

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 01/01/06

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

CPA NO.: 300C316040123300

DAY: 155

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: -22 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2369.97 m

PROGRESS: 2.19 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 2369.97 m

8:00 a.m. OPERATION: Hoisting milling tools, prepare to pick up mudmotor.

AFE #:

AFE AMT: \$ 12658500

DAILY COST: \$

61012

CUMULATIVE COST: \$ 14331502

1 Mill

1 S595 DP

13 HWDP

1 Jar

17 HWDP

TOTAL
ROTATING
HOURS: 1765.2

LENGTH: 292.62 m WT. BELOW JARS: 9000 daN JAR HRS: 67.3 JAR SERIAL #: 10137

WT. ON BIT: 0 daN

ROTARY RPM: 0

STRING WT.: 87000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

127

4.5 IFHWDP

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	1	2		3	4	5	6
2m	215.9	REED	TC1957	EHP51A	11.1	11.1	11.1	2363	2363	0	0.00		0- 0	0	1	1	NO	A	E	I	NO	BHA
3M	215.9	Smith	54546	Mill				2363		0			-									
										0			-									

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

Viscosity Sec/St	DENSITY g/cc	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tol Sol kg/m3	Dnd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	CL %	CI ppm	Ca ppm	ALKALINITY MFC MFO	°C IN/OUT
54	1125/	10.5	6.2	1.0	15/ 15.0	4.0/7.0	0.50		0.000	0		0.000	1200	480	0.2 0.7	/ 56
	/				/	/										/
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	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	HHP
Emsco	152	254			Emsco	152	254	80	1.11	3400	46.4	30.3		0.00

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	PRESS TEST	HNDL TOOLS 10.75
	DRILLING	SLIP & CUT
	CIRCULATE 0.25	REAMING
	TRIPPING 9.50	COND MUD
	RIG SERV	W/N.U. BOP
	BOP DRILL	SAFETY MTG
	SURVEYING	CEMENTING
	REPAIRS	PU/LD PIPE
	LOGGING	MILLING
	DIR WORK 1.00	GYRO 2.50
	TOTAL HOURS: 24.00	
		Starpak Drispac Kelzan Percel 728 Pot Sulf Biocide Caustic Gel Lignite 1 Cal Carb 80 Corinox Sod Sulf

MUD COMMENTS: K+Ion=19000,Sulfite=128,Polymer=2.0.

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

2001.01.05@00:00 hrs. Ran in hole with mud motor. Filled drill pipe every 10 stands. Tested MWD tool at a depth of 345mKB.

The recorded pulses were 27 psi. Finished in the hole.

Tagged top of whipface tool at 05:00hrs and a depth of 2363mKB. Ran in 1m more to 2364mKB and circulated. Changed bales on top drive to longer bales in order for the

circulating head and packoff tool to be used while running Gyro tool with wireline. Attempted to run drill string through window, but could only go .5m further to a depth of 2364.5mKB. Performed a Gyro survey at a depth 2364mKB, inclination was 2.96, Azimuth was 166.300, mud motor toolface was 215.88. Gyro orient sub is 36m back from bit for a survey depth of

SUPERVISOR: LEBEUF/PICHE'

PHONE #: (600) 701-3227

CALLING CARD#:

CO 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 01/01/06
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 155 DEPTH: 2369.97 m PROGRESS: 2.19 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: -22 °C
8:00 a.m. OPERATION: Hoisting milling tools, prepare to pick up mudmotor.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2328mKB. This survey was taken to confirm that toolface of mud motor was orientated to the window, it was decided that the window maybe under gauge. Hoisted Gyro tool. Rigged out wireline. Change bales back to the shorter ones. Hoisted mud motor. Out of the hole at 19:00hrs. Inspected the bit for signs of scarring or gouging, no signs of damage to bit. Ran milling assembly. Tagged top of whipface tool at 23:30hrs and began to circulate and mill window to 24:00 hours 2001.01.05.

Notes:

- *String weight=87000 daN.
- *Trip record: Calculated=10.68m³. Measured=11.85m³. Difference=1.16m³.
- *Maximum experienced hookload=103000 daN.
- *Safety topic: Handling tools.

Note: Milling tool took weight at 2365.5mKB, amount of weight taken was 3000 daN. At this depth of 2365.5mKB the lead mill was .96m from the bottom of the window. Worked this area only once, as it took no weight on the 2nd pass. Drilled (Milled) 2.19m of new hole for a total length of new hole of 3.54m, the new total depth is 2369.97mKB.

REPORTED BY: LEBEUF/PICHE'

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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: 01/01/05	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 154	
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: Snowing		TEMP: -22 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2367.78 m		PROGRESS: 1.78 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2368.00 m		8:00 a.m. OPERATION: Directionally drilling with mud motor, MWD, and Gyro.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67267 CUMULATIVE COST: \$ 14270490

1 Bit	1 Motor @ 1.5	1 Float sub	1 Restr Sub	1 Nonmag MWD
1 Nonmag Flex	1 Nonmag Flex	1 Crossover	1 Orient Sub	1 Crossover
7 HWDP	1 Jars	23 HWDP		

TOTAL ROTATING HOURS: 1765.2

LENGTH: 318.03 m WT. BELOW JARS: 8000 daN JAR HRS: 67.3 JAR SERIAL #: 10137

WT. ON BIT: 1000 daN ROTARY RPM: 120 STRING WT.: 78000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE: 127 4.5 IFHWDP

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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		DBL	RMD		Q	D	L	B
1M	215.9		TM9503	SMITH				2363		0		3.50	1- 2 120				
2m	215.9	REED	TC1957	EHP51A	11.1	11.1	11.1	2363		0							
										0							

LAST PIPE TALLY: 2630.63 BOARD: 2629.57 CORRECTION: YES [] NO [x]

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Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30ml	FC mm	PVMP	GELS O/10	Tot. Sol. kg/m ³	Dil. Sol. kg/m ³	SAND kg/m ³	BENTONITE kg/m ³	ECM kg/m ³	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°O IN/OUT
56	1115/	10.4	4.8	1.0	18/ 14.0	3.0/4.0	0.21		0.000	4		0.000	1200	420	0.2 0.7	/ 56
	/				/	/										/
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
10 HR IN	1130 kg/m ³	OUT	1110 kg/m ³	HR OUT			kg/m ³	HR OUT			kg/m ³	HR OUT		kg/m ³	m ³	

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PUMP NO. 1 TYPE: F 1000					PUMP NO. 2 TYPE: F 1000					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	kPa	DP m/min	OC m/min	VELOCITY m/sec	HP	
Emsco	152	254			Emsco	152	254	80	1.11	3400	46.4	30.3	63.5	46.41	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	2.50	Starpak		
° @ m			DRILLING	SLIP & CUT		Drispac		
° @ m			CIRCULATE	REAMING		Kelzan	5	
° @ m			TRIPPING	COND MUD	6.50	Percol 728		
° @ m			RIG SERV	W/N.U. BOP	0.50	Pot Sulf	280	
° @ m			BOP DRILL	SAFETY MTG	0.25	Biocide	4	
° @ m			SURVEYING	CEMENTING		Caustic		
° @ m			REPAIRS	PU/LD PIPE		Gel		
° @ m			LOGGING	MILLING	5.50	Lignite		
° @ m				GYRO	3.50	Cal Carb	70	
° @ m				TOTAL HOURS:	24.00	Corinox	4	
						Sod Sulf	7	

MUD COMMENTS: K+Ion=11000, Sulfite=20, Polymer=2.2.

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

2000.01.04@00:00 hrs. Milled window in 244.5 casing from 2363.30mKB to 2363.96mKB. Pumped high viscosity sweeps. Milled window from 2363.96mKB to 2364.68mKB. Pumped high viscosity sweep. Milled window 2364.68mKB to a final window depth of 2367.78mKB. Worked and cleaned mill area until it was free of torque. Pumped high viscosity sweep. Rigged up wireline. Ran

Gyro tool to confirm window direction before drilling. Ran to 2362mKB. Took 3 readings: 1) 220 Azi, 2.95 degree; 2) 222 Azi, 3.05 degree; 3) 221.7 Azi, 3.06. Hoisted Gyro tool. Rigged out wireline. Hoisted out of hole. Laid down the milling assembly. Flow checked well at regular intervals on the way out of the hole. Held BOP drill at the HWDP.

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

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PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 01/01/05

LOCATION: 300-C31-6040-12330-0

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

DAY: 154

DEPTH: 2367.78 m

PROGRESS:

1.78 m

CPA NO.: 300C316040123300

WEATHER: Snowing

TEMP: -22 °C

8:00 a.m. OPERATION: Directionally drilling with mud motor, MWD, and Gyro.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Out of hole at 20:30 hours. Laid down the milling tool. Inspected mills for guage.

The first and middle mills were 1/2" under, (12.7mm) and the last mill was in full guage. With this inspection the Smith tool man felt that the window was properly milled. At 23:00hrs pickup new BHA, mud motor. Started to run in the hole to 24:00 hours 2001.01.04.

Notes:

*Milled 1.38m of new hole for total depth of 2367.78mKB.

*When first working mill area the hole drag down with no pump was 25000 daN. With pumps on drag down was 6000 daN, up was 3000 daN.

After 1hr of working mill area the drag down was 1000 daN, drag up 14000, with no pump or rotary.

*Function top pipe rams, close in 6 seconds

*During BOP drill well was surcured in 1 minute.

*Maximum experienced hookload was 105000 daN.

*Safety topic was on, Milling and confined spaces.

*Trip record was: Calculated=10.91m³, Measured=11.91m³, Difference=1.00m³

Note: On top of whipface tool at 05:00hrs and rigging up Gyro circulating head, wireline.

REPORTED BY: LEBEUF/PICHE

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: 01/01/04	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 153	
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: -20 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2363.30 m		PROGRESS: -2.70 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2364.68 m		8:00 a.m. OPERATION: Milling window in 244.5 mm casing.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 51264 CUMULATIVE COST: \$ 14203223

1 MILL 1 JT SS95 13 HWDP 1 JARS 17 HWDP

LENGTH: 292.54 m WT. BELOW JARS: 9000 daN JAR HRS: 61.8 JAR SERIAL #: 10137

WT. ON BIT: 1000 daN ROTARY RPM: 120 STRING WT.: 78000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

TOTAL ROTATING HOURS: 1759.7

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	WTdaN	RPM	I	O	
6RR	215.9	HUGHES	TF11226	JD8	11.1	11.1	11.1	2363	2363	0			-		3	3	WT A E I NO BHA
1M	215.9		TM9503	SMITH				2363		0		3.50	1- 2	120			
										0							

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS O/10	Tot. Sol. kg/m3	Dry Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	CL %	CL ppm	Ca ppm	ALKALINITY MFL MFO	°C IN/OUT
58	1160	10.8	4.6	1.0	20/ 17.0	2.0/3.0	0.22		0.000	4		0.000	1100	160	0.3 0.6	/
55	1150	10.8	4.6	1.0	20/ 15.0	1.0/2.0	0.22			4			1100	120	0.3 0.7	/ 48
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
7 HR IN	1185 kg/m3	OUT	1135 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	MPa	MPa	DR m/MIN	DC m/MIN	VELOCITY m/sec	THP
Emsco	152	254			Emsco	152	254	80	1.11	3400		46.4	30.3		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Starpak		
° @ m			DRILLING	SLIP & CUT	1.00	Drispac		
° @ m			CIRCULATE 6.00	REAMING		Kelzan		
° @ m			TRIPPING 13.50	COND MUD		Percol 728		
° @ m			RIG SERV	W/N.U. BOP		Gypsum		
° @ m			BOP DRILL	SAFETY MTG		Biocide		
° @ m			SURVEYING	CEMENTING		Caustic		
° @ m			REPAIRS	PU/LD PIPE		Gel		
° @ m			LOGGING	MILLING 3.50		Lignite		
° @ m			TOTAL HOURS: 24.00			Cal Carb		
° @ m						Soda Ash		
° @ m						Sil Defoam		

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.)

2000.01.03 00:00 hrs. Tripped in with Bit #6RR, casing scraper assembly to 350mKB. Slipped and cut 20m drill line. Continued to trip in the hole, filled pipe every 500 m to 2345 mKB. Broke circulation, tagged top of anchor at 2363 mKB. Circulated and conditioned mud and hole. Pumped weighted pill, hoisted Bit #6RR, flow checked as required. Function

tested blind rams when out of hole, 6 seconds to close. Picked up and made up mill assembly and tripped in hole. Tagged top of anchor at 2363 mKB. Circulated and ran centrifuges to lower mud density from 1185 kg/m to 1135 kg/m. Milled window in casing from 2363 mKB to 2363.3 mKB to 23:59 hours 2000.01.03.

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: 01/01/04

LOCATION: 300-C31-6040-12330-0

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

DAY: 153

DEPTH: 2363.30 m

PROGRESS:

-2.70 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -20 °C

8:00 a.m. OPERATION: Milling window in 244.5 mm casing.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Hole fill: Act - 15.21 m³, Calc - 11.64 m³, Diff = 3.63 m³.
- * Torque: 24,408 - 27,120 NM.
- * Safety topics: Tripping / Confined spaces
- * Akita's load limits: Derrick -235,800 daN, Drill Pipe - 174,000 daN.
- * Hole drag: 12,000 daN up, 11,000 daN down.
- * Maximum hookload experienced 100,000 daN.

Note: Recieved iron fillings and particles of cement over shaker. When the torque drops off a Hi Vis has to be pumped around to clean debris away from mill and then resume milling. Mill depth at 2363.96 mKB at 05:30 hours 2000.01.04.

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: 01/01/03	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 152	
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: Snowing		TEMP: -20 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2366.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 2366.00 m		8:00 a.m. OPERATION: Tripping out for milling assembly.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67364 CUMULATIVE COST: \$ 14151959

 1 BIT 1 CSG SCRAPER 1 BIT SUB 30 HWDP 1 X/O
 3 DRILL COLLAR 1 X/O

TOTAL ROTATING HOURS: 1756.2

LENGTH: 307.44 m WT. BELOW JARS: daN JAR HRS: 58.3 JAR SERIAL #: 10137

WT. ON BIT: daN ROTARY RPM: STRING WT.: 78000 daN

 DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: 170 THREAD: 5" H90 NO. IN HOLE: 3
 127 4.5 IFHWDP

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			DRL	RMD	WTD	BPM	1	2	3	4	5		6	7	8
5RR	215.9	HUGHES	TF11226	JD8	11.1	11.1	11.1	2400	2400	0					-		3	3	WT	A	E	I	NO	LOG
6RR	215.9	HUGHES	TF11226	JD8	11.1	11.1	11.1	2363	2363	0					-									
										0					-									

LAST PIPE TALLY: 2530.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

M

Viscosity Sg/L	DENSITY IN/OUT	pH	W/L cc/gal/min	FC mm	PV/YP O/10	GELS O/10	Tot. Sol. kg/m3	Dry Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
68	1160	10.8	4.6	1.0	22/16.0	2.0/3.0	0.22		0.000	0		0.000	1100	120	0.3 0.6	/

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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

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			Emsco	152	254	80	1.11	3800	46.4	79.8		0.03

SURVEYS			TIME BREAKDOWN			MUD-ADDITIVES		
AZIMUTH			PRESS TEST			Starpak		
° @	m		HNDL TOOLS 2.00			Drispac		
° @	m		DRILLING			Kelzan		
° @	m		CIRCULATE 4.25			Percol 728		
° @	m		TRIPPING 5.50			Gypsum		
° @	m		RIG SERV 1.00			Biocide		
° @	m		BOP DRILL			Caustic		
° @	m		SURVEYING 0.50			Gel		
° @	m		REPAIRS 1.25			Lignite		
° @	m		LOGGING 9.50			Cal Carb 112		
° @	m		TOTAL HOURS: 24.00			Soda Ash		
° @	m					Sil Defoam		

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.)

2001.01.02 @ 00:00 hrs. Installed head on .23" cable, ran in gyro tool on Schlumberger wireline. Oriented tool face, attempted to lower string from 2358 mKB to 2370 mKB, took down weight of 18,000 daN in 1 m of travel. The decision was made to pull out gyro tool on Schlumberger wireline. Broke circulation and circulated, attempted to lower drill

string from 2358 mKB to 2370 mKB. Took weight instantly at 2358 mKB, set down with 35,000 daN. Picked up, the string weight came up 116,000 daN which was 30,000 daN over string weight and seen a small flicker on indicator and string became free. Pumped weighted pill, hoisted out with Trackmaster assembly, flow checked as required. Function

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: 01/01/03

LOCATION: 300-C31-6040-12330-0

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

DAY: 152

DEPTH: 2366.00 m

PROGRESS: 0.00 m

CPANO.: 300C316040123300

WEATHER: Snowing

TEMP: -20 °C

8:00 a.m. OPERATION: Tripping out for milling assembly.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

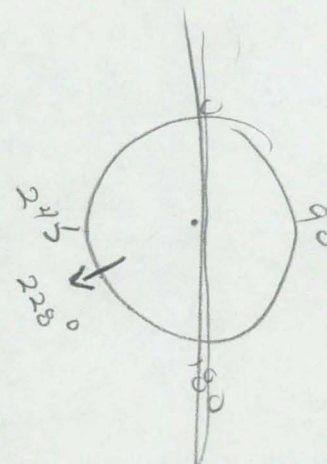
tested blind rams when out of hole, 6 seconds to close. When the Trackmaster assembly came through the table the anchor, which was attached to the whip by a shear bolt, was missing from assembly. It remained down hole. Made up casing scraper assembly and tripped in Bit #6RR to 320 mKB. at 23:59 hours 2001.01.02.

Notes:

- * Safety topics: Running gyro / Working at heights.
- * Hole fill: Act - 14.2 m³, Calc - 11.54 m³, Diff = 2.66 m³.
- * Akita's load limits: Derrick 235,800 daN, Drill Pipe - 162,000 daN.
- * Fish left down hole 5.5 m in length.
- * Top of fish: 2363.56 mKB.
- * Hole drag at this section of hole with this BHA -10,000 daN.
- * Weight of this BHA - 20,000 daN.

Note: After tagging top of fish at 2363 mKB: Recalculated Trackmaster assembly, 71 stands DP, 2045.79m, BHA 322.82m, total = 2368.61m. Anchor is believed to set on bottom but the azimuth is not known. The last gyro reading taken was 228. Mill assembly will be run back to bottom and gyro survey will be ran to determine direction. An error was discovered in the tallies after the scraper assembly tagged the fish at 2368.61mKB. It is now believed that the Whipstock was set correctly, will not check to confirm that the azimuth is acceptable.

*Bridge Plus 2370
Whipstock set on top of fish at 2363 m.
Top of whipstock 2363 m.*



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: 01/01/02

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

CPA NO.: 300C316040123300

DAY: 151

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: -22 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2366.00 m

PROGRESS: 364.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 2366.00 m

8:00 a.m. OPERATION: circulate and attempt to lower Trackmaster tool to 2370 mKB.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 43269 CUMULATIVE COST: \$ 14084595

B
H
A

1 Mill	1 JT SS95	1 X/O	1 UBHO SUB	1 X/O
1 X/O	3 DRILL COLLAR	1 X/O	30 HWDP	

TOTAL
ROTATING
HOURS: 1756.2

LENGTH: 317.46 m WT. BELOW JARS: 7000 daN JAR HRS: 58.3 JAR SERIAL #: 10137

WT. ON BIT: 4000 daN

ROTARY RPM: 60

STRING WT.: 78000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF

DRILL COLLARS O.D.: 170 THREAD: 5"H90

NO. IN HOLE: 3

127 4.5 IFHWDP

B
I
T
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			DRILL	AMG	WTdaN	RPM	1	Q	D	L	B	G	O	R	
4RR	215.9	HUGHES	TF11226	JDB	11.1	11.1	11.1	2730	2730	0			26.25	2- 6	50	3	3	WT	A	E	I	NO	LOG	
5RR	215.9	HUGHES	TF11226	JDB	11.1	11.1	11.1	2400	2400	0			-			3	3	WT	A	E	I	NO	LOG	
										0			-											

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

J
D

Viscosity Sec/cP	DENSITY IN/OUT	PH	WL ss/30min	FC mm	PV/VP	GELS 0/10	Tol. Sol kg/m3	Drift Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	CL %	Cl ppm	Ca ppm	ALKALINITY MEI MPO	°C IN/OUT	
68	1160	10.8	4.6	1.0	22/ 16.0	2.0/3.0	0.22		0.000	0		0.000	1100	120	0.3 0.6	i	
	i				/	/										i	
CENTRIFUGE					DESILYER					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					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 CV/sec	HHP	
Emsco	152	254			Emsco	152	254	80	1.11	3800	46.4	79.8			0.00

SURVEYS			TIME BREAKDOWN				MUD-ADDITIVES	
AZIMUTH			PRESS TEST	1.00	HNDL TOOLS	2.50	Starpak	
° @ m			DRILLING		SLIP & CUT		Drispac	
° @ m			CIRCULATE	1.25	REAMING		Kelzan	
° @ m			TRIPPING	6.75	COND MUD		Percol 728	
° @ m			RIG SERV		W/N.U. BOP		Gypsum	
° @ m			BOP DRILL		SAFETY MTG	0.25	Biocide	
° @ m			SURVEYING	4.00	CEMENTING		Caustic	
° @ m			REPAIRS		PU/LD PIPE		Gel	
° @ m			LOGGING	0.50			Lignite	
° @ m			WD WIRELIN	7.75			Cal Carb	
° @ m			TOTAL HOURS: 24.00				Soda Ash	
							Sil Defoam	

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)

2001/01/01 00:00 HRS. Pulled out Schlumberger running tool and laid down same. Ran in 6 stands HWDP, circulated out air, pressure tested bridge plug to 7000 kPa for 15 minutes. (held OK). Hoisted 6 stands HWDP and stood in derrick. Picked up and made up Whipstock assembly. Slowly tripped in Whipstock assembly, double strapped pipe to 2355 mKB. Broke

circulation, circulated and conditioned hole and mud. Rigged up and ran in with Scientific gyro tool on Schlumberger wireline. Held prejob safety meeting with Schlumberger, Scientific and Akita personnel. Wireline operator then took a pull on the line, there was a bang and frozen mud fell from shieve which was hanging from the monkey board. Upon

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: 01/01/02

LOCATION: 300-C31-6040-12330-0

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

DAY: 151

DEPTH: 2366.00 m

PROGRESS: -364.00 m

CPANO.: 300C316040123300

WEATHER: Clear

TEMP: -22 °C

8:00 a.m. OPERATION: Circulate and attempt to lower Trackmaster tool to 2370 mKB.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

inspection of shieve it was noticed that the line had wedged itself between the outside of the shieve and the plastic guard casing with numerous stands of wire broken. Rigged up second shieve in the derrick so tension could be placed on the line. Held prejob safety meeting prior to cutting line. Cut line at derrick shieve, unthawed double drill pipe so line could be pulled through the drill pipe. Tied the cables together, pulled gyro tool out of hole. Changed head from .39" line to .23" line for gyro tool, unthawed top drive and kelly hose to 23:59 hours 2001/01/01/

Notes:

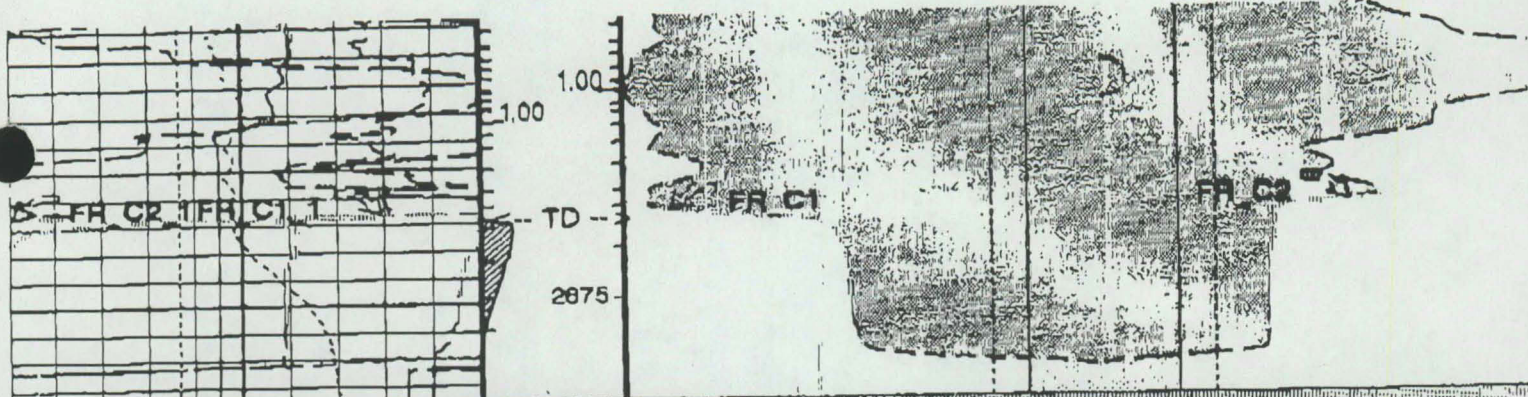
- * Safety topics: Running whipstock tool / cutting wireline.
- * Drag: 24,000 daN up, 4,000 down.
- * Akita's load limits: Derrick - 235,800 daN, Drill Pipe - 162,000 daN.

Note: Ran in with second gyro run and set tool face. Attempted to lower drill string from 2358 mKB to 2370 mKB, took 18,000 daN down weight in 1 m of travel and the pin shears at 25,000 daN. The decision was made to pull gyro tool and hook up kelly hose and circulate and attempt to lower string closer to 2370 mKB before rerunning gyro tool and setting tool face.

REPORTED BY: SOLBERG/PICHE'

PHONE #: (600) 701-3227

CALLING CARD #:



CEMENT VOLUME LOG

Bit Size (BS) (MM)	Integrated Cement Volume (ICV) (M3)	Bit Size (BS) (MM)	Bit Size (BS) (MM)
125	375	600	100 100
Calliper 1 (C1) (MM)	Integrated Hole Volume (IHV) (M3)	Calliper 1 (C1) (MM)	Calliper 2 (C2) (MM)
125	375	600	100 100
Calliper 2 (C2) (MM)	Stuck Stretch (STIT) 0 (M) 20	FCD2 (FCD) (MM)	FCD3 (FCD) (MM)
125	375	600	100 100
Gamma Ray (GR) (GAPI)	Cable Drag From STIA to STIT	FCD2 - FCD3 From FCD2 to FCD3	
0	150		
Tension (TENS) (N)	Tool/Tot Drag From D3T to STIA	Washout From C1 to FCD2	Tight Spot From C2 to FCD3
50000	0		
		Tight Spot From FCD2 to C1	Washout From FCD3 to C2

PIP SUMMARY

- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
 - Integrated Cement Volume Minor Pip Every 0.1 M3
 - Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BS	Bit Size	215.900 MM
DO	Depth Offset for Logical Unit 1	0.0 M
FCD	Future Casing (Outer) Diameter	177.8 MM
HVCS	Integrated Hole Volume Calliper Selection	C1/C2
LBFR	Trigger for MAXIS First Reading Label	TDL
PP	Playback Processing	NORMAL
SPVD	TVD of Starting Point	0 M
STKT	STI Stuck Threshold	1.524 M
TD	Total Depth	2730 M
TDD	Total Depth - Driller	2730.00 M
TDL	Total Depth - Logger	2672.00 M
TIMD	Along-hole depth of Tie-In Point	2629.05 M
TIVD	TVD of Tie-In Point	2622.43 M

Format: CVL Vertical Scale: 1:240

Graphics File Created: 20-Dec-2000 22:54

OP System Version: 9C1-303

MCM

FBST-B	OP91-kp2	DTA-A	OP91-kp2
SQT-N	OP91-kp2	DSST-B	OP91-kp2
DTC-A	OP91-kp2		

Input DLIS Files

DEFAULT	FBSTB.021	FN:25 PRODUCER	20-Dec-2000 21:21	2678.0 M	2619.0 M
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Output DLIS Files

DEFAULT	FBSTB.026	FN:32 PRODUCER	20-Dec-2000 22:54
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COMPANY CANADIAN FOREST OIL LTD.

WELL: CDN FOREST et al NORTH LIARD C-31
FIELD: NORTH LIARD
PROVINCE: NORTHWEST TERRITORIES

BOTTOM LOG INTERVAL	2671 m
SCHLUMBERGER DEPTH	2672 m
DEPTH DRILLER	2730 m
KELLY BUSHING	187.99 m
DRILL FLOOR	187.69 m
GROUND LEVEL	481.32 m

Schlumberger

CEMENT VOLUME LOG

Integrated Hole/Cement Volume Summary

Hole Volume = 7.95 M3

Cement Volume = 8.72 M3 (assuming 177.80 MM casing O.D.)

Computed from 2678.6 M to 2629.6 M using data channel(s) C1 C2

OP System Version: 9C1-303

MCM

FBST-B
SGT-N
DTC-AOP91-kp2
OP91-kp2
OP91-kp2DTA-A
D98T-BOP91-kp2
OP91-kp2

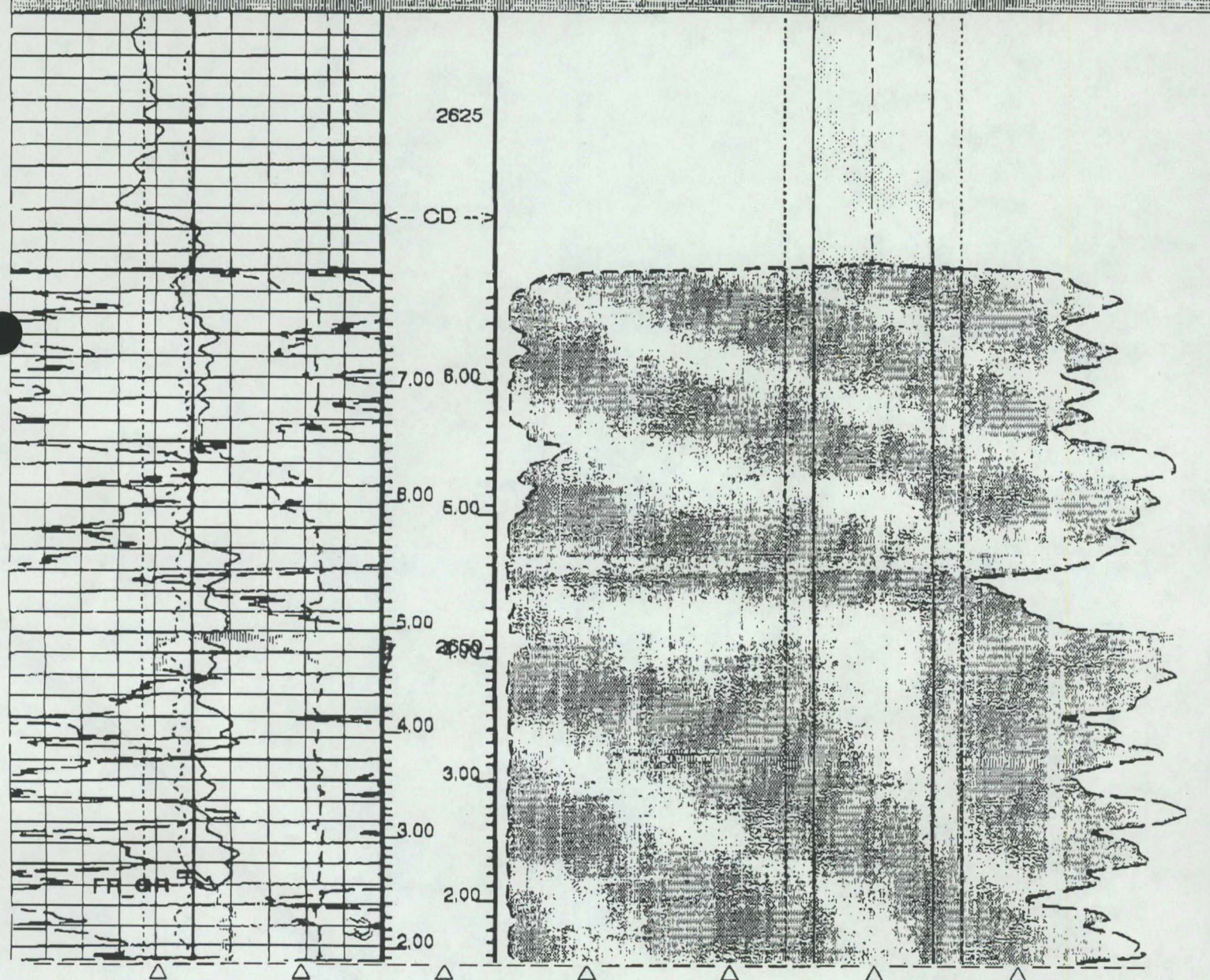
PIP SUMMARY

- └ Integrated Hole Volume Minor Pip Every 0.1 M3
- └ Integrated Hole Volume Major Pip Every 1 M3
 - └ Integrated Cement Volume Minor Pip Every 0.1 M3
 - └ Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 80 S

Tension (TENS) (N)		Tight Spot From FCD2 to C1		Washout From FCD3 to C2	
50000		Washout From C1 to FCD2		Tight Spot From C2 to FCD3	
Gamma Ray (GR) (GAPI)		FCD2 - FCD3 From FOD2 to FCD3			
125		FCD2 (FCD) (MM)		FCD3 (FCD) (MM)	
125		Calliper 1 (C1) (MM)		Calliper 2 (C2) (MM)	
125		Bt Size (BS) (MM)		Bt Size (BS) (MM)	

CEMENT VOLUME LOG



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 01/01/01

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

CPA NO.: 300C316040123300

DAY: 150

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

TEMP: -22 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2730.00 m

PROGRESS: 0.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 2730.00 m

8:00 a.m. OPERATION: Tripping in with Smith International Trackmaster

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 53712 CUMULATIVE COST: \$ 14041326

1 BIT	1 CSG SCAPPER	1 BIT SUB	3 DRILL COLLAR	1 X/O
6 HWDP	1 JARS	24 HWDP		

TOTAL ROTATING HOURS: 1756.2

LENGTH: 312.52 m WT. BELOW JARS: 7000 daN JAR HRS: 58.3 JAR SERIAL #: 10137

WT. ON BIT: 4000 daN

ROTARY RPM: 60

STRING WT.: 98000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF

DRILL COLLARS O.D.: 170 THREAD: 5" H90

NO. IN HOLE: 3

127 4.5 IFHWDP

BIT NO.	SIZE mm	MAKE	SERIAL	TYPE	NOZZLES mm			DEPTH		MTBS PER HOUR	HOURS ON BIT		BIT WT daN	RPM	CUTTING STRUCT				REMARKS
					1	2	3	IN	OUT		BAC	RWD			I	O	D	L	
4RR	215.9	HUGHES	TF11226	JD8	11.1	11.1	11.1	2730	2730	0		26.25	2-6	50	3	3	WT	A	E I NO LOG
5RR	215.9	HUGHES	TF11226	JD8	11.1	11.1	11.1	2400	2400	0					3	3	WT	A	E I NO LOG
										0									

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [X]

Viscosity Sec/cL	DENSITY IN/OUT	PH	WL cc/30min	FC mm	PV/VF	GELS G/100	Tot Sol kg/m3	Dry Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY MPE	PCF MPE	SG IN/OUT
76	1165	11.6	4.2	1.0	24	21.0	3.0/5.0	0.22	0.000	0		0.000	1100	120	0.4	0.8	/
																	/

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

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINEAR mm	STROKE mm	SPM	MS/MIN	MODEL	LINEAR mm	STROKE mm	SPM	MS/MIN	KPS	PP	PP	PP	VELOCITY m/sec	BHP
Emsco	152	254			Emsco	152	254	75	1.04	5700	43.5	74.8			0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST		HNDL TOOLS	Starpak		
° @		m	DRILLING		SLIP & CUT	Drispac		
° @		m	CIRCULATE	1.50	REAMING	Kelzon		
° @		m	TRIPPING	9.25	CCND MUD	Percol 728		
° @		m	RIG SERV	0.25		Gypsum		
° @		m	BOP DRILL		W/N.U. BOP	Biocide		
° @		m	SURVEYING		SAFETY MTG	Caustic		
° @		m	REPAIRS		CEMENTING	Gel		
° @		m	LOGGING	13.00	PU/LD PIPE	Lignite		
° @		m				Cal Carb		112
° @		m				Soda Ash		
° @		m				Sil Defoam		
			TOTAL HOURS:			24.00		

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.)

2000.12.31 at 00:00 hours

Tripped in with Bit # 5RR and casing scrapper. Filled pipe every 800m to 2414mKB. Circulated and conditioned mud and hole. Pumped weighted pill, hoisted Bit #5RR. Flow checked as required. Function tested blind rams when out of hole. Rigged up Schlumberger cement bailer and ran total 0.29m3

0-1-0 "G"+.6% retarder cement and placed on top of bridge plug. Estimated cement top 2614 mKB. Ran guage ring and junk basket on Schlumberger wireline to 2400mKB. Received wire and tape from electrical charge in junk basket. Held prejob safety meeting prior to rigging up second bridge plug. Rigged up, ran bridge plug on wireline, set bridge plug at

SUPERVISOR: SOLBERG/PICKE'

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: 01/01/01
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 150 DEPTH: 2730.00 m PROGRESS: 0.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -22 °C
8:00 a.m. OPERATION: Tripping in with Smith International Trackmaster

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2370mKB. Hoisted out with Schlumberger running tools to 23:59 hours
2000.12.31.

Note 1: Safety topics: Tripping / Wireline operations.

Note 2: Hole fill: Actual- 10.3m³, Calculated- 8.36m³, Difference= 1.94m³

Note 3: Will be deleting all unused rental items as of 2000.12.31 from
rental report.

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: 00/12/31

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

CPA NO.: 300C316040123300

DAY: 149

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

TEMP: -18 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2730.00 m

PROGRESS: 0.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2730.00 m

8:00 a.m. OPERATION: Hoisting casing scraper.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 141869 CUMULATIVE COST: \$ 13987614

1 BIT	1 CSG SCAPPER	1 BIT SUB	3 DRILL COLLAR	1 X/O
6 HWDP	1 JARS	24 HWDP		

TOTAL ROTATING HOURS: 1756.2

LENGTH: 312.52 m WT. BELOW JARS: 7000 daN JAR HRS: 58.3 JAR SERIAL #: 10137

WT. ON BIT: 4000 daN

ROTARY RPM: 60

STRING WT.: 98000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF

DRILL COLLARS O.D.: 170 THREAD: 5" H90

NO. IN HOLE: 3

127 4.5 IFHWDP

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	RWD		WT daN	RPM	N	O	B	L	E	I	NO
4RR	215.9	HUGHES	TF11226	JD8	11.1	11.1	11.1	2730	2730	0			25.25	2- 6	50	3	3	WT	A	E	I	NO	LOG
5RR	215.9	HUGHES	TF11226	JD8	11.1	11.1	11.1	2400		0				-									
										0				-									

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	PH	WL cc/gal	FC mm	PV/P mm	GELS O/G	Tot Sol kg/m3	Dry Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	GIL %	CL ppm	Ca ppm	ALKALINITY MFI	MFO	WOUT
76	1165	11.6	4.2	1.0	24	21.0	3.0	5.0	0.22	0.000	0	0.000	1100	120	0.4	0.8	/
/	/				/	/											/

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	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	KPa	DP N/MIN	DS m/MIN	VELOCITY m/sec	LHR					
Emsco	152	254			Emsco	152	254					0.0	0.0	0.0	0.00				

SURVEYS			TIME BREAKDOWN				MUD ADDITIVES			
AZIMUTH			PRESS TEST	0.50	HNDL TOOLS	1.50	Starpak			
° @ m			DRILLING		SLIP & CUT		Driscap			
° @ m			CIRCULATE		REAMING		Kelzan			
° @ m			TRIPPING	2.00	COND MUD		Percol 728			
° @ m			RIG SERV	0.50			Gypsum			
° @ m			BOP DRILL		W/N.U. BOP		Biocide			
° @ m			SURVEYING		SAFETY MTG		Caustic	1		
° @ m			REPAIRS		CEMENTING		Gel	40		
° @ m			LOGGING	13.00	PU/LD PIPE		Lignite	1		
° @ m					W.O. LOGGER	6.50	Cal Carb			
° @ m					TOTAL HOURS:	24.00	Soda Ash	1		
							Sil Defoam			

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.)

2000.12.30 a 00:00 Hours

Pulled out with Schlumberger logging tools and layed down same. Waited on cased hole logging truck and tools to arrive. Rigged up cased hole logging truck and ran in with truck and ran in with gauge ring and junk basket. Held prejob safety meeting with Schlumberger and Akita personal. Rigged

up 10,000psi, 244.5 mm packer and set at 2622mKB on wireline. Pulled out of hole with packer running tool and layed down same. Tripped in 6 stands of HWDP, pressure tested packer to 7000kPa for 15 minutes. Held OK. Attempted to fill Schlumberger dump bailer. First attempt: ran bailer down BOP stack the glass broke due to too much hydrostatic

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: 00/12/31

LOCATION: 300-C31-6040-12330-0

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

DAY: 149

DEPTH: 2730.00 m

PROGRESS:

0.00 m

CPANO.: 300C316040123300

WEATHER: Overcast

TEMP: -18 °C

8:00 a.m. OPERATION: Hoisting casing scrapper.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

pressure. Second attempt: Drained down BOP stack, dumped in 2/5 gallon buckets of water, the glass broke. Attempted to load 3rd and final glass in shoe joint, the glass broke trying to install snap ring. The decision was made, that Schlumberger could get the proper equipment on location while the rig would make the casing scrapper run. Made up new BHA and tripped in with Bit # 5RR to 305mKB to 23:59 hours 2000.12-31.

Notes:

- 1: Safety topics: logging / wireline plug setting.
- 2: Run scapper run to 2414mKB (strap pipe)
- 3: Layed down bottom HWDP, bent on lower section of tube, probably caused by putting on too much weight on the bit, but it is not known when it happened.

REPORTED BY: SOLBERG/PICHE'

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: 00/12/30	
.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 148	
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: -20 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2730.00 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2730.00 m		8:00 a.m. OPERATION: Wait on combination(cased/openhole)truck and bridgeplugs.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 61646 CUMULATIVE COST: \$ 13845745

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1 BIT	1 BIT SUB	1 HWDP	1 REAMER	1 HWDP
1 REAMER	6 HWDP	1 JARS	23 HWDP	

TOTAL ROTATING HOURS: 1756.2

LENGTH: 295.44 m WT. BELOW JARS: 6000 daN JAR HRS: 58.3 JAR SERIAL #: 10137

WT. ON BIT: 4000 daN ROTARY RPM: 60 STRING WT.: 98000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE: 127 4.5 IFHWDP

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BIT NO	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT WT daN	RPM	CUTTING STRUCT								REMARKS
					1	2	3	IN	OUT			DRL	RMD			I	O	D	L	B	G	D	H	
4RR	215.9	HUGHES	TF11226	JDB	11.1	11.1	11.1	2730		0			26.25	2- 6	50	3	3	WT	A	E	I	NO	LOG	
										0				-										
										0				-										

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [X]

Viscosity Sec/100	DENSITY g/cm3	PH	WL 60/30 min	FC mm	PVP	GELS DIV	Td. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MPE	MFO	IN/OUT
70	1160	11.5	4.6	1.0	22/ 19.0	2.0/3.0	0.22		0.000	0		0.000	1100	180	0.4	0.9	/ 51
78	1160	11.2	4.4	1.0	24/ 20.0	3.0/4.0	0.22		0.000	0		0.000	1100	160	0.4	0.7	/ 51

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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					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	KPA	Qp m3/MIN	DC m3/MIN	VELOCITY m/sec	HHP	
Emsco	152	254			Emsco	152	254	75	1.04	6500	43.5	64.0	59.5	39.71	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Starpak		
° @ m			DRILLING	SLIP & CUT		Orispac		
° @ m			CIRCULATE 5.25	REAMING 7.00		Kelzan 4		
° @ m			TRIPPING 6.75	COND MUD		Percol 728		
° @ m			RIG SERV	PRESS TEST		Gypsum		
° @ m			BOP DRILL	W/N.U. BOP		Biocide		
° @ m			SURVEYING	SAFETY MTG		Caustic		
° @ m			REPAIRS	CEMENTING		Lime		
° @ m			LOGGING 5.00	PU/LD PIPE		Desco		
° @ m						Cal Carb 112		
° @ m						Xanvis		
° @ m						Sil Defoam		
			TOTAL HOURS: 24.00					

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.)

2000.12.29 00:00 hrs. Circulated and conditioned hole. Wiper tripped to 2600mKB. Tripped in hole. Hit bridge at 2665 mKB. Reamed 215.9 mm hole from 2665 mKB to 2730 mKB. Circulated and conditioned hole, wiper tripped to 2619mKB then back to 2730 mKB. Circulated and conditioned hole. Hoisted Bit #4RR to 2597mKB. Pumped weighted pill and blew top drive.

Continued trip out of hole, flow checked as required.

Function tested blind rams when out of hole, 8 seconds to close. Rigged up Schlumberger. Ran in with log # 1

Dipmeter, Dipole Sonic, Caliper. Hit bridge at 2670mKB. Logged hole from 2370-2100 mKB to 23:59 hours 2000.12.29.

Notes:

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: 00/12/30

LOCATION: 300-C31-6040-12330-0

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

DAY: 148

DEPTH: 2730.00 m

PROGRESS:

0.00 m

CPANO: 300C316040123300

WEATHER: Clear

TEMP: -20 °C

8:00 a.m. OPERATION: Wait on combination(cased/openhole)truck and bridgeplugs.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Torque: 12,204 - 24408 NM.
- * Hole drag: 12,000 daN up & down.
- * Hole fill: Act - 13.37 m³, Calc - 12.61 m³, Diff = .76 m³.
- * Safety topics: Logging / Loader operation.
- * Akita's load limits: Derrick - 235,800 daN, Drill Pipe 173,000 daN.

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: 00/12/29

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

CPA NO.: 300C316040123300

DAY: 147

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: -22 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2730.00 m

PROGRESS: 0.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 2730.00 m

8:00 a.m. OPERATION: Circulate and condition hole prior to hoisting and logging.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 60238 CUMULATIVE COST: \$ 13784099

1 BIT	1 BIT SUB	1 HWDP	1 REAMER	1 HWDP
1 REAMER	6 HWDP	1 JARS	23 HWDP	

TOTAL ROTATING HOURS: 1749.2

LENGTH: 295.44 m WT. BELOW JARS: 6000 daN JAR HRS: 51.3 JAR SERIAL #: 10137

WT. ON BIT: 4000 daN

ROTARY RPM: 60

STRING WT.: 98000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF

DRILL COLLARS O.D.: 127

THREAD: 4.5 IFHWDP

NO. IN HOLE:

BIT NO.	SIZE mm.	MAKE	SERIAL #	TYPE	NOZZLES mm.			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT WTDaN	CUTTING STRUCT.	REMARKS
					1	2	3	IN	OUT		DAL	RMD			
4RR	215.9	HUGHES	TF11226	JDB	11.1	11.1	11.1	2730		0	19.25	2- 6 50			
										0					
										0					

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS D/H	Tol Sol kg/m3	Drd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT	
64	1125	11.6	4.4	1.0	22/ 15.0	2.0/3.0	0.21		0.000	0		0.000	1100	160	0.3 0.7	50	
67	1130	10.8	4.2	1.0	22/ 16.0	2.0/3.0	0.21		0.000	0		0.000	1100	180	0.3 0.6	51	
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	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	HHR	
Emsco	152	254			Emsco	152	254	75	1.04	6500	43.5	64.0	59.5	38.62	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Starpak 2		
° @ m			DRILLING			Drispac		
° @ m			CIRCULATE 0.50			Kelzan 10		
° @ m			TRIPPING 3.50			Percol 728		
° @ m			RIG SERV 0.75			Gypsum 3		
° @ m			BOP DRILL			Biocide		
° @ m			SURVEYING			Caustic 1		
° @ m			REPAIRS			Lime 6		
° @ m			LOGGING			Desco		
° @ m						Cal Carb		
° @ m						Xanvis 1		
° @ m						Sil Defoam		
			TOTAL HOURS: 24.00					

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.)

2000.12.28a00:00 hrs. Tripped in with Bit #4RR to 2628mKB.
 Filled pipe every 800 m. Broke circulation and washed from 2628-2640mKB. Reamed 215.9 mm hole from 2640 mKB to 2730 mKB, rig serviced as required, to 23:59 hours 2000.12.28.

* Hole cleaning well with no losses reported in past 24 hours. At approximately 2680 mKB drill cuttings increased from 1/8" to 1/4" in size.

* Hole drag: 7,000 daN up, 15,000 daN down.

* Torque: 9492 - 20340 NM.

* Safety topics: Reaming / general maintenance.

Notes:

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: 00/12/29
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 147 DEPTH: 2730.00 m PROGRESS: 0.00 m CPANO: 300C316040123300
WEATHER: Clear TEMP: -22 °C
6:00 a.m. OPERATION: Circulate and condition hole prior to hoisting and logging.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Akita's load limits: Derrick - 235,800 daN, Drill pipe - 172,000 daN.
- * Maximum experienced hookload 145,000 daN.

* Wiper trip to casing shoe was good. While running in hole hit a bridge at 2665 mKB. (Acts as if we are shaving the bottom side of the hole with the 3 PT reamers, this is the area where bigger changes in the angle and direction occurred. Reamed from 2665 mKB to 2682 mKB @05:30 hours Tough area 2675 mKB to 2680 mKB. Worked tight spot, rereamed area, takes weight each time it is reamed.

REPORTED BY: SOLBERG/PICHE'

PHONE #: (600) 701-3227

CALLING CARD #:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/12/28	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 146	
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: -25 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2730.00 m		PROGRESS: 13.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2730.00 m		8:00 a.m. OPERATION: Reaming to bottom, at 2680mKB.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 63053 CUMULATIVE COST: \$ 13723861

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1 BIT	1 BIT SUB	1 HWDP	1 REAMER	1 HWDP
1 REAMER	6 HWDP	1 JARS	23 HWDP	

 TOTAL
ROTATING
HOURS: 1730.0

LENGTH: 295.44 m WT. BELOW JARS: 6000 daN JAR HRS: 32.0 JAR SERIAL #: 10137

WT. ON BIT: 18000 daN ROTARY RPM: 90 STRING WT.: 101000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE: 127 4.5 IFHWDP

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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			DAL	RMD	WT daN	RPM	1	2	3	4	5	6	7	8				
2	215.9	HUGHES	K81DL	H-S30				2629	2637	8	0.6	13.00		8-10	50	2	2	WT	A	E	I	NO	BHA				
3RR	215.9	HUGHES	K81DL	H-S30	11.1	11.1	11.1	2637	2730	93	2.9	32.00		12-18	80	3	3	WT	A	E	I	CT	TD				
4RR	215.9	HUGHES	TF11226	JDB	11.1	11.1	11.1	2730		0				-													

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

M

Viscosity Sec/100	DENSITY IN/OUT	pH	W/L cc/30mL	FC mm	PV/VP	GELS O/D	Tot Sol kg/m3	Ord Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		SC IN/OUT
															MFL	MFO	
51	1120	10.8	4.6	1.0	22/	11.0	1.0/2.0	0.21	0.000	0		0.000	1100	100	0.2	0.5	/ 52
51	1120	10.4	4.6	1.0	20/	12.0	1.0/2.0	0.21	0.000	0		0.000	1100	240	0.2	0.4	/ 55

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CENTRIFUGE		DESILTEA		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: E 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			Emsco	152	254	90	1.24	9230	51.8	76.3	70.9	64.99

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES			
AZIMUTH				PRESS TEST		HNDL TOOLS		0.50		Lignite	
12.50 °	@	2706.95 m	2.80	DRILLING		4.75	SLIP & CUT		0.75	Drispac	
13.60 °	@	2716.58 m	3.00	CIRCULATE		3.25	REAMING		7.25	Kelzan	
°	@	m		TRIPPING		7.00	COND MUD			Percol 728	
°	@	m		RIG SERV			PRESS TEST			Corinox 1	
°	@	m		BOP DRILL			W/N.U. BOP			Biocide 1	
°	@	m		SURVEYING		0.50	SAFETY MTG			Caustic	
°	@	m		REPAIRS			CEMENTING			Lime	
°	@	m		LOGGING			PU/LD PIPE			Desco	
°	@	m								Cal Carb 112	
°	@	m								Xanvis	
°	@	m								Sil Defoam 1	
				TOTAL HOURS:				24.00			

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.)

 2000/12/27 00:00 Hours: Continued to directional drill 215.9
hole, rotated from 2717mKB to 2721mKB holding 1100kpa

 Differential pressure on bit with an average ROP of 4.5m/hr.
surveyed and slid from 2721mKB to 2727mKB with an ROP of
2.4m/hr. Rotated from 2727mKB to 2730mKB with an ROP of 3m/hr
surveyed. Went to bottom to slide when pump pressure started

 to raise and hole packed off. Worked tight hole and tried
to regain circulation with little to zero returns. Started to
back ream without pumping from 2727mKB to 2697mKB. Broke
circulation at 2697mKB. Circulated hole clean and back reamed
from 2697mKB to 2651mKB. Tripped out to 2622mKB. Circulated.
Flow checked well. Pumped slug and tripped out from 2622mKB

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: 00/12/28

LOCATION: 300-C31-6040-12330-0

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

DAY: 146

DEPTH: 2730.00 m

PROGRESS: 13.00 m

CPANO.: 300C316040123300

WEATHER: Clear

TEMP: -25 °C

8:00 a.m. OPERATION: Reaming to bottom, at 2680mKB.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

to surface. Laid down MWD and mud motor. Stood back 3 NMDC. Made up new BHA and tripped in hole to 706mKB. Filled pipe and broke circulation. Slipped and cut 20 meters of drilling line to 23:59 hours 2000/12/27.

NOTES:

- (1) Checked crown saver, fastline clamp and deadline anchor.
- (2) Safety topic with crews was working tight hole.
- (3) Maximum experienced hookload was 150000daN.
- (4) Hole drag up was 25000daN down, 15000daN up.
- (5) After working tight hole broke circulation no slivers were reported at shale shakers. All the cuttings coming across were fine.
- (6) No loses to well reported during tight hole or while drilling
- (7) Hole fill calculated=12.91m3 measured=14.83m3 difference=+1.92m3

REPORTED BY: LEBEUF/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: 00/12/27	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 145	
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: -24 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2717.00 m		PROGRESS: 64.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2735.00 m		8:00 a.m. OPERATION: Directionally drilling 215.9mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 71647 CUMULATIVE COST: \$ 13660808

1 BIT	1 MOTOR @ 1.5	1 FLOAT SUB	1 RESTR.SUB	1 NONMAG MWD
1 NONMAG FLEX	1 NONMAG FLEX	1 X/O	1 X/O	1 SHOCK SUB
6 HWDP	1 JARS	25 HWDP		
LENGTH: 330.76 m	WT. BELOW JARS: 4000 daN	JAR HRS: 27.3	JAR SERIAL #: 10137	

TOTAL ROTATING HOURS: 1725.3

WT. ON BIT: 18000 daN ROTARY RPM: 90 STRING WT.: 99000 daN
 DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE: 127 4.5 IFHWDP

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	WTdaN	RPM	I	O	D	L	B	G	O	R	
2	215.9	HUGHES	K81DL	H-S30				2629	2637	8	0.6	13.00		8-10	50									
3RR	215.9	HUGHES	K81DL	H-S30	11.1	11.1	11.1	2637		80	2.9	27.25		12-18	80									
										0				-										

LAST PIPE TALLY: 2630.63 BOARD: 2629.57 CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot. Sol. kg/m3	Drid. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
52	/1105	10.8	5.4	1.0	20/ 12.0	2.0/3.0	0.21		0.000	0		0.000	1100	200	0.2	0.5	/ 52
51	/1120	10.4	4.6	1.0	20/ 12.0	1.0/2.0	0.21		0.000	0		0.000	1100	240	0.2	0.4	/ 55

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	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254			Emsco	152	254	90	1.24	9230	51.8	76.3	70.9	64.59

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Lignite		
6.90 °	@ 2640.01 m	318.50	DRILLING	21.25	HNDL TOOLS	Drispac		
7.50 °	@ 2649.65 m	326.80	CIRCULATE		SLIP & CUT	Kelzan .1		
7.80 °	@ 2659.30 m	333.80	TRIPPING		REAMING	Percol 728		
7.90 °	@ 2668.69 m	340.30	RIG SERV	0.50	COND MUD	Corinox 3		
8.60 °	@ 2678.42 m	340.60	BOP DRILL	0.25	PRESS TEST	Biocide 7		
9.70 °	@ 2688.08 m	355.80	SURVEYING	2.00	W/N.U. BOP	Caustic 3		
11.30 °	@ 2697.34 m	1.20	LOGGING		SAFETY MTG	Lime 3		
	@ m				CEMENTING	Desco		
	@ m				PU/LD PIPE	Cal Carb		
	@ m					Xanvis 2		
	@ m					Sil Defoam 2		
			TOTAL HOURS: 24.00					

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.)

2000/12/26 00:00 Hours: Performed rig service. Function tested top pipe rams, 9 seconds to close. Directionally drilled 215.9mm hole, rotated from 2653mKB to 2654mKB holding 1100kpa differential pressure on bit with an average ROP while rotating of 3.5-4.0m/hr. Surveyed and started to slide from 2654mKB to 2659mKB holding 1100 kpa differetial

pressure on bit with an average ROP between 3-3.5m/hr which was 27000daN weight on bit minus your hole drag down which was 15000daN= 12000daN weight on bit. Rotated from 2659mKB to 2663mKB with all the same parameters as before. Surveyed and started to slide from 2663mKB to 2670mKB with an average ROP of 3.0m/hr with the same weight on bit as before. Rotated

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/27
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 145 DEPTH: 2717.00 m PROGRESS: 64.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -24 °C
8:00 a.m. OPERATION: Directionally drilling 215.9mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

from 2670mKB to 2672mKB while holding 1100kpa differential pressure on bit with an average ROP between 3-4m/hr. Held BOP drill with crew. Well secured in one minute. Rotated from 2672mKB to 2673mKB. Surveyed and started to slide from 2673mKB to 2679mKB with an average ROP of 3.5m/hr. Rotated from 2679mKB to 2682mKB with an average ROP of 4m/hr. Surveyed and started to slide from 2682mKB to 2689mKB holding 1100-1200kpa differential pressure on bit. Rotated from 2689mKB to 2692mKB while holding 1100kpa differential pressure on bit which = 16-18000daN weight on bit with an average ROP of 2.5m/hr. Surveyed and slid from 2692mKB to 2698mKB with an average ROP of 3m/hr. Rotated from 2698mKB to 2701mKB with an ROP of 4m/hr. Surveyed and slid from 2701mKB to 2707mKB with an ROP 3m/hr. Rotated from 2707mKB to 2711mKB. Surveyed and slid from 2711mKB to 2717mKB with an ROP of 2.4m/hr to 23:59 Hours 2000/12/26.

NOTES:

- (1) Checked crown saver, fastline clamp and deadline anchor.
- (2) Safety topic with crews was making connections.
- (3) Maximum experienced hookload was 130000daN.
- (4) Drilling torque remains from 8-10000ft/lbs.
- (5) Hole drag up was 20000daN up, 15000daN down.
- (6) No slivers reported at shale shakers last 24 hrs of drilling.
- (7) No tight hole reported while drilling or sliding.
- (8) After 48 hours back side pressure was 2000kpa and was bled off and left open for 10 minutes, no flow was observed, valve was closed.
- (9) No losses to well since drilling out 244.5mm intermediate casing.
- (10) Total hours on 215.9mm bit @ midnight = 40.25 hours.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/12/26	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 144	
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: Light snow		TEMP: -23 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2653.00 m		PROGRESS: 16.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2673.00 m		8:00 a.m. OPERATION: Directionally drilling 215.9mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 58941 CUMULATIVE COST: \$ 13589161

1 BIT	1 MOTOR @ 1.5	1 FLOAT SUB	1 RESTR.SUB	1 NONMAG MWD
1 NONMAG FLEX	1 NONMAG FLEX	1 X/O	1 X/O	1 SHOCK SUB
6 HWDP	1 JARS	25 HWDP		
LENGTH: 330.76 m	WT. BELOW JARS: 4000 daN	JAR HRS: 6.0	JAR SERIAL #: 10137	

TOTAL ROTATING HOURS: 1704.1

WT. ON BIT: 18000 daN ROTARY RPM: 90 STRING WT.: 99000 daN
 DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:
 127 4.5 IFHWDP

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	WTdaN	RPM	I	O	D	L	B	G	O	R	
2	215.9	HUGHES	K81DL	H-S30				2629	2637	8	0.6	13.00		8-10	50	1	1	WT	A	E	I	WT	TD
3RR	215.9	HUGHES	K81DL	H-S30	11.1	11.1	11.1	2637		16	2.7	6.00		-									
										0				-									

LAST PIPE TALLY: 2630.63 BOARD: 2629.57 CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	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
															MFI	MFO	
58	/ 1110	9.4	5.8	1.0	22/ 14.0	2.0/3.0	0.22		0.000	0		0.000	1000	160	0.1	0.3	/ 51
	/				/	/											/
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	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			Emsco	152	254	90	1.24	9230	51.8	76.3	70.9	64.41

SURVEYS			TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH			PRESS TEST	2.00	HNDL TOOLS	4.00	Lignite	
6.90 °	@	2630.42 m	DRILLING	6.00	SLIP & CUT		Drispac	
°	@	m	CIRCULATE	1.25	REAMING		Starpak	
°	@	m	TRIPPING	8.75	COND MUD		Percol 728	
°	@	m	RIG SERV	0.25	PRESS TEST		Corinox	1
°	@	m	BOP DRILL		W/N.U. BOP		Biocide	
°	@	m	SURVEYING	0.25	SAFETY MTG		Caustic	
°	@	m	REPAIRS		CEMENTING		Lime	
°	@	m	LOGGING		PU/LD PIPE	1.50	Desco	
°	@	m	CUT CASING				Cal Carb	112
°	@	m					Xanvis	
°	@	m					Alcomer110	
			TOTAL HOURS: 24.00					

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.)

2000/12/25 00:00 Hours: Performed formation leak off test.
 Leak off pressure=10050kPa.Total pressure @ shoe=38417 kPa.
 Maximum allowable mud density=1489kg/m3.Broke circulation.
 Checked well for loses or gains,well was static.Tripped out of hole from 2637mKB to surface to pick up directional drilling BHA.Picked up new BHA.Tripped in hole to 225mKB.

Tested MWD O.K. Blew mud lines and picked up 10 HWDP.
 Performed rig service.Function tested annular 19 seconds to close.Continued to trip in hole from 225mKB to 2600mKB filling pipe every 600 meters.Broke circulation,washed to bottom,no fill reported to 2637mKB.Directionally drilled, rotated,from 2637mKB to 2644mKB with an average ROP of 2.5

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/26
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 144 DEPTH: 2653.00 m PROGRESS: 16.00 m CPANO.: 300C316040123300
WEATHER: Light snow TEMP: -23 °C
8:00 a.m. OPERATION: Directionally drilling 215.9mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

meters per hour, holding 1100kPa differential pressure=15000daN weight on bit. Surveyed and began to slide from 2644mKB to 2652mKB with an average ROP of 2.9m/hr holding 1100kPa differential pressure on bit. Rotated from 2652mKB to 2653mKB holding 1100kPa differential pressure with the same ROP (2.9m/hr) to 23:59 hours 2000/12/25.

NOTES:

- (1) Checked crown saver, fastline clamp and deadline anchor.
- (2) Safety topic with crews was Tripping.
- (3) Maximum experienced hookload was 120000daN.
- (4) Drilling torque was 8-10000ft/lbs
- (5) Hole drag up was 20000daN down, 15000daN up.
- (6) No slivers reported @ shale shakers.
- (7) No tight hole reported on trip or while drilling.
- (8) Hole fill measured=13.17m³ calculated=11.73m³ difference=+1.44m³.

REPORTED BY: LEBEUF/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: 00/12/25

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

CPA NO.: 300C316040123300

DAY: 143

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: Light snow

TEMP: -20 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 2637.00 m

PROGRESS: 7.43 m

PBD: m FORMATION:

8:00 a.m. DEPTH: 2637.00 m

8:00 a.m. OPERATION: Tripping out of hole to pick up directional BHA.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 79408 CUMULATIVE COST: \$ 13530220

1 BIT	1 BIT SUB	6 HWDP	1 X/O	1 SHOCK SUB
1 JARS	1 X/O	15 HWDP		

TOTAL ROTATING HOURS: 1698.1

LENGTH: 204.30 m WT. BELOW JARS: 2000 daN JAR HRS: 17.3 JAR SERIAL #: 10144

WT. ON BIT: 10000 daN

ROTARY RPM: 50

STRING WT.: 96000 daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

127

4.5 IFHWDP

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	WTdaN	RPM	I	O	D	L	B	G	O	R	
2	215.9	HUGHES	K81DL	H-S30				2629	2637	8	0.6	13.00		8-10	50									
										0														
										0														

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	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
															MFI	MFO	
58	/ 1110	10.6	5.6	1.0	24 / 18.0	2.0 / 3.0	0.22		0.000	0		0.000	1000	160	0.2	0.3	/ 72
58	/ 1110	10.8	5.4	1.0	24 / 16.0	2.0 / 3.0	0.22		0.000	0		0.000	1000	120	0.2	0.4	/ 72
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 mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	90	1.24	Emsco	152	254			3930	51.8	51.8		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite	2
° @	m		DRILLING 13.00	SLIP & CUT		Drispac	26
° @	m		CIRCULATE 9.75	REAMING		Starpak	52
° @	m		TRIPPING	COND MUD		Percol 728	
° @	m		RIG SERV	PRESS TEST		Sod Sulf	
° @	m		BOP DRILL 0.50	W/N.U. BOP		Biocide	
° @	m		DRLG OUT 0.75	SAFETY MTG		Caustic	1
° @	m		REPAIRS	CEMENTING		Lime	
° @	m		LOGGING			Desco	2
° @	m		CUT CASING			Cal Carb	1008
° @	m		TOTAL HOURS: 24.00			Xanvis	3
° @	m					Alcomer110	

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.)

2000/12/24 00:00 Hours: Continued to circulate and condition mud prior to drilling out. Held BOP drill with crew before drilling out shoe. Drilled out cement and shoe. Continued to drill 215.9mm hole from 2629mKB to 2637.8mKB which is 6 meters of formation, tagged formation @ 2631.8mKB. Circulated bottoms up to perform leak off test. Flow checked well.

No flow or losses were observed. Still in the Horn River formation. Prepared to conduct leakoff test to 24:00 hours 2000/12/24.

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

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

DATE: 00/12/25

LOCATION: 300-C31-6040-12330-0

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

DAY: 143

DEPTH: 2637.00 m

PROGRESS:

7.43 m

CPA NO.: 300C316040123300

WEATHER: Light snow

TEMP: -20 °C

8:00 a.m. OPERATION: Tripping out of hole to pick up directional BHA.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES:

- (1) Checked crown saver, fastline clamp and deadline anchor.
- (2) Safety topic with crews was H2S and BOP drills
- (3) Maximum experienced hookload was 101000daN
- (4) Hole drag up 5000daN, down 3000 daN.
- (5) Drilling torque 7000ft/lbs.
- (6) After drilling out no loses to well reported.
- (7) No slivers or tight hole reported.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:

FORMATION PRESSURE TEST

2000/12/25

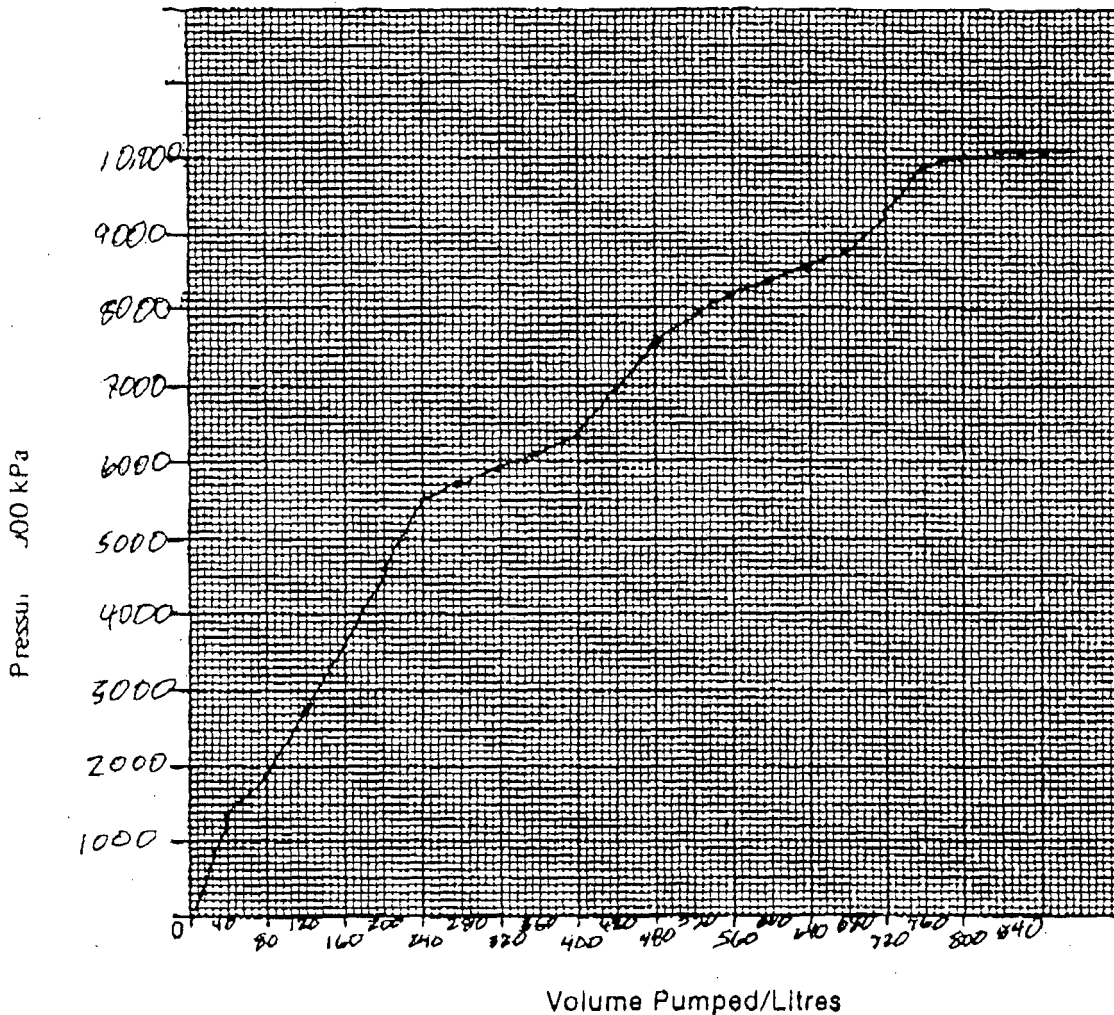
WELL: Cou Forest et al North Liard c-31

DATE: (y-m-d) 19 - -

MAXIMUM TEST PRESSURE - LESSER OF

(1) B.O.P. Rating 35000 kPa (1)

(2) Weakest Casing: 244.5 mm 79.62 kg/m 4-80 Grade
Burst Rating (kPa) 54677 x 0.75 = 41008 kPa (2)



VOL PUMPED Litres	PRESSURE kPa
40	1400
80	1900
120	2800
160	3650
200	4650
240	5500
280	5700
320	5900
360	6100
400	6300
440	7000
480	7650
520	7900
560	8100
600	8350
640	8500
680	8750
720	9300
760	9900
800	10000
840	10050

Depth of casing	a)	<u>2629</u>	m		
Mud gradient	b) (mud density x 0.00981)	<u>10.79</u>	kPa/m		
Hydrostatic pressure	c) (a x b)	<u>18366.9</u>	kPa	<u>720</u>	<u>9300</u>
Leak-off pressure	d) (see note below)	<u>10050</u>	kPa	<u>760</u>	<u>9900</u>
Total pressure (at shoe)	e) (c + d)	<u>38416.9</u>	kPa		
Formation gradient	f) (e + a)	<u>14.61</u>	kPa/m	<u>800</u>	<u>10.000</u>
Maximum allowable mud density with no annulus pressure	g) (f + 0.00981)	<u>14.89</u>	kg/m ³	<u>810</u> <u>820</u> <u>840</u>	<u>10.050</u> <u>10.1050</u> <u>10.1050</u>

Note: The last point ON the straight line plotted above is the leak-off pressure that you enter in line (d)



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/12/24	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 142	
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: -20 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2629.57 m		PROGRESS: 0.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2628.00 m		8:00 a.m. OPERATION: Continue to condition mud prior to drilling out.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 4671 CUMULATIVE COST: \$ 13450812

BHA

1 BIT	1 BIT SUB	6 HWDP	1 X/O	1 SHOCK SUB
1 JARS	1 X/O	15 HWDP		

LENGTH: 204.30 m WT. BELOW JARS: 2000 daN JAR HRS: 3.5 JAR SERIAL #: 10144

WT. ON BIT: 0 daN

ROTARY RPM: 25

STRING WT.: 96000 daN

DRILL PIPE O.D.: 127

THREAD: 4.5 IF

DRILL COLLARS O.D.: 127

4.5 IFHWDP

THREAD:

NO. IN HOLE:

TOTAL
ROTATING
HOURS: 1684.4

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			DRL	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R	
1	215.9	HUGHES	TF1126	JD8				2629		0			3.50	-		1	1	NO	A	1	I	NO	DP	
2	215.9	HUGHES	K81DL	H-S30				2629		0				-										
										0				-										

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS O/10	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
46	/1010	8.0			/	/							300	200	MFI	MFO	/
	/				/	/											/

U

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	

PUMP

PUMP NO. 1 TYPE F 1000					PUMP NO. 2 TYPE F 1000					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	HHP
Emsco	152	254	90	1.24	Emsco	152	254			3530	51.8	51.8		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite	5
° @ m			DRILLING	SLIP & CUT		Drispac	6
° @ m			CIRCULATE 7.75	REAMING		Starpak	12
° @ m			TRIPPING 6.75	COND MUD		Percol 728	
° @ m			RIG SERV 0.50	PRESS TEST		Sod Sulf	
° @ m			BOP DRILL	W/N.U. BOP		Biocide	
° @ m			DRLG OUT	SAFETY MTG		Caustic	2
° @ m			REPAIRS	CEMENTING		Lime	
° @ m			LOGGING 9.00			Desco	3
° @ m			CUT CASING			Barite	
° @ m			TOTAL HOURS: 24.00			Mica	
° @ m						Alcomer110	

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.)

2000/12/23 00:00 Hours: Continued to trip out hole from 149mKB to surface with no problems. Performed rig service and functioned blind rams. Rigged up Schlumberger. Worked on tools for 2 hours. Ran in Cement Bond Log, logged from 2623 -1696.4mKB, unpressured pass. Ran tool down to 2626mKB. Added 7000kPa to casing, logged up to 1699.4mKB. Top of cement

estimated @ 1830mKB. Pulled out of hole with wire line. Laid down tools. Rig serviced. Tripped in hole with 215.9mm bit and drillout BHA to 2628mKB. Circulated and conditioned mud, raising density to 1100kg/m3, to 24:00 hours 2000.12.23

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

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

DATE: 00/12/24

LOCATION: 300-C31-6040-12330-0

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

DAY: 142

DEPTH: 2629.57 m

PROGRESS:

0.00 m

CPANO.: 300C316040123300

WEATHER: Clear

TEMP: -20 °C

8:00 a.m. OPERATION: Continue to condition mud prior to drilling out.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES:

- (1) Checked crown saver, fastline clamp and deadline anchor.
- (2) Safety topic with crews was wireline logs.
- (3) Hole drag up 12000daN hole drag down 11000daN.
- (4) Maximum experienced hook load was 107000daN.
- (5) Rotating torque in casing= 7000ft/lbs
- (6) @ 06:00 hours mud wt 1075kg/m3 vis 66 PH 10
- (7) Will not attempt drillout until mud has a consistent 1100kg/m3 density. Increasing mud density with calcium carbonate additions.

REPORTED BY: LEBEUF/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: 00/12/23
U.W.I.: 300-C31-6040-12330-0	CPA NO.: 300C316040123300	DAY: 141
OFFICE SUPERVISOR: Mickey Sutherland	LICENCE NO.: 1900	
CONTRACTOR: AKITA DRILLING LTD.	SPUD DATE: 00/08/04 @ 12:15 hrs.	
RIG #: 58E	KB: 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: -21 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 2629.57 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 2629.00 m	8:00 a.m. OPERATION: Running CBL log run #1	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 349389 CUMULATIVE COST: \$ 13446141

B
H
A

1 BIT	1 BIT SUB	6 HWDP	1 X/O	1 JARS
1 X/O	15 HWDP			
LENGTH: 200.91 m	WT. BELOW JARS: 2000 daN	JAR HRS: 3.5	JAR SERIAL #: 10144	

TOTAL
ROTATING
HOURS: 1684.4

WT. ON BIT: 5 daN ROTARY RPM: 45 STRING WT.: 96000 daN
DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:
127 4.5 IFHWDP

B
I
T
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	RMD	WTdaN	RPM	I	O	D	L	B	G	O
1	215.9	HUGHES	TF1126	JD8				2629		0			3.50	-								
										0				-								
										0				-								

LAST PIPE TALLY: 2630.63 BOARD: 2629.57 CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot. Sol kg/m3	Drid. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C
27	/1010	8.0			/	/							300	200	MFI	MFO	IN/OUT
	/				/	/											/

U

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					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	HHP
Emsco	152	254	85	1.18	Emsco	152	254			1700	49.3	49.3		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	2.25	HNDL TOOLS	Lignite		
° @ m			DRILLING		SLIP & CUT	Driscac		
° @ m			CIRCULATE	5.50	REAMING	Starpak		
° @ m			TRIPPING	8.25	COND MUD	Percol 728	5	
° @ m			RIG SERV	0.25	PRESS TEST	Sod Sulf		
° @ m			BOP DRILL		W/N.U. BOP	Biocide		
° @ m			DRLG OUT	3.50	SAFETY MTG	Saf-Kote		
° @ m			REPAIRS	4.25	CEMENTING	Lime		
° @ m			SET SLIPS			Desco		
° @ m			CUT CASING			Barite		
° @ m						Mica		
° @ m						Alcomer110		
			TOTAL HOURS: 24.00					

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.)

2000/12/22 00:00 Hours: Continued to thaw out mud lines.

rformed rig service.Function tested lower pipe rams.

continued to trip in hole hole from 459mKB to 2614.31mKB

which was top of float collar.Displaced hole to fresh water

and performed pressure test on casing 1500kPa low and 17500

kPa high,10 minutes on both.Drilled out float collar and

6 meters of cement.Pressure tested casing,1500kPa low, 17500 kPa high for 10 minutes each,OK. Continued to drill cement down to 2628mKB. Pressure tested casing to 1500kPa low 10 minutes,and 17500kPa high 10 minutes.Circulated shakers clean.Tripped out of hole for CBL log from 2628mKB to 1949 mKB to 23:59 hours 2000/12/22

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

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

DATE: 00/12/23

LOCATION: 300-C31-6040-12330-0

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

DAY: 141

DEPTH: 2629.57 m

PROGRESS:

0.00 m

CPANO: 300C316040123300

WEATHER: Clear

TEMP: -21 °C

8:00 a.m. OPERATION: Running CBL log run #1

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES:

- (1) Checked crown saver, fastline clamp and deadline anchor.
- (2) On trip in hole no tight spots reported.
- (3) Safety topic with crews was pressure testing casing.
- (4) Processed 110m3 of mud.
- (5) Maximum experienced hook load was 110 000 daN.

REPORTED BY: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD #:



CASING SUMMARY REPORT

WELL NAME:	CDN FOREST ET AL NORTH LIARD C-31	DATE:	00/12/20
LOCATION:	300-C31-6040-12330-0	G.L. ELEVATION:	481.30 m
		K.B. ELEVATION:	488.00 m
SURFACE () INTERMEDIATE (x) PRODUCTION ()		KB TO GROUND:	6.70 m

SIZE:	244.50 mm	WEIGHT:	80 kg/m	GRADE:	HCL80		
MAKE:	Lonestar	THREAD:	BT&C	CONDITION:	NEW		
FLOAT/GUIDE SHOE - MAKE:		Davis		FLOAT COLLAR - MAKE:		Davis	
HANGER - TYPE:							
RAN: 189 jts. 244.50 mm OD CASING SET @ 2629.57 m (by pipe tally)							

Casing String Details

ITEM	LENGTH (m)	DEPTH LANDED (mKB)	ITEM	LENGTH (m)	DEPTH LANDED (mKB)
Shoe	0.53	2629.57			
Float	0.59	2614.18			

CASING BOWL

SIZE:	339 x 341 mm
SERIAL #:	25891-02
TYPE:	VGCHL
API:	35000 kPa

CENTRALIZERS

NO:	6
INTERVALS:	2579.95 - 2622.44
MAKE:	Import
TYPE:	Spiral

CASING HANGER

SIZE:	339 x 341 mm
MAKE:	
TYPE:	
API:	35000 kPa

SCRATCHERS

NO:	
INTERVALS:	
MAKE:	
TYPE:	

RECIPROCATED/ROTATE CASING IN	m/rpm	STROKES/RPM	mins. PRIOR TO CEMENTING
RECIPROCATED/ROTATE CASING IN	m/rpm	STROKES/RPM	mins. WHILE CEMENTING
SURPLUS:			

REMARKS: (Circ. pressures, mud properties, additional equip., etc.)

Circulated for 6 hours and condition mud prior to cementing. Vis=70 Sec/L, Density=1610 Kg/m³, WL=9.6cc, YP=20, PV=24. Pressure=2930 Kpa.

CASING TALLY

WELLNAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/12/20

LOCATION: 300-C31-6040-12330-0

SUPERVISOR: Doug Solberg

PHONE #: (600) 701-9462

CCARD #:

SIZE: 244.50mm WEIGHT: 80 kg/m THREAD: BT&C GRADE: HCL80 MAKE: Lonestar

JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
1	14.27		31	14.20		61	13.74		91	14.15		121	13.81	
2	14.19		32	14.21		62	14.28		92	14.29		122	13.89	
3	13.86		33	13.78		63	14.27		93	14.21		123	14.40	
4	14.33		34	14.08		64	13.93		94	13.89		124	14.26	
5	14.05		35	14.35		65	14.16		95	14.41		125	14.30	
6	14.15		36	13.99		66	14.26		96	13.86		126	14.18	
7	14.35		37	13.97		67	14.32		97	14.00		127	13.86	
8	14.34		38	14.07		68	13.71	2	98	13.88		128	14.40	2
9	14.16		39	13.77		69	13.95	2	99	14.18		129	13.94	
10	13.95		40	12.08		70	13.77		100	14.29		130	13.92	2

TOTAL	141.65		TOTAL	138.50		TOTAL	140.39		TOTAL	141.16		TOTAL	140.96	
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JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
11	14.31		41	14.40		71	14.12		101	14.04		131	13.21	
12	14.21		42	14.25		72	14.03		102	13.98		132	13.62	
13	13.93		43	14.27		73	13.95		103	14.13		133	14.27	
14	13.80		44	13.97		74	14.30		104	12.62		134	12.20	
15	14.00		45	13.73		75	13.64		105	13.80		135	14.39	
16	13.63		46	14.37		76	13.93		106	13.76		136	13.84	
17	13.95		47	14.35		77	14.14		107	14.13		137	13.72	
18	14.14		48	13.86		78	14.23		108	14.06		138	13.84	
19	13.91		49	13.99		79	13.97		109	14.21		139	14.19	
20	14.19		50	12.72		80	14.28		110	14.23		140	13.40	

TOTAL	140.07		TOTAL	139.91		TOTAL	140.59		TOTAL	138.96		TOTAL	136.68	
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JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
21	13.73		51	14.18		81	14.27		111	13.91		141	12.61	
22	14.12		52	14.09		82	13.86		112	14.23		142	13.91	
23	13.96		53	14.04		83	14.39		113	14.40	1	143	13.89	
24	14.17		54	13.14		84	13.24		114	14.39	1	144	14.34	
25	14.31		55	13.74		85	14.12		115	13.96		145	13.90	
26	13.82		56	14.54	1	86	14.04		116	14.19		146	13.86	
27	14.08		57	13.74		87	14.06		117	14.04		147	13.99	
28	14.01		58	13.96		88	13.87		118	14.27		148	14.12	
29	13.85		59	13.99		89	14.35		119	14.36		149	14.27	
30	13.86		60	14.37		90	13.40		120	13.55		150	13.61	

TOTAL	139.91		TOTAL	139.79		TOTAL	139.60		TOTAL	141.30		TOTAL	138.50	
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GROUP #	LENGTH	GROUP #	LENGTH	GROUP #	LENGTH	JTS.	LENGTH	
1- 10	141.65	51- 60	139.79	101- 110	138.96			
11- 20	140.07	61- 70	140.39	111- 120	141.30	150	2097.97	Brought Forward
21- 30	139.91	71- 80	140.59	121- 130	140.96	150	2097.97	Page Total
31- 40	138.50	81- 90	139.60	131- 140	136.68	7	99.31	Total on Location
41- 50	139.91	91- 100	141.16	141- 150	138.50	143	1998.66	Total Left Out (incl. LJ)
					TOTAL	2097.97		Total Perm. in Hole

REMARKS

6 joints of Grade HCL-80, Thread BT&C, Weight 80 kg/m, left out.
Did not pick up any L-80 casing.



CASING TALLY

WELLNAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/20
 LOCATION: 300-C31-6040-12330-0
 SUPERVISOR: Doug Solberg PHONE #: (600) 701-9462 CCARD #:
 SIZE: 244.50mm WEIGHT: 80 kg/m THREAD: BT&C GRADE: HCL80 MAKE: Lonestar

JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
151	13.66		181	13.24		211			241			271		
152	13.76		182	12.95		212			242			272		
153	13.63		183	13.94		213			243			273		
154	13.81		184	13.86		214			244			274		
155	13.89		185	12.86		215			245			275		
156	13.78		186	13.97		216			246			276		
157	13.81		187	14.28		217			247			277		
158	13.93		188	13.98		218			248			278		
159	13.96		189	13.81		219			249			279		
160	13.70		190	13.02		220			250			280		
TOTAL			137.93			TOTAL			135.91			TOTAL		
JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
161	13.81		191	13.01		221			251			281		
162	14.22		192	14.07		222			252			282		
163	13.09		193	14.02		223			253			283		
164	13.48		194	14.27		224			254			284		
165	13.73		195	14.27		225			255			285		
166	14.21		196	13.32		226			256			286		
167	12.28		197	13.83	1	227			257			287		
68	14.17		198	13.81	1	228			258			288		
69	13.90		199	13.00	1	229			259			289		
170	13.98		200	13.78	1	230			260			290		
TOTAL			136.87			TOTAL			137.38			TOTAL		
JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
171	14.16		201	13.40	1	231			261			291		
172	14.11		202	13.87	1	232			262			292		
173	14.39		203	13.12	1	233			263			293		
174	13.97		204	13.71	1	234			264			294		
175	14.25		205	12.89	1	235			265			295		
176	12.55		206			236			266			296		
177	13.58		207			237			267			297		
178	14.18		208			238			268			298		
179	14.27		209			239			269			299		
180	13.96		210			240			270			300		
TOTAL			139.42			TOTAL			66.99			TOTAL		

GROUP #	LENGTH	GROUP #	LENGTH	GROUP #	LENGTH	JTS.	LENGTH	
151-160	137.93	201-210	66.99	251-260		150	2097.97	Brought Forward
161-170	136.87	211-220		261-270		55	754.50	Page Total
171-180	139.42	221-230		271-280		205	2852.47	Total on Location
181-190	135.91	231-240		281-290		16	220.72	Total Left Out (incl. LJ)
191-200	137.38	241-250		291-300		189	2631.75	Total Perm. in Hole
TOTAL					754.50			

MARKS

joints of L-80, weight 53.5Kg/m thread BT&C, not run.



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31	LOCATION: 300-C31-6040-12330-0	DATE: 00/12/22
U.W.I.: 300-C31-6040-12330-0	CPA NO.: 300C316040123300	DAY: 140
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: Light snow	TEMP: -22 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 2629.57 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 2629.57 m	8:00 a.m. OPERATION: Tripping in hole with 215.9mm bit.(at 1700mKB.)	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 279205 CUMULATIVE COST: \$ 13096752

1 BIT 1 BIT SUB 6 HWDP 1 X/O 1 JARS
1 X/O 15 HWDP

LENGTH: 200.91 m WT. BELOW JARS: 2000 daN JAR HRS: 0.0 JAR SERIAL #: 10144

WT. ON BIT: daN ROTARY RPM: STRING WT.: daN

DRILL PIPE O.D.: 127 THREAD: 4.5 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:
127 4.5 IFHWDPTOTAL
ROTATING
HOURS: 1680.9

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		WTdaN	RPM	I	O	D	L	B	G	O	R	
1	215.9	HUGHES	TF1126	JD8				2629		0				-											
										0				-											
										0				-											

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	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
															MFI	MFO	
27	/1005	7.8			/	/							300	260			/
	/				/	/											/
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	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		DP m/MIN	DC m/MIN	VELOCITY m/sec.	HHP
Emsco	152	254			Emsco	152	254				0.0	0.0		0.00

SURVEYS			TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH			PRESS TEST	1.50	HNDL TOOLS	0.50	Lignite	
° @ m			DRILLING		SLIP & CUT		Drispac	
° @ m			CIRCULATE		REAMING		Starpak	
° @ m			TRIPPING	10.25	COND MUD	7.00	Percol 728	
° @ m			RIG SERV		PRESS TEST		Sod Sulf	
° @ m			BOP DRILL		W/N.U. BOP		Biocide	
° @ m			DRLG OUT		SAFETY MTG		Saf-Kote	
° @ m			REPAIRS	4.75	CEMENTING		Lime	
° @ m			SET SLIPS				Desco	
° @ m			CUT CASING				Barite	
° @ m							Mica	
							Alcomer110	
			TOTAL HOURS: 24.00					

MUD COMMENTS: Cleaned all suction tanks flushed lines with fresh water.

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

2000/12/21 00:00 Hours: Continued to pressure test. Installed near bushing. Locked it down. Performed accumulator test, OK. Tripped in hole with 11 drill collars and laid them down. Picked up 15 more HWDP and racked back in derrick. Laid down remaining 6 178mm drill collars from derrick. Finished cleaning surface tanks. Filled with fresh water. Flushed suction

and mixing lines. Changed out kelly cock on top drive which did not pass pressure test. Went to blow mud lines and the top drive hose was froze up. It was then decided that we could remove the hose and thaw it out while we tripped in hole with new BHA. Tripped in hole to 459mKB and stopped. It was then decided to continue to thaw out the mud line hose

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/22
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 140 DEPTH: 2629.57 m PROGRESS: 0.00 m CPA NO.: 300C316040123300
WEATHER: Light snow TEMP: -22 °C
8:00 a.m. OPERATION: Tripping in hole with 215.9mm bit. (at 1700mKB.)

DRILLING & GEOLOGICAL REMARKS (Cont'd)

which was taken longer than expected to 24:00 hours 2000.12.21.

NOTES:

- (1) Checked fastline clamp, deadline anchor and brakes, crown saver.
- (2) Safety topic with crews was picking up HWDP.
- (3) Pressure on back side comes up to 3150kPa and is then bled off, it takes between 10-12 hours to build to that pressure.

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: 00/12/21	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300c316040123300		DAY: 139	
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: -12 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2629.57 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 2629.57 m		8:00 a.m. OPERATION: Making up new 215.9mm BHA.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 58389 CUMULATIVE COST: \$ 12817547

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 LENGTH: 0.00 m WT. BELOW JARS: daN JAR HRS: JAR SERIAL #: WT. ON BIT: daN ROTARY RPM: STRING WT.: daN
 DRILL PIPE O.D.: THREAD: DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

TOTAL ROTATING HOURS: 1680.9

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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	WT daN	RPM	1	2	3	4	5	6	7	8		
										0				-										
										0				-										
										0				-										

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

M
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Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/300ml	FC mm	PV/MF	GELS 0/10	Tol.Sol kg/m3	Orf. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Cs ppm	ALKALINITY MFI MFO	°C IN/OUT	
	/				/	/										/	
	/				/	/										/	
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
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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	HHP	
Emsco	152	254			Emsco	152	254				0.0	0.0		0.00	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite		
° @	m		DRILLING	SLIP & CUT		Drispac		
° @	m		CIRCULATE	REAMING		Starpak		
° @	m		TRIPPING	COND MUD		Percol 728 12		
° @	m		RIG SERV	PRESS TEST 7.00		Sod Sulf		
° @	m		BOP DRILL	W/N.U. BOP 8.00		Biocide		
° @	m		DRLG OUT	SAFETY MTG		Saf-Kote		
° @	m		REPAIRS	CEMENTING 3.00		Lime		
° @	m		SET SLIPS 1.50			Desco		
° @	m		CUT CASING 4.50			Barite		
° @	m				TOTAL HOURS: 24.00	Mica		
						Alcomer110		

MUD COMMENTS: Striped back mud that was displaced from cement job.

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

2000.12.20@00:00 hrs. Cemented the 244.5mm casing. Displaced. Plug down @ 01:30hrs 2000.12.20. Bumped plug. Held 3500 kPa pressure for 2 min. Bled off lines and checked for volume gains. No volume gains. Float held. Rigged out cementers. Prepared to lift BOPs to set casing slips. Set 50000 daN on casing slips. Removed drilling spool and installed the

intermediate spool. When the intermediate spool was set in it was discovered that stud holes were not drilled out enough for the BOP studs. Changed BOP studs to a smaller OD and made up intermediate spool to bottom set of pipe rams and casing bowl. When installing casing slips it was notice that mud was coming out of the valves on the casing bowl, the

SUPERVISOR: PICHE/LEBEUF

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/21
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 139 DEPTH: 2629.57 m PROGRESS: 0.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -12 °C
8:00 a.m. OPERATION: Making up new 215.9mm BHA.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

flow was a 1/4" stream, placed a gauge on one the valves and it held at 300 psi. After setting casing slips, cut 244.5mm casing and laid it down. Nipped up BOPS. Started pressure testing at 17:00hrs, while pressure testing prepared new BHA for 215.9mm hole. Cleaned mud tanks to 24:00 hours 2000.12.20.

Notes:

- *Checked wear bushing that it fit properly in the intermediate spool and the dog nuts turned in evenly.
- *Finished pressure testing BOP stack with good results.
- *Safety topic: Communication when lifting BOPS.
- *As of 24:00hrs the flow coming out of valve on casing bowl, has decreased to a seeping flow.
- *Restall wear bushing with no problems.
- *At 04:45 hrs 2000.12.21: finished laying down 178mm drill collars and began picking up new BHA. Pressure testing on the BOP, manifold and surface equipment completed at 02:15hrs 2000.12.21. Details on pressure testing and intermediate spool description will follow on next report.
- * Details on the casing and cement job will also follow on the next report.

REPORTED BY: PICHE' /LEBEUF

PHONE #: (600) 701-3227

CALLING CARD #:



PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31	DATE: 00/12/20	RPT #: 3	(*) STRING IDENTIFIERS C = Conductor S = Surface I = Intermediate P = Production L = Liner (**) JOB IDENTIFIERS P = Primary S = Squelge
LOCATION: 300-C31-6040-12330-0	AFE #:	DFS: 138	
SUPERVISOR: Cal Piche	CEMENT JOB ID (*): P	STRING IDENTIFIER (*): I	
PHONE #: (600) 701-3227	CALLING CARD #:		

Summary					ANNULAR VOLUME (m3)	
CEMENT INTERVAL					CALIPER	
1st STAGE	0.0	m KB	710.3	m KB		58.30
2nd STAGE	2100.0	m KB	2629.2	m KB	GAUGE	15.40
3rd STAGE		m KB		m KB	SLURRY (actual)	185.90

Job Details	Comments
HOLE SIZE: 311.00 mm CASING O.D.: 244.50 mm SHOE DEPTH: 2629.20 m KB MAX. RECORDED BHT: 123 deg C (**) JOB TYPES 1 = Conventional 2 = Foam JOB TYPE (**): 1 PROPOSED CEMENT TOP: 2100.00 m KB MAXIMUM DEVIATION: 7.10 deg @ 2629.57 m KB	During the last hr of circulating started to lose volume. Mixed 20 sacks of mica to the first 20 tonnes of "G" cement Mixed 10 sacks of mica and 10 sacks of cellophane to the first 20 tonnes of thermal 40. Full returns while cementing. Float held. No gain in volumes, annulus remained static.

Mud Data (prior to cementing)	Plug Type	Pipe Movement		
TYPE: K-Minus	TOP: BOTTOM: OTHER:	WHILE:	CONDITIONING	CEMENTING
DENSITY: 1610.00 kg/m3		TYPE	None	None
VISCOSITY: 70.00 sec/l		STROKE (m)	0.0	0.0
YIELD POINT: 20.00 Pa		RATE (stks/min)	1.3	1.0
WATER LOSS: 9.60 ml/30 min	Cement Head	Stage Tools		
P. V. 24.00 mPa-sec	TYPE:	TYPE		
GELS 15.00 / 16.00 Pa		DEPTH (m KB)		
Mix Water				
Well water/400 bbl				

Services & Equipment
CEMENT COMPANY: Sanjel REPRESENTATIVE: Richard Harasen EQUIPMENT: Twin, CNA, Bulker

STAGE ONE

A. Cement Blend Description			PREPLUSH	
	CEMENT TYPE	ADDITIVES	TYPE	VOL (m3)
SCAVENGER	Class "G" 0-1-0	.75%CFR, .4%CFR-1, .2%LTR	Inhibited water	4.00
FILL	Thermal 40	1%CFR, .35%CFR-2, .35%CFR-H, .15%HYR-2, 6L FA-1 /m3	Vis sweep spacer	4.00
TAIL	Thermal 40	.7%CFR, .7%CFR-2, .2%LTR		
OTHER				

B. Cement Data									
	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER
									RATIO (m3/t) TEMP (deg C)
SCAVENGER	2100.0 - 2200.0	12.96	30	16.85	20.00	0.760	1901.00	450	0.440 20.00
FILL	2200.0 - 2350.0	22.50	0	22.50	30.00	0.750	1885.00	370	0.410 20.00
TAIL	2350.0 - 2629.2	28.85	30	37.51	53.00	0.750	1885.00	340	0.410 20.00
OTHER	-			0.00					

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31
 LOCATION: 300-C31-6040-12330-0

DATE: 00/12/20

RPT #: 3

AFE #:

DFS: 138

CEMENT JOB ID (**): P

STRING IDENTIFIER (*): I

(*) STRING IDENTIFIERS

C = Conductor

S = Surface

I = Intermediate

P = Production

L = Liner

(**) JOB IDENTIFIERS

P = Primary

S = Squeeze

SUPERVISOR: Cal Piche

PHONE #: (600) 701-3227

CALLING CARD #:

C. Record of Operations

OPERATION DESCRIPTION	START TIME (day / hr:min)	FINISH TIME (day / hr:min)	ELAPSED TIME	VOLUME (m3)	RATE (m3/min)	PRESSURE (kPa)	
						MAX.	MIN.
MUD CONDITIONING	17 / 08 : 15	17 / 15 : 30	7.25	94.4	2.3	15700	15250
POOH W/ DRILL PIPE	17 / 15 : 30	18 / 01 : 45	10.25				
RIH W/ CASING	18 / 09 : 30	19 / 15 : 30	6.00				
CIRCULATION	19 / 13 : 45	19 / 21 : 00	7.25	66.0	1.3	2930	2840
CEMENTING - PREFLUSH	19 / 21 : 48	19 / 21 : 55	0.12	4.0	1.0	5000	
- SCAVENGER	19 / 22 : 00	19 / 22 : 05	0.08	4.0	1.0	6000	
- FILL	/ :	/ :					
- TAIL	19 / 22 : 05	19 / 23 : 01	0.93	76.2	0.8	10000	8000
- OTHER	/ :	/ :					
RLSE TOP PLUG & PO LINES	19 / 23 : 44	19 / 23 : 50	0.10				
DISPLACEMENT	19 / 23 : 50	20 / 01 : 27	1.62	96.5	1.0	3000	
BUMP PLUG & BLEED OFF	20 / 01 : 27	20 / 01 : 29	0.03			8000	
CEMENT RETURNS	TYPE: no		VOLUME: m3				
FLOAT HELD	YES ☒ NO ☐						

STAGE TWO

A. Cement Blend Description

	CEMENT TYPE	ADDITIVES	PREFLUSH	
			TYPE	VOL (m3)
SCAVENGER				
FILL				
TAIL				
OTHER				

B. Cement Data

	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER	
									RATIO (m3/t)	TEMP (deg C)
SCAVENGER	-									
FILL	-									
TAIL	-									
OTHER	-									

C. Record of Operations

OPERATION DESCRIPTION	START TIME (day / hr:min)	FINISH TIME (day / hr:min)	ELAPSED TIME	VOLUME (m3)	RATE (m3/min)	PRESSURE (kPa)	
						MAX.	MIN.
MUD CONDITIONING	/ :	/ :					
POOH W/ DRILL PIPE	/ :	/ :					
RIH W/ CASING	/ :	/ :					
CIRCULATION	/ :	/ :					
CEMENTING - PREFLUSH	/ :	/ :					
- SCAVENGER	/ :	/ :					
- FILL	/ :	/ :					
- TAIL	/ :	/ :					
- OTHER	/ :	/ :					
RLSE TOP PLUG & PO LINES	/ :	/ :					
DISPLACEMENT	/ :	/ :					
BUMP PLUG & BLEED OFF	/ :	/ :					
CEMENT RETURNS	TYPE:		VOLUME: m3				
FLOAT HELD	YES ☐ NO ☐						

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/12/20	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 138	
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: -18 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2629.57 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2629.57 m		8:00 a.m. OPERATION: Installing casing slips.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 35909 CUMULATIVE COST: \$ 12759158

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LENGTH: 0.00 m	WT. BELOW JARS: daN	JAR HRS:	JAR SERIAL #:	TOTAL ROTATING HOURS: 1680.9
WT. ON BIT: daN	ROTARY RPM:	STRING WT.: daN		
DRILL PIPE O.D.:	THREAD:	DRILL COLLARS O.D.:	THREAD:	NO. IN HOLE:

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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		DDL	RMD		WTF	RPM	D	D	L	
										0			-						
										0			-						
										0			-						

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

VISCOSITY Sec/100	DENSITY IN/OUT	pH	WL cc/30min	EG min	PUMP GELS O/15	TO SOL kg/m3	DR SOL kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CF gpm	Ca ppm	ALKALINITY MPF MPD	°C IN/OUT
72	1615'	10.0	9.2	2.0	20' 25.0	16. / 18.	0.21	0.005	42			1400	360	0.1 1.0	/ 70
70	1610'	9.0	9.6	2.0	24' 20.0	15. / 16.	0.21	0.005	40			1400	280	0.1 1.0	/ 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	HR OUT	kg/m3	m3			

PUMP NO. 1	TYPE F 1000				PUMP NO. 2	TYPE F 1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	MPa	CP m/MIN	CC m/MIN	VELOCITY m/sec	HWP
Emeco	152	254	47	0.65	Emeco	152	254	47	0.65	2930	44.0	44.8		0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	5.50	Lignite		
° @ m			DRILLING	SLIP & CUT		Driscac		
° @ m			CIRCULATE	REAMING		Starpak		
° @ m			TRIPPING	COND MUD	8.00	Percol 728		
° @ m			RIG SERV	CLN TO BTM		Sod Sulf		15
° @ m			BOP DRILL	LOGGING		Biocide		15
° @ m			DRLG OUT	SAFETY MTG	0.25	Ssf-Kote		15
° @ m			REPAIRS	RUN CSG	10.25	Lime		
° @ m			SURVEYING			Desco		5
° @ m						Barite		42
° @ m						Mica		30
° @ m						Alcomer110		
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+Ion=24000, Sulfite=280, Polymer=2.0.

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

2000.12.19 00:00 hrs. Ran 244.5mm casing from 1629-1737mKB. Circulated bottoms up. At 01:30hrs changed out manual slips to the 350 ton slips and moved stabbing board up. Had difficulty making up casing as the joint that was being made up wanted to lay against the torque tube, this was possibly due to the rig not beeing

level. Changed back to manual slips and continued to run 244.5mm casing. At a depth of 2600mKB broke circulation and washed last 2 joints of 244.5mm casing to bottom (2629.5mKB). Once on bottom, circulated, conditioned mud for 6 hours. During the last hour of circulating, started to lose volume (3.0m3/hr). Reduced flow rate from 1.5m3/min to

SUPERVISOR: PICHE/LEBEUF

PHONE #: (600) 701-3227

CALLING CARD#:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/20
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 138 DEPTH: 2629.57 m PROGRESS: 0.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -18 °C
8:00 a.m. OPERATION: Installing casing slips.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

1.3m³/min, this helped in reducing volume losses to 2 m³/hr. A decision was then made that 20 sacks of mica would be added to the first 20 ton of "G" cement and 10 sacks of mica, 10 sacks of cellophane to first 20 ton of thermal 40 cement. Held safety meeting with all personnel prior to cementing 244.5mm casing. Rigged up cement head and pressured tested lines, continue to proceed with cementing as per cement program to 24:00 hours 2000.12.19s.

Notes:

- *Tagged bottom with casing at 15:00hrs 2000.12.19
- *Laid down 4 joints of 224.5mm casing during casing job.
- *Safety topic: Power tongs.
- *Maximum experienced hookload=200000 daN.

Note: Plug down@ 01:30hrs 2000/12/20. full returns throughout the cement job, held 3500 kPa pressure for 2 minutes, bleed off pressure and float held, no gains in volume. Annulus static.

REPORTED BY: PICHE' /LEBEUF

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

PAJAK ENGINEERING LTD.

CASING SUMMARY REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31	DATE: 00/12/20
LOCATION: 300-C31-6040-12330-0	G.L. ELEVATION: 481.30 m
	K.B. ELEVATION: 488.00 m
SURFACE ()	K.B. TO GROUND: 6.70 m
INTERMEDIATE (x)	
PRODUCTION ()	

SIZE: 244.50 mm	WEIGHT: 80 kg/m	GRADE: HCL80
MAKE: Lonestar	THREAD: BT&C	CONDITION: NEW
FLOAT/GUIDE SHOE MAKE: Davis	FLOAT COLLAR MAKE: Davis	
HANGER TYPE:		
RAN: 189 jts. 244.50 mm OD CASING SET @ 2629.20 m (by pipe tally)		

Casing String Details

ITEM	LENGTH (m)	DEPTH LANDED (mKB)	ITEM	LENGTH (m)	DEPTH LANDED (mKB)
Shoe	0.53				
Float	0.59				

CASING BOWL

SIZE: 339 X 341 mm
SERIAL #: 25891-02
TYPE: VGCHL
API: 35000 kPa

CENTRALIZERS

NO: 6
INTERVALS: 2579.95 - 2622.44
MAKE: Import
TYPE: Spiral

CASING HANGER

SIZE: 339 X 341 mm
MAKE:
TYPE:
API: 35000 kPa

SCRATCHERS

NO:
INTERVALS:
MAKE:
TYPE:

RECIPROCATED/ROTATE CASING IN:	m/rpm	STROKES/RPM:	mins. PRIOR TO CEMENTING
RECIPROCATED/ROTATE CASING IN:	m/rpm	STROKES/RPM:	mins. WHILE CEMENTING
SURPLUS:			

REMARKS:

(Circ. pressures, mud properties, additional equip., etc.)

Circulated for 6 hours and condition mud prior to cementing. Vis=70 Sec/L, Density=1610 Kg/m³, WL=9.6cc, YP=20, PV=24. Pressure=2930 Kpa.

SUPERVISOR: Doug Solberg

PHONE #: (500) 701-9462

CCARD #:

PAJAK ENGINEERING LTD.

CASING TALLY

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

DATE: 00/12/20

LOCATION: 300-C31-6040-12330-0

SUPERVISOR: Doug Solberg

PHONE #: (600) 701-9462

CARD #:

SIZE: 244.50mm WEIGHT: 80 kg/m THREAD: BT&C GRADE: HCL80 MAKE: Lonestar

JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH
1	14.27	31	14.20	61	13.74	91	14.15	121	13.81
2	14.19	32	14.21	62	14.28	92	14.29	122	13.89
3	13.86	33	13.78	63	14.27	93	14.21	123	14.40
4	14.33	34	14.08	64	13.93	94	13.89	124	14.26
5	14.05	35	14.35	65	14.16	95	14.41	125	14.30
6	14.15	36	13.99	66	14.26	96	13.86	126	14.18
7	14.35	37	13.97	67	14.32	97	14.00	127	13.86
8	14.34	38	14.07	68	13.71	98	13.88	128	14.40
9	14.16	39	13.77	69	13.95	99	14.18	129	13.94
10	13.95	40	12.08	70	13.77	100	14.29	130	13.92

TOTAL	141.65	TOTAL	138.50	TOTAL	140.39	TOTAL	141.16	TOTAL	140.96
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JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH
11	14.31	41	14.40	71	14.12	101	14.04	131	13.21
12	14.21	42	14.25	72	14.03	102	13.98	132	13.62
13	13.93	43	14.27	73	13.95	103	14.13	133	14.27
14	13.80	44	13.97	74	14.30	104	12.62	134	12.20
15	14.00	45	13.73	75	13.64	105	13.80	135	14.39
16	13.63	46	14.37	76	13.93	106	13.76	136	13.84
17	13.95	47	14.35	77	14.14	107	14.13	137	13.72
18	14.14	48	13.86	78	14.23	108	14.06	138	13.84
19	13.91	49	13.99	79	13.97	109	14.21	139	14.19
20	14.19	50	12.72	80	14.28	110	14.23	140	13.40

TOTAL	140.07	TOTAL	139.91	TOTAL	140.59	TOTAL	138.96	TOTAL	136.68
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JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH
21	13.73	51	14.18	81	14.27	111	13.91	141	12.61
22	14.12	52	14.09	82	13.86	112	14.23	142	13.91
23	13.96	53	14.04	83	14.39	113	14.40	143	13.89
24	14.17	54	13.14	84	13.24	114	14.39	144	14.34
25	14.31	55	13.74	85	14.12	115	13.96	145	13.90
26	13.82	56	14.54	86	14.04	116	14.19	146	13.86
27	14.08	57	13.74	87	14.06	117	14.04	147	13.99
28	14.01	58	13.96	88	13.87	118	14.27	148	14.12
29	13.85	59	13.99	89	14.35	119	14.36	149	14.27
30	13.86	60	14.37	90	13.40	120	13.55	150	13.61

TOTAL	139.91	TOTAL	139.79	TOTAL	139.60	TOTAL	141.30	TOTAL	138.50
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GROUP #	LENGTH	GROUP #	LENGTH	GROUP #	LENGTH	JTS.	LENGTH	
1- 10	141.65	51- 60	139.79	101- 110	138.96			Brought Forward
11- 20	140.07	61- 70	140.39	111- 120	141.30	150	2097.97	Page Total
21- 30	139.91	71- 80	140.59	121- 130	140.96	150	2097.97	Total on Location
31- 40	138.50	81- 90	139.60	131- 140	136.68	6	84.91	Total Left Out (incl. LJ)
41- 50	139.91	91- 100	141.16	141- 150	138.50	144	2013.06	Total Perm. in Hole
				TOTAL	2097.97			

REMARKS

6 joints of Grade HCL-80, Thread BT&C, Weight 80 kg/m, left out.
 Did not pick up any L-80 casing.

PAJAK ENGINEERING LTD.

CASING TALLY

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

DATE: 00/12/20

LOCATION: 300-C31-6040-12330-0

SUPERVISOR: Doug Solberg

PHONE#: (600) 701-9462

CCARD#:

SIZE: 244.50mm WEIGHT: 80 kg/m THREAD: BT&C GRADE: HCL80 MAKE: Lonestar

JT #	LENGTH	JT #	LENGTH	JT #	LENGTH	JT #	LENGTH	JT #	LENGTH
151	13.66	181	13.24	211		241		271	
152	13.76	182	12.95	212		242		272	
153	13.63	183	13.94	213		243		273	
154	13.81	184	13.86	214		244		274	
155	13.89	185	12.86	215		245		275	
156	13.78	186	13.97	216		246		276	
157	13.81	187	14.28	217		247		277	
158	13.93	188	13.98	218		248		278	
159	13.96	189	13.81	219		249		279	
160	13.70	190	13.02	220		250		280	

TOTAL	137.93	TOTAL	135.91	TOTAL		TOTAL		TOTAL	
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JT #	LENGTH	JT #	LENGTH	JT #	LENGTH	JT #	LENGTH	JT #	LENGTH
161	13.81	191	13.01	221		251		281	
162	14.22	192	14.07	222		252		282	
163	13.09	193	14.02	223		253		283	
164	13.48	194	14.27	224		254		284	
165	13.73	195	14.27	225		255		285	
166	14.21	196	13.32	226		256		286	
167	12.28	197	13.83	227	1	257		287	
168	14.17	198	13.81	228	1	258		288	
169	13.90	199	13.00	229	1	259		289	
170	13.98	200	13.78	230	1	260		290	

TOTAL	136.87	TOTAL	137.38	TOTAL		TOTAL		TOTAL	
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JT #	LENGTH	JT #	LENGTH	JT #	LENGTH	JT #	LENGTH	JT #	LENGTH
171	14.16	201	13.40	231		261		291	
172	14.11	202	13.87	232		262		292	
173	14.39	203	13.12	233		263		293	
174	13.97	204	13.71	234		264		294	
175	14.25	205	12.89	235		265		295	
176	12.55	206		236		266		296	
177	13.58	207		237		267		297	
178	14.18	208		238		268		298	
179	14.27	209		239		269		299	
180	13.96	210		240		270		300	

TOTAL	139.42	TOTAL	66.99	TOTAL		TOTAL		TOTAL	
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GROUP #	LENGTH	GROUP #	LENGTH	GROUP #	LENGTH	JTS	LENGTH	
151-160	137.93	201-210	66.99	251-260		150	2097.97	Brought Forward
161-170	136.87	211-220		261-270		55	754.50	Page Total
171-180	139.42	221-230		271-280		205	2852.47	Total on Location
181-190	135.91	231-240		281-290		16	220.71	Total Left Out (Incl. W)
191-200	137.38	241-250		291-300		189	2631.76	Total Perm. in Hole
TOTAL					754.50			

REMARKS

9 joints of L-80, weight 53.5Kg/m thread BT&C, not run.

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/12/19

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

CPA NO.: 300C316040123300

DAY: 137

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: Snowing

TEMP: -25 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 2629.57 m

PROGRESS: 0.00 m

PBD: m FORMATION:

8:00 a.m. DEPTH: 2629.57 m

8:00 a.m. OPERATION: Running in 244.5mm casing.

AFE #:

AFE AMT: \$ 12658500

DAILY COST: \$

67625

CUMULATIVE COST: \$ 12723249

B
H
ATOTAL
ROTATING
HOURS: 1680.9

LENGTH: 0.00 m WT. BELOW JARS: daN JAR HRS: JAR SERIAL #:

WT. ON BIT: daN

ROTARY RPM:

STRING WT.: daN

DRILL PIPE O.D.:

THREAD:

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

B
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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	WT daN	RPM	I	O	D	L	B	O	D
										0				-							
										0				-							
										0				-							

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

M
J
D

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30mls	FC mm	PV/VF	GELS O/10	Tot. Sol. kg/m3	Drill Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C
	/				/	/									MF1	MF0	IN/OUT
	/				/	/											/
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					

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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	OP m/MIN	DC m/MIN	VELOCITY m/sec	HHP	
Emsco	152	254	55	0.76	Emsco	152	254	55	0.76	2680	52.4	52.4		0.00	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	2.00	Lignite	
° @	m		DRILLING	SLIP & CUT		Drispac	
° @	m		CIRCULATE	REAMING		Starpak	
° @	m		TRIPPING	COND MUD		Perco! 728	
° @	m		RIG SERV	CLN TO BTM		Sod Sulf	
° @	m		BOP DRILL	LOGGING		Biocide	
° @	m		ORLG OUT	SAFETY MTG	0.25	Corinex	
° @	m		REPAIRS	RUN CSG	17.50	Lime	
° @	m		SURVEYING	PU/LD PIPE	1.75	Desco	
° @	m		LD REPAIRS	PULLWEAR	0.75	Barite	
° @	m		TOTAL HOURS:		24.00	Caustic	
						Alcolmer 110	

MUD COMMENTS: No mud checks taken, while running casing.

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

2000.12.18@00:00 hrs. Laid down the 228.6mm BHA to 01:45 hrs
 Pulled wear bushing and began to clean up drill
 floor and start rigging up pipe handlers, casing tongs, as
 well as place 350 ton slips and elevators on drill floor.
 Finished rigging up at 08:00hrs, held a safety meeting with
 all personnel required for the job. At 08:15hrs the pipe

handlers experienced a hydraulic problem, could not operate
 lifting arms or bring carrying trough to drill floor,
 finished repairs at 09:30hrs. Made up shoe and float collar
 and then filled shoe joint with mud, hoisted shoe joint to
 rotary and bring back down to check if the shoe, float were
 in good working order. The mud level did drop during

SUPERVISOR: PICHE/LEBEUF

PHONE #: (600) 701-3227

CALLING CARD#:

CO 0697



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/19
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 137 DEPTH: 2629.57 m PROGRESS: 0.00 m CPANO.: 300C316040123300
WEATHER: Snowing TEMP: -25 °C
8:00 a.m. OPERATION: Running in 244.5mm casing.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

this procedure, proceeded with casing job as the shoe and float were operating properly. Continue to run casing to a depth of 361mKB, when further repairs were made to pipe handlers as the brace between catwalk and pipe handlers truck broke. Back running casing at 13:30hrs. At a depth of 681mKB changed elevators out and picked up the 350 ton elevators, Ran 244.5mm casing to 1629mKB depth at 24:00hrs 2000.12.18.

*Safety topic: Running casing.

*While pulling out of the slips the hookload was 125000 daN.

Note: Rigged up 350 ton slips and began running in, but with more stick up it was very hard to keep it straight. This made it harder to make up as well once the joint was made up it wanted to lay against torque tube preventing the elevators to go around it. Changed back to manual slips as these are still rated high enough for this casing depth.

REPORTED BY: PICHE'/LEBEUF

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: 00/12/18	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 136	
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: -24 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2629.57 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2629.57 m		8:00 a.m. OPERATION: Making up shoe joint.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 55664 CUMULATIVE COST: \$ 12655624

1 311 mm	1 Bit Sub	1 MONEL MWD	1 ISOLATION SU	1 3 PT REAMER
1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC	1 JARS
5 228mm DC	1 X/O SUB	17 178mm DCS		

TOTAL ROTATING HOURS: 1680.9

LENGTH: 271.13 m WT. BELOW JARS: 15000 daN JAR HRS: 150.3 JAR SERIAL #: 10154

WT. ON BIT: 2000 daN ROTARY RPM: 30 STRING WT.: 115000 daN

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

 228 H90 9
171 H90 15

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT WTSN RPM	CUTTING STRUCT					REMARKS
					1	2	3	IN	OUT			DR	RMD		C	D	L	B	G	
37CR	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2629	2629	0			1.75	3- 5 50						
37CR	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2629	2629	0				2- 3 30						
										0										

LAST PIPE TALLY: 2630.63 BOARD: 2629.57 CORRECTION: YES [] NO [x]

M D

Viscosity Sec/L	DENSITY IN/OUT	pH	WT cc/30ml	FC mm	PV/PP	GELS D/10	Tot. Sol. kg/m3	Diss. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MP	MPH	°C IN/OUT
82	1620/	10.3	7.8	2.0	22/ 27.0	22./28.	0.21		0.005	42			1400	380	0.1	1.0	/ 74
80	1620/	10.1	7.8	2.0	20/ 29.0	23./29.	0.21		0.005	42			1400	380	0.1	1.1	/ 74
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

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	DP m3/MIN	DC m3/MIN	VELOCITY m/sec	HHP	
Emsco	152	254	82	1.13	Emsco	152	254	82	1.13	15800	35.7	64.4		0.00	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Lignite 3		
° @ m			HNDL TOOLS			Drispac		
° @ m			DRILLING			Starpak		
° @ m			CIRCULATE			Percol 728		
° @ m			TRIPPING 11.75			Sod Sulf		
° @ m			RIG SERV			Biocide		
° @ m			BOP DRILL			Corinox		
° @ m			DRLG OUT			Lime		
° @ m			REPAIRS			Desco		
° @ m			SURVEYING			Barite 444		
° @ m			LD COLLARS 1.00			Caustic		
° @ m			TOTAL HOURS: 24.00			Alcomer110		

MUD COMMENTS: K+Ion=25000,Sulfite=200,Polymer=2.0.

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

2000.12.12@00:00 hrs: Circulated and conditioned mud prior to tripping out of hole to run casing. Started out at 02:45hrs with 1 pump, strokes 60, RPM 27, torque 14000 to 15000 ft-lbs, for the first three stands, pulling 125000 daN. The 4th stand was pulled using no rotary, but with 1 pump, pulling 135000 daN. No pump or rotary on the 5th stand,

pulling 145000 daN, after the 9th stand still pulling 135000 daN. Pulled up to 1713mKB and ran back in the hole to circulate, condition mud and clean up hole. No problems getting to bottom, but did wash to bottom from 2601mKB, no fill, began to circulate. At bottoms up medium amounts of blocky and small slivers cuttings coming over the shakers

SUPERVISOR: PICHE/LEBEUF

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/18
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 136 DEPTH: 2629.57 m PROGRESS: 0.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -24 °C
8:00 a.m. OPERATION: Making up shoe joint.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

after 1.5hrs the shakers cleaned up. Started out at 15:30hrs pumped out 5 stands with 1 pump, pulling 125000 daN to 130000 daN, pumped weighted pill at 2340mKB and blew out kelly, mud lines. Began laying down all 9" drill collars and reamers at 23:00hrs to 24:00 hours 2000.12.17

Notes:

*Trip record: Calculated=3.65m³. Actual=4.05m³. Difference=.40m³.

*Hole drag while circulating: 10000daN up and 15000daN down.

*Safety topic: Tripping and laying down BHA.

*Slipped and cut drilling line at shoe (710mKB).

*Torque while circulating: 9000 ft-lbs to 16000 ft-lbs.

*The last mud check on this report was taken at 15:30hrs.

*Started rigging up pipe handlers and casing tongs at 03:45hrs 2000.12.17

REPORTED BY: PICHE' /LEBEUF

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: 00/12/17	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 135	
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: -32 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2629.57 m		PROGRESS: 0.00 m		PSTD: m FORMATION:	
8:00 a.m. DEPTH: 2629.57 m		8:00 a.m. OPERATION: Run in hole for wiper trip prior to hoisting for casing.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 178408 CUMULATIVE COST: \$ 12599960

B
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1 311 mm	1 Bit Sub	1 MONEL MWD	1 ISOLATION SU	1 3 PT REAMER
1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC	1 JARS
5 228mm DC	1 X/O SUB	17 178mm DCS		
LENGTH: 271.13 m WT. BELOW JARS: 15000 daN JAR HRS: 150.3 JAR SERIAL #: 10154				

TOTAL ROTATING HOURS 1680.9

WT. ON BIT: 2000 daN

ROTARY RPM: 30-60

STRING WT.: 115000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

B
I
T
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			PRC	RMD		WT daN	RPM	F	C	D	L	B	G	O	R						
37CR	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2629	2629	0			1.75	3- 5	50															
37CR	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2629		0					-															
										0					-															

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

U
D

Viscosity Sec	DENSITY g/cm3	API S	Wt. G/G	FC mm	PPV	GELS O/G	TOC Sp	DMC Sp	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	CLAY %	CL BPPM	CL CPM	ALKALINITY MPA	PH	IN/OUT
95	1620	10.6	8.2	2.0	24/30.0	28./31.	0.21		0.005	42			1400	400	0.2	1.0	74
CENTRIFUGE																	
HR IN		kg/m3		OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		HR OUT	

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PUMP NO. 1	MODEL	LINER	STROKE	SPM	Q/MIN	PUMP NO. 2	MODEL	LINER	STROKE	SPM	Q/MIN	PRESSURE kPa	ANNULAR VELOCITY	JET
Emsco	152	254	83	1.15		Emsco	152	254	83	1.15		15730	36.4	65.5
													44.4	68.43

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	PRESS TEST DRILLING CIRCULATE TRIPPING 8.75 RIG SERV BOP DRILL DRLG OUT REPAIRS SURVEYING THAW LINES 1.50 TOTAL HOURS: 24.00	Lignite 2 Drispac 2 Starpak 3 Percol 728 Sod Sulf Biocide Corinox Lime Desco 2 Barite Caustic 1 Alcomer110

MUD COMMENTS: K+Ion=25000, Sulfite=250, Polymer=2.0.

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

2000.12.16@00:00 hrs. Thawed out standpipe. All mud lines thawed out at 01:30 hours. Started to run in hole at 02:00hr to conduct Gyro survey. While running in the hole, broke circulation every 9 stands, to bottom. AT 2603mKB started to ream to bottom, the hole was not tight, but experienced high torque (15000 ft-lbs to 19000 ft-lbs). Blocky and 2 inch

slivers came over the shaker, worked this area for 2.5hrs, during this period, shakers cleaned up. Started the Gyro run at 17:00hrs, had some difficulty between 2320mKB and 2330mKB, this maybe due to a smaller ID in drill string. Out of the hole with Gyro tool at 21:10hrs and began to circulate and condition mud before coming out of hole.

SUPERVISOR: PICHE/LEBEUF

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/17
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 135 DEPTH: 2629.57 m PROGRESS: 0.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -32 °C
8:00 a.m. OPERATION: Run in hole for wiper trip prior to hoisting for casing.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Circulated and conditioned mud to 24:00 hours 2000.12.16. (Notes:)

- *When working the drill string no tight hole, but torque is high.
- *While circulating prior to Gyro run the total gas percentage got as high as 58.3 %.
- *Hole drag was: 10000-15000 daN both up and down.
- *Torque at bottom was: 9000 ft-lbs to 16000 ft-lbs.
- *At bottoms up small to medium cuttings coming over shaker.
- *While working the drill string, pulling up to 125000 daN with 83 strokes per pump and RPM of 40.
- *Safety topic was on: Cold weather.

Update: Circulated to 02:00 hrs 2000.12.17. Hoisted out. Hole was tight coming out. Made decision the wiper trip up to 1700mKB and return to bottom before hoisting out for casing.

REPORTED BY: PICHE' / LEBEUF

PHONE #: (600) 701-3227

CALLING CARD #:

DEC-16-2000 13:23

SANJEL CORPORATION

403 269 1433 P.03/03

EMERGE/COV FAX

Pajak Fax 264-1584

Rig Fax 1-600-701-9462

Date: December 16/2000Company: Canadian Forest Oil Ltd.Address: 1/2 Pajak Engineering Ltd.

Attention:

Mr. Mickey Sutherland

Re:

Well Name: CDN Forest et al North Liard C-31LSD: Primary Cementing Procedure

Prepared by:

Service Location:

JS
Calgary Sales
269-1420Fort St. John, B.C.

DEC-16-2000 13:23

SANJEL CORPORATION

403 269 1433 P.01/03

F:\MERGE\PROD-3.FRM

Intermediate Casing

Hole Size: 311.2 mm
 Casing Size: 244.5 mm
 Depth: 2629 m
 Excess: _____ % (gauge/caliper)

Cement Blend

Lead Cement

0-1-0 G + 0.75% CFR + 0.4% CFL-1 + 0.2% LTR
 _____ m to _____ m = _____ m

~~Lead~~ Cement

Thermal 40 + 1.0% CFR + 0.35% CFL-2 + 0.35% CFL-H
 _____ m to _____ m = _____ m + 0.15% HTR-2 + 62/m³ FA

Tail Cement

Thermal 40 + 0.7% CFR + 0.7% CFL-2 + 0.2% LTR
 _____ m to _____ m = _____ m

Cement DataBHST: 112 °C BHCT: 75 °C

		Lead Cement	Lead Cement	Tail Slurry
Water Requirement	:m ³ /t	<u>0.44</u>	<u>0.41</u>	<u>0.41</u>
Yield	:m ³ /t	<u>0.76</u>	<u>0.75</u>	<u>0.75</u>
Density	:kg/m ³	<u>1901</u>	<u>1885</u>	<u>1885</u>
Thickening Time	:hrs:min	<u>7:30</u>	<u>6:40</u>	<u>5:40</u>
Compressive Strength	:MPa/hrs	_____	<u>43.9/8</u>	<u>4.4/8</u>
		_____	<u>2.4/24</u>	<u>9.2/16</u>
		_____	_____	<u>11.2/24</u>
Temperature	:°C	<u>75</u>	<u>110</u>	<u>123</u>
Fluid Loss	:cc/30 min	_____	<u>92</u>	<u>84</u>
Critical Pump Rate	:m ³ /min	_____	_____	_____

Calculations

Lead Cement

$$\begin{aligned}
 & \text{_____ m}^3/\text{m} \times \text{_____ m} = \text{_____ m}^3 \\
 & \text{_____ m}^3 + \text{_____ \% excess} = \text{_____ m}^3 \\
 & \text{_____ m}^3 / \text{_____ m}^3/\text{t} = \underline{20} \text{ tonnes}
 \end{aligned}$$

Tail Cement

$$\begin{aligned}
 & \text{_____ m}^3/\text{m} \times \text{_____ m} = \text{_____ m}^3 \\
 & \text{_____ m}^3 + \text{_____ \% excess} = \text{_____ m}^3 \\
 & \text{_____ m}^3 / \text{_____ m}^3/\text{t} = \underline{30} \text{ tonnes}
 \end{aligned}$$

$$\begin{aligned}
 & \text{_____ m}^3/\text{m} \times \text{_____ m} = \text{_____ m}^3 \\
 & \text{_____ m}^3 + \text{_____ \% excess} = \text{_____ m}^3 \\
 & \text{_____ m}^3 / \text{_____ m}^3/\text{t} = \underline{53} \text{ tonnes}
 \end{aligned}$$

Caliper log indicates
 75.8 m³ slurry required.
 Actual volume onsite is
 77.5 m³.

DEC-16-2000 13:23

SANJEL CORPORATION

403 269 1433 P.02/03

F:\MERGE\PROD\PRO.FRM

Intermediate

Casing Procedure

1. Make up float equipment and centralizers as required on 244.5 mm casing and run in to total depth.
2. Break circulation and condition hole and drilling fluid prior to cementing.
3. Rig in Sanjel TWIN Cementing Unit, _____ Surface treating lines, and a 244.5 mm Continuous cementing head to casing.
4. Fill Surface treating lines with water and pressure test lines to .21 MPa.
5. Drop a Bottom Rubber Plug and mix and pump the following:

<u>4.0</u> m ³	<u>inhibited water</u>	preflush
<u>4.0</u> m ³	<u>Visweep spacer</u>	weighted to <u>1200</u> kg/m ³ with barite
<u>4.0</u> m ³	<u>Scavenger Slurry</u>	mixed at <u>1350</u> kg/m ³
<u>20 t</u>	<u>10-1-0 G + additives</u>	mixed at <u>1901</u> kg/m ³
<u>30 t</u>	<u>Thermal 40 + additives</u>	mixed at <u>1885</u> kg/m ³
<u>53 t</u>	<u>Thermal 40 + additives</u>	mixed at <u>1885</u> kg/m ³
6. Drop a Top Rubber Plug and displace plug to float collar with water at 1.4-1.6 m³/min. Bump plug with a minimum of 5.0 MPa over final pumping pressure.
7. Hold pressure for 2 minute(s), then bleed back casing pressure to ensure float is holding.
8. If float does not hold, install pressure gauge on the cementing head and maintain 5000 kPa pressure over final pumping pressure for a minimum of 8 hours.
9. W.O.C. a minimum of 24 hours.



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/16
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 134 DEPTH: 2629.57 m PROGRESS: 0.00 m CPANO: 300C316040123300
WEATHER: Overcast TEMP: -32 °C
8:00 a.m. OPERATION: Running in the hole to conduct gyro survey/condition to case

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- *Function blind rams, close in 8 seconds.
- *Safety topic was on icy conditions.
- *Standpipe and kelly hose were both frozen, unthawed at 01:30hrs.

Note: Started running in the hole at 02:00hrs, to conduct Gyro survey.
Once on bottom the Gyro survey tool will be run, it will stop at between 705mKB and 710mKB to tie in to last survey shot taken with Gyro tool on surface hole section. It will stop again at 1250mKB to tune in the tool and once again at bottom, the same stops will be made on the way out.
As well with the Gyro survey, will circulate and condition mud once on bottom.

REPORTED BY: PICHE' /LEBEUF

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



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/12/15

LOCATION: 300-C31-6040-12330-0

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

DAY: 133

DEPTH: 2629.57 m

PROGRESS:

0.00 m

CPANO: 300C316040123300

WEATHER: Clear

TEMP: -30 °C

8:00 a.m. OPERATION: Running in the hole for conditioning prior to casing.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- *Run #1:Dipole-sonic,Dip meter,Caliper.
- *Run #2:Neutron density,Laterolog,Caliper.
- *Function top pipe rams,close in 6 seconds.
- *Maximum experienced hookload=150000 daN.
- *Safety topic:Tripping / logging.
- *Hole remained static while logging.
- *Logging rate was 625 m/hr.
- *Blew out mud lines to prevent from freezing while logging.
- *Will run gyro survey once string is on bottom
- *Finished log run#2 at 02:30hrs,2000.12.15.

REPORTED BY: PICHE' /LEBEUF

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: 00/12/14	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 132	
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: Light Flurries		TEMP: -25 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2629.57 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 2629.57 m		8:00 a.m. OPERATION: Running in hole with Schlumberger logging tools.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 45099 CUMULATIVE COST: \$ 12315673

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1 311 mm	1 Bit Sub	1 MONEL MWD	1 ISOLATION SU	1 3 PT REAMER
1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC	1 JARS
5 228mm DC	1 X/O SUB	17 178mm DCS		
LENGTH: 271.13 m	WT. BELOW JARS: 15000 daN	JAR HRS: 150.3	JAR SERIAL #: 10154	
WT. ON BIT: 26000 daN	ROTARY RPM: 55	STRING WT.: 115000 daN		
DRILL PIPE O.D.: 127	THREAD: 4 1/2 IF	DRILL COLLARS O.D.: 228	THREAD: H90	NO. IN HOLE: 9
				15

TOTAL ROTATING HOURS: 1680.9

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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT WT daN	RPM	CUTTING STRUCT								REMARKS
					1	2	3	IN	OUT			DRL	RMD			1	2	3	4	5	6	7	8	
36C	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2607	2629	22	0.4	51.25	3.00	25-27	50	4	4	WT	A	E	I	CT	TD	
37CR	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2629		-262			1.75	3- 5	50									
										0			-											

LAST PIPE TALLY: 2630.63

BOARD: 2629.57

CORRECTION: YES [] NO [x]

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D

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/dl/min	FC mm	PV/VP	GELS O/10	Tor. Spl. kg/m3	Drd Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Cs ppm	ALKALINITY MFL MFO	°C IN/OUT
106	1640'	10.5	9.6	2.0	24' 38.0	32' 36.	0.21		0.005	42			1400	400	0.2 1.2	/ 74
110	1640'	10.3	9.8	2.0	22' 38.0	31' 34.	0.21		0.005	42			1400	380	0.2 1.2	/ 74
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				

P
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M

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 g/min	DC m/min	VELOCITY m/sec	HHF
Emsco	152	254	83	1.15	Emsco	152	254	83	1.15	17700	36.4	65.5	44.4	69.27

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	1.00	Lignite 1		
° @ m			DRILLING	SLIP & CUT	0.75	Drispac 1		
° @ m			CIRCULATE	REAMING	1.75	Starpak 2		
° @ m			TRIPPING 15.25	COND MUD	4.50	Percol 728		
° @ m			RIG SERV 0.50	CLN TO BTM	0.25	Sod Sulf		
° @ m			BOP DRILL			Biocide		
° @ m			DRLG OUT			Corinox		
° @ m			REPAIRS			Lime		
° @ m			SURVEYING			Desco 2		
° @ m			WORK HOLE			Barite 126		
° @ m						Caustic 1		
						Alcomer110		
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+Ion -25,000, Sulfite - 250, Polymer - 2 Stripped 5 m3 from active system.

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

2000.12.13000:00 hrs. Hoisted Bit# 36C, cleaned 2.5" of mud ring material off bell sub, 3PT reamers and bit. Function tested blind rams, 8 seconds to close. Laid down MWD tool and restrictor sub. Tripped in with Bit #37CR to 730 mKB. Slipped and cut 20 m drilling line. Tripped in with Bit #37CR, filled drill pipe every 500 m to 2623 mKB. Broke

circulation and reamed 7 m to bottom. Circulated and conditioned mud and hole. Backreamed and circulated from 2629-2317mKB. Pumped with both pumps for the first 2 stands then went to 1 pump for the remainder of the tight hole. Wiper tripped Bit #37CR to 1212 mKB, flow checked as required. Tripped in with Bit #37CR to 2599 mKB, filled

SUPERVISOR: PICHE/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/12/14

LOCATION: 300-C31-6040-12330-0

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

DAY: 132

DEPTH: 2629.57 m

PROGRESS:

0.00 m

CPANO: 300C316040123300

WEATHER: Light Flurries

TEMP: -25 °C

8:00 a.m. OPERATION: Running in hole with Schlumberger logging tools.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

drill pipe every 500 m. Broke circulation and washed 30 m to bottom with no fill. Circulated and conditioned hole and mud, worked drill string. Circulated and backreamed from 2629 mKB to 2514 mKB, hoisted Bit #37CR to 2428 mKB with no pump or rotary to 23:59 hours 2000.12.13.

Notes:

- * Hole cleaning well with no apparent losses reported in past 24 hours.
- * Quite a few cuttings came up with bottoms up. 3/4" blocky shale and the odd 1" sliver.
- * Torque: 16,272 - 20,340 NM.
- * Hole drag: 15,000 daN up, 15,000 daN down.
- * Safety topic: Tripping
- * Hole Fill: Act =18.56 m3, Calc=17.34 m3 Diff=1.22 m3.

REPORTED BY: PICHE'/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: 00/12/13

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

CPA NO.: 300C316040123300

DAY: 131

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: Light Flurries

TEMP: -19 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2629.57 m

PROGRESS: 3.57 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2629.57 m

8:00 a.m. OPERATION: Tripping in with Bit #37CR.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 73894 CUMULATIVE COST: \$ 12270574

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	

LENGTH: 271.75 m WT. BELOW JARS: 15000 daN JAR HRS: 150.3 JAR SERIAL #: 10154

WT. ON BIT: 26000 daN

ROTARY RPM: 55

STRING WT.: 115000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTS	MTS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.										REMARKS
					1	2	3	IN	OUT			DRL	RMD		WT&N	RPM	I	Q	D	L	B	G	O	R	
36C	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2607	2629	22	0.4	51.25	3.00	25-27	50	4	4	WT	A	E	I	CT	TD		
37CR	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2629		-262					-										
										0					-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	PH	WL 60/30min	FC mm	PV/VP	GELS O/H	Tol. Sol. kg/m3	Dfg. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LGM kg/m3	OIL %	CI PPM	Ca PPM	ALKALINITY MFI	MFO	°C IN/OUT
85	1625/	10.7	7.8	2.0	20/ 34.0	30./34.	0.21		0.005	42			1400	400	0.2	1.3	/ 76
86	1640/	10.6	8.2	2.0	22/ 33.0	30./34.	0.21		0.005	42			1400	400	0.2	1.3	/ 76
CENTRIFUGE				DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
8 HR IN	1625 kg/m3	OUT	1050 kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	m3				

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	HHP
Emsco	152	254	85	1.15	Emsco	152	254	85	1.15	17700	36.4	65.5	44.4	68.98

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	0.25	Lignite	6
7.10 ° @ 2617.57 m		313.40	DRILLING 7.00	SLIP & CUT		Driscac	1
° @ m			CIRCULATE 4.25	REAMING		Starpak	2
° @ m			TRIPPING 4.00	COND MUD		Percol 728	1
° @ m			RIG SERV 0.75	CLN TO BTM		Sod Sulf	1
° @ m			BOP DRILL			Biocide	1
° @ m			DRLG OUT			Corinox	1
° @ m			REPAIRS			Lime	4
° @ m			SURVEYING 0.25			Desco	
° @ m			WORK HOLE 7.50			Barite	462
° @ m						Caustic	2
° @ m						Alcomer110	1
			TOTAL HOURS: 24.00				

MUD COMMENTS: K+Ion - 26,000, Sulfite - 250, Polymer -2.

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

2000.12.12 @ 00:00 Hours:

Drilled 311mm hole from 2626-2628mKB. Circulated and linked
 MWD tool. Drilled from 2628-2628.29mKB. Worked drill
 string and cleaned drill pipe screen. Circulated with 1
 pump and repaired washed "T" on #1 F1000 mud pump. Drilled
 from 2628.29-2629.57mKB. Circulated sample up. Back reamed

and pumped out stands from 2629-2117mKB. Hoisted bit #36C to
 1840mKB. Pumped weighted barite pill. Hoisted bit #36C, flow
 checked as required and strapped drill pipe to 113mKB at
 23:59 hours 2000.12.12.

Note 1: Hole cleaning well with no apparent losses reported
 in the past 24 hours.

SUPERVISOR: PICHE/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/13
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 131 DEPTH: 2629.57 m PROGRESS: 3.57 m CPANO.: 300C316040123300
WEATHER: Light Flurries TEMP: -19 °C
8:00 a.m. OPERATION: Tripping in with Bit #37CR.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 2: Torque: 13,560-21,696 Nm.
Note 3: Hole Drag: 9,000 daN up, 8,000 daN down.
Note 4: Safety Topics: Connections/repairing mud pumps.
Note 5: Akita's load limits: Derrick-235,000 daN. Drill Pipe-191,000 daN.
Note 6: Bellsb, 3 Pt reamers and bit were packed with what resembled mud ring material.

REPORTED BY: PICHE' / 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: 00/12/12	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 130	
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: -28 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 2626.00 m		PROGRESS: 6.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 2629.00 m		8:00 a.m. OPERATION: Drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 65499 CUMULATIVE COST: \$ 12196680

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	

TOTAL ROTATING HOURS:	1673.9
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LENGTH: 271.75 m WT. BELOW JARS: 15000 daN JAR HRS: 143.3 JAR SERIAL #: 10154

WT. ON BIT: 26000 daN ROTARY RPM: 55 STRING WT.: 115000 daN

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

228	H90	9
171	H90	15

[illegible]

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

VISCOSITY Sec/C	DENSITY IN/OUT	pH	WL cc/30 ml	FC mm	PV/VP	GELS O/10	Tot. Sol. kg/m3	D/10 Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
92	1620/	10.2	9.4	2.0	22/ 36.0	28./33.	0.21		0.007	44			1400	280	0.1 1.1	/ 76
88	1620/	10.6	8.5	2.0	22/ 37.0	27./33.	0.21		0.005	44			1400	320	0.2 1.2	/ 76

CENTRIFUGE

DESILTER

DESANDER

CASSER 22

TOTAL MUD DUMPED:

HA IN	kg/m3	OUT	kg/m3	HA OUT	kg/m3	HA OUT	kg/m3	HA OUT	kg/m3	m3
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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		DP m3/MIN	DC m3/MIN	VELOCITY m/sec.	KHP
Emsco	152	254	83	1.15	Emsco	152	254	83	1.15	17700	36.4	65.5	44.4	68.43

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
		AZIMUTH	PRESS TEST	HNDL TOOLS	Lignite	10
7.40 °	@ 2613.39 m	316.00	DRILLING 15.75	SLIP & CUT	Drispac	3
°	@ m		CIRCULATE 6.00	REAMING 1.50	Starpak	6
°	@ m		TRIPPING	COND MUD	Percol 728	2
°	@ m		RIG SERV 0.50	CLN TO BTM	Sod Sulf	3
°	@ m		BOP DRILL		Biocide	3
°	@ m		DRLG OUT		Corinox	3
°	@ m		REPAIRS		Lime	8
°	@ m		SURVEYING 0.25		Desco	8
°	@ m		WORK HOLE		Barite	588
°	@ m				Caustic	3
				TOTAL HOURS: 24.00	Alcomer110	2

MUD COMMENTS: K+Ion-25,000, sulfite-250, Polymer-2. Stripped 20m3 from active system.

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

2000.12.11 @ 00:00 Hours:

Drilled 311mm hole from 2620-2621mKB. Worked tight hole and cleaned 1m to bottom. Drilled from 2621-2622mKB. Circulated bottom hole sample at geologist's request. Surveyed at 2613.39mKB. Circulated and worked drill string. Reamed 2m to bottom. Drilled from 2622-2624mKB. Circulated bottom hole

sample at geologist's request. Reamed 2m to bottom.

Circulated with 1 pump, changed 2 heads on #1 F1000 mud pump. Reamed 2m to bottom. Drilled from 2624-2626mKB.

Circulated with 1 pump, changed washed seat and valve #2
F1000 mud pump. Drilled from 2626-2626.8mKB to 23:59 hours
2000.12.11.

SUPERVISOR: PICHE'/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/12
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 130 DEPTH: 2626.00 m PROGRESS: 6.00 m CPANO: 300C316040123300
WEATHER: Clear TEMP: -28 °C
8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Hole cleaning well with no apparent losses reported in past 24 hours.
- Note 2: Stripped 20m3 mud from active system today.
- Note 3: Hole Drag: 9,000 daN up, 8,000 daN down.
- Note 4: Torque: 13,560-21,696 Nm.
- Note 5: Akita's load limits: Derrick-235,000 daN, Drill Pipe-191,000 daN.
- Note 6: Safety Topics: Watch dog meeting/Emergency Response.
- Note 7: Cuttings coming over shaker are of the sticky nature.
- Note 8: 2000.12.12 @ 04:15 hours: Washed out T between #1 F1000 mud pump and first kicker hose. Sent for welder at camp to repair the wash. Circulated with 1 pump and worked drill string. #3 F800 mud pump is drained with discharge hose knocked off and would probably take as long to get it on line as it would take to repair #1 F1000 mud pump.

REPORTED BY: PICHE'/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: 00/12/11	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 129	
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: -31 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2620.00 m		PROGRESS: 10.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2623.00 m		8:00 a.m. OPERATION: Drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 58374 CUMULATIVE COST: \$ 12131181

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	
LENGTH: 271.75 m WT. BELOW JARS: 15000 daN JAR HRS: 126.5 JAR SERIAL #: 10154				

TOTAL ROTATING HOURS: 1658.2

 WT. ON BIT: 26000 daN ROTARY RPM: 55 STRING WT.: 115000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 9
 171 H90 15

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			DAL	AMD	WT daN	RPM	I	O	D	L	B	G	O		R																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
36C	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2607		13	0.5	28.50	3.00	25-27	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															

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/VF	GELS O/F	Tot. Sol. kg/m3	Dita. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MEI MEO	°C IN/OUT
105	1645'	10.6	12.2	2.0	24' 38.0	32. /35.	0.21		0.005	44			1200	400	0.2 1.3	/ 76
130	1635'	9.8	11.2	2.0	26' 41.0	34. /37.	0.21		0.005	44			1400	320	0.2 1.2	/ 76
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	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	82	1.13	Emsco	152	254	82	1.13	17600	35.7	64.4	43.6	65.72

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH		Lignite 4
7.20 ° @ 2603.87 m	315.10	Driscac 3
° @ m		Starpak 6
° @ m		Pot Sulf 112
° @ m		Sod Sulf 2
° @ m		Biocide 2
° @ m		Corinox 2
° @ m		Lime 4
° @ m		Desco 4
° @ m		Barite
° @ m		Caustic 2
° @ m		Alcomer110 4
TOTAL HOURS: 24.00		

MUD COMMENTS: K+Ion - 26,000, Sulfite - 250, Polymer - 2.0.

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

2000.12.10 @ 00:00 Hours:

Drilled 311mm hole from 2610-2611mKB. Ran survey check shot at 2583.62mKB, 6.3 degrees, 321.5 Azimuth. Worked pipe.

Cleaned drill pipe screen and made connection. Drilled 311mm hole from 2611-2613mKB. Surveyed at 2603.37mKB. Circulated with 1 pump while head was changed on #1 F1000 mud pump.

Drilled from 2613-2617mKB. Worked pipe and checked drill pipe screen. Drilled 311mm hole from 2617-2620mKB at 23:59 hours 2000.12.10.

Note 1: Hole cleaning well with no apparent losses reported in past 24 hours. Increased water addition as mud seems to be dehydrated.

SUPERVISOR: PICHE/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/11
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 129 DEPTH: 2620.00 m PROGRESS: 10.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -31 °C
8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 2: Held BOP drill in drill mode, well secured in 70 seconds. Also conducted H2S drill and discussion with crew members.
- Note 3: Hole Drag: 9,000 daN up, 8,000 daN down.
- Note 4: Torque: 13,560-20,340 Nm.
- Note 5: Safety Topics: H2S drills/working in cold weather conditions.
- Note 6: 01:15-03:45 (2.5 hours.) 2000.12.11: Worked and cleaned tight hole, acted as if mud ring had built up on 3 Pt reamers or bit. Worked drill string with hole drag, then it would clear up. Went to bottom and would have to ream and clean the hole up. Picked up to work drill string and the hole drag would be back. This happened a total of 7 times before we could go back to bottom and continue to drill ahead.

REPORTED BY: PICHE' / 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: 00/12/10	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 128	
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: -31 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2610.00 m		PROGRESS: 3.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2615.00 m		8:00 a.m. OPERATION: Drilling 311 mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 75965 CUMULATIVE COST: \$ 12072807

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	

TOTAL ROTATING HOURS: 1636.2

LENGTH: 271.75 m WT. BELOW JARS: 15000 daN JAR HRS: 104.5 JAR SERIAL #: 10154

WT. ON BIT: 26000 daN ROTARY RPM: 55 STRING WT.: 115000 daN

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

228	H90	9
171	H90	15

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	1	Q	D	L	B	G	Q	R
36C	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2607		3	0.5	6.50	3.00	25-27	50								
										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 Or/0	Tot. Sol kg/m3	Drld. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
110	1645/	10.0	10.5	2.0	26/ 35.0	31./34.	0.21		0.005	44			1200	400	0.1 1.2	/ 74
	/				/	/										/
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	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY ft/sec	HP
Emsco	152	254	83	1.15	Emsco	152	254	83	1.15	17600	36.4	65.5	44.4	69.49

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Lignite		
° @ m			HNDL TOOLS 2.50			Drispac		
° @ m			DRILLING 6.50			Starpak		
° @ m			CIRCULATE 1.50			Pot Sulf		
° @ m			TRIPPING 7.75			Sod Sulf		
° @ m			RIG SERV 0.50			Biocide 1		
° @ m			BOP DRILL			Corinox 1		
° @ m			DRLG OUT			Percol 728		
° @ m			REPAIRS 1.25			Desco 2		
° @ m			SURVEYING 0.25			Barite		
° @ m			WORK HOLE			Caustic 2		
° @ m			TOTAL HOURS: 24.00			Alcomer110		

MUD COMMENTS: K+Ion - 26,000, Sulfite - 282, 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.)

2000.12.09@ 00:00 hrs: Changed bits, serviced MWD tool and tripped Bit #36C to 730 m. Changed washpipe on swivel, performed shallow MWD function test. Tripped in with Bit#36C filled pipe every 500 m to 2215 mKB. Broke circulation, reamed 311 mm hole from 2215 mKB to 2225 mKB. Continued to trip in the hole to 2594 mKB. Broke circulation and

washed and reamed to bottom with 10 fill. Broke in Bit# 36C, drilled 311mm hole from 2607 mKB to 2609 mKB. Circulated with 1 pump while valve and seat was changed on #1 F1000 mud pump and then a valve and seat was changed on #2 F1000 mud pump. Drilled 311 mm hole from 2609 mKB to 2610.6 mKB to 23:59 hours 2000.12.09.

SUPERVISOR: PICHE'/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/10
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 128 DEPTH: 2610.00 m PROGRESS: 3.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -31 °C
8:00 a.m. OPERATION: Drilling 311 mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Hole cleaning well with no apparent losses reported in past 24 hours.
- * Hole Fill: Act=18.81m³, Calc=16.62m³, Diff=2.19m³.
- * Quite a bit of cuttings came up with bottoms up but then cleaned up after that point.
- * Akita's maximum load limits: Derrick - 235,000 daN, Drill Pipe -191,000 daN.
- * Torque: 13,360 - 20,340 NM.
- * Hole drag: 11,000 daN up, 6,000 daN down.
- * Survey: 2603.37m 7.2 degrees, 315.1 azm.

REPORTED BY: PICHE' / 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: 00/12/09	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 127	
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: Light Flurries		TEMP: -25 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2607.00 m		PROGRESS: 2.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2607.00 m		8:00 a.m. OPERATION: Tripping in hole with Bit #36C			

APE #: AFE AMT: \$ 12658500 DAILY COST: \$ 90902 CUMULATIVE COST: \$ 11996842

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	

LENGTH: 271.75 m WT. BELOW JARS: 15000 daN JAR HRS: 98.0 JAR SERIAL #: 10154

WT. ON BIT: 26000 daN

ROTARY RPM: 55

STRING WT.: 115000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228 H90 9
171 H90 15

BIT
S

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT WT daN	RPM	CUTTING STRUCT				REMARKS			
					1	2	3	IN	OUT			DRL	RMD			L	O	D	L		B	G	O
35C	311.0	REED	CK2686	HP62A	19.1	19.1	19.1	2577	2607	30	0.4	76.00	1.25	25-27	50	4	4	BT	A	E	I	CT	HR
36C	311.0	REED	BP5212	HP62A	19.1	19.1	19.1	2607		-260				-									
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Ssg/L	DENSITY IN/OUT	pH	WL cc/30mls	FC mm	PV/MP	GELS D/10	Tol. Sol. kg/m3	Drill Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
93	1635/	10.3	9.8	2.0	22/ 42.0	34. /37.	0.21		0.005	44			1200	380	0.2 1.3	/ 76
94	1635/	10.0	10.0	2.0	22/ 43.0	35. /38.	0.21		0.005	46			1200	380	0.1 1.2	/ 76

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	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	HNP
Emsco	152	254	95	1.31	Emsco	127	229	110	0.96	17400	35.9	64.6	43.8	66.39

SURVEYS		TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH		PRESS TEST	HNDL TOOLS	Lignite	2
° @ m		DRILLING 6.75	SLIP & CUT	Drispac	1
° @ m		CIRCULATE 1.50	REAMING	Starpak	2
° @ m		TRIPPING 5.25	COND MUD	Pot Sulf	
° @ m		RIG SERV 0.50	CLN TO BTM	Sod Sulf	1
° @ m		BOP DRILL		Biocide	
° @ m		DRLG OUT		Corinox	
° @ m		REPAIRS		Percol 728	1
° @ m		SURVEYING 0.75		Lime	
° @ m		WORK HOLE 9.25		Barite	210
° @ m		TOTAL HOURS: 24.00		Caustic	
° @ m				Alcomer110	2

MUD COMMENTS: K+ion - 26,000, Sulfite - 282, Polymer - 2.4

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

2000.12.08a00:00 hrs. Drilled 311 mm hole from 2605 mKB to 2606.4 mKB. Worked drill string and cleaned pipe screen. Drilled 2606.4 mKB to 2607.34 mKB, attempted to down link MWD tool.(no results) Drilled 2607.34 mKB to 2607.54 mKB, circulated bottoms up.Hoisted out. Backreamed 2605-2032mKB. Hoisted Bit #35C to 1865mKB.Pumped weighted pill.

Hoisted Bit #35C, flow checked as required. Function tested blind rams,8 seconds to close. Checked over Bit #35C to 23:59 hours 2000.12.08.

SUPERVISOR: PICHE/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/09
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 127 DEPTH: 2607.00 m PROGRESS: 2.00 m CPANO.: 300C316040123300
WEATHER: Light Flurries TEMP: -25 °C
8:00 a.m. OPERATION: Tripping in hole with Bit #36C

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- * Hole cleaning well with no losses reported in past 24 hours.
- * Safety topics: spill response for caustic/ tripping
- * Hole drag: 9,000 daN down, 12,000 daN up.
- * Torque: 12,204 - 20,340 NM.
- * 12 elders from Ft. Liard community were out to tour rig and camp facilities today.
- * Traction motor on #2 F1000 mud pump installed and back on line.
- * 3 PT reamers, bell sub and bit were packed with what resembled mud ring material which was the probable cause of tight hole coming off bottom.

REPORTED BY: PICHE' / 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: 00/12/08	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 126	
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: Light Flurries		TEMP: -17 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 2605.00 m		PROGRESS: 6.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 2608.00 m		8:00 a.m. OPERATION: Drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 55975 CUMULATIVE COST: \$ 11905940

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	
LENGTH: 271.75 m	WT. BELOW JARS: 15000 daN	JAR HRS: 91.2	JAR SERIAL #: 10154	

TOTAL ROTATING HOURS	1623.0
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WT. ON BIT: 26000 daN ROTARY RPM: 55 STRING WT.: 115000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD:

228	H90	9
171	H90	15

[illegible]

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/YP	GELS O/G	Fel. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
80	1635/	9.5	14.4	2.0	20/ 35.0	32./37.	0.21		0.005	46			1200	380	0.1 1.2	/ 76
	/				/	/										/
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

PUMP	PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
	MODEL	LINEAR mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINEAR mm	STROKE mm	SPM	m ³ /MIN		DP m/MIN	DC m/MIN	VELOCITY m/sec	HPF
	Emsco	152	254	95	1.31	Emsco	127	229	110	0.96	17400	35.9	64.6	43.8	66.39

SURVEYS				TIME BREAKDOWN			MUD ADDITIVES		
			AZIMUTH	PRESS TEST		HNDL TOOLS	Lignite	5	
7.00	°	@	2594.87 m	319.00	DRILLING	17.00	SLIP & CUT	Drispac	3
	°	@	m		CIRCULATE	0.50	REAMING	Starpak	6
	°	@	m		TRIPPING		COND MUD	Pot Sulf	
	°	@	m		RIG SERV	0.50	CLN TO BTM	Sod Sulf	
	°	@	m		BOP DRILL			Biocide	1
	°	@	m		DRLG OUT			Corinox	1
	°	@	m		REPAIRS	4.25		Percol 728	
	°	@	m		SURVEYING			Lime	
	°	@	m		WORK HOLE	1.75		Barite	252
	°	@	m		TOTAL HOURS: 24.00			Caustic	4
							Alcomer110	2	

MUD COMMENTS: K+Ion - 25,500, Sulfite - 280, Polymer - 2.

DRILLING & GEOLOGICAL REMARKS: (Report all details of Casing, Cementing, Drill Stem Tests, Logging, Abandonment Plugs, etc. Sequence of Operations to be inserted below.)
2000.12.07 @ 00:00 Hours: 1 to bottom. Drilled 311mm hole to 2603.6mKB. Worked pipe and

Drilled 311mm hole from 2599-2601.77mKB. Circulated and
 digged in #3 F800 mud pump. (Unthawed suction line,
 tightened pump drive belt, pop valve blew and the discharge
 pressure blew suction pipe out from air bag. Reinstalled
 suction pipe and inflated air bag.) Worked and cleaned hole

to bottom. Drilled 311mm hole to 2603.6mKB. Worked pipe and cleaned screen prior to survey. Surveyed at 2594.67mKB. Drilled to 2603.8mKB. Circulated and worked pipe while head rubber was changed on #1 F1000 mud pump. Drilled 311mm hole from 2603.8-2605mKB at 23:59 hours 2000.12.07.

SUPERVISOR: PICHE'/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/12/08
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 126 DEPTH: 2605.00 m PROGRESS: 6.00 m CPANO: 300C316040123300
WEATHER: Light Flurries TEMP: -17 °C
8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Hole cleaning well with no losses reported in past 24 hours.
Note 2: Hole Drag: 10,000 daN up, 7,000 daN down.
Note 3: Torque: 12,204-20,340 Nm.
Note 4: Safety Topics: Hand tools/pinch points.
Note 5: Electrician arrived at 18:00 hours and disassembled traction motor on #2 F1000, now waiting for spare traction motor to arrive.
Note 6: Talked to Dave Lauck, Rig Manager, said he would check the hair line wash in #3 module on #2 F1000 and if it does not show any signs of washing he will change it when the hole is being logged.
Note 7: Akita's maximum hook loads: Derrick - 235,800 daN, Drill pipe - 191,000 daN.
Note 8: Traction motor arrived on location 2000.12.08 @ 03:45 hours.

REPORTED BY: PICHE'/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: 00/12/07	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 125	
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: -21 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 2599.00 m		PROGRESS: 9.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 2602.00 m		8:00 a.m. OPERATION: Drilling 311mm hole.			

AFE #: **AFE AMT: \$** 12658500 **DAILY COST: \$** 53390 **CUMULATIVE COST: \$** 11849965

1	311 mm	1	Bit Sub	1	RESTRIC.SUB	1	MONEL MWD	1	ISOLATION SU
1	3 PT REAMER	1	NMDC	1	3PT REAMER	1	SHOCK SUB	3	228mm DC
1	JARS	5	228mm DC	1	X/O SUB	17	178mm DCS		
LENGTH: 271.75 m		WT. BELOW JARS: 15000 daN		JAR HRS: 74.2		JAR SERIAL #: 10154			

TOTAL ROTATING HOURS	1606.0
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WT. ON BIT: 27000 daN ROTARY RPM: 55 STRING WT.: 115000 daN

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

228	H90	9
171	H90	15

[illegible]

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES / 1 NO / x

Viscosity Sec/1	DENSITY IN/OUT	PH	WL cc/30min	FC mm	PV/VP	GELS O/10	Tol. Sol. kg/m3	Orth. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MEK MFO	°C IN/OUT
83	1630/	10.5	9.5	2.0	20' 32.0	31./38.	0.21		0.005	46			1200	400	0.1 1.2	/ 78
84	1625/	10.5	12.5	2.0	20' 32.0	31./37.	0.21		0.050	46			1200	400	0.1 1.2	/ 74

CENTRIFUGE				DESILTER		DESANDER		DEGASER		TOTAL MUD DUMPED	
8	HR IN	1620 kg/m3	OUT	1590 kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3

PUMP	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		OP m/MIN	DC m/MIN	VELOCITY m/sec	HP
PUMP	Emsco	152	254	83	1.15	Emsco	152	254	83	1.15	18300	36.4	65.5	44.4	68.77

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
		AZIMUTH	PRESS TEST		HNDL TOOLS	
6.70 °	@	2584.09 m	6.70			
°	@	m	DRILLING	21.75	SLIP & CUT	
°	@	m	CIRCULATE	1.50	REAMING	
°	@	m	TRIPPING		COND MUD	
°	@	m	RIG SERV	0.50	CLN TO BTM	
°	@	m	BOP DRILL			
°	@	m	DRLG OUT			
°	@	m	REPAIRS			
°	@	m	SURVEYING	0.25		
°	@	m	WORK HOLE		INSP DC	
°	@	m			TOTAL HOURS:	24.00
					Lignite	2
					Drispac	1
					Starpak	2
					Pot Sulf	56
					Sod Sulf	2
					Biocide	2
					Corinox	2
					Percol 728	1
					Lime	1
					Barite	126
					Caustic	2
					Alcomer110	5

MUD COMMENTS: Stripped 20m3. Produced 16m3 H2O. Polymer=2.0 kg/m3 K+Ion=26000 sulfite=300.

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

2000.12.06 @ 00:00 Hours:

Drilled 311mm hole from 2590-2591mKB with an average ROP of 0.1m/hour and a drilling torque between 10000-15000 ft# to 02:45 hours. Performed rig service. Function tested remote choke to 03:00 hours. Checked MWD pipe screen with no signs of washing out or plugging off to 03:15 hours. Continued to

drill 311mm hole from 2591-2591.8mK8 with an average ROP of .4m/hour and a drilling torque between 10000-15000 ft# to 05:00 hours. Circulated with #2 pump while working on pump #1 (cleaned suction screen) to 05:15 hours. Continued to drill 311mm hole from 2591.8-2595mK8 with an average ROP and drilling torque as before to 14:30 hours. Worked hole prior

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: 00/12/07
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 125 DEPTH: 2599.00 m PROGRESS: 9.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -21 °C
8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

to survey, checked MWD screen, OK to 14:45 hours. Surveyed at 2584.09mKB to 15:00 hours. Performed rig service. Function tested annular, 19 seconds closing time to 15:15 hours. Continued to drill 311mm hole from 2595-2595.4mKB with an average ROP of .4m/hour and a drilling torque between 10000-15000 ft#, when a drilling break occurred from 2595.4-2596.2mKB with an average ROP of 1.5m/hour and a drilling torque between 10000-20000 ft# to 16:45 hours. Worked and cleaned tight hole which was due from drilling break mainly high torque on bottom due to fractures which turned out to be 25% quartz to 17:30 hours. Continued to drill 311mm hole from 2596.2-2599mKB with an average ROP back to .4m/hour and a drilling torque between 10000-15000 ft# to 23:59 hours 2000.12.06.

Note 1: Safety topic with crews was working on electrical systems.

Note 2: Maximum experienced hookload was 150000 daN.

Note 3: No mud losses to well in last 24 hours.

Note 4: No flow increase or pit gain occurred during drilling break.

Note 5: Maximum overpull allowed 191640 daN.

Note 6: Checked crown saver, deadline anchor and fastline clamp.

Note 7: No slivers reported at shale shakers.

Note 8: Hole drag remains 20-25000 daN up and down.

REPORTED BY: LEBEUF/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: 00/12/06	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 124	
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: -13 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 2590.00 m		PROGRESS: 8.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 2593.00 m		8:00 a.m. OPERATION: Drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 56338 CUMULATIVE COST: \$ 11796575

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	

TOTAL	
ROTATING	1584.3
HOURS	

LENGTH: 271.75 m	WT. BELOW JARS: 15000 daN	JAR HRS: 52.5	JAR SERIAL #: 10154
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WT. ON BIT: 27000 daN

ROTARY RPM: 55

STRING WT.: 114000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

[illegible]

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

VISCOSITY Soc/L	DENS.TY IN/OUT	pH	WL cc/30min	FC mm	PUMP 20' 35.0	GELS ON/O	Tol. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MCL MFO	°C IN/OUT
89	1630'	10.5	9.0	2.0	20' 35.0	32.'38.	0.21		0.050	44			1200	400	0.1 1.2	' 78
90	1630'	10.5	10.5	2.0	21' 36.5	32.'38.	0.21		0.050	46			1200	400	0.1 1.2	' 74

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	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		DP m ³ /MIN	DQ m ³ /MIN	VELOCITY m/sec	HHP
P	Emsco	152	254	83	1.15	Emsco	152	254	83	1.15	18300	36.4	65.5	44.4	68.85

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
		AZIMUTH	PRESS TEST	HNDL TOOLS	Lignite	4
6.50 °	@ 2575.57 m	325.50	DRILLING 19.25	SLIP & CUT	Drispac	1
°	@ m		CIRCULATE 3.75	REAMING	Starpak	2
°	@ m		TRIPPING	COND MUD	Pot Sulf	
°	@ m		RIG SERV 0.50	CLN TO BTM	Sod Sulf	2
°	@ m		BOP DRILL		Biocide	2
°	@ m		DRLG OUT		Corinox	2
°	@ m		REPAIRS 0.25		Percol 728	
°	@ m		SURVEYING 0.25		Lime	1
°	@ m		WORK HOLE	INSP DC	Barite	336
°	@ m			TOTAL HOURS: 24.00	Caustic	4
					Alcomer110	2

MUD COMMENTS: Polymer = 2.7 kg/m³, K+lon = 27000, sulfite = 310.

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

2000.12.05 @ 00:00 Hours:

Performed rig service. Function tested bottom pipe rams, seconds to close to 00:15 hours. Continued to drill 311mm hole from 2582-2583mKB with an average ROP of .4m/hour and a drilling torque between 10000-15000 ft#. Generator #2 went down and rig power system went off line to 02:00 hours.

Re-started engine #2 and SCR system to 02:15 hours. Drilled 311mm hole from 2583-2583.8mKB with an average ROP of .4m/hour and a drilling torque between 10000-15000 ft# to 04:00 hours. Circulated with #2 pump while working on #1 pump (changed out head) to 05:00 hours. Performed survey to 05:15 hours. Drilled 311mm hole from 2583.8-2584mKB with an

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: 00/12/06
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 124 DEPTH: 2590.00 m PROGRESS: 8.00 m CPANO.: 300C316040123300
WEATHER: Clear and windy TEMP: -13 °C
8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

average ROP of .4m/hour and a drilling torque between 10000-15000 ft# to 05:45 hours. Circulated with pump #2 while working on pump #1 (changed out liner and head) to 06:00 hours. Drilled 311mm hole from 2584-2584.4mKB with the same ROP and drilling torque as before to 06:30 hours. Circulated with #1 pump while working on pump #2 (changed out washed seat) to 07:00 hours. Drilled 311mm hole from 2584.4-2587.8mKB with an average ROP of .4m/hour and a drilling torque between 10000-15000 ft# to 15:30 hours. Picked up off bottom checked MWD pipe screen to 15:45 hours. Performed rig service. Function tested top pipe rams, 6 seconds to close to 16:00 hours. Circulated with #2 pump while working on pump #1 (changed out head and valve) to 17:00 hours. Drilled 311mm hole from 2587.8-2588mKB with the same ROP and drilling torque as before to 17:45 hours. Circulated with #2 pump while working on #1 pump (changed out valve and cleaned suction screen) to 18:30 hours. Drilled 311mm hole from 2588-2590mKB with an average ROP of .4m/hour and a drilling torque between 10000-15000 ft# to 23:59 hours 2000.12.05.

- Note 1: Checked crown saver, fastline clamp and deadline anchor.
- Note 2: Maximum experienced hookload was 150000 daN.
- Note 3: Safety topic with crews was crew truck driving and pump lockouts.
- Note 4: No mud losses to well reported in last 24 hours.
- Note 5: No slivers reported at shale shackers while drilling.
- Note 6: Maximum overpull allowed remains at 190640 daN.
- Note 7: Hole Drag: 20-25000 daN up and down.

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

DATE: 00/12/05

LOCATION: 300-C31-6040-12330-0

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

DAY: 123

DEPTH: 2582.00 m

PROGRESS:

5.00 m

CPANO.: 300C316040123300

WEATHER: Clear

TEMP: -24 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2575mKB to 11:15 hours. Reamed from 2575-2577mKB to 12:30 hours. Drilled 311mm hole from 2577-2578.6mKB with an average ROP of .5m/hour and a drilling torque between 10000-15000 ft#, to 16:15 hours. Performed rig service. Function tested annular to 16:30 hours. Resumed drilling 311mm hole from 2578.6-2582mKB with an average ROP of .5m/hour and a drilling torque between 10000-15000 ft# to 23:59 hours 2000.12.04.

Note 1: Trip Record: Calculated: 17.00m³, Measured: 18.21m³, Difference: 1.21m³.

Note 2: Checked crown saver, fastline clamp and deadline anchor.

Note 3: Maximum experienced hookload was 155000 daN.

Note 4: Maximum allowed overpull remains at 190640 daN.

Note 5: Safety topic with crew was tripping.

Note 6: Bottoms up gas went to a high of 27.35%.

Note 7: While washing to bottom slivers at the shale shakers were 3" long 1/2" wide, at bottoms up shakers were cleaned up.

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: 00/12/04	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 122	
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: -26 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2577.00 m		PROGRESS: 8.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2577.00 m		8:00 a.m. OPERATION: Tripping in hole with BIT #35C.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 56783 CUMULATIVE COST: \$ 11661629

B
H
A

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	
LENGTH: 271.75 m WT. BELOW JARS: 15000 daN JAR HRS: 3.5 JAR SERIAL #: 10154				

TOTAL ROTATING HOURS: 1553.9

 WT. ON BIT: 33000 daN ROTARY RPM: 65 STRING WT.: 113000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 9
 171 H90 15
B
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T
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	RMD	WT daN	RPM	I	O	D	L		B	G
34C	311.0	J&L	J07018	ATJ44	19.1	19.1	19.1	2566	2577	11	0.6	20.00		30-32	60	8	8	LT A	F	I	BT	PR
35C	311.1	REED	CK2686	HP62A	19.1	19.1	19.1	2577		0				-								
										0				-								

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

M

Viscosity Sec/L	DENSITY IN/OUT	PH	WL cc/30min	FC mm	PWYF	GELS DA10	Tot. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY MFC MFC	°C IN/OUT
87	1635'	10.5	11.5	2.0	22' 33.0	32.1/37.	0.22		0.005	46			1500	400	0.1 1.0	/ 74
90	1635'	10.0	10.0	2.0	22' 35.5	32.1/38.	0.22		0.005	45			1200	400	0.1 1.0	/ 74
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				

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	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	81	1.12	Emsco	152	254	81	1.12	17300	35.4	63.8	43.3	63.80

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	0.25	Lignite	3	
6.80 °	@	2565.11 m	329.70	DRILLING	18.50	Driscac	2	
°	@	m		CIRCULATE	1.75	Starpak	4	
°	@	m		TRIPPING	2.75	Pot Sulf	92	
°	@	m		RIG SERV	0.25	Sod Sulf	2	
°	@	m		BOP DRILL	0.25	Biocide	2	
°	@	m		DRLG OUT		Corinox	2	
°	@	m		REPAIRS		Percol 728		
°	@	m		SURVEYING	0.25	Lime		
°	@	m		WORK HOLE		Barite	84	
°	@	m			INSPE DC	Caustic	1	
°	@	m			TOTAL HOURS: 24.00	Alcomer110	3	

MUD COMMENTS: Polymer = 2.3 kg/m3, K+ion = 27000, Sulfite = 300.

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

2000.12.03 @ 00:00 Hours:

Continued to drill 311mm hole from 2569-2571mKB with an average ROP of .6m/hour and a drilling torque of 16000-18000 ft# to 03:30 hours. Picked up off bottom checked MWD screen. No signs of shale or washing out to 03:45 hours. Drilled 311mm hole from 2571-2572mKB with an average ROP of

.5m/hour with a drilling torque between 17000-18000 ft# to 06:30 hours. Performed rig service to 06:45 hours. Cleaned back to bottom to 07:00 hours. Resumed drilling 311mm hole from 2572-2574mKB with an average ROP of .6m/hour and a drilling torque of 17000-19000 ft# to 10:30 hours. Held BOP drill with daylight crew to 10:45 hours. Performed survey to

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: 00/12/04
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 122 DEPTH: 2577.00 m PROGRESS: 8.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -26 °C
8:00 a.m. OPERATION: Tripping in hole with BIT #35C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

11:00 hours. Resumed drilling 311mm hole from 2574-2576mKB with an average ROP of .4m/hour and a drilling torque between 18000-20000 ft# to 15:45 hours. Picked up off bottom checked pipe screen to 16:00 hours. Continued to drill 311mm hole from 2576-2576.8mKB with an average ROP of .3m/hour and a drilling torque between 18000-20500 ft#. Picked up off bottom because of pipe stalling to 19:00 hours. Picked up off bottom. Cycled pumps. Reset MWD tool to 19:15 hours. Resumed drilling 311mm hole from 2576.8-2577.5mKB with an average ROP of .3m/hour and a drilling torque between 19000-22000 ft#. Geologist looked at sample at 2577mKB and said that this sample was softer than the previous 2575mKB sample so the decision was made to trip out of hole to check the bit to 20:15 hours. Circulated while preparing to trip out of hole to 21:00 hours. Trip out of hole from 2577-2150mKB flow check, no tight hole reported to 22:45 hours. Broke circulation pumped pill to 23:00 hours. Continued to hoist out of hole from 2150mKB-1433mKB at 23:59 hours 2000.12.03.

- Note 1: Safety topic with crews was proper steam use.
- Note 2: Checked crown saver, fasline clamp, deadline anchor.
- Note 3: Maximum experienced hookload was 155,000 daN.
- Note 4: No mud loses to well reported last 24 hours.
- Note 5: No slivers at shale shakers reported while drilling.
- Note 6: Maximum overpull allowed remains at 190640 daN.
- Note 7: Hole drag: 20-25000 daN up and down.
- Note 8: Bit #34C was in very bad shape. Inner and outer inserts were graded 8. Bearing failute in all 3 cones. Ran bit #35C, HP62A, 6-2-7.

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: 00/12/03

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

CPA NO.: 300C316040123300

DAY: 121

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: Light snow

TEMP: -20 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2569.00 m

PROGRESS: 3.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2574.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 72196 CUMULATIVE COST: \$ 11604846

BHA

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 3 PT REAMER	1 NMDC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS	
LENGTH: 271.75 m	WT. BELOW JARS: 15000 daN	JAR HRS: 3.5	JAR SERIAL #: 10154	

TOTAL ROTATING HOURS: 1535.4

WT. ON BIT: 33000 daN

ROTARY RPM: 65

STRING WT.: 113000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT WT daN	RPM	CUTTING STRUCT				REMARKS		
					1	2	3	IN	OUT			DRL	RMD			L	D	L	B		G	D
33c	311.0	REED	MM9284	HP61A	11.1	11.9	11.9	2537	2566	29	0.6	46.25	2.00	32-33	60	3	3	WT A	F	I	CC	WD
34C	311.0	J&L	JO7018	ATJ44	19.1	19.1	19.1	2566		3	0.9	3.50		30-32	60							
										0												

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

M

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FG mm	PWMP	GELS O/L	Tot. Sol. kg/m3	Dil'd Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT	
																MEI	MFO	
106	1635'	10.5	9.5	2.0	22' 37.0	32.'40.	0.23		0.005	46			1300	400	0.1	1.2		' 64
	/				/	/												/
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		JET	
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	RHP
Emsco	152	254	80	1.11	Emsco	152	254	80	1.11	17300	35.1	63.2	42.9	62.10

SURVEYS			TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH			PRESS TEST	4.50	HNDL TOOLS	4.00	Lignite	
° @	m		DRILLING	3.50	SLIP & CUT		Driscopac	
° @	m		CIRCULATE	2.50	REAMING		Starpak	
° @	m		TRIPPING	9.50	COND MUD		Pot Sulf	
° @	m		RIG SERV		CLN TO BTM		Sod Sulf	
° @	m		BOP DRILL				Biocide	
° @	m		DRLG OUT				Corinox	
° @	m		REPAIRS				Percol 728	
° @	m		SURVEYING				Lime	
° @	m		WORK HOLE		INSP DC		Barite	
° @	m		TOTAL HOURS: 24.00				Desco	
							Alcomer110	

MUD COMMENTS: Polymer=2.5kg/m3- K-ion=24000- Sulfite=260

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

2000.12.02 @ 00:00 hours

Continued with pressure test. Hoist out of hole with RTTS

acker and lay packer down to 03:00 hours. Picked

up and made up test plug. Set at 03:30 hours 2000.12.02.

Pressure tested BOP'S to a low pressure of 1500kPa and a

high pressure of 13000kPa. Test included annular preventer,

Top Pipe Rams, Bottom Pipe Rams, Blind Rams, Choke, Kill lines, valves, Choke manifold all valves. All tests were held for 10 minutes. Last test was the accumulator function test which tested O.K. to 07:00 hours 2000.12.02. Picked up and installed wear bushing to 08:00 hours. Picked up new 311mm bit and new BHA to 11:00 hours. Continued to trip in

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: 00/12/03

LOCATION: 300-C31-6040-12330-0

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

DAY: 121 DEPTH: 2569.00 m PROGRESS: 3.00 m CPANO: 300C316040123300

WEATHER: Light snow

TEMP: -20 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

hole to 375mKB to 13:15 hours. Filled pipe and unthaw shaker tee to 14:00 hours. Continued to trip in hole to 780mKB to 15:00 hours. Filled pipe and tested MWD tool with a pulse of 130psi to 15:30 hours. Continued to trip in hole to 2554mKB filling pipe every 500 meters to 18:45 hours. Broke circulation and washed 12 meters to bottom. Fill on bottom was 2 meters. Continued to drill 311mm hole from 2566-2569mKB with an average torque of 16,000 ft/lbs, ROP of 0.6 m/hour, still in the Horn River formation at 23:59 hours 2000.12.02.

NOTES:

- (1) While washing to bottom slivers were 3" long and chunks of shale were 1"x 1" it took 2 bottoms up to clear up.
- (2) Bottoms up gas went to a high of 2.5%.
- (3) Maximum experienced hook load was 130,000daN.
- (4) Maximum overpull allowed with E2 pipe in hole is 190,640daN.
- (5) No mud loses to well reported last 24 hours.
- (6) Safety topic with crews was tripping and cold weather conditions.
- (7) Checked crown saver, fastline clamp, deadline anchor.
- (8) Hole drag remains at 20-25000daN up and down.

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: 00/12/02

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

CPA NO.: 300C316040123300

DAY: 120

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

TEMP: -20 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2566.00 m

PROGRESS: 2.00 m

PBD: m

FORMATION:

8:00 a.m. DEPTH: 2566.00 m

8:00 a.m. OPERATION: Making up BHA

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 78142 CUMULATIVE COST: \$ 11532650

B
H
A

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS

TOTAL
ROTATING
HOURS: 1531.9

LENGTH: 272.97 m WT. BELOW JARS: 15000 daN JAR HRS: 269.2 JAR SERIAL #: 10883

WT. ON BIT: 33000 daN

ROTARY RPM: 65

STRING WT.: 113000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

B
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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	RMD	WT daN	RPM	1	2	3	4	5	6	7	8
33c	311.0	REED	MM9284	HP61A	11.1	11.9	11.9	2537	2566	29	0.6	46.25	2.00	32-33	60	3	3	WT	A	F	I	CC	WO
										0				-									
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.85

CORRECTION: YES [] NO [x]

M

VISCOSITY Sec/L	DENSITY IN/OUT	pH	Wt cc/30min	FO mm	PV/VP	GELS O/10	Tot Sol. kg/m3	Dia Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MEI MFD	°C IN/OUT
90	1635/	10.2	9.0	2.0	24/ 38.0	36./40.	0.23		0.005	46			1200	380	0.1 1.2	/ 78
	/				/	/										/
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
HR IN		kg/m3	OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3	

P
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P

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	127	254	100	0.87	Emsco	127	254	100	0.87	19550	27.5	49.5		0.00

SURVEYS			TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH			PRESS TEST	2.00	HNDL TOOLS	2.50	Lignite	3
6.70 °	@	2557.67 m	DRILLING	3.25	SLIP & CUT		Drispac	1
°	@	m	CIRCULATE	1.25	REAMING		Starpak	2
°	@	m	TRIPPING	14.25	COND MUD		Pot Sulf	20
°	@	m	RIG SERV	0.50	CLN TO BTM		Sod Sulf	
°	@	m	BOP DRILL				Biocide	
°	@	m	DRLG OUT				Corinox	
°	@	m	REPAIRS				Percol 728	
°	@	m	SURVEYING	0.25			Lime	
°	@	m	WORK HOLE		INSP DC		Barite	400
°	@	m			TOTAL HOURS:	24.00	Desco	2
							Alcomer110	

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.)

2000/12/01a 00:00 hrs: Rig serviced top drive to 00:15 hrs.

Worked tight hole on way back to bottom after connection

00:45 hours. Drilled 311mm hole from 2564mKB to 2565mKB to

2:00 hours. Circulated with #1 pump while working

on lubricator pump on #2 pump to 02:15 hours. Continued to

drill 311mm hole from 2565mKB-2566mKB to 04:15 hours. Survey

to 04:30 hours. Work tight hole back to bottom after survey.

Once back on bottom lost 1200-1400 kPa pump pressure. Picked

back up off bottom. Regained lost pressure. Went back to

bottom, lost 1200-1400 kPa once again which indicated jars

were washed out. Hoisted out of hole from 2566

mKB working through tight spots from 2400mKB-2350mKB and

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: 00/12/02

LOCATION: 300-C31-6040-12330-0

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

DAY: 120

DEPTH: 2566.00 m

PROGRESS:

2.00 m

CPANO: 300C316040123300

WEATHER: Overcast

TEMP: -20 °C

8:00 a.m. OPERATION: Making up BHA

DRILLING & GEOLOGICAL REMARKS (Cont'd)

from 2250mKB-2150mKB. Hoisted out of hole for wash out with no more problems. Once out found jars were washed out in the seal area around the mandrill. Laid down jars. Inspected 311mm bit to 17:30 hours. Rig serviced. Made up wear bushing retriever and pulled wear bushing. Inspected O.K. to 19:00 hours. Made up RTTS packer and tripped in to 705mKB. Strapped pipe on way in. Pressure tested casing to low pressure, 1500 kPa for 10 minutes, OK. Pressure tested casing to 7000 kPa high pressure for 10 minutes against the lower pipe rams, O.K. to 23:59 hours 2000/12/01

NOTES:

- (1) Trip record measured volume 21.57m³ calculated volume 15.90m³ difference 5.67m³. (Trip out of hole was wet)
- (2) Maximum experienced hook load was 155,000 daN.
- (3) Maximum overpull allowed with E2 pipe = 178571daN.
- (4) Function tested blind rams when out of hole 6 seconds to close. (Closed blind rams before breaking off 311mm bit)
- (5) No slivers reported at shale shakers.
- (6) No mud losses to well reported last 24 hours.
- (7) Safety topic with crews was tripping and H2S drills.
- (8) Hole drag up and down 20-25,000daN.
- (9) Changed liners in pumps to 152mm.

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: 00/12/01	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 119	
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: -18 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2564.00 m		PROGRESS: 10.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 2566.00 m		8:00 a.m. OPERATION: Pulling out of hole for suspected wash out.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 60409 CUMULATIVE COST: \$ 11454508

B
H
A

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS
LENGTH: 272.97 m	WT. BELOW JARS: 15000 daN	JAR HRS: 266.0	JAR SERIAL #: 10883	

TOTAL
ROTATING
HOURS: 1528.7

WT. ON BIT: 33000 daN ROTARY RPM: 65 STRING WT.: 113000 daN

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

228 H90 9
171 H90 15

B
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T
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	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
33C	311.0	REED	MM9284	HP61A	11.1	11.9	11.9	2537		27	0.6	46.25	2.00	32-33	60								
										0				-									
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

M
J
D

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PVMP	GELS O/L	Tol Sol. kg/m3	Dnd Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	DIL %	Cl ppm	Ca ppm	ALKALINITY ME MFO	°C IN/OUT
90	1635/	10.2	9.0	2.0	24/ 38.0	36./40.	0.23		0.005	46			1200	380	0.1 1.2	/ 78
	/				/	/										/
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
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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	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	127	254	100	0.87	Emsco	127	254	100	0.87	19550	27.5	49.5	90.5	216.83

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	Lignite	8
6.40 °	@ 2548.08 m	332.90	DRILLING 17.75	SLIP & CUT	Drispac	3
°	@ m		CIRCULATE 5.75	REAMING	Starpak	6
°	@ m		TRIPPING	COND MUD	Caustic	2
°	@ m		RIG SERV 0.25	CLN TO BTM	Sod Sulf	2
°	@ m		BOP DRILL		Biocide	2
°	@ m		DRLG OUT		Corinox	2
°	@ m		REPAIRS		Percol 728	1
°	@ m		SURVEYING 0.25		Lime	1
°	@ m		WORK HOLE	INSP DC	Barite	168
°	@ m			TOTAL HOURS: 24.00	Desco	4
°	@ m				Alcomer110	2

MUD COMMENTS: Polymer - 3.0 kg/m3, K+Ion - 25000, 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.)

2000.11.30 @ 00:00 Hours:

Worked pipe to bottom after connection to 00:30 hours.

Resumed drilling from 2554-2555mKB to 01:15 hours.

Circulated with #2 pump while changing seat and valve in

#1 pump to 01:45 hours. Drilled 311mm hole from 2555-2557mKB

to 04:30 hours. Surveyed to 04:45 hours. Drilled 311mm hole

from 2557-2558mKB to 07:00 hours. Circulated with #1 pump

while changing out a valve in #2 pump to 07:15 hours.

Drilled 311mm hole from 2558-2561mKB to 14:00 hours.

Circulated with #1 pump while repairing suction line on #2

pump to 16:00 hours. Circulated with #2 pump while changing

a head on #1 pump to 16:30 hours. Drilled 311mm hole from

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: 00/12/01
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 119 DEPTH: 2564.00 m PROGRESS: 10.00 m CPANO: 300C316040123300
WEATHER: Clear TEMP: -18 °C
8:00 a.m. OPERATION: Pulling out of hole for suspected wash out.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2561-2563mKB to 19:15 hours. Picked up and checked pipe screen which showed no signs of plugging off or washing to 19:30 hours. Circulated with #1 pump while changing seat and valve in #2 pump. Circulated with #2 pump while changing seat and valve in #1 pump to 21:15 hours. Drilled 311mm hole from 2563-2564mKB to 23:45 hours with an average ROP of .6m/hour with a drilling torque between 10,000-20,000 ft#. Rig serviced top drive to 23:59 hours 2000.11.30.

Note 1: Safety topic with crews was working on pumps and forklift operation.

Note 2: Maximum experienced hook load was 155,000 daN.

Note 3: Maximum overpull allowed with E2 pipe = 178571 daN.

Note 4: Function tested lower pipe rams, 8 seconds closing time.

Note 5: No slivers reported at shale shakers.

Note 6: Hole remains tight after connections with an average 1/2 hour to get back to bottom. Torque off bottom and on bottom 10-20,000 ft# with an average torque of 15,000 ft# while drilling.

Note 7: No mud losses to well reported last 24 hours.

Note 8: Hole drag up and down 20-25,000 daN.

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: 00/11/30

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

CPA NO.: 300C316040123300

DAY: 118

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: -15 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2554.00 m

PROGRESS: 10.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 2558.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 79629 CUMULATIVE COST: \$ 11394099

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS

TOTAL ROTATING HOURS: 1511.0

LENGTH: 272.97 m WT. BELOW JARS: 15000 daN JAR HRS: 248.2 JAR SERIAL #: 10883

WT. ON BIT: 33000 daN

ROTARY RPM: 65

STRING WT.: 113000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

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			DEL	RMD	WT daN	RPM	I	O	D	L	B	G	O	R	
32CR	311.0	RBI	BX236	C3ALRG	11.1	11.9	11.9	2517	2537	20	0.7	27.75	4.75	33-34	75	8	8	Ct	A	F	I	Bt	TQ	
33C	311.0	REED	MM9284	HP61A	11.1	11.9	11.9	2537		17	0.6	28.50	2.00	32-33	60									
										0				-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FO mm	PWYP	GELS O/10	Tot. Sol. kg/m3	Dril. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
108	1630/	10.6	9.2	2.0	22/ 39.0	38./41.	0.21		0.005	47			1200	380	0.2	1.3	/ 78
93	1620/	10.3	9.8	2.0	20/ 34.0	34./37.	0.21		0.005	45			1200	360	0.2	1.2	/ 78

CENTRIFUGE				DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED	
4 HR IN	1630 kg/m3	OUT	1610 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	127	254	102	0.89	Emsco	127	254	102	0.89	20330	28.1	50.7	92.6	230.71	

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES			
AZIMUTH				PRESS TEST				Lignite			
6.20 °	@	2538.41 m	329.40	HNDL TOOLS				Drispac			
°	@	m		DRILLING 18.00				Starpak			
°	@	m		SLIP & CUT				Caustic			
°	@	m		CIRCULATE 2.75				Sod Sulf			
°	@	m		REAMING				Biocide			
°	@	m		TRIPPING				Corinox			
°	@	m		COND MUD				Percol 728			
°	@	m		RIG SERV 0.75				Lime			
°	@	m		CLN TO BTM				Barite			
°	@	m		BOP DRILL				Desco			
°	@	m		DRLG OUT				Alcomer110			
°	@	m		REPAIRS							
°	@	m		SURVEYING 0.50							
°	@	m		WORK HOLE 2.00							
°	@	m		INSP DC							
°	@	m		TOTAL HOURS: 24.00							

MUD COMMENTS: K+Ion = 25000, Sulfite = 250, Polymer = 2.8. Strip 10m3 of mud.

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

2000.11.29 @ 00:00 Hours:

Drilled from 2544-2554mKB with surveys. Drilled to 2545mKB with no high torque or stalling of the drill string, made a connection at this point. While pulling up the hole drag was 20000 daN, still no stalling, but when going down the drill string began to stall, worked this area for 1 hour before

drilling ahead continued. During drilling the torque was from 8000 ft# (10848 Nm) to stalling, after connection could not achieve same smooth drilling as before connection. Drilled to 2546.8mKB and #2 pump went down with a washed head end seat. While working on the pump, worked hole with an RPM of 80, pulling up to 140000 daN (27000 daN over

SUPERVISOR: LEBUEF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:

CD 08/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/11/30
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 118 DEPTH: 2554.00 m PROGRESS: 10.00 m CPANO.: 300C316040123300
WEATHER: Clear TEMP: -15 °C
8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

string weight), drill string was still stalling, went back drilling after 50 minutes. After the repairs to the pump, the torque decreased to 9000 ft# (12204 Nm) to 15000 ft# (20340 Nm), with 33000 daN WOB. Drilling was smoother from this point on. Surveyed at 2547.51mKB (survey depth was 2538.41mKB), pulling 128000 daN (15000 daN over string weight) and no stalling. Went back to bottom with no problems after surveying. While drilling after survey the torque remained at 9000 ft# (12204 Nm) to 15000 ft# (20340 Nm) to 2550.2mKB with no stalling. At 2550.2mKB, experienced a drilling break. The ROP went from .6-1.3m/hour over three fifths of a drilled metre. Halted drilling and circulated up a sample. The Geologist reported 100% shale with dark to very dark grey colored, sub fissile to fissile, medium hard to hard, common very dark grey carbonaceous/bituminous partings, common clear white euhedral calcite and quartz crystal growth, trace intercrystalline fracture porosity. After sample description had been reviewed, was then instructed to go back drilling. During this time worked tight hole with a large amount of blockly and short slivers coming over the shale shaker. At times could not go back to bottom and numerous drill string stalls, back drilling after 3 hours of working the hole. Began drilling at 2550.2mKB, torque was high at the start but decreased to 9000 ft# (12204 Nm) to 15000 ft# (20430 Nm), drilling was alot smoother once again. Drilled to 2554mKB at 24:00 hours 2000.11.29.

- Note 1: No volume losses.
- Note 2: No flow increase during drilling break.
- Note 3: No decrease or increase in pump pressure during drilling break.
- Note 4: Maximum experienced hookload = 160000 daN.
- Note 5: Hole drag while drilling: 15000-20000 daN both up and down.
- Note 6: Maximum hoisting limits: Drill pipe=178571 daN, Mast=235800 daN.
- Note 7: Safety Topics: Pipe screens, safety glasses.
- Note 8: Functioned upper pipe rams, closed in 6 seconds.
- Note 9: Each time the drill string gets to bottom the torque is high, but after one to two fifth of metre torque decreases.
- Note 10: Made a connection at 2554.83mKB, worked hole 1 hour before getting back to drilling.

REPORTED BY: LEBUEF/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: 00/11/29	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 117	
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: -13 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2544.00 m		PROGRESS: 7.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2547.00 m		8:00 a.m. OPERATION: Drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 81886 CUMULATIVE COST: \$ 11314470

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS

TOTAL ROTATING HOURS: 1493.0

LENGTH: 272.97 m WT. BELOW JARS: 15000 daN JAR HRS: 230.2 JAR SERIAL #: 10883

WT. ON BIT: 33000 daN ROTARY RPM: 65 STRING WT.: 113000 daN

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

 228 H90 9
171 H90 15

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT WEIGHT	RPM	CUTTING STRUCT.								REMARKS
					1	2	3	IN	OUT		DRL	RMD			I	S	D	L	S	G	O	A	
32CR	311.0	RBI	BX236	C3ALRG	11.1	11.9	11.9	2517	2537	20	0.7	27.75	4.75	33-34	75	8	8	Ct	A	F	I	Bt	TQ
33C	311.0	REED	MM9284	HP61A	11.1	11.9	11.9	2537		7	0.6	11.50	2.00	32-33	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 mm	PV/VF	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 MFL MFO		°C IN/OUT
90	1635/	10.0	11.2	2.0	26/ 34.0	31./34.	0.21		0.005	47			1200	320	0.1	1.1	/ 78
	/				/	/											/

D	CENTRIFUGE				DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPER
	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	LINEAR mm	STROKE mm	SPM	m3/MIN	MODEL	LINEAR mm	STROKE mm	SPM	m3/MIN	kPa	DP m/min	OC m/min	VELOCITY m/sec	HHP
Emsco	127	254	100	0.87	Emsco	127	254	100	0.87	19930	27.5	49.5	90.5	216.83

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite		
° @	m		DRILLING 11.50	SLIP & CUT 0.75		Drispac 1		
° @	m		CIRCULATE	REAMING 2.25		Starpak 1		
° @	m		TRIPPING 8.25	COND MUD		Caustic 1		
° @	m		RIG SERV	CLN TO BTM		Sod Sulf 1		
° @	m		BOP DRILL			Biocide 1		
° @	m		DRLG OUT			Corinox 1		
° @	m		REPAIRS			Gel		
° @	m		SURVEYING			Soda Ash		
° @	m		WORK HOLE 1.25	INSP DC		Barite		
° @	m		TOTAL HOURS: 24.00			Desco		
						Alcomer110		

MUD COMMENTS: K+Ion = 25000, 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.)

2000.11.28 at 00:00 Hours:

Hoisted. Out of hole at 00:50 hours. Inspected reamers. They were in gauge and in good shape. Changed bit. Ran in hole. Tested MWD tool at 712mKB. The pulses were 60 psi. After testing MWD tool, slipped and cut drilling line. While running back in had no hole problems, reamed the last stand

in. Experienced difficulty getting back to bottom. The torque was 16000 ft# to stalling, 5m off bottom. At times pulling 150000 daN before string would rotate. Appears some object jammed along bit or bottom drill collar. Stand pipe pressure was 19800 kPa with 100 strokes per pump. Would get to bottom at times and the drill string would bounce, like

SUPERVISOR: LEBUEF/PICHE

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PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/11/29

LOCATION: 300-C31-6040-12330-0

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

DAY: 117

DEPTH: 2544.00 m

PROGRESS:

7.00 m

CPANO: 300C316040123300

WEATHER: Clear

TEMP: -13 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

it was rotating on some foreign object. Picked up and rolled the reamers back and forth and went to bottom. This method seemed to work as no more bouncing of the drill string occurred. The torque decreased to 9000-15000 ft# range. Began drilling after this point. Worked pipe for 3 hours in total. Started drilling at 12:15 hours. Drilled from 2537-2544mKB to 24:00 hours 2000.11.28.

- Note 1: Torque while drilling: 4000 ft# (5424 Nm) to 16000 ft# (21696 Nm)
Note 2: Hole drag while drilling: 15000-20000 daN both up and down.
Note 3: String weight: 113000 daN.
Note 4: Maximum hoisting limits: Drill pipe = 178571 daN.
Mast = 235800 daN.
Note 5: 4 metres of fill.
Note 6: Trip record: Measured: 19.32m³, Calculated: 14.01m³,
Difference: 5.31m³.
Note 7: Safety Topic: Reaming and changing tong dies.
Note 8: Maximum hookload experienced: 155000 daN.
Note 9: No volume losses.
Note 10: No high torque during drilling, but the drill string did stall once at 2542.55mKB.

REPORTED BY: LEBUEF/PICHE

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PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/11/28

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

CPA NO.: 300C316040123300

DAY: 116

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: -20 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2537.00 m

PROGRESS: 7.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2537.00 m

8:00 a.m. OPERATION: Running in the hole with bit #33C.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 61901 CUMULATIVE COST: \$ 11232584

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MUD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	5 228mm DC	1 X/O SUB	17 178mm DCS

TOTAL ROTATING HOURS: 1481.5

LENGTH: 272.97 m WT. BELOW JARS: 15000 daN JAR HRS: 218.7 JAR SERIAL #: 10883

WT. ON BIT: 34000 daN

ROTARY RPM: 75

STRING WT.: 112000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

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			DAL	RMD		WT daN	RPM	I	Q	D	L	B	G	O	R	
32CR	311.0	RBI	BX236	C3ALRG	11.1	11.9	11.9	2517	2537	20	0.8	27.75	4.75	33-34	75	8	8	Ct	A	F	I	Bt	TQ		
33C	311.0	REED	MM9284	HP61A	11.1	11.9	11.9	2537		0				-											
										0				-											

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY g/cm3	pH	WL cc/30min	FC mm	PUMP Q/H	GELS Q/H	Tot Sol. kg/m3	Dril Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY MFI	MPH	°C IN/OUT
100	1635/	10.7	8.8	2.0	20/ 38.0	30./34.	0.22		0.005	44			1200	320	0.2	1.3	/ 78
98	1635/	10.6	9.2	2.0	19/ 33.0	28./32.	0.22		0.004	44			1200	320	0.1	1.3	/ 78
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	127	254	108	0.94	Emsco	127	254	108	0.94	23030	29.7	53.5	97.8	273.49	

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST		HNDL TOOLS		Lignite	8
5.60 °	@	2528.92 m	328.86	DRILLING	9.75	SLIP & CUT		Drispac	4
°	@	m		CIRCULATE		REAMING 1.75		Starpak	4
°	@	m		TRIPPING	8.25	COND MUD		Caustic	4
°	@	m		RIG SERV	0.50	CLN TO BTM		Sod Sulf	2
°	@	m		BOP DRILL				Biocide	4
°	@	m		DRLG OUT				Corinox	2
°	@	m		REPAIRS				Gel	76
°	@	m		SURVEYING	0.25			Soda Ash	2
°	@	m		WORK HOLE	3.50	INSP DC		Barite	420
°	@	m				TOTAL HOURS: 24.00		Desco	4
								Alcomer110	1

MUD COMMENTS: K+Ion = 25000, 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.)

2000.11.27 @ 00:00 Hours:

Drilled from 2530-2537mKB with surveys and checking pipe screens every 3 hours. After checking pipe screen, at a depth of 2531mKB, had difficulty getting back to bottom as the drill string was stalling (drill string will stall at 20000 ft#), WOB was 27000 daN, worked this area for 35

minutes before getting back to bottom. Once on bottom the torque was 9000-17000 ft#, while on bottom drilling the drill string stalled 3 times before drilling smoothed out. Checked pipe screen again at 2533.80mKB. Experienced the same problems as before trying to get back to drilling. At a depth of 2534.80mKB, stalling of the drill string while

SUPERVISOR: LEBUEF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/11/28
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 116 DEPTH: 2537.00 m PROGRESS: 7.00 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: -20 °C
8:00 a.m. OPERATION: Running in the hole with bit #33C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

drilling occurred, but just picked up 1m before rotary resumed. Pulled 145000 daN. Made a connection at 2536.92mKB. Again had problems getting back to bottom as the drill string was stalling and pulling 140000 daN, worked tight hole for 1.5 hours. Circulated and worked on top drive, #1 pump for 1 hour, back drilling after 2.5 hours. During drilling the stalling became more frequent. At 2536mKB surveyed. (Survey depth was 2528.92mKB.) Again had difficulty getting back to bottom, off bottom torque was from 16000-18000 ft#, on bottom torque was from 16000 ft# to stalling. Could not get back to drilling after 1.5 hours of working the drill string. During this period, normal drill cuttings were coming over the shale shaker. Circulated bottoms up. Hoisted out due to high torque at 15:45 hours. Pumped out with just 1 pump from 2537-2430mKB, maximum pull was 140000 daN. From this point on no pump was needed as the hole was good. Pumped pill at 2179mKB. Hoisted out to 24:00 hours 2000.11.27.

Note 1: No volume losses.

Note 2: Torque: 16000-20000 ft#.

Note 3: Hole Drag: 15000 daN up and down, when pulling tight=14000 daN up.

Note 4: Maximum hoisting limits: Drill pipe=177571 daN.
Mast=235800 daN.

Note 5: Safety Topics: Tripping and driving of the crew truck.

Note 6: BHA weight=43000 daN.

Note 7: String weight=112000 daN.

Note 8: Out of the hole 2000.11.28 @ 00:50 hours. Both reamers were in gauge. The bit was in bad shape as the 3rd cone was locked up, all inserts on the cones were chipped or broken on outer and middle rows. Cones 1 and 2 had bearing failure. The next bit to be run will be a Reed HP61A, with 1-11.1, 2-11.9 jets.

REPORTED BY: LEBUEF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/11/27

LOCATION: 300-C31-6040-12330-0

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

DAY: 115 DEPTH: 2530.00 m

PROGRESS: 13.00 m

CPANO: 300C316040123300

WEATHER: Fog

TEMP: -16 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2519.83mKB the torque dropped from 16000 ft# to 11000 ft#, pump pressure ROP and flow did not change, this could be due to the water loss dropping from 11.5 cc's to 8.5 cc's. Drilled from 2519.83-2527.25mKB and made a connection. At this point had problems getting back to bottom as the rotary was stalling 2m to 3m from bottom, worked this area, once on bottom the rotary stalled once, did not pick up as the rotary resumed on its own. Worked pipe for 1.5 hours before drilling could continue. Normal drill cuttings were coming over the shaker. Surveyed at 2527.25mKB. Survey depth was 2519.50mKB. Drilled with no problems and no stalling of the drill string from 2527.25-2530mKB at 24:00 hours 2000.11.26.

Note 1: Checking pipe screen every 3 hours.

Note 2: Taking samples every 2.5 metres until the Nahanni comes in.

Note 3: No volume losses.

Note 4: Maximum experienced hookload = 150000 daN.

Note 5: Worked on #1 pump, washed suction valve.

Note 6: Hole drag: 15000 daN up, 15000 daN down.

Note 7: Torque: 11000 ft# to 18000 ft#.

Note 8: Safety Topic: Stop cards.

Note 9: Maximum hoisting limits: Drill pipe = 177571 daN.

Mast = 235800 daN.

REPORTED BY: LEBUEF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:



DAILY DRILLING REPORT

DAILY DRILLING REPORT									
WELL NAME: CDN FOREST ET AL NORTH LIARD C-31					LOCATION: 300-C31-6040-12330-0			DATE: 00/11/26	
U.W.I.: 300-C31-6040-12330-0					CPA NO.: 300C316040123300			DAY: 114	
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: Snowing		TEMP: -13 °C		FINAL TD: m		FORMATION:			
Midnight DEPTH: 2517.00 m		PROGRESS: 0.00 m		PBTD: m		FORMATION:			
8:00 a.m. DEPTH: 2520.00 m		8:00 a.m. OPERATION: Drilling 311.1mm hole.							

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 50463 CUMULATIVE COST: \$ 11114111

1	311 mm	1	Bit Sub	1	RESTRIC.SUB	1	MONEL MWD	1	ISOLATION SU
1	NON MAG DC	1	SHOCK SUB	1	3PT REAMER	1	228mm DC	1	3PT REAMER
2	228mm DC	1	JARS	5	228mm DC	1	X/O SUB	17	178mm DCS
LENGTH: 272.97 m		WT. BELOW JARS: 15000 daN		JAR HRS: 191.0		JAR SERIAL #: 10883			

TOTAL ROTATING HOURS: 1453.8

LENGTH: 272.97 m WT. BELOW JARS: 15000 daN JAR HRS: 191.0 JAR SERIAL #: 10883

WT. ON BIT: 35000 daN

ROTARY RPM: 75

STRING WT.: 111500 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228	H90
171	H90

9
15

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTS	MTS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT				REMARKS			
					1	2	3	IN	OUT			DAL	RMD	WTdAn	RPM	I	O	D	L	B	G	Q	R
32C	311.0	RBI	BX236	CSALRG	11.1	11.9	11.9	2517	2517	0					3- 7	75							
32CR	311.0	RBI	BX236	CSALRG	11.1	11.9	11.9	2517		0				4.75	2- 3								
										0					-								

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PVMP	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 MFI MFO	°C IN/OUT
122	1655/	9.7	8.8	2.0	22/ 36.0	36./44.	0.22		0.005	40			1200	400	0.1 1.0	/ 60
112	1645/	10.0	9.0	2.0	21/ 36.0	30./36.	0.22		0.005	40			1200	400	0.1 1.0	/ 78

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

PUMP	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	DP m/MIN	DC m/MIN	VELOCITY m/sec	MHP
PUMP	Emsco	127	254	100	0.87	Emsco	127	254	100	0.87	22030	27.5	49.5	90.5	218.82

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES
		AZIMUTH	PRESS TEST	HNDL TOOLS		Lignite
5.60 ° @	2511.00 E	334.50	DRILLING	SLIP & CUT		Drispac
° @	E		CIRCULATE	3.00 REAMING	4.75	Starpak
° @	E		TRIPPING	3.50 COND MUD		Caustic
° @	E		RIG SERV	CLN TO BTM		Sod Sulf
° @	E		BOP DRILL			Biocide
° @	E		DRLG OUT			Corinox
° @	E		REPAIRS			Percol 728
° @	E		SURVEYING			Pot Sulf
° @	E		DIR WORK	INSP DC	12.75	Barite
° @	E		TOTAL HOURS:	24.00		Desco
						Chemcide

MUD COMMENTS: K+ION=24000, 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.)

2000.11.25@ 00:00 hrs: Inspected the drill collars and HWDP while running in the hole. A total of 5 collars laid down. One 228mm drill collar had a cracked pin end. It was the second collar down from crossover sub (178mm to 228mm). One 178mm drill collar had a cracked box end, it was the first collar above the crossover (178mm to 228mm). The 2nd 178mm drill

collar had pulled threads, location was the 8th drill collar up from crossover (178mm to 228mm). The 3rd 178mm drill collar had pulled threads as well, location was 11th drill collar up from crossover sub. The 4th drill collar had a cracked box end, location was the 13th drill collar up from the crossover sub (178mm to 228mm).

SUPERVISOR: LEBUEF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/11/26

LOCATION: 300-C31-6040-12330-0

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

DAY: 114

DEPTH: 2517.00 m

PROGRESS:

0.00 m

CPA NO: 300C316040123300

WEATHER: Snowing

TEMP: -13 °C

8:00 a.m. OPERATION: Drilling 311.1mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Ran in the hole to 710mKB and tested MWD tool, 70 psi pulses were recorded with a stand pipe pressure of 16900kPa. At 1245mKB tested MWD tool and the pulses were 70 psi, with a stand pipe pressure of 17840kPa. Tested MWD tool once again at 1905mKB, 60 psi pulses were recorded at a stand pipe pressure of 19200kPa. Began reaming and logging Gamma from 2479mKB to 2517mKB. During reaming large blocky cuttings came over the shale shaker, 1/2" thick by 3/4" long and wide, amount was 25% of shaker bed area. Best reaming is with 2000 - 3000 daN, any more weight than that the rotary would stall. Reamed to 2510mKB at 24:00 hrs 2000.11.25.

Notes:

- *Trip in the hole was good, with no problems.
- *As reaming continued the blocky cuttings decreased in size and volume.
- *Logging Gamma with 72 psi pulses.
- *Stand pipe pressure was 22030kPa, with 100 strokes per pump, flow rate was 1.74m³/min (using 90% pump efficiency).
- *Picked up 6 178mm drill collars, 2-178mm to replace the 228mm drill collar 4 to replace the 4 that were laid down.
- *Torque during reaming: 10000 ft-lbs to 18000 ft-lbs.
- *Maximum hoisting limits: Drill pipe=177071daN.
Mast=235800daN
- *Safety topic: High pressure lines.
- *Maximum experienced hookload=150000daN.

REPORTED BY: LEBUEF/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: 00/11/25

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

CPA NO.: 300C316040123300

DAY: 113

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

TEMP: -12 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 2517.00 m

PROGRESS: 0.00 m

PBTD: m FORMATION:

8:00 a.m. DEPTH: 2517.00 m

8:00 a.m. OPERATION: Run in hole with bit #32C, inspecting collars on way in.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 81425 CUMULATIVE COST: \$ 11063648

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A

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	6 228mm DC	1 X/O SUB	15 178mm DCS

LENGTH: 263.06 m WT. BELOW JARS: 15000 daN JAR HRS: 191.0 JAR SERIAL #: 10883

WT. ON BIT: 35000 daN

ROTARY RPM: 75

STRING WT.: 112000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228	H90	9
171	H90	15

B
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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	O	R	
32c	311.0	RB1	BX236	C3ALRG	11.1	11.9	11.9	2517	2517	0				3-7	75									
32cr	311.0	RB1	BX236	C3ALRG	11.1	11.9	11.9	2517		0														
										0														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

J
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D

Viscosity SecA	DENSITY g/cc	pH	WL g/30min	FC mm	PV/VP	GELS O/10	Tot Sol kg/m3	Dry Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFL MFO	°C IN/OUT
118	1655	10.5	8.6	2.0	22/36.0	32./36.	0.22		0.004	40			1200	400	0.2 1.2	78
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				

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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	HP
Emsco	127	254	107	0.93	Emsco	127	254	107	0.93	12500	29.4	53.0	96.7	268.09

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH							
° @	m		PRESS TEST	HNDL TOOLS		Lignite	
° @	m		DRILLING	SLIP & CUT	0.75	Driscac	
° @	m		CIRCULATE	REAMING	3.50	Starpak	
° @	m		TRIPPING	COND MUD		Caustic	
° @	m		RIG SERV	CLN TO BTM		Sod Sulf	
° @	m		BOP DRILL			Biocide	
° @	m		DRLG OUT			Corinox	
° @	m		REPAIRS			Percol 728	
° @	m		SURVEYING			Pot Sulf	
° @	m		DIR WORK	INSPE DC	1.00	Barite	
° @	m		TOTAL HOURS: 24.00			Desco	
						Chemcide	

MUD COMMENTS: K+ion=24500, Sulfite=256, 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.)

2000.11.24 @ 00:00 hrs. Finished hoisting out of hole. Out of the hole at 01:00hrs. Graded bit. Installed new bit. Made adjustments to MWD tool as the flow rate will be lower with this bit run. Started in hole @ 02:15hrs. Checked MWD tool at 691mKB, 30 psi pulse was recorded, the MWD hand felt that this was a little low but would work. String took

a little weight from 775-935mKB while running in, then free. At 2469mKB began reaming to bottom and rerecording gamma, as this interval not logged due to the low flow when the heads and liners were changed from 152mm to 127mm. Back on bottom at 12:30hrs. While attempting to drill the standpipe pressure was 12500kPa at 107 strokes per pump, a standpipe

SUPERVISOR: LEBUEF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/11/25

LOCATION: 300-C31-6040-12330-0

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

DAY: 113 DEPTH: 2517.00 m PROGRESS: 0.00 m CPANO: 300C316040123300

WEATHER: Clear

TEMP: -12 °C

8:00 a.m. OPERATION: Run in hole with bit #32C, inspecting collars on way in.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

pressure of 22000kPa was to be expected with 110 strokes. With a constant strokes per minute of 107 per pump the stand pipe started to slowly drop from 12500kPa to 10250kPa over 2.5hrs and MWD pulses dropped to 17 psi. Hoisted out to check for a wash in the drill string. Tripped out of the hole wet, with no pipe rotation and pulling slowly. Found wash at the first 178mm drill collar below crossover from HWDP. The collar had a cracked box and washed, vertical wash 5.5" long, 1/16" wide. Laid down the drill collar and crossover sub. Inspected the entire BHA as we run in the hole. Inspected collars to 24:00 hours 2000.11.24.

Notes:

- *Trip out of hole was good with no hole problems.
- *Trip record: Measured=25.02m³, Calculated=16.26m³. Difference=8.76m³.
- *Will run in with same bit as it was in good shape.
- *Safety topic: checking and inspecting drill collars.
- *Will record gamma once again on way in from 2469-2517mKB.
- *String wt is: 112000daN
- *Maximum hoisting limits: Drill pipe=177571daN
Mast=235800daN

REPORTED BY: LEBUEF/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: 00/11/24

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

CPA NO.: 300C316040123300

DAY: 112

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: -9 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 2517.00 m

PROGRESS: 2.00 m

PBTD: m FORMATION:

8:00 a.m. DEPTH: 2517.00 m

8:00 a.m. OPERATION: Running in the hole with bit #32C.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 58964 CUMULATIVE COST: \$ 10982223

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MUD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	6 228mm DC	1 X/O SUB	15 178mm DCS
LENGTH: 263.06 m	WT. BELOW JARS: 15000 daN	JAR HRS: 191.0	JAR SERIAL #: 10883	

TOTAL
ROTATING
HOURS: 1453.8

WT. ON BIT: 35000 daN

ROTARY RPM: 65/75

STRING WT.: 112000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228 H90

9

171 H90

15

BIT
T
S

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT WT daN	RPM	CUTTING STRUCT				REMARKS			
					1	2	3	IN	OUT			DRL	RMD			I	O	D	L	B	G	O	A
31C	311.0	SMITH	LR8234	F3P	19.1	19.1	19.1	2475	2517	42	0.6	69.00	7.75	30-35	65	5	6	CT	H	F	I	NO	TQ
32C	311.0	RBI	BX236	C3ALRG	11.1	11.9	11.9	2517		0				-									
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/100	DENSITY X IN/OUT	PH	WL cc/30mlr	FC mm	PV/YP	GELS O/10	Tot. Sol kg/m ³	Dia. Sol. kg/m ³	SAND kg/m ³	BENTONITE kg/m ³	LCM kg/m ³	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C	
															MPE	MFO	IN/OUT	
92	1640'	10.6	7.8	2.0	23' 36.0	32./36.	0.22		0.004	40			1200	380	0.2	1.3	/ 78	
96	1640'	10.5	8.2	2.0	24' 36.0	34./40.	0.22		0.004	40			1200	400	0.2	1.2	/ 78	
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED				
2 HR IN	1640 kg/m ³	OUT	1530 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	STROKE	SPM	m ³ /MIN	MODEL	LINER	STROKE	SPM	m ³ /MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP				
Emsco	127	254	110	0.96	Emsco	127	254	110	0.96	14730	30.3	54.7	99.8	292.21				

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite	4
5.40°	@ 2508.00 m	339.40	DRILLING	3.25	SLIP & CUT	Driscap	1
°	@ m		CIRCULATE	0.75	REAMING	Starpak	2
°	@ m		TRIPPING	17.00	COND MUD	Caustic	1
°	@ m		RIG SERV	0.50	CLN TO BTM	Sod Sulf	1
°	@ m		BOP DRILL		RIG INSP	Biocide	1
°	@ m		DRLG OUT			Corinox	1
°	@ m		REPAIRS			Percol 728	1
°	@ m		SURVEYING	1.00		Pot Sulf	56
°	@ m		W.T.H.		CHANGE HEA	Barite	312
°	@ m				TOTAL HOURS: 24.00	Desco	2
°	@ m					Chemcide	

MUD COMMENTS: K+Ion - 25000, Sulfite - 256, 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.)

2000.11.23 @ 00:00 Hours:

Drilled from 2515-2517mKB. Made a connection. Worked and cleaned hole, as it was torquing up. Pulled 150,000 daN before drilling ahead. Drilled from 2517-2517.35mKB, at which point the hole was torquing up to 20,000 ft#. Reamed and cleaned hole from 2498-2517mKB. Pulled up to 130,000 daN

Surveyed at 2508mKB. Started out of the hole. Pumped out from 2517-2301mKB. During this interval hole was tight, but after 2301-2262mKB hole was very tight. Began back reaming this interval. From 2262-2129mKB the rotary was stalling out. Pulled up to 155,000 daN. From 2129-2096mKB could not rotate or go down, however the drill string was still coming

SUPERVISOR: LEBUEF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:

CD 08/87



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/11/24

LOCATION: 300-C31-6040-12330-0

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

DAY: 112

DEPTH: 2517.00 m

PROGRESS:

2.00 m

CPANO: 300C316040123300

WEATHER: Clear

TEMP: -9 °C

8:00 a.m. OPERATION: Running in the hole with bit #32C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

up but very slowly. Did not pull over 135,000 daN, at times the drill string could go down for a 1m or 2m before taking weight. At 2087mKB the drill string could be rotated without stalling. From 2096-2010mKB continued to back ream with no problems. At 2010mKB, the drill string could be pulled with no pump as it was pulling with little hole drag. Pumped pill at 1811mKB. Experienced tight hole once again from 920-890mKB, pulling up to 140,000 daN. Could still rotate out, but did not have to use the pumps. After this point the hole was in good shape with no more problems. At no times did the hole pressure up during the trip out. Hoisted out to 24:00 hours 2000.11.23.

- Note 1: Trip Record Volume: Measured: 16.97m³, Actual: 17.79m³, Difference: .82m³.
- Note 2: Hole drag while drilling: 20,000 daN up, 10,000 daN down.
- Note 3: Torque while drilling: 8,000-20,000 ft#.
- Note 4: Weight of DC: 46,000 daN.
- Note 5: Weight of drill string: 112,000 daN.
- Note 6: Maximum pull limits on drill string: 177,571 daN.
- Note 7: Load limit on mast: 235,800 daN.
- Note 8: Safety Topic: Connections and stop cards.
- Note 9: While circulating no signs of slivers or blocky shale coming over the shaker.
- Note 10: Started running in hole at 02:15 hours 2000.11.24.
- Note 11: Retrieved pipe screen at HWDP crossover to 178mm DC.
- Note 12: At no point during the trip out was the drill string stuck or unable to circulate.
- Note 13: Bit #31C had 1 1/2" x 1 1/4" tip of spade from cone broken off and left in the hole. This is what caused torque on bottom. Will attempt to break it up when back on bottom.

REPORTED BY: LEBUEF/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: 00/11/23	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 111	
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-OF: 6.5 m		WELL STATUS:	
WEATHER: CLEAR		TEMP: 3 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2515.00 m		PROGRESS: 15.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2517.35 m		8:00 a.m. OPERATION: TRIPPING OUT BIT #31C.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 65329 CUMULATIVE COST: \$ 10923259

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	6 228mm DC	1 X/O SUB	15 178mm DCS

TOTAL ROTATING HOURS: 1450.6

LENGTH: 263.06 m WT. BELOW JARS: 15000 daN JAR HRS: 188.0 JAR SERIAL #: 10883

WT. ON BIT: 35000 daN ROTARY RPM: 65/75 STRING WT.: 112000 daN

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

 228 H90 9
171 H90 15

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			DRL	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
30C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2443	2475	32	0.6	50.25	5.50	30-34	60	5	5	WT	M3	E	I	NO	BHA
31C	311.0	SMITH	LR8234	F3P	19.1	19.1	19.1	2475		40	0.6	65.75	7.75	30-35	65								
										0													

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

Viscosity Sec/c	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PWYP	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 MFI	MFO	°C IN/OUT
88	1635/	10.2	8.2	2.0	23/ 34.0	31./36.	0.22		0.004	44			1100	320	0.2	1.3	/ 76
88	1630/	10.0	8.8	2.0	23/ 34.0	32./39.	0.22		0.004	40			1200	280	0.2	1.2	/ 78
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	127	254	110	0.96	Emsco	127	254	110	0.96	14730	30.3	54.7	37.1	40.13

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES			
AZIMUTH								
5.30 °	@	2499.87 m	334.80	PRESS TEST	HNDL TOOLS	Lignite	4	
°	@	m		DRILLING	22.75	SLIP & CUT	Drispac	2
°	@	m		CIRCULATE	0.25	REAMING	Starpak	4
°	@	m		TRIPPING		COND MUD	Caustic	6
°	@	m		RIG SERV	0.50	CLN TO BTM	Sod Sulf	2
°	@	m		BOP DRILL		RIG INSP	Biocide	2
°	@	m		DRLG OUT			Corinox	2
°	@	m		REPAIRS			Alcomer	2
°	@	m		SURVEYING	0.50		Pot Sulf	
°	@	m		W.T.H.		CHANGE HEA	Barite	378
°	@	m				TOTAL HOURS:	Desco	4
						24.00	Chemcide	

MUD COMMENTS: POLYMER - 2.6, K+ION - 24,000, 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.)

2000.11.22 @ 00:00 HOURS:

DRILLED 311mm HOLE FROM 2500-2504mKB. CIRCULATED AND WORKED
 DRILL STRING FROM 2490-2504mKB. DRILLED FROM 2504-2507mKB.
 RIG SERVICED TOP DRIVE. FUNCTIONED UPPER PIPE RAMS. DRILLED
 FROM 2507-2508mKB. SURVEYED AT 2499.87mKB. DRILLED 311mm
 HOLE FROM 2508-2515mKB TO 23:59 HOURS 2000.11.22.

NOTE 1: MUD PUMPS RUNNING GOOD.

NOTE 2: HOLE CLEANING GOOD. NO LOSSES.

NOTE 3: HOLE CONDITIONS HAVE IMPROVED WITH VERY LITTLE PROBLEMS ON CONNECTIONS.

NOTE 4: HOLE DRAG: 15,000 daN UP, 10,000 daN DOWN.

NOTE 5: TORQUE: 10,800-22,500 Nm.

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: 00/11/23
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 111 DEPTH: 2515.00 m PROGRESS: 15.00 m CPANO.: 300C316040123300
WEATHER: CLEAR TEMP: 3 °C
8:00 a.m. OPERATION: TRIPPING OUT BIT #31C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTE 6: SAFETY TOPIC: PROPER USE OF SAFETY BELTS.

NOTE 7: AKITA'S HOISTING LIMITS: MAST = 235,800 daN.
DRILL PIPE = 174,000 daN.

NOTE 8: STRIPPED BACK 10m3 OF MUD FROM ACTIVE SYSTEM.

NOTE 9: AT 2517mKB, ROTARY STALLED OUT. WORKED DRILL STRING AND CLEANED UP
TIGHT HOLE. ATTEMPTED TO GO BACK DRILLING, BUT BIT WOULD NOT DRILL
OFF. IT APPEARED THAT THE BIT LOCKED UP AT THIS POINT WITH TORQUE
READINGS ON BOTTOM PEAKING AT 28,000 Nm. 69.75 HOURS ON BIT. RAN
BOTTOM HOLE SURVEY PRIOR TO TRIPPING OUT: 2508m INC=5.4, AZ=339.4.

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: 00/11/22	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 110	
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 SKIES		TEMP: 7 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2500.00 m		PROGRESS: 12.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2506.50 m		8:00 a.m. OPERATION: DRILLING 311mm HOLE.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 53156 CUMULATIVE COST: \$ 10857930

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	6 228mm DC	1 X/O SUB	15 178mm DCS
LENGTH: 263.06 m WT. BELOW JARS: 15000 daN JAR HRS: 166.0 JAR SERIAL #: 10883				

TOTAL ROTATING HOURS: 1427.9

 WT. ON BIT: 35000 daN ROTARY RPM: 65/75 STRING WT.: 112000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 9
 171 H90 15

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	Q	D	L	B	G	O	F		
30C	311.0	REED	LX8411	EXP53A	19.1	19.1	19.1	2443	2475	32	0.6	50.25	5.50	30-34	60	5	5	WT	M3	E	I	NO	BHA		
31c	311.0	SMITH	LR8234	F3P	19.1	19.1	19.1	2475		25	0.6	43.00	7.75	30-35	65										
										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 D/10	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	Oil %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	PC IN/OUT
88	1635'	10.4	9.4	2.0	21' 33.0	29.1/35.	0.23		0.005	44			1100	280	0.2 1.2	/ 80
89	1635'	10.2	9.8	2.0	24' 32.0	32.1/38.	0.23		0.005	44			1100	280	0.2 1.2	/ 80
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	127	254	110	0.96	Emsco	127	254	110	0.96	14290	30.3	54.7	37.1	40.18

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST		HNDL TOOLS		Lignite	5
5.40 °	@	2480.76 m	337.60	DRILLING	20.25	SLIP & CUT		Drispac	4
5.30 °	@	2490.33 m	336.40	CIRCULATE		REAMING		Starpak	8
°	@	m		TRIPPING		COND MUD		Caustic	2
°	@	m		RIG SERV	0.50	CLN TO BTM		Sod Sulf	2
°	@	m		BOP DRILL		RIG INSP		Biocide	2
°	@	m		DRLG OUT				Corinox	2
°	@	m		REPAIRS				Alcomer	1
°	@	m		SURVEYING	1.25			Pot Sulf	56
°	@	m		W.T.H.	1.00	CHANGE HEA 1.00		Barite	
°	@	m		TOTAL HOURS: 24.00				Desco	3
								Chemcide	

MUD COMMENTS: POLYMER - 2.6, K+ION - 24,500, 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)

2000.11.21 @ 00:00 HOURS:

DRILLED 311mm HOLE FROM 2488-2489mKB. CIRCULATED AND WORKED

LIGHT HOLE FROM 2480-2489mKB. RAN SURVEY AT 2480.76mKB.

DRILLED FROM 2489-2494mKB. RAN #3 MUD PUMP ON LINE. WITH

127mm LINERS AND 120 STROKES ON THE PUMP MAX PRESSURE

AVAILABLE WAS 4240 kPa. #3 PUMP WAS THEN TAKEN OFF LINE.

 DRILLED AHEAD WITH #1 F-1000 PUMP AND A FLOW RATE OF 1.20m3/
 MINUTE AT 8600 kPa WHILE 127mm LINERS WERE PUT IN #2 F-1000
 PUMP. ONCE COMPLETED, SAME PROCEDURE DONE ON #1 PUMP WHILE
 DRILLING AHEAD. ONCE PUMPS WERE BOTH CHANGED OVER TO 127mm
 LINERS, RAN BOTH F-1000's. DRILLED TO 2497mKB. RIG SERVICED
 TOP DRIVE. FUNCTIONED HYDRIL. DRILLED 311mm HOLE FROM 2497-

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: 00/11/22

LOCATION: 300-C31-6040-12330-0

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

DAY: 110

DEPTH: 2500.00 m

PROGRESS: 12.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR SKIES

TEMP: 7 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2500mKB AND A FLOW RATE OF 1.82m³/MINUTE. CIRCULATED. WORKED HOLE;
SURVEYED AT 2490.35mKB TO 23:59 HOURS 2000.11.21.

NOTE 1: MUD PUMPS ARE RUNNING GOOD.

NOTE 2: HOLE CLEANING WELL WITH NO LOSSES.

NOTE 3: HOLE DRAG: 15,000 daN UP, 10,000 daN DOWN.

NOTE 4: TORQUE: 10,800-22,500 Nm.

NOTE 5: SAFETY TOPIC: WORKING AROUND HIGH PRESSURE LINES.

NOTE 6: AKITA'S HOISTING LIMITS: MAST = 235,800 daN.

DRILL PIPE = 174,000 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

DATE: 00/11/21

LOCATION: 300-C31-6040-12330-0

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

DAY: 109

DEPTH: 2488.00 m

PROGRESS: 10.00 m

CPANO: 300C316040123300

WEATHER: OVERCAST

TEMP: -8 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTE 1: HOLE CLEANING WELL WITH NO APPARENT LOSSES.

NOTE 2: CONNECTIONS ARE GETTING BETTER WITH NOTICEABLE DECREASE IN HOLE TORQUE.

NOTE 3: TORQUE: 9,000-22,000 Nm.

NOTE 4: HOLE DRAG: 15,000 daN UP, 10,000 daN DOWN.

NOTE 5: SAFETY TOPIC: H2S MEETING WITH RIG CREW AND SOS SUPERVISOR.

NOTE 6: AKITA'S HOISTING LIMITS: DRILL PIPE = 173,000 daN.

MAST = 235,800 daN.

NOTE 7: SURVEY @ 2480.76m, 5.4 INC, 341 AZ.

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: 00/11/20	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 108	
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: -8 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2478.00 m		PROGRESS: 3.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2481.50 m		8:00 a.m. OPERATION: DRILLING 311mm HOLE.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 55638 CUMULATIVE COST: \$ 10728455

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	6 228mm DC	1 X/O SUB	15 178mm DCS
LENGTH: 263.06 m	WT. BELOW JARS: 15000 daN	JAR HRS: 125.5	JAR SERIAL #: 10883	

TOTAL
ROTATING
HOURS: 1387.5

WT. ON BIT: 34000 daN ROTARY RPM: 60/70 STRING WT.: 111000 daN
DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228 H90 9
171 H90 15

B
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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			QRL	RWD	WT daN	RPM	I	O	D	L	B	C		O
30C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2443	2475	32	0.6	50.25	5.50	30-34	60	5	5	WT	M3	E	I	NO	BHA
31c	311.0	SMITH	LR8234	F3P	19.1	19.1	19.1	2475		3	1.2	2.50	7.75	30-34	65								
										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 Q/10	Fel Sol Kg/m3	Dnd Sol Kg/m3	SAND Kg/m3	BENTONITE Kg/m3	LCM Kg/m3	OL %	CI DDTT	Cp ppm	ALKALINITY MFK MFO	°C IN/OUT
86	1630/	10.0	9.4	2.0	18/ 30.0	27./31.	0.25		0.005	46			1100	280	0.2 1.2	/ 77
	/				/	/										/

D	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

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 ³ /MIN	DC m ³ /MIN	VELOCITY m/sec.
Emsco	152	254	86	1.13	Emsco	152	254	86	1.13	17800	35.7	64.4	43.6	65.32

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
	AZIMUTH		PRESS TEST	HNDL TOOLS	4.00	Lignite	2	
° @ m			DRILLING 2.50	SLIP & CUT		Driscac		
° @ m			CIRCULATE	REAMING	7.75	Starpek		
° @ m			TRIPPING 6.75	COND MUD		Caustic		
° @ m			RIG SERV 0.50	CLN TO BTM		Sod Sulf	1	
° @ m			BOP DRILL	RIG INSP		Biocide	1	
° @ m			DRLG OUT			Corinox	1	
° @ m			REPAIRS 1.50			Alcomer		
° @ m			SURVEYING			Pot Sulf		
° @ m			W.T.H.	DIR.WORK	1.00	Barite	84	
° @ m				TOTAL HOURS: 24.00		Desco	2	
						Gel		

MUD COMMENTS: POLYMER - 2.8, K+ION - 24,500, SULFITE - 256.

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

2000.11.19 @ 00:00 HOURS:

FINISHED REPLACING MODULE ON #2 MUD PUMP. TESTED FOR LEAKS WITH PRECHARGE PUMP. CHANGED OUT ROLLERS, PINS AND BLOCKS ON 3 POINT REAMER. REPLACED THE SECOND REAMER WITH A NEW ONE. TRIPPED BIT OUT OF HOLE FROM 388mKB. FUNCTION CHECKED BLIND RAMS. MADE UP BIT #31C AND NEW BHA. RAN IN HOLE WITH BIT

#31C TO 759mKB. PULSE TESTED MWD TOOL. RIG SERVICED TOP DRIVE AND FUNCTION TESTED HYDRIL. RAN IN HOLE FROM 759-2426mKB. FILLED DRILL PIPE EVERY 15 STANDS. LOGGED HOLE WITH GAMMA TOOL FROM 2444-2452mKB. REAMED FROM 2452-2475mKB. WORKED DRILL STRING AND BACK REAMED UNTIL HOLE CONDITIONS CLEANED UP. (PROBLEMS WITH THE ROTARY STALLING WITH JUST

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: 00/11/20
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 108 DEPTH: 2478.00 m PROGRESS: 3.00 m CPANO.: 300C316040123300
WEATHER: OVERCAST TEMP: -8 °C
8:00 a.m. OPERATION: DRILLING 311mm HOLE.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

MINIMUM 2-3 daN ON BIT.) DRILLED 311mm HOLE FROM 2475-2478mKB WITH AN ROP OF .6-.8m/HOUR TO 23:59 HOURS 2000.11.19..

- NOTE 1: HOLE CLEANING GOOD, WITH ODD 1" BLOCKY CHUNKS OF SHALE.
NOTE 2: HOLE DRAG: 15,000 daN UP, 10,000 daN DOWN.
NOTE 3: TORQUE: 15,000-23,000 Nm.
NOTE 4: AKITA'S HOISTING LIMITS: MAST 235,800 daN. DRILL PIPE 173,000 daN.
NOTE 5: CHECK SHOT SURVEY AT 2462m INC. 5.0, AZ 345.4.
NOTE 6: AT 2478.80mKB, CONNECTION WAS MADE AND DRILL PIPE SCREEN WAS FOUND TO BE WASHED OUT, ONLY RECOVERING TOP RING ON SCREEN SECTION. REPLACED SCREEN WITH SECOND SCREEN AND CONTINUED TO DRILL AHEAD. THERE HAS BEEN NO CHANGE IN PUMP PRESSURE AND NO INTERFERENCE WITH MWD TOOL AS OF YET. WITH PAST EXPERIENCE, THE REMAINDER OF SCREEN IS MOST LIKELY SITTING ON TOP OF THE FIRST DRILL COLLAR.
NOTE 7: SURVEY @ 2471.38m INC. 5.4, AZ 341.0.
NOTE 8: REAMING NEAR BOTTOM DUE TO CHANGE IN BHA CONFIGURATION. THE PENDULUM WAS LENGTHENED WITH THE ADDITION OF A 2m NON MAG ISOLATION SUB AND SHOCK SUB. THIS PUT THE STIFF REAMER SECTION (3 PT-COLLAR-3 PT) BACK UP THE HOLE ANOTHER +/- 6m. THE HOLE HAD NO MEMORY OF THIS BHA AND HAD TO BE REAMED IN.
NOTE 9: CONTINUED TO INVESTIGATE MERITS OF ADDING SANJEL TWIN CEMENT UNIT TO CIRCULATING SYSTEM.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

CDN Forest Oil Ft Llard C-31

Nov 18/00

Attention: Mickey

To achieve a pump pressure of 24000 kpa and a flow rate of 3.00 m3/min, the heads and liners in each pump will have to be changed to 133 mm (5" in). The maximum operating pressure for these liners are 27027 Kpa, a safety factor of 85% will bring the operating pressure to 22973 Kpa, the flow rate with these liners will be 2.30 m3/min, at a maximum of 110 strokes per pump.

With the cement twin pumper, it can maintain a pressure of 22973 Kpa and a flow rate of 1 m3/min, giving a total flow rate of 3.30 m3/min or less, as well it can adjust the flow rate and still keep the same pump pressure. The cement twin pumper could pump at the desired rates alone, but for only 2 to 3 hrs at a time as the equipment would get hot and need time to cool down.

The cost for the heads and liners are as follows;

133 mm liners: \$ 700.00 each. 12 liners x \$700.00 = \$8400.00

133 mm heads: \$ 250.00 each. 20 heads x \$250.00 = \$5000.00

Total cost = \$13400.00

Transportation cost unknown at this time.

The cost for the cement twin pumper: \$7400.00/day with 2 men.



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/11/19	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 107	
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: 2475.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 2475.00 m		8:00 a.m. OPERATION: RUNNING IN HOLE WITH BIT #31C.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 59094 CUMULATIVE COST: \$ 10672817

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 ISOLATION SU
1 NON MAG DC	1 SHOCK SUB	1 3PT REAMER	1 228mm DC	1 3PT REAMER
2 228mm DC	1 JARS	6 228mm DC	1 X/O SUB	15 178mm DCS

TOTAL ROTATING HOURS: 1385.0

LENGTH: 262.52 m WT. BELOW JARS: 13000 daN JAR HRS: 123.2 JAR SERIAL #: 10883

WT. ON BIT: 34000 daN ROTARY RPM: 60/70 STRING WT.: 110000 daN

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

 228 H90 9
171 H90 15

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			DAL	AMO		WTdaN	RPM	I	O	D	L	F	G	O	R		
30C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2443	2475	32	0.6	50.25	5.50	30-34	60	5	5	WT	M3	E	I	NO	BHA			
31c	311.0	SMITH	LR8234	F3P	19.1	19.1	19.1	2475		0																
										0																

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/CP	GELS O/10	Tot. Sol kg/m3	Drl. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca pptt	ALKALINITY MFI MFO	°C IN/OUT
90	1630/	10.5	7.8	2.0	22/ 30.0	27./33.	0.25		0.005	46			1100	320	0.2 1.2	/
	/				/	/										/
CENTRIFUGE				DESILTER				DESANDER				DEBASSER				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	HR OUT	kg/m3	m3

PUMP

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	HPF	
Emsco	152	254			Emsco	152	254			12500	0.0	0.0	0.0	0.00	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST			Lignite		
° @	m		HNDL TOOLS 1.50			Drispac		
° @	m		DRILLING			Starpak		
° @	m		CIRCULATE 0.50			Caustic		
° @	m		TRIPPING 10.00			Sod Sulf		
° @	m		RIG SERV			Biocide		
° @	m		BOP DRILL			Corinox		
° @	m		DRLG OUT			Alcomer		
° @	m		REPAIRS 12.00			Pot Sulf		
° @	m		SURVEYING			Barite 168		
° @	m		W.T.H.			Desco		
° @	m		TOTAL HOURS: 24.00			Gel		

MUD COMMENTS: POLYMER 2.8 K+ION 25,000 SULFITE 256

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

2000.11.18@ 00:00HOURS. CONTINUED TRIP OUT WITH BIT # 30C. PUMPED OUT STANDS FROM 2447-2170mKB. HOLE STARTED TO PULL FREE. TRIPPED BIT UP TO 1910mKB. PUMPED A WEIGHTED BARITE PILL. BLEW OUT KELLY. TRIPPED OUT WITH FLOW CHECKS AS REQUIRED. RECOVERED AND SERVICED MWD TOOL. INSPECTED AND GRADED BIT #30C. PULLED JETS OUT OF BIT #30C. RAN IN HOLE TO

388mKB WITH DRILL COLLARS AND HWDP. INSTALLED STABBING VALVE VISUALLY MONITORED WELL BORE. WORKED ON F-1000 MUD PUMP. REPLACED CENTRE MODULE ON THE FLUID END OF THE PUMP. ONCE THE NEW MODULE WAS INSTALLED, THE PRECHARGE PUMP WAS PUT ON LINE TO CHECK FOR LEAKS. DRILLING FLUID WAS NOTICED TO BE LEAKING OUT OF THE BASE OF MODULE SEAL.

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: 00/11/19

LOCATION: 300-C31-6040-12330-0

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

DAY: 107

DEPTH: 2475.00 m

PROGRESS:

0.00 m

CPANO.: 300C316040123300

WEATHER: CLEAR

TEMP: -9 °C

8:00 a.m. OPERATION: RUNNING IN HOLE WITH BIT #31C.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

PUMP WAS THEN TORE APART. NOTICED GASKET SEAL WAS DAMAGED FROM BEING PINCHED ON INSTALLATION. REPLACED O RING AND WORKED ON PUTTING PUMP BACK TOGETHER TO 23:59 HOURS 2000.11.18.

NOTES:

- 1) EMSCO F-800 WAS TIED IN AND MADE OPERATIONAL.
- 2) HOLE FILL: MEASURED: 18.50m³, CALCULATED: 16.29m³, DIFF 2.21m³
- 3) SAFETY TOPIC: WORKING ON MUD PUMPS.
- 4) FINISHED WORKING ON MUD PUMP AT 01:30 HOURS, 2000.11.19. TESTED WITH THE PRECHARGE PUMP. CHECKED OUT OK.

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: 00/11/18	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 106	
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: 2475.00 m		PROGRESS: 7.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2475.00 m		8:00 a.m. OPERATION: HOIST BIT #30C.PREPARE TO FIX F-1000 PUMP, TIE IN F-800.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 51583 CUMULATIVE COST: \$ 10613723

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 NON MAG DC
1 3PT REAMER	1 228mm DC	1 3PT REAMER	1 SHOCK SUB	2 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	15 6 3/4" DC	1 X/O SUB
LENGTH: 261.56 m WT. BELOW JARS: 13000 daN JAR HRS: 123.2 JAR SERIAL #: 10883				

TOTAL ROTATING HOURS: 1385.0

 WT. ON BIT: 34000 daN ROTARY RPM: 60/70 STAIRING WT.: 110000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 9
 171 H90 15

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	T	O	D	L	B	C	O
30C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2443	2475	32	0.6	50.25	5.50	30-34	60							
										0				-								
										0				-								

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

Viscosity Sec/CL	DENSITY IN/OUT	DE	WL cc/30mls	FC mm	PV/YP	GELS Q/10	Tot. Sol. kg/m3	Drill Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY MFI	MFC	°C IN/OUT
105	1630/	10.5	8.2	2.0	20/ 37.0	33./39.	0.25		0.004	48			1100	380	0.1	1.2	/ 78
88	1630/	10.3	8.2	2.0	20/ 29.0	26./33.	0.25		0.005	48			1100	280	0.2	1.3	/ 78
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	85	0.94	Emsco	152	254	85	0.94	12500	29.7	53.5		0.00

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST		HNDL TOOLS		Lignite	
4.90 °	@	2467.15 m	343.50	DRILLING	16.75	SLIP & CUT		Drispac	1
°	@	m		CIRCULATE	0.50	REAMING	4.25	Starpak	1
°	@	m		TRIPPING	0.50	COND MUD		Caustic	6
°	@	m		RIG SERV	0.25	CLN TO BTM		Sod Sulf	1
°	@	m		BOP DRILL		RIG INSP		Biocide	2
°	@	m		DRLG OUT				Corinox	1
°	@	m		REPAIRS	1.00			Alcomer	1
°	@	m		SURVEYING	0.75			Pot Sulf	56
°	@	m		W.T.H.				Barite	
°	@	m		TOTAL HOURS: 24.00				Desco	1
								gel	30

MUD COMMENTS: K+ION 24,500 SULFITE 256 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.)

2000.11.17 00:00 HOURS. DRILLED 311mm HOLE FROM 2468-2468.80 mKB. HAD A DRILLING BREAK AT 2468.80mKB. GEOLOGIST CONFIRMED THE DRILLING BREAK AS A FRACTURE. DRILLED TO 2469.94mKB. CIRCULATED AND SACK REAMED TIGHT HOLE FROM 2445-2469mKB. DRILLED 311mm HOLE FROM 2469mKB TO 2474mKB. SERVICED TOP DRIVE AND FUNCTION TESTED ANNULAR. RAN CHECK SHOT SURVEY

AT 2457.15mKB, 4.9 DEGREES, 343.5 AZ. DRILLED 311mm HOLE TO 2475.89mKB. WHILE DRILLING, ROTARY STALLED OUT. WORKED DRILL STRING. CIRCULATED AND BACK REAMED. CLEANED UP TIGHT HOLE FROM 2455-2475mKB. CIRCULATED AND CHANGED OUT WASHED HEAD ON #1 MUD PUMP. SURVEYED AT 2467.15mKB. HOISTED BIT #30C. PUMPED OUT STANDS FROM 2475-2447mKB TO 23:59HRS 2000.11.17.

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: 00/11/18

LOCATION: 300-C31-6040-12330-0

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

DAY: 106

DEPTH: 2475.00 m

PROGRESS:

7.00 m

CPANO: 300C316040123300

WEATHER: CLEAR

TEMP: -8 °C

8:00 a.m. OPERATION: HOIST BIT #30C.PREPARE TO FIX F-1000 PUMP, TIE IN F-800.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES:

- 1.HOISTING LIMITS: MAST 235 800 daN, DRILLPIPE 181 000 daN.
- 2.HOLE DRAG:15,000 daN UP,10,000 daN DOWN.
- 3.NO LOSSES OF MUD TO FORMATION.
- 4.TORQUE:12,500 - 22,500 NM.
- 5.SAFETY TOPIC:HANDLING OF TUBULARS.
6. HOLE IN GOOD CONDITION ON TRIP.

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: 00/11/17	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 105	
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: WINDY		TEMP: 2 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2468.00 m		PROGRESS: 18.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2472.00 m		8:00 a.m. OPERATION: DRILLING 311mm HOLE.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 75346 CUMULATIVE COST: \$ 10562140

B
H
A

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 NON MAG DC
1 3PT REAMER	1 228mm DC	1 3PT REAMER	1 SHOCK SUB	2 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	15 6 3/4" DC	1 X/O SUB
LENGTH: 261.56 m WT. BELOW JARS: 13000 daN JAR HRS: 106.5 JAR SERIAL #: 10883				

 TOTAL
ROTATING
HOURS: 1368.3

 WT. ON BIT: 34000 daN ROTARY RPM: 60/75 STRING WT.: 110000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 9
 171 H90 15
B
I
T
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	RMD	WTdaN	RPM	I	O	D	L	B	G	O
30C	311.0	REED	LX8411	ENP53A	19.1	19.1	19.1	2443		25	0.7	33.50	5.50	30-34	60							
										0				-								
										0				-								

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

M

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS O/10	Tot Sol. kg/m3	Dry Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LGM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFL MFO	°C IN/OUT
83	1635/	9.8	9.0	2.0	24/ 28.0	24./28.	0.25		0.005	46			1100	320	0.1 1.2	/ 75
85	1630/	10.1	8.2	2.0	22/ 30.0	26./30.	0.25		0.004	48			1100	320	0.2 1.2	/ 78

J

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	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	85	0.94	Emsco	152	254	85	0.94	12500	29.7	53.5	36.3	37.67

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	Lignite	7
4.40 °	@ 2448.00 m	348.70	DRILLING 22.00	SLIP & CUT	Drispac	3
4.80 °	@ 2459.20 m	346.30	CIRCULATE	REAMING	Starpak	6
°	@ m		TRIPPING	COND MUD	Caustic	8
°	@ m		RIG SERV 0.50	CLN TO BTM	Sod Sulf	3
°	@ m		BOP DRILL	RIG INSP	Chemcide	1
°	@ m		DRLG OUT		Corinox	3
°	@ m		REPAIRS		Soda Ash	1
°	@ m		SURVEYING 1.25		Pot Sulf	56
°	@ m		W.T.H. 0.25		Barite	210
°	@ m				Desco	3
°	@ m				Percal 728	2
			TOTAL HOURS: 24.00			

MUD COMMENTS: POLYMER = 2.8, K+ION = 24500, 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.)

2000.11.16 @ 00:00 HOURS:

DRILLED 311mm HOLE FROM 2450-2458mKB. SURVEYED AT 2448mKB.

DRILLED 311mm HOLE FROM 2458-2467mKB. SURVEYED AT 2459.2mKB.

RIG SERVICED. FUNCTION TESTED LOWER PIPE RAMS, 6 SECONDS TO CLOSE. DRILLED FROM 2467-2468mKB AT 23:59 HOURS 2000.11.16.

NOTE 1: SAFETY TOPIC: WORKING AROUND TOP DRIVE.

NOTE 2: AKITA'S HOISTING LIMITS: DRILL PIPE: 180,038 daN.

MAST: 235,800 daN.

NOTE 3: TORQUE: 12,250-22,500 Nm.

NOTE 4: HOLE DRAG: 15,000 daN UP, 10,000 daN DOWN.

NOTE 5: HOLE CLEANING GOOD, NO LOSSES.

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: 00/11/17

LOCATION: 300-C31-6040-12330-0

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

DAY: 105

DEPTH: 2468.00 m

PROGRESS:

18.00 m

CPANO.: 300C316040123300

WEATHER: WINDY

TEMP: 2 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTE 6: MODULE FOR #2 PUMP FLUID END HAS ARRIVED IN FT. LIARD AND WILL BE AIR LIFTED TO CHEVRON BARGE LANDING IN THE MORNING.

NOTE 7: AT 2468.80mKB ENCOUNTERED A QUICK DRILLING BREAK FOR APPROXIMATELY 2/10'S OF A METRE. AFTER 30 MINUTES OF CIRCULATING GEOLOGIST COMPARED TO OFFSETS AND DECIDED TO DRILL AHEAD. DRILLING BREAK WAS OVER AND HE CONFIRMED THE FORMATION TO BE FAULTED. BOTTOMS UP GAS READINGS PEAKED AT 2740 UNITS. DRILLED TO 2469.90mKB. PENETRATION RATE SLOWED DOWN TO .3m/HOUR. WORKED DRILL STRING FROM 2469-2445mKB AND CLEANED UP TIGHT HOLE FOR APPROXIMATELY ONE HOUR. DRILLED WITH ROP INCREASING FROM .3-.6m/HOUR AT PRESENT DEPTH OF 2470mKB AT 06:15 HOURS 2000.11.17.

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: 00/11/16	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 104	
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		TEMP: -2 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 2450.00 m		PROGRESS: 7.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 2457.00 m		8:00 a.m. OPERATION: Drilling 311mm hole.			

AFF #: **AFF AMT: \$** 12658500 **DAILY COST: \$** 60693 **CUMULATIVE COST: \$** 10486794

1	311 mm	1	Bit Sub	1	RESTRIC.SUB	1	MONEL MWD	1	NON MAG DC
1	3PT REAMER	1	228mm DC	1	3PT REAMER	1	SHOCK SUB	2	228mm DC
1	JARS	6	228mm DC	1	X/O SUB	15	6 3/4" DC	1	X/O SUB

TOTAL ROTATING HOURS:	1346.3
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LENGTH: 261.56 m WT. BELOW JARS: 13000 daN JAR HRS: 84.5 JAR SERIAL #: 10883

WT. ON BIT: 34000 daN ROTARY RPM: 60/75 STRING WT.: 110000 daN

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

228	H90	9
171	H90	15

[illegible]

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

Viscosity Sec/L	DENSITY IN/OUT	pH	Wt cc/gd/min	FC mm	PVYR	GELS O/10	Tot Spt. kg/m3	Dgd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MEI	MFO	
90	1630'	9.8	9.6	2.0	22' 30.0	27. / 33.	0.25		0.004	48			1100	320	0.1	1.2	72

[illegible]

PUMP

	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		DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
	Emsco	152	254	80 0.88	Emsco	152	254	80 0.88	15500	27.8	50.1	34.0	30.85

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH							
3.30 °	@ 2439.43	5.90	PRESS TEST		HNDL TOOLS 1.00	Lignite	1
°	@		DRILLING 11.50		SLIP & CUT	Drispac	3
°	@		CIRCULATE		REAMING 2.75	Starpak	6
°	@		TRIPPING		COND MUD	Caustic	4
°	@		RIG SERV 0.75		CLN TO BTM	Sod Sulf	1
°	@		BOP DRILL		RIG INSP	Chemcide	1
°	@		DRLG OUT			Corinox	1
°	@		REPAIRS 7.75			Soda Ash	
°	@		SURVEYING 0.25			Pot Sulf	
°	@		W.T.H.			Barite	168
°	@					Desco	1
					TOTAL HOURS: 24.00	Percol 728	

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.)

2000.11.15 @ 00:00 Hours:

Reamed 311mm hole from 2440-2441mKB. Circulated and worked on #2 F-1000 mud pump. Ran survey check shot at 2436mKB. Reamed to 2442mKB. Circulated and worked on #2 F-1000 mud pump. Reamed from 2442-2443mKB. Drilled 311mm hole from 2443-2443.75mKB. Circulated and worked on #2 F-1000 mud

pump. Drilled from 2443.75-2444.05MKB. Circulated and worked on #2 F-1000 mud pump. Noticed that fluid end module was cracked. The crack ran up into the body of pump where the discharge seat is located. Pulled seat, welded crack in pump, also had to weld the seat into pump because after welding the crack the body of the pump was not true. Drilled

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: 00/11/16
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 104 DEPTH: 2450.00 m PROGRESS: 7.00 m CPANO.: 300C316040123300
WEATHER: Overcast TEMP: -2 °C
8:00 a.m. OPERATION: Drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

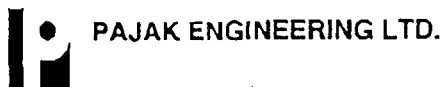
311mm hole from 2444-2446.2mKB with 1 pump. Worked and cleaned hole prior to connection. Collected Gamma Ray data from 2433-2441mKB. Drilled to 2446.8mKB with both pumps. Shut down #2 F-1000 for repairs. Drilled from 2446.8-2447.7mKB with 1 pump. Surveyed at 2439mKB. Upon inspection of #2 F-1000 pump it was noticed that the welded seat had washed out. It was decided to remove ceramic head and liner and replace it with ordinary head and liner. Also the discharge valve was left out so the body of fluid end module would not wash. Drilled with 1 pump until second pump was ready, from 2447-2450mKB to 24:00 hours 2000.11.15.

- Note 1: Hole cleaning well with no losses.
Note 2: Safety Topics: Working on pumps/mixing chemicals.
Note 3: Torque: 10,848-21,696 Nm.
Note 4: Hole drag: 15,000 daN up, 10,000 daN down.
Note 5: Akita's hoisting limits: Mast = 235,800 daN. Drill pipe = 180,038 daN.
Note 6: Conducted Akita safety and environmental inspection for November.
Note 7: Module left Nisku at 18:00 hours 2000.11.15 and is supposed to be in Ft. Liard at 08:00 hours 2000.11.16 and will be choppered over to Chevron side of barge landing and brought the rest of the way by truck.
Note 8: Total lost time spent repairing #2 mud pump, 10.5 hours.
Note 9: Survey taken with this BHA assembly at 2428mKB, 3.4 degrees 6.3 azimuth, survey taken with previous BHA assembly at the exact same depth of 2428mKB, 4 degrees 359.1 azm.
Note 10: Lost approximately 2500 kPa pressure from original pressure with both pumps on line.

REPORTED BY: SOLBERG/SOLBERG

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: 00/11/15	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 103	
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: -7.6 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2443.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 2445.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 72145 CUMULATIVE COST: \$ 10426101

1 311 mm	1 Bit Sub	1 RESTRIC.SUB	1 MONEL MWD	1 NON MAG DC
1 3PT REAMER	1 228mm DC	1 3PT REAMER	1 SHOCK SUB	2 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	15 6 3/4" DC	1 X/O SUB
LENGTH: 261.56 m WT. BELOW JARS: 13000 daN JAR HRS: 76.0 JAR SERIAL #: 10883				

TOTAL
ROTATING
HOURS: 1334.8

WT. ON BIT: 35000 daN ROTARY RPM: 60/75 STRING WT.: 111000 daN
DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

228 H90 9
171 H90 15

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	1	2	3	4	5	6	7	8	
29C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2406	2443	37	0.8	47.00		32-35	60	4	4	BT	A	E	I	CT	BHA	
30C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2443		-244			4.00	-										
										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 OATG	Tot Sol. kg/m3	Dad Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
96	1635/	10.0	9.8	2.0	26/ 31.0	26./32.	0.25		0.005	48			1100	400	0.1 1.1	/
84	1635/	10.0	9.8	2.0	20/ 25.0	21./27.	0.25		0.005	46			1100	400	0.1 1.1	/ 76
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	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	80	1.11	Emsco	152	254	80	1.11	15500	35.1	63.2	42.9	62.10

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	4.25	Lignite		
° @ m			DRILLING 0.75	SLIP & CUT	0.75	Drispac		
° @ m			CIRCULATE 2.00	REAMING	4.00	Starpak		
° @ m			TRIPPING 8.25	COND MUD		Caustic		
° @ m			RIG SERV 0.50	CLN TO BTM		Sod Sulf		
° @ m			BOP DRILL	RIG INSP		Chemcide		
° @ m			DRLG OUT			Corinox		
° @ m			REPAIRS 3.50			Soda Ash		
° @ m			SURVEYING			Pot Sulf		
° @ m			W.T.H.			Barite	84	
° @ m						Desco		
° @ m						Percol 728	1	
			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.)

2000.11.14 @ 00:00 Hours:

Drilled 311mm hole from 2443-2443.25mKB. Circulated bottoms. Pulled 1 stand of pipe. Worked on top drive elevators. When elevators came down to the drill floor, they would not open. Trouble shot top drive mother board. Everything checked ok. Finally checked cylinder that opens and closes

elevators and found the cylinder to be broken. Hoisted bit #29C. Flow checked as required. Pumped weighted pill at 2100m. Function tested blind rams when out of hole, 8 seconds to close. Changed bits, laid down NB reamer, short DC and serviced MWD tools. Tripped in with bit #30 to 762mKB. Function tested MWD tool. Slipped and cut 20m

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: 00/11/15

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

DAY: 103 DEPTH: 2443.00 m PROGRESS: 0.00 m CPANO: 300C316040123300

WEATHER: Clear

TEMP: -7.6 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

drilling line. Continued trip in hole, filled pipe every 500m. Broke circulation at 2411m. Reamed from 2427-2435mKB. Circulated and worked drill string while #2 F-1000 was being repaired. Changed 4 valves and 3 seats. Reamed from 2435-2440mKB to 23:59 hours 2000.11.14.

Note 1: Hole cleaning well with no losses.

Note 2: Hole conditions good on trip with no reported problems.

Note 3: Hole fill: Actual = 18.49m³, Calculated = 15.93m³,
Difference = 2.56m³.

Note 4: Safety Topics: Tripping and reaming.

Note 5: Torque: 10,848-24,408 Nm.

Note 6: Hole Drag: 15,000 daN up, 10,000 daN down.

Note 7: Akita's hoisting limits: Mast = 235,800 daN.

Drill pipe = 179,680 daN.

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: 00/11/13

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

CPA NO.: 300C316040123300

DAY: 101

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: 2428.00 m

PROGRESS: 18.00 m

PBD: m

FORMATION:

8:00 a.m. DEPTH: 2435.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 57652 CUMULATIVE COST: \$ 10273324

1 311 mm	1 3PT NB REAME	1 SHORT DC	1 3PT REAMER	1 RESTRIC. SUB
1 MONEL MWD	1 NON MAG DC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	15 6 3/4" DC	1 X/O SUB

TOTAL ROTATING HOURS: 1312.9

LENGTH: 265.62 m WT. BELOW JARS: 13000 daN JAR HRS: 54.0 JAR SERIAL #: 10883

WT. ON BIT: 35000 daN

ROTARY RPM: 60/75

STRING WT.: 110000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

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			DRILL	AMD		WT daN	RPM	I	O	D	L	B	G	O	R	
29C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2406		22	0.9	25.75		32-35	60										
										0															
										0															

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/4	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS O/30	Tot. Sol. kg/m3	Drill. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	DIL %	Cl ppm	Ca ppm	ALKALINITY NEI MFD	°C IN/OUT
82	1640'	10.5	8.6	2.0	20' 28.0	25.31	0.25		0.008	45			1100	380	0.2 1.2	/ 74
76	1635'	10.5	9.2	2.0	20' 22.0	25.29	0.25		0.005	42			1100	360	0.1 1.2	/ 74

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

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	81	1.12	Emsco	152	254	81	1.12	16500	35.4	63.8	43.3	63.91

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES			
AZIMUTH				PRESS TEST		HNDL TOOLS		Lignite		2	
2.60 °	@	2399.18 m	7.30	DRILLING	21.75	SLIP & CUT		Drispac		2	
3.10 °	@	2408.87 m	1.40	CIRCULATE		REAMING		Starpak		4	
°	@	m		TRIPPING		COND MUD		Caustic			
°	@	m		RIG SERV	0.75	CLN TO BTM		Sod Sulf		2	
°	@	m		BOP DRILL		RIG INSP		Chemcide		3	
°	@	m		DRLG OUT				Corinox		3	
°	@	m		REPAIRS				Soda Ash			
°	@	m		SURVEYING	0.50			Pot Sulf		112	
°	@	m		W.T.H.	1.00			Barite			
°	@	m		TOTAL HOURS: 24.00				Desco		2	
								Alcomer110		1	

MUD COMMENTS: K+Ion - 24,500, 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.)

2000.11.12 @ 00:00 Hours:

Drilled 311mm hole from 2410-2422mKB. Rig serviced and surveyed. Worked and cleaned hole from 2422-2395mKB as rotary would stall on bottom. Drilled to 2428mKB, surveying as required to 23:59 hours 2000.11.12.

Note 1: Hole cleaning well with no losses.

Note 2: Safety Topics: Mixing chemicals/hot work policy.

Note 3: Torque: 10,848-20,340 Nm.

Note 4: Hole Drag: 15,000 daN up, 10,000 daN down.

Note 5: Akita's hoisting limits: Mast = 235,800 daN. Drill pipe = 178,606 daN.

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: 00/11/13
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0

DAY: 101 DEPTH: 2428.00 m PROGRESS: 18.00 m CPANO: 300C316040123300

WEATHER: Clear

TEMP: -3 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 6: Hauled out 15 gravel truck loads of solids from solids pit on location to remote pit location.

Note 7: Ran barite recovery over a complete circulation.

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: 00/11/12

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

CPA NO.: 300C316040123300

DAY: 100

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: chinook/windy

TEMP: 7 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2410.00 m

PROGRESS: 4.00 m

PBSD: m

FORMATION:

8:00 a.m. DEPTH: 2417.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 53550 CUMULATIVE COST: \$ 10215672

1 311 mm	1 3PT NB REAME	1 SHORT DC	1 3PT REAMER	1 RESTRIC.SUB
1 MONEL MWD	1 NON MAG DC	1 3PT REAMER	1 SHOCK SUB	3 228mm DC
1 JARS	6 228mm DC	1 X/O SUB	15 6 3/4" DC	1 X/O SUB

LENGTH: 265.62 m WT. BELOW JARS: 13000 daN JAR HRS: 32.3 JAR SERIAL #: 10883

WT. ON BIT: 32000 daN

ROTARY RPM: 60/75

STRING WT.: 109000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

9

171

H90

15

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	
28C	311.0	REED	MN9066	EHP53A	22.2	22.2	22.2	2387	2406	19	0.7	28.25		28-34	65	3	3	WT	A	F	I	NO	BHA	
29C	311.0	REED	LX8411	EHP53A	19.1	19.1	19.1	2406		4	1.0	4.00		28-32	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 mm	PV/VP	GELS OUT	Tot Sol: kg/m3	Ord Sol: kg/m3	SAND: kg/m3	BENTONITE: kg/m3	LCM: kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY		°C
															MEI	MFO	IN/OUT
84	1635/	10.0	8.0	2.0	28/ 30.0	30./36.	0.25		0.008	45			1100	320	0.1	1.5	/ 74
80	1635/	10.0	8.0	2.0	20/ 25.0	24./28.	0.25		0.008	45			1100	280	0.1	1.2	/
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					

PUMP NO. 1	TYPE: F-1000				PUMP NO. 2	TYPE: F-1000				PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINEAR	STROKE	SPM	m3/MIN	MODEL	LINEAR	STROKE	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HP
Emsco	152	254	81	1.12	Emsco	152	254	81	1.12	16500	35.4	63.8	43.3	63.80

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS	1.00	Lignite		
° @	m		DRILLING	4.00	SLIP & CUT	Driscac		
° @	m		CIRCULATE	0.25	REAMING	Starpak		
° @	m		TRIPPING	12.50	COND MUD	Caustic	1	
° @	m		RIG SERV	0.75	CLN TO BTM	Sod Sulf		
° @	m		BOP DRILL		RIG INSP	Chemcide		
° @	m		DRLG OUT			Corinox		
° @	m		REPAIRS	2.25		Soda Ash		
° @	m		SURVEYING			Pot Sulf	112	
° @	m					Barite	84	
° @	m					Lime	2	
° @	m					Alcomer110	1	
			TOTAL HOURS: 24.00					

MUD COMMENTS: Polymer: 2.8. K+ion: 18,000. 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.)

2000.11.11 @ 00:01 hours: Tripped Bit #29C to 1250mKB.

Performed MWD function test and received some magnetic interference. Contacted Ryan's office and were told we would get accurate inclination readings but azimuth readings could be off from 0 to 180 degrees. Tripped out of the hole. Laid down isolation sub. Picked up monel collar. Tripped in with

Bit #29C to 742mKB. Performed shallow MWD function test with no problems. Tripped in the hole to 2022mKB. Trouble shot top drive problem (no power to grabber). Found problem with a faulty pin in one of the power cables. Tripped Bit #29C to 2386mKB. Broke circulation and cleaned to bottom with 2m fill. Had problems when on bottom with rotary

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: 00/11/12

LOCATION: 300-C31-6040-12330-0

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

DAY: 100

DEPTH: 2410.00 m

PROGRESS:

4.00 m

CPANO.: 300C316040123300

WEATHER: Chinook/windy

TEMP: 7 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

stalling. Worked drill string. Back reamed until hole cleaned up. Directionally drilled 311mm hole from 2406mKB to 2410mKB to 23:59 hours, 2000.11.11.

- Note #1: Hole cleaning well with no apparent losses reported.
#2: Hole conditions good on trip with no reported problems.
#3: Hole fill: Act=13.7m³, Calc=12.84m³, Diff=.86m³.
#4: Safety topics: picking up and laying down drill pipe.
#5: Torque: 12,204 - 18,984Nm.
#6: Hole drag: 15,000daN up; 15,000daN down.
#7: Akita's hoisting limits: Mast 235,800daN. Drill pipe 178,241daN
#8: Survey @ 2399.18mKB: 2.6 degrees, azimuth 7.3.

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

DATE: 00/11/11

LOCATION: 300-C31-6040-12330-0

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

DAY: 99 DEPTH: 2406.00 m

PROGRESS: 5.00 m

CPANO: 300C316040123300

WEATHER: Clear

TEMP: -19 °C

8:00 a.m. OPERATION: Tripping to lay down isolation sub and pick up monel collar.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

and shallow tested MWD tool to 23:59 hours, 2000.11.10.

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

#2: Hole conditions good on trip with no reported problems.

#3: Hole fill: Act=17.71m³, Calc=15.22m³, Diff=2.49m³.

#4: Safety topics: tripping

#5: Torque: 14,916 - 16,950Nm.

#6: Hole drag: 20,000daN up; 18,000daN down.

#7: Boiler specialist was out and repaired boiler.

#8: Picked up magnetic interference on shallow MWD tests at 742mKB and 1250mKB. The first test reading believed to be coming from surface casing. Called Ryan's received instructions to get an accurate inclination reading but azimuth could read from 0 to 180 degrees out. Decision was made to trip out of hole, lay down isolation sub second monel drill collar so accurate readings would be received.

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: 00/11/10	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 98	
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: -22 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2401.00 m		PROGRESS: 13.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2407.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole w/MWD and motor(1.83 bend)			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 92169 CUMULATIVE COST: \$ 10087320

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: 1280.7

LENGTH: 264.95 m WT. BELOW JARS: 13000 daN JAR HRS: 21.8 JAR SERIAL #: 10883

WT. ON BIT: 35000 daN ROTARY RPM: 65/85 STRING WT.: 106000 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 PER HOUR	HOURS ON BIT		BIT WT daN	RPM	CUTTING STRUCT.				REMARKS			
					1	2	3	IN	OUT		DBL	RMD			I	Q	D	L	B	G	O	R
27C	311.0	REED	LX8415	EHP53A	22.2	22.2	22.2	2349	2387	38	0.6	62.75	30-35	65	3	3	CT	A	E	I	WT	DTF
28C	311.0	REED	MN9066	EHP53A	22.2	22.2	22.2	2387		14	0.6	21.75	28-34	65								
										0												

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Set/L	DENSITY IN/OUT	pH	WL cc/gb/min	FC mm	PV/VP	GELS Q/10	Tot Sol. kg/m3	Drd Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C IN/OUT
80	1650/	10.0	8.0	2.0	20/ 27.0	25./33.	0.24		0.005	46			1100	200	0.2 1.7	/ 69
77	1645/	10.0	6.8	2.0	20/ 27.0	28./33.	0.24		0.008	45			1100	200	0.2 1.2	/ 74
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	HR OUT	kg/m3	m3

PUMP

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	82	1.13	Emsco	152	254	82	1.13	16500	35.7	64.4	32.3	36.19

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH							
0.90 °	@ 2369.75 m	82.80	PRESS TEST	HNDL TOOLS	0.25	Lignite	2
1.40 °	@ 2379.35 m	22.60	DRILLING	20.50	SLIP & CUT	Drispac	1
°	@ m		CIRCULATE	0.75	REAMING	Starpak	2
°	@ m		TRIPPING		COND MUD	Caustic	1
°	@ m		RIG SERV	0.25	CLN TO BTM	Sod Sulf	2
°	@ m		BOP DRILL		RIG INSP	Chemcide	1
°	@ m		DRLG OUT			Corinox	2
°	@ m		REPAIRS			Soda Ash	1
°	@ m		SURVEYING	0.50		Pot Sulf	168
°	@ m					Gel	35
°	@ m					Desco	1
°	@ m					Alcomer110	1
			TOTAL HOURS: 24.00				

MUD COMMENTS: K+ion -20,000, Polymer - 2.8, Sulfite - 260.

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

2000.11.09 @ 00:00 Hours:

Directionally drilled (sliding) 311mm hole from 2388-2392mKB
Back reamed slide section. Ran survey check shot.Directionally drilled (rotated) to 2397mKB. Worked and
cleaned hole prior to survey. Surveyed at 2379.75mKB.

Drilled to 2397.75mKB. Circulated and worked drill string

while valve and seat were changed on #1 F-1000 mud pump.

Directionally drilled (rotated) from 2397.75-2401mKB to
23:59 hours 2000.11.09.

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

Note 2: Held camp fire drill.

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: 00/11/10

LOCATION: 300-C31-6040-12330-0

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

DAY: 98

DEPTH: 2401.00 m

PROGRESS:

13.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -22 °C

8:00 a.m. OPERATION: Directionally drilling 311mm hole w/MWD and motor(1.83 bend)

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 3: Safety Topics: Camp fire drill/Akita's winter flight policy.

Note 4: Maximum pull allowed on drill string 177,000 daN.

Note 5: Torque: 8,112-9,218 Nm.

Note 6: Hole Drag: 16,000 daN up, 11,000 daN down.

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

DATE: 00/11/09

LOCATION: 300-C31-6040-12330-0

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

DAY: 97

DEPTH: 2388.00 m

PROGRESS:

3.00 m

CPANO.: 300C316040123300

WEATHER: Clear

TEMP: -22 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2385mKB. No tight hole. Cleaned to bottom with 2m fill. Attempted to get MWD working. Changed out transducer on stand pipe. MWD still did not work. Went to bottom rotating. Put 15000 daN on bit, MWD started to work at 22:45 hours. Directionally drilled 311mm hole, rotated from 2387-2388mKB while holding 1000 kPa differential pressure on bit, rotating at 40, mud motor at 65. Total RPM of 105 at the bit to 23:59 hours 2000.11.08.

Note 1: Safety topic with crews was using steam.

Note 2: Checked brakes, fastline clamp, crown saver and deadline anchor.

Note 3: Maximum experienced hook load was 140,000 daN.

Note 4: Maximum overpull allowed with E2 pipe remains at 176571 daN.

Note 5: At bottoms up slivers and rock size shale reported.

Note 6: Off bottom stand pipe pressure 16500 kPa. On bottom pressure 17500 kPa.

Note 7: Fuction tested blind rams while out of hole, 8 seconds to close.

Note 8: Hole drag: 30000 daN up, 25000 daN down..

Note 9: No losses or tight hole in last 24 hours.

REPORTED BY: LEBEUF/SOLBERG

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: 00/11/08
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 96 DEPTH: 2385.00 m PROGRESS: 13.00 m CPANO: 300C316040123300
WEATHER: Overcast TEMP: -16 °C
8:00 a.m. OPERATION: Hoist out of hole due to MWD failure.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 3: Still in the Fort Simpson formation at 23:59 hours 2000.11.07.
Note 4: Safety topics with crews was air winches and fall arrest protection
Note 5: Checked brakes, fastline clamp, crown saver and deadline anchor.
Note 6: Maximum experienced hook load was 140,000 daN.
Note 7: Maximum overpull allowed with E2 pipe remains at 176571 daN.
Note 8: Hole Drag: 35000 daN up, 25000 daN down.
Note 9: No slivers reported at shale shakers past 24 hours.
Note 10: Bottom hole temperture at MWD reads 79 degrees Celsius.
Note 11: Function tested annular, 20 seconds to close.

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

DATE: 00/11/07

LOCATION: 300-C31-6040-12330-0

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

DAY: 95

DEPTH: 2372.00 m

PROGRESS:

14.00 m

CPANO: 300C316040123300

WEATHER: Snowing

TEMP: -17 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

deadline anchor.

Note 3: Maximum experienced hook load was 135,000 daN.

Note 4: Maximum overpull allowed with E2 pipe at present depth is 176571 daN. Which is block weight of 13,000 daN plus tensile strength of the weakest pipe in hole E2 = 138571 plus the string weight above the weakest joint (in fluid) = 25000 daN.

Note 5: Hole Drag: up 22000 daN, down 20000 daN.

Note 6: No slivers reported at shale shakers in the last 24 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: 00/11/06

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

CPA NO.: 300C316040123300

DAY: 94

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: Light snow

TEMP: -16 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2358.00 m

PROGRESS: 9.00 m

PSTD: m

FORMATION:

8:00 a.m. DEPTH: 2364.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67510 CUMULATIVE COST: \$ 9767813

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: 1214.3

LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 330.7 JAR SERIAL #: 10158

WT. ON BIT: 35000 daN

ROTARY RPM: 30/65

STRING WT.: 107000 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			DRIL	RMD		WT daN	RPM	I	O	D	L	B	G	O	P	
27C	311.0	REED	LX8415	EHP53A	22.2	22.2	22.2	2349		9	0.5	18.00			30-35	65									
										0					-										
										0					-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FG mm	PV/VP	GELS O/10	Tot. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OK %	Cl ppm	Cs ppm	ALKALINITY MFL MFO	°C IN/OUT
79	1630'	10.0	7.8	2.0	20/ 25.0	21./30.	0.23		0.005	46			1200	380	0.1 1.4	/ 69
76	1640'	10.5	8.5	2.0	16/ 27.0	25./32.	0.23		0.005	44			1200	320	0.3 1.6	/ 69

CENTRIFUGE				DESILTER				DESANDER				DEGASSE				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	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	kPa	OP m/MIN	DC m/MIN	VELOCITY m/sec	BHP	
Emsco	152	254	82	1.13	Emsco	152	254	82	1.13	18690	35.7	64.4	32.3	35.90	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite	1
3.00 °	@ 2340.96 m	155.70	DRILLING 18.00	SLIP & CUT		Drispac	2
°	@ m		CIRCULATE	REAMING		Starpak	2
°	@ m		TRIPPING	COND MUD		Caustic	1
°	@ m		RIG SERV 0.50	CLN TO BTM		Sod Sulf	2
°	@ m		BOP DRILL	RIG INSP		Chemcide	2
°	@ m		DRLG OUT			Corinox	2
°	@ m		REPAIRS 4.50			Lime	2
°	@ m		SURVEYING 0.50			Pot Sulf	112
°	@ m		ORIENT TOO 0.50	CLN SCREEN		Barite	210
°	@ m		TOTAL HOURS: 24.00			Desco	1
°	@ m					Soda Ash	

MUD COMMENTS: Polymer 2.8 kg/m3, K+Ion 19000 mg/L, Sulfites 230.

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

2000.11.05 @ 00:00 Hours:

Continued to trip in hole filling pipe every 15 stands from 1153-2345mKB. Washed last 4m fill to bottom at 2349mKB at 70 strokes per minute on each pump due to only having 1 shale shaker. At bottoms up increased to 80 strokes per minute on both pumps, 2.2m3 per minute. The mud thinned out

so one shaker could handle the required amount of volume for drilling. Started to slide from 2349-2358mKB with 35000 daN on bit holding 1000 kPa differential pressure on bit. Increased mud pumps up to 82 strokes a minute on each pump, 2.27m3 per minute. Slid at 0.5m/hour to 2358mKB, in the Ft. Simpson formation to 23:59 hours 2000.11.05.

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: 00/11/06

LOCATION: 300-C31-6040-12330-0

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

DAY: 94

DEPTH: 2358.00 m

PROGRESS:

9.00 m

CPANO.: 300C316040123300

WEATHER: Light snow

TEMP: -16 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 1: Safety Topics: Pipe spinner and plowing snow.

Note 2: #2 shale shaker back in operation at 11:00 hours.

Note 3: Function tested upper pipe rams, 6 seconds to close.

Note 4: Checked brakes, fastline clamp, crown saver and deadline anchor.

Note 5: Maximum experienced hook load was 130,000 daN.

Note 6: Maximum overpull allowed with E2 pipe at current depth is 176571 daN which is block weight of 13000 daN plus tensile strength of the weakest pipe in hole E2 = 138571 plus the string weight above the weakest joint (in fluid) = 25000 daN.

Note 7: No tight hole reported on trip back to bottom.

Note 8: Slivers and 1 inch pieces of shale reported at shale shakers which comes and goes.

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: 00/11/05	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 93	
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: Light snow		TEMP: -11 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2349.00 m		PROGRESS: 0.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 2352.00 m		8:00 a.m. OPERATION: Directionally drilling 311mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 35248 CUMULATIVE COST: \$ 9700303

B
H
A

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	1196.3
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 LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 330.7 JAR SERIAL #: 10158
 WT. ON BIT: 33000 daN ROTARY RPM: 30/65 STRING WT.: 103000 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

B
I
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S

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTBS	MTBS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.						REMARKS	
					1	2	3	IN	OUT			DRIL	RMQ	WT daN	RPM	I	O	B	L	B	G	O	R
27C	311.0	REED	LX8415	EHP53A	22.2	22.2	22.2	2349		-119					-								
										0					-								
										0					-								

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

M

Viscosity Sewt	DENSITY IN/OUT	PH	WT. cc/30min	FC mm	PUMP	GELS Q10	Tot Sol kg/m3	Drift Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY mg/L	IN/OUT	°C
72	1660	10.0	8.0	2.0	25' 25.0	20. /30.	0.23		0.005	46			1200	120	0.1	1.2	/ 32

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

P
U
M
P

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	HHR	
Emsco	152	254			Emsco	152	254			16590	0.0	0.0	0.0	0.00	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite		
° @ m			DRILLING	SLIP & CUT		Driscac		
° @ m			CIRCULATE	REAMING		Starpak		
° @ m			TRIPPING	COND MUD		Caustic		
° @ m			RIG SERV	CLN TO BTM		Sod Sulf		
° @ m			BOP DRILL	RIG INSP		Chemcide		
° @ m			DRLG OUT			Corinox		
° @ m			REPAIRS 24.00			Gel		
° @ m			SURVEYING			Pot Sulf		
° @ m			ORIENT TOO	CLN SCREEN		Barite		
° @ m			TOTAL HOURS: 24.00			Desco		
						Soda Ash		

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.)

2000.11.04 @ 00:00 hours:

Continued to wait on traction motor for #1 Pump. The flight arrived at the air strip @ 15:15 hours. Unloaded and brought to location. Arrived on site @ 17:00 hours. Installed and tested motor. Ran OK. At present only one shale shaker is operational. One of the electric motors on the shale shakers

quit working. Akita drilling is transporting a new motor. It will arrive first thing in the morning and will be installed. Tested MWD and began to trip in hole to 1153mKB filling pipe every 15 stands to 23:59 hours, 2000.11.04.

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: 00/11/05

LOCATION: 300-C31-6040-12330-0

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

DAY: 93

DEPTH: 2349.00 m

PROGRESS:

0.00 m

CPANO.: 300C316040123300

WEATHER: Light snow

TEMP: -11 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Notes:

1. Safety topic: electric lock out procedure.
2. Checked all fire extinguishers.
3. Checked crown saver, fastline clamp, and deadline anchor.

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: 00/11/04	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 92	
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: Snowing		TEMP: -8 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2349.00 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2349.00 m		8:00 a.m. OPERATION: Continue to wait on traction motor for pump #1			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 58712 CUMULATIVE COST: \$ 9665055

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	
LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 330.7 JAR SERIAL #: 10158				

 TOTAL
ROTATING
HOURS: 1196.3

WT. ON BIT: 33000 daN ROTARY RPM: 30/65 STRING WT.: 103000 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 STRUCY							REMARKS		
					1	2	3	IN	OUT			DRL	RMD	WTDN	APM	I	O	D	L	B	G	O	R		
27C	311.0	REED	LX8415	EHP53A	22.2	22.2	22.2	2349		-163					-										
										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/PF	GELS O/10	Tot. Sol. kg/m3	Dril. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	-Cl ppm	-Ca ppm	ALKALINITY MFT MFO	°C IN/OUT
72	1660	10.0	8.0	2.0	25/25.0	20./30.	0.23		0.005	46			1200	120	0.1 1.2	/ 32
	/				/	/										/

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	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			Emsco	152	254			16590	0.0	0.0	0.0	0.00	

SURVEYS		TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH		PRESS TEST	HNOL TOOLS	Lignite	
° @ m		DRILLING	SLIP & CUT	Drispac	
° @ m		CIRCULATE	REAMING	Starpak	
° @ m		TRIPPING	COND MUD	Caustic	
° @ m		RIG SERV	CLN TO BTM	Sod Sulf	
° @ m		BOP DRILL	RIG INSP	Chemcide	
° @ m		DRLG OUT		Corinox	
° @ m		REPAIRS 24.00		Gel	
° @ m		SURVEYING		Pot Sulf	
° @ m		ORIENT TOO	CLN SCREEN	Barite	
° @ m			TOTAL HOURS: 24.00	Desco	
				Soda Ash	

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.)

2000.11.03 a 00:00 hours:

Continued to wait on traction motor. BHA at the shoe for all control purposes. Akita drilling had to wire money to Buffalo Air before they would transport the traction motor to location. Due to freezing rain in yellowknife, the plane could not leave to fly to Hay River to load the traction

motor. Orville talked to Buffalo Air, they said they have things lined up for tomorrow morning. The traction motor should be on location between 11:00 and 12:00 hours. Continue to wait on traction motor to 23:59 hours 2000.11.03

SUPERVISOR: LEBEUF/SOLBERG

PHONE #: (600) 701-3227

CALLING CARD#:

CD 08/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/11/04

LOCATION: 300-C31-6040-12330-0

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

DAY: 92

DEPTH: 2349.00 m

PROGRESS:

0.00 m

CPANO.: 300C316040123300

WEATHER: Snowing

TEMP: -8 °C

8:00 a.m. OPERATION: Continue to wait on traction motor for pump #1

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Notes:

1. Safety topic: installing traction motor.
2. Checked crown saver, fastline clamp, dead line anchor, brakes and linkage.

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

DATE: 00/11/03

LOCATION: 300-C31-6040-12330-0

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

DAY: 91

DEPTH: 2349.00 m

PROGRESS:

8.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR

TEMP: -10 °C

8:00 a.m. OPERATION: Waiting on traction motor for #1 pump.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

ordered. Akita Drilling decided to have the motor transported to Hay River, then flown out to the rig from there. The ETA of the pump motor on location is between 11:00-12:00 hours. While waiting on the traction motor for pump #1, checked the BHA motor. Still okay. Changed the float in the float sub. Installed new batteries in MWD tool. Tripped in the hole to the shoe at 710mKB for well control. Monitoring well at shoe, with trip tank lined up, to 23:59 hours 2000.11.02.

Note 1: ROP while sliding was 0.7-1.1m/hour.

Note 2: ROP while rotating was 1.4-2.0m/hour.

Note 3: Hole drag: up 25000 daN, down 20000 daN.

Note 4: Hole drag while rotating: up 15000 daN, down 13000 daN.

Note 5: Safety Topic: Watch dog system.

Note 6: Hole fill: Calculated 15m³, Measured 17.78m³, Difference + 2.73m³.

Note 7: Maximum experienced hook load was 135000 daN.

Note 8: Torque while rotating 10000-13000 Nm.

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: 00/11/02

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

CPA NO.: 300C316040123300

DAY: 90

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: -10 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2341.00 m

PROGRESS: 15.00 m

PSTD: m

FORMATION:

8:00 a.m. DEPTH: 2349.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 62661 CUMULATIVE COST: \$ 9514059

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 HWOP	
LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 323.0 JAR SERIAL #: 10158				

TOTAL ROTATING HOURS: 1374.1

WT. ON BIT: 33000 daN

ROTARY RPM: 30/65

STRING WT.: 103000 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 PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT										REMARKS
					1	2	3	IN	OUT		DRL	RMD		WT daN	RPM	I	Q	D	L	B	G	O	R	
25C	311.0	REED	LQ4241	EHP42H	22.2	22.2	22.2	2273	2326	53	0.9	59.50	11.25	30-34	30	8	8	BT	A	F	0	LT	HR	
26C	311.0	SMITH	LY1653	F2P	22.2	22.2	22.2	2326		15	0.9	16.50		30-35	30									
										0				-										

LAST PIPE TALLY: 1302.37

BOARD: 1301.85

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PVMP		GELS O/10	Tot. Sol. kg/m3	Drd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MFI MFO		°C IN/OUT
90	1635/	10.4	8.6	2.0	26/	29.0	31./36.	0.25		0.075	46			1200	400	0.2	1.5	/ 72
84	1630/	10.3	8.6	2.0	26/	27.0	26./33.	0.25		0.100	46			1200	360	0.1	1.5	/ 74
CENTRIFUGE					DESILTER				DESANDER				DEGASSER				TOTAL MUD PUMPED	
4 HR IN	1630 kg/m3	OUT	2190 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	81	1.12	Emsco	152	254	81	1.12	16590	35.4	63.8	32.0	34.91

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES			
AZIMUTH				PRESS TEST				Lignite			
3.40 °	@	2312.30 m	168.20	HNDL TOOLS				3			
3.50 °	@	2321.96 m	166.60	DRILLING	16.50	SLIP & CUT	1.00	Drispac			
°	@	m		CIRCULATE		REAMING		2			
°	@	m		TRIPPING	2.75	COND MUD	0.25	Starpak			
°	@	m		RIG SERV	0.50	CLN TO BTM		Caustic			
°	@	m		BOP DRILL		RIG INSP		1			
°	@	m		DRLG OUT				Sod Sulf			
°	@	m		REPAIRS	1.50			3			
°	@	m		SURVEYING	0.75			Chemcide			
°	@	m		ORIENT TOO	0.75	CLN SCREEN		2			
°	@	m		TOTAL HOURS: 24.00				Corinox			
°	@	m						Gel			
°	@	m						30			
°	@	m						Pot Sulf			
°	@	m						56			
°	@	m						Barite			
°	@	m						126			
°	@	m						Desco			
°	@	m						2			
°	@	m						Soda Ash			
°	@	m						1			

MUD COMMENTS: K+1on=25000, sulfite=250, Polymer=2.8. Ran 1 circulation of 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.)

2000.11.01 a 00:00 Hours:

Ran in hole with bit #26C. The trip in the hole was good, no bridging off or tight spots. Started washing to bottom at 2319mKB. On bottom drilling at 05:00 hours. Attempted to slide, but at each attempt the motor would stall. Decided to rotate for 1 metre and break in the bit and then try

sliding. While rotating, ROP was from 1.5-2.1m/hour with 30000 daN WOB, torque was 11000 Nm, RPM was 30-65. After 1 metre of rotating, sliding began at 2327mKB with no stalling of the mud motor. ROP was from 0.6-1.1m/hour. Weight on bit was 35000 daN, pump pressure was 15740 kPa off bottom and 16890 kPa on bottom. Slid from 2327-2330mKB and surveyed.

SUPERVISOR: LEBEUF/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: 00/11/02

LOCATION: 300-C31-6040-12330-0

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

DAY: 90

DEPTH: 2341.00 m

PROGRESS: 15.00 m

CPANO.: 300C316040123300

WEATHER: Clear

TEMP: -10 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

After the survey, began sliding from 2330-2335mKB, ROP was from 0.7-1.1m/hour with same WOB and pump pressure as before. At 17:00 hours the shock hose from the mud pump to the stand pipe burst. Picked off bottom as there was no pump. Worked the pipe as the shock hose was being replaced. While working the pipe up and down, the hole was in good shape as there were no tight spots. Back drilling at 18:30 hours. Started to rotate from 2335mKB with ROP from 1.6-2.1m/hour, weight on bit was 33000 daN, torque was 11000-13000 Nm, RPM was 30+65. Rotated for 3 metres (2335-2338mKB). Surveyed at 2338mKB. Began sliding from 2338mKB. Plan to slide for 6m, then rotate for 3.65m. Slid to 2341mKB at ROP of 0.7-1.1m/hour to 24:00 hours 2000.11.01.

- Note 1: Next survey will be new hole as the survey tool is 17 metres back of the bit. Next survey at 2348mKB.
- Note 2: Functioned annular, closed in 19 seconds.
- Note 3: Hole drag while sliding: 22000 daN up and 20000 daN down.
- Note 4: Hole drag while rotating: 13000 daN up and 10000 daN down.
- Note 5: Torque was 11000-13000 Nm.
- Note 6: Safety Topic: Water usage.
- Note 7: No volume losses during last 24 hours.
- Note 8: Normal drill cuttings coming over shale shaker.
- Note 9: Maximum experienced hookload = 135000 daN.
- Note 10: Hoisting load limits for drill pipe = 161039 daN.
Mast = 235000 daN.
String weight = 103000 daN.

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: 00/11/01	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 89	
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 and gusting winds.		TEMP: 4 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 2326.00 m		PROGRESS: 8.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 2328.00 m		8:00 a.m. OPERATION: Directionally drilling.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67271 CUMULATIVE COST: \$ 9451398

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	
LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 307.0 JAR SERIAL #: 10158				

TOTAL ROTATING HOURS: 1357.6

 WT. ON BIT: 33000 daN ROTARY RPM: 30/65 STRING WT.: 103000 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 PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.					REMARKS			
					1	2	3	IN	OUT		DR	KMD	WT daN	RPM	1	2	3	4	5	6	7	8	9
25C	311.0	REED	LQ4241	EHP42H	22.2	22.2	22.2	2273	2326	53	0.9	59.50	11.25	30-34	30	8	8	BT	A	8	3	LT	HR
26C	311.0	SMITH	LY1653	F2P	22.2	22.2	22.2	2326		0				-									
										0				-									

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WC cc/min	PC mm	PV/VP	GELS O/G	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
74	1630/	11.0	8.6	2.0	22/ 28.0	26./34.	0.25		0.075	46			1200	400	0.2 1.3	/ 74
78	1630/	10.0	8.2	2.0	28/ 27.0	26./30.	0.25		0.075	46			1200	280	0.1 1.0	/ 74
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED:		
8 HR IN	1625 kg/m3	OUT	1940 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	STROKE	SPM	m3/MIN	MODEL	LINER	STROKE	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	KHP
Emsco	152	254	80	1.11	Emsco	152	254	81	1.12	15660	35.2	63.5	31.9	34.39

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
	AZIMUTH						
3.30 °	@ 2302.72 m	168.40	PRESS TEST		HNDL TOOLS 1.75	Lignite	4
3.30 °	@ 2310.00 m	168.90	DRILLING 9.75		SLIP & CUT	Drispac	4
°	@ m		CIRCULATE		REAMING	Starpak	4
°	@ m		TRIPPING 9.00		COND MUD 0.50	Caustic	2
°	@ m		RIG SERV 0.50		CLN TO BTM	Sod Sulf	1
°	@ m		BOP DRILL		RIG INSP	Chemcide	2
°	@ m		DRLG OUT			Corinox	2
°	@ m		REPAIRS 0.75			Alcomer110	1
°	@ m		SURVEYING 0.50			Pot Sulf	56
°	@ m		ORIENT TOO 0.75		CLN SCREEN 0.50	Barite	462
°	@ m		TOTAL HOURS: 24.00			Desco	2
						Percol 728	2

MUD COMMENTS: K+Ion = 26000, Sulfite = 250, Polymer = 2.8. Striped 20m3 of drilling mud.

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

2000.10.31 @ 00:00 Hours:

Directionally drilled from 2318-2326mKB. Rotated from 2318-2320mKB, ROP was 1.0-1.8m/hour with 30000-32000 daN weight on bit, torque was 11000-14000 Nm. While sliding ROP was 0.6-0.9m/hour with 35000 daN weight on bit. Slid from 2320-2326mKB. The last survey at 2302.72mKB showed a deviation of

3.3 degrees, azimuth of 168.4 degrees. Spoke with the directional driller about the fact that the hole deviation and azimuth were not decreasing, if the next survey did not indicate a change in azimuth or deviation a trip would be needed to change the mud motor angle from 1.5 degrees to 2.12 degrees. At 2326mKB, a survey check shot was performed

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: 00/11/01

LOCATION: 300-C31-6040-12330-0

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

DAY: 89

DEPTH: 2326.00 m

PROGRESS:

8.00 m

CPA NO.: 300C316040123300

WEATHER: Clear and gusting winds.

TEMP: 4 °C

8.00 a.m. OPERATION: Directionally drilling.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

and the results showed no decrease in deviation and azimuth. Survey depth 2310mKB results: Deviation=3.3 degrees, Azimuth=168.9 degrees. Circulated bottom hole sample. Hoisted out to change mud motor angle to 2.12 degrees and inspect the bit as it had 59.5 hours. Bit #25C was graded I-8, O-8, D-Bt, L-A.B-F, G-3mm. Changed mud motor angle. Made up 311mm Smith F2P 517 type with 22.2mm jets. Ran in hole with new BHA to 24:00 hours 2000.10.31.

Note 1: Pumped out the first 5 stands.

Note 2: Functioned upper pipe rams, closed in 6 seconds.

Note 3: Functioned blind rams, closed in 6 seconds.

Note 4: Safety Topic: Steam use and tripping.

Note 5: Hole drag while sliding was 22000 daN up, 20000 daN down.

Note 6: Hole drag while rotating was 12000 daN up, 10000 daN down.

Note 7: Pull on trip out was 140000 daN, depth = 2152mKB, decreased from this point on. String weight is 103000 daN.

Note 8: Trip record: Measured = 16.94m³, Calculated = 15.60m³
Difference = 1.34m³.

Note 9: Geology has reported that the same lithology is expected, Horn River to come in at 2330-2350mKB.

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: 00/10/31	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 88	
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: 2318.00 m		PROGRESS: 16.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 2323.00 m		8:00 a.m. OPERATION: Drilling 311mm hole with mud motor.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 98734 CUMULATIVE COST: \$ 9384127

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	
LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 298.0 JAR SERIAL #: 10158				
WT. ON BIT: 33000 daN ROTARY RPM: 30/65 STRING WT.: 103000 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				

TOTAL ROTATING HOURS: 1347.9

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	EMD	WT/AN	RPM	Y	D	D	L	B	C	O	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	T9	
25C	311.0	REED	LQ4241	EHP42H	22.2	22.2	22.2	2273		45	0.9	49.75	11.25	30-34	30									
										0														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC min	PUMP	GELS OGD	Tol Sol kg/m3	Dry Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFL MFO	°C IN/OUT
80	1620'	10.5	8.8	2.0	24' 24.0	26.33	0.25		0.075	45			1200	380	0.1 1.4	/ 71
94	1620'	10.0	8.6	2.0	20' 30.0	29.38	0.25		0.075	48			1200	400	0.1 1.0	/ 74
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
4 HR IN	1625 kg/m3	OUT	2550 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	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	80	1.11	Emsco	152	254	81	1.12	15460	35.2	63.5	31.9	34.17

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite	4
2.90 °	@ 2293.00 m	165.40	DRILLING 21.50	SLIP & CUT		Driscac	4
°	@ m		CIRCULATE	REAMING		Starpak	4
°	@ m		TRIPPING	COND MUD 0.50		Caustic	3
°	@ m		RIG SERV 1.00	CLN TO BTM		Sod Sulf	2
°	@ m		BOP DRILL	RIG INSP		Chemcide	2
°	@ m		DRLG OUT			Corinox	1
°	@ m		REPAIRS			Lime	2
°	@ m		SURVEYING 0.25			Pot Sulf	168
°	@ m		ORIENT TOO	CLN SCREEN 0.75		Barite	504
°	@ m		TOTAL HOURS: 24.00			Biocide	1
						Percol 728	1

MUD COMMENTS: K+ion = 26000, 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.)

2000.10.30 @ 00:00 Hours:

Drilled and surveyed 311mm hole from 2302-2318mKB. Worked tight hole at 2318mKB, just after sliding from 2303-2317mKB. Pulled 25,000 daN over string weight. Worked tight hole to 24:00 hours 2000.10.30.

Note 1: Functioned lower pipe rams, closed in 6 seconds.

Note 2: Functioned annular, closed in 19 seconds.

Note 3: Set up flood lights at Flett air strip.

Note 4: Hole drag while sliding: 20,000 daN down, 22,000 daN up.

Note 5: Hole drag while rotating: 10,000 daN down, 12,000 daN up.

SUPERVISOR: LEBEUF/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: 00/10/31

LOCATION: 300-C31-6040-12330-0

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

DAY: 88

DEPTH: 2318.00 m

PROGRESS:

16.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -8 °C

8:00 a.m. OPERATION: Drilling 311mm hole with mud motor.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 6: Torque: 10,000-12,000 Nm.

Note 7: Safety topic was on H2S drills.

Note 8: Hoisting limits for drill pipe = 161,039 daN.

Mast = 235,800 daN.

String weight = 103,000 daN.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/10/30

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

CPA NO.: 300C316040123300

DAY: 87

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: -14 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2302.00 m

PROGRESS: 24.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2308.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 91864 CUMULATIVE COST: \$ 9285393

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: 1326.4

LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 277.0 JAR SERIAL #: 10158

WT. ON BIT: 30000 daN

ROTARY RPM: 30/65

STRING WT.: 102000 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			DRL	RMD	WTdaN	RPM	I	O	D	L	B	G	O	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	22.2	22.2	22.2	2273		29	1.1	21.25	11.25	30-34	30									
										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/Y.P		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	
																	MFI	MFO	IN/OUT
84	1625 /	10.2	9.0	2.0	22 / 28.0	24. / 29.	0.25			0.400	46			1200	380	0.1	1.0		/ 71
88	1625 /	10.0	8.2	2.0	22 / 33.0	31. / 39.	0.25			0.400	48			1300	380	0.1	1.2		/ 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	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	80	1.11	Emsco	152	254	82	1.13	17080	35.4	63.8	32.0	34.74

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Lignite	5
2.60 °	@	2263.31 m	171.10	DRILLING 21.25	SLIP & CUT	Drispac	7
2.80 °	@	2273.91 m	172.80	CIRCULATE	REAMING 0.75	Starpak	7
°	@	m		TRIPPING	COND MUD	Caustic	3
°	@	m		RIG SERV 1.00	CLN TO BTM	Gel	25
°	@	m		BOP DRILL	RIG INSP	Chemcide	1
°	@	m		DRLG OUT		Corinox	1
°	@	m		REPAIRS		Lime	3
°	@	m		SURVEYING 1.00		Soda Ash	1
°	@	m		ORIENT TOO	CLN SCREEN	Barite	462
°	@	m				Biocide	1
°	@	m				Alcomer110	1
			TOTAL HOURS: 24.00				

MUD COMMENTS: K+Ion = 25000, Sulfite = 250, Polymer = 2.8. 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.)

2000.10.29 @ 00:00 Hours:

145,000 daN.

Directionally drilled 311mm hole from 2278-2302mKB at 24:00 hours 2000.10.29.

Note 2: Shale that has been plugging the pipe screens has decreased. Plugging problems decreased as a result of back flushing of the mud pumps.

Note 1: Drilled throughout the day with no real hole problems. Connections were good, one tight spot at 2292mKB, worked this area for 45 minutes, pulled

Note 3: 24 hours notice has been given advising the end of the barging season.

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:

DAILY DRILLING REPORT

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

DATE: 00/10/30

LOCATION: 300-C31-6040-12330-0

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

DAY: 87

DEPTH: 2302.00 m

PROGRESS: 24.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: -14 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 4: Functioned annular, closed in 19 seconds.

Note 5: Functioned top rams, closed in 6 seconds.

Note 6: Safety topic was on mixing mud.

Note 7: Held safety meeting with both crews and service hands regarding safe areas and masking up in an H2S situation, plus a man down search and rescue plan.

Note 8: ROP while sliding = 0.9m/hour to 1.1m/hour.

Note 9: Hole drag while sliding = 20000 daN to 25000 daN up and down.

Note 10: ROP while rotating = 1.4m/hour to 1.9m/hour.

Note 11: Hole drag while rotating = 10000 daN to 15000 daN up and down.

Note 12: Torque: 11000 Nm to 12000 Nm.

Note 13: Hoisting load limits for drill pipe = 160039 daN.

Mast = 235800 daN.

String Weight = 102000 daN.

REPORTED BY: LEBEUF/PICHE

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: 00/10/29

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

CPA NO.: 300C316040123300

DAY: 86

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: Snowing

TEMP: -10 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 2278.00 m

PROGRESS: 5.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 2288.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 54438 CUMULATIVE COST: \$ 9193529

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: 1305.2

LENGTH: 264.44 m WT. BELOW JARS: 13000 daN JAR HRS: 256.0 JAR SERIAL #: 10158

WT. ON BIT: 33000 daN

ROTARY RPM: 30/60

STRING WT.: 102000 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			DRL	RMD	WTdaN	RPM	I	O	D	L	B	G	O	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	22.2	22.2	22.2	2273		5	1.0	5.00	11.25	33-34	30									
										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/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
															MFL	MFO	IN/OUT
78	1630/	9.5	8.6	2.0	25/ 24.0	22./35.	0.25		0.400	40			1500	320	0.2	1.2	/ 67
98	1630/	9.5	10.8	2.0	28/ 26.0	24./36.	0.25		0.400	48			1200	360	0.1	1.5	/ 67

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 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	HHP
Emsco	152	254	80	1.11	Emsco	152	254	81	1.12	16550	35.2	63.5	31.9	34.39

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	2.00	Lignite	2
° @ m			DRILLING 5.00	SLIP & CUT		Drispac	2
° @ m			CIRCULATE	REAMING		Starpak	2
° @ m			TRIPPING 11.00	COND MUD	3.25	Caustic	1
° @ m			RIG SERV 0.50	CLN TO BTM		Sod sulf	
° @ m			BOP DRILL 0.25	RIG INSP		Chemcide	1
° @ m			DRLG OUT			Corinox	1
° @ m			REPAIRS 1.00			Lime	2
° @ m			SURVEYING 1.00			Pot Sulf	
° @ m			ORIENT TOO	CLN SCREEN		Barite	126
° @ m				TOTAL HOURS: 24.00		Biocide	
						Alcomer110	

MUD COMMENTS: K+Ion=25000,Sulfite=250,Polymer=2.8.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.)

2000.10.28@00:00 hrs:Hoisted,drifting pipe,to find drillpipe screen. Found pipe screen at the crossover between the HWDP and 177mm drill collars.Laid down the mud motor.Picked up new mud motor,and changed out MWD batteries. Inspected bit and it was in good shape. Decided to run it again as the bearings and inserts were good. Ran in hole with BHA.

Cleaned mud tanks and suction lines to try and eliminate the shale from plugging the pipe screens. The pipe screens have been modified in an attempt to prevent them from being lost down the drill pipe.A braided wireline was run inside the screen and the bottom of the wire was welded to the bottom of the screen. The top was welded to the collar

SUPERVISOR: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:

DAILY DRILLING REPORT

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

DATE: 00/10/29

LOCATION: 300-C31-6040-12330-0

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

DAY: 86 DEPTH: 2278.00 m PROGRESS: 5.00 m CPA NO.: 300C316040123300

WEATHER: Snowing

TEMP: -10 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

that rests in the tool joint. If the screen was to be washed away, the wire would prevent it from being lost down the pipe. Ran right to bottom. Began sliding at 15:30hrs. Slid from 2273-2276mKB. Drilled rotary from 2276-2278mKB to 24:00 hours 2000.10.28. (Notes follow)

*Mud motor=1.5 degrees.

*Sliding ROP was 0.7 m/hr, off bottom pressure=15500 kPa, on bottom pressure=16550 kPa, Weight on bit=33000 daN.

*Trip record: calculated=23.00m³, Measured=24.81m³, Difference=+-1.81m³.

*Function blind rams, closed in 6 seconds.

*Function top pipe rams, closed in 6 seconds.

*Held BOP drill, well secured in 1 minute.

*Change seals in top drive accuator

*Safety topic was on: Tripping.

*Hole drag: Sliding=20000daN up/down.

Rotating=10000 to 12000daN up/down.

Note: Hoisting load limits on drill pipe=160039daN.

Mast=235800daN.

REPORTED BY: LEBEUF/PICHE

PHONE #: (600) 701-3227

CALLING CARD #: