BOTTOM HOLE TORQUE.

PUMPED OUT STANDS TO 2230mKB. PULLED UP TO 20,000 daN OVER STRING WEIGHT. TRIPPED BIT UP TO 1728mKB. PUMPED WEIGHTED

PILL AND BLEW OUT KELLY. CONTINUED TRIPPING UP TO 700mKB, WITH FLOW CHECKS AS REQUIRED. SLIPPED AND CUT 20m OF DRILLING LING. CONTINUED TRIP OUT. FUNCTION TESTED BLIND RAMS. BROKE OFF BIT AND INSPECTED SAME TO 23:59 HOURS

2000.10.25.

CONT'D

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/26
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 83 DEPTH: 2273.00 m PROGRESS: 23.00 m CPA No.: 300C316040123300
WEATHER: CLEAR SKIES TEMP: -7 °C
8:00 a.m. OPERATION: PRESSURE TESTING BOP EQUIPMENT (30 DAY TEST)

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTE 1: PREPARED RTTS PACKER TO RUN IN HOLE FOR CASING INTEGRITY TEST.
NOTE 2: BIT TORQUE: 21,000 Nm.
NOTE 3: HOLE DRAG: 20,000-25,000 daN.
NOTE 4: TRIP RECORD: MEASURED: 15.81m³, CALCULATED: 15.28m³,
DIFFERENCE: 0.53m³.
NOTE 5: FROM 2230mKB HOLE CONDITIONS WERE GOOD WITH NORMAL HOLE DRAG.
NOTE 6: BIT #24C: 50% OF INSERTS EITHER BROKEN OR CHIPPED OFF. TWO CONES
WITH BEARING FAILURE.
NOTE 7: RAN BARITE RECOVERY FOR ONE CIRCULATION.
NOTE 8: SAFETY TOPIC: TRANSFER OF DIESEL FUEL.
NOTE 9: RECEIVED FIVE TRUCK LOADS OF BARITE, ALSO FUEL.
NOTE 10: AKITA DRILLING HOISTING LIMITS ON DRILL STRING = 160,039 daN.
MAST = 235,800 daN.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227
CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/25	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 82	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: OVERCAST		TEMP: -6 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2250.00 m		PROGRESS: 31.00 m		PBTd: m FORMATION:	
8:00 a.m. DEPTH: 2263.50 m		8:00 a.m. OPERATION: DRILLING 311mm HOLE			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 69143 CUMULATIVE COST: \$ 8883088

1 311 mm	1 3 Pt NBR	1 Short DC	1 3Pt Reamer	1 FLOAT SUB
1 RESTRIC.SUB	1 MONEL MWD	1 MONEL	1 SHOCK SUB	3 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	12 6 3/4" DC	1 X/O SUB
LENGTH: 234.96 m WT. BELOW JARS: 10500 daN JAR HRS: 226.0 JAR SERIAL #: 10158				

TOTAL ROTATING HOURS: 1275.0

 WT. ON BIT: 35000 daN ROTARY RPM: 80-90 STRING WT.: 101000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE: 9
 171 H90 12

BITS

BIT NO.	SIZE IN	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.						REMARKS			
					1	2	3	IN	OUT			DRL	RWD	WT/LN	RPM	T	D	L	H	G	O	R			
23CR	311.0	DBS	5997062	FM2743	17.5	17.5	17.5	2197	2214	17	1.3	12.75	5.25	16-27	60										
24C	311.0	RBI	KL4838	C1	19.1	19.1	19.1	2214		36	1.6	22.50	3.25	25-35	70										
										0															

LAST PIPE TALLY: 1302.37 BOARD: 1301.83 CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PU/YF	GELS O/10	Tol. Sol. kg/m3	Drd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	QIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
76	1620/	9.8	8.4	2.0	20/ 24.0	22./29.	0.26		0.750	42		0.000	1500	280	0.2 1.3	/ 72
84	1635/	11.0	8.6	2.0	20/ 25.0	23./29.	0.25		0.500	45			1500	300	0.2 1.5	/ 72
CENTRIFUGE			DESILTER			DESANDER			DEGASER			TOTAL MUD DUMPED				
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

P
U
M
P

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HTP
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	17500	37.7	70.6	47.9	86.21

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH		Lignite 2
1.50 ° @ 2206.90 m	139.20	Starpak 2
1.70 ° @ 2215.60 m	139.70	Percol
1.90 ° @ 2225.06 m	146.60	Drispac 1
2.30 ° @ 2235.64 m	151.70	Sod sulf 1
2.50 ° @ 2245.19 m	161.20	Chemcide 2
° @ m		Gypsum
° @ m		Lime
° @ m		Pot Sulf 168
° @ m		Barite 164
° @ m		Biocide 1
° @ m		Alcomer110
TOTAL HOURS: 24.00		

MUD COMMENTS: K+ION - 26000, POLYMER - 2.8, SULFITE - 250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.24 @ 00:00 HOURS:

DRILLED 311mm HOLE FROM 2219-2229mKB. RIG SERVICED AND SURVEYED AS REQUIRED. AT 2229mKB, PULLED OFF BOTTOM TO MAKE CONNECTION, PULLING 35,000 daN OVER STRING WEIGHT. WORKED DRILL STRING AND CLEANED UP TIGHT HOLE FROM 2211-2229mKB. REPAIRED MUD PUMP #2. SYNCHRONIZED MWD TOOL. DRILLED 311mm

HOLE FROM 2229-2240mKB. WORKED TIGHT CONNECTION FROM 2230-2240mKB, OVERPULL OF 10,000 daN OVER STRING WEIGHT. DRILLED FROM 2240-2250mKB. SURVEYED AND RIG SERVICED AS REQUIRED TO 23:59 HOURS 2000.10.24.

NOTE 1: SINCE 2240mKB HOLE HAS BEEN GOOD WITH NORMAL HOLE DRAG AND NO PROBLEMS ON CONNECTIONS.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/25
LOCATION: 300-C31-6040-12330-0 U.W.L: 300-C31-6040-12330-0
DAY: 82 DEPTH: 2250.00 m PROGRESS: 31.00 m CPA NO.: 300C316040123300
WEATHER: OVERCAST TEMP: -6 °C
8:00 a.m. OPERATION: DRILLING 311mm HOLE

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTE 2: HOLE DRAG: 10,000 daN UP, 8,000 daN DOWN.
NOTE 3: BOTTOM HOLE TORQUE: 13,623-16,350 Nm.
NOTE 4: SAFETY TOPIC: HELD FIRE DRILL IN CAMP.
NOTE 5: HOLE CLEANING GOOD, NO HOLE LOSSES RECORDED.
NOTE 6: RAN TWO COMPLETE CIRCULATIONS OF BARITE RECOVERY.
NOTE 7: RECEIVED MUD PRODUCTS, FUEL AND ACID.
NOTE 8: DRILL COLLAR INSPECTORS AND PRESSURE TESTER HAVE BEEN ALERTED AND
WILL BE ON LOCATION 2000.10.25.
NOTE 9: RELIEF GEOLOGIST AND MUD LOGGER ARRIVED 2000.10.24.
NOTE 10: UPDATED SURVEY: 2245.19m INC 2.5 DEGREE AZ 161.2.
NOTE 11: EXTRAPULATED AT BIT: 2260m INC 3 DEGREE AZ 176.
NOTE 12: AKITA DRILLING HOISTING LIMITS ON DRILL STRING = 158,607 daN.
MAST = 235,800 daN.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/24

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 81

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: CLEAR SKIES

TEMP: 7 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2219.00 m

PROGRESS: 5.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2230.00 m

8:00 a.m. OPERATION: DRILLING 311mm HOLE

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 136519 CUMULATIVE COST: \$ 8813945

1 311 mm	1 3 Pt NBR	1 Short DC	1 3Pt Reamer	1 FLOAT SUB
1 RESTRIC.SUB	1 MONEL MWD	1 MONEL	1 SHOCK SUB	3 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	12 6 3/4" DC	1 X/O SUB

TOTAL ROTATING HOURS: 1256.3

LENGTH: 234.96 m WT. BELOW JARS: 10500 daN JAR HRS: 207.2 JAR SERIAL #: 10158

WT. ON BIT: 28000 daN

ROTARY RPM: 60-85

STRING WT.: 100000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

12

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT								REMARKS			
					1	2	3	IN	OUT			TIME	RMD	WT/LN	RPM	I	O	D	L	B	G	O	K				
23CR	311.0	DBS	5997062	FM2743	17.5	17.5	17.5	2197	2214	17	1.3	12.75	5.25	16-27	60												
24C	311.0	RBI	KL4838	C1	19.1	19.1	19.1	2214		5	1.3	3.75	3.25	25-32	70												
										0																	

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

VISCONSITY Sec/L	DENSITY W/OUT	FI	WL cc/30min	FC mm	FW/YF	GELS D/10	Tot. Sol. kg/m3	Drd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	DIL %	CL ppm	Ca ppm	ALKALINITY MFL MFD	°C IN/OUT
78	1635	10.5	8.2	2.0	22/ 25.0	22. /29.	0.24		0.500	44		0.000	1500	280	0.2 1.6	70
84	1640	10.5	8.4	2.0	22/ 27.0	24. /34.	0.25		0.500	46			1500	250	0.1 1.4	71
CENTRIFUGE			DESILYER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JIT	
MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	WHIP	
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	18000	37.7	70.6	47.9	86.74	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH								
° @ m			PRESS TEST		HNDL TOOLS 2.00	Lignite		1
° @ m			DRILLING 3.75		SLIP & CUT	Starpak		1
° @ m			CIRCULATE 1.75		REAMING 3.25	Percol		
° @ m			TRIPPING 12.25		COND MUD	Drispac		1
° @ m			RIG SERV 0.25		CLN TO BTM	Sod sulf		
° @ m			BOP DRILL			Chemcide		
° @ m			DRLG OUT			Gypsum		
° @ m			REPAIRS 0.50			Lime		3
° @ m			SURVEYING			Pot Sulf		
° @ m			ORIENT TOO 0.25		CLN SCREEN	Barite		294
° @ m			TOTAL HOURS: 24.00			Biocide		
						Alcomer110		

MUD COMMENTS: K+ION - 25,000. POLYMER - 2.8. SULFITE - 250

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.23 @ 00:00 HOURS:

CIRCULATED BOTTOMS UP AND PREPARED TO TRIP. TRIPPED OUT BIT #23C TO 1926mKB. PUMPED WEIGHTED PILL, FLOW CHECKED AS REQUIRED. WHILE ON BANK, RIG SERVICED AND FUNCTIONED BLIND RAMS, 6 SECONDS TO CLOSE. BROKE OFF BIT AND INSPECTED. LAID DOWN MUD MOTOR. MADE UP NEW BOTTOM HOLE ASSEMBLY. RAN IN

HOLE WITH BIT #24C TO 750mKB. FILLED PIPE AND TESTED MWD TOOL. RAN IN HOLE TO 940mKB, FORGOT PIPE SCREEN, PULLED BACK UP TO 750m AND RECOVERD SAME. RAN IN HOLE TO 1450mKB. TAGGED UP ON BRIDGE. CIRCULATED AND CLEANED OUT BRIDGE FROM 1450-1460mKB. TRIPPED IN HOLE TO 2183mKB. BROKE CIRCULATION AND CLEANED FROM 2183-2202mKB. REAMED TIGHT HOLE FROM 2202-

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:

C'D 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/24

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 81 DEPTH: 2219.00 m

PROGRESS: 5.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR SKIES

TEMP: 7 °C

8:00 a.m. OPERATION: DRILLING 311mm HOLE

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2211mKB. REPLACED WASHED VALVE AND SEAT ON #2 MUD PUMP. REAMED TIGHT HOLE FROM 2211-2214mKB. DRILLED 311mm HOLE FROM 2214-2219mKB TO 23:59 HOURS 2000.10.23.

NOTE 1: TRIP RECORD: MEASURED: 17.23m³. CALCULATED: 15.11m³.
DIFFERENCE: + 2.12m³.

NOTE 2: BIT #23C, FM2743, CAME OUT GOOD, NO SIGN OF WEAR OR DAMAGED CUTTERS.

NOTE 3: RECEIVED FUEL, NITROGEN AND STORAGE TANKS.

NOTE 4: TORQUE AT BOTTOM WITH BIT #24C: 12,200-14,900 Nm.

NOTE 5: HOLE DRAG: 5000-12,000 daN.

NOTE 6: HOLE CONDITIONS APPEAR GOOD, WITH NO EXPERIENCE OF ANY TIGHT HOLE

NOTE 7: CUTTINGS OVER SHAKERS HAVE SINCE CLEANED UP WITH THE ODD 3/4" CUTTING.

NOTE 8: SURVEY: 2206.9m INC 1.5 DEGREE, AZ 139.2.

NOTE 9: AKITA DRILLING HOISTING LIMITS ON DRILL STRING = 158,252 daN.
MAST = 235,800 daN.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/23

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 80

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m

KB-GL: 6.7 m

GL: 481.3 m

KB-CF: 6.5 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: FOGGY

TEMP: 6 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2214.00 m

PROGRESS: 17.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2214.00 m

8:00 a.m. OPERATION: TRIPPING OUT BIT #23C.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 71711 CUMULATIVE COST: \$ 8677426

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	6 228mm DC
1 X/O SUB	12 6 3/4" DC	1 X/O SUB	3 HWDP	

LENGTH: 264.43 m WT. BELOW JARS: 10500 daN JAR HRS: 207.2 JAR SERIAL #: 10158

WT. ON BIT: 28000 daN

ROTARY RPM: 60-85

STRING WT.: 100000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

12

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT				REMARKS			
					1	2	3	IN	OUT			DR	RMD	WTHAN	RPM	I	O	D	L		R	G	O
22C	311.0	SMITH	LW4035	F10TP				2111	2197	86	1.0	83.00		26-32	60	4	4	CT	H	E	I	WT	HR
23CR	311.0	DBS	5997062	FM2743	17.5	17.5	17.5	2197	2214	17	1.3	12.75	5.25	16-27	60								
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	bH	WL cc/300ml	FC mm	PV/VP	GELS O/10	Tel. Sol. kg/m3	Dilat. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OUT %	Cl mm	Ca mm	ALKALINITY MEI MFO	°C IN/OUT
83	1625/	10.6	7.8	2.0	24/ 28.0	24./32.	0.26		1.000	45		0.000	1500	240	0.2 1.6	/ 71
78	1625/	9.9	8.8	2.0	26/ 26.0	23./29.	0.23		0.500	44			1500	280	0.1 1.4	/ 71
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	EPa	DP m ³ /MIN	DC m ³ /MIN	VELOCITY m/sec.	RHP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	16400	35.9	67.2		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Lignite		
1.00 °	@	2187.11 m	129.90			Starpak		
1.10 °	@	2196.70 m	141.60			Percol		
°	@	m				Drispac		
°	@	m				Sod sulf		
°	@	m				Chemcide		
°	@	m				Gypsum		
°	@	m				Lime		
°	@	m				Pot Sulf		
°	@	m				Barite		
°	@	m				Biocide		
°	@	m				Alcomer110		
°	@	m						
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+ION - 25000, POLYMER - 2.8, SULFITE - 280.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.22 @ 00:00 HOURS:

REAMED 311mm HOLE FROM 2195-2197mKB. DIRECTIONALLY DRILLED 311mm HOLE FROM 2197-2197.7mKB. CIRCULATED AND WORKED TIGHT HOLE (PRESSURE UP). DIRECTIONALLY DRILLED 311mm HOLE FROM 2197.7-2199mKB. CLEANED SHALE OUT OF PIPE SCREEN.

DIRECTIONALLY DRILLED 311mm HOLE FROM 2199-2204mKB. MADE

CONNECTION AND WERE UNABLE TO GO BACK TO BOTTOM. REAMED AND CLEANED UP HOLE FROM 2195-2204mKB. RIG SERVICED. FUNCTIONED ANNULAR. DIRECTIONALLY DRILLED FROM 2204-2205mKB. SURVEYED AT 2187.11mKB. DIRECTIONALLY DRILLED FROM 2205-2211mKB. BACK REAMED AND WORKED TIGHT HOLE FROM 2211-2190mKB. PULLED 35,000-40,000 daN OVER STRING WEIGHT. AT 2211mKB CIRCULATED

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/23
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 80 DEPTH: 2214.00 m PROGRESS: 17.00 m CPANO.: 300C316040123300
WEATHER: FOGGY TEMP: 6 °C
8:00 a.m. OPERATION: TRIPPING OUT BIT #23C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

AND MIXED BARITE TO INCREASE DENSITY TO 1640 kg/m³. DIRECTIONALLY DRILLED 311mm HOLE FROM 2211-2214mKB. PULLED OFF BOTTOM AND SURVEYED (2196.7mKB). AT THAT POINT TOOL FACE HAD BECOME A PROBLEM TO ORIENT WITH PRESSURES SPIKES. HOLE CONDITION BECAME TIGHT. PULLING UP TO 35,000 daN OVER STRING WEIGHT TO REGAIN FREE POINT AT BIT. CIRCULATED BOTTOMS UP AND WORKED DRILL STRING AND PREPARED TO TRIP OUT BIT #23C TO 23:59 HOURS 2000.10.22.

NOTE 1: MAXIMUM EXPERIENCED HOOK LOAD: 140,000 daN.

NOTE 2: BOTTOM HOLE TORQUE: 12,000-24,500 Nm.

NOTE 3: SAFETY TOPIC: WORKING AT HEIGHTS.

NOTE 4: RAN BARITE RECOVERY AND PROCESSED 10m³.

NOTE 5: RECEIVED ON LOCATION 16 JOINTS 127mm HWDP/CORE BARRELS.

NOTE 6: TWO DRY SLEEPER UNITS ARRIVED AND WERE SET UP AT CAMP FOR EXTRA SLEEPING ACCOMMODATIONS.

NOTE 7: THE TRIP OUT WITH BIT #23C IS GOOD AT 260mKB AT 06:00 HOURS 2000.10.23.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/22

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 79

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: OVERCAST AND FOGGY

TEMP: -4 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 2197.00 m

PROGRESS: 9.00 m

PSTD: m FORMATION:

6:00 a.m. DEPTH: 2204.00 m

8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE WITH PDC BIT.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 109194 CUMULATIVE COST: \$ 8605715

1 311 mm	1 244.4mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MUD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	6 228mm DC
1 X/O SUB	12 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS: 1239.9

LENGTH: 264.43 m WT. BELOW JARS: 10500 daN JAR HRS: 207.0 JAR SERIAL #: 10158

WT. ON BIT: 30000 daN

ROTARY RPM: 60-85

STRING WT.: 99000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228	H90	9
171	H90	12

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT								REMARKS		
					1	2	3	IN	OUT			DNL	RMD		WT daN	RPM	I	O	D	L	B	G		S	O
22C	311.0	SMITH	LW4035	F10TP				2111	2197	86	1.0	83.00			26-32	60	4	4	CT	H	E	I	WT	HR	
23CR	311.0	DBS	5997062	FM2743	17.5	17.5	17.5	2197		0					-										
										0					-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/1.	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot Sol kg/m3	Dnd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CF ppm	CS ppm	ALKALINITY MFI	MFO	°C IN/OUT
81	1625'	10.6	8.6	2.0	24' 25.0	23. /34.	0.25		0.500	46		0.000	1500	280	0.2	1.4	/ 72
80	1625'	10.5	8.8	2.0	24' 26.0	23. /36.	0.25		0.500	46			1500	300	0.2	1.6	/ 72
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3			

PUMP NO. 1					PUMP NO. 2					PRESSURE kPa	ANGULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		DP m/MIN	DC m/MIN	VELOCITY m/sec	WHP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15200	35.9	67.2	27.1	26.31

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	2.00	Lignite	2
1.00° @ 2175.60 m	135.10		DRILLING 7.50	SLIP & CUT		Starpak	1
° @ m			CIRCULATE 2.00	REAMING		Percol	
° @ m			TRIPPING 10.25	COND MUD		Driscac	1
° @ m			RIG SERV 0.50	CLN TO BTM	1.25	Sod sulf	
° @ m			BOP DRILL			Chemside	1
° @ m			DRLG OUT			Gypsum	
° @ m			REPAIRS			Lime	
° @ m			SURVEYING 0.50			Pot Sulf	56
° @ m				SAVER SUB		Barite	176
° @ m				TOTAL HOURS: 24.00		Biocide	
						Alcomer110	

MUD COMMENTS: K+ION - 25000, POLYMER - 2.8, SULFITE - 250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.21000:00 HOURS.DIRECTIONALLY DRILLED 311mm HOLE
 FROM 2188-2197mKB. RIG SERVICED AND SURVEYED AS REQUIRED.
 CIRCULATED BOTTOMS UP,TRIPPED OUT BIT#22C.HOLE CONDITIONS
 BECAME TIGHT AT 2110mKB.CIRCULATED AND BACK REAMED FROM
 2110-2075mKB. PULLED 25,000 TO 30,000 daN OVER STRING
 WEIGHT.MOISTED BIT TO 1900mKB AND PUMPED WEIGHTED PILL.

CONTINUED WITH TRIP.FROM 900-870mKB HOLE BECAME STICKY.
 PULLED 7000 daN OVER STRING WEIGHT.(POSSIBLE MUD RING)
 REMAINING TRIP OUT TO BIT WAS GOOD.(FLOW CHECKS AS REQUIRED)
 RECOVERED M.W.D.TOOL,BROKE OFF BIT AND INSPECTED SAME.RIG
 SERVICED AND FUNCTION BLIND RAMS.MADE UP BIT#23C,CHANGED
 ANGLE ON MUD MOTOR TO 1.50 DEGREE. SERVICED M.W.D.TOOL.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/22
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0

DAY: 79 DEPTH: 2197.00 m PROGRESS: 9.00 m CPA NO.: 300C316040123300

WEATHER: OVERCAST AND FOGGY TEMP: -4 °C
8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE WITH PDC BIT.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

MADE UP NEW BHA. PICKED UP ONE 228mm DRILL COLLAR AND THREE 171mm DRILL COLLARS. TRIPPED IN HOLE WITH BIT#23C TO 730mKB. PULSE TESTED MWD TOOL. TRIPPED IN HOLE TO 1935mKB. TAGGED BRIDGE. BROKE CIRCULATION AND CLEANED BRIDGE FROM 1935-1946mKB. RAN IN HOLE FROM 1946-2118mKB. CIRCULATED AND WASHED TO BOTTOM FROM 2118mKB TO 2195mKB TO 23:59 HOURS 2000/10/21.

- * TRIP RECORD: MEASURED=16.69m³. CALCULATED=14.26m³. DIFF=2.43m³.
 - * WHILE TRIPPING TRANSFERED MUD OUT OF #1 SUCTION TANK AND CLEANED OUT SOLIDS, ALSO SAND TRAPS.
 - * SET MOTOR ANGLE DOWN FROM 2.12 TO 1.5 DEGREES.
 - * SAFETY TOPIC: PIPE SPINNER.
-
- * BIT #23C AVERAGE RATE OF PENETRATION: 1.1m/hr TO 1.6m/hr.
WT. ON BIT=29,000 daN. DIFFERENTIAL PRESSURE OF 2000 kPa.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/21

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 78

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: PARTLY CLOUDY SKIES/SNOW

TEMP: -7 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2188.00 m

PROGRESS: 26.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2197.50 m

8:00 a.m. OPERATION: DIRECTIONAL DRILLING 311mm HOLE, ATTEMPTING TO DROP ANGLE.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 77323 CUMULATIVE COST: \$ 8496521

1 311 mm	1 244.4mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL
ROTATING
HOURS: 1232.4

LENGTH: 226.82 m WT. BELOW JARS: 10500 daN JAR HRS: 207.0 JAR SERIAL #: 10158

WT. ON BIT: 30000 daN

ROTARY RPM: 60-85

STRING WT.: 94000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228 H90

8

171 H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT			REMARKS
					1	2	3	IN	OUT			DRL	RMD	WIDEN	RPM	T	O	D	
22C	311.0	SMITH	LW4035	F10TP				2111		77	1.0	75.50		26-32	60				
										0				-					
										0				-					

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Stk/l.	DENSITY IN/OUT	pH	WL lb/30min	FC mft	RV/YF	GELS On/O	For Sol. kg/m3	Dnd Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	CA ppm	ALKALINITY MFI MFO	°C IN/OUT
74	1620/	10.3	7.8	2.0	24/ 23.0	22./29.	0.26		1.000	44		0.000	1500	240	0.2 1.7	/ 72
88	1615/	10.0	7.6	2.0	25/ 25.0	23./30.	0.25		0.500	46			1500	200	0.2 1.6	/ 72
CENTRIFUGE			DESILTER			DESANDER			DEOASSER			TOTAL MUD DUMPED				
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		LIFT	
MODEL	LINER	STROKE	SPM	m3/MIN	MODEL	LINER	STROKE	SPM	m3/MIN	PSI	DP	DC	VELOCITY	HP	
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15200	35.9	67.2		0.00	

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH									
1.10 °	@	2159.67 m	130.10	PRESS TEST		HNDL TOOLS		Lignite	1
1.10 °	@	2169.34 m	130.40	DRILLING	21.00	SLIP & CUT		Starpak	1
°	@	m		CIRCULATE		REAMING		Percol	1
°	@	m		TRIPPING		COND MUD		Driscac	1
°	@	m		RIG SERV	0.50	CLN TO BTM		Sod sulf	
°	@	m		BOP DRILL	0.25			Chemcide	1
°	@	in		DRLG OUT				Gypsum	4
°	@	m		REPAIRS	0.50			Lime	4
°	@	m		SURVEYING	0.75			Pot Sulf	112
°	@	m				SAVER SUB	1.00	Barite	186
°	@	m				TOTAL HOURS:	24.00	Biocide	2
								Alcomer110	1

MUD COMMENTS: K+ION-25,000.POLYMER-2.8.SULFITE-250

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.20 @ 00:00 HRS.DIRECTIONALLY DRILLED 311mm HOLE

FROM 2162-2176mKB.RIG SERVICED AND SURVEYED AS REQUIRED.

REMOVED SAVERSUB FROM TOP DRIVE AND REPLACED THE SAVER SUB.

DIRECTIONALLY DRILLED 311mm HOLE FROM
2176mKB TO 2177mKB.CHANGED OUT 2 SUCTION

VALVES ON #1 MUD PUMP.DIRECTIONALLY DRILLED FROM 2177mKB TO

2188mKB WITH SURVEYS AS REQUIRED TO 23:59 HOURS 2000.10.20.

NOTES:

* HOLE DRAG:8000 - 14000 daN UP,12000 daN DOWN.

* TORQUE:10,000 - 19,500 NM.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/21
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0

DAY: 78 DEPTH: 2188.00 m PROGRESS: 26.00 m CPA NO.: 300C316040123300

WEATHER: PARTLY CLOUDY SKIES/SNOW

TEMP: -7 °C

8:00 a.m. OPERATION: DIRECTIONAL DRILLING 311mm HOLE, ATTEMPTING TO DROP ANGLE.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * RECEIVED 336 JOINTS OF 114.3mm X 18.75, L80 NSCT. TUBING
- * RECEIVED AND SET TWO 60m³ TANKS FOR DIESEL STORAGE FOR COMPLETION.
- * SAFETY TOPIC (BOP DRILLS)
- * HOLE CONDITION APPEAR GOOD, WITH NO SIGNS OF DOWN HOLE LOSSES REPORTED.
- * ROTATE: 2162mKB - 2187mKB.
- * SLIDE: 2187mKB - 2190.4mKB.
- * ROTATE: 2190.4mKB - 2192mKB. RAN A CHECK SHOT SURVEY @ 2192mKB.

SURVEY DEPTH: 2175.6, INC. 1 DEGREE, AZ. 135.1

- * ROTATE: 2192mKB TO ESTIMATED 08:00 HOURS DEPTH OF 2197.5mKB @ 1.4-1.8m/hr TRYING TO NOSE DOWN AND DROP INC. BELOW 1 DEGREE.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/20

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 77

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m KB-GL: 6.7 m

GL: 481.3 m KB-CF: 6.5 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: OVERCAST WITH SNOW

TEMP: -2 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2162.00 m

PROGRESS: 24.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 2170.50 m

8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 113120 CUMULATIVE COST: \$ 8419198

1 311 mm	1 244.4mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL
ROTATING
HOURS: 1211.4

LENGTH: 226.82 m WT. BELOW JARS: 10500 daN JAR HRS: 186.0 JAR SERIAL #: 10158

WT. ON BIT: 28000 daN

ROTARY RPM: 60-85

STRING WT.: 93000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.							REMARKS			
					1	2	3	N	OUT			DRL	RWD		WIDEN	ERM	I	D	D	L	B			G	O
22C	311.0	SMITH	LW4035	F10TP				2111		51	0.9	54.25		26-32	60										
										0				-											
										0				-											

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

MUD

Viscosity Steel.	DENSITY IN/OUT	PH	WL cc/30min.	FC mm	RWYF	GELS OIL	Tot. Sol kg/m3	Dns. Sol kg/m3	SAND %m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MT MTO	°C IN/OUT		
79	1625 /	11.1	8.8	2.0	26 / 26.0	26. /32.	0.26		1.000	46		0.000	1600	280	0.2 1.7	/ 70		
84	1620 /	10.3	7.8	2.0	26 / 26.0	26. /34.	0.24		0.750	44			1500	240	0.3 1.8	/ 70		
CENTRIFUGE					DESILTER					DEXANDER					DEGASSER			TOTAL MUD DUMPED
HR IN		kg/m3	OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	m3			

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANGULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	RHP	
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15200	35.9	67.2		0.00	

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH									
2.60 °	@	2121.37 m	140.10	PRESS TEST		HNDL TOOLS		Lignite	1
2.10 °	@	2131.05 m	137.50	DRILLING	22.25	SLIP & CUT		Starpak	2
				CIRCULATE		REAMING		Percol	1
1.80 °	@	2140.50 m	135.50	TRIPPING		COND MUD		Drispac	2
u	@	m		RIG SERV	0.75	CLN TO BTM		Sod sulf	
n	@	m		BOP DRILL				Corinox	
o	@	m		DRLG OUT				Gypsum	
o	@	m		REPAIRS	0.25			Lime	4
u	@	m		SURVEYING	0.75			Pot Sulf	112
u	@	m						Barite	168
o	@	m						Biocide	2
								Alcomer110	1
				TOTAL HOURS: 24.00					

MUD COMMENTS: K+ION-25000, SULFATE-280, POLYMER-2.8

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.19 @ 00:00 HOURS:

DIRECTIONALLY DRILLED 311mm HOLE WITH SURVEYS FROM 2138-

2150mKB. RIG SERVICED. FUNCTION TESTED TOP PIPE RAMS.

RECORDED REDUCED STROKE PUMP PRESSURE. CHANGED OUT SUCTION

VALVE ON F-1000 MUD PUMP. DIRECTIONALLY DRILLED 311mm HOLE

WITH SURVEYS FROM 2150-2162mKB AT 23:59 HOURS 2000.10.19.

NOTE 1: TORQUE: 9,500-16,000 Nm (2143-2163mKB).

NOTE 2: TORQUE: 10,000-24,000 Nm (2163-2166mKB).

NOTE 3: TORQUE: 10,000-15,500 Nm (2166-2170mKB).

NOTE 4: HOLE DRAG: 5,000-15,000 daN UP, 12,000 daN DOWN.

NOTE 5: FUNCTIONED REMOTE CHOKE AND TESTED FIRE FLARE IGNITOR.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/20
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 77 DEPTH: 2162.00 m PROGRESS: 24.00 m CPA NO.: 300C316040123300
WEATHER: OVERCAST WITH SNOW TEMP: -2 °C
8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTE 6: HOLE CONDITIONS APPEAR GOOD, NO MUD LOSSES.
NOTE 7: ROTATED - 2138-2163mKB AT 1.1 TO 1.6m/HOUR.
NOTE 8: STRIPPED BACK 10m3 OF MUD FROM ACTIVE SYSTEM.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227
CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/19	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 76	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Clear		TEMP: -3 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2138.00 m		PROGRESS: 21.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2143.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole.			

APE #: APE AMT: \$ 12658500 DAILY COST: \$ 74081 CUMULATIVE COST: \$ 8306078

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS: 1189.2

LENGTH: 226.82 m WT. BELOW JARS: 10500 daN JAR HRS: 164.0 JAR SERIAL #: 10158

WT. ON BIT: 28000 daN ROTARY RPM: 60-85 STRING WT.: 92000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228 H90 8
171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCTURE					REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
					1	2	3	IN	OUT			DR	RMD	WT daN	RPM	1	2	3	4	5		6	7	8	9																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
22C	311.0	SMITH	LW4035	F10TP				2111		27	0.8	32.25			26-32	60																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																

LAST PIPE TALLY: 1302.37 BOARD: 1301.83 CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS OAG	Tot Sol g/ml	Drid Sol g/ml	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MM	MFO	
89	1620/	10.8	7.8	2.0	30/ 25.0	26./34.	0.26		0.750	48		0.000	1500	320	0.3	1.7	/ 70
80	1625/	10.3	8.2	2.0	24/ 23.0	19./28.	0.25		0.750	46			1500	260	0.2	1.8	/ 70
CENTRIFUGE										DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED	
HR IN		kg/m3		OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3	

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANGULAR VELOCITY		JET	
TYPE: F-1000					TYPE: F-1000									
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	KPS	OP m/MIN	DC m/MIN	VELOCITY m/sec	BHP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15000	37.3	218.2		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH								
3.60 °	@ 2102.30 m	132.50	PRESS TEST		HNDL TOOLS	Lignite		9
3.30 °	@ 2111.77 m	135.70	DRILLING	22.75	SLIP & CUT	Starpak		3
°	@ m		CIRCULATE		REAMING	Percol		1
°	@ m		TRIPPING		COND MUD	Drispac		3
°	@ m		RIG SERV	0.50	CLN TO BTM	Sod sulf		4
°	@ m		BOP DRILL	0.25		Corinox		2
°	@ m		DRLG OUT			Gypsum		4
°	@ m		REPAIRS			Lime		6
°	@ m		SURVEYING	0.50		Pot Sulf		168
°	@ m					Barite		252
°	@ m					Biocide		2
°	@ m					Alcomer110		2
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+lon - 25,000, Sulfite - 300, Polymer - 2.8

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.18 @ 00:00 Hours:

Directionally drilled 311mm hole from 2117mKB with rig services and surveys as required. Held BOP drill in drilling mode. Well secured in 90 seconds. Drilled to 2138mKB at 23:59 hours 2000.10.18.

Note 1: Hole cleaning well. No apparent losses reported.

Note 2: Torque: 9,492-16,272 Nm.

3: Hole Drag: 5,000-15,000 daN up, 12,000 daN down.

4: Safety Topics: BOP drill/cleaning building roofs.

5: Survey @ 2121.37mKB, 2.6 degrees, azm 140.1.

6: Rotated: 2122-2130mKB, ROP at 1.1-1.5m/hour.

Slid: 2130-2132mKB, ROP at .6m/hour.

SUPERVISOR: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/19

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 76

DEPTH: 2138.00 m

PROGRESS: 21.00 m

CPANO.: 300C316040123300

WEATHER: Clear

TEMP: -3 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 6: Rotated: 2132-2136mKB, ROP at 1-1.3 m/hour.
Slid: 2136-2137mKB, ROP at .5-.6 m/hour.
Rotated: 2137-2138mKB, ROP at .9-1 m/hour.

REPORTED BY: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/18	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 75	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900			
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m	KB-GL: 6.7 m	SPUD DATE: 00/08/04 @ 12:15 hrs.	
RIG #: 58E		GL: 481.3 m	KB-CF: 6.5 m	RIG RELEASE: @ : hrs.	
		WELL STATUS:			
WEATHER: Clear		TEMP: -3 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 2117.00 m		PROGRESS: 6.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 2123.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole.			

APE #: **APE AMT:** \$ 12558500 **DAILY COST:** \$ 107226 **CUMULATIVE COST:** \$ 8231997

1	311 mm	1	244.4Mud mot	1	FLOAT SUB	1	RESTRIC.SUB	1	MONEL MWD
1	MONEL	1	SHOCK SUB	3	228mm DC	1	JARS	5	228mm DC
1	X/O SUB	9	6 3/4" DC	1	X/O SUB	3	HWDP		

TOTAL ROTATING HOURS	1166.5
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LENGTH: 226.82 m WT. BELOW JARS: 10500 daN JAR HRS: 141.3 JAR SERIAL #: 10158

WT. ON BIT: 28000 dN

ROTARY RPM: 60-85

STRING WT.: 92000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

171

490

9

[illegible]

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

VISCOSITY Sec/L	DENSITY DN/OUT	pH	WL cc/30min	FC unit	PV/YP	GELS O/10	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MF	MPD	
78	1625'	9.8	7.8	2.0	24' 22.0	22. / 29.	0.24		0.800	44		0.000	1600	280	0.2	1.5	70
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN		kg/m3	OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	m3		

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANGULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	kp _a	DP m/MIN	DC m/MIN	VELOCITY m/sec	RHP	
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15000	37.3	218.2		0.00	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
		AZIMUTH	PRESS TEST		HNDL TOOLS 0.50	Lignite		
u	@	m	DRILLING	9.50	SLIP & CUT 0.75	Starpak		
o	@	m	CIRCULATE	0.75	REAMING	Soda Ash		
u	@	m	TRIPPING	11.25	COND MUD	Driscopac		
a	@	m	RIG SERV	0.25	CLN TO BTM	Sod sulf		2
o	@	m	BOP DRILL			Corinox		1
o	@	m	DRLG OUT			Gel		
o	@	m	REPAIRS	1.00		Lime		
o	@	m	SURVEYING			Pot Sulf		56
a	@	m				Barite		
u	@	m				Biocide		1
					TOTAL HOURS: 24.00	Alcomcr110		

MUD COMMENTS: K+Ion - 24,000, Sulfite - 250, Polymer - 2.8.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.17 a 00:00 hours

Hoisted Bit # 21C from 1700mKB to surface, flow checked as required. Function tested blind rams when out of hole, 8 seconds to close. Changed bits, mud motor and serviced MWD tools. Tripped in with Bit # 22C to 714mKB. Function tested MWD tools. Slipped and cut 20m of drilling line. Tripped in

hole to 2090mKB. Break circulation and cleaned to bottom with 1m fill. Directionally drilled 311mm hole from 2111-2113mKB. Changed head and liner on #1 F-1000 mud pump. Oriented tool face and directionally drilled to 2117mKB to 23:59 hours 2000.10.17.

SUPERVISOR: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/18
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 75 DEPTH: 2117.00 m PROGRESS: 6.00 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: -3 °C
8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Hole cleaning well with no apparent losses reported.
 - * Torque: 9,492 - 16,272 NM.
 - * Hole drag: 5,000 - 20,000 daN up, 12,000 daN down.
 - * Hole fill: Act - 17.85 m³, Calc - 13.92 m³, Diff = +3.93 m³.
 - * Peace Land anchor truck was out and set anchors.
 - * Finished setting up tank farm #3 with DC Energy.
 - * Received 9 joints 245 mm casing, Norward equipment, logging truck and fuel in last 24 hours.
 - * Safety topics : moving table bushings / moving collars.
 - * Picked up 9 5/8" 5/6 lobe 4S mud motor set @ 2.12 degrees, ser# 31136065
 - * Survey @ 2102.3 m, 3.6 degrees, 132.5 azm.
- Note: Slid - 2111 mKB to 2115 mKB ROP (.4 - .6 m/hr)
Rotated - 2115 mKB to 2120 mKB ROP (.9 - 1.2 m/hr)
Slid - 2120 mKB to 2122 mKB ROP (.4 - .7 m/hr)

REPORTED BY: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/17	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 74	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Clear/Windy		TEMP: 6 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2111.00 m		PROGRESS: 18.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2111.00 m		8:00 a.m. OPERATION: Tripping in w/Bit #22C			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 141803 CUMULATIVE COST: \$ 8124771

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	
LENGTH: 226.53 m	WT. BELOW JARS: 10500 daN	JAR HRS: 131.8	JAR SERIAL #: 10158	

TOTAL
ROTATING
HOURS: 1157.0

WT. ON BIT: 25000 daN ROTARY RPM: 60-80 STRING WT.: 91000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:
 228 H90 8
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT								REMARKS
					1	2	3	IN	OUT			DRL	RMD	WT/MM	RPM	1	2	3	4	5	6	7	8	
21C	311.0	SMITH	LW4037	F10TP				2028	2111	83	1.2	70.00		25-32	60	4	4	WT	A	4	I	CT	PR	
22C	311.0	SMITH	LW4035	F10TP				2111		-211				-										
										0				-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WT cc/30ml	FC mm	PV/YP	GELS Q10	TOL SOL kg/m3	DIL SOL kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MEI MFO	°C IN/OUT
84	1620/	11.0	9.0	2.0	25/ 25.0	22. /31.	0.26		0.750	47		0.000	1600	320	0.3 1.8	/ 70
79	1620/	10.8	7.2	2.0	24/ 23.0	21. /32.	0.27		0.750	45			1600	320	0.2 1.7	/ 71
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	kp	DP m/MIN	DC m/MIN	VELOCITY m/sec	IN/IN
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15500	37.3	218.2		0.00

SURVEYS				TIME BREAKDOWN				MUD-ADDITIVES	
AZIMUTH				PRESS TEST		HNDL TOOLS		Lignite	
3.40 °	@	2083.09 m	128.60	DRILLING	18.75	SLIP & CUT		Starpak	4
3.60 °	@	2092.59 m	129.20	CIRCULATE	1.75	REAMING		Soda Ash	1
°	@	m		TRIPPING	2.00	COND MUD		Driscac	4
°	@	m		RIG SERV	0.50	CLN TO BTM		Sod sulf	4
°	@	m		BOP DRILL	0.25			Corinox	2
°	@	m		DRLG OUT				Gel	30
°	@	m		REPAIRS	0.25			Lime	4
°	@	m		SURVEYING	0.50			Pot Sulf	112
°	@	m						Barite	294
°	@	m						Biocide	2
°	@	m						Alcomer110	1
				TOTAL HOURS:		24.00			

MUD COMMENTS: K+Ion - 25,000, Sulfite - 2.8, Polymer - 250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.16. @ 00:00 hours

Directionally drilled 311mm hole from 2093-2111mKB. Rig serviced and surveyed as required. Circulated bottoms up.

Tripped Bit # 21C due to poor ROP and also iron fillings in last sample. Made up top drive, pumped out stands to 2030mKB pulled 15,000 to 25,000daN over string weight. Hoisted bit

to 1700mKB. Pumped weighted pill. Flow checked as required.

(Hole good from 2080 mKB) Hoist out to 23:59 hours

2000.10.16

* Hole cleaning well with no apparent losses reported.

* Torque: 9,492 - 16,272 NM.

* Hole drag: 5,000 - 20,000daN.

SUPERVISOR: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/17

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 74

DEPTH: 2111.00 m

PROGRESS:

18.00 m

CPA NO.: 300C316040123300

WEATHER: Clear/Windy

TEMP: 6

°C

8:00 a.m. OPERATION: Tripping in w/Bit #22C

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Received bent pipe and drill collars back to location after being repaired.
- * Started setting additional tanks up in tank farm #2, the barge bringing over tanks lost power and barge floated down river 2 miles, hanging up on a sand bar. Truck drivers were taken to barge landing on Chevron side to wait until barge was freed up. Drivers went to Chevron camp and were refused entry.
- * Changed 2 suction valves, 1 discharge valve on #1 F-1000 mud pump.
- * Safety topics: sliding / monel collars.
- * Held BOP drill in the drilling mode, well secured in 60 seconds.
- * Total rotating hours on BHA since last inspection = 347.5 hours.

REPORTED BY: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/16	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 73	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Overcast/windy		TEMP: 7 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2093.00 m		PROGRESS: 28.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2100.00 m		8:00 a.m. OPERATION: Directionally drilling 311 mm hole			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 71127 CUMULATIVE COST: \$ 7982968

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL
ROTATING
HOURS: 1138.3

LENGTH: 226.53 m WT. BELOW JARS: 10500 daN JAR HRS: 113.0 JAR SERIAL #: 10158

WT. ON BIT: 25000 daN

ROTARY RPM: 60-80

STRING WT.: 90000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.						REMARKS			
					1	2	3	IN	OUT			DRL	RMD	WIDEN	RPM	I	O	D	C	B	G		O	R	
21c	311.0	SMITH	LU4037	F10TP				2028		65	1.3	51.25		25-32	60										
										0				-											
										0				-											

LAST PIPE TALLY: 1302.37

BOARD: 1501.83

CORRECTION: YES [] NO []

Viscosity Sul/L	DENSITY IN/OUT	pH	WL cc/30min	PC mm	PV/VP	GELS Q/10	Tot Sol kg/m3	Prod Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C
															MFI	MFO	IN/OUT
78	1615'	11.2	8.4	2.0	24/ 25.0	21./30.	0.26		0.750	48		0.000	1600	320	0.3	1.8	/ 70
68	1630'	11.0	8.0	2.0	22/ 23.0	19./28.	0.27		0.750	45			1600	320	0.3	1.7	/ 70
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP

PUMP NO. 1	TYPE: F 1000				PUMP NO. 2	TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		12'	
	MODEL	LINER mm	STROKE mm	SPM		MIN	MODEL	LINER mm	STROKE mm		SPM	MIN		DP m/MIN
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	14900	37.3	218.2		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH						Lignite	2
3.20 °	@ 2054.53 m	143.90	PRESS TEST		HNDL TOOLS	Starpak	1
3.20 °	@ 2063.61 m	139.00	DRILLING 21.00		SLIP & CUT	Percol 728	2
3.30 °	@ 2073.27 m	132.70	CIRCULATE		REAMING	Drispac	1
"	@ m		TRIPPING		COND MUD	Sod sulf	6
"	@ m		RIG SERV 1.25		BOP DRILL	Corinox	2
"	@ m		BOP DRILL		HNDL TOOLS 0.25	Gel	10
"	@ m		DRLG OUT		CLN TO BTM	Gypsum	4
"	@ m		REPAIRS 0.75			Pot Sulf	168
"	@ m		SURVEYING 0.75			Barite	252
"	@ m					Biocide	2
"	@ m					Soda Ash	1
			TOTAL HOURS: 24.00				

MUD COMMENTS: K+ion - 26,000, Sulfite - 250, Polymer - 2.8.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.15 @ 00:00 hours

Directionally drilled 311mm hole from 2065-2093mKB with rig services and surveys as required to 23:59 hours

2000.10.15.

Note 1: Hole cleaning well with no apparent losses reported.

2: Torque: 10,848 - 14,916 NM.

3: Hole drag: 10,000 - 15,000 daN.

4: Stripped 15 m3 mud in past 24 hours.

5: Safety topics: Mud tanks / ice conditions

6: ROP: sliding .8 to 1 m/hr, rotating 1.0 to 1.6 m/hr.

7: Changed head and liner in #1 F-1000 mud pump.

SUPERVISOR: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/16
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 73 DEPTH: 2093.00 m PROGRESS: 28.00 m CPA NO.: 300C316040123300
WEATHER: Overcast/windy TEMP: 7 °C
8:00 a.m. OPERATION: Directionally drilling 311 mm hole

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 8: Received 20 tonnes of Thermal 40F intermediate cement, 30 tonnes Thermal 40F plus liner cement. (on hand 15 tonnes 0-1-0 "G" and 20 tonnes of quick set)

REPORTED BY: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/15	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 72	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Clear / Windy		TEMP: 7 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2065.00 m		PROGRESS: 29.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2075.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole with MWD.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 94548 CUMULATIVE COST: \$ 7911841

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	
LENGTH: 226.53 m WT. BELOW JARS: 10500 daN JAR HRS: 92.0 JAR SERIAL #: 10158				

TOTAL ROTATING HOURS: 1117.3

 WT. ON BIT: 25000 daN ROTARY RPM: 60-80 STRING WT.: 89000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES diam			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.						REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WIDEN	REIN	L	D	D	T	P	G	O	R
21c	311.0	SMITH	LW4037	F10TP				2028		37	1.2	30.25			25-32	60							
										0					-								
										0					-								

LAST PIPE TALLY: 1302.37 BOARD: 1301.83 CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	HR	WC qt/30min	FC mm	PV/VP	GELS D/10	Tot. Sol. kg/m3	Dria. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT	
91	1620'	11.3	8.2	2.0	32' 27.0	21. '38.	0.26		0.001	48		0.000	1600	320	0.2 1.6	/ 67	
66	1635'	11.3	8.0	2.0	24' 24.0	19. '29.	0.25		0.000	42			1600	340	0.4 1.8	/ 71	
CENTRIFUGE					DESILTER				DESANDER			DEGASSER				TOTAL MUD DUMPED	
HR IN		kg/m3	OUT	kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	m3			

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	KPa	DI m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	14900	37.3	218.2		0.00

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH 4.30 ° @ 2025.70 m 139.90 4.00 ° @ 2035.35 m 145.20 3.70 ° @ 2044.85 m 147.60 3.20 ° @ 2054.53 m 143.90 ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	PRESS TEST DRILLING 22.75 CIRCULATE TRIPPING RIG SERV 0.50 BOP DRILL DRLG OUT REPAIRS SURVEYING 0.75 TOTAL HOURS: 24.00	Lignite 6 Starpak 2 Percol 728 2 Drispac 2 Sod sulf 3 Corinox 2 Gel 30 Alcomer110 2 Pot Sulf 112 Barite 481 Biocide 2 Lime 14

MUD COMMENTS: K-Ion - 26,000, Sulfite - 200, Polymer - 2.8. Stripped 20 m3 mud.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be Inserted below.)

2000.10.14 @ 00:00 hours

Directionally drilled 311mm hole from 2036-2065mKB. Rig serviced and surveyed as required to 23:59 hours 2000.10.14.

Note 1: Hole cleaning well with no apparent losses reported.

2: Torque: 10,848 - 14,916 NM.

3: Hole drag: 10,000 - 15,000daN.

4: Stripped 20m3 mud in past 24 hours.

5: Safety topics: Picking up singles / pick up subs.

6: ROP: sliding .8 to 1 m/hr, rotating 1.2 to 1.8 m/hr.

7: Survey @ 2054.53 m, 3.2 degrees, 143.9 azm.

SUPERVISOR: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/14

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 71

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m KB-GL: 6.7 m

GL: 481.3 m KB-CF: 6.5 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear/Windy

TEMP: 7 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2036.00 m

PROGRESS: 9.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2044.00 m

8:00 a.m. OPERATION: Directionally drilling 311mm hole with MWD.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 151638 CUMULATIVE COST: \$ 7817293

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS 1094.6

LENGTH: 226.53 m WT. BELOW JARS: 10500 daN JAR HRS: 69.3 JAR SERIAL #: 10158

WT. ON BIT: 25000 daN

ROTARY RPM: 60-80

STRING WT.: 89000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL#	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCTURE								REMARKS
					1	2	3	IN	OUT			DATE	TIME		WTAN	WPM	LC	DC	LT	BT	GC	DR	
20cR	311.0	REED	KH7469	EHP43H	22.2	22.2	22.2	1967	2028	61	1.0	61.75		25-32	60	4	4	WT	A	F	4	NO	PR
21c	311.0	SMITH	LW4037	F10TP				2028		8	1.1	7.50		25-32	60								
										0													

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WT. lb/30min	KFC lbm	PV/VP	GELS 0/10	Tap Sol. kg/m3	DR Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL lbm	CO ppm	ALKALINITY ME: WFO	°C IN/OUT	
81	1610'	10.0	9.2	2.0	26/ 21.0	26./32.	0.25		0.001	45		0.000	1500	240	0.3 -2.0	/ 66	
79	1615'	10.3	10.0	2.0	28/ 26.0	19./28.	0.28		0.000	45			1500	300	0.2 1.5	/ 62	
CENTRIFUGE				DESILTER				DESANDER				DEGASSER				TOTAL MUD DUMPED	
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP NO. 1	TYPE F 1000				PUMP NO. 2	TYPE F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	EP	EP m/MIN	DC m/MIN	VELOCITY m/hr	RHP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	14600	37.3	218.2		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite	1	
4.60 °	@	2009.60 m	136.00	DRILLING	9.25	SLIP & CUT	Starpak	
4.80 °	@	2016.19 m	138.30	CIRCULATE	2.00	REAMING	Percol 728	
°	@	m		TRIPPING	9.50	COND MUD	Drispac	
°	@	m		RIG SERV	1.00	BOP DRILL	Sod sulf	2
°	@	m		BOP DRILL		HNDL TOOLS	Corinox	1
°	@	m		DRLG OUT	-	CLN TO BTM	Gel	
°	@	m		REPAIRS	0.50		Alcomer110	1
°	@	m		SURVEYING	0.75		Pot Sulf	112
°	@	m					Barite	216
°	@	m					Biocide	1
°	@	m					Lime	2
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+Ion - 25,500, sulfite - 250; Polymer - 2.5.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.13 @ 00:00 hours

checked as required. Function tested blind rams when out of

hole, 8 seconds to close. Ran bit F10T. Made up bit and

tripped in bit # 21c to 733mKB. Function tested MWD tools.

Circulated bottoms up. Hoisted bit # 20cRR due to slow

penetration rate. Flow checked as required to 1700mKB.

Pumped weighted pill. Tripped out with bit #20cRR. Flow

SUPERVISOR: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/14

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 71

DEPTH: 2036.00 m

PROGRESS:

9.00 m

CPA NO.: 300C316040123300

WEATHER: Clear/Windy

TEMP: 7 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole with MWD.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

23:59 hours 200.10.13.

Note 1: Hole good on trip out with no apparent losses.

2: Hole fill: Actual - 16.83 m³, Calculated - 13.58 m³,
Difference = + 3.25m³

3: Torque - 9,492 - 13,560 NM.

4: Hole drag: 10,000 - 15,000daN.

5: Safety topic: Tripping

6: Average ROP sliding -.8 m/hr, rotating - 1.3 m/hr.

REPORTED BY: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/13

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 70

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m KB-GL: 6.7 m

GL: 481.3 m KB-CF: 6.5 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Overcast

TEMP: -1.5 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2027.00 m

PROGRESS: 22.00 m

PBD: m

FORMATION:

8:00 a.m. DEPTH: 2028.00 m

8:00 a.m. OPERATION: Hoisting Bit # 20cRR.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 72139 CUMULATIVE COST: \$ 7665655

1 311 mm	1 244.4mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS: 1085.4

LENGTH: 226.53 m WT. BELOW JARS: 11000 daN JAR HRS: 60.0 JAR SERIAL #: 10158

WT. ON BIT: 25000 daN

ROTARY RPM: 90

STRING WT.: 90000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BIT NO.	SIZE Dm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT	BIT		CUTTING STRUCTURE										REMARKS
					1	2	3	IN	OUT			DR	RMD	WT IN	RPM	I	O	D	L	B	G	C	K	
20cR	311.0	REED	KH7469	EHP43H	22.2	22.2	22.2	1967		60	1.0	60.00		25-32	60									
										0				-										
										0				-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS OND	Tot. Sol. kg/m3	Dod. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MPI	MFO	°C IN/OUT
79	1620	11.0	8.8	2.0	27' 25.0	21. '29.	0.25		0.001	47		0.000	1100	420	0.4	2.0	66
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD PUMPED			
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINE	STROKE	SPM	W/MIN	MODEL	LINE	STROKE	SPM	W/MIN		DR	DC	VELOCITY	ROP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	14800	37.3	218.2	33.7	40.51

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST		HNDL TOOLS		Lignite	2
4.50 °	@	1987.37 m	109.50	DRILLING	21.75	SLIP & CUT		Starpak	3
4.40 °	@	1997.04 m	123.70	CIRCULATE		REAMING		Percol 728	
4.70 °	@	2006.70 m	133.60	TRIPPING		COND MUD		Drispac	3
4.60 °	@	2009.60 m	136.00	RIG SERV	0.25	BOP DRILL		Sod sulf	4
°	@	m		BOP DRILL		HNDL TOOLS 0.25		Corinox	2
°	@	m		DRLG OUT				Gel	
°	@	m		REPAIRS	0.75			Alcomer110	2
°	@	m		SURVEYING	1.00			Pot Sulf	168
°	@	m						Barite	210
°	@	m						Biocide	2
°	@	m						Lime	4
						TOTAL HOURS: 24.00			

MUD COMMENTS: K-Ion - 24,000, Sulfite - 250, Polymer - 2.8.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.12 @ 00:00 hours

to 23:59 hours 2000.10.12.

Directionally drilled 311mm hole from 2005-2006mKB. Surveyed at 1987mKB. Circulated. Changed head in #1 F-1000 pump and worked on lubricator. Oriented tool face, drilled to 2026mKB. Rig serviced and surveyed as required. Circulated and changed head in F-1000 pump. Drilled from 2026-2027mKB

Note 1: Ran barite recovery and stripped 12m3 mud from active system.

2: Hole cleaning well with no reported losses.

3: Safety topics: camp power plant / crew truck safety.

SUPERVISOR: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/13
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 70 DEPTH: 2027.00 m PROGRESS: 22.00 m CPA NO.: 300C316040123300
WEATHER: Overcast TEMP: -1.5 °C
8:00 a.m. OPERATION: Hoisting Bit # 20CRR.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 4: Drilled ahead, maintained 1000kPa differential pressure on the bit.
- 5: Hole drag: 10,000 - 15,000daN.
- 6: Torque: 12,882 - 14,916 NM.
- 7: Recieved mud products, fuel and 2 loads of 178mm casing in the past 24 hours.
- 8: Survey: 2009.6mKB , 4.6 degrees, 136 azm.

REPORTED BY: SOLBERG/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/12

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 69

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear

TEMP: 0 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 2005.00 m

PROGRESS: 20.00 m

PBDT: m FORMATION:

8:00 a.m. DEPTH: 2012.00 m

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 91991 CUMULATIVE COST: \$ 7593516

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWOP	

TOTAL ROTATING HOURS: 1063.7

LENGTH: 226.53 m WT. BELOW JARS: 11000 daN JAR HRS: 38.3 JAR SERIAL #: 10158

WT. ON BIT: 25000 daN

ROTARY RPM: 90

STRING WT.: 89000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228	H90	8
171	H90	9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT WT daN	CUTTING STRUCT		REMARKS
					1	2	3	IN	OUT		DRILL	END		1	2	
20cR	311.0	REED	KH7469	EHP43H	22.2	22.2	22.2	1967		38	1.0	38.00	25-32			
										0						
										0						

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS On/Off	Tot Sol kg/m3	Drill Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	CK mm	ALKALINITY MEI MFO	°C IN/OUT
86	1635'	10.5	7.2	2.0	30' 28.0	20. /30.	0.27		0.001	50		0.000	1300	440	0.3 1.0	/ 65
74	1620'	10.3	7.4	2.0	26' 24.0	16. /23.	0.25		0.001	45		0.000	1300	480	0.2 0.9	/ 65
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
0 HR IN	kg/m3	OUT	kg/m3	0 HR OUT	kg/m3	0 HR OUT	kg/m3	0 HR OUT	kg/m3	0 HR OUT	kg/m3	0 m3				

PUMP NO. 1					PUMP NO. 2					PRESSURE kPa	ANNULAR VELOCITY		JET	
MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN		DE m/MIN	DC m/MIN	VELOCITY m/sec	THP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15700	37.3	218.2	33.7	40.71

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH							
4.80°	@	1968.31 m	82.10	PRESS TEST	HNDL TOOLS	Lignite	6
4.80°	@	1977.90 m	94.90	DRILLING 20.00	SLIP & CUT	Starpak	5
	@	m		CIRCULATE	REAMING	Percol 728	
	@	m		TRIPPING	COND MUD	Driscac	4
	@	m		RIG SERV 1.00	BOP DRILL	Sod sulf	4
	@	m		BOP DRILL	HNDL TOOLS	Corinox	2
	@	m		DRLG OUT		Gel	35
	@	m		REPAIRS 1.75		Alcomer110	2
	@	m		SURVEYING 1.25		Pot Sulf	112
	@	m				Barite	294
	@	m				Biocide	2
	@	m				Lime	3
				TOTAL HOURS: 24.00			

MUD COMMENTS: Polymer 2.8kg/m3. K-ion 24000. sulfite 250

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.11 at 00:00 hours

Directionally drilled 311mm hole with rig services and surveys as required from 1985-1994mKB. Changed valve and seat in #2 pump while circulating off bottom with #1 pump. Drilled 311mm hole from 1994-2004mKB. Changed 2 valves and 1 seat in #2 pump while circulating off bottom with #1

pump. Drilled 311mm hole from 2004-2005mKB to 23:59 hours 2000.10.11.

Note 1: Off bottom pump pressure 14500kPa, On bottom pump pressure 15500kPa.

2: Holding 1000kPa differential pressure on bit.

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/12

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 69

DEPTH: 2005.00 m

PROGRESS:

20.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 0 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 3: ECD=1679.6kg/m³. Hydrostatic pressure=31765.8kPa. Pressure gradient=15.86kPa/m.

4: Total hours on bit #20cRR, 47.75 at 23:59 hours

5: Hole drag up and down 10- 15000 daN.

6: Safety topics discussed were camp power plant.

7: Maximum experienced hook load was 110,000 daN.

8: Continued to haul in fuel and mud products as road conditions continue to improve in the last 24 hours.

9: Functioned lower pipe rams, 6 seconds to close. Functioned hydril, 19 seconds to close.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/11	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 68	
OFFICE SUPERVISOR: Mickey Sutherland				LICENCE NO.: 1900	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m	KB-GL: 6.7 m	SPUD DATE: 00/08/04 @ 12:15 hrs.	
RIG #: 58E		GL: 481.3 m	KB-CF: 6.5 m	RIG RELEASE: @ : hrs.	
				WELL STATUS:	
WEATHER: Clear and windy		TEMP: 5 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 1985.00 m		PROGRESS: 18.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 1993.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 61411 CUMULATIVE COST: \$ 7501525

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	
LENGTH: 226.53 m	WT. BELOW JARS: 11000 daN	JAR HRS: 18.3	JAR SERIAL #: 10158	

TOTAL	
ROTATING	1023.7

WT. ON BIT: 25000 daN ROTARY RPM: 90 STRING WT.: 89000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228	H90	8
171	H90	9

[illegible]

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/100	DENSITY IN/OUT	pH	WL cc/30min	FC min	PV/YP	GELS O/10	Tot. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
82	1620	10.3	9.0	2.0	26	26.0	17.24	0.27		0.008	50	0.000	1200	440	0.2	0.9	66
CENTRIFUGE					DESILTER			DESANDER			DEOASSER			TOTAL MUD DUMPED			
HR IN		kg/m3	OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	11 m3		

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER in.	STROKE in.	SPM	m ³ /MIN	MODEL	LINER in.	STROKE in.	SPM	m ³ /MIN	PSI	DP m/MIN	DC m/MIN	VELOCITY m/sec	HP
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15700	37.3	218.2	33.7	40.51

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
		AZIMUTH	PRESS TEST	HNDL TOOLS	Lignite	3
4.40 °	@ 1958.82 m	73.30	DRILLING 18.25	SLIP & CUT	Starpak	2
°	@ m		CIRCULATE 0.50	REAMING	Percol 728	1
°	@ m		TRIPPING 3.00	COND MUD	Drispac	1
°	@ m		RIG SERV 1.50	BOP DRILL	Sod sulf	4
°	@ m		BOP DRILL	HNDL TOOLS	Corinox	2
°	@ m		DRLG OUT		Gel	32
°	@ m		REPAIRS		Alcomer110	2
°	@ m		SURVEYING 0.75		Pot Sulf	94
°	@ m				Barite	178
°	@ m				Biocide	2
				TOTAL HOURS: 24.00	Lime	

MUD COMMENTS: sucked out #1 settling tank, began to build volume. K+ION-26000. sulfite-250

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.10 @ 00:00 hours

Continue to trip in hole to 800mKB. Broke circulation test MWD. Tripped in hole. Filled pipe at 1460mKB and 1950mKB.

Broke circulation washed to bottom. No fill, no tight spots
or mud losses reported on trip back to bottom. Directionally
drilled 311mm hole with rig services and surveys from

1967-1985mKB to 23:59 hours 2000.10.10.

Note 1: Average ROP of 1m/hour.

2: Off bottom pressure 14500kPa. On bottom pressure 15500kPa. Holding 1000kPa differential pressure on bit.

3: Weight on bit while sliding 31000dan.

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/11

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 68

DEPTH: 1985.00 m

PROGRESS:

18.00 m

CPA NO.: 300C316040123300

WEATHER: Clear and windy

TEMP: 5 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 4: Back reamed all slides before making connections.
5: Total hours on bit 20cRR is 27.75 hours 2000.10.10.
6: Hole drag 10-15000daN up and down.
7: Safety topics discussed were lock out procedures.
8: Function tested upper and lower pipe rams, 6 seconds to close.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/10

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 67

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear

TEMP: 0 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1967.00 m

PROGRESS: 19.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 1972.00 m

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 84586 CUMULATIVE COST: \$ 7440114

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS: 987.25

LENGTH: 226.53 m WT. BELOW JARS: 11000 daN JAR HRS: 283.7 JAR SERIAL #: 10881

WT. ON BIT: 25000 daN

ROTARY RPM: 90

STRING WT.: 87000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT					REMARKS
					1	2	3	IN	OUT		DKL	RMD		WIDEN	RPM	I	D	D	
19C	311.0	Hughes	A30JL	ATM503	22.2	22.2	22.2	1894	1967	73	1.4	53.00		25-30	90	6	6	BT A	4 I WT BHA
20CR	311.0	REED	KH7469	EHP43H	22.2	22.2	22.2	1967		-196									
										0									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL to/30min	PC mm	FW/YF	CEES ORIO	Fel Sol kg/m3	Dnd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY MEI MFO		°C IN/OUT
81	1620/	10.5	7.6	2.0	29/ 26.0	19./29.	0.28		0.010	52		0.000	1300	480	0.3	1.0	/ 66
	/				/	/											/
CENTRIFUGE					DESILTER			DESANDER			DECLASSER			TOTAL MUD DUMPED			
0 HR IN		kg/m3	OUT		kg/m3	0 HR OUT		kg/m3	0 HR OUT		kg/m3	0 HR OUT		kg/m3	0 m3		

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET
MODEL	LINEAR	STROKE	SPM	m3/MIN	MODEL	LINEAR	STROKE	SPM	m3/MIN		DP	DC	
	mm	mm				mm	mm			kPa	m/MIN	mm/MIN	IN/SEC
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15700	37.3	218.2	33.7
													40.51

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH									
4.00 °	@	1930.60 m	68.50	PRESS TEST		HNDL TOOLS		Lignite	1
4.20 °	@	1940.04 m	70.50	DRILLING	13.00	SLIP & CUT		Starpak	
4.30 °	@	1949.62 m	71.70	CIRCULATE	1.25	REAMING		Percol 728	
°	@	m		TRIPPING	7.25	COND MUD		Drispec	
°	@	m		RIG SERV	0.25	BOP DRILL		Sod sulf	4
°	@	m		BOP DRILL		HNDL TOOLS	1.00	Corinox	2
°	@	m		DRLG OUT				Caustic	
°	@	m		REPAIRS				Alcomer110	2
°	@	m		SURVEYING	1.25			Pot Sulf	90
°	@	m						Barite	238
°	@	m						Biocide	2
°	@	m						Lime	2
				TOTAL HOURS: 24.00					

MUD COMMENTS: Polymer-2.8kg/m3. K+Ion-27000. Sulfite-250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.09 a 00:00 Hours:

Directionally drilled 311mm hole, with rig services and surveys as required, from 1948-1967mKB. Due to the slow rate of building azimuth, the decision was made to circulate bottoms up and hoist out of hole to change the angle of the motor from 1.15 degrees to 2.12 degrees. Hoisted out.

Inspected the bit, it had broken and worn teeth. The decision was made to run a EHP 43H which is rerun bit #15C, with 9.5 hours on it. IADC CODE 4-2-7. Hours on jars and end shock sub, 283.75. Laid both down and picked up a new set of jars and shock sub. On the trip out of hole no mud losses or tight hole was reported. New batteries were also

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/10

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 67

DEPTH: 1967.00 m

PROGRESS:

19.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 0 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

installed in MWD tool. Continued to make up BHA to 23:59 hours 2000.10.09.

Note 1: Hole drag remains 10-13000 daN up and down.

Note 2: Hole fill on trip. Calculated: 12.78m³, Measured: 14.02m³.
Difference: + 1.24m³.

Note 3: Continued to haul in fuel and mud products as road conditions improve.

Note 4: Safety topics discussed were working tight hole and crew truck.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:



DAILY DRILLING REPORT

WELL NAME: CDM FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/10/09	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300c316040123300		DAY: 66	
OFFICE SUPERVISOR: Mickey Sutherland				LICENCE NO.: 1900	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m	KB-GL: 6.7 m	SPUD DATE: 00/08/04 @ 12:15 hrs.	
RIG #: 58E		GL: 481.3 m	KB-CF: 6.5 m	RIG RELEASE: @ : hrs.	
				WELL STATUS:	
WEATHER: CLOUDY & WINDY		TEMP: 7 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 1948.00 m		PROGRESS: 34.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 1959.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 124567 CUMULATIVE COST: \$ 7355528

1	311 mm	1	244.4Mud mot	1	FLOAT SUB	1	RESTRIC.SUB	1	MONEL MWO
1	MONEL	1	SHOCK SUB	3	228mm DC	1	JARS	5	228mm DC
1	X/O SUB	9	6 3/4" DC	1	X/O SUB	3	HWDP		

TOTAL ROTATING HOURS	961.25
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LENGTH: 227.04 m	WT. BELOW JARS: 11000 daN	JAR HRS: 270.7	JAR SERIAL #: 10881
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WT. ON BIT: 25000 daN ROTARY RPM: 90 STRING WT.: 87000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228	H90	8
171	H90	9

BITS	BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES (mm)			DEPTH		MTRS	MTAS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCTURE					REMARKS	
						1	2	3	IN	OUT			DEL	RMD	WT/LN	RPM	1	2	3	4	5	6	7
	19c	311.0	Hughes	A30JL	ATM503	22.2	22.2	22.2	1894		54	1.4	40.00		25-30	90							
											0				-								
											0				-								

LAST PIPE TALLY: 1302.37

BOARD: 1501.83

CORRECTION: YES [] NO [x]

VISCOSITY SEC/CL	DENSITY IN/OUT	PH	SWL cc/g/mlr	FC IN/H	PP/YP	GELS O/10	TOT. SOL. KG/M3	DRI. SOL. KG/M3	SAND KG/M3	BENTONITE KG/M3	LCM KG/M3	WIL %	CL PPM	CA PPM	ALKALINITY MFI MFO	° C IN/OUT
88	1630/	10.8	8.8	2.0	29/ 29.0	19. /27.	0.27		0.001	53		0.000	1300	500	0.2 1.1	/ 65
91	1630/	11.0	8.0	2.0	29/ 29.0	21. /28.	0.27		0.008	53		0.000	1300	500	0.3 1.2	/ 65

CENTRIFUGE				DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED
5 HR IN	1630 kg/m3	OUT	1960 kg/m3	0 HR OUT	0 kg/m3	0 HR OUT	0 kg/m3	0 HR OUT	0 kg/m3	11 m3

P U M P	PUMP NO. 1					PUMP NO. 2					PRESSURE KPS	ANNULAR VELOCITY		JET	
	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN		DP m/min	DC m/min	VELOCITY m/sec	HPH
P	Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15700	37.3	218.2	33.7	40.76

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
		AZIMUTH	PRESS TEST		HNDL TOOLS	Lignite	3
3.70	@	1900.00 m 64.00	DRILLING	20.75	SLIP & CUT	Starpak	2
3.90	@	1911.43 m 65.70	CIRCULATE	1.00	REAMING	Percol 728	1
3.90	@	1921.00 m 67.50	TRIPPING		COND MUD	Drispac	2
	@	m	RIG SERV	1.25	BOP DRILL	Sod sulf	4
	@	m	BOP DRILL			Corinox	2
	@	m	DRLG OUT			Caustic	
	@	m	REPAIRS			Alcomer110	2
	@	m	SURVEYING	0.75		Pot Sulf	106
	@	m	PRESS TEST		WEAR BUSHI	Barite	350
	@	m			TOTAL HOURS:	Biocide	4
	@	m			24.00	Lime	4

MUD COMMENTS: stripped 11m3 from shaker tank. Polymer 2.8kg/m3. K'ION 27000. Sulfite 250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be entered below.)

2000/10/08 00:00 hours:Continued to directionally drill
311mm hole with rig services and surveys as required from
1914mKB. Circulated off bottom with # 1 pump

hookload 105000daN. Back reamed all slide areas before making connections. ECD=1686kg/m3. Hydrostatic pressure 31006.2kPa. Pressure gradient 15.9 kPa/m. No hole problems or mud losses observed. Drilled to 1948mKB at 24:00 hours 2000.10.08.

While repairing pump head on #2 pump. Weight on bit while rotating 25000daN. Weight on bit while sliding 30000daN. Held 1000kPa differential pressure. Maximum experienced

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/09

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 66

DEPTH: 1948.00 m

PROGRESS:

34.00 m

CPA NO.: 300C316040123300

WEATHER: CLOUDY & WINDY

TEMP: 7

°C

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Notes:

- (1) Hole drag remains 10-13000 daN.
- (2) Safety topic discussed was rolling casing and SCBA'S.
- (3) Hauled mud products and fuel as road conditions continue to improve.
- (4) Stripped 11m3 of dead mud from shaker tank.
- (5) Set up tank farm #2 on location, 3 tanks which will be used for diesel and gas.
- (6) Ran barite recovery for 4.5 hours

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/08

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 65

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: CLOUDY & WINDY

TEMP: 12 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1914.00 m

PROGRESS: 20.00 m

PBD: m

FORMATION:

8:00 a.m. DEPTH: 1923.00 m

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 84205 CUMULATIVE COST: \$ 7230961

1 311 mm	1 244.4mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

LENGTH: 227.04 m WT. BELOW JARS: 11000 daN JAR HRS: 250.0 JAR SERIAL #: 10881

WT. ON BIT: 25000 daN

ROTARY RPM: 90

STRING WT.: 87000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DR	RM	WTEN	RTM	T	O	D	L	B	G	O	R
19c	311.0	Hughes	A30JL	ATM503	22.2	22.2	22.2	1894		20	1.0	19.25		25-30	90								
										0				-									
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/100	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS O/10	Tot Sol kg/m3	Grnd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Cs ppm	ALKALINITY MTI	MFO	PC IN/OUT	
85	1625	10.8	9.0	2.0	27	26.0	19.26	0.26		0.001	60		0.000	1300	480	0.3	1.2	66

CENTRIFUGE			DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED	
0 HR IN	kg/m ³	OUT	kg/m ³	0 HR OUT	kg/m ³	0 HR OUT	kg/m ³	0 HR OUT	kg/m ³	4 m ³

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	KPS	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHF	
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	15700	37.3	218.2	33.7	40.63	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH								
3.70 °	@ 1883.57 m	65.20	PRESS TEST		MNDL TOOLS	Lignite		5
3.60 °	@ 1892.00 m	63.40	DRILLING 19.25		SLIP & CUT	Starpak		1
°	@ m		CIRCULATE		REAMING	Mica		
°	@ m		TRIPPING 2.00		COND MUD	Drispac		1
°	@ m		RIG SERV 0.50		BOP DRILL	Sod sulf		4
°	@ m		BOP DRILL			Corinox		2
°	@ m		DRLG OUT			Caustic		
°	@ m		REPAIRS 1.50			Alcomer110		2
°	@ m		SURVEYING 0.75			Pot Sulf		112
°	@ m		PRESS TEST		WEAR BUSHI	Barite		
°	@ m					Biocide		2
					TOTAL HOURS: 24.00	Lime		5

MUD COMMENTS: Sucked out 4m3 with vacuum truck.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000/10/07 @ 00:00 hours: Ran in hole to 1894mKB.

Directionally drilled 311mm hole from 1894mKB at a rate of 1m/hr to 1.6m/hr with surveys as required. While drilling off bottom pump pressure 14400kPa. On bottom pressure, 15500kPa, holding differential pressure around 1000 kPa.

Mud motor RPM with volume being pumped is at 61 and rotary

is 25. Weight on bit while sliding: 30,000 daN. Weight on bit while rotating: 25000daN. ECD= 1686kg/m3. Hydrostatic pressure=30496kPa. Pressure gradient=15.914kPa/m. No hole problems or mud losses reported. Drilled to 1914mKB. Changed head on pump #1, tightened head on pump #2 to 23:59 hours 2000.10.07.

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/08

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 65 DEPTH: 1914.00 m

PROGRESS: 20.00 m

CPA NO.: 300C316040123300

WEATHER: CLOUDY & WINDY

TEMP: 12 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Notes:

- (1) Hole drag remains 10-13000daN up and down.
- (2) Safety topic discussed was working on pumps.
- (3) Continued to haul mud products and fuel as road conditions continue to improve.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/07

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 64

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear & windy

TEMP: 11 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1894.00 m

PROGRESS: 8.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 1899.00 m

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 115253 CUMULATIVE COST: \$ 7146756

1 311 mm	1 244.4Mud mot	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS: 881.25

LENGTH: 227.04 m WT. BELOW JARS: 11000 daN JAR HRS: 230.5 JAR SERIAL #: 10881

WT. ON BIT: 31000 daN

ROTARY RPM: 90

STRING WT.: 87000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 1F

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MINS PER HOUR	HOURS ON BIT		BT		CUTTING STRUCT				REMARKS			
					1	2	3	IN	OUT			DR	EMD	WIDEN	RFM	I	O	D	L	B	G	O	R
18c	311.0	Hughes	XO2BW	ATM00	14.3	14.3	14.3	1819	1894	75	1.1	71.25		28-31	90	3	3	BT	M2	E	I	WT	TQ
19c	311.0	Hughes	A30JL	ATM503	22.2	22.2	22.2	1894		-189				-									
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	SC mm	PV/YP	GELS O/G	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	CL %	CI ppm	Ca ppm	ALKALINITY MEI MFO		°C IN/OUT
81	1625 /	11.0	8.1	2.0	26 / 26.0	18. / 24.	0.26		0.008	50			1200	480	0.2	1.3	/ 63
	/				/	/											/
CENTRIFUGE					DESILTER				DESANDER				DEGASSER			TOTAL MUD DLYMED	
0 HR IN		0 kg/m3	OUT	0 kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	0 m3			

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kp	mm/MIN	DC m/MIN	VELOCITY 10/sec	MMIT	
Emsco	152	254	85	1.18	Emsco	152	254	85	1.18	14840	37.3	218.2	33.7	40.63	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Lignite 1		
3.60 °	@	1884.00 m	DRILLING	7.00	HNOL TOOLS	Starpak		
°	@	m	CIRCULATE	1.75	SLIP & CUT	Mica		
°	@	m	TRIPPING	14.00	REAMING	Drispac		
°	@	m	RIG SERV	0.25	COND MUD	Sod sulf		
°	@	m	BOP DRILL		BOP DRILL	Corinox		
°	@	m	DRLG OUT			Caustic		
°	@	m	REPAIRS			Alcomer110		
°	@	m	SURVEYING	0.25		Pot Sulf	36	
°	@	m	PRESS TEST		WEAR BUSHI	Barite	125	
°	@	m	TOTAL HOURS: 24.00			Biocide		
						Lime		

MUD COMMENTS:

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, (Drill Stem) Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000/10/06 @ 00:00 hours: Drilled 311mm hole from 1886-1894

mKB, surveying as required. Rate of penetration was 1m/hr.

At 1894mKB the bit torque increased from 7-8000 to 9-12000

Nm. Suspected that the bearings in the bit were getting hot

or locking. Circulated bottoms up. Hoisted out of hole with

bit # 18c. No hole problems on the trip out. Laid down jars

and MWD. Once out of the hole inspected the dull bit. The decision was made to run a ATMP503 as the next bit. Picked up performance motor and BHA. Ran in hole to 734mKB. Tested the MWD and Gamma Ray tools. Slipped and cut 20m of drilling line. Continued to run in hole. Laid down 12 joints of bent drillpipe. This drillpipe was bent on the trip out as the

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/07

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 64

DEPTH: 1894.00 m

PROGRESS:

8.00 m

CPA NO.: 300C316040123300

WEATHER: Clear & windy

TEMP: 11 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

driller did not set the pipe low enough in the slips when he broke the connection while tripping out bit #18c. This bent pipe was not caused by running the string in compression or dropping the string on bottom. Continued to run in the hole to 1670mKB at 23:59 hours 2000/10/06.

Notes:

- (1) Filled pipe every 15 stands on trip in hole.
- (2) No problems experienced on trip in hole.
- (3) Hole drag was 10-13000 daN up and down.
- (4) Safety topic discussed was laying down drillpipe.
- (5) Hole fill. Calculated: 12.82m³. Actual: 15.69m³. Difference: +2.87m³.
- (6) Continued to haul in mud product and fuel as road conditions have improved in the last 24-36 hours.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT



CP 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/06
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 63 DEPTH: 1886.00 m PROGRESS: 31.00 m CPA NO.: 300C316040123300
WEATHER: Clear & windy TEMP: +8 °C
8:00 a.m. OPERATION: Drilling 311mm hole

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 9: Safety Topic: Environmental watchdog meeting.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/05

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 62

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m

KB-GL: 6.7 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear

TEMP: -8 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1855.00 m

PROGRESS: 23.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 1867.00 m

8:00 a.m. OPERATION: Drilling 311mm hole

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 160108 CUMULATIVE COST: \$ 6971676

1 311 mm	1 3 PT.NBR	1 RESTRIC.SUB	1 MONEL MWD	1 MONEL
1 3PT.REAMER	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

LENGTH: 221.91 m WT. BELOW JARS: 11000 daN JAR HRS: 201.2 JAR SERIAL #: 10881

WT. ON BIT: 31000 daN

ROTARY RPM: 90

STRING WT.: 83000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

TOTAL
ROTATING
HOURS: 852.00

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT										REMARKS			
					1	2	3	IN	OUT			DIR	RMD		WT/N	RPM	I	O	D	L	B	G	O	R				
16C	311.0	DBS	5984822	FM2763	14.3	14.3	14.3	1773	1791	18	0.7	25.25		16-19	50													
17C	311.0	Hughes	W57XV	GT-1	14.3	14.3	14.3	1791	1819	28	1.2	24.25		19-23	90	6	6	WT	H	8	I	CT	HR					
18C	311.0	Hughes	XO2BW	ATMOO	14.3	14.3	14.3	1819		36	0.5	42.00		28-31	90													

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

VISCOSITY Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FO mm	PV/VP	GELS O/ID	Ten Sol kg/m3	DRL Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CF ppm	Ca ppm	ALKALINITY MFI	MFC	"C IN/OUT
87	1620 /	10.5	9.0	2.0	28 / 27.0	19. / 27.	0.27		0.001	55			800	500	0.3	1.0	64
	/				/	/											/
CENTRIFUGE					DESILTER				DESANDER			DEGASSER			TOTAL MUD DUMPED		
7 HR IN	1635 kg/m3	OUT	1940 kg/m3		HR OUT	kg/m3		HR OUT	kg/m3		HR OUT	kg/m3		HR OUT	kg/m3		m3

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/SEC	HP
Emsco	152	254	85	1.18	Emsco	152	254	80	1.11	14840	36.2	211.7	59.2	120.92

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
3.80 ° @ 1839.16 m 68.30 ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	PRESS TEST	HNOL TOOLS
	DRILLING 23.00	SLIP & CUT
	CIRCULATE	REAMING
	TRIPPING	COND MUD
	RIG SERV 0.50	BOP DRILL
	BOP DRILL	
	DRLG OUT	
	REPAIRS	
	SURVEYING 0.50	
	PRESS TEST	WEAR BUSHI
TOTAL HOURS: 24.00		
		Gel 11
		Starpak
		Mica
		Driscap
		Sod sulf 4
		Corinox 2
		Caustic
		Alcomer110 2
		Pot Sulf 96
		Barite
		Biocide 2
		Lime 4

MUD COMMENTS: K+Ion=27000, Sulfite=256, Polymer=2.8. Striped 10m3 thur barite recovery.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.04 @ 00:00 Hours:

Drilled 311mm hole from 1832mKB. ROP was between 0.6-1.0m/hour. At 1845.4mKB a slight drilling break occurred from 1845.4-1845.6mKB, at which point the ROP increased to 6.9m/hour. Background gas was 3.24%, torque was 3000-16000 KN-M and no flowline increase. After this point the ROP

levelled off at 1.7m/hour and the background gas then decreased to 2.33%. The last sample showed 80% fissile plating which is more drillable possibly due to the thinny bedded structuring, the reaming 20% was more carbeneous partings and traces of pyrite (sample depth 1855mKB). Drilled to 1855mKB at 24:00 hours 2000.10.04.

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/05

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 62 DEPTH: 1855.00 m

PROGRESS: 23.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -8 °C

8:00 a.m. OPERATION: Drilling 311mm hole

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: No volume losses during this report period (24 hours).
2: Average ROP since 1845.6mKB was 1.7m/hour.
3: Hole Drag: 3000-5000 daN both up and down.
4: Torque: 7000-8000 KN-M.
5: Continued to haul in casing and fuel.
6: With a mud wt of 1620 kg/m3 there have been no signs of sloughing.
7: Safety topic was on the dangers when using steam.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/04

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 61

DEPTH: 1832.00 m

PROGRESS:

13.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -8 °C

8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 3: No signs of bentonitic content were present, nor signs of sand.
- 4: Bit and near bit, string reamers were in gauge.
- 5: Hole Drag: 3000-5000 daN up and down.
- 6: Torque: 7000-8000 KN-M.
- 7: Safety Topic: Emergency response.
- 8: Prepared and coordinated equipment and supplies prior to barge closure.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

AFE #: **AFE AMT: \$** 12658500 **DAILY COST: \$** 98217 **CUMULATIVE COST: \$** 6718090

TOTAL ROTATING HOURS	810.00
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DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

CP 11627



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/03

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 60

DEPTH: 1819.00 m

PROGRESS:

18.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -6 °C

8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 1: Trip Record: Calculated: 27.80m³, Actual: 26.12m³,
Difference: 1.68m³.

2: Hole Drag: 3000-5000 daN both up and down.

3: Functioned annular, closed in 19 seconds.

4: The next bit to be run is a Type 4-1-7 Hughes ATMOOXP, this bit is center jetted. The jets that will be used are 4 x 14.3mm. With this bit the ECD will be 1679.12 m³/kg and a nozzle velocity of 59.16 m/sec at 80 x 85 strokes.

5: Safety topic was on hearing protection.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/02

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 59

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear

TEMP: 5 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1801.00 m

PROGRESS: 10.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 1807.00 m

8:00 a.m. OPERATION: Drilling 311mm hole.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 85033 CUMULATIVE COST: \$ 6619873

1 311 mm Tooth	1 3 PT.NBR	1 RESTRIC.SUB	1 MONEL MWD	1 MONEL
1 3PT.REAMER	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

TOTAL ROTATING HOURS: 794.50

LENGTH: 221.91 m WT. BELOW JARS: 11000 daN JAR HRS: 143.7 JAR SERIAL #: 10881

WT. ON BIT: 19000 daN

ROTARY RPM: 90

STRING WT.: 83000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

8

171

H90

9

BIT NO.	SIZE mm.	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.		REMARKS
					1	2	3	N	OUT		DRG	RMD	WT/LN	RPM	T O D	
15C	311.0	REED	KH7469	EHP43H	22.2	22.2	22.2	1770	1773	3	0.3	9.50	25-30	75	1 1	NO A E I NO PR
16C	311.0	DBS	5984822	FM2763	14.3	14.3	14.3	1773	1791	18	0.7	25.25	16-19	50		
17C	311.0	Hughes	W57XV	JT1	14.3	14.3	14.3	1791		10	1.1	8.75	16-19	90		

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL 60/30min	FC min	EVAP	GELS ONO	Test Sol kg/m3	Dred Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	DIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
78	1625/	10.0	9.6	2.0	29/ 25.0	18./24.	0.27		0.001	47			700	500	0.2 0.7	/ 61
91	1620/	10.0	10.0	2.0	30/ 29.0	21./28.	0.27		0.001	50			700	500	0.2 0.7	/ 61

CENTRIFUGE		DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED	
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	AS/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DR m/MIN	DC m/MIN	VELOCITY m/sec	HHP	
Emsco	152	254	85	1.18	Emsco	152	254	75	1.04	13870	35.1	205.3	57.4	110.36	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES			
AZIMUTH			PRESS TEST		HNDL TOOLS	0.75	Sawdust	65	
4.10 °	@	1791.40 m	75.00	DRILLING	8.75	SLIP & CUT		Starpak	2
°	@	m		CIRCULATE	1.50	REAMING		Mica	4
°	@	m		TRIPPING	10.00	COND MUD	0.75	Drispac	2
°	@	m		RIG SERV	0.50	BOP DRILL		Sod sulf	2
°	@	m		BCP DRILL	0.25			Corinox	1
°	@	m		DRLG OUT				Walnut	17
°	@	m		REPAIRS	1.25			Alcomer110	1
°	@	m		SURVEYING	0.25			Pot Sulf	112
°	@	m		PRESS TEST		WEAR BUSHI		Barite	277
°	@	m		TOTAL HOURS:			24.00	Biocide	1
								Lime	2

MUD COMMENTS: K+Ion=24000, Sulfite=224, Polymer=2.5. No solids control running.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.10.01 a 00:00 Hours:

Circulated bottoms up. Hoisted to change bit due to low ROP.

At 1600mKB the well started to take volume, 6m3 in total.

Pumped a 10m3 LCM pill to heal up the losses. Once the LCM pill was pumped, flow checked for 30 minutes. Well remained static. Hoisted out. Made up bit #17C, IADC type 116 tooth

bit. Started to run in hole. Mixed 10 more m3 of LCM in case of further losses. No further losses experienced. Ran to 1791mKB. Began drilling at 15:10 hours with 16000 daN and RPM of 90, pump strokes at 80 x 80. ROP was 1.8-1.4m/hour for 1 metre then decreased to 0.8m/hour (1796mKB) and levelled off at 0.9m/hour. Increased WOB to 18500 daN and

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/10/02

LOCATION: 300-C31-6040-12330-0

U.W.L: 300-C31-6040-12330-0

DAY: 59

DEPTH: 1801.00 m

PROGRESS:

10.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 5 °C

8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

ROP increased to 1.0-1.2m/hour. Drilled to 1801mKB at 24:00 hours
2000.10.01.

Note 1: Total Volume Lost:

Sept 29, 2000 depth 1773.4mKB = 14m3. Drilling

Sept 30, 2000 depth 1785.0mKB = 42m3. Drilling

Oct 01, 2000 depth 1600.0mKB = 06m3. POOH

Total volume lost = 62m3

2: Last sample at 1800mKB showed 35% sand and 65% medium dark gray shale as well as being slightly Bentonitic.

3: Bit #17C is centered jetted.

4: At 1771mKB began washing to bottom (20m).

5: Hole Drag: 3000-5000 daN in and out.

6: Torque: 7000 to 8000 ft#.

7: Held BOP drill, well secured in 1 minute.

8: Functioned blind rams, closed in 6 seconds.

9: Safety topic was on BOP drills.

10: Started boiler.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/10/01
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 58 DEPTH: 1791.00 m PROGRESS: 6.00 m CPA NO.: 300C316040123300
WEATHER: Light Snow TEMP: 3 °C
8:00 a.m. OPERATION: Tripping for bit.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Flow checked and the well was holding. Increased strokes to 70x70.
Flow checked. The well was holding. Began drilling with 80x80 strokes.
Pump pressures was 12770 kPa, WOB 18000 daN, RPM of 45. Drilled to a depth of 1791mKB @ 23:25 hours. Tripped out of the hole to 24:00 hrs 2000.09.30.

Notes:

- *ROP was 0.5m/hr at the time we decided to trip.
- *Before losses at 1789mKB the ECD was 1689 kg/m3.
- *Hydrostatic pressure=28694 kPa.
- *Applied pressure loss=951.4 kPa.
- *Last sample at 1790mKB showed 50 % sand of that 50% sand 20% was feldspar and 80% frosted quartz, the other 50% showed more greenish bentonitic shale.
- *The next bit will be a tooth bit with a center jet.
- *Safety topic: working in winter conditions.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/30	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 57	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Lite snow		TEMP: 2 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1785.00 m		PROGRESS: 12.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 1789.00 m		8:00 a.m. OPERATION: Drilling 311mm hole with PDC bit.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 62063 CUMULATIVE COST: \$ 6437157

1 311 mm PDC	1 3 PT.NBR	1 RESTRIC.SUB	1 MONEL MWD	1 MONEL
1 3PT.REAMER	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	
LENGTH: 221.91 m WT. BELOW JARS: 11000 daN JAR HRS: 124.5 JAR SERIAL #: 10881				

TOTAL ROTATING HOURS: 775.25

 WT. ON BIT: 20000 daN ROTARY RPM: 60 STRING WT.: 83000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 8
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT					REMARKS			
					1	2	3	IN	OUT			DRL	RM0		WT&N	RPM	I	D	D	L	B	C	O
14c	311.0	DBS	5997062	FM2743	17.5	17.5	17.5	1766	1770	4	1.0	4.00		9-20	60								
15c	311.0	REED	KH7469	EHP43H	22.2	22.2	22.2	1770	1773	3	0.3	9.50		25-30	75	1	1	NO	A	E	I	NO	PR
16c	311.0	DBS	5984822	FM2763	14.3	14.3	14.3	1773		12	0.8	14.75		13-25	40								

LAST PIPE TALLY: 1302.37 BOARD: 1301.83 CORRECTION: YES [] NO [x]

VISCOSITY Sec/L	DENSITY IN/OUT	pH	WT cc/30min	FC mm	FW/YP	GELS O/10	THC Sol kg/m3	DRD Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI mm	C ₂ ppm	ALKALINITY MET	MFO	°C IN/OUT
95	1625'	10.0	7.0	2.0	29' 29.0	21.28	0.27			55			800	520	0.3	0.9	' 64
87	1635'	10.5	7.6	2.0	30' 29.0	20.29	0.28			55			800	600	0.3	1.0	' 63
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD PUMPED			
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP NO. 1 TYPE F 1000					PUMP NO. 2 TYPE F 1000					PRESSURE		ANNULAR VELOCITY		IPT	
MODEL	LINER mm	STROKE mm	SPM	Q/MIN	MODEL	LINER mm	STROKE mm	SPM	Q/MIN	MPa	kg/cm2	DP m/min	DC m/min	VELOCITY m/sec	FHP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	16380	43.6	255.2	47.5	94.66	

SURVEYS		TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH		PRESS TEST		Gel 15	
4.30 ° @ 1770.00 m	73.30	DRILLING 14.75	HNDL TOOLS	Sterpak 4	
		CIRCULATE	SLIP & CUT 0.75	Mica 35	
		TRIPPING 6.00	REAMING	Drispac 2	
		RIG SERV 0.50	COND MUD 0.75	Sod sulf 2	
		BOP CHECK	BOP DRILL	Corinox 1	
		DRLG OUT		Lignite 2	
		REPAIRS 0.75		Alcomer110 1	
		SURVEYING 0.50		Soda Ash 1	
		PRESS TEST	WEAR BUSHI	Barite 294	
		TOTAL HOURS: 24.00		Biocide 1	
				Lime 4	

MUD COMMENTS: K+Ion=25000,Sulfite=224,Polymer=2.7.No solids control equip running.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.29@00:00 Hrs.

Ran in with bit #16c, PDC FM2763.

Began washing to bottom (2m of washing) and at 1772mKB the hole started to take volume, total volume lost was 14 m3.

Mixed in 20 sacks of sawdust, Mica 35 sacks and 5 sacks of walnut shells, this healed up the hole, continued to drill

ahead.ROP is low going from 1.5 m/hr to 0.5 m/hr, continuing to adjust Wt,RPM,pump pressure for a better RPM. The cuttings coming over the shaker are very gummy and sticky, this may be due to the natural gels as the samples indicate a bentonitic shale. Drilled from 1773-1785mKB to 24:00 hours 2000.09.29.

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/30

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 57

DEPTH: 1785.00 m

PROGRESS:

12.00 m

CPANO.: 300C316040123300

WEATHER: Lite snow

TEMP: 2 °C

8:00 a.m. OPERATION: Drilling 311mm hole with PDC bit.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- *The hole is still holding volume as no more losses have been taken.
- *Hole drag is 5000 to 10000 DaN up and down.
- *Torque is 3000 to 12000 ft/Lbs.
- *Trip record: Calculated=12.28m³, Actual=13.36m³, Difference of 1.0m³.
- *Safety topic was on stop cards.
- *At 1781mKB ROP dropped below 1.0m/hr, as of midnite ROP is 0.6m/hr.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/29	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 56	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Overcast		TEMP: 1 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1773.00 m		PROGRESS: 3.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 1773.00 m		8:00 a.m. OPERATION: Run in hole with PDC bit #16C.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 76595 CUMULATIVE COST: \$ 6375094

1 311 mm BIT	1 3 PT.NBR	1 RESTRIC.SUB	1 MONEL MWD	1 MONEL
1 3PT.REAMER	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

LENGTH: 221.91 m WT. BELOW JARS: 8000 daN JAR HRS: 109.5 JAR SERIAL #: 10881

WT. ON BIT: 30000 daN ROTARY RPM: 80 STRING WT.: 83000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 8
171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL#	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT				REMARKS			
					1	2	3	IN	OUT			DRL	XMD	WTEN	RPM	I	G	D	L	B	G	O	R
14C	311.0	DBS	5997062	FM2743	17.5	17.5	17.5	1766	1770	4	1.0	4.00		9-20	60								
15C	311.0	REED	KH7469	EHP43H	22.2	22.2	22.2	1770	1773	3	0.3	9.50		25-30	75	1	1	NO	A	E	I	NO PR	
16C	311.0	DBS	5984822	FM2763	14.3	14.3	14.3	1773		-177				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/CP	GELS O/10	Ter. Sol. kg/m3	Dnd. Sol. kg/ml	SAND kg/m3	BENTONITE kg/m3	ECM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MFI, MFO	°C IN/OUT
90	1630'	10.5	7.4	2.0	29' 29.0	20. /26.	0.27			53			900	600	0.3 0.9	/ 63
92	1635'	10.8	7.2	2.0	29' 30.0	21. /27.	0.27			53			900	600	0.3 1.0	/ 63
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3	

P
U
M
P

PUMP NO. 1	TYPE: F 1000				PUMP NO. 2	TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		JET	
	MODEL	LINER mm	STROKE mm	SPM 1/min		MODEL	LINER mm	STROKE mm	SPM 1/min		DI mm/min	DC mm/min	VELOCITY m/sec	HP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	15990	43.6	255.2	47.5	94.84

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel		
° @ m			DRILLING 9.50	SLIP & CUT		Starpak		
° @ m			CIRCULATE	REAMING		Pot Sulf 28		
° @ m			TRIPPING 14.00	COND MUD		Drispac		
° @ m			RIG SERV 0.50	BOP DRILL		Sod sulf 2		
° @ m			BOP CHECK			Corinox 1		
° @ m			DRLG OUT			Lignite 1		
° @ m			REPAIRS			Alcomer110		
° @ m			SURVEYING			Percol 728		
° @ m			PRESS TEST	WEAR BUSH1		Barite 355		
° @ m			TOTAL HOURS: 24.00			Biocide 1		
						Lime 2		

MUD COMMENTS: K+Ion=26000, Polymer=2.5, Sulfite=196. No solids control equipment running.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.28 @ 00:00 Hours:

Ran in the hole with bit #15C. Drilled from 1770-1773mKB, with no surveys taken. During drilling the ROP was very low. Attempted various methods to increase ROP, ie, more or less WOB, more or less RPM and more or less pump pressure. While drilling the torque was 6-7 KN-M and the pump pressure

showed no signs of pressure spikes. Pulled out of hole at 1773mKB as the ROP was .4m/hour. Tripped out to 24:00 hours 2000.09.28.

Note 1: Geology has indicated more softer bentonitic shales in the last 2 to 3 samples.

Cont'd

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/29
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 56 DEPTH: 1773.00 m PROGRESS: 3.00 m CPANO.: 300C316040123300
WEATHER: Overcast TEMP: 1 °C
8:00 a.m. OPERATION: Run in hole with PDC bit #16C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 2: Hole was in good shape as there was minimal hole drag.
3: Safety Topic: Proper mixing of chemicals.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227
CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/09/28

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 55

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m KB-GL: 6.7 m

GL: 481.3 m KB-CF: 6.5 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: OVERCAST WITH FOG

TEMP: -2 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1770.00 m

PROGRESS: 4.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 1770.00 m

8:00 a.m. OPERATION: RUNNING IN HOLE WITH BIT #15C.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 69887 CUMULATIVE COST: \$ 6298499

1 311 mm BIT	1 3 PT.NBR	1 RESTRIC.SUB	1 MONEL MWD	1 MONEL
1 3PT.REAMER	1 SHOCK SUB	3 228mm DC	1 JARS	5 228mm DC
1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP	

LENGTH: 221.91 m WT. BELOW JARS: 8000 daN JAR HRS: 99.5 JAR SERIAL #: 10881

WT. ON BIT: 20000 daN

ROTARY RPM: 80

STRING WT.: 83000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

4

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT	REMARKS																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
					1	2	3	IN	OUT			DRI	RMD			WTEN	RPM	I	O	D	L	B	G	O	R																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
12C	311.0	SMITH	LY1654	F2P	17.5	17.5	17.5	1626	1748	122	2.2	55.50		22-24	80	5	8	BT	H3	E	6	LT	PR																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VT	GELS OH/	Tot Sol kg/m3	Dad Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	DL %	Cl ppm	Ca ppm	ALKALINITY MEI MFO	°C IN/OUT
82	1635'	10.3	7.2	2.0	29' 26.0	19.'24.	0.27			50			900	560	0.2 1.0	/ 59
	/				/	/										/
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3	

PUMP NO. 1	TYPE F 1000				PUMP NO. 2	TYPE F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	RPM	DP m/MIN	DC m/MIN	VELOCITY m/sec	MHP
Emsco	152	254	80	1.11	Emsco	152	254	80	1.11	11900	35.1	43.0		0.00

SURVEYS			TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH			PRESS TEST	5.00	HNDL TOOLS	1.00	Gel	
4.60 °	@	1760.00 m	68.20	DRILLING	4.00	SLIP & CUT	Pot Sulf	28
°	@	m		CIRCULATE	1.00	REAMING	Driscap	
°	@	m		TRIPPING	6.75	COND MUD	Sod sulf	2
°	@	m		RIG SERV		BOP DRILL	Corinox	1
°	@	m		BOP CHECK			Lignite	
°	@	m		DRLG OUT			Alcomer110	2
°	@	m		REPAIRS			Percol 728	
°	@	m		SURVEYING			Barite	248
°	@	m		PRESS TEST		WEAR BUSHI	T-352 Bioc	2
°	@	m					Lime	4
			TOTAL HOURS: 24.00					

MUD COMMENTS: Polymer-2.4 kg/m³. K+Ion-27000. Sulfite-224.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.27 @ 00:00 HOURS:

PRESSURE TESTED BOP EQUIPMENT WITH INLAND PRESSURE TESTERS.

INSTALLED WEAR BUSHING. PICKED UP NEW BOTTOM HOLE ASSEMBLY.

RAN IN HOLE WITH BIT #14C TO 249mKB. PULSE TESTED MWD TOOL.

RAN IN HOLE FROM 249-1625mKB. CIRCULATED AND CLEANED OUT

HOLE FROM 1625-1765mKB. TESTED MWD AND GAMMA RAY, ALL TOOLS

WORKING. REAMED FROM 1765-1766mKB. DRILLED 311mm HOLE FROM 1766-1770mKB. CIRCULATED. RAN SURVEY AND MIXED UP PILL. TRIPPED OUT BIT #14C TO 23:59 HOURS 2000.09.27.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/28
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 55 DEPTH: 1770.00 m PROGRESS: 4.00 m CPA NO.: 300C316040123300
WEATHER: OVERCAST WITH FOG TEMP: -2 °C
8:00 a.m. OPERATION: RUNNING IN HOLE WITH BIT #15C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTE 1: PRESSURE TESTED TOP PIPE RAMS, BOTTOM PIPE RAMS, BLIND RAMS, ANNULAR PREVENTER, CHOKE LINES, CHOKE MANIFOLD, UPPER KELLY COCK, LOWER KELLY COCK, STABBING VALVE, INSIDE BOP, KILL LINE AND VALVES TO 1500 kPa LOW AND 13000 kPa HIGH FOR 10 MINUTES ON EACH TEST. ACCUMULATOR FUNCTIONED AND PRESSURE TESTED. (PRECHARGE PRESSURE 6900 kPa.) BLEW OUT MANIFOLD AND CHOKE LINES, FILLED WITH ANTIFREEZE, TESTED TO +/- 26 DEGREES C.
- 2: SAFETY TOPIC: PRESSURE TESTING.
- 3: BIT #14C: TRIED INCREASE WOB FROM 10,000 TO 20,000 daN, RPM FROM 60 TO 105, AND RAN PUMPS FROM 70 TO 90 STROKES. WE COULD NOT GET AN INCREASE IN ROP. IN THE 4 HOURS OF DRILLING, ROP RANGED FROM .9 TO 1.2m/HOUR.
- 4: MUD PROPERTIES PRIOR TO TRIP: WT. 1635 kg/m. VIS-91, pH-10.5. WL-7.0.
- 5: TRIPPING OUT TO PICK UP 311mm 43H (4-3-7) BIT.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227
CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31
 U.W.I.: 300-C31-6040-12330-0
 OFFICE SUPERVISOR: Mickey Sutherland
 CONTRACTOR: AKITA DRILLING LTD.
 RIG #: 58E

LOCATION: 300-C31-6040-12330-0
 CPA NO.: 300C316040123300

DATE: 00/09/27
 DAY: 54

LICENCE NO.: 1900
 SPUD DATE: 00/08/04 @ 12:15 hrs.
 RIG RELEASE: @ : hrs.
 WELL STATUS:

WEATHER: OVERCAST/SHOWERS TEMP: 2 °C
 Midnight DEPTH: 1766.00 m PROGRESS: 4.00 m
 8:00 a.m. DEPTH: 1766.00 m 8:00 a.m. OPERATION: MAKING UP BHA AND RUNNING IN HOLE WITH BIT #14C. (PDC)

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 57188 CUMULATIVE COST: \$ 6228612

1 311 mm BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC SUB	1 MONEL MWD
1 MONEL	1 228mm DC	1 SHOCK SUB	1 228mm DC	1 JARS
2 228mm DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP
LENGTH: 191.24 m WT. BELOW JARS: 8000 daN JAR HRS: 95.8 JAR SERIAL #: 10881				

TOTAL
ROTATING
HOURS 747.00

WT. ON BIT: 24000 daN ROTARY RPM: 110 STRING WT.: 78000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228 H90 4
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT WTLN	CUTTING STRUCT		REMARKS
					1	2	3	IN	OUT		DRL	RMD		RPM	F O D L B G O J	
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626	1626	0		19.25	3-10	60	3 4 WT A 4 2 NO	BHA
12C	311.0	SMITH	LY1654	F2P	17.5	17.5	17.5	1626	1748	122	2.2	55.50	22-24	80	5 8 BT H3 E 6 LT	PR
13C	311.0	REED		HP51H	22.2	22.2	22.2	1748	1766	18	1.4	13.25	22-24	80	2 2 WT H3 E 2 NO	BHA

LAST PIPE TALLY: 1302.37 BOARD: 1301.83 CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY 1N/OUT	pH	WT. kg/30mlr	PC mm	FWYP	GELS O/10	Too. Sol kg/m3	Drld. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Cl ppm	ALKALINITY MET MFO	°C IN/OUT	
88	1630/	10.5	6.4	2.0	29/ 29.0	19. /25.	0.27			50			900	600	0.3 1.1	65	
	/				/	/										/	
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPER			
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HP	
Emsco	152	254	95	1.31	Emsco	152	254	95	1.31	17400	41.4	50.8		0.00	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Gel		
u @ m			HNDL TOOLS 1.00			Starpak		
o @ m			DRILLING 4.25			Pot Sulf		
o @ m			CIRCULATE 1.00			Drispac		
u @ m			TRIPPING 12.25			Sod sulf		
o @ m			RIG SERV 0.25			Corinox		
o @ m			BOP CHECK			Lignite		
o @ m			DRLG OUT			Alcomer110		
u @ m			REPAIRS 0.75			Percol 728		
o @ m			SURVEYING			Barite		
o @ m			PRESS TEST 2.50			T-352 Bioc		
o @ m			WEAR BUSHI 2.00			Lime		
			TOTAL HOURS: 24.00					

MUD COMMENTS: POLYMER-2.6, K+ION-27,000. SULFITE-224.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.26 @ 00:00 HOURS:

DIRECTIONALLY DRILLED 311mm HOLE FROM 1762-1763mKB. REPAIRED

#2 MUD PUMP. DIRECTIONALLY DRILLED FROM 1763-1766mKB.

TRIPPED OUT BIT #13C. FLOW CHECKED AS REQUIRED. FUNCTIONED

BLIND RAMS. VETCO GRAY WELLHEAD PERSONNEL WORKED ON CASING

BOWL. RECOVERED WEAR BUSHING, PICKED UP RTTS PACKER AND RAN

IN WITH DRILL PIPE TO 705mKB. SET RTTS PACKER. PRESSURE
 TESTED CASING WITH INLAND TESTERS TO 1500 kPa LOW AND 7000
 kPa HIGH, FOR 10 MINUTES EACH, OK. RELEASED AND HOISTED
 PACKER. LAID IT DOWN. INSTALLED CASING BOWL TEST PLUG.
 RIGGED UP TO TEST REMAINING BOP EQUIPMENT TO 23:59 HOURS
 2000.09.26.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/27

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 54

DEPTH: 1766.00 m

PROGRESS:

4.00 m

CPA NO.: 300C316040123300

WEATHER: OVERCAST/SHOWERS

TEMP: 2 °C

8:00 a.m. OPERATION: MAKING UP BHA AND RUNNING IN HOLE WITH BIT #14C. (PDC)

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTE 1: TRIPPED OUT OF HOLE WITH BIT #13C WAS GOOD UP TO 1220mKB. HOLE SEEMED TO FALL IN AND HAD TO PUT PUMPS ON LINE AND BACK REAM OUT FROM 1220-1218mKB. ALSO SMALL BRIDGE AT 1144mKB, REMAINING TRIP WENT GOOD.
- 2: REPLACED WASHED OUT SEAT AND 2 VALVES ON F-1000 MUD PUMP.
- 3: VETCO GRAY WORKED ON CASING BOWL AND REPLACED RETAINER LOCKING SCREWS.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/09/26

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 53

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.: 1900

CONTRACTOR: AKITA DRILLING LTD.

KB: 488.0 m KB-GL: 6.7 m

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG #: 58E

GL: 481.3 m KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: OVERCAST RAIN

TEMP: -2 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1762.00 m

PROGRESS: 14.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 1766.00 m

8:00 a.m. OPERATION: TRIPPING OUT BIT #13C

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 73844 CUMULATIVE COST: \$ 6171424

1 311 mm BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC SUB	1 MONEL MWD
1 MONEL	1 228mm DC	1 SHOCK SUB	1 228mm DC	1 JARS
2 228mm DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP
LENGTH: 191.24 m	WT. BELOW JARS: 8000 daN	JAR HRS: 91.5	JAR SERIAL #: 10881	

TOTAL
ROTATING
HOURS: 742.75

WT. ON BIT: 24000 daN

ROTARY RPM: 110

STRING WT.: 78000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

4

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.							REMARKS	
					1	2	3	IN	OUT			ORL	RMD	WTEN	RPM	I	O	D	L	E	G	O	R	
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626	1626	0			19.25	3-10	60	3	4	WT	A	4	2	NO	BHA	
12C	311.0	SMITH	LY1654	F2P	17.5	17.5	17.5	1626	1748	122	2.2	55.50		22-24	80	5	8	BT	H3	E	6	LT	PR	
13C	311.0	REED		HP51H	22.2	22.2	22.2	1748		14	1.6	9.00	1.25	22-24	80									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	PC mm	PWYP	GELS O/10	Tot Sol kg/m3	Drid Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	ORL %	C ppm	Cr ppm	ALKALINITY		°C IN/OUT
															MFL	MFO	
74	1635'	10.0	10.0	2.0	28' 23.0	19.'22.	0.27		0.005	50			900	440	0.2	0.7	/ 65
82	1635'	10.5	6.9	2.0	28' 27.0	18.'25.	27.00		0.005	50			900	560	0.2	0.7	/ 65
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD PUMPED					
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3					

PUMP NO. 1	TYPE: F 1000				PUMP NO. 2	TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	PSI/MIN	MODEL	LINER mm	STROKE mm	SPM	PSI/MIN	kPa	OP m/MIN	DC m/MIN	VELOCITY m/sec	IME
Emsco	152	254	95	1.31	Emsco	152	254	95	1.31	16800	61.4	49.5	37.5	55.94

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	1.00	Gel	30	
4.80 °	@	1743.01 m	DRILLING	9.00	SLIP & CUT	Starpak	3	
°	@	m	CIRCULATE	1.50	REAMING	Pot Sulf	56	
°	@	m	TRIPPING	2.50	COND MUD	Drispac	3	
°	@	m	RIG SERV	0.50	BOP DRILL	Sod sulf	2	
°	@	m	BOP CHECK			Corinox	1	
°	@	m	DRLG OUT			Lignite	1	
°	@	m	REPAIRS	0.50		Alcomer110	1	
°	@	m	SURVEYING	0.25		Percol 728		
°	@	m	INSPECT DC	6.00	WEAR BUSHI	Barite		
°	@	m	TOTAL HOURS: 24.00			T-352 Bioc	1	
						Soda Ash	1	

MUD COMMENTS: K+ION-26,000. SULFITE-224. POLYMER-2.6.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.25 @ 00:00 HOURS:

TRIED TO PULL WEAR BUSHING. COULD NOT BACK OUT RETAINERS
SCREWS ON CASING BOWL. PICKED UP BIT #13C, MOTOR AND MWD
TOOLS. INSPECTED DRILL COLLARS AND HWDP ON TRIP IN. RAN IN
HOLE TO 765mKB. BROKE CIRCULATION AND PULSE TESTED MWD TOOL.
CONTINUED TRIP IN. TAGGED BRIDGE AT 1454mKB. PICKED UP TO

1453mKB AND BROKE CIRCULATION. CIRCULATED AND WASHED DOWN
FROM 1453-1532mKB. RAN IN DRILL PIPE FROM 1532-1721mKB.
REAMED UNDERGAUGE HOLE FROM 1721-1748mKB. DIRECTIONALLY
DRILLED 311mm HOLE FROM 1748-1750mKB. REPAIRED #2 SUCTION
SCREEN BOX. DIRECTIONALLY DRILLED 311mm HOLE, WITH SURVEYS
FROM 1750-1762mKB AT 23:59 HOURS 2000.09.25.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/26

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 53 DEPTH: 1762.00 m

PROGRESS: 14.00 m

CPA NO.: 300C316040123300

WEATHER: OVERCAST RAIN

TEMP: -2 °C

8:00 a.m. OPERATION: TRIPPING OUT BIT #13C

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTE 1: VETCO GRAY WELLHEAD PERSONNEL ALERTED TO BE ON LOCATION WITH EQUIPMENT ON NEXT BIT TRIP.
- 2: THREE 171mm DRILL COLLARS LAID DOWN AFTER INPECTION.
(1) CRACKED BOX. (2) PULLED THREADS ON PINS.
- 3: HOLE DRAG: 5000-10,000 daN.
- 4: BOTTOM HOLE TORQUE: 6775-10,840 Nm.
- 5: FUNCTIONED TESTED BLIND RAMS.
- 6: SAFETY TOPIC: STOP CARDS.
- 7: 06:00 HOURS: WT 1635, VIS 91, pH 10.5, WL 6.5 cc.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/09/25

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300C316040123300

DAY: 52

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m KB-GL: 6.7 m

GL: 481.3 m KB-CF: 6.5 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: OVERCAST WITH SNOW

TEMP: -2 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1748.00 m

PROGRESS: 23.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 1748.00 m

8:00 a.m. OPERATION: RUNNING IN WITH BIT #13C, INSPECTING DRILL COLLARS ON WAY IN

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 61612 CUMULATIVE COST: \$ 6097580

1 311 mm BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC SUB	1 MONEL MWD
1 MONEL	1 228mm DC	1 SHOCK SUB	1 228mm DC	1 JARS
2 228mm DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP

TOTAL
ROTATING 733.75
HOURS:

LENGTH: 191.06 m WT. BELOW JARS: 8000 daN JAR HRS: 82.5 JAR SERIAL #: 10881

WT. ON BIT: 24000 daN

ROTARY RPM: 110

STRING WT.: 74000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

4

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.										REMARKS
					1	2	3	IN	OUT			DR	RWD		W	D	I	O	D	L	B	G	O	R	
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1392	-234			13.00	3- 8	60	4	4	WT	A	4	1	NO	BHA		
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626	1626	0			19.25	3-10	60	3	4	WT	A	4	2	NO	BHA		
12C	311.0	SMITH	LY1654	F2P	17.5	17.5	17.5	1626	1748	122	2.2	55.50		22-24	80	5	8	BT	H3	E	6	LT	PR		

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	FWYP	GELS Q10	For Sol kg/m3	Drd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	CS ppm	ALKALINITY		°C
															MFI	MFO	IN/OUT
95	1615'	9.5	9.0	2.0	26' 28.0	19.'27.	0.26		0.005	53			1000	480	0.3	0.5	/ 64
89	1635'	10.0	9.4	2.0	28' 27.0	20.'29.	27.00		0.005	53			1000	480	0.2	0.7	/ 64
CENTRIFUGE					DESSALTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3					

PUMP NO. 1 TYPE: F 1000					PUMP NO. 2 TYPE: F 1000					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	Pa	DP m/MIN	DC m/MIN	VELOCITY in/sec	HHP
Emsco	152	254	95	1.31	Emsco	152	254	95	1.31	17600	41.4	49.5		0.00

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH									
5.40°	@	1685.57 m	73.40	PRESS TEST		HNDL TOOLS	0.75	Gel	20
5.70°	@	1704.55 m	70.10	DRILLING	14.00	SLIP & CUT		Starpak	6
5.40°	@	1723.76 m	65.50	CIRCULATE	1.25	REAMING		Pot Sulf	84
	@			TRIPPING	4.75	COND MUD		Driscap	3
	@			RIG SERV	0.50	BOP DRILL		Sod sulf	4
	@			BOP CHECK				Corinox	2
	@			DRLG OUT				Sulf-Acid	2
	@			REPAIRS	1.75			Alcomer110	4
	@			SURVEYING	0.25			Percol 728	4
	@					WEAR BUSHI	0.75	Barite	168
	@					TOTAL HOURS:	24.00	T-352 BIOC	1
	@							Chemcide	2

MUD COMMENTS: K+ION-26,000. SULFITE-224. POLYMER-2.6.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be Inserted below.)

2000.09.24 @ 00:00 HOURS:

DIRECTIONALLY DRILLED 311mm HOLE FROM 1725-1731mKB. CHANGED OUT HEAD AND LINER ON #1 MUD PUMP. DIRECTIONALLY DRILLED 311mm HOLE FROM 1731-1740mKB. CHANGED OUT HEAD AND LINER ON #1 MUD PUMP. SURVEYED AT 1723.76mKB. DIRECTIONALLY DRILLED FROM 1740-1748mKB. CIRCULATED BOTTOMS UP. TRIPPED OUT BIT

#12C, PUMPED PILL AT 1450mKB. HOISTED OUT OF HOLE. FLOW CHECKED AS REQUIRED. LAID DOWN MWD AND MUD MOTOR. FUNCTIONED BLIND RAMS, 6 SECONDS TO CLOSE. ATTEMPTED TO PULL WEAR BUSHING TO 23:59 HOURS 2000.09.24.

NOTE 1: HOLE CONDITIONS WERE GOOD ON TRIP OUT.

2: HOLE DRAG: 5-10,000 daN.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (609) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/25

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 52

DEPTH: 1748.00 m

PROGRESS: 23.00 m

CPA NO.: 300C316040123300

WEATHER: OVERCAST WITH SNOW

TEMP: -2 °C

8:00 a.m. OPERATION: RUNNING IN WITH BIT #13C, INSPECTING DRILL COLLARS ON WAY IN

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTE 3: BOTTOM HOLE TORQUE: 6-8000 ft#.
- 4: CHANGED OUT 2 HEADS AND LINERS ON #1 F-1000 MUD PUMP.
- 5: SAFETY TOPIC: COMPETENCY TRAINING.
- 6: ATTEMPTED TO PULL WEAR BUSHING, UNABLE TO LOOSEN OFF LOCKING STUDS IN CASING BOWL. WITH A 24" PIPE WRENCH, STUDS WOULD NOT TURN. WE DID NOT WANT TO FORCE TOO MUCH, NOT KNOWING WHERE THE STUDS MAY BREAK OFF AT.
- 7: DECIDED TO RUN BACK IN HOLE WITH BIT AND INSPECT DRILL COLLARS ON WAY IN.
- 8: WILL ARRANGE TO HAVE WELLHEAD PEOPLE OUT TO CORRECT PROBLEM.
- 9: BIT #12C, UNDERGAUGE 6mm, OUTER ROWS OF INSERTS BROKEN AND CHIPPED OFF.
- 10: BIT #13C, HP51H WITH 3 x 22.1 JETS.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/24	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 51	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: CLEAR		TEMP: 7.3 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1725.00 m		PROGRESS: 50.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 1740.00 m		8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 104126 CUMULATIVE COST: \$ 6035968

1 311 mm BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC SUB	1 MONEL MWD
1 MONEL	1 228mm DC	1 SHOCK SUB	1 228mm DC	1 JARS
2 228mm DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP
LENGTH: 191.06 m	WT. BELOW JARS: 8000 daN	JAR HRS: 68.6	JAR SERIAL #: 10881	

TOTAL ROTATING HOURS: 719.75

 WT. ON BIT: 24000 daN ROTARY RPM: 110 STRING WT.: 74000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: 228 H90 NO. IN HOLE: 4
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WT&N	RPM	I	O	D	L	B	G	O	R		
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1392	-234			13.00	3- 8	60	4	4	WT	A	4	1	NO	BHA		
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626	1626	0			19.25	3-10	60	3	4	WT	A	4	2	NO	BHA		
12C	311.0	SMITH	LY1654	F2P	17.5	17.5	17.5	1626		99	2.4	41.50		22-24	80										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cu/30min	FC min	PV/VP	GELS OAO	Tec Sol kg/m3	Drif Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
90	1610	10.5	9.0	2.0	27/ 27.0	17/ 26.	0.26		0.008	53			1000	600	0.3 0.9	62
87	1635	10.0	9.8	2.0	28/ 27.0	20/ 28.	27.00		0.005	53			1000	500	0.1 0.5	62
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

PUMP NO. 1	TYPE F 1000				PUMP NO. 2	TYPE F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HP
Emsco	152	254	95	1.31	Emsco	152	254	95	1.31	17100	41.4	49.5	60.3	143.79

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH							
5.20 °	@ 1666.45 m	69.40	PRESS TEST		HNDL TOOLS	Gel	20
5.40 °	@ 1685.57 m	73.40	DRILLING 21.25		SLIP & CUT	Starpak	2
5.70 °	@ 1704.55 m	70.10	CIRCULATE		REAMING	Pot Sulf	56
	@ m		TRIPPING		COND MUD	Drispac	1
	@ m		RIG SERV 0.50		BOP DRILL	Sod sulf	4
	@ m		BOP CHECK			Corinox	2
	@ m		DRLG OUT			Lime	6
	@ m		REPAIRS 0.75			Alcomer110	4
	@ m		SURVEYING 1.50			Percol 728	1
	@ m					Barite	399
	@ m					Soda Ash	1
	@ m					Chemcide	2
			TOTAL HOURS: 24.00				

MUD COMMENTS: K+ION-23.000,SULFITE-196,POLYMER-2.4kg/m.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.23 @00:00 HRS: DIRECTIONALLY DRILLED 311mm HOLE FROM

1675-1683mKB.CHANGED OUT WASHED HEAD ON #1 MUD PUMP.

DIRECTIONALLY DRILLED WITH SURVEYS FROM 1683mKB TO

1725mKB AT 24:00 HOURS 2000.09.23.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/24
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 51 DEPTH: 1725.00 m PROGRESS: 50.00 m CPA NO.: 300C316040123300
WEATHER: CLEAR TEMP: 7.3 °C
8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * RAN BARITE RECOVERY ON 30m3 OF MUD.
- * NORMAL SHALES OVER SHAKERS WITH THE ODD 1"X 1.5" RECTANGULAR CHUNKS.
- * REDUCED W.L. TO 8cc.
- * CHANGED OUT HEAD ON F-1000 PUMP.
- * SAFETY MEETING: WATCHDOG AND USE OF PICKUP SUBS.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227
CALLING CARD #:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/23	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 50	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: CLOUDY/OVERCAST		TEMP: 9.7 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1675.00 m		PROGRESS: 49.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 1691.00 m		8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 58500 CUMULATIVE COST: \$ 5931842

1 311 mm BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC SUB	1 MONEL MWD
1 MONEL	1 228mm DC	1 SHOCK SUB	1 228mm DC	1 JARS
2 228mm DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP
LENGTH: 191.06 m WT. BELOW JARS: 8000 daN JAR HRS: 47.3 JAR SERIAL #: 10881				

TOTAL ROTATING HOURS: 698.50

WT. ON BIT: 24000 daN ROTARY RPM: 110 STRING WT.: 71000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 4
171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.										REMARKS
					1	2	3	IN	OUT			DR	RMD		WT/IN	RPM	I	O	D	L	B	G	O	R	
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1392	-234			13.00	3- 8	60	4	4	WT	A	4	1	NO	BHA		
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626	1626	0			19.25	3-10	60	3	4	WT	A	4	2	NO	BHA		
12C	311.0	SMITH	LY1654	F2P	17.5	17.5	17.5	1626		49	2.4	20.25		22-24	110										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	TOL SOL kg/m3	DPL SOL kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		° C IN/OUT
															MFI	MFO	
90	1605'	10.0	10.2	2.0	26' 27.0	29. '36.	0.28		0.001	58			1000	600	0.2	1.0	' 53
88	1620'	10.5	9.0	2.0	29' 27.0	20. '26.	27.00		0.010	55			1000	600	0.3	1.0	' 57
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP NO. 1	TYPE F 1000				PUMP NO. 2	TYPE F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec.	HHP
Emsco	152	254	95	1.31	Emsco	152	254	95	1.31	17100	41.4	49.5	60.3	142.91

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST		HNDL TOOLS		Gel	30
4.10 °	@	1627.96 m	69.90	DRILLING	20.25	SLIP & CUT		Starpak	4
4.70 °	@	1647.16 m	68.20	CIRCULATE		REAMING		Pot Sulf	6
°	@	m		TRIPPING		COND MUD		Drispac	2
°	@	m		RIG SERV	0.50	BOP DRILL	0.25	Sod sulf	2
°	@	m		BOP CHECK				Corinox	2
°	@	m		DRLG OUT				Lime	2
°	@	m		REPAIRS	2.00			Alcomer110	2
°	@	m		SURVEYING	1.00			Percol 728	1
°	@	m						Barite	275
°	@	m						Lignite	3
°	@	m						Chemcide	2
				TOTAL HOURS:				24.00	

MUD COMMENTS: K+ION-26,000.SULFITE-224.POLYMER 2.6kg/m.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

 2000.09.2200:00 HOURS.DIRECTIONALLY DRILLED 311mm HOLE
WITH SURVEYS FROM 1626-1655mKB.CLEANED SUCTION SCREEN IN MUD
PUMPS AND DRILL PIPE SCREEN.

DRILLED FROM 1655-1659mKB.CHANGED OUT WASHED HEAD

ON #1 MUD PUMP.DIRECTIONALLY DRILLED 311mm HOLE

FROM 1659-1665mKB.CHANGED OUT SECOND WASHED HEAD ON

 #1,MUD PUMP.DIRECTIONALLY DRILLED FROM 1665-1675mKB TO
24:00 HOURS 2000.09.22.

SUPERVISOR: SOLBERG/PICHE PHONE #: (600) 701-3227 CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/23

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 50

DEPTH: 1675.00 m

PROGRESS:

49.00 m

CPA NO.: 300C316040123300

WEATHER: CLOUDY/OVERCAST

TEMP: 9.7 °C

8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * HOLE DRAG 5-10,000 daN.
- * NORMAL SHALES OVER SHAKER, WITH THE ODD 1" PEBBLE.
- * RAN BARITE RECOVERY ON 25m³. AND STRIPPED IT BACK.
- * CHANGED OUT 2 WASHED HEADS ON #1 MUD PUMP.
- * SUCTION SCREENS ON MUD PUMPS ARE STILL CATCHING SUSPENDED SHALES.
- * BOP DRILL WITH CREW (WELL SECURE IN 70 SECONDS).
- * INLAND & HALLIBURTON ALERTED ON MONTHLY BOP INSPECTION
- * SAFETY TOPIC: USE OF SAFETY BELTS.
- * HOLE APPEARS GOOD WITH NO TIGHT CONNECTIONS.
- * SOME CONCERN WITH PUMP PRESSURE AND WT. ON BIT GETTING CLOSE TO MAX. WILL MAKE CHANGES TO CORRECT ISSUE ON NEXT TRIP OUT.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/22	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 49	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: CLEAR		TEMP: 9 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 1645.00 m		8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 76208 CUMULATIVE COST: \$ 5873342

1 311 mm BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC SUB	1 MONEL MWD
1 MONEL	1 228mm DC	1 SHOCK SUB	1 228mm DC	1 JARS
2 228mm DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP
LENGTH: 191.06 m	WT. BELOW JARS: 8000 daN	JAR HRS: 27.0	JAR SERIAL #: 10881	

 WT. ON BIT: 15000 daN ROTARY RPM: 110 STRING WT.: 68000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 3
 171 H90 9

 TOTAL
 ROTATING 678.25
 HOURS:

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.								REMARKS			
					1	2	3	IN	OUT			DRL	RMD		WTAN	RPM	I	D	D	L	B	G				
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1392	-234			13.00	3- 8	60	4	4	WT	A	4	1	NO	BHA			
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626	1626	0			19.25	3-10	60	3	4	WT	A	4	2	NO	BHA			
12C	311.0	SMITH	LY1654	F2P	17.5	17.5	17.5	1626		0			-													

LAST PIPE TALLY: 1302.37 BOARD: 1301.83 CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC ml/l	PV/YP	GELS On/Off	Tot. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY MFI MFO	° C IN/OUT
118	1620	10.5	10.0	2.0	27 / 30.0	29. / 36.	0.28		0.001	58			1000	600	0.2 1.0	53
					/	/										/
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

PUMP NO. 1	TYPE: F 1000				PUMP NO. 2	TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	12700	39.2	46.8	57.1	121.73

SURVEYS			TIME BREAKDOWN			MUD-ADDITIVES		
AZIMUTH			PRESS TEST	HNOL TOOLS	2.50	Gel		
° @ m			DRILLING	SLIP & CUT	0.75	Starpak		
° @ m			CIRCULATE 5.50	REAMING		Pot Sulf		
° @ m			TRIPPING 14.50	COND MUD		Driscac		
° @ m			RIG SERV 0.50	BOP DRILL	0.25	Sod sulf		
° @ m			BOP CHECK			Corinox		
° @ m			DRLG OUT			Lime		
° @ m			REPAIRS			Alcomer110		
° @ m			SURVEYING			Soda Ash		
° @ m						Barite	85	
° @ m						Lignite		
° @ m						Chemcide		
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+lon-26,000, SULFITE 250, POLYMER 2.5.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.21 @ 00:00 HOURS:

TRIPPED OUT OF HOLE. CLEANED 3 POINT REAMERS AND BIT. RAN IN HOLE. REAMED BRIDGES AT 1388, 1454, 1471, 1490 AND 1523mKB. CIRCULATED AND CONDITIONED HOLE CLEAN. TRIPPED OUT BIT #11C. (HOLE PULLED TIGHT UP TO 1450mKB, DIDN'T HAVE TO CIRCULATE). PUMPED BARITE PILL AT 1100mKB. LAID DOWN REAMING ASSEMBLY.

PICKED UP AND MADE UP DIRECTIONAL TOOLS. RAN IN HOLE TO 775mKB. SLIPPED AND CUT DRILLING LINE. PULSE TESTED MWD TOOL. RAN IN HOLE FROM 775-1457mKB. BROKE CIRCULATION AND WASHED TO BOTTOM FROM 1457-1626mKB (BIT WOULD NOT SLIDE IN HOLE, BUT TOOK VERY LITTLE WEIGHT TO WASH TO BOTTOM). WASHED TO BOTTOM TO 24:00 HOURS 2000.09.21.

SUPERVISOR: SOLBERG/PICHE PHONE #: (600) 701-3227 CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/22

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 49

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR

TEMP: 9

°C

8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTE 1: HOLE DRAG: 5000-10,000 daN.
2: TORQUE: 6000-8000 Nm.
3: NOT MUCH FOR CUTTINGS OVER SHAKER, ODD 1" SIZE SHALE.
4: HOLE CONDITIONS WERE VERY GOOD UP TO 1457mKB.
5: BACKGROUND GAS ON TRIP, 9.50%.
6: MUD PROPERTIES AT 06:00: VIS-105, DENSITY-1620 kg/m3. pH-10.5, WL-10.0.
7: 06:00 HOURS DEPTH 1641.38mKB. (AVERAGE ROP=2.4-2.8m/HOUR).

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31
U.W.I.: 300-C31-6040-12330-0
OFFICE SUPERVISOR: Mickey Sutherland
CONTRACTOR: AKITA DRILLING LTD.
RIG #: 58E

LOCATION: 300-C31-6040-12330-0
CPA NO.: 300C316040123300

DATE: 00/09/21
DAY: 48

LICENCE NO.: 1900
SPUD DATE: 00/08/04 @ 12:15 hrs.
RIG RELEASE: @ : hrs.
WELL STATUS:

WEATHER: Overcast
Midnight DEPTH: 1626.00 m
8:00 a.m. DEPTH: 1626.00 m

TEMP: 3 °C
PROGRESS: 0.00 m

FINAL TD: m FORMATION:
PBTD: m FORMATION:

8:00 a.m. OPERATION: Wiper trip bit #11C.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 60661 CUMULATIVE COST: \$ 5797134

1 311 mm BIT 1 NB-REAMER 1 SHORT DC. 1 3 PT-REAMER 3 Drill Collar
1 JARS 1 X/O SUB 9 6 3/4" DC 1 X/O SUB 3 HWD

TOTAL
ROTATING 678.25
HOURS:

LENGTH: 154.71 m WT. BELOW JARS: 8000 daN JAR HRS: 21.5 JAR SERIAL #: 10881

WT. ON BIT: 5000 daN

ROTARY RPM: 60/80

STRING WT.: 66000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

3

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS
					1	2	3	IN	OUT			DRL	RMD	WTEN	RPM	1	2	3	4	5	6	7	8	
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1392	-234			13.00	3-8	60	4	4	WT	A	4	1	NO	BHA	
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626		0			19.25	3-10	60									
										0														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WT cc/30min	FC mm	PV/CP	GELS 0/10	Tot Sol kg/m3	Dril Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	DIL %	Cl ppm	Ca ppm	ALKALINITY		°C	
															MFI	MPO	IN/OUT	
120	1625 /	10.5	10.0	2.0	27/ 32.0	31. /39.	0.28		0.001	60			1000	600	0.2	1.0	/ 55	
	/				/	/											/	
CENTRIFUGE					DESILIER			DESANDER			DEGASSER				TOTAL MUD DUMPED			
HR IN		kg/m3		OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP NO. 1		TYPE: F-1000				PUMP NO. 2		TYPE: F-1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	SPM	m ³ /MIN	kPa	DP m ³ /MIN	DC m ³ /MIN	VELOCITY m/sec	HP
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	12700	45.8	54.7	41.5	75.39		

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST	HNDL TOOLS			Gel	49
°	@	m		DRILLING	SLIP & CUT			Starpak	6
°	@	m		CIRCULATE	REAMING			Pot Sulf	65
°	@	m		TRIPPING	12.25	COND MUD	11.25	Drispac	3
°	@	m		RIG SERV	0.50	BOP DRILL		Sod sulf	4
°	@	m		BOP CHECK				Corinox	2
°	@	m		DRG OUT				Lime	9
°	@	m		REPAIRS				Alcomer110	
°	@	m		SURVEYING				Soda Ash	2
°	@	m		TOTAL HOURS: 24.00				Barite	798
°	@	m						Lignite	3
°	@	m						Chemcide	2

MUD COMMENTS: K+ion - 26,000, Sulfite - 250, Polymer - 2.8.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.20 @ 00:00 Hours:

Circulated. Worked drill string and increased mud density to 1630 kg/m³. Wiper tripped to 1100mKB. Rotated and partially circulated to 1341mKB. Hole good from 1341-1100mKB. Tripped into 1315mKB. Cleaned bridges 1315-1323mKB, 1387-1392mKB and 1417-1425mKB. Circulated and conditioned hole and mud.

Tripped bit #11C. Hole pulled tight to 1390mKB, didn't circulate from 1600mKB, only rotated at tight spots. Acted as if reamers were balled up, decided to trip to check reamers. Pumped barite pill at 1100mKB and flow checked as required. Hole good from 1390mKB. Tripped out to check bit and reamers to 24:00 hours 2000.09.20.

SUPERVISOR: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/21

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 48

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Overcast

TEMP: 3 °C

8:00 a.m. OPERATION: Wiper trip bit #11C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Hole Drag: 5,000-15,000 daN.
2: Torque: 6,385-8,940 Nm.
3: Safety Topics: Winter operations/tripping.
4: Reamers were fairly packed off with mud ring material. Cleaned reamers and bit and tripped back in the hole.
5: Trip in: Reamed 1390-1398mKB, flicker at 1445mKB, reamed 1454-1456mKB, 1470-1499mKB, washed to bottom from 1602mKB with 1.5m fill. (Bridges reamed fairly easily.)
6: 05:45 hours: Mud properties: density-1620 kg/m³, vis-112, WL-11.5, pH-10.5.

REPORTED BY: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/20	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 47	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Raining		TEMP: 1.4 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Circulating and increasing density to 1620 kg/m ³ .			

APE #: AFE AMT: \$ 12658500 DAILY COST: \$ 57857 CUMULATIVE COST: \$ 5736473

1 311 mm BIT 1 NB. REAMER 1 SHORT DC. 1 3 PT. REAMER 3 Drill Collar
1 JARS 1 X/O SUB 9 6 3/4" DC 1 X/O SUB 3 HWDP

TOTAL
ROTATING 678.25
HOURS:

LENGTH: 154.71 m WT. BELOW JARS: 8000 daN JAR HRS: 21.5 JAR SERIAL #: 10881

WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 66000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228 H90 3
171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES DIA			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.						REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WTA	RPM	I	Q	D	L	B	G	O	R
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1392	-234			13.00	3- 8	60	4	4	WT	A	4	I	NO	SHA
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626		0			19.25	3-10	60								
										0			-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WT. uc/30min	FC mm	FWYD	GELS O/D	Tor. Sol. kg/m ³	Drid. Sol. kg/m ³	SAND kg/m ³	BENTONITE kg/m ³	LCM kg/m ³	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
105	1590/	9.5	11.0	2.0	26/ 29.0	29./38.	0.27		0.001	60			1000	600	0.2	0.8	/ 55
115	1580/	10.5	10.0	2.0	27/ 34.0	30./40.	0.24		0.001	59			1000	600	0.2	0.7	/ 55
CENTRIFUGE					DESILTER			DESANDER			DECLASSER			TOTAL MUD DUMPED			
HR IN	kg/m ³	OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	m ³			

PUMP NO. 1					PUMP NO. 2					PRESSURE kPa	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN		DP m ³ /MIN	DC m ³ /MIN	VELOCITY m/sec	HIIP
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	12700	45.8	54.7	41.5	73.53

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
		AZIMUTH	PRESS TEST	HNDL TOOLS		Gel	10
° @	m		DRILLING	SLIP & CUT		Starpak	2
° @	m		CIRCULATE	REAMING	16.00	Pot Sulf	56
° @	m		TRIPPING	COND MUD	7.25	Drispac	1
° @	m		RIG SERV	0.75	BOP DRILL	Sod sulf	4
° @	m		BOP CHECK			Corinox	2
° @	m		DRLG OUT			Lime	7
° @	m		REPAIRS			Alcomer110	2
° @	m		SURVEYING			Percol 728	
° @	m					Barite	756
° @	m					Lignite	1
° @	m					Chemcide	2
			TOTAL HOURS: 24.00				

MUD COMMENTS: K+Ion - 25,000, Polymer - 2.8, Sulfite - 250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.19 @ 00:00 Hours:

Reamed 311mm hole from 1369-1400mKB. (Tough section 1392-1400mKB.) Reamed and washed to 1626mKB. (Bridges at 1418, 1442 and 1454mKB.) Circulated, worked drill string and increased density with barite to 1595 kg/m³ at 23:59 hours 2000.09.19.

Note 1: Torque: 5,110-10,217 Nm.

2: Hole Drag: 3,000-5,000 daN.

3: Relatively small amounts of cuttings coming over shaker with the odd 1" pebble.

4: Safety Topic: Electrical/fluid disposal.

Cont'd

SUPERVISOR: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/20

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 47

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Raining

TEMP: 1.4 °C

8:00 a.m. OPERATION: Circulating and increasing density to 1620 kg/m3.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 5: 05:00 hours 2000.09.20: Mud properties: Density 1605 kg/m3,
Viscosity 104, WL 11, pH 10.5.

6: Will get density to 1620 kg/m3. Wiper trip to 1100mKB, then
hoist out to pick up mud motor and continue drilling.

REPORTED BY: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/19	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 46	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Overcast		TEMP: 1.8 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBTd: m FORMATION:	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Reaming to bottom.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 93914 CUMULATIVE COST: \$ 5678616

1 311 mm BIT	1 NB.REAMER	1 SHORT DC.	1 3 PT.REAMER	3 Drill Collar
1 JARS	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP

LENGTH: 154.71 m WT. BELOW JARS: 8000 daN JAR HRS: 5.5 JAR SERIAL #: 10881

WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 58000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228	H90	3
171	H90	9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS
					1	2	3	IN	OUT			DRL	RMD	WTAIN	RPM	I	O	D	L	B	G	O	R	
9CRR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1278	-348			12.75	3- 8	60	4	4	WT	A	3	I	NO	BHA	
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1392	-234			13.00	3- 8	60	4	4	WT	A	4	I	NO	BHA	
11C	311.0	J&L	WC403	J-4	22.2	22.2	22.2	1626		-162			3.25	3-10	60									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

VISCOSITY Sec/L	DENSITY IN/OUT	BR.	WT. cc/30min	PC mm	PV/VP	GELS OAO	Tot. Sol. kg/m3	Diat. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OH %	CI ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
105	1600	10.0	10.0	2.0	27' 31.5	30. '39.	0.27		0.001	59			1000	600	0.2	0.8	54
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3		

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE inq	SPM	m3/MIN	MODEL	LINER mm	STROKE inq	SPM	m3/MIN	kPa	DF m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	10800	43.6	52.1	39.5	63.99

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Gel		
° @ m			HNDL TOOLS			Starpak 6		
° @ m			DRILLING			Pot Sulf 56		
° @ m			CIRCULATE 0.50			Drispac 3		
° @ m			TRIPPING 9.50			Sod sulf 2		
° @ m			RIG SERV 0.50			Corinox 1		
° @ m			BOP CHECK			Lime 3		
° @ m			DRLG OUT			Alcomer110 2		
° @ m			REPAIRS			Percol 728		
° @ m			SURVEYING			Barite 546		
° @ m			PUMPS/TANK 3.75			Lignite 3		
° @ m			TOTAL HOURS: 24.00			Chemcide 1		

MUD COMMENTS: K+Ion - 26,000. Polymer - 2.8. Sulfite - 250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.18 @ 00:00 Hours:

Reamed 311mm hole from 1376-1392mKB. Bit would not drill, decided to trip. Tripped bit #10CRR, flow checked as required. Pumped barite pill at 1089mKB. Tight spots: 1255 and 1150mKB. Function tested blind rams, 6 seconds to close. Changed bit and BKA. Tripped in with bit #11C to 1256mKB.

Broke circulation and reamed 311mm hole to 1285mKB. Ran pipe to 1311mKB. Broke circulation and reamed to 1331mKB. Pump suction screens kept continually plugging up. Tripped bit up to 1104mKB. Cleaned shale from pump suction lines and suction tank #2. Tripped bit to 1220mKB. Broke circulation, reamed from 1220-1369mKB to 23:59 hours 2000.09.18.

SUPERVISOR: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/19

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 46

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Overcast

TEMP: 1.8 °C

8:00 a.m. OPERATION: Reaming to bottom.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Torque: 5,110-15,325 Nm.
2: Hole drag: 3,000-5,000 DaN.
3: Safety Topics: Confined space/crown saver discussion.
4: Reamed very tough from 1223-1225mKB, acted as if something had fallen in while suction tank was being cleaned. Not that many cuttings coming over at this point and what is coming over is small with the odd 1" pebble, which remained consistant throughout the night.
5: Hole fill: Actual: 9.7m³, Calculated: 6.8m³, Difference: 2.9m³.
6: 05:30 hours mud properties: Density-1600 kg/m³, vis-103, pH-10.0, WL-10.
7: Reamed tough from 1392-1398mKB.
8: 06:00 hours reaming depth - 1398mKB.

REPORTED BY: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/18	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 45	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: High Cloud/Windy		TEMP: 8 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Reaming to bottom.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 66099 CUMULATIVE COST: \$ 5584702

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1 311 mm BIT	1 Bit Sub	3 Drill Collar	1 JARS	1 X/O SUB
9 6 3/4" DC	1 X/O SUB	3 HWDP		
LENGTH: 149.47 m WT. BELOW JARS: 8000 daN JAR HRS: 5.5 JAR SERIAL #: 10881				

 TOTAL
ROTATING 652.50
HOURS:

 WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 59000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 3
 171 H90 9
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTS	MTKS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.										REMARKS
					1	2	3	IN	OUT			DRL	RMD		WT4IN	RPM	I	Q	D	L	B	G	O	R	
9CRR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1278	-348			12.75	3- 8	60	4	4	WT	A	3	1	NO	BHA		
10CR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626		-162			5.50	3- 8	60										
										0															

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

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Viscosity Sec/L	DENSITY IN/OUT	pH	WT. cc/30min	FC mm	PV/VP	GELS Or/0	Tot Sol kg/m3	Dried Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
116	1605'	10.0	11.0	2.0	26' 30.0	32.41	0.27		0.001	58			1000	600	0.2	0.8	53
104	1600'	10.0	14.0	2.0	26' 29.0	31.41	0.27		0.001	59			1000	600	0.2	0.7	54
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN		kg/m3	OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	m3		

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PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		KPa	DP m/MIN	DC m/MIN	VELOCITY m/sec
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	12400	43.6	52.1	53.9	119.49

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Gel		
° @	m		HNDL TOOLS			Starpak		
° @	m		DRILLING			Pot Sulf 56		
° @	m		CIRCULATE			Driscac		
° @	m		TRIPPING 8.75			Sod sulf 2		
° @	m		RIG SERV 0.75			Corinox 1		
° @	m		BOP CHECK			Lime 6		
° @	m		DRLG OUT			Alcomer110 2		
° @	m		REPAIRS			Percol 728		
° @	m		SURVEYING			Barite 438		
° @	m		TIGHT HOLE			Lignite		
° @	m		TOTAL HOURS: 24.00			Chemcide 1		

MUD COMMENTS: K+ion - 23,000. Polymer - 2.01. Sulfite -250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.17 @ 00:00 Hours:

Reamed 311mm hole from 1323-1378mKB. Hole was sticky from 1369-1378mKB. Tripped bit #9CRR. Flow checked as required. (Tight spots at 1342mKB and 1183mKB. Pumped pill at 1100mKB) Function tested blind rams, 6 seconds to close. Checked bit. Laid down both 3 pt reamers. Tripped in with bit #10CRR,

bridged off at 1172mKB. Broke circulation. Reamed from 1172-1198mKB. Ran stands to 1278mKB. Broke circulation. Reamed and washed to 1376mKB at 24:00 hours 2000.09.17. Note 1: Safety Topics: Crown saver/hearing protection. 2: Torque: 5110-19157 Nm 3: Hole Drag: 3000-5000 daN.

SUPERVISOR: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/18

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 45

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: High Cloud/Windy

TEMP: 8 °C

8:00 a.m. OPERATION: Reaming to bottom.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 4: With bottoms up reaming at 1172mKB, received 2.5 loader buckets of cuttings, .75" to 1" in size with sharp edges. Shakers cleaned up while reaming at 1250mKB.
- 5: Reamed with difficulty from 1383-1392mKB. Volume of cuttings increased to moderate rate at this point with sizes ranging from 1" to 2" with rounded edges.
- 6: 05:30 hours, mud properties: vis-125, density-1600 kg/m³, ph-10, WL-9.0.
- 7: 06:00 hours 2000.09.18: Reaming depth - 1392mKB.

REPORTED BY: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/17	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 44	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Clear		TEMP: 8 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: m		8:00 a.m. OPERATION: Reaming to bottom			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 77196 CUMULATIVE COST: \$ 5518603

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1 311 mm BIT	1 Bit Sub	1 Drill Collar	1 3 PT Reamer	1 Drill Collar
1 3 PT Reamer	1 Drill Collar	1 JARS	1 X/O SUB	9 6 3/4" DC
1 X/O SUB	3 HWD			

TOTAL
ROTATING 638.00
HOURS:

LENGTH: 153.89 m WT. BELOW JARS: 8000 daN JAR HRS: 282.3 JAR SERIAL #: 10163

WT. ON BIT: 5000 daN

ROTARY RPM: 60/80

STRING WT.: 58000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

3

171

H90

9

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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.				REMARKS				
					1	2	3	IN	OUT		DRL	RMD	WTRN	RPM	T	O	D	L	B	G	O	R	
8C	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626	1271	-355			26.50	3- 8	60	3	3	WT	A	3	I	NO	BHA
9CRR	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626		-162			3.75	3- 8	60								
										0													

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

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Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MEI MFO	°C IN/OUT
120	1610'	9.5	10.0	2.0	26/ 35.0	34. /43.	0.26		0.001	58			1000	600	0.2 0.7	53
122	1620'	10.0	11.0	2.0	26/ 33.0	31. /40.	0.27		0.001	59			1000	600	0.2 0.9	53
CENTRIFUGE			DESILTER			DESANDER			DEGASER			TOTAL MUD DUMPED				
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3				

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PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHV
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	10500	39.2	46.8	48.4	87.34

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel	50
° @	m		DRILLING	SLIP & CUT	1.00	Starpek	8
° @	m		CIRCULATE	REAMING	13.00	Pot Sulf	56
° @	m		TRIPPING	COND MUD		Drispac	4
° @	m		RIG SERV	BOP DRILL		Sod sulf	2
° @	m		BOP CHECK			Corinox	1
° @	m		DRLG OUT			Lime	2
° @	m		REPAIRS			Alcomer110	3
° @	m		SURVEYING			Percol 728	3
° @	m					Barite	898
° @	m					Lignite	6
° @	m					Chemcide	
				TIGHT HOLE			
				TOTAL HOURS:	24.00		

MUD COMMENTS: K-Ion - 18,000. Sulfite - 250. Polymer - 2.66.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.16 00:00 hrs. Reamed 311 mm hole from 1250 mKB to 1271 mKB. Circulated and mixed barite pill and pumped same. Tripped Bit # 8C, flow checked as required. Function tested blind rams when out of hole, 6 seconds to close. Changed BHA. Tripped in with Bit # 9CRR to 710 mKB. Slipped and cut drilling line. Continued in the hole to 1271 mKB, break

circulation and reamed 311 mm hole to 1323 mKB at 24:00 hrs 2000.09.16.

- * Safety topics: working at heights/ safety glasses.
- * Torque: 5,110 - 19,157 NM.
- * Hole drag: 3,000 - 5,000 daN.
- * Not that many cuttings came over with bottoms up.

SUPERVISOR: Solberg/Solberg PHONE #: (600) 701-3227 CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/17

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 44

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 8 °C

8:00 a.m. OPERATION: Reaming to bottom

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Reamed and worked section of from 1322 mKB to 1329 mKB until it cleaned up and were able to make a connection.
- * 05:30 mud properties: density 1620 kg/m³, vis - 120, ph - 10.5, WL -9.5.
- * 06:00 Reaming depth - 1368 mKB.

REPORTED BY: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/16	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 43	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m		KB-GL: 6.7 m	
RIG #: 58E		GL: 481.3 m		KB-CF: 6.5 m	
WEATHER: Overcast		TEMP: 6 °C		FINAL TD: m	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBD: m	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Reaming to bottom, at 1275mKB.		FORMATION: FORMATION:	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 53301 CUMULATIVE COST: \$ 5441407

1 311 mm BIT	1 NB Reamer	1 Drill Collar	1 3 PT Reamer	3 Drill Collar
1 JARS	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP

TOTAL ROTATING HOURS: 625.00

LENGTH: 155.05 m WT. BELOW JARS: 8000 daN JAR HRS: 269.3 JAR SERIAL #: 10163

WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 58000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228	H90	3
171	H90	9

BIT S

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT												REMARKS
					1	2	3	IN	OUT		DRL	RMD	WT daN	RPM	I	O	D	L	B	G	C	R					
7CRR	311.0	REED	MM9252	HP13G	17.5	19.0	19.0	1626	1272	-354			43.75	4- 15	60	4	4	WT	A	4	I	NO	BHA				
8C	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626		-162			17.25	3- 5	60												
										0			-														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL at 30allin	FC m/m	PIVAP	GELS OUIE	Tot. Sol kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	1.0M kg/m3	QIL %	Cl PPM	Ca PPM	ALKALINITY		° C IN/OUT
100	1565'	10.0	12.0	2.0	24' 30.0	31. '40.	0.25		0.001	57			1000	600	0.2	0.7	' 53
105	1560'	10.5	11.0	2.0	25' 31.0	33. '40.	0.25		0.001	58			1000	600	0.2	0.8	' 53
CENTRIFUGE					DESILTER				DESANDER			DEGASSER			TOTAL MUD DUMPED		
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		in3		

PUMP NO. 1	TYPE: F 1000				PUMP NO. 2	TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	KPa	DP m/MIN	DC m/MIN	VELOCITY m/sec.	HHP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	11800	43.6	52.1	53.9	116.50

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Gel		
° @ m			HNDL TOOLS			Starpak		
° @ m			DRILLING			SLIP & CUT		
° @ m			CIRCULATE			Pot Sulf		
° @ m			TRIPPING 5.25			Reaming 17.25		
° @ m			RIG SERV 1.00			COND MUD		
° @ m			BOP CHECK			BOP DRILL		
° @ m			DRLG OUT			Sod sulf 4		
° @ m			REPAIRS 0.50			Corinox 2		
° @ m			SURVEYING			Lime 4		
° @ m			TIGHT HOLE			Alcomer110 2		
° @ m			TOTAL HOURS: 24.00			Percol 728		
° @ m						Barite 378		
° @ m						Lignite		
° @ m						Chemcide 2		

MUD COMMENTS: K+Ion - 23,000. Polymer - 2.52. Sulfite - 250.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below)

2000.09.15@00:00 hrs. Tripped in Bit # 8C. Tagged bridge at 711 mKB. Broke circulation, reamed from 711 mKB to 758 mKB (acted as if a mud ring). Tripped in the hole, tagged bridge at 1140 mKB. Broke circulation, reamed from 1170 mKB to 1238 mKB. Wiper tripped to casing shoe to change out precharge pump on # 2 F-1000 mud pump. Tripped in hole, tagged bridge

at 1237 mKB. Broke circulation and reamed 311 mm hole from 1237 mKB to 1250 mKB at 24:00 hours 2000.09.15.

NOTES:

* Safety topics: pipe spinner / mixing mud chemicals.

* Torque : 5,110 - 15,325 NM.

* Hole drag: 5,000 - 10,000 daN.

SUPERVISOR: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/16
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 43 DEPTH: 1626.00 m PROGRESS: 0.00 m CPANO.: 300C316040123300
WEATHER: Overcast TEMP: 6 °C
8:00 a.m. OPERATION: Reaming to bottom, at 1275mKB.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Hole was good condition on trip in on wiper trip with no indication of any ledges.
- * Worked 1236 mKB to 1250 mKB with weight on bit decreasing from 6,000 daN to 1,000 daN. Cuttings over shaker decreased with very little coming over. There was not that many cuttings come over after bottoms up on the wiper trip.
- * Ran barite recovery and stripped 20 m3 from the active system.
- * Changed 2 head rubbers # 2 F-1000.
- * 06:00 reaming depth @ 1267 mKB. Density -1595 kg/m3, vis - 110, ph - 10.5, WL - 11.5.

REPORTED BY: Solberg/Solberg

PHONE #: (600) 701-3227
CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

LOCATION: 300-C31-6040-12330-0

DATE: 00/09/15

U.W.I.: 300-C31-6040-12330-0

CPA NO.: 300c316040123300

DAY: 42

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m

KB-GL: 6.7 m

LICENCE NO.: 1900

SPUD DATE: 00/08/04 @ 12:15 hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear/windy

TEMP: °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1626.00 m

PROGRESS: 0.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 1626.00 m

8:00 a.m. OPERATION: Reaming to bottom

AFE #:

AFE AMT: \$ 12658500

DAILY COST: \$ 78311

CUMULATIVE COST: \$ 5388106

1 311 mm BIT

1 NB Reamer

1 Drill Collar

1 3 PT Reamer

2 Drill Collar

1 JARS

1 X/O SUB

9 6 3/4" DC

1 X/O SUB

3 HWDP

TOTAL
ROTATING 607.75
HOURS:

LENGTH: 154.47 m

WT. BELOW JARS: 8000 daN

JAR HRS: 252.0

JAR SERIAL #: 10163

WT. ON BIT: 5000 daN

ROTARY RPM: 60/80

STRING WT.: 57000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

3

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT	DIT		CUTTING STRUCT										REMARKS
					1	2	3	IN	OUT			DRY	EMD	WT&N	RPM	I	O	D	L	B	G	O	R	
7CRR	311.0	REED	MM9252	HP13G	17.5	19.0	19.0	1626	1272	-354			43.75	4-15	60	4	4	WT	A	4	I	NO	BHA	
8C	311.0	HUGHES	U52YT	GT-CS1	19.0	19.0	19.0	1626		-162														
										0														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/1L	DENSITY IN/OUT	pH	WL cc/97/min	FC mm	PV/VP	GELS O/10	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
118	1545/	10.5	9.5	2.0	25/	32.5	36./42.	0.25		0.001	58		1000	600	0.2	0.8	/ 53
120	1570/	10.0			/	/											/
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED					
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3					

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP	
Emsco	152	254	95	1.31	Emsco	152	254	95	1.31	11800	41.4	49.5	51.1	99.34	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES			
AZIMUTH			PRESS TEST		HNDL TOOLS		Gel		
° @	m		DRILLING		SLIP & CUT		Starpak		
° @	m		CIRCULATE		2.00	REAMING	16.25	Pot Sulf	112
° @	m		TRIPPING		5.25	COND MUD		Sod sulf	4
° @	m		RIG SERV		0.50	BOP DRILL		Corinox	2
° @	m		BOP CHECK					Lime	2
° @	m		DRLG OUT					Alcomer110	4
° @	m		REPAIRS					Percol 728	
° @	m		SURVEYING					Barite	735
° @	m					TIGHT HOLE		Lignite	
° @	m					TOTAL HOURS: 24.00		Chemcide	2

MUD COMMENTS: K+Ion - 23,000. Sulfite - 250. Polymer - 2.24.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be Inserted below.)

2000.09.14 @ 00:00 hours

Reamed 311mm hole from 1251-1272mKB. Hole packed off and pressured up. Back reamed from 1272-1224mKB and regained full circulation. Reamed from 1224-1235mKB, hole packed off again, back reamed to 1224mKB. Reamed from 1224-1253mKB. Worked interval 1236-1240mKB. Reamed with 5,000-10,000daN

going down and 5,000daN hole drag coming up and would not clean up. Circulated hole and prepared to trip to check BHA. Circulated and back reamed to 1089mKB. Pumped pill and tripped Bit #7CRR. Flow checked as required. Function tested blind rams when out of hole, 6 seconds to close. Changed bit, picked up short drill collar and tripped

SUPERVISOR: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/15

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 42

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear/windy

TEMP:

°C

8:00 a.m. OPERATION: Reaming to bottom

DRILLING & GEOLOGICAL REMARKS (Cont'd)

in with Bit # 8C to 23:59 hours 2000.09.14.

Note 1: Hole drag: 3,000-15,000daN.

2: Torque: 3,831-19,157 Nm

3: Received 4 loader buckets of cuttings, Ranging in size 1" to 2" with rounded edges.

4: Had some overpull in spots coming out of hole, and a flicker at the shoe. Had to break circulation and reamed at 711 mKB. Acted as if it was a ring. Had to push it 3 stands before we could get by it and run in stands without circulating.

5: Installed suction screens on both F-1000 mud pumps on the trip.

6: Safety topics: Tripping/Responsibilities

7: 06:00 hours 2000.09.14. reaming depth: 1236mKB.

REPORTED BY: Solberg/Solberg

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/14	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 41	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Clear		TEMP: 8 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Reaming to bottom and increasing mud wt to 1550kg/m ³ .			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 65291 CUMULATIVE COST: \$ 5309795

1 311 mm BIT	1 NB Reamer	1 Drill Collar	1 3 PT Reamer	2 Drill Collar
1 JARS	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP

TOTAL ROTATING 591.50 HOURS:

LENGTH: 152.25 m WT. BELOW JARS: 8000 daN JAR HRS: 235.7 JAR SERIAL #: 10163

WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 56000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228	H90	3
171	H90	9

BIT S

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT								REMARKS	
					1	2	3	IN	OUT			DRL	KWD	WTAN	RPM	I	D	D	L	B	G	C	R		
6c	311.0	REED	MM9252	HP13G	17.5	19.0	19.0	1626	1226	-400			18.50	2-18	60	2	2	NO	A	E	I	NO	BHA		
7CRR	311.0	REED	MM9252	HP13G	17.5	19.0	19.0	1626		-375			27.50	4-15	60										
										0			-												

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC nutl	PV/CP	GELS O/10	Tot.Sol. kg/m3	Diss.Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/013	Oil %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MEI	MFO	
118	1525'	10.0	13.0	2.0	24' 33.0	35.42	0.24		0.001	58			1000	600	0.2	0.8	53
120	1525'	10.0	10.0	2.0	23' 31.5	33.41	0.24		0.001	57			1000	600	0.2	0.7	54
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN		kg/m3		OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3	

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PUMP NO. 1	TYPE: F 1000				PUMP NO. 2	TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		JET																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
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SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel	
° @ m			DRILLING	SLIP & CUT		Starpak 4	
° @ m			CIRCULATE	REAMING 22.25		Pot Sulf 56	
° @ m			TRIPPING	COND MUD		Drispac 2	
° @ m			RIG SERV 0.75	BOP DRILL 0.25		Sod sulf 2	
° @ m			BOP CHECK			Corinox 2	
° @ m			DRLG OUT			Lime 3	
° @ m			REPAIRS 0.75			Alcomer110 5	
° @ m			SURVEYING			Percol 728 2	
° @ m				TIGHT HOLE		Barite 546	
° @ m				TOTAL HOURS: 24.00		Lignite 3	
° @ m						Chemcide 2	

MUD COMMENTS:

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below)

2000.09.13 @ 00:00 hours

Reamed 1234-1245mKB. Changed head #2 pump. rig serviced.

Reamed 1245-1272mKB. Backreamed 1272-1135mKB. Reamed

1135-1223mKB. Rig serviced and functioned lower pipe rams.

Reamed 1223-1243mKB. Held BOP drill. Reamed 1243-1251mKB

to 23:59 hrs 2000.09.13.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/14
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 41 DEPTH: 1626.00 m PROGRESS: 0.00 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: 8 °C
8:00 a.m. OPERATION: Reaming to bottom and increasing mud wt to 1550kg/m3.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Reaming was tough and slow from 1238-1250mKB. Seemed to break through at 1250mKB and go well to a depth of 1272mKB where the annulus packed off, circulation stopped and the drill string became stuck. The drill string was worked free and backreamed to 1135mKB before full circulation could be obtained. Reaming to bottom was resumed from 1135-1251mKB. Reaming was tough and slow and required rereaming with the string becoming partially stuck at times. Cuttings at the shakers were moderate to heavy at times with a large variation in particle size, with the largest being 1.5 to 2"
- 2: Approximately 5 buckets of cuttings at shaker while reaming.
 - 3: N.E.B. inspection, (no problems).
 - 4: Continuing to mix barite and increase density to 1550 kg/m3, having some problems with mixing hopper.
 - 5: Held blowout drill w/daylight crew.
 - 6: Received 2 loads of barite and 1 load of potassium sulphate.
 - 7: Mud weight at 06:00 hours 2000.09.13 1540 kg/m3, viscosity 110, water loss 10.5, pH 10.5.
 - 8: Depth at 6:00 hours 1230mKB.
 - 9: Having problems with shale getting into #1 pump sticking in valves and breaking springs.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/13	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 40	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Clear		TEMP: 9 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Reaming to bottom.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 79252 CUMULATIVE COST: \$ 5244504

1 311 mm BIT	1 NB Reamer	1 Drill Collar	1 3 PT Reamer	2 Drill Collar
1 JARS	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP

TOTAL ROTATING HOURS: 591.50

LENGTH: 152.25 m WT. BELOW JARS: 8000 daN JAR HRS: 213.5 JAR SERIAL #: 10163

WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 56000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228	H90	3
171	H90	9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT				BIT	CUTTING STRUCT.					REMARKS			
					1	2	3	IN	OUT			DRIL	RMD	WTEN	RPM		I	O	D	L	B	G	O	R	
6C	311.0	REED	MM9252	HP13G	17.5	19.0	19.0	1626	1226	-400			18.50	2-18	60	2	2	NO	A	E	I	NO	BHA		
7RR	311.0	REED	MM9252	HP13G	17.5	19.0	19.0	1626		-162			5.25	4-10	60										
										0			-												

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	6H	WL cc/30min	PC m/h	PV/VP	GELS O/D	Tot. Sol kg/m3	Drill Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT	
																MFI	MFO	
114	1470'	10.5	13.0	2.0	22' 34.0	35.44	0.23		0.001	59			1000	600	0.2	0.8		52
118	1485'	10.5	13.0	2.0	24' 33.0	34.44	23.00		1.000	58			1000	600	0.2	0.9		52
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3			

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
TYPE: F 1000					TYPE: F 1000										
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	KPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	INIP	
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	12200	45.8	54.7	59.6	141.77	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	1.00	Gel	50
° @ m			DRILLING	SLIP & CUT		Starpak	6
° @ m			CIRCULATE	0.50	REAMING	Pot Sulf	80
° @ m			TRIPPING	4.00	COND MUD	Driscap	3
° @ m			RIG SERV	0.75	BOP DRILL	Sod sulf	4
° @ m			BOP CHECK			Corinox	1
° @ m			DRG OUT			Lime	3
° @ m			REPAIRS			Alcomer110	4
° @ m			SURVEYING			Soda Ash	1
° @ m						Barite	882
° @ m						Lignite	2
° @ m						Chemcide	2
			TIGHT HOLE				
			TOTAL HOURS: 24.00				

MUD COMMENTS: POTASSIUM 24000, POLYMER 2.8, SULFITE 240.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.12 @ 00:00 hours

Reamed 311mm hole from 1134-1226mKB. Tripped bit #6C. Back reamed from 1226-1100mKB. Pumped pill. Resumed trip and flow flow checked as required. Function tested blind rams when out of hole, 6 seconds to close. Picked up near bit reamer, string reamer. Tripped in with Bit #7RR. Bridge off at

Bridged off at 1136mKB. Broke circulation. Reamed 311mm hole from 1136-1234mKB to 23:59 hours 2000.09.12.

Note 1: Hole Fill: actual 8.18m3, Calculated 6.8 m3, Difference +1.38m3.

2: Received 4 loader buckets of cuttings since reaming began.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/13

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 40

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 9 °C

8:00 a.m. OPERATION: Reaming to bottom.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 3: Cutting 1" - 1 1/2" in size with rounded edges. One chunk of shale that did come over with bottoms up was of triangular shape 3"x3" and 1 1/4" thick. Shakers have cleaned up quite a bit after bottoms up.

4: Ran barite recovery on 30 m3 of mud, then stripped it.

5: Chevron had a pup trailer over turn near barge landing containing corrosive inhibitor. Used our vacuum truck for the spill, Merrline with Chevron said they would haul our truck to Ft. Nelson to clean the tank and make arrangements to have a spare truck at barge landing for us tomorrow morning as our truck probably will not be back for approximately 24 hours.

6: Tough reaming from 1224-1229mKB.

7: 06:00 hours 2000.09.12 reaming depth: 1275mKB.

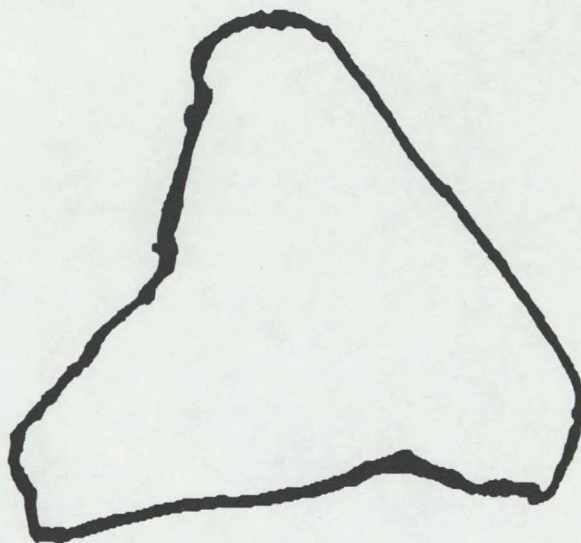
8: 05:30 hours 2000.09.12 mud properties: density - 1530 kg/m3, viscosity - 130, pH - 10, Water loss - 10.5.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

1 1/4" THICK



PIECE OF SHALE THAT CAME OVER SHAKER WITH
BOTTOMS UP.

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/12	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 39	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Overcast/windy		TEMP: 10 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Reaming to bottom/increasing density to 1500 kg/m ³ .			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 99434 CUMULATIVE COST: \$ 5165252

 1 311 mm BIT 1 Bit Sub 3 Drill Collar 1 JARS 1 X/O SUB
 9 6 3/4" DC 1 X/O SUB 3 HWDP

 TOTAL
 ROTATING 573.75
 HOURS:

LENGTH: 148.81 m WT. BELOW JARS: 8000 daN JAR HRS: 195.8 JAR SERIAL #: 10163

WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 54000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 3
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT WORN	CUTTING STRUCT		REMARKS
					1	2	3	IN	OUT		DRL	RMD		I	O	
RR5C	311.0	J&L	R573N	ATJ-15	17.5	19.0	19.0	1626	1221	-405		52.25	2- 5 60	4 4	FC A	F 5 CT BHA
6c	311.0	REED	MM9252	HP13G	17.5	19.0	19.0	1626		-162		6.50	2-18 60			
										0						

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cu/300lit	FC mm	FWYP	GELS O/10	Tot. Sol. kg/m ³	Dried Sol. kg/m ³	SAND kg/m ³	BENTONITE kg/m ³	LCM kg/m ³	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
105	1455/	10.5	11.0	2.0	22/ 31.0	28./33.	0.21		0.001	56			1000	600	0.2	0.8	52
110	1460/				21/ 34.0	34./40.											
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED					
HR IN	kg/m ³	OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	m ³					

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	11200	45.8	54.7	59.6	139.85

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH								
u	@	m	PRESS TEST	HNDL TOOLS	0.50	Gel		
o	@	m	DRILLING	SLIP & CUT		Starpak		
o	@	m	CIRCULATE	1.00	REAMING	Pot Sulf	30	
o	@	m	TRIPPING	5.50	COND MUD	Drispac		
o	@	m	RIG SERV	0.75	BOP DRILL	Sod sulf	2	
o	@	m	BOP CHECK			Corinox	1	
o	@	m	DRLG OUT			Lime	5	
o	@	m	REPAIRS	1.00		Alcomer110	7	
o	@	m	SURVEYING			Soda Ash		
o	@	m				Barite	420	
o	@	m				Lignite		
o	@	m				Chemcide	2	
				TIGHT HOLE				
				TOTAL HOURS:	24.00			

MUD COMMENTS: K+ion - 27,000. Polymer - 2.66. Sulfite - 240.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.11 @ 00:00 hours

Back reamed 311mm hole from 1224-1170mKB. Reamed from 1170-1221mKB. Tripped Bit #5CRR. Back reamed from 1194-1100mKB. Tripped out to 820mKB. Pumped pill. Resumed trip out of hole, flow checked as required. Function tested blind rams when out of hole, 6 seconds to close. Changed

bits. Laid down 2, 3PT reamers. Tripped in with bit #6C. Bridged off at 1122mKB. Broke circulation. Reamed from 1122-1138mKB. Circulated with 1 pump, changed 2" valve on stand pipe, belt and drive pulley on electric motor on #2 F-1000 precharge pump to 23:59 hours 2000.09.11.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/12

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 39

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Overcast/windy

TEMP: 10 °C

8:00 a.m. OPERATION: Reaming to bottom/increasing density to 1500 kg/m3.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Worked on same precharge pump that was replaced a couple days ago. Dave Lauck, rig manager said this pump has a 14" impellor and the old one had a 11" impellor. He thinks it pushes to much fluid to the pump creating back pressure causing pump to work harder and consequently burning up the belt. Eventually had to use mud roll to precharge pump to get it to operate.
- 2: It seems there is a shale slabs from 1132-1136mKB that falls back across the hole after it is reamed because you have to ream the same spot until the area cleans up. Had 6 loader buckets from the hole since bit #6C was run in. Cuttings range in size from 1" to 2" with rounded edges and came over shaker at a more constant rate than prior reaming operations. Cuttings have slowed down quit a bit as of late.
- 3: Hole Fill: actual-5.88 m3, calculated-5.43 m3, difference- +0.45m3
- 4: Safety Topics: Fall arrest/Tripping
- 5: Received 49,512 liters fuel 2000.09.10.
- 6: Torque : 5110-11495 NM
- 7: Hole Drag : 3,000-5,000daN.
- 8: Reaming depth at 06:00 hours 2000.09.12 - 1215mKB.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/11	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 38	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Clear		TEMP: 0 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 1626.00 m		8:00 a.m. OPERATION: Reaming to bottom/increasing density with barite.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 85348 CUMULATIVE COST: \$ 5065818

1 311 MM BIT	1 Bit Sub	1 Drill Collar	1 3PT Reamer	1 Drill Collar
1 3PT Reamer	1 Drill Collar	1 JARS	1 X/O SUB	9 6 3/4" DC
1 X/O SUB	3 HWD			
LENGTH: 153.36 m WT. BELOW JARS: 8000 daN JAR HRS: 180.5 JAR SERIAL #: 10163				

 TOTAL
ROTATING 558.50
HOURS:

 WT. ON BIT: 5000 daN ROTARY RPM: 60/80 STRING WT.: 57000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 3
 171 H90 9

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT								REMARKS	
					1	2	3	IN	OUT			DDL	RMD		WT&N	RPM	I	O	V	L	B	G		O
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474	1626	152	3.5	43.50	19.75	15-20	35	5	8	BT	A	8	6	NO	PR	
RR5C	311.0	J&L	R573N	ATJ-15	17.5	19.0	19.0	1626		-162			44.25	2- 5	60									
										0														

LAST PIPE TALLY: 1302.37 BOARD: 1301.83 CORRECTION: YES [] NO [x]

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Viscosity Stu/L	DENSITY IN/OUT	pH	Wt cc/30min	FC mm	PV/VP	GELS O/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	C ₂ ppm	ALKALINITY		°C IN/OUT	
																MFI	MFO	
82	1420 /	10.0	12.0	2.0	18 / 28.0	27. /31.	0.20		0.002	58			1000	700		0.2	0.8	/ 52
110	1440 /	10.0	10.0	2.0	22 / 32.0	30. /35.	0.22		0.001	56			1000	600		0.2	0.7	/ 52
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
HR IN		kg/m3	OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	m3			

PUMP NO. 1	TYPE: F 1000				PUMP NO. 2	TYPE: F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	KPa	QP m3/MIN	DC m/MIN	VELOCITY m/sec.	HHP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	11100	43.6	52.1	56.7	118.25

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel	20	
° @ m			DRILLING	SLIP & CUT		Starpak	8	
° @ m			CIRCULATE	REAMING 23.25		Pot Sulf	80	
° @ m			TRIPPING	COND MUD		Drispac	4	
° @ m			RIG SERV 0.75	BOP DRILL		Sod sulf	4	
° @ m			BOP CHECK			Corinox	3	
° @ m			DRLG OUT			Lime	7	
° @ m			REPAIRS			Alcomer110	3	
° @ m			SURVEYING			Soda Ash	1	
° @ m						Barite	1302	
° @ m						Lignite	4	
° @ m						Chemcide	2	
			TIGHT HOLE					
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+Ion - 24,000. Polymer - 2.1, Sulfite - 200.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.10 @ 00:00 hours

Washed and reamed 311mm hole from 1125-1234mKB. Mixed barite and increased density to 1450kg/m3. Hole began packing off.

Unable to circulate. Pulled up to 1170mKB. Broke circulation. Reamed 311mm hole 1170-1224mKB to 23:59 hours

2000.09.10.

Note 1: Reamed tough: 1120-1138mKB, 1142-1146mKB, 1170-1198mKB and 1220-1224mKB.

2: Various sized cuttings coming over shaker 1/2" to 2" along with 1" to 2" slivers with rounded edges.

3: Ran barite recovery unit and then stripped 25m3 mud.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/11

LOCATION: 300-C31-6040-12330-0

U.W.I.: 300-C31-6040-12330-0

DAY: 38

DEPTH: 1626.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 0 °C

8:00 a.m. OPERATION: Reaming to bottom/increasing density with barite.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 4: Safety topic: Working tight hole.

5: 2000.09.11 Reamed to 1230 mKB, hole packed off and were unable to circulate, back reamed up to 1177 mKB, break circulation and reamed existing hole again from 1177mKB. Worked tight hole from 1224-1220mKB. Reaming depth at 06:00 hours 2000.09.10, 1225mKB.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING L

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/10	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 37	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: overcast		TEMP: 0 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: m		8:00 a.m. OPERATION: Reaming to bottom. Increase density to 1450kg/m ³ .			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67813 CUMULATIVE COST: \$ 4980470

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1 311 MM BIT	1 Bit Sub	1 Drill Collar	1 3PT Reamer	1 Drill Collar
1 3PT Reamer	1 Drill Collar	1 JARS	1 X/O SUB	9 6 3/4" DC
1 X/O SUB	3 MWDP			

 TOTAL
ROTATING 535.25
HOURS:

LENGTH: 153.36 m WT. BELOW JARS: 8000 daN JAR HRS: 157.3 JAR SERIAL #: 10163

WT. ON BIT: 3000 daN ROTARY RPM: 40/60 STRING WT.: 54000 daN

DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 3
171 H90 9
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT WT/GM	RPM	CUTTING STRUCT.								REMARKS
					1	2	3	IN	OUT		DRL	RMD			I	O	D	L	B	O	O	R	
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474	1626	152	3.5	43.50	19.75	15-20	35	5	8	BT	A	8	6	NO	PR
RR5C	311.0	J&L	R573N	ATJ-15	17.5	19.0	19.0	1626		-162			24.75	2-5	40								
										0													

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

M
J

Viscosity Sec/L	DENSITY IN/OUT	pH	WE lb/30MIN	FC mm	EMCP	GELS Q/10	Tot Sol kg/m ³	Dril Sol kg/m ³	SAND kg/m ³	BENTONITE kg/m ³	LCM kg/m ³	OC %	Cl ppm	Ca ppm	ALKALINITY MEI MFO		°C IN/OUT
83	1365'	10.5	10.0	2.0	18'	26.0	26.29	0.18		0.002	57		1000	600	0.2	0.8	/ 47
105	1385'	11.0	10.0	2.0	17'	34.0	26.29	0.19			58		1000	600	0.2	0.9	/ 52

CENTRIFUGE				DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED
HR IN	kg/m3	OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3

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PUMP NO. 1 TYPE: F-1000					PUMP NO. 2 TYPE: F-1000					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	KPA	DP m/MIN	OC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	10000	43.6	52.1	56.7	113.70

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel 37		
° @ m			DRILLING	SLIP & CUT		Starpak 6		
° @ m			CIRCULATE	REAMING 21.00		Pot Sulf 36		
° @ m			TRIPPING	COND MUD 2.50		Drispac 3		
° @ m			RIG SERV 0.50	BOP DRILL		Sod sulf 2		
° @ m			BOP CHECK			Corinox 2		
° @ m			DRLG OUT			Lime 3		
° @ m			REPAIRS			Alcomer-110 3		
° @ m			SURVEYING			Soda Ash 1		
° @ m						Barite 924		
° @ m						Lignite 3		
° @ m						Chemcide 2		
			TIGHT HOLE					
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+ion: 23,000. Polymer: 1.41. Sulfite: 200.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

 2000.09.09 @ 00:00 hours. Washed and reamed 311mm hole from 966mKB to 1125mKB. Mixed barite and increased density to 1390kg/m³ to 23:59 hours, 2000.09.09

Note #1: Reamed following intervals with difficulty:

1040mKB to 1052mKB, 1067mKB to 1088mKB and 1108mKB

to 1125mKB. Ream down stand. Worked drill string

and it would hang up. Ream again. Acts as if there are slabs of shale that fall across hole after pipe comes up through the zone. Chunks of shale coming over shaker in various sizes ranging from 1/2" to 2" with rounded edges.

Note #2: Held camp fire drill.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING L

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/10

LOCATION: 300-C31-6040-12330-0

U.W.I: 300-C31-6040-12330-0

DAY: 37 DEPTH: 1626.00 m

PROGRESS: 0.00 m

CPA NO.: 300C316040123300

WEATHER: overcast

TEMP: 0 °C

8:00 a.m. OPERATION: Reaming to bottom. Increase density to 1450kg/m3.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note #3: Hole drag: 5,000 to 10,000daN.

Note #4: Torque: 6,380 - 12,770nM.

Note #5: Changed valve & seat on #1 F-1000.

Note #6: Reaming depth at 06:00 hours - 1134mKB.

Note #7: Mud properties at 05:30 hours: density - 1400kg/m3,

viscosity - 92,

water loss - 11,

pH - 10.5.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING L.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/09	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 36	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Raining		TEMP: 3 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1626.00 m		PROGRESS: 2.00 m		PSTD: m FORMATION:	
8:00 a.m. DEPTH: m		8:00 a.m. OPERATION: Reaming to bottom. Raising mud density to 1400kg/m ³ .			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67442 CUMULATIVE COST: \$ 4912657

1 311 MM BIT	1 Bit Sub	1 Drill Collar	1 3PT Reamer	1 Drill Collar
1 3PT Reamer	1 Drill Collar	1 JARS	1 X/O SUB	9 6 3/4" DC
1 X/O SUB	3 MWDP			
LENGTH: 153.36 m WT. BELOW JARS: 8000 daN JAR HRS: 136.3 JAR SERIAL #: 10163				

TOTAL ROTATING HOURS: 514.25

 WT. ON BIT: 3000 daN ROTARY RPM: 40/60 STRING WT.: 51000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 3
 171 H90 9

BIT S

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS			
					1	2	3	IN	OUT			DR	RM	W	R	L	D	D	L	B	G	O	R				
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474	1626	152	3.5	43.50	19.75	15-20	35	5	8	BT	A	8	6	NO	PR				
RR5C	311.0	J&L	R573N	ATJ-15	17.5	19.0	19.0	1626		-162			3.75	2-5	40												
										0																	

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/CL	DENSITY g/cc	pH	WT. cc/30min	PC mm	FWYP	GELS O/H	Tot Sol. kg/m ³	Drig Sol. kg/m ³	SAND kg/m ³	BENTONITE kg/m ³	LCM kg/m ³	OIL %	CI ppm	CA ppm	ALKALINITY MFI MFO	°C IN/OUT
75	1325	10.0	12.0	2.0	15/25.0	26./30.	17.00		0.002	48			1000	600	0.2 0.8	/ 57

CENTRIFUGE		DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED
HR IN	kg/m ³	OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	m ³

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PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	DIS/MIN	MODEL	LINER mm	STROKE mm	SPM	DIS/MIN	KPA	DP m/min	DC m/min	VELOCITY m/sec	HRP
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	8200	39.2	46.8	51.0	79.49

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	3.75	Gel	57	
° @ m			DRILLING	2.25	SLIP & CUT	1.00	Starpak	
° @ m			CIRCULATE		REAMING	6.75	Pot Sulf	56
° @ m			TRIPPING	8.75	COND MUD		Driscac	
° @ m			RIG SERV	0.50	BOP DRILL		Sod sulf	2
° @ m			BOP CHECK				Corinox	2
° @ m			DRLG OUT				Lime	3
° @ m			REPAIRS	1.00			Alcomer110	2
° @ m			SURVEYING				Soda Ash	1
° @ m					TIGHT HOLE		Barite	294
° @ m					TOTAL HOURS:	24.00	Percol 728	
							Chemcide	1

MUD COMMENTS: K+ion: 22,000. Sulfite: 180. Polymer: 1.82.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.08 @ 00:00 hours. Wiper tripped from 1552mKB to 1490mKB. Circulated and washed from 1490mKB to 1590mKB. Changed belt on #2 precharge pump on F-1000. Circulated and washed to 1624mKB. Oriented tool face. Drilled 311mm from 1624mKB to 1626mKB (slide). Circulated hole prior to trip. Tripped Bit #4c. Flow checked as required. Laid down

directional tools. Function tested blind rams when out of hole; 6 seconds to close. Picked up and made up reaming BHA. Tripped in hole to 717mKB. Slipped and cut 20m drilling line. Continued trip. Bridge at 895mKB. Broke circulation. Washed and reamed from 880mKB to 966mKB to 23:59 hours, 2000.09.08.

SUPERVISOR: Solberg/Sanquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING L.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/09/09

LOCATION: 300-C31-6040-12330-0

U.W.L: 300-C31-6040-12330-0

DAY: 36 DEPTH: 1626.00 m

PROGRESS: 2.00 m

CPA NO.: 300C316040123300

WEATHER: Raining

TEMP: 3 °C

8:00 a.m. OPERATION: Reaming to bottom. Raising mud density to 1400kg/m3.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note #1: Cuttings over shakers were 1" thick. Sizes varied from 1/2" to 3/4" rounded blocks to 2" to 3" long slivers.
- #2: Received a total of 7 loader buckets of cuttings up until midnight.
- #3: Hole drag 5,000 to 10,000 DaN.
- #4: Torque 5,400 to 12,700 Nm.
- #5: Safety topic: watch dog.
- #6: Changed out precharge pump on #2 F-1000 on trip.
- #7: Mud properties @ 05:00 hours: viscosity - 94; density - 1350kg/m3 water loss - 8, pH - 10.5.
- #8: Reamed with 2,000 to 5,000 daN. Ran in another stand when shakers cleaned up. Tough reaming from 966mKB to 982mKB. Every once in awhile the hole would pack off and pressure up.
- #9: Bit depth at 06:00 hours - 1080mKB.

REPORTED BY: Solberg/Sanquist

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0	DATE: 00/09/08
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300	DAY: 35
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900	
CONTRACTOR: AKITA DRILLING LTD.		SPUD DATE: 00/08/04 @ 12:15 hrs.	
RIG #: 58E		GL: 488.0 m KB-GL: 6.7 m	RIG RELEASE: @ : hrs.
		GL: 481.3 m KB-CF: 6.5 m	WELL STATUS:
WEATHER: Clear		TEMP: 4 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 1624.00 m		PROGRESS: 48.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 1627.00 m		8:00 a.m. OPERATION: Tripping out of hole (at 1518mKB).	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 117947 CUMULATIVE COST: \$ 4845215

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1 311 MM BIT	1 Mud Motor	1 FLOAT SUB	1 RESTRICTOR S	1 MONEL MWD
1 MONEL COLLAR	1 9" DC	1 SHOCK SUB	1 9"DC	1 JARS
2 9"DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP
LENGTH: 189.60 m WT. BELOW JARS: 18000 daN JAR HRS: 134.0 JAR SERIAL #: 10163				
WT. ON BIT: 15000 daN ROTARY RPM: 35/75 STRING WT.: 74000 daN				
DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:				
228 H90 4				
171 H90 9				

TOTAL
ROTATING 512.00
HOURS:B
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WT daN	RPM	I	O	D	L	B	G	O	R		
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474	1474	0				70.25	1- 2	61	3	3	WT	A	3	I	NO	BHA	
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474		150	3.6	41.25	19.75	15-20	35										
										0															

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

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Viscosity Sec/1	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS O/D	Tot. Sol. kg/m3	Drid. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MEI	MFO	
60	1280/	10.0	22.0	1.8	10/ 21.0	18/ 20.	0.11		0.005	35			900	420	0.2	1.4	64
80	1290/	9.5	9.0	3.0	16/ 26.0	26/ 32.	0.18		0.004	50			1000	600	0.2	0.7	57
CENTRIFUGE					DESILTER		DESANDER		DECASSER		TOTAL MUD DUMPED						
IIR IN kg/m3		OUT kg/m3		HR OUT kg/m3		HR OUT kg/m3		HR OUT kg/m3		HR OUT kg/m3		m3					

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PUMP NO. 1					PUMP NO. 2					PRESSURE kPa	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		DP m/MIN	DC m/MIN	VELOCITY m/sec	HIIP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	15900	43.6	52.1	63.5	133.09

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	Gel	
3.80 °	@ 1560.30 m	74.50	DRILLING 16.75	SLIP & CUT	Starpak	12
3.60 °	@ 1589.10 m	79.10	CIRCULATE 0.50	REAMING	Pot Sulf	56
3.50 °	@ 1598.10 m	81.50	TRIPPING 0.50	COND MUD	Drispac	6
3.60 °	@ 1607.00 m	78.00	RIG SERV 0.50	BOP DRILL	Sod sulf	6
°	@ m		BOP CHECK		Corinox	6
°	@ m		DRLG OUT		Lime	8
°	@ m		REPAIRS		Alcomer110	3
°	@ m		SURVEYING 0.75		Lignite	
°	@ m			TIGHT HOLE 5.00	Barite	756
°	@ m			TOTAL HOURS: 24.00	Percol 728	
°	@ m				Chemcide	3

MUD COMMENTS: K+Ion-27,000. Sulfite-180. Polymer- 2.52.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)

2000.09.07 @ 00:00 hours

Directionally drilled 311mm hole from 1576-1608mKB.

Surveyed. Rig serviced as required. Worked tight hole from 1605-1608mKB. Hole became sticky. Drilled to 1611mKB, worked drill string, hole packing off and pressured up. Drilled from 1611-1618mKB. Worked and cleaned hole from

1617-1593mKB. Drilled from 1618-1623mKB. Worked and cleaned hole. Surveyed at 1607mKB. Drilled from 1623-1624mKB. Hole packing off and having difficulty sliding. Circulated and worked drill string prior to wiper trip. Wiper tripped from 1624-1552mKB. Kelly up and pumped out from 1556-1547mKB to 23:59 hours 2000.09.07.

SUPERVISOR: Solberg/Sanquist PHONE #: (600) 701-3227 CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/08
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 35 DEPTH: 1624.00 m PROGRESS: 48.00 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: 4 °C
8:00 a.m. OPERATION: Tripping out of hole (at 1518mKB).

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Hole seemed to get sticky after water loss was lowered.
2: Safety topics: working on mud pumps/ tripping.
3: Hole drag: 5,000-15,000daN up and 3,000-15,000daN down
4: Torque: 8,100 - 16,200 NM.
5: 3/4" rectangular cuttings with rounded edges and the odd sliver coming over shaker.
6: Hauled approximately 180 m3 solids from pit on location to remote sump.
7: Recieved 38,569 liters of fuel today.
8: Wiper tripped out to 1474 mKB, broke circulation and cleaned to 1604mKB. Worked on precharge pump on #2 F1000. Continued in hole reamed with 1-2000daN. Drill string would not slide in without taking weight. Set toolface and slide at 1.4 m/hr.

REPORTED BY: Solberg/Sanquist

PHONE #: (600) 701-3227

CALLING CARD #: