

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/09/07

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

CPA NO.: 300C316040123300

DAY: 34

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: Cloudy

TEMP: 10 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1576.00 m

PROGRESS: 30.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 1600.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 108325 CUMULATIVE COST: \$ 4727268

1 311 MM BIT	1 Mud Motor	1 FLOAT SUB	1 RESTRICTOR S	1 MONEL MWD
1 MONEL COLLAR	1 9" DC	1 SHOCK SUB	1 9"DC	1 JARS
2 9"DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP

TOTAL
ROTATING 495.25
HOURS:

LENGTH: 189.60 m WT. BELOW JARS: 18000 daN JAR HRS: 117.4 JAR SERIAL #: 10163

WT. ON BIT: 15000 daN

ROTARY RPM: 35/75

STRING WT.: 73000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

4

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL	RWD	WTIN	RPM	I	O	D	L	D	G		O
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474	1474	0			70.25	1- 2	61	3	3	WT	A	3	I	NO	BHA
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474		102	3.3	30.50	19.75	15- 24	0								
										0													

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WT cc/30min	FC mm	PV/YF	GELS 0/10	Tot. Sol. g/m3	Dsp. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY		°C	
															MFI	MFO	IN/OUT	
62	1180'	10.5	16.0	1.8	10' 21.0	18. '19.	0.07		0.002	35			950	520	0.3	1.4	' 62	
61	1265'	10.0	21.0	1.8	10' 21.0	18. '21.	0.11		0.004	35			950	480	0.2	1.2	' 62	
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED						
0 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.	MHP
Emsco	152	254	96	1.33	Emsco	152	254	94	1.30	14840	41.6	74.9	60.5	109.60

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH								
3.20 °	@	1532.00 m	78.70	PRESS TEST	HNDL TOOLS	Gel		
°	@	m		DRILLING 6.75	SLIP & CUT	Starpak		
°	@	m		CIRCULATE	REAMING	Pot Sulf		
°	@	m		TRIPPING	COND MUD 15.75	Drispac		
°	@	m		RIG SERV	BOP DRILL 0.25	Sod sulf	6	
°	@	m		BOP CHECK		Corinox	6	
°	@	m		DRLG OUT		Lime	8	
°	@	m		REPAIRS 1.00		Alcomer110	3	
°	@	m		SURVEYING 0.25		Lignite		
°	@	m				Barite	1176	
°	@	m				Percol 728		
°	@	m				Chemcide	2	
				CLEAN BIT				
				TOTAL HOURS: 24.00				

MUD COMMENTS: Bringing Mud Wt up to 1300kg/m3. K+Ion=19000, Sulfite=260, Polymer=3.4

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

2000.09.06 @ 00:00 hours

Mixed barite to increase the mud density to 1300kg/m3 from 1130kg/m3. Once the mud Wt had reached 1220 kg/m3 it was then decided to drill ahead, as well the hole was cleaning good as no signs of sloughing shales were present.

While drilling the cuttings coming over the shakers

indicated normal drill cuttings (small and 2-4mm in size).

During drilling a constant ROP while sliding and rotating was observed. Directionally drilled from 1546-1576mKB to 23:59 hours 2000.09.06.

SUPERVISOR: Solbreg/Piche

PHONE #: (600) 701-3227

CALLING CARD#:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/07
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 34 DEPTH: 1576.00 m PROGRESS: 30.00 m CPA NO.: 300C316040123300
WEATHER: Cloudy TEMP: 10 °C
8:00 a.m. OPERATION: Directionally drilling 311mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Hole drag during drilling was 6000daN to 10000daN
2: While drilling the torque was 6000 to 8000 ft/Lbs.
3: Held BOP drill, well secured in 60 seconds.
4: Safety topic was on mud pump pop valves.
5: Started drilling at 16:00 hours 2000.09.06.
6: As of 00:00Hrs mud Weight was 1275kg/m3.
7: Adjusted top drive torque tube.
8: Sliding 4m(ROP=4.8m/hr), rotating 14m(ROP=7.5m/hr) per 2 singles.
9: Mud motor flow rate= 2.6m3/min. differential Pressure= 1700kPa, on bottom pressure= 14840kPa, off bottom pressure= 13140kPa.
10: Directional tool set with 1.5 degree bend.

REPORTED BY: Solbreg/Piche

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/06	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 33	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Cloudy		TEMP: 7 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1546.00 m		PROGRESS: 64.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 1546.00 m		8:00 a.m. OPERATION: Circulating and bringing mud Wt up to 1300kg/m3.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 83320 CUMULATIVE COST: \$ 4618943

B
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A

1 311 MM BIT	1 Mud Motor	1 FLOAT SUB	1 RESTRICTOR S	1 MONEL MWD
1 MONEL COLLAR	1 9" DC	1 SHOCK SUB	1 9"DC	1 JARS
2 9"DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWOP
LENGTH: 189.60 m WT. BELOW JARS: 18000 daN JAR HRS: 110.4 JAR SERIAL #: 10163				
WT. ON BIT: 12000 daN ROTARY RPM: 35/75 STRING WT.: 72000 daN				
DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: 228 H90				
171 H90				
NO. IN HOLE: 9				

 TOTAL
ROTATING 488.50
HOURS:
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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			DR	TRM	WT&N	REM	1	2	3	4	5	6	7	8	
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474	1474	0			70.25	1- 2	61	3	3	WT	A	3	I	NO	BHA	
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474		72	3.0	23.75	19.75	11- 12	35									
										0														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

M
U
D

Viscosity Sec/L	DENSITY IN/OUT	pH	WT cc/30min	FC mm	PV/KP	GELS D/10	For Sol kg/m3	Dnd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MEI MPO		°C IN/OUT
72	1130'	10.0	11.0	1.8	11' 21.0	18.'19.	0.06		0.001		35			950	480	0.2 1.3	' 55
62	1130'	10.0	13.0	1.8	10' 18.0	15.'18.	0.06		0.001		35			950	520	0.2 0.9	' 55
CENTRIFUGE					DESILTER			DESANDER			DECASSER			TOTAL MUD DUMPED			
24 HR IN	1130 kg/m3	OUT	1860 kg/m3		HR OUT	kg/m3		HR OUT	kg/m3		HR OUT	kg/m3					m3

P
U
M
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PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	WPMIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	KPa	UP m/min	DC m/min	VELOCITY m/sec	HHP	
Emsco	152	254	90	1.24	Emsco	152	254	88	1.22	10730	38.9	70.0	56.6	82.87	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel 38		
3.00 ° @ 1475.20 m	94.70		DRILLING 19.75	SLIP & CUT		Starpak 2		
2.90 ° @ 1494.20 m	93.10		CIRCULATE 1.25	REAMING		Pot sulf 168		
2.60 ° @ 1513.00 m	82.20		TRIPPING	COND MUD 2.00		Drispac 2		
° @ m			RIG SERV 0.50			sod sulf 6		
° @ m			BOP CHECK			Corinox 6		
° @ m			DRLG OUT			Lime 4		
° @ m			REPAIRS 0.50			Alconer110 5		
° @ m			SURVEYING			Lignite 1		
° @ m						Barite		
° @ m						Percol 728 1		
° @ m						Chemcide 2		
			CLEAN BIT					
			TOTAL HOURS: 24.00					

MUD COMMENTS: K+Ion=21000,Sulfite=160,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.)

2000.09.05 @ 00:00 hours

Drilled from 1482-1546mKB. At 1533mKB stopped drilling to make repairs to the drawworks (low clutch). 1533mKB worked tight hole at 1533mKB and again at 1538mKB. Drilled another 3m (1541mKB) and the hole was tight once again. At 1546mKB drill string became stuck while working tight hole. Could

not rotate. The hole was pressured up. During this time could only go up 0.75m before reaching manium pull. No circulation. It was then decided to try going, this worked as the pipe began to rotate. As a result hoisting of the drill string was achieved, but still could not pump. Hoisted drill pipe to 1464mKB. At this point tried to break

SUPERVISOR: Solbreg/Piche

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/09/06
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 33 DEPTH: 1546.00 m PROGRESS: 64.00 m CPANO.: 300C316040123300
WEATHER: Cloudy TEMP: 7 °C
8:00 a.m. OPERATION: Circulating and bringing mud Wt up to 1300kg/m3.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

circulation. This was successful as the mud began to circulate. circulate. After circulating bottoms up both shakers were full with cuttings. The hole drag decreased when working the pipe. These cuttings were as before indicating that the hole may be sloughing in (cuttings sizes were long and jagged about 1/2" wide and 1 1/2" long). A decision was then made to bring the mud weight up to 1300kg/m3 from 1130kg/m3. Circulated hole, mixed barite to 23:59 hours 2000.09.05.

- Note 1: When stuck attempted slacking off string Weight of 72000daN.
2: RPM 38 to 45 before stalling when stuck, once pipe was free RPM 68.
3: While hoisting the pipe it acted as if it were a mud ring, but it was just the hole was sloughing in.
4: Rotating began when 60000daN of string weight was set on bottom. Pulled up to 130000daN before pipe started to move.
5: Started to mix barite at 20:15Hrs, Vis=67sec/L, WL=18, Mud Wt=1130kg.
6: As the mud density decreased the hole become tighter during drilling.
7: Functioned top pipe rams, close in 8 seconds.
8: Safety topic was on proper lockout procedures.
9: During drilling torque was 6000 to 15000 ft/Lbs.
10: During drilling the drag was 10000-15000daN.

REPORTED BY: Solbreg/Piche

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CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/05	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 32	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKIYA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: Raining		TEMP: 12 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1482.00 m		PROGRESS: 8.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 1518.00 m		8:00 a.m. OPERATION: Directionally Drilling			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 61554 CUMULATIVE COST: \$ 4535623

1 311 MM BIT	1 Mud Motor	1 FLOAT SUB	1 RESTRICTOR S	1 MONEL MWD
1 MONEL COLLAR	1 9" DC	1 SHOCK SUB	1 9"DC	1 JARS
2 9"DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP

LENGTH: 189.60 m WT. BELOW JARS: 18000 daN JAR HRS: 94.4 JAR SERIAL #: 10163

WT. ON BIT: 12 daN ROTARY RPM: 38 STRING WT.: 69000 daN

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

 228 H90 4
171 H90 9

BIT S

BIT NO	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm.			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.				REMARKS				
					1	2	4	IN.	OUT			DRL	RMD		WTdN	RPM	I	D	D	L	H	G	O
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474	1474	0			70.25	1-2	61	3	3	WT	A	3	1	NO	BHA
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474		8	2.0	4.00	19.75	12-13	38								
										0													

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

Viscosity Sec/L	DENSITY IN/OUT	pH	VL cc/30min	FC min	PV/YP	GELS O/10	Tor. Sol. kg/m3	Dnd. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
107	1140'	10.0	11.0	1.8	12' 28.0	22./22.	0.07		0.001	35			1100	440	0.3	1.2	' 55
132	1150'	10.0	10.0	1.8	14' 28.0	23./22.	0.80		0.001	38			1100	480	0.2	1.3	' 55
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
12 HR IN	1140 kg/m3	OUT	1780 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	95	1.31	Emsco	152	254	95	1.31	14210	41.4	74.6	60.3	101.45

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel		
3.20 ° @ 1458.00 m	85.20		DRILLING 4.00	SLIP & CUT		Starpak 4		
° @ m			CIRCULATE	REAMING 19.75		Pot Sulf 112		
° @ m			TRIPPING			Drispac 2		
° @ m			RIG SERV 0.25			Sod sulf 6		
° @ m			BOP CHECK			Corinox 6		
° @ m			DRLG OUT			Lime 5		
° @ m			REPAIRS			Alcomer110 2		
° @ m			SURVEYING			Sawdust		
° @ m				CLEAN BIT		Barite 39		
° @ m				TOTAL HOURS: 24.00		Percol 728 1		
° @ m						Chemcide 2		

MUD COMMENTS: K+ion=25000,Sulfite=180,Polymer=2.6

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

2000.09.04 @ 00:00 hours

Reamed from 1155-1474mKB. While reaming it seemed to go better if working the pipe was kept to a minimum. Once a stand was run in with no problems a connection was made and running in the hole continued.

At times during reaming both shakers were full with

cuttings, these cuttings were as before, long and jagged about 1" to 2".

Once on bottom the amount of cuttings decreased to very little and the cuttings were 1/2" to 3/4" (gravel sized). Orientation of the directional tool took some time as hole drag and torque may have been a factor, but with less SPM

SUPERVISOR: solbreg/Piche

PHONE #: (600) 701-3227

CALLING CARD#:



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DAILY DRILLING REPORT

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

DATE: 00/09/05

LOCATION: 300-C31-6040-12330-0

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

DAY: 32

DEPTH: 1482.00 m

PROGRESS:

8.00 m

CPA NO.: 300C316040123300

WEATHER: Raining

TEMP: 12 °C

8:00 a.m. OPERATION: Directionally Drilling

DRILLING & GEOLOGICAL REMARKS (Cont'd)

and less differential a proper toolface was achieved and maintained.
Drilled from 1474-1482mKb at 24:00 hours 2000.09.04.

Note 1: Safety topic was on running in hole

Note 2: Stripped 20m3 of mud

Note 3: Bent housing on mud motor at 1.5 degree.

REPORTED BY: Solbreg/Piche

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WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/04	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 31	
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: 1474.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 1474.00 m		8:00 a.m. OPERATION: Run in the hole with mud motor and tricone bit. At 1235mKB.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 122074 CUMULATIVE COST: \$ 4474069

1 311 MM BIT	1 Mud Motor	1 FLOAT SUB	1 RESTRICTOR S	1 MONEL MWD
1 MONEL COLLAR	1 9" DC	1 SHOCK SUB	1 9"DC	1 JARS
2 9"DC	1 X/O SUB	9 6 3/4" DC	1 X/O SUB	3 HWDP
LENGTH: 189.60 m	WT. BELOW JARS: 6000 daN	JAR HRS: 70.4	JAR SERIAL #: 10163	

 TOTAL
ROTATING 445.00
HOURS:

 WT. ON BIT: 2000 daN ROTARY RPM: 42 STRING WT.: 67000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 4
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.												REMARKS
					1	2	3	IN	OUT			DRL	RMD		WT&N	RPM	I	O	U	L	B	G	O	R			
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474	1474	0			70.25	1- 2	61	3	3	WT	A	3	1	NO	BHA				
4c	311.0	Reed	KN2632	EHP44H	17.5	17.5	17.5	1474		0				-													
										0				-													

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WT w/30min	FC mm	PV/YP	GBLS O/ID	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
120	1140'	10.0	11.0	1.8	15' 20.0	22. /24.	0.06		0.001	38			950	360	0.2	1.2	56
	1140'	10.0			/	/							1200	340	0.2	1.2	/
CENTRIFUGE					DESILTER			DESSANDER			DEGASSER			TOTAL MUD DUMPED			
0 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	STROKE	SPM	DIS/MIN	MODEL	LINER	STROKE	SRM	DIS/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HP
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	10480	39.2	70.6	57.1	85.66

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	6.75	Gel	2
° @ m			DRILLING	SLIP & CUT		Starpak	4
° @ m			CIRCULATE 1.25	REAMING	3.25	Pot Sulf	
° @ m			TRIPPING 11.50			Driscap	2
° @ m			RIG SERV 0.25			Sod sulf	3
° @ m			BOP CHECK 0.25			Corinox	3
° @ m			DRLG OUT			Lime	4
° @ m			REPAIRS 0.75			Alcomer110	2
° @ m			SURVEYING			Sawdust	25
° @ m				CLEAN BIT		Envirofloc	6
° @ m				TOTAL HOURS: 24.00		Percol 728	1
° @ m						Chemcide	1

MUD COMMENTS: Last mud check, done while out of hole. K+IOn=28000, Sulfit=120, Polymer=1.2

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

2000.09.03 @ 00:00 hrs. Reamed from 1438-1474mKB. Circulated.

Continued in the hole. Tagged a bridge at 843mKB.

Hoisted out of the hole to change BHA and bit.

Screwed into top drive and worked through this interval.

Pumped out of hole. Decreased pump as hole got easier.

Cuttings coming over the shaker were 1" thick with 1.5" to 2" long slivers mixed with 1/4" diameter cuttings.

Changed out BHA and made up mud motor, MWD tools.

Continued in hole. At 1145mKB, hit another obstruction.

Inspected all DC and monel DC, jars, HWDP, X/O and reamers.

Began reaming and working the hole. Continued reaming in the

Ran in below the casing and oriented the MWD tools, OK.

SUPERVISOR: Solbreg/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: 00/09/04

LOCATION: 300-C31-6040-12330-0

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

DAY: 31

DEPTH: 1474.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 8 °C

8:00 a.m. OPERATION: Run in the hole with mud motor and tricone bit. At 1235mKB.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

hole to 1160mKB at 24:00 hours 2000.09.03.

Notes:

- *Functioned blind rams, closed in 8 seconds.
- *Laid down 2-171mm DC as the threads were pulled (Pin ends).
- *Top reamer was 4mm under gauge from hole.
- *Bottom reamer was 5mm under gauge from hole.
- *Safety topic was Enviromental issues.

REPORTED BY: Solbreg/Piche

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/09/03

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

CPA NO.: 300C316040123300

DAY: 30

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 rain.

TEMP: 5 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 1474.00 m

PROGRESS: 0.00 m

PBTB: m FORMATION:

8:00 a.m. DEPTH: 1474.00 m

8:00 a.m. OPERATION: Tripping out of the hole to pick up mud motor and insert bit

AFE #:

AFE AMT: \$ 12658500

DAILY COST: \$ 48711

CUMULATIVE COST: \$ 4351995

1 311 MM BIT	1 BIT SUB	1 DRILL COLLAR	1 3 PT.REAMER	1 DRILL COLLAR
1 3PT.REAMER	1 DRILL COLLAR	1 JARS	1 DRILL COLLAR	1 CROSS OVER
9 DRILL COLLAR	1 CROSS OVER	3 HWDP		

LENGTH: 163.12 m WT. BELOW JARS: 14000 daN JAR HRS: 67.1 JAR SERIAL #: 10163

WT. ON BIT: 2000 daN

ROTARY RPM: 61

STRING WT.: 67000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

4

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH IN	DEPTH OUT	MTRS PER HOUR	HOURS ON BIT		HIT	CUTTING STRUCT										REMARKS
					1	2	3				DRL	EMD		WT/LIN	REM	I	O	D	L	B	G	O	K	
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722	1474	752	6.2	121.00		10-15	20	2	1	BT	N	1	1	CC	BHA	
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474		0		67.00	1-2	61										
										0														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cu/30min	FC mm	PV/VP	GELS OAD	Tot. Sol. kg/m3	Drill. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MTI	MFO	
120	1140'	10.0	11.0	1.8	15' 20.0	22.24	0.06		0.001	38			950	360	0.2	1.2	/ 56
97	1140'	9.5	14.0	1.8	14' 23.0	20.19	0.06		0.001	38			950	320	0.3	1.1	/ 56
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
24	HR IN	1140 kg/m3	OUT	1810 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	90	1.24	Emsco	152	254	85	1.18	8930	38.3	68.9	67.4	116.80

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel	32
° @ m			DRILLING	SLIP & CUT		Starpak	2
° @ m			CIRCULATE			Pot Sulf	56
° @ m			TRIPPING			Drispac	1
° @ m			RIG SERV	0.50		Sod sulf	6
° @ m			BOP CHECK	0.25		Corinox	6
° @ m			DRLG OUT			Lime	4
° @ m			REPAIRS			Alcomer110	4
° @ m			SURVEYING			Soda Ash	
° @ m			REAM	23.25	CLEAN BIT	Lignite	1
° @ m			TOTAL HOURS: 24.00			Percol 728	
						Chemcide	2

MUD COMMENTS: K+Ion=25000,Sulfite=160,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.)

2000.09.02 @00:00 hours: Continued reaming from 1299mKB.

While reaming, weight on bit was kept at 1-2000 daN. The hole was reamed for a 3 metre section, then worked.

RPM was held fairly constant in the 60 range.

This method has seemed to work during this reaming process, thus preventing the drill string from being in a stuck

situation.

Very hard reaming from 1376-1405mKB. It took 10hrs to work this area of the hole. At 1405mKB, reaming became easier.

The 29 metres from 1405-1438mKB took 4 hours. Reaming at a depth of 1438mKB at 24:00 hours 2000.09.02.

SUPERVISOR: Solbreg/Piche

PHONE #: (600) 701-3227

CALLING CARD#:

CD06/97



PAJAK ENGINEERING LTD

DAILY DRILLING REPORT

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

DATE: 00/09/03

LOCATION: 300-C31-6040-12330-0

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

DAY: 30

DEPTH: 1474.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Light rain.

TEMP: 5 °C

8:00 a.m. OPERATION: Tripping out of the hole to pick up mud motor and insert bit

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note(1) Cuttings came over the shaker throughout the day at a constant rate. There were no signs of large cuttings.
- (2) Cutting sizes ranged from 3/4" to 1" in diameter.
- (3) Functioned annular, it closed in 26 seconds.

REPORTED BY: Solbreg/Piche

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/09/02

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

CPA NO.: 300C316040123300

DAY: 29

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: Raining

TEMP: 3 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 1474.00 m

PROGRESS: 0.00 m

PBDT: m FORMATION:

8:00 a.m. DEPTH: 1474.00 m

8:00 a.m. OPERATION: Reaming to bottom. (Currently at 1375mKB)

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 83060 CUMULATIVE COST: \$ 4303284

1 311 MM BIT	1 BIT SUB	1 DRILL COLLAR	1 3 PT. REAMER	1 DRILL COLLAR
1 3PT. REAMER	1 DRILL COLLAR	1 JARS	1 DRILL COLLAR	1 CROSS OVER
9 DRILL COLLAR	1 CROSS OVER	3 HWD		

TOTAL ROTATING 421.50 HOURS

LENGTH: 163.12 m WT. BELOW JARS: 14000 daN JAR HRS: 43.8 JAR SERIAL #: 10163

WT. ON BIT: 3000 daN

ROTARY RPM: 61

STRING WT.: 72000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

4

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		CUTTING STRUCT.		REMARKS	
					1	2	3	IN	OUT		DRL	RMD	WIDEN	RPM	I	O
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722	1474	752	6.2	121.00	10-15	20	2	1
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474		0		43.75	1-3	61		
										0						

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [X]

Viscosity Sec/c	DENSITY IN/OUT	pH	WT. cc/3000lb	FC mm	PV/VP	GELS O/10	Tot. Sol. kg/m3	Diss. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
78	1140'	10.5	13.0	1.8	13' 21.0	17.20	0.06		0.001	35			950	300	0.2	1.0	48
105	1140'	10.0	10.0	1.8	16' 23.0	22.19	0.06		0.001	35			1100	280	0.1	0.9	48
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
24 HR IN	1140 kg/m3	OUT	1850 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	101	1.40	Emsco	152	254	98	1.36	9730	43.6	78.6	76.9	173.27

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST			Gel	66
° @ m			HNDL TOOLS			Starpak	8
° @ m			DRILLING			Pot Sulf	168
° @ m			CIRCULATE			Drispac	4
° @ m			TRIPPING			Sod sulf	6
° @ m			RIG SERV 0.50			Corinox	6
° @ m			BOP DRILL			Lime	4
° @ m			DRLG OUT			Alcomer110	4
° @ m			REPAIRS			Soda Ash	1
° @ m			SURVEYING			Barite	
° @ m			REAM 23.50			Percol 728	
° @ m			CLEAN BIT			Chemcide	2
			TOTAL HOURS: 24.00				

MUD COMMENTS: K+Ion=25000, Sulfite=160, Polymer=3.0

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

00/09/01.00:00Hrs. Continued to ream from 1191mKB.

Very hard reaming experienced from 1200-1206mKB. Worked the hole for 15 minutes, pulled 30000 to 40000 daN over before that area became easier to ream.

Very hard reaming at 1224-1226mKB.

Worked the hole, again pulling 40000 daN over string weight

before getting through, and reaming below this interval.

No indications of large cuttings. Constant medium flow of cuttings coming over shakers. Cutting size ranged from 1/2" to 2". Some 1" long by 1/4" wide slivers were also seen during reaming. Continued reaming to 1299mKB at 24:00 hours 2000.09.01.

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: 00/09/02
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 29 DEPTH: 1474.00 m PROGRESS: 0.00 m CPA NO.: 300C316040123300
WEATHER: Raining TEMP: 3 °C
8:00 a.m. OPERATION: Reaming to bottom. (Currently at 1375mKB)

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES:

- *More 244.5mm casing has been delivered to location.
- *Dogleg is .43 and turnrate is 10.07 at 1200mKB to 1206mKB.
- *Dogleg is .24 and the turnrate is 5.57 at 1224mKB to 1226mKB.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/09/01	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 28	
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: 2 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1474.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 1474.00 m		8:00 a.m. OPERATION: Reaming to bottom (at 1199mKB).			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 76343 CUMULATIVE COST: \$ 4220224

1 311 MM BIT	1 BIT SUB	1 DRILL COLLAR	1 3 PT.REAMER	1 DRILL COLLAR
1 3PT.REAMER	1 DRILL COLLAR	1 JARS	1 DRILL COLLAR	1 CROSS OVER
9 DRILL COLLAR	1 CROSS OVER	3 HWDP		

 TOTAL
ROTATING 398.00
HOURS:

LENGTH: 163.12 m WT. BELOW JARS: 6000 daN JAR HRS: 20.3 JAR SERIAL #: 10163

WT. ON BIT: 3000 daN ROTARY RPM: 61 STRING WT.: 72000 daN

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

 228 H90 4
171 H90 9

BIT

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			DEL	RMD	WIDEN	RPM	I	D	D	L	B	O	O	R	
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722	1474	752	6.2	121.00		10-15	20	2	1	BT	N	1	1	CC	BHA	
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474		0		20.25	2-3	61										
										0														

TS

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY g/cc	pH	WL cc/30min	FC mm	PV/VP	GELS O/10	Tot. Sol. kg/m3	Dia. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	DIC %	Cl ppm	Ca ppm	ALKALINITY MTI	MFO	°C IN/OUT
78	1130	9.0	10.0	1.8	11' 22.0	18.20	0.05		0.001	30			1100	380	0.1	0.8	45
71	1130	10.0	12.0	1.8	10' 22.0	17.19	0.05		0.001	35			1100	300	0.2	0.9	50

CENTRIFUGE				DESILTER				DESANDER				DEGASSER				TOTAL MUD DUMPED	
24 HR IN	1130 kg/m3	OUT	1810 kg/m3	HR OUT	kg/m3	IIR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3					m3	

P
U
M
P

PUMP NO. 1					PUMP NO. 2					PRESSURE		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN.	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN.	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	PHP	
Emsco	152	254	90	1.24	Emsco	152	254	90	1.24	8400	39.2	70.6	69.1	124.60	

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel	1	
° @ m			DRILLING	SLIP & CUT 1.00		Starpak	4	
° @ m			CIRCULATE			Pot Sulf	115	
° @ m			TRIPPING 2.50			Drispac	2	
° @ m			RIG SERV 0.25			Sod sulf	3	
° @ m			BOP DRILL			Corinox	3	
° @ m			DRLG OUT			Lime	5	
° @ m			REPAIRS			Alcomer110	2	
° @ m			SURVEYING			Envirofloc		
° @ m			REAM 20.25	CLEAN BIT		Barite		
° @ m			TOTAL HOURS: 24.00			Percol 728		
						Chemcide	2	

MUD COMMENTS: K+Ion - 16,000, Sulfite - 180, 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.)

2000.08.31 @ 00:00 Hours:

Ran in hole to 1043mKB. Began reaming. This is the same area where it started to pull easier when hoisting out of hole. 1114-1118mKB reamed hard, the same at 1169-1171mKB. It seemed that once the bit and reamers got past, or around, these two points, reaming became easier. At various points

during reaming, the hole fell in causing an increase in pressure and more working of the drill string was needed. Cutting sizes range from 2" by 2" and 2" to 1.5" long slivers as well as smaller cuttings. The hole is cleaning good with a large amount of cuttings coming over the shaker. Continued reaming to 1190mKB to 24:00 hours 2000.08.31.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/09/01

LOCATION: 300-C31-6040-12330-0

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

DAY: 28

DEPTH: 1474.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Overcast

TEMP: 2 °C

8:00 a.m. OPERATION: Reaming to bottom (at 1199mKB).

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Dennis Millar, Jim Good and Jim Taylor of Canadian Forest Oil arrived at location and inspected the drilling operations. In addition to the inspection, the overall operation of the C-31 well was discussed. They seemed very pleased with the operations here.
- 2: Functioned remote choke.
- 3: At survey depth 1044.59mKB the dogleg was 1.12.
- 4: Interval from 1191-1199mKB took 6 hours to ream through.

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: 00/08/31	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 27	
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 AND CLOUDY		TEMP: 3 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1474.00 m		PROGRESS: 20.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 1060.00 m		8:00 a.m. OPERATION: REAMING 311mm HOLE FROM 1043mKB.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 53798 CUMULATIVE COST: \$ 4143881

1 311 MM BIT	1 BIT SUB	1 DRILL COLLAR	1 3 PT.REAMER	1 DRILL COLLAR
1 3PT.REAMER	1 DRILL COLLAR	1 JARS	1 DRILL COLLAR	1 CROSS OVER
9 DRILL COLLAR	1 CROSS OVER	3 HWDP		

TOTAL ROTATING 377.75 HOURS:

LENGTH: 163.12 m WT. BELOW JARS: 6000 daN JAR HRS: JAR SERIAL #: 10163

WT. ON BIT: 12000 daN

ROTARY RPM:

STRING WT.: 72000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

4

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.										REMARKS
					1	2	3	IN	OUT		UNK.	RMD		WT/LN	RPM	I	O	D	L	B	G	O	R	
1 C	311.0	J + L	R57EN	ATJ-15	19.5	19.5	17.5	711	722	11	4.0	2.75		15-18		2	2	CT	H1	E	I	JD	BHA	
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722	1474	752	6.2	121.00		10-15	20	2	1	BT	N	1	1	CC	BHA	
3C	311.0	J&L	W83PD	ATJ-15	15.9	15.9	15.9	1474		-147														

LAST PIPE TALLY: 1302.37

BOARD: 1301.83

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/3000ft	FC mm	FWYP	GELS 0/10	Tot. Sol. g/m ³	Dried Sol. g/m ³	SAND g/m ³	BENTONITE g/m ³	LCM g/m ³	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MEI	MFO	
72	1120'	10.0	10.0	1.8	10' 23.0	19.1/19.	0.06		0.001	35			1100	360	0.1	0.8	' 60
76	1130'	10.5	11.0	1.8	10' 23.0	19.1/21.	0.06		0.001	30			1000	360	0.1	0.8	' 60
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED					
24 HR IN	1120 kg/m ³	OUT	1840 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		DP m/MIN	DC m/MIN	VELOCITY m/sec.	HP
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	11500	45.8	82.6	80.8	198.35

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH							
3.40 °	@	1447.00 m	84.50	PRESS TEST	HNOL TOOLS 3.75	Gcl	37
3.20 °	@	1456.75 m	87.00	DRILLING 7.00		STARPAK	2
2.85 °	@	1473.75 m	91.36	CIRCULATE 0.75		Pot Sulf	
°	@	m		TRIPPING 7.00		Driscac	1
°	@	m		RIG SERV 0.50		Sod sulf	3
°	@	m		BOP DRILL 0.25		Corinox	3
°	@	m		DRLG OUT		lime	3
°	@	m		REPAIRS		Alcomer110	3
°	@	m		SURVEYING 0.75		Envirofloc	2
°	@	m		REAM 4.00	CLEAN BIT	Barite	30
°	@	m				Percol	1
				TOTAL HOURS: 24.00		Chemcide	1

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)

2000/08/30 @ 00:00 HOURS.DIRECTIONALLY DRILLED 311mm HOLE WITH SURVEYS FROM 1454mKB TO 1464mKB.RIG SERVICED FUNCTIONED TOP PIPE RAMS.DIRECTIONALLY DRILLED 311mm HOLE FROM 1464mKB TO 1474mKB.CIRCULATED BOTTOMS UP.ATTEMPTED TO TRIP OUT OF HOLE.HOLE WAS TIGHT.CIRCULATED AND REVERSED REAMED OUT OF HOLE WITH TOP DRIVE TO 1177mKB.CIRCULATED AND WORKED TIGHT

HOLE FROM 1177mKB TO 1089mKB.TRIPPED OUT REMAINING DRILL STRING.LAYED DOWN M.W.D.TOOLS,MUD MOTOR,SHOCK SUB,MONEL DRILL COLLARS AND CHANGED OUT JARS.FUNCTIONED CHECKED BLIND RAMS.MEASURED UP TOOLS FOR REAMING ASSEMBLY.MADE UP NEW BHA FOR CLEAN OUT TRIP TO 23:59 HOURS,08/30/00.

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: 00/08/31

LOCATION: 300-C31-6040-12330-0

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

DAY: 27

DEPTH: 1474.00 m

PROGRESS:

20.00 m

CPA NO.: 300C316040123300

WEATHER: OVERCAST AND CLOUDY

TEMP: 3 °C

8:00 a.m. OPERATION: REAMING 311mm HOLE FROM 1043mKB.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES: *TRIPPED OUT OF HOLE AT 1474mKB. HOLE CONDITION BECAME TIGHT ONCE MUD PUMP WAS SHUT DOWN. HEADED UP WITH TOP DRIVE AND CIRCULATED AND REVERSED REAMED OUT TO 1177mKB. AT THIS DEPTH HOLE BECAME VERY TIGHT. CIRCULATED AND WORKED TIGHT HOLE FROM 1177mKB TO 1089mKB AFTER 4 HOURS, HOLE CONDITIONS CLEANED UP AND DRILL STRING CLEANED UP AND PULLED FREE.

*LAYED DOWN DIRECTIONAL TOOLS AND MONEL DRILL COLLARS, SHOCK SUB.

*CHANGED BHA, PICKED UP 2-3 POINT FULL GAUGE 311mm REAMERS.

*CHANGED OUT DRILLING JARS. (NEW JARS PRESET AT 80,000 LBS.)

*SAFETY TOPIC, TRIPPING.

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: 00/08/30	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 26	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: 6.5 m		WELL STATUS:	
WEATHER: CLOUDY AND OVERCAST		TEMP: 1.5 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1454.00 m		PROGRESS: 95.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 1472.00 m		8:00 a.m. OPERATION: DIRECTIONALLY DRILLING 311mm HOLE WITH PDC BIT.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 88504 CUMULATIVE COST: \$ 4090083

1 311 MM BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 DRILL COLLAR	1 SHOCK SUB	1 DRILL COLLAR	1 JARS
2 DRILL COLLAR	1 CROSS OVER	9 DRILL COLLAR	1 CROSS OVER	3 HWDP
LENGTH: 190.79 m WT. BELOW JARS: 6000 daN JAR HRS: 222.5 JAR SERIAL #: 10164				

 TOTAL
ROTATING 370.75
HOURS:

WT. ON BIT: 15000 daN

ROTARY RPM: 20/80

STRING WT.: 72000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS
					1	2	3	IN	OUT			DRL	RWD	WT daN	RPM	I	D	D	L	B	G	O	R	
48	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395	711	316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD	
1 C	311.0	J + L	R57EN	ATJ-15	19.5	19.5	17.5	711	722	11	4.0	2.75		15-18		2	2	CT	H1	E	I	JD	BHA	
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722		732	6.4	114.00		10-15	20									

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [X]

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS OND	For Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT	
															MEI	MFO		
68	1130 /	9.5	12.0	1.8	10 / 22.0	19. / 19.	0.06		0.001	35			1000	360	0.1	0.8	/ 60	
76	1130 /	10.5	11.0	1.8	10 / 23.0	19. / 21.	0.06		0.001	30			1000	360	0.1	0.8	/ 60	
CENTRIFUGE					DESILTER					DESANDER					DEGASSER		TOTAL MUD DUMPED	
24 IIR IN	1120 kg/m3	OUT	1840 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	DIS/MIN	MODEL	LINER mm	STROKE mm	SPM	DIS/MIN	kps	DP m/MIN	DC m/MIN	VELOCITY m/sec.	HHP
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	11500	45.8	82.6	50.0	76.13

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH 4.30° @ 1360.51 m 68.30 4.40° @ 1379.66 m 71.00 4.80° @ 1398.97 m 73.60 4.80° @ 1408.63 m 75.70 4.50° @ 1418.28 m 78.90 4.10° @ 1427.85 m 79.80 3.70° @ 1437.25 m 82.80 ° @ m ° @ m ° @ m	PRESS TEST DRILLING 21.50 CIRCULATE TRIPPING RIG SERV 1.00 BOP DRILL DRLG OUT REPAIRS SURVEYING 1.50 REAM CLEAN BIT TOTAL HOURS: 24.00	Gel 35 STARPAK 12 Pot sulf 224 Drispac 6 Sod sulf 6 Corinox 6 lime 6 Alcomer110 5 Sulf-Acid Soda Ash 2 Percol 3 Chemcide 2

MUD COMMENTS: STRIPPED BACK 51m3 OF MUD. ADDED 16m3 OF PREMIX TO 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)

2000.08.29 @ 00:00 HOURS:

DIRECTIONALLY DRILLED 311mm HOLE FROM 1359-1377mKB, WITH SURVEYS. RIG SERVICED. FUNCTION TESTED BOTTOM PIPE RAMS.

DIRECTIONALLY DRILLED 311mm HOLE, WITH SURVEYS FROM 1377-1431mKB. SERVICED TOP DRIVE. DIRECTIONALLY DRILLED 311mm HOLE, WITH SURVEYS, FROM 1431-1454mKB TO 23:59 HOURS

2000.08.29.

NOTE 1: HOLE CONDITIONS HAVE BEEN GOOD WITH NO TIGHT CONNECTIONS.

NOTE 2: INCLINATION WANTS TO CLIMB AND TURN TO THE RIGHT. HAVING TO SLIDE TO CONTROL THIS, WE WERE NOT ABLE TO PUT A GREAT DEAL OF WEIGHT ON THE BIT WITHOUT TOOL

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: 00/08/30

LOCATION: 300-C31-6040-12330-0

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

DAY: 26

DEPTH: 1454.00 m

PROGRESS:

95.00 m

CPA NO.: 300C316040123300

WEATHER: CLOUDY AND OVERCAST

TEMP: 1.5 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

FACE BECOMING UNCONTROLABLE.

NOTE 3: HOLE DRAG: DOWNWARD 8000 daN. UPWARD 8000 daN.

NOTE 4: BOTTOM HOLE TORQUE: 12000 ft#.

NOTE 5: STRIPPED BACK 51m3 OF MUD OVER PAST 24 HOURS. ADDED 16m3 OF PREMIX
TO THE ACTIVE SYSTEM. RAN WATER AT 40 L/MINUTE.

NOTE 6: SAFETY TOPIC: CAMP FIRE DRILL.

REPORTED BY: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD #:



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

H90

CO 0007



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/29

LOCATION: 300-C31-6040-12330-0

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

DAY: 25

DEPTH: 1359.00 m

PROGRESS: 113.00 m

CPA NO.: 300C316040123300

WEATHER: OVERCAST AND CLOUDY

TEMP: 3 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTES: *STIPPED BACK TOTAL OF 45m³ OF MUD IN THE PAST 24 HOURS.
*ADDED TOTAL OF 6.5m³ OF PREMIX MUD TO THE ACTIVE SYSTEM.
* HOLE DRAG PULLING UP 8000dan, DRAG DOWNWARD 7000dan.
*TORQUE AT BOTTOM OF HOLE 11000 FT/LBS.
*SAFETY TOPICS, SAFETY GLASSES AND EAR PROTECTION.

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: 00/08/28

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

CPA NO.: 300C316040123300

DAY: 24

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: 488.0 m

KB-GL: 6.7 m

LICENCE NO.: 1900

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

GL: 481.3 m

KB-CF: 6.5 m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: OVERCAST, RAIN

TEMP: 5 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 1246.00 m

PROGRESS: 120.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 1269.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67037 CUMULATIVE COST: \$ 3929054

1 311 MM BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 DRILL COLLAR	1 SHOCK SUB	1 DRILL COLLAR	1 JARS
2 DRILL COLLAR	1 CROSS OVER	9 DRILL COLLAR	1 CROSS OVER	3 HUWP

TOTAL
ROTATING 286.25
HOURS:

LENGTH: 190.79 m WT. BELOW JARS: 6000 daN JAR HRS: 181.2 JAR SERIAL #: 10164

WT. ON BIT: 18000 daN

ROTARY RPM: 20/80

STRING WT.: 66000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

BIT NO.	SIZE mm	MARK	SERIAL #	TYPE	NOZZLES mm.			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT								REMARKS	
					1	2	4	IN	OUT			DRL	RWD	WT/LN	RTM	I	O	D	L	B	G	Q	K		
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395		316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD		
1 C	311.0	J + L	R57EN	ATJ-15	19.5	19.5	17.5	711		11	4.0	2.75		15-18		2	2	CT	H1	E	I	JD	BHA		
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722		524	7.3	71.75		10-18	20										

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY g/cm ³	pH	WL cu/30min	FC mm	PV/VP	GELS OAD	Tur Sol kg/m ³	Drid Sol kg/m ³	SAND kg/m ³	BENTONITE kg/m ³	LCM kg/m ³	CL %	CI ppm	Cs ppm	ALKALINITY		°C IN/OUT
62	1130'	10.5	16.0	1.8	8/ 22.0	17. /18.	0.06		0.001	30			950	380	0.2	0.7	/ 52
57	1130'	10.0	14.0	1.8	8/ 19.0	15. /16.	0.06		0.001	35			1000	380	0.2	0.8	/ 52
CENTRIFUGE			DESILTER			DESANDER			DECASSER			TOTAL MUD DUMPED					
24 HX IN	1120 kg/m ³	OUT	1840 kg/m ³			HR OUT	kg/m ³		HR OUT	kg/m ³		HR OUT	kg/m ³				m ³

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	MPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HPH
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	11800	45.8	82.6	8.3	2.10

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS		Gel	
1.60 °	@ 1130.81 m	98.10	DRILLING	21.50		STARPAK	6
1.90 °	@ 1158.98 m	93.70	CIRCULATE			Pot Sulf	280
2.30 °	@ 1178.46 m	96.80	TRIPPING			Driscac	4
2.20 °	@ 1197.23 m	90.50	RIG SERV	1.00		Sod sulf	6
2.30 °	@ 1226.31 m	85.10	BOP DRILL			Corinox	6
°	@ m		DRLG OUT			lime	3
°	@ m		REPAIRS			Alcomer110	6
°	@ m		SURVEYING	1.50		Sulf-Acid	
°	@ m		REAM			Desco	
°	@ m		CLEAN BIT			PERCOL	2
°	@ m		TOTAL HOURS: 24.00			ALKAPAM	

MUD COMMENTS: DEWATERED 48m³ OF MUD.17m³ OF PREMIX ADDED TO 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.)

2000.08.27 @ 00:00 HOURS:

DIRECTIONALLY DRILLED 311mm HOLE FROM 1126-1175mKB. RIG

SERVICED. FUNCTION TESTED BOTTOM PIPE RAMS, CLOSED IN 6

SECONDS. DIRECTIONALLY DRILLED WITH SURVEYS FROM 1175-

1204mKB. RIG SERVICED TOP DRIVE. DIRECTIONALLY DRILLED WITH

SURVEYS FROM 1204-1223mKB. RIG SERVICED. FUNCTION TESTED

ANNULAR, 19 SECONDS TO CLOSE. DIRECTIONALLY DRILLED 311mm
HOLE FROM 1223-1246mKB TO 23:59 HOURS 2000.08.27.

NOTE 1: CONNECTIONS APPEAR GOOD WITH NO SIGN OF TIGHT HOLE.

2: STRIPPED BACK 48m³ OF MUD OVER THE PAST 24 HOURS.ADDED 17m³ OF PREMIX MUD TO THE ACTIVE SYSTEM.

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:

LOCATION: 300-C31-6040-12330-0

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

DAY: 24

DEPTH: 1246.00 m

PROGRESS: 120.00 m

CPANO.: 300C316040123300

WEATHER: OVERCAST, RAIN

TEMP: 5 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTE 3: MAXIMUM HOLE DRAG NOTICED WAS 7000 daN UP AND 6000 daN DOWN.

4: BOTTOM HOLE TORQUE: 11000 ft#.

5: GAS SHOW AT 1198mKB - 16%.

6: SAFETY TOPIC: PICKING UP DRILL PIPE.

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: 00/08/27	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 23	
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 / RAIN		TEMP: 6 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 1126.00 m		PROGRESS: 141.00 m		PBDT: m FORMATION:	
8:00 a.m. DEPTH: 1168.00 m		8:00 a.m. OPERATION: DIRECTIONAL DRILLING 311mm HOLE WITH PDC BIT.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 67743 CUMULATIVE COST: \$ 3862017

1 311 MM BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 DRILL COLLAR	1 SHOCK SUB	1 DRILL COLLAR	1 JARS
2 DRILL COLLAR	1 CROSS OVER	9 DRILL COLLAR	1 CROSS OVER	3 HWDP
LENGTH: 190.79 m WT. BELOW JARS: 6000 daN JAR HRS: 159.7 JAR SERIAL #: 10164				

 TOTAL
ROTATING 243.25
HOURS:

 WT. ON BIT: 15000 daN ROTARY RPM: 20/80 STRING WT.: 63000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 6
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT								REMARKS
					1	2	3	IN	OUT			DRL	RMP		WTN	RPM	I	O	D	L	B	G	
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395		316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD
1 C	311.0	J + L	R57EN	ATJ-15	19.5	19.5	17.5	711		11	4.0	2.75		15-18		2	2	CT	H1	E	I	JD	BHA
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722		404	8.0	50.25		10-16	20								

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [X]

Viscosity Sec/l	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS 0/10	Tot. Sol. kg/m3	Drid. Sol. kg/m3	SAND kg/m3	BENTONITE kg/h3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
54	1120/	9.0	15.0	1.8	8/	18.0	14./16.	0.05	0.001	35			950	640	0.1	0.8	/ 50
48	1130/	10.5	17.0	1.8	9/	20.0	13./13.	0.06	0.001	35			1050	560	0.2	0.8	/ 50
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED					m3
24 HR IN	1130 kg/m3	OUT	1860 kg/m3		HR OUT	kg/m3		HR OUT	kg/m3		HR OUT	kg/m3					

PUMP NO. 1					PUMP NO. 2					PRESSURE kPa	ANNULAR VELOCITY		JET	
MODEL	LINEK mm	STROKE mm	SPM	ml/MIN	MODEL	LINEK mm	STROKE mm	SPM	m3/MIN		DP m/MIN	DC m/MIN	VELOCITY m/sec.	WHP
Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	4200	45.8	82.6	8.3	2.09

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			PRESS TEST	HNDL TOOLS	0.50	Gel	2
2.50 °	@	968.78 m	63.80	DRILLING	17.75	STARPAK	8
2.30 °	@	987.76 m	70.30	CIRCULATE	0.75	Pot Sulf	168
2.40 °	@	997.30 m	73.30	TRIPPING	1.75	Drispac	4
2.40 °	@	1006.61 m	69.90	RIG SERV	0.50	Sod sulf	6
2.50 °	@	1025.31 m	81.20	BOP DRILL		Corinox	6
2.60 °	@	1034.85 m	76.80	DRLG OUT		lime	6
2.40 °	@	1044.59 m	79.60	REPAIRS		Alcomer110	5
1.70 °	@	1063.35 m	78.50	SURVEYING	2.25	Sulf-Acid	
1.70 °	@	1082.60 m	68.20	REAM	0.50	Desco	
1.40 °	@	1101.66 m	82.80	CLEAN BIT		PERCOL	1
TOTAL HOURS: 24.00						ALKAPAM	

MUD COMMENTS: STRIPPED BACK 23m3 OF MUD. ADDED 6m3 OF PREMIX MUD TO 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.)

2000.08.26 @ 00:00 HOURS

DIRECTIONALLY DRILLED 311mm HOLE WITH SURVEYS FROM

985-1013mKB. RIG SERVICED AND FUNCTION TEST TOP PIPE RAMS

6 SECONDS TO CLOSE. DIRECTIONALLY DRILLED WITH SURVEYS FROM

1013-1118mKB. CIRCULATE BOTTOMS UP. WIPER TRIP FROM

1118-710mKB. DOWN LINK MUD TOOL. RAN IN HOLE TO 1090mKB.

BROKE CIRCULATION AND WASHED TO BOTTOM FROM 1090-1118mKB.

CIRCULATED BOTTOMS UP. RIG SERVICED AND FUNCTION TESTED

HYDRIL, 19 SECONDS TO CLOSE. CYCLED PUMP AND CHECKED

R.S.P.P. DIRECTIONALLY DRILLED WITH SURVEYS FROM 1118-1126mKB

23:59 HOURS 2000.08.26.

SUPERVISOR: SOLBERG/PICHE

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE:

LOCATION: 300-C31-6040-12330-0

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

DAY: 23

DEPTH: 1126.00 m

PROGRESS: 141.00 m

CPA NO.: 300C316040123300

WEATHER: OVERCAST / RAIN

TEMP: 6 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- NOTE #1 WHILE DRILLING CONTINUED ON WE NOTICED HOLE DRAG STARTED TO INCREASE FROM 6000 TO 9000daN. ON CONNECTIONS IT APPEARED THAT HOLE WAS NOT CLEANING WITH THE RATE OF PENETRATION. AT 1118mKB. WE DECIDED TO WIPER TRIP UP INTO SURFACE CASING AT 710mKB. RAN BACK IN HOLE AND WASHED TO BOTTOM FROM 1090-1118mKB. CIRCULATED BOTTOMS UP, AND HOLE UNLOADED GOOD WITH SHALE CUTTINGS AND TRACES OF SLIVERD CUTTINGS. WITH THIS IN MIND, VIS WILL BE INCREASED TO 50 S/L, WL DOWN TO 10-12, YIELD 22-24 PA. AS DRILLING CONTINUED, THE HOLE DRAG WAS NOTICEBLY LOWERD TO 4000 TO 6000daN.
- NOTE #2 DEWATERD BACK 36m3 OF MUD OVER 24 HOUR PERIOD. ADDED 6m3 OF PREMIX TO ACTIVE SYSTEM. RUNNING ABOUT 60 L/MIN OF WATER TO MAINTAIN TANK VOLUME.
- NOTE #3 GAS SHOW AT 1068-1070mKB. POSSIBLE FRACTURE ZONE.
- NOTE #4 SAFETY TOPIC, MIXING MUD AND CHEMICALS.
- NOTE #5 RATE OF PENETRATION WHILE SLIDING 2.5m TO 3m/hour
RATE OF PENETRATION WHILE ROTATING 7.5m TO 10m/hour
SLIDE FROM 1118-1127mKB. ROTATE 1127-1147mKB. SLIDE FROM 1147-1154mKB. ROTATE FROM 1154mkb.

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: 00/08/26

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

CPA NO.: 300C316040123300

DAY: 22

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 WITH RAIN

TEMP: 6 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 985.00 m

PROGRESS: 166.00 m

PBDT: m FORMATION:

8:00 a.m. DEPTH: 1050.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 64697 CUMULATIVE COST: \$ 3794274

1 311 MM BIT	1 MOTOR	1 FLOAT SUB	1 RESTRIC.SUB	1 MONEL MWD
1 MONEL	1 DRILL COLLAR	1 SHOCK SUB	1 DRILL COLLAR	1 JARS
2 DRILL COLLAR	1 CROSS OVER	9 DRILL COLLAR	1 CROSS OVER	3 HWDP
LENGTH: 190.79 m	WT. BELOW JARS: 6000 daN	JAR HRS: 142.0	JAR SERIAL #: 10164	

WT. ON BIT: 15000 daN

ROTARY RPM: 20/80

STRING WT.: 60000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.										REMARKS	
					1	2	3	IN	OUT		DRL	RMD		WTEN	RPM	I	Q	D	L	B	G	Q	R		
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395		316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD		
1 C	311.0	J + L	R57EN	ATJ-15	19.5	19.5	17.5	711		11	4.0	2.75		15-18		2	2	CT	H1	E	I	JD	BHA		
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722		263	8.1	32.50		9-15	20										

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [X]

Viscosity Sec/CL	DENSITY IN/OUT	AB	WL @30min	PC mm	FV/YP	GELS Or10	Tol Sol kg/m3	Dirt Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MEI	MFO	
48	1110/	9.5	21.0	1.8	5/ 15.0	12./12.	0.05		0.001	35			1100	560	0.1	0.8	/ 47
48	1110/	9.5	20.0	1.8	6/ 14.0	12./13.	0.05		0.001	35			1100	460	0.1	0.7	/ 47

CENTRIFUGE				DESILTER		DESANDER		DECLASSER		TOTAL MUD DUMPED
24 HR IN	1120 kg/m3	OUT	1860 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	LPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HTIP		
	Emsco	152	254	105	1.45	Emsco	152	254	105	1.45	4200	45.8	82.6	8.3	2.06

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH			HNDL TOOLS				
2.70 ° @	814.77 m	99.60	PRESS TEST	19.50	STARPAK	1	
2.40 ° @	824.48 m	87.20	DRILLING		Pot sulf	224	
2.30 ° @	834.05 m	94.90	CIRCULATE		Drispac	1	
1.90 ° @	853.31 m	80.70	TRIPPING		Sod sulf	3	
2.00 ° @	892.07 m	94.50	RIG SERV	0.75	Corinox	3	
2.40 ° @	901.55 m	95.60	BOP DRILL		Bicarb		
2.30 ° @	930.52 m	93.10	DRLG OUT		Alcomer110	3	
2.20 ° @	940.00 m	86.80	REPAIRS		Sulf-Acid		
2.20 ° @	949.70 m	76.10	SURVEYING	3.75	Desco		
° @	m		INST W/BUS		PERCOL	2	
			CLEAN BIT		ALKAFAM	1	
			TOTAL HOURS:	24.00			

MUD COMMENTS: STRIPPED BACK 23m3 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.)

2000.08.25 @ 00:00 HRS

HOURS 2000.08.25.

DIRECTIONALLY DRILLED 311mm HOLE FROM 819-821mKB. RIG

NOTE #1 HOLE CLEANING GOOD. NO SIGN OF TIGHT HOLE ON CONNECTIONS.

SERVICED. FUNCTIONED BOTTOM PIPE RAMS (6 SECONDS TO CLOSE).

DIRECTIONALLY DRILLED 311mm HOLE WITH SURVEYS FROM

821-879mKB. SERVICED DRAWWORKS AND TOP DRIVE. DIRECTIONALLY

DRILLED 311mm HOLE WITH SURVEYS FROM 879-985mKB TO 23:59

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: 00/08/26

LOCATION: 300-C31-6040-12330-0

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

DAY: 22

DEPTH: 985.00 m

PROGRESS: 166.00 m

CPA NO.: 300C316040123300

WEATHER: OVERCAST WITH RAIN

TEMP: 6 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES #2 HOLE DRAG 5000daN UP AND 3000daN DOWN

BOTTOM HOLE TORQUE 8000 FT/LBS.

WEIGHT OF DRILL COLLARS 28000daN.

SAFETY TOPICS: HOUSE KEEPING AND FALL ARREST LINES.

DE-WATERD BACK 23m3 OF MUD. ADDED 3m3 OF PREMIXED MUD TO ACTIVE
SYSTEM OVER ONE CIRCULATION.NOTE #3 LOCATION AND ACCESS ROAD STANDING UP VERY WELL WITH THE AMOUNT OF
RAIN IN THE PAST 24 HOURS.

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: 00/08/25

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

CPA NO.: 300C316040123300

DAY: 21

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: RAINING

TEMP: 5 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 819.00 m

PROGRESS: 97.00 m

PFTD: m

FORMATION:

8:00 a.m. DEPTH: 871.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 68076 CUMULATIVE COST: \$ 3729577

1 311 MM BIT 1 MOTOR 1 FLOAT SUB 1 RESTRIC.SUB 1 MONEL MWD
 1 MONEL 1 DRILL COLLAR 1 SHOCK SUB 1 DRILL COLLAR 1 JARS
 2 DRILL COLLAR 1 CROSS OVER 9 DRILL COLLAR 1 CROSS OVER 3 HWDP
 LENGTH: 190.79 m WT. BELOW JARS: 6000 daN JAR HRS: 142.0 JAR SERIAL #: 10164

WT. ON BIT: 15000 daN

ROTARY RPM: 20/80

STRING WT.: 56000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT WT&N	RPM	CUTTING STRUCT.										REMARKS
					1	2	3	IN	OUT			DRL	RMS			I	O	D	L	B	G	O	R			
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395		316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD			
1 C	311.0	J + L	R57EN	ATJ-15	19.5	19.5	17.5	711		11	4.0	2.75		15-18		2	2	CT	H1	E	1	JD	BHA			
2C	311.0	SEC/DB	5984822	FM2763	14.3	14.3	14.3	722		97	7.5	13.00		9-15	20											

LAST PIPE TALLY: 631.33

BOARD: 631.27

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
															MFI	MFO	
43	1080/	11.5	27.0	1.8	6/ 13.0	5.0/10.	0.03		0.001	35			950	440	0.3	0.7	/ 33
45	1090/	10.5	14.0	1.8	6/ 15.0	10./9.0	0.04		0.001	35			1000	420	0.2	0.7	/ 33
CENTRIFUGE				DESILTER				DESANDER				DEGASSER				TOTAL MUD DUMPED	
24 HR IN	1720 kg/m3	OUT	1090 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	105	1.45	Emsco	152	254	105	1.45	4200	45.8	82.6	8.3	2.02				

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				PRESS TEST	HNDL TOOLS	3.75		Gcl	2
7.50 ° @	728.91 m	53.40		DRILLING	13.00			Soda Ash	
6.90 ° @	738.44 m	57.60		CIRCULATE				Pot Sulf	112
6.20 ° @	748.12 m	62.70		TRIPPING	1.50			Orispac	3
5.80 ° @	756.97 m	67.80		RIG SERV	0.75			Sod sulf	7
5.10 ° @	766.29 m	77.80		BOP DRILL	0.25			Corinox	6
4.30 ° @	776.05 m	86.30		DRLG OUT				Bicarb	2
3.90 ° @	785.79 m	89.40		REPAIRS	2.00			Alcomer110	1
3.50 ° @	795.56 m	92.80		SURVEYING	2.75			Sulf-Acid	
3.00 ° @	805.29 m	94.20		INST W/BUS				Desco	
" @	m							Cellophane	
					CLEAN BIT			Barite	28
					TOTAL HOURS:	24.00			

MUD COMMENTS: DE-WATERD APPROXIMATELY 22m3 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.)

2000.08.24 @ 00:00 HOURS:

PICKED UP 228mm MUD MOTOR AND CHANGED OUT SLEEVES. SET AND ADJUSTED RESTRICTER SUB, ORIENTED MOTOR TO MWD. RAN IN HOLE WITH MOTOR. HELD BOP DRILL WITH CREW WHILE TRIPPING IN HOLE. RIG SERVICED. FUNCTIONED TOP PIPE RAMS. DIRECTIONALLY DRILLED 311mm HOLE FROM 722-751mKB. DISCHARGE LINE ON MUD

PUMP WASHED. PULLED UP INTO CASING AND REPAIRED.

DIRECTIONALLY DRILLED 311mm HOLE WITH SURVEYS FROM 751-819mKB TO 23:59 HOURS 2000.08.24.

NOTE 1: HOLE CLEANING WELL, NO TIGHT CONNECTIONS.

NOTE 2: SAFETY TOPIC: BOP DRILL, SCRAPING PAINT.

CONT'D

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: 00/08/25

LOCATION: 300-C31-6040-12330-0

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

DAY: 21

DEPTH: 819.00 m

PROGRESS:

97.00 m

CPANO: 300C316040123300

WEATHER: RAINING

TEMP: 5

°C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTE 3: HAULED OUT THREE LOADS TO BARGE LANDING, 30" DIVERTER SKID, 2-15" DRILL COLLARS. 6-11" DRILL COLLARS. 6 PIECES OF 11" STABILIZERS, 3 PT. REAMERS, ETC.

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: 00/08/24

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

CPA NO.: 300C316040123300

DAY: 20

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: 4 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 722.00 m

PROGRESS: 11.00 m

PBD: m FORMATION:

8:00 a.m. DEPTH: 746.00 m

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

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 54257 CUMULATIVE COST: \$ 3661501

1 311 MM BIT	1 BIT SUB	2 NMDC	1 DRILL COLLAR	1 JAR
3 DRILL COLLAR	1 X/O	9 DRILL COLLAR	1 X/O	3 HWDP

TOTAL
ROTATING 175.25
HOURS:

LENGTH: 176.91 m WT. BELOW JARS: 6000 daN JAR HRS: 129.2 JAR SERIAL #: 10164

WT. ON BIT: 15000 daN

ROTARY RPM: 60

STRING WT.: 52000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT										REMARKS	
					1	2	3	IN	OUT			DR	RMD	WTDEN	RPM	I	O	U	L	D	G	O	R				
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395		316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD				
1C	311.0	HUGHES	R57EN	ATJ-15	19.5	19.5	17.5	711		11	4.0	2.75		15-18		2	2	CT	H1	E	I	JD	BHA				
										0				-													

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [x]

Viscosity St/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O40	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															ML	MPO	
45	1080	12.0	35.0	1.8	6	13.0	9.0	9.0	0.04	0.001	35		1000	380	0.2	0.6	49
CENTRIFUGE					DESILTER			DESANDER			DEGASSER				TOTAL MUD DUMPED		
HR IN		kg/m3	OIL	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	HPF
Emsco	152	254	80	1.11	Emsco	152	254	80	1.11	4200	35.1	63.2	14.1	4.46

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES			
AZIMUTH				PRESS TEST	7.50			Gel			
° @ m				DRILLING	2.75			Soda Ash			
° @ m				CIRCULATE	0.50			Pot Sulf			
° @ m				TRIPPING	7.00			Driscap			
° @ m				RIG SERV	0.50			Sod sulf			
° @ m				BOP DRILL	0.25			Corinox			
° @ m				DRLG OUT	3.75			Bicarb			
° @ m								Alcomer110			
° @ m								Sulf-Acid			
° @ m								Desco			
° @ m								Cellophane			
° @ m								Barite			
				INST W/BUS	1.00	CLEAN BIT	0.75				
				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.)

2000.08.23 @ 00:00 Hours:

Pressure tested lower pipe rams, top pipe rams, upper kill line, hydril, stabbing valve, kelly valve, inside BOP.

Installed wear bushing. Rig serviced. Made up BHA. Tripped in hole. Rig serviced. Functioned upper pipe rams. Drilled out float collar and cement to 705mKB. Pressure tested

casing. Drilled out cement and shoe. Drilled 311mm hole to 713mKB. Held BOP drill. Attempted to unball bit. Tripped out of hole. Inspected and removed junk from bit. Tripped in with bit. Drilled 311mm hole 713-722mKB. Circulated bottoms up. Performed leak off test and accumulator function test. Tripped out of hole to change BHA to 23:59 hours 2000.08.23.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/24

LOCATION: 300-C31-6040-12330-0

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

DAY: 20 DEPTH: 722.00 m

PROGRESS: 11.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR

TEMP: 4 °C

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

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Pressure tested upper and lower pipe rams, top kill line, kill line valves, check valves, hydril, stabbing valve, upper kelly cock, inside BOP and casing to 1500 kPa low, 13000 kPa high for 10 minutes on each test.
- 2: Performed a leak off test, established a leak off pressure gradient of 22 kPa/m.
- 3: After drilling out shoe and 2 metres of new hole the bit quit drilling, thinking the bit was balled up, an attempt to unball the bit was made with no success. The bit was tripped out and on examination was found to be balled up and skidding as a result of a BOP nut being lodged between two cones and a two inch diameter piece of pot metal being lodged between all three cones. The nut and junk were removed, bit cleaned up and tripped back in the hole. Drilling resumed normally at 8-12m/hour.
- 4: Scott air packs and fire extinguishers were checked.
- 5: Safety topics: BOP drills and pressure testing.
- 6: BOP drills performed prior to drilling out, men in position and well secured in 1 minute.
- Note 7: Accumulator Function Tests: Initial pressure on accumulator 21,300 kPa. Closed annular, pressure loss 8800 kPa, time 26 seconds. Closed pipe rams, pressure loss, 1400 kPa, time 10 seconds. Opened pipe rams, pressure loss, 600 kPa, time 8 seconds. Opened HCR valve, pressure loss 100 kPa, time 2 seconds. Total pressure loss 10,900 kPa. Remaining pressure 10,400 kPa. Time to rebuild pressure 3 minutes 22 seconds. Precharge pressure 7000 kPa. Nitrogen bottles at 15169 kPa, 15169 kPa, 13445 kPa, 15858.5 kPa and 15513.8 kPa.

REPORTED BY: Solberg/Sandquist

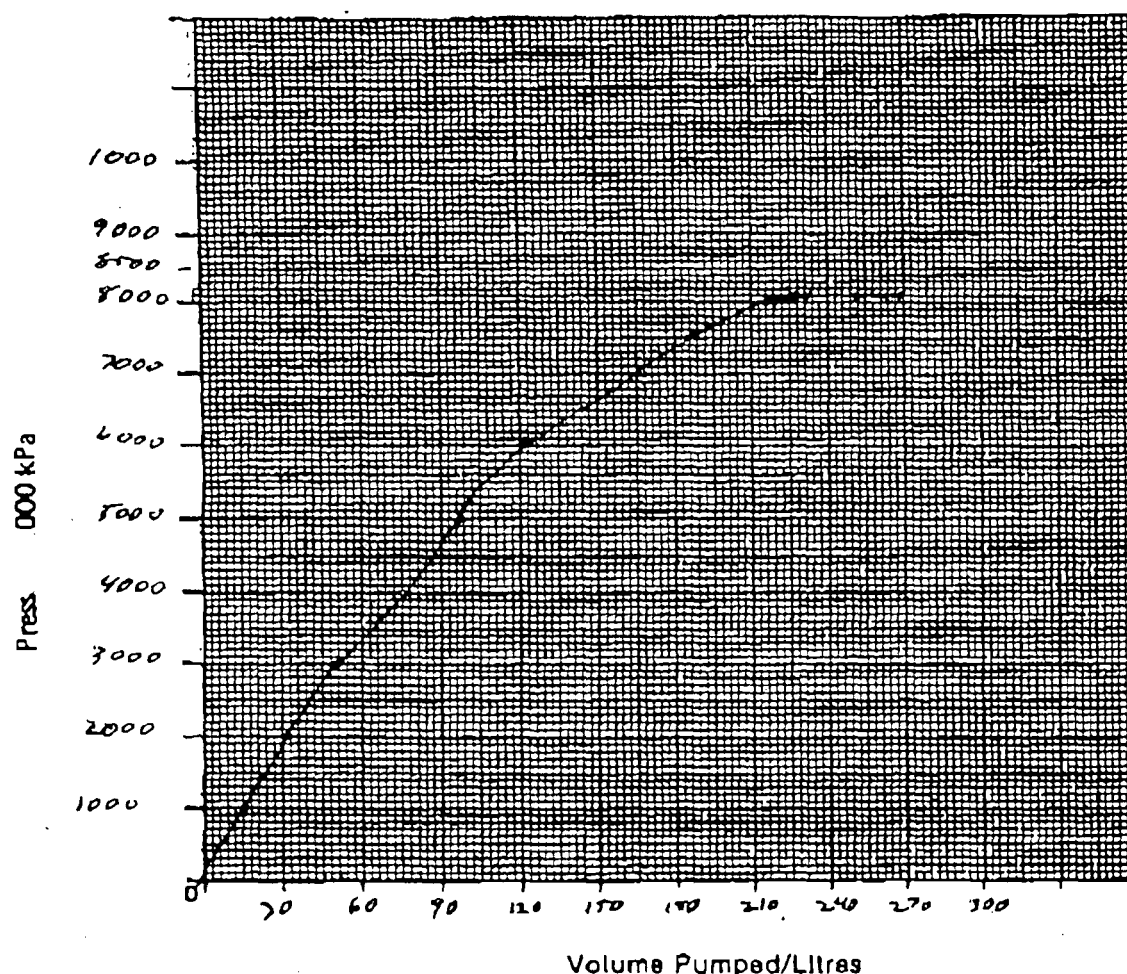
PHONE #: (600) 701-3227

CALLING CARD #:

FORMATION PRESSURE TESTWELL: Cd Forest at al North Lined c -31 DATE: (y-m-d) 2000 08 23

MAXIMUM TEST PRESSURE – LESSER OF

(1) B.O.P. Rating 35000 kPa (1)
 (2) Weakest Casing: 339.7 mm 101.2 kg/m K-55 Grade
 Burst Rating (kPa) 23800 x 0.75 = 17850 kPa (2)

VOL PUMPED PRESSURE
Litres kPa30 190060 340090 4850120 5900150 6750180 7250210 7900230 8100240 8100250 8100

Depth of casing a) 710 m
 Mud gradient b) (mud density x 0.00981) 10.59 kPa/m
 Hydrostatic pressure c) (a x b) 7518.9 kPa
 Leak-off pressure d) (see note below) 8100 kPa
 Total pressure (at shoe) e) (c + d) 15618.9 kPa
 Formation gradient f) (e + a) 22 kPa/m
 Maximum allowable mud density with no annulus pressure g) (f + 0.00981) 2242.6 kg/m³

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

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CON FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/23	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 19	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900		SPUD DATE: 00/08/04 @ 12:15 hrs.	
CONTRACTOR: AKIYA DRILLING LTD.		KB: 488.0 m KB-GL: 6.7 m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: 481.3 m KB-CF: m		WELL STATUS:	
WEATHER: CLEAR		TEMP: 11 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 711.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 711.00 m		8:00 a.m. OPERATION: Drilling out 339.7mm float shoe.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 49478 CUMULATIVE COST: \$ 3607244

 LENGTH: 0.00 m WT. BELOW JARS: 6000 daN JAR HRS: 129.2 JAR SERIAL #: 10164
 WT. ON BIT: daN ROTARY RPM: STRING WT.: daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 TOTAL
 ROTATING 172.50
 HOURS:

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.								REMARKS		
					1	2	3	IN	OUT			DRY	RMD		WIDEN	RPM	I	O	D	L	B	G		O	R
3B	444.5	DBS	598442	FM2864	17.5	17.5	17.5	336	395	59	5.2	11.25		6-21	30	1	1			x	1				PR
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395		316	4.9	64.50		20-22	30	3	3	FC	A	E	1		CT	TD	
										0				-											

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY IN/OUT	pH	WE µc/30min	FC min	FWYP	GELS O/D	Ten Sol kg/m3	Dnd Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C	
															MFI	MFO	IN/OUT	
43	1100 /	9.5	17.0	1.8	10 / 12.0	8.0 / 8.0	0.09		0.001	70			800	480	0.2	0.6	/ 49	
	/				/	/											/	
CENTRIFUGE					DESLTER				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 kPa	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN		DI m/MIN	DC m/MIN	VELOCITY m/sec	HHF
Emsco	152	254			Emsco	152	254				0.0	0.0	0.0	0.00

SURVEYS					TIME BREAKDOWN					MUD ADDITIVES				
AZIMUTH					W/N.U. BOP 14.75					Gel				
° @ m					PRESS TEST 8.50					Soda Ash				
° @ m										Pot Sulf				
° @ m										Driscac				
° @ m										Sod sulf				
° @ m										Corinox				
° @ m										Caustic				
° @ m										Alcomer110				
° @ m										Starpak				
° @ m										Lignite				
° @ m										Cellophane				
° @ m										Barite				
					WELD BOWL 0.75									
					TOTAL HOURS: 24.00									

MUD COMMENTS: Stripped 15m3 and ran centrifuge to reduce solids on surface volume.

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

2000.08.22 @ 00:00 Hours:

Welded on 339.7mm x 346mm 35 MPa flanged casing bowl.

Pressure tested weld on casing bowl. Nippled up BOPs. Mixed and pumped 3.8m3 of cement into annulus between 339.7mm and 508mm casing strings. Cement firm at surface. Pressure tested choke manifold, choke lines, blind rams and bottom

kill line and valves to 23:59 hours 2000.08.22.

Note 1: Pressure tested weld on casing bowl to 7000 kPa with nitrogen.

Note 2: Pressure tested manifold valves, choke lines, blind rams, lower kill line and kill line valves to 1500 kPa low and 13000 kPa high, 10 minutes on each test.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/23

LOCATION: 300-C31-6040-12330-0

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

DAY: 19 DEPTH: 711.00 m

PROGRESS: 0.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR

TEMP: 11 °C

8:00 a.m. OPERATION: Drilling out 339.7mm float shoe.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 3: Cemented 339mm casing annulus with 5 tonnes 0:1:0 Class "G" + 3% CaCl₂, 3.8m³ slurry at 1901 kg/m³ down 15 metres of 25mm stinger. Cement returns to surface and held stable.
- Note 4: Safety Topics: Nippling up and pressure testing.
- Note 5: Stripped 15m³ of mud.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

CASING SUMMARY REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		DATE: 00/08/21
LOCATION: 300-C31-6040-12330-0		G.L. ELEVATION: 481.30 m
		K.B. ELEVATION: 488.00 m
SURFACE (X)	INTERMEDIATE ()	KB TO GROUND: 6.70 m

SIZE: 339.70 mm	WEIGHT: 101 kg/m	GRADE: K55
MAKE: Tamsa	THREAD: BT&C	CONDITION: NEW
FLOAT/GUIDE SHOE - MAKE: Davis		FLOAT COLLAR - MAKE: Davis, Tag in
HANGER - TYPE:		
RAN: 55 js. 339.70 mm OD CASING SET @ 710.30 m (by pipe tally)		

Casing String Details

ITEM	LENGTH (m)	DEPTH LANDED (mKB)	ITEM	LENGTH (m)	DEPTH LANDED (mKB)
FLOAT SHOE	0.48	709.82			
TAG IN FLOAT C	0.62	696.52			

CASING BOWL

SIZE: 339 x 346 mm
SERIAL #: 25891-02
TYPE: VGCHL
API: 35000 kPa

CENTRALIZERS

NO: 17
INTERVALS: 24.66 - 702.00
MAKE: Import
TYPE: Bowspring

CASING HANGER

SIZE: X mm
MAKE:
TYPE:
API: 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.)

SUPERVISOR: Carmon Sandquist

PHONE #: (600) 701-9462

CCARD #:

PAJAK ENGINEERING LTD.

CASING TALLY

WELLNAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/08/21

LOCATION: 300-C31-6040-12330-0

SUPERVISOR: Carmon Sandquist

PHONE#: (600) 701-9462

CCARD#:

SIZE: 339.70mm

WEIGHT: 101 kg/m

THREAD: BT&C

GRADE: K55

MAKE: Tamsa

JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
1	13.78		31	13.14		61			91			121		
2	12.73		32	12.78		62			92			122		
3	13.39		33	12.74		63			93			123		
4	13.94		34	12.87		64			94			124		
5	12.77		35	12.74		65			95			125		
6	13.04		36	12.81		66			96			126		
7	12.57		37	12.92		67			97			127		
8	12.64		38	12.76		68			98			128		
9	12.65		39	13.28		69			99			129		
10	13.25		40	12.94		70			100			130		
TOTAL			130.76			TOTAL			128.98			TOTAL		
JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
11	12.85		41	12.60		71			101			131		
12	12.53		42	13.23		72			102			132		
13	13.08		43	12.91		73			103			133		
14	12.74		44	13.23		74			104			134		
15	12.80		45	12.70		75			105			135		
16	12.80		46	13.05		76			106			136		
17	12.73		47	13.13		77			107			137		
18	12.75		48	13.67		78			108			138		
19	12.75		49	13.05		79			109			139		
20	12.80		50	12.72		80			110			140		
TOTAL			127.83			TOTAL			130.29			TOTAL		
JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
21	12.94		51	12.80		81			111			141		
22	13.00		52	13.23		82			112			142		
23	12.71		53	12.66		83			113			143		
24	12.80		54	12.94		84			114			144		
25	12.96		55	12.80		85			115			145		
26	12.80		56	12.96	1	86			116			146		
27	12.97		57	13.26	1	87			117			147		
28	12.98		58	13.33	1	88			118			148		
29	12.72		59			89			119			149		
30	12.99		60			90			120			150		
TOTAL			128.87			TOTAL			103.98			TOTAL		

GROUP #	LENGTH	GROUP #	LENGTH	GROUP #	LENGTH	JTS.	LENGTH	
1- 10	130.76	51- 60	103.98	101- 110				Brought Forward
11- 20	127.83	61- 70		111- 120		58	750.71	Page Total
21- 30	128.87	71- 80		121- 130		58	750.71	Total on Location
31- 40	128.98	81- 90		131- 140		3	39.55	Total Left Out (incl. LJ)
41- 50	130.29	91- 100		141- 150		55	711.16	Total Perm. in Hole
				TOTAL	750.71			

REMARKS

3 SURPLUS JTS 101.2 KG/M K-55 BT+C LEFT OUT TO BE RETURNED TO STOCK

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/08/21

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

CPA NO.: 300C316040123300

DAY: 18

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: m

LICENCE NO.: 1900

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

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear

TEMP: 11 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 711.00 m

PROGRESS: 0.00 m

PSTD: m FORMATION:

8:00 a.m. DEPTH: 711.00 m

8:00 a.m. OPERATION: Nippling up BOPs and prepare to top cement 339.7mm casing

APE #/: APE AMT: \$ 12658500 DAILY COST: \$ 288957 CUMULATIVE COST: \$ 3557766

B
H
A

LENGTH: 0.00 m WT. BELOW JARS: 6000 daN JAR HRS: 129.2 JAR SERIAL #: 10164

WT. ON BIT: 20000 daN

ROTARY RPM: 30/90

STRING WT.: 52000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

TOTAL
ROTATING 172.50
HOURS: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	4	IN	OUT			DRL	EMD	WIDEN	RPM	I	Q	D	L	B	G	O	R	
3B	444.5	DBS	598442	FM2864	17.5	17.5	17.5	336	395	59	5.2	11.25		6-21	30	1	1			x	1		PR	
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395	711	316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD	
										0				-										

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [x]

M
U
D

Viscosity Sec/L	DENSITY IN/OUT	pH	WL w/30min	FC mm	PV/VP	GBLS O/D	Tot. Sol. kg/m3	Drid. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
43	1100/	9.5	17.0	1.8	10/ 12.0	8.0/8.0	0.09		0.001	70			800	480	0.2	0.6	/ 49
	/				/	/											/
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		

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	HP
Emsco	152	254	80	1.11	Emsco	152	254			1700	7.8	9.7		0.00

SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH			CIRCULATE	5.25	Gel	
o @ m			TRIPPING	6.00	Soda Ash	
o @ m			CEMENTING	3.50	Pot Sulf	
o @ m			W/N.U. BOP	1.50	Drispac	
o @ m			SAFETY MTG	0.25	Sod sulf	
u @ m			CSG BOWL	5.50	Corinox	
u @ m			W.O.C.	1.00	Caustic	
o @ m					Alcomer110	
o @ m					Starpak	
o @ m			CLEAN CMT	1.00	Lignite	
o @ m					Cellophane 20	
					Barite 240	
					TOTAL HOURS: 24.00	

MUD COMMENTS: Stripped 35m3 from system and centrifuging mud to decrease solids.

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

2000.08.21 @ 00:00 Hours:

Broke circulation and circulated 339.7mm casing 5m to bottom. Tripped in with drill pipe. Circulated casing through cement head. Held safety meeting. Cemented 339.7mm casing. Rigged out cementers. Tripped out with drill pipe. Cleaned cement from diverter. Unbolted and lifted diverter.

Waited on cement. Cut off casing. Laid down diverter. Made final cut on casing and welded on casing bowl to 23:59 hours 2000.08.21.

Note 1: Ran 55 joints of 101.2 kg/m, K-55, BT&C, 339.7mm casing. Landed at 710.3mKB. Bow spring centralizers on joints #1,2,3,4,5,6,10,14,18,22,26,30,34,38,42,

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/21

LOCATION: 300-C31-6040-12330-0

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

DAY: 18

DEPTH: 711.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 11 °C

8:00 a.m. OPERATION: Nippling up BOPs and prepare to top cement 339.7mm casing

DRILLING & GEOLOGICAL REMARKS (Cont'd)

46 and 54.

Note 2: Pumped 1m³ H₂O. Pressure tested lines to 15000 kPa. Pumped 10m³ Visweep at 1750 kg/m³. Mixed and pumped 105 tonnes 0:1:0 Class "G" + .5% CFR + .3% LTR 80m³ slurry at 1901 kg/m³, added 5 kg/m³ cellophane to the first 40m³, stopped pumping after 5m³ of good cement returns. Monitored annulus. Cement dropped 2m in 6 minutes. Dropped plug and displaced with 3m³ of H₂O. Monitored annulus for 5 minutes. Cement dropped 1m. Displaced with 3.4m³ of H₂O and bumped plug at 3000 kPa over circulating pressure. Bled off. Floats held. Monitored annulus. Cement dropped .3m in 10 minutes. Maintained full circulation throughout job. Total cement returns 11m³. Plug down at 11:38 hours 2000.08.21.

Note 3: After 2.5 hours the cement top was down 9 metres from the flow nipple and appeared to be stable. At this time, the cement samples were fairly firm. 3.5 hours later, after cutting off the casing, it was discovered the cement had dropped further and could not be reached with a 30m tape, making it necessary to turn the cementers back and prepare to cement from the top.

Note 4: Safety Topics: Drifting pipe in the derrick and nippling up BOPs.

Note 5: Stripped 35m³ of mud and running centrifuges on remaining surface volume to remove drill solids.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31	DATE: 00/08/21	RPT #: 2	(*) STRING IDENTIFIERS C = Conductor S = Surface I = Intermediate P = Production L = Liner (**) JOB IDENTIFIERS P = Primary S = Squeeze
LOCATION: 300-C31-6040-12330-0	AFE #:	DFS: 18	
SUPERVISOR: Carmon Sandquist	CEMENT JOB ID (**): P		
PHONE #: (600) 701-3227	STRING IDENTIFIER (*): S	CALLING CARD #:	

Summary					ANNULAR VOLUME (m3)	
		CEMENT INTERVAL			CALIPER GAUGE SLURRY (actual)	67.00 80.00
1st STAGE	0.0	m KB	710.3	m KB		
2nd STAGE		m KB		m KB		
3rd STAGE		m KB		m KB		

Job Details	Comments
HOLE SIZE: 444.50 mm CASING O.D.: 339.70 mm SHOE DEPTH: 710.30 m KB MAX. RECORDED BHT: 50 deg C JOB TYPE (**): 1 PROPOSED CEMENT TOP: 0.00 m KB MAXIMUM DEVIATION: 8.00 deg @ 705.00 m KB	Cemented w/105 tonnes of 0:1:0 "G" w/.5% CFR + .3% LTR 80 m3 slurry @ 1901 kg/m3, added 5kg/m3 cellophane to the first 40m3, dropped plug and displaced with 6.4 m3 of H2O, 11 m3 of good cement returns, maintained full circulation throughout job, plug down 11:38 hrs 2000/08/21.

Mud Data (prior to cementing)		Plug Type	Pipe Movement		
TYPE: K - minus	TOP: BOTTOM: OTHER:		WHILE:	CONDITIONING	CEMENTING
DENSITY: 1100.00 kg/m3			TYPE		
VISCOSITY: 43.00 sec/l			STROKE (m)		
YIELD POINT: 12.00 Pu		RATE (slks/min)			
WATER LOSS: 20.00 ml/30 min	Cement Head	Stage Tools			
P. V. 6.00 mPa - sec		TYPE			
GELS 8.00 / 8.00 Pa		DEPTH (m KB)			
Mix Water					
well water					

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

STAGE ONE

A. Cement Blend Description							PREFLUSH		
	CEMENT TYPE		ADDITIVES				TYPE	VOL (m3)	
SCAVENGER							H2O	1.00	
FILL							Vissweep w/barite	10.00	
TAIL	0:1:0 "G"		.5% CFR + .3% LTR						
OTHER									

B. Cement Data											
	CEMENTED INTERVAL		ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER	
	(m)	to (m)								RATIO (m3/t)	TEMP (deg C)
SCAVENGER	-										
FILL	0.0	710.3	67.00	20	80.40	105.00	0.076	1901.00	213	0.440	16.00
TAIL	0.0 -										
OTHER	-										

PAJAK ENGINEERING LTD.

CEMENTING REPORT

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

DATE: 00/08/21

RPT #: 2

AF#:

DFS: 18

CEMENT JOB ID (**): P

STRING IDENTIFIER (*): S

SUPERVISOR: Carmon Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

(*) STRING IDENTIFIERS

C = Conductor

S = Surface

I = Intermediate

P = Production

L = Liner

(**) JOB IDENTIFIERS

P = Primary

S = Squeeze

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	21 / 09 : 00	21 / 09 : 03	0.05	1.0	0.3	2000	2000
- SCAVENGER	21 / 09 : 05	21 / 09 : 22	0.28	10.0	0.9	2000	2000
- FILL	/ :	/ :					
- TAIL	21 / 09 : 22	21 / 11 : 10	1.80	80.0	0.9	4000	3000
- OTHER	/ :	/ :					
RISE TOP PLUG & PO LINES	21 / 11 : 20	21 / 11 : 22	0.03				
DISPLACEMENT	21 / 11 : 22	21 / 11 : 38	0.27	6.4	0.7	11000	8000
BUMP PLUG & BLEED OFF	21 / 11 : 38	21 / 11 : 38				1100	
CEMENT RETURNS	TYPE: yes		VOLUME: 11.00 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		ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER	
	(m)	to (m)								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	/ :	/ :					
RISE TOP PLUG & PO LINES	/ :	/ :					
DISPLACEMENT	/ :	/ :					
BUMP PLUG & BLEED OFF	/ :	/ :					
CEMENT RETURNS	TYPE:		VOLUME: m3				
FLOAT HELD	YES ☐ NO ☐						

PAJAK ENGINEERING LTD.

CASING SUMMARY REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31	DATE: 00/08/17
LOCATION: 300-C31-6040-12330-0	G.L. ELEVATION: 481.30 m
	K.B. ELEVATION: 488.00 m
SURFACE (X) INTERMEDIATE () PRODUCTION ()	KB TO GROUND: 6.70 m

SIZE: 339.70 mm	WEIGHT: 101 kg/m	GRADE: k55
MAKE: Tamsa	THREAD: BT&C	CONDITION: NEW
FLOAT/GUIDE SHOE - MAKE: Davis	FLOAT COLLAR - MAKE:	
HANGER - TYPE:		
RAN: 55 jts. 339.70 mm OD CASING SET @ m (by pipe tally)		

Casing String Details

ITEM	LENGTH (m)	DEPTH LANDED (mKB)	ITEM	LENGTH (m)	DEPTH LANDED (mKB)

CASING BOWL

SIZE: X mm
SERIAL #:
TYPE:
API: kPa

CENTRALIZERS

NO.: 17
INTERVALS: 24.66 - 702.00
MAKE: Import
TYPE: Bowspring

CASING HANGER

SIZE: X mm
MAKE:
TYPE:
API: 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.)

SUPERVISOR: Doug Solberg

PHONE #: (600) 701-2076

CCARD #:

PAJAK ENGINEERING LTD.

CASING TALLY

WELLNAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/08/17

LOCATION: 300-C31-6040-12330-0

SUPERVISOR: Doug Solberg

PHONE #: (600) 701-2076

CCARD #:

SIZE: 339.70mm

WEIGHT: 101 kg/m

THREAD: BT&C

GRADE: k55

MAKE: Tamsa

JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
1	12.68		31	13.14		61			91			121		
2	12.73		32	12.78		62			92			122		
3	13.39		33	12.74		63			93			123		
4	13.94		34	12.87		64			94			124		
5	12.77		35	12.74		65			95			125		
6	13.04		36	12.81		66			96			126		
7	12.57		37	12.92		67			97			127		
8	12.64		38	12.76		68			98			128		
9	12.65		39	13.28		69			99			129		
10	13.25		40	12.94		70			100			130		
TOTAL			129.66			TOTAL			128.98			TOTAL		
JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
11	12.85		41	12.60		71			101			131		
12	12.53		42	13.23		72			102			132		
13	13.08		43	12.91		73			103			133		
14	12.74		44	13.23		74			104			134		
15	12.80		45	12.70		75			105			135		
16	12.80		46	13.05		76			106			136		
17	12.73		47	13.13		77			107			137		
18	12.75		48	13.67		78			108			138		
19	12.75		49	13.05		79			109			139		
20	12.80		50	12.72		80			110			140		
TOTAL			127.83			TOTAL			130.29			TOTAL		
JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
21	12.94		51	12.80		81			111			141		
22	13.00		52	13.23		82			112			142		
23	12.71		53	12.66		83			113			143		
24	12.80		54	12.94		84			114			144		
25	12.96		55	12.80		85			115			145		
26	12.80		56	12.96	1	86			116			146		
27	12.97		57	13.26	1	87			117			147		
28	12.98		58	13.33	1	88			118			148		
29	12.72		59			89			119			149		
30	12.99		60			90			120			150		
TOTAL			128.87			TOTAL			103.98			TOTAL		

GROUP #	LENGTH	GROUP #	LENGTH	GROUP #	LENGTH	JTS:	LENGTH	
1- 10	129.66	51- 60	103.98	101- 110				Brought Forward
11- 20	127.83	61- 70		111- 120		58	749.61	Page Total
21- 30	128.87	71- 80		121- 130		58	749.61	Total on Location
31- 40	128.98	81- 90		131- 140		3	39.55	Total Left Out (incl. LJ)
41- 50	130.29	91- 100		141- 150		55	710.06	Total Perm. in Hole
				TOTAL	749.61			

REMARKS

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/08/21

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

CPA NO.: 300C316040123300

DAY: 17

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: m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: HIGH CLOUDS

TEMP: 13 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 711.00 m

PROGRESS: 0.00 m

PSTD: m FORMATION:

8:00 a.m. DEPTH: 711.00 m

8:00 a.m. OPERATION: Circulating 339.7mm casing. Prepare to cement.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 43559 CUMULATIVE COST: \$ 3268809

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LENGTH: 0.00 m WT. BELOW JARS: daN JAR HRS: 129.2 JAR SERIAL #: 10164

WT. ON BIT: 20000 daN

ROTARY RPM: 30/90

STRING WT.: 52000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

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BIT NO	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		DIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DR	RMD	WT&N	RPM	L	O	D	L	B	G	O	R
3B	444.5	DBS	598442	FM2864	17.5	17.5	17.5	336	395	59	5.2	11.25		6-21	30	1	1			x	1		PR
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395		316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD
										0				-									

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [x]

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Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC nun	PV/VP	GELS On/O	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
															MFI	MFO	
91	1150'	9.5	17.0	1.8	10' 30.0	23. /22.	0.09		0.001	70			800	480	0.2	0.6	/ 49
	/				/	/											/
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN		kg/m3	OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	HR OUT		kg/m3	m3		

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PUMP NO. 1					PUMP NO. 2					PRESSURE 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	RHP
Emsco	152	254			Emsco	152	254			6000	0.0	0.0	0.0	0.00

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			TRIPPING	2.50		Gel		
° @ m			RIG SERV	0.25		Soda Ash		
° @ m			SURVEYING	1.75		Pot Sulf		
° @ m			RUN CSG	8.25		Driscap		
° @ m			SAFETY MTG	0.50		Sod sulf		
° @ m			PU/LD PIPE	4.25		Corinox		
° @ m			CIRCULATE	0.50		Caustic		
° @ m						Alcomer110		
° @ m						Starpak		
° @ m						Lignite		
° @ m						Lime		
° @ m						Barite	42	
			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.)

2000.08.20 @ 00:00 Hours:

Ran Gyro survey. Circulated. Tripped out of hole. Rig serviced. Laid down 228mm drill collar and rigged to lay down 381mm drill collars. Waited on Beaver Enterprises picker truck to assist in laying down 381mm drill collars. Laid down 381mm drill collars. Rigged to run 339.7mm casing.

Held safety meeting. Made up tag in float shoe. Ran 55 joints 339.7mm, 101.2 kg/m, K-55, BT&C casing. Rigged out power tongs and lay down truck to 23:59 hours 2000.08.20.
Note 1: Safety Topics: Laying down large drill collars and running casing and working with power tongs and lay down truck.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/21

LOCATION: 300-C31-6040-12330-0

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

DAY: 17

DEPTH: 711.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: HIGH CLOUDS

TEMP: 13 °C

8:00 a.m. OPERATION: Circulating 339.7mm casing. Prepare to cement.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 2: Waited on Beaver Enterprises picker truck for 6 hours. Mechanic arrived on location 14 hours after being requested.
- 3: Casing hung up 5 metres from bottom and had to be circulated in.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/20	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 16	
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: m		WELL STATUS:	
WEATHER: CLEAR AND WINDY		TEMP: 12 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 711.00 m		PROGRESS: 14.00 m		PBT: m FORMATION:	
8:00 a.m. DEPTH: 711.00 m		8:00 a.m. OPERATION: RIGGING TO RUN 349mm CASING			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 176868 CUMULATIVE COST: \$ 3225250

 1 Bit 1 BIT SUB 2 NMDC 2 228mm DC'S 1 Jars
 2 228mm DC'S 1 x/o sub 9 171mm DC 1 x/o sub

 TOTAL
 ROTATING 172.50
 HOURS:

LENGTH: 150.02 m WT. BELOW JARS: 6000 daN JAR HRS: 129.2 JAR SERIAL #: 10164

WT. ON BIT: 20000 daN ROTARY RPM: 30/90 STRING WT.: 52000 daN

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

 228 H90 6
 171 H90 9

BITS

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		ORL	RMD	WT&N	RPM	I	O	D	L	B	G	D	R						
3B	444.5	DBS	598442	FM2864	17.5	17.5	17.5	336	395	59	5.2	11.25		6-21	30	1	1			x	1							PR
4B	444.5	SMITH	RR6973	15JS	17.5	12.7	12.7	395	711	316	4.9	64.50		20-22	30	3	3	FC	A	E	1	CT	TD					
										0																		

LAST PIPE TALLY: 631.33

BOARD: 631.27

CORRECTION: YES [] NO [x]

Viscosity Sec/L	DENSITY TN/OUT	pH	WL cc/30min	FC mm	PVCP	GELS O/10	For. Sol. kg/m3	Dred. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	QIL %	Cl ppm	Ca ppm	ALKALINITY		°C IN/OUT
91	1150	9.5	17.0	1.8	10	30.0	23.22	0.09		0.001	70		800	480	0.2	0.6	49
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	IDP m/MIN	DC m/MIN	VELOCITY m/sec	HHP
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	6000	19.4	24.1		0.00

SURVEYS				TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH				DRILLING	2.50	Gel	
7.30 °	@	689.30 m	53.90	RIG SERV	0.50	Soda Ash	
7.60 °	@	696.00 m	55.20	SURVEYING	0.25	Pot Sulf	56
°	@	m		HNDL TOOLS	0.50	Drispac	
°	@	m		CIRCULATE	5.50	Sod sulf	
°	@	m		TRIPPING	7.00	Corinox	2
°	@	m		LOGGING	7.75	Caustic	
°	@	m				Alcomer110	1
°	@	m				Starpak	
°	@	m				Lignite	
°	@	m				Lime	2
°	@	m		TOTAL HOURS: 24.00		Barite	

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.)

2000/08/20 @ 00:00 hrs Directionally drilled 444.5mm hole,
 697-703mKB. Circulated bottoms up. Circulated hole clean.
 Wiper tripped 18 stands. Broke circulation. Washed to bottom.
 Directionally drilled 703-711mKB. Circulated hole clean.
 Surveyed @ 696,689mKB. Tripped out of hole. Laid down mud
 motor and MWD. Rig serviced. Rigged up Schlumber and logged.

Tor out loggers. Tripped in with bit and circulated.
 Rig serviced. Rigged to and ran Gyro survey to 23:59 hrs
 2000/08/20.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/20

LOCATION: 300-C31-6040-12330-0

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

DAY: 16

DEPTH: 711.00 m

PROGRESS:

14.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR AND WINDY

TEMP: 12 °C

8:00 a.m. OPERATION: RIGGING TO RUN 349mm CASING

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Notes (1) Ran Sonic ,AIT, Gamma and caliper logs 190 - 710mKB.
(2) Safety topics: tripping and rigging up and logging with wireline truck.
(3) Drill pipe strap 506.48, tally 507.01, (no correction made).
(4) Hole drag 5000 daN up, 3000 daN down.
(5) Rotary torque on bottom 6000 - 9000 ft lbs.
(6) Ran Gyro survey 50 - 705.2mKB.
(7) Import tool, Rig service power tongs and laydown and Sanjel cementers on location .

REPORTED BY: Solberg/Sandquist

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: 00/08/19

LOCATION: 300-C31-6040-12330-0

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

DAY: 15

DEPTH: 697.00 m

PROGRESS:

77.00 m

CPA NO.: 300C316040123300

WEATHER: CLEAR

TEMP: 12 °C

8:00 a.m. OPERATION: Circulating prior to tripping out to log

DRILLING & GEOLOGICAL REMARKS (Cont'd)

NOTES: *

- Hole drag 5000 daN up, 3000 daN down.
- Torque on bottom 6000 - 8000 ft lbs.
- Safety topics: transferring fuel and making connections.
- Schlumberger logging truck on location @ 18:00 hrs.
- Import tool , laydown truck and power tongs to be on location tomorrow P.M.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/18	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 14	
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: m	RIG RELEASE: @ : hrs.	
		WELL STATUS:			
WEATHER: Clear		TEMP: 7 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 620.00 m		PROGRESS: 37.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 650.00 m		8:00 a.m. OPERATION: Directionally drilling 444.5mm hole.			

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APE #: APE AMT: \$ 12658500 DAILY COST: \$ 54288 CUMULATIVE COST: \$ 2980528

1 Bit	1 Mud Motor	1 x/o Sub	1 Restrictor	1 Float sub
1 NMDC MWD	NMDC	1 228mm DC'S	1 Shock Sub	1 228mm DC'S
1 Jars	2 228mm DC'S	1 x/o Sub	9 171mm DC	1 x/o sub
LENGTH: 161.85 m WT. BELOW JARS: 12000 daN JAR HRS: 107.2 JAR SERIAL #: 10164				

TOTAL ROTATING HOURS:	150.50
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WT. ON BIT:	20000 daN	ROTARY RPM:	30/90	STRING WT.:	52000 daN
DRILL PIPE O.D.:	127	THREAD:	4 1/2 IF	DRILL COLLARS O.D.:	THREAD:

228	H90	6
171	H90	9

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LAST PIPE TALLY: 631.33 BOARD: 631.27 CORRECTION: YES [] NO [X]

Viscosity Satz/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS D/10	Tar. Sol. kg/m3	Dria. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MTI MFO	°C IN/OUT
91	1150 /	10.0	35.0	1.8	8 / 28.0	18. / 16.	0.06		0.002	46			750	440	0.2 0.6	/ 56
65	1140 /	9.0	33.0	1.8	8 / 26.0	19. / 16.	0.09		0.005	60			800	480	0.2 0.6	/ 58
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
24 IIR IN	1140 kg/m3	OUT	1830 kg/m3		HR OUT	kg/m3		IIR OUT	kg/m3		HR OUT	kg/m3			16 m3	

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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 10/MIN	VELOCITY m/sec	HP
Emsco	152	254	110	1.52	Emsco	152	254	110	1.52	10500	21.3	26.6	102.2	338.28

P
U
M
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SURVEYS				TIME BREAKDOWN			MUD ADDITIVES	
AZIMUTH				DRILLING	8.25	Gel		
6.60 °	@	565.79 m	38.60	RIG SERV	1.00	Soda Ash		
6.90 °	@	575.56 m	44.40	HNDL TOOLS	4.75	Pot Sulf	112	
7.30 °	@	585.31 m	46.20	TRIPPING	5.75	Drispac	3	
7.70 °	@	595.09 m	45.50	CIRCULATE	1.25	Sod sulf	3	
8.10 °	@	603.53 m	51.00	REAMING	1.50	Corinox	4	
°	@	m		SURVEYING	1.00	Caustic		
°	@	m				Alcomer110	2	
°	@	m				Starpak	6	
°	@	m				Percol 728	1	
°	@	m		CHECK PUMP	0.25	Lime	4	
°	@	m			TEST MWD	0.25	Berite	48
				TOTAL HOURS:		24.00		

MUD COMMENTS: Stripped 16m3 and ran centrifuges while tripping.

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

2000.08.17 @ 00:00 Hours:

Directionally drilled 444.5mm hole from 583-612mKB.

Circulated bottoms up. Tripped out of hole. Inspected restrictor sub. Changed out mud motor. Serviced top drive. Tripped in hole to 195mKB. Tested MWD tool. Tripped in hole to 300mKB. Cleaned bridged hole from 300-350mKB. Serviced

top drive. Tripped in hole to 565mKB. Cleaned bridged hole from 565-580mKB. Tripped in hole to 609mKB. Washed to bottom. Directionally drilled 444.5mm hole to 620mKB to 23:59 hours 2000-08-17.

Cont'd

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/18

LOCATION: 300-C31-6040-12330-0

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

DAY: 14

DEPTH: 620.00 m

PROGRESS: 37.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 7 °C

8:00 a.m. OPERATION: Directionally drilling 444.5mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 1: Tripped out of hole due to inconsistent survey results after sliding, suspected sleeve possibly rotating in restrictor sub. However, on examination, sleeve was found to be in proper position with no evidence of movement.
- 2: The 9" mud motor leaked a small amount of oil when drained so it was changed out to the 11.25" 6/7 lobe with an angle setting of 1.5 degrees.
- 3: Reamed and cleaned bridges at 300-350mKB and 565-580mKB with .5m fill on bottom.
- 4: 4 bent singles laid down on trip (bent in slip area).
- 5: Pipe strap: tally 631.33m, strap out 631.27m, no correction made.
- 6: Safety Topics: Handling of BHA, large mud motors, subs, etc.
- 7: 16m3 of drilling fluid were stripped while tripping and centrifuges ran on surface system reducing mud wt of surface volume to 1050 kg/m3.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/17	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 13	
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: m		WELL STATUS:	
WEATHER: Overcast		TEMP: 6 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 583.00 m		PROGRESS: 91.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 615.00 m		8:00 a.m. OPERATION: Directionally drilling 444.5mm hole with MWD.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 65720 CUMULATIVE COST: \$ 2926240

1 Bit	1 Mud Motor	1 x/o Sub	1 Float Sub	1 restrictor
1 NMDC MWD	NMDC	1 228mm DC'S	1 Shock Sub	1 228mm DC'S
1 Jars	2 228mm DC'S	1 x/o Sub	9 171mm DC	1 X/O
LENGTH: 164.51 m WT. BELOW JARS: 31000 daN JAR HRS: 99.0 JAR SERIAL #: 10164				

 TOTAL
ROTATING
HOURS: 142.25

 WT. ON BIT: 20000 daN ROTARY RPM: 30/90 STRING WT.: 62000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 6
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS	
					1	2	3	IN	OUT			DRL	RMD	W/TAN	RPM	J	O	D	I	#	G	O	R		
3B	444.5	DBS	598442	FM2864	17.5	17.5	17.5	336	395	59	5.2	11.25		6-21	30	1	1					x	1		PR
4B	444.5	SMITH	RR6056	15JS	17.5	12.7	12.7	395		188	5.3	35.25		20-22	30										
										0				-											

LAST PIPE TALLY: 187.04

BOARD: 187.17

CORRECTION: YES [X] NO []

Viscosity Sec/L	DENSITY IN/OUT	PH	WL cc/30min	FC mm	PVAP	GELS ON/O	Tot Sol kg/m3	Dry Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	Ca ppm	ALKALINITY		°C		
															MFI	MFO	IN/OUT		
69	1110'	10.0	22.0	1.8	8'	25.0	19.16	0.06	0.002	40			750	440	0.2	0.6	/ 56		
63	1120'	9.0	33.0	1.8	8'	23.0	18.16	0.08	0.001	44			700	450	0.2	0.7	/ 58		
CENTRIFUGE					DESILTER					DESANDER					DEGASER			TOTAL MUD DUMPED	
48 HR IN	1110 kg/m3	OUT	1080 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	STROKE	SPM	m3/MIN	MODEL	LINER	STROKE	SPM	m3/MIN		DP	DC	VELOCITY	KHP
Emsco	152	254	110	1.52	Emsco	152	254	110	1.52	10500	21.3	26.6	102.2	329.42

SURVEYS			TIME BREAKDOWN			MUD ADDITIVES		
AZIMUTH			DRILLING	19.75	SURVEYING	2.25	Gel	9
7.10 ° @	479.50 m	27.60	RIG SERV	0.50	CLN TO BTM		Soda Ash	
6.90 ° @	489.20 m	29.10	HMOL TOOLS		SAFETY MTG		Pot Sulf	168
6.70 ° @	498.70 m	33.50	TRIPPING		RUN CSG		Driscac	
6.90 ° @	508.50 m	35.70	CIRCULATE		CEMENTING		Sod sulf	3
6.50 ° @	518.20 m	42.00	W.O.C.		W/N.U. BOP		Corinox	3
6.30 ° @	527.50 m	42.20	PRESS TEST		REPAIRS	0.50	Caustic	
6.00 ° @	536.70 m	39.70	DRLG OUT				Alcomer110	
6.10 ° @	546.80 m	39.00					Starpak	
6.30 ° @	556.40 m	37.40	TOP DRIVE	1.00			Lignite	
° @	m				TOTAL HOURS:	24.00	Lime	5
							Barite	

MUD COMMENTS: K+ion - 18,000, Sulfite - 80, Polymer - 1.9.

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

2000.08.16 @ 00:00 Hours:

Directionally drilled 444.5mm hole from 492-498mKB. Changed head in F-1000, #2 mud pump. Directionally drilled to 583mKB, with surveys and rig services as required to 23:59 hours 2000.08.16.

Note 1: Safety Topics: Competency training/environmental

report.

Note 2: Hole cleaning well, no tight connections.

3: Surveys: 566.1m 6.6 degrees 38.6 azm.

575.7m 6.9 degrees 44.4 azm.

585.3m 7.3 degrees 46.2 azm.

4: Rotated last 3 singles down, building angle.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/17

LOCATION: 300-C31-6040-12330-0

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

DAY: 13

DEPTH: 583.00 m

PROGRESS:

91.00 m

CPA NO.: 300C316040123300

WEATHER: Overcast

TEMP: 6 °C

8:00 a.m. OPERATION: Directionally drilling 444.5mm hole with MWD.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Directional personnel seem to think that setting sleeve might have come loose in MWD tool and are getting an inaccurate reading.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

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

DATE: 00/08/16
 DAY: 12

LICENCE NO.: 1900

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

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Overcast

TEMP: 5 °C

FINAL TD: m

FORMATION:

Midnight DEPTH: 492.00 m

PROGRESS: 97.00 m

PBTD: m

FORMATION:

8:00 a.m. DEPTH: 518.00 m

8:00 a.m. OPERATION: Directionally drill 444.5mm surface hole with MWD.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 142899 CUMULATIVE COST: \$ 2860520

1 Bit	1 Mud Motor	1 x/o Sub	1 Float Sub	1 restrictor
1 NMDC MWD	NMDC	1 228mm DC's	1 Shock Sub	1 228mm DC's
1 Jars	2 228mm DC's	1 x/o Sub	9 171mm DC	1 X/O
LENGTH: 164.51 m WT. BELOW JARS: 31000 daN JAR HRS: 79.3 JAR SERIAL #: 10164				

TOTAL
ROTATING 122.50
HOURS:

WT. ON BIT: 20000 daN

ROTARY RPM: 30/90

STRING WT.: 59000 daN

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

DRILL COLLARS O.D.:

THREAD:

NO. IN HOLE:

228

H90

6

171

H90

9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS			
					1	2	3	IN	OUT			DRILL	EMD	WIDEN	RRM	1	0	D	L	B	G	O	R				
3B	444.5	DBS	598442	FM2864	17.5	17.5	17.5	336	395	59	5.2	11.25		6-21	30	1	1			x	1				PR		
4B	444.5	SMITH	RR6056	15JS	17.5	12.7	12.7	395		97	6.3	15.50		15-21	30												
										0				-													

LAST PIPE TALLY: 187.04

BOARD: 187.17

CORRECTION: YES (X) NO ()

Viscosity Sec/100	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/VP	GELS OAS	Tot. Sol. kg/m3	D/d. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
61	1070	9.0	30.0	1.8	6/ 25.0	19./16.	0.04		0.002	43			450	620	0.1	0.6	36
66	1100	9.5	24.0	1.8	8/ 24.0	15./16.	0.06		0.002	43			600	480	0.1	0.5	37
CENTRIFUGE				DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED							
4B	HR IN	1075 kg/m3	OUT	1050 kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/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	110	1.52	Emsco	152	254	110	1.52	10500	21.3	26.6	102.2	320.56

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				DRILLING	15.50	SURVEYING	2.50	Gel	38
4.10 ° @	381.00 m	317.10		RIG SERV	0.50	CLN TO BTM		Soda Ash	1
4.40 ° @	386.16 m	312.50		HNDL TOOLS	3.50	SAFETY MTG		Pot Sulf	112
4.80 ° @	393.91 m	313.60		TRIPPING	1.75	RUN CSG		Driscac	4
5.70 ° @	413.50 m	328.30		CIRCULATE		CEMENTING		Sod sulf	6
5.70 ° @	422.40 m	330.40		W.O.C.		W/N.U. BOP		Corinox	6
6.90 ° @	432.50 m	343.30		PRESS TEST				Caustic	
7.50 ° @	442.10 m	352.90		DRLG OUT				Alcomer110	3
7.40 ° @	451.40 m	359.30						Starpak	18
7.30 ° @	461.00 m	10.20		TEST MWD	0.25			Lignite	
7.10 ° @	470.60 m	17.40						Lime	6
				TOTAL HOURS: 24.00				Barite	10

MUD COMMENTS: K+Ion - 15,000, Sulfite - 180, Polymer - 1.4.

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

2000.08.15 @ 00:00 Hours:

Changed out mud motors. Set 228mm motor at 1.15 degree angle. Tripped bit #48 to 200mKB. Tested MWD tool, OK. Tripped to bottom, 395mKB, no fill. Surveyed at 381mKB. Directionally drilled 444.5mm hole from 395-492mKB, surveying as required, to 23:59 hours 2000.08.15.

Note 1: Directional assembly tended to want to build angle. Set tool face at 130-180 degrees to correct angle. Have been sliding 5m per single and rotating the rest.

Note 2: Safety Topics: Tripping/proper loader operation.

Cont'd

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/16

LOCATION: 300-C31-6040-12330-0

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

DAY: 12

DEPTH: 492.00 m

PROGRESS:

97.00 m

CPA NO.: 300C316040123300

WEATHER: Overcast

TEMP: 5 °C

8:00 a.m. OPERATION: Directionally drill 444.5mm surface hole with MWD.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 3: Very erratic and rough drilling from 487-491mKB.

4: Surveys: 479.5mKB, 7.1 degrees, 27.6 azm.

489.2mKB, 6.9 degrees, 29.1 azm.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:

DAILY DRILLING REPORT

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 64160 CUMULATIVE COST: \$ 2717621

TOTAL ROTATING HOURS:	107.00
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NO. IN HOLE:

6

9

CORRECTION: YES [X] NO []TOTAL MUD DUMPED

P U M P	PUMP NO. 1				PUMP NO. 2				PRESSURE				ANNULAR VELOCITY		JET	
	TYPE: F 1000				TYPE: F 1000											
	MODEL	LINEK mm	STROKE mm	SPM rpm	m ³ /MIN	MODEL	LINEK mm	STROKE mm	SPM rpm	lit/MIN	KPI	DP m/MIN	QC m/MIN	VELOCITY m/sec	HPF	
	Emsco	152	254	110	1.52	Emsco	152	254	110	1.52	6700	21.3	26.6		0.00	

MUD COMMENTS: K+Ion - 21,000, Sulfite - 80, Polymer - 1.6.

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

2000.08.14 @ 00:00 Hours:

compensator on Tesco top drive. Broke out bit. Laid down
286mm mud motor to 23:59 hours 2000.08.14.

Note 1: Received 40 tonnes of 0-1-0 Class "G" cement today,
total cement on location: 100 tonnes 0-1-0 Class "G"
20 tonnes Quick set.

2: Safety Topics: Mud chemicals/stop cards.

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/15

LOCATION: 300-C31-6040-12330-0

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

DAY: 11

DEPTH: 395.00 m

PROGRESS:

59.00 m

CPA NO.: 300C316040123300

WEATHER: Overcast

TEMP: 3 °C

8:00 a.m. OPERATION: Drilling 444.5mm hole, MWD and mud motor at 1.15 degrees.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 3: PDC bit drilled shale section at 9-15m/hour. Encountered soft marlstone at +/- 393mKB. Penetration rate dropped to +/- 1m/hour. Could not make bit drill.
- 4: Laid down PDC bit. Picked up 4-4-7 bit with 228mm mud motor set at 1.15 degrees and MWD.

REPORTED BY: Solberg/Sandquist

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: 00/08/14	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 10	
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: m		WELL STATUS:	
WEATHER: Clear		TEMP: 12 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 336.00 m		PROGRESS: 39.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 356.00 m		8:00 a.m. OPERATION: Drilling 444.5mm hole with mud motor/MWD/PDC bit.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 52244 CUMULATIVE COST: \$ 2653461

1 Bit	1 Monel	1 x/o Sub	1 Float Sub	1 restrictor
1 NMDC MWD	NMDC	1 228mm DC'S	1 Shock Sub	1 228mm DC'S
1 Jars	2 228mm DC'S	1 x/o Sub	9 171mm DC	1 X/O

TOTAL
ROTATING
HOURS: 95.75

LENGTH: 164.51 m WT. BELOW JARS: 39000 daN JAR HRS: 52.5 JAR SERIAL #: 10164

WT. ON BIT: 8000 daN ROTARY RPM: 30/90 STRING WT.: 52000 daN

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

228 H90 6
171 H90 9

BIT S

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT		REMARKS							
					1	2	3	IN	OUT		DRL	RMD		WT. N	BTM	I	O	D	L	H	G	O	R
2B	444.5	REED	TC1064	MSS1AM	17.5	17.5	17.5	229	336	107	4.0	26.75		4-15	30	2	2	CT	M2	E	I	LN	BHA
3B	444.5	DBS	598442	FM2864	17.5	17.5	17.5	336		-336				-									
										0				-									

LAST PIPE TALLY: 187.04

BOARD: 187.17

CORRECTION: YES [X] NO []

Viscosity Stu/L	DENSITY IN/OUT	pH	WL uc/30min	PC mm	PV/VP	GELS D/O	Pot. Sol. kg/m3	Dep. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MIL	MFO	°C IN/OUT
45	1070	9.5	24.0	1.8	6/14.0	10./10.	0.06		0.001	36			550	520	0.1	0.6	42
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED					
40 HR IN	1060 kg/m3	OUT	1045 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	ANGULAR VELOCITY		LIFT	
MODEL	LINER mm	STROKE mm	SPM	d3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	RHP
Emsco	152	254	110	1.52	Emsco	152	254	110	1.52	8400	21.3	26.6	35.0	37.02

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				DRILLING	12.75	SURVEYING	1.25	Gel	70
1.30 ° @	290.35 m		315.90	RIG SERV	0.50	CLN TO BTM		Soda Ash	2
3.10 ° @	300.07 m		312.70	HNDL TOOLS	2.00	SAFETY MTG		Pot Sulf	140
3.00 ° @	309.50 m		317.11	TRIPPING	3.75	RUN CSG		Driscap	1
3.30 ° @	318.93 m		315.90	CIRCULATE	0.75	CEMENTING		Sod sulf	
° @	m			W.O.C.		W/N.U. BOP		Corinox	4
° @	m			PRESS TEST				Caustic	
° @	m			DRLG OUT				Alcomer110	3
° @	m			BIT/TONGS	3.00			Starpak	4
° @	m							Lignite	2
° @	m							Lime	2
								Percol 728	
				TOTAL HOURS: 24.00					

MUD COMMENTS: K+Ion - 22,500, Sulfite - 40, Polymer - 1.5.

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

2000.08.13 @ 00:00 Hours:

directionally drilled 444.5mm hole with MWD from 297-336mKB.

Surveyed as required. Circulated hole clean. Tripped bit

7B. Picked up 286mm mud motor. Had problems making up PDC

2, as bit OD was greater than square area of Akita's bit

breaker plate. Made up bit with tongs with bit set at 660mm

bit breaker. Attempted to break motor bent housing on 286mm

motor. Type ST 180 tongs had 2 jaws that were of different

size and would not close on housing. The H tongs were used

and applied 80,000 ft# torque. Operations were stopped as

we did not want to break tongs or cause personnel injury.

The motor is set at 0 degree angle. Made up BHA and tripped

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/08/14
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 10 DEPTH: 336.00 m PROGRESS: 39.00 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: 12 °C
8:00 a.m. OPERATION: Drilling 444.5mm hole with mud motor/MWD/PDC bit.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

in hole with bit #3B to 23:59 hours 2000.08.13.

- Note 1: Tight spot at 250mKB on trip out of hole.
2: Safety Topics: Walking on rig floor/tripping.
3: Received 60 tonnes of 0:1:0 Class "G" cement, the third bin today,
2 other loads are coming tomorrow.
4: Reamed from 300-336mKB, on bottom @ 04:00 hours 2000.08.14.
15-1600 daN, ROP - 3-3.5 m/hour.

REPORTED BY: Solberg/Sandquist

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

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/13	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 9	
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: m		WELL STATUS:	
WEATHER: Clear		TEMP: 4 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 297.00 m		PROGRESS: 68.00 m		PBTB: m FORMATION:	
8:00 a.m. DEPTH: 310.00 m		8:00 a.m. OPERATION: Drilling 444.5 mm hole with MWD.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 128145 CUMULATIVE COST: \$ 2601217

1 Bit	1 Motor	1 x/o Sub	1 Float Sub	1 Rest sub
1 Monel D.C.	1 Monel D.C.	1 228mm DC's	1 Shock sub	1 Drill collar
1 Jars	1 x/o Sub	9 171mm DC	1 X/O	3 HWDP

TOTAL ROTATING HOURS: 83.00

LENGTH: 168.93 m WT. BELOW JARS: 19000 daN JAR HRS: 39.8 JAR SERIAL #: 10164

WT. ON BIT: 4000 daN ROTARY RPM: 30/90 STRING WT.: 52000 daN

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

 228 H90 2
171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT				REMARKS			
					1	2	3	IN	OUT			DRL	RMD	WT	KN	I	Q	D	L	B	G	O	R
1B	444.5	SEC	RR6056	SS33SG	17.5	17.5	17.5	190		39	5.4	7.25		3- 4	30	5	5	WT	A	Z	I	NO	PR
2B	444.5	REED	TC1064	MS51AM	17.5	17.5	17.5	229		68	5.1	13.25		2-10	30								
										0				-									

LAST PIPE TALLY: 187.04

BOARD: 187.17

CORRECTION: YES [X] NO []

Viscosity Sec/100	DENSITY IN/OUT	pH	WL cc/30min	EC mm	PW/YP	GELS ORIO	Ten-Sol kg/m3	Dnd-Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MME	MFO	°C IN/OUT
45	1070	9.5	36.0	1.8	4' 15.0	9.0/10.	0.05		0.001	32	0	0.000	500	440	0.0	0.2	/
43	1070	8.5	25.0	1.8	6' 10.0	9.0/10.	0.05		0.004	34			400	680	0.1	0.5	/ 43
CENTRIFUGE			RESILITE			DESCANDER			DEGASSER			TOTAL MUD DUMPED					
44 HR IN	1060 kg/m3	OUT	1050 kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3					

PUMP NO. 1	TYRE F 1000				PUMP NO. 1	TYRE F 1000				PRESSURE	ANNULAR VELOCITY			JET
MODEL	LINER	STROKE	SPM	Q/MIN	MODEL	LINER	STROKE	SPM	Q/MIN	KPS	OP m/MIN	DC m/MIN	VELOCITY m/sec	RHP
Emsco	152	254	110	1.52	Emsco	152	254	110	1.52	9600	21.3	73.9	17.5	9.26

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				DRILLING	14.75	SURVEYING	2.00	Gel	38
0.40 °	@	213.44 m	39.00	RIG SERV	0.25	CLN TO BTM		Soda Ash	1
0.30 °	@	223.44 m	36.00	HNDL TOOLS	1.25	SAFETY MTG		Pot Sulf	224
0.30 °	@	232.73 m	16.00	TRIPPING	5.50	RUN CSG		Drispac	1
0.60 °	@	242.60 m	358.20	CIRCULATE	0.25	CEMENTING		Sod sulf	6
0.60 °	@	252.00 m	12.60	W.O.C.		W/N.U. BOP		Corinox	6
2.00 °	@	261.50 m	356.10	PRESS TEST				Caustic	
0.40 °	@	270.90 m	287.00	DRLG OUT				Alcomer110	3
0.90 °	@	294.00 m	290.00					Starpak	4
°	@	m						Lignite	
°	@	m						Lime	3
								Percol 728	
				TOTAL HOURS: 24.00					

MUD COMMENTS: K+ion-15,000 Sulfite - 40 Polymer- 1.3

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

2000.08.12 @ 00:00 hours

Directionally drilled 444.5 mm hole from 229-229.6mKB.

Tripped Bit #18. Changed bit and BHA. Picked up MWD tools.

Tripped in the hole with Bit #28. Function tested MWD tools.

Directionally drilled 444.5 mm hole with MWD from

229.6-297mKB. Surveyed as required to 23:59 hours

2000.08.12.

Note #1 Safety topic: Safety belts/Housekeeping

#2 Penetration rate very erratic. When it slows down cuttings resembled that of pea gravel.

#3 Survey at 302mKB showed 1.2 degrees 309 azmith.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/12	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 8	
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: m		WELL STATUS:	
WEATHER: clear		TEMP: 14 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 229.00 m		PROGRESS: 39.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 240.00 m		8:00 a.m. OPERATION: Drilling 444.5mm hole with MWD.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 95891 CUMULATIVE COST: \$ 2473072

1 Bit	1 Monel	1 x/o Sub	1 Float Sub	1 Orient Sub
1 NMDC	2 228mm DC'S	1 Jars	1 x/o Sub	9 171mm DC
1 X/O	3 HWDP			
LENGTH: 159.47 m	WT. BELOW JARS: 17000 daN	JAR HRS: 25.0	JAR SERIAL #: 10164	

TOTAL ROTATING HOURS: 68.25

 WT. ON BIT: 4000 daN ROTARY RPM: 30 STRING WT.: 47000 daN
 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

 228 H90 2
 171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH IN	MTRS PER HOUR	HOURS ON BIT	BIT WIDEN	CUTTING STRUCT	REMARKS
					1	2	3						
18	444.5	SEC	RR6056	SS33SG	17.5	17.5	17.5	190	39	6.0	6.50	3- 4 30	
									0				
									0				

LAST PIPE TALLY: 187.04

BOARD: 187.17

CORRECTION: YES [X] NO []

Viscosity Sec/1.	DENSITY IN/OUT	pH	WL uc/30min	FC mm	PV/CP	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 MP1 MP2	°C IN/OUT
36	1050'	9.0	16.0	1.4	6' 5.0	2.0/3.0	0.04		0.001	25	0	0.000	400	400	0.0 0.2	/
37	1080'	9.5	16.0	1.4	4' 7.0	5.0/5.0	0.05		0.006	34			700	380	0.1 0.7	/
CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD PUMPED				
40 HR IN	1050 kg/m3	OUT	1035 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.	HP
Emsco	152	254	110	1.52	Emsco	152	254	110	1.52	7500	21.3	73.9	69.9	147.40

SURVEYS	TIME BREAKDOWN	MUD-ADDITIVES
AZIMUTH 0.50 ° @ 201.00 m 300.00 0.60 ° @ 210.00 m 339.00 ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	DRILLING 6.50 SURVEYING 1.25 RIG SERV 0.25 CLN TO BTM HNDL TOOLS 2.75 SAFETY MTG 0.25 TRIPPING 5.00 RUN CSG CIRCULATE 0.50 CEMENTING W.O.C. W/N.U. BOP 3.50 PRESS TEST 0.25 DRLG OUT 2.25 BIT BRAKE 1.50 TOTAL HOURS: 24.00	Gel 43 Soda Ash Pot Sulf 224 Drispac 2 Sod sulf 9 Corinox 9 Caustic Alcomer110 2 Starpak 10 Lignite Lime 2 Percol 728 4

MUD COMMENTS: K+Ion-17000 Sulfite -20 Polymer - .7 Stripped 95 m3 mud

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

2000.08.11 @ 00:00 hours

Nipped up 762mm diverter. Pressure tested to 1000kPa.

Tripped in Bit #18. Tagged cement at 189.36mKB. (0.2m)

Drilled out tag in float shoe. Drilled 444.5mm hole from

190-192mKB. Circulated hole clean. Tripped Bit #18. Welded

444.5 mm bit breaker to accommodate table bushings to break

off bit. Picked up mud motor and directional tools.

(Orient tools) Tripped in with Bit #18. Drilled 444.5mm hole from 192-229mKB. Surveyed as required to 23:59 hours

2000.08.11

Note #1 Safety topics: scrubbing/working floor

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/08/12
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 8 DEPTH: 229.00 m PROGRESS: 39.00 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: 14 °C
8:00 a.m. OPERATION: Drilling 444.5mm hole with MWD.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note #2 Apline Environmental pumped 47m3 from 400bbl tank and 6m3 from wellsite pits caused by water run off. Foreman-Ryan Hennessey.
- Note #3 Hauled 1 load of barite from Liard side of river to C-31 with Beaver Enterprises picker.
- Note #4 Directional tools arrived in the afternoon and MWD personal arrived in the evening.
- Note #5 DBS bit hand arrived in Liard late evening, Will stay overnight in Liard and come across tomorrow morning.
- Note #6 Entered formation with coarse sand (gravel) at 215mKB. Drilling very rough and penetration slowed. 2000.08.12 @ 01:00 hours decided to trip bit to check bit.

REPORTED BY: Solberg/Sandquist

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

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/11	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 7	
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: m		WELL STATUS:	
WEATHER: Clear		TEMP: 11 °C		FINAL ID: m FORMATION:	
Midnight DEPTH: 190.00 m		PROGRESS: 0.00 m		PBD: m FORMATION:	
8:00 a.m. DEPTH: 190.00 m		8:00 a.m. OPERATION: Drill out 508mm casing shoe			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 229265 CUMULATIVE COST: \$ 2377181

1 Bit R3Hughes	1 Bit Sub	2 15"DC	1 15"X/O 9"	1 NMDC
1 JARS	3 9"DC	1 7"X/O 5"	9 171mm DC	1 X/O
3 HWDP				

TOTAL ROTATING HOURS: 62.00

LENGTH: 177.93 m WT. BELOW JARS: 17000 daN JAR HRS: 25.0 JAR SERIAL #: 10164

WT. ON BIT: daN ROTARY RPM: STRING WT.: 48000 daN

 DRILL PIPE O.D.: 127 THREAD: 4 1/2 IF DRILL COLLARS O.D.: 381 THREAD: REG NO. IN HOLE: 2
 228 H90 3
 171 H90 9

BIT NO	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		CUTTING STRUCT.	REMARKS	
					1	2	3	IN	OUT		DRL	RWD			
2A	660.0	Hughes	BD895	R3	15.9	17.5	19.0	0	117	117	3.8	30.75	6-10	100	6 6 WT A 6 1 NO TO
3A	660.0	SMITH	KW0853	DGJ	15.9	17.5	19.0	117	190	73	11.7	6.25	6-8	100	2 2 WT A 2 1 NO TO
										0					

LAST PIPE TALLY: 187.04 BOARD: 187.17 CORRECTION: YES [X] NO []

Viscosity Sect.	DENSITY IN/OUT	pH	WI cc/30min	FC mm	TV/VP	GELS 0/10	Tot. Sol kg/m3	Dnd. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	C ₂ ppm	ALKALINITY MPE MFO	°C IN/OUT
92	1095/1100	8.5	18.0	1.6	10/ 27.0	22. /24.	0.06		0.004	60	0	0.000	400	640	0.1 0.5	/ 39
113	1100/	8.5			/	/										/

CENTRIFUGE			DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED	
40 HR IN	1100 kg/m3	OUT	1070 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 100Q			PUMP NO. 2		TYPE: F 100Q			PRESSURE	ANNULAR VELOCITY		1st	
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	100	1.38	Emsco	152	254	100	1.38	1000	8.4	12.1		0.00

SURVEYS			TIME BREAKDOWN			MUD-ADDITIVES		
		AZIMUTH	DRILLING		SURVEYING	Gel		
u	@	m	RIG SERV	0.25	CLN TO BTM	Soda Ash		1
o	@	m	HNDL TOOLS	1.00	SAFETY MTG	Pot Sulf		
a	@	m	TRIPPING	1.75	RUN CSG	2.50	Driscac	
n	@	m	CIRCULATE	1.00	CEMENTING	2.50	Sod sulf	
o	@	m	W.O.C.	6.00	W/N.U. BOP	9.00	Corinox	
o	@	m					Caustic	
o	@	m					Alcomer110	
u	@	m					Starpak	
o	@	m					Lignite	4
o	@	m					Lime	
a	@	m					Desco	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.)

2000.08.10 a 00:00 hours

Ran 15 joints 508 mm x 196 kg/m pipe, total length 191.12m.
 Landed shoe at 190mKB. Tripped in 127mm drill pipe stinger string. Circulated at 2.5m3/min. Held prejob safety meeting prior to cementing. Pumped 5m3 water, pressure tested lines to 15MPa. Mixed and pumped 60m3 (80 tonnes) 0-1-0 class

"G" +1% CaCl2. Dropped plug. Displaced drill pipe with 1.8m3 water. Bumped plug at 3500kPa over final circulating pressure. Float held, bleed off pressure. Recieved no returns at tanks but cement was found at ground level when 762mm pipe was cut. Pulled out stinger pipe. Waited on cement to set. Nipped down diverter. Welded on 508mm.

SUPERVISOR: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD#:

CN 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/11

LOCATION: 300-C31-6040-12330-0

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

DAY: 7

DEPTH: 190.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 11 °C

8:00 a.m. OPERATION: Drill out 508mm casing shoe

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Pressure tested weld to 1000kPa. Nippled up 752mm diverter to 23:59 hours 2000.0810.

Note #1 Safety topics: running casing / cementing/ nipping up/down diverter.

Note #2 Alpine Environmental out to pump off camp sumps and rig pits due to excessive water run off. All water to be pumped off has been analyzed and the pump off procedure has been approved by DIAND Land use officer.

REPORTED BY: Solberg/Sandquist

PHONE #: (600) 701-3227

CALLING CARD #:



PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31	DATE: 00/08/10	RPT #: 1	(*) STRING IDENTIFIERS C - Conductor S = Surface I - Intermediate P - Production L - Liner (**) JOB IDENTIFIERS P = Primary S = Squeeze
LOCATION: 300-C31-6040-12330-0	AFE #:	DFS: 6	
SUPERVISOR: Doug Solberg	CEMENT JOB ID (**): p		
PHONE #: (600) 701-2076	STRING IDENTIFIER (*): c	CALLING CARD #:	

Summary				ANNULAR VOLUME (m3)	
	CEMENT INTERVAL			CALIPER	
1st STAGE	0.0	m KB	190.0	m KB	
2nd STAGE		m KB		m KB	26.60
3rd STAGE		m KB		m KB	60.80
				GAUGE	
				SLURRY (actual)	

Job Details	Comments
HOLE SIZE: 660.00 mm CASING O.D.: 508.00 mm SHOE DEPTH: 190.00 m KB MAX. RECORDED BHT: 30 deg C JOB TYPE (**): 1 PROPOSED CEMENT TOP: 0.00 m KB MAXIMUM DEVIATION: 0.50 deg @ 181.00 m KB	Pumped 5 m3 water, followed by 60 m3 0-1-0 "G" + 1% CaCl2 (80 tonnes) dropped plug and displaced with 1.8 m3 water. Bumped plug at 3500 kPa over circulating pressure. Float held, bleed of pressure. No cement returns at tanks but cement was found at ground level when 762 mm pipe was cut off.
(***) JOB TYPES 1 - Conventional 2 - Foam	

Mud Data (prior to cementing)	Plug Type	Pipe Movement		
TYPE: K-Minus		WHILE:	CONDITIONING	CEMENTING
DENSITY: 1100.00 kg/m3	TOP:	TYPE		
VISCOSITY: 113.00 sec/l	BOTTOM:	STROKE (m)		
YIELD POINT: 27.00 Pa	OTHER:	RATE (stks/min)		
WATER LOSS: 18.00 ml/30 min	Cement Head	Stage Tools		
P. V. 10.00 mPa - sec	TYPE:	TYPE		
GELS 22.00 / 24.00 Pa		DEPTH (m KB)		
Mix Water				
400 bbl/water well				

Services & Equipment
CEMENT COMPANY: sanjel
REPRESENTATIVE: Murray Small
EQUIPMENT: CNA

STAGE ONE

A. Cement Blend Description							PREFLUSH			
	CEMENT TYPE	ADDITIVES					TYPE	VOL (m3)		
SCAVENGER							water	5.00		
FILL										
TAIL	0-1-0 "G"	1% CaCl2								
OTHER										
B. Cement Data										
	CEMENTED INTERVAL (in) 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	0.0 - 190.0	26.60	126	60.12	80.00	0.760	1901.00	240	0.440	30.00
OTHER	-									



PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31	DATE: 00/08/10	RPT #: 1	(*) STRING IDENTIFIERS C = Conductor S = Surface I = Intermediate P = Production L = Liner (**) JOB IDENTIFIERS P = Primary S = Squeeze
LOCATION: 300-C31-6040-12330-0	AFE #:	DFS: 6	
SUPERVISOR: Doug Solberg	CEMENT JOB ID (**): p	STRING IDENTIFIER (*): c	
PHONE #: (600) 701-2076	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	9 / 15 : 15	9 / 15 : 45	0.50	80.0	2.8	4800	
POOH W/ DRILL PIPE	9 / 16 : 00	9 / 17 : 30	1.50				
R/H W/ CASING	9 / 20 : 45	10 / 02 : 15	5.50				
CIRCULATION	10 / 05 : 30	10 / 06 : 30	1.00	100.0	2.5	1110	
CEMENTING - PREFLUSH	10 / 07 : 17	10 / 07 : 40	0.38	5.0	0.8	1000	
- SCAVENGER	/ :	/ :					
- FILL	/ :	/ :					
- TAIL	10 / 07 : 40	10 / 08 : 45	1.08	60.8	0.9	2000	
- OTHER	/ :	/ :					
RLSE TOP PLUG & PO LINES	10 / 08 : 50	10 / 08 : 53	0.05				
DISPLACEMENT	10 / 08 : 53	10 / 08 : 56	0.05	1.8	0.5	8000	
BUMP PLUG & BLEED OFF	10 / 08 : 56	10 / 08 : 56				8000	
CEMENT RETURNS	TYPE: no		VOLUME: m3				
FLOAT HELD	YES ☒ NO ☐						

STAGE TWO

A. Cement Blend Description				PREFLUSH	
	CEMENT TYPE	ADDITIVES		TYPE	VOL (m3)
SCAVENGER					
FILL					
TAIL					
OTHER					

B. Cement Data											
	CEMENTED INTERVAL		ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER	
	(m)	to (m)								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.

CASING SUMMARY REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		DATE: 00/08/10
LOCATION: 300-C31-6040-12330-0		G.C. ELEVATION: 481.30 m
		K.B. ELEVATION: 488.00 m
SURFACE (X)	INTERMEDIATE ()	PRODUCTION ()
		KB TO GROUND: 6.70 m

SIZE: 508.00 mm	WEIGHT: 195 kg/m	GRADE: 56
MAKE:	THREAD: CVE	CONDITION: NEW
FLOAT/GUIDE SHOE MAKE: Davis		FLOAT COLLAR MAKE:
HANGER - TYPE:		
RAN: 15 js. 508.00 mm OD CASING SET @ 190.00 m (by pipe tally)		

Casing String Details

ITEM	LENGTH (m)	DEPTH LANDED (mKB)	ITEM	LENGTH (m)	DEPTH LANDED (mKB)
FLOAT COLLOR	0.79	190.00			

CASING BOWL

SIZE: X	mm
SERIAL #:	
TYPE:	
APL:	kPa

CENTRALIZERS

NO: 8
INTERVALS: 177.00 - 23.00
MAKE: Import
TYPE: Bowspring

CASING HANGER

SIZE: X	mm
MAKE:	
TYPE:	
APL:	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: 1 joint 508 mm x 195.6 kg/m Lenght 12.98 m.			

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

Circulated through drill string at 2.50 m³/min for 1 hour. vis-110 sec/ltr density -1100 kg/m yp-27. pump pressure -1000 kPa.

SUPERVISOR: Doug Solberg

PHONE #: (600) 701-2076

CCARD #:

PAJAK ENGINEERING LTD.

CASING TALLY

WELLNAME: CDN FOREST ET AL NORTH LIARD C-31

DATE: 00/08/10

LOCATION: 300-C31-6040-12330-0

SUPERVISOR: Doug Solberg

PHONE: (600) 701-2076

GCARD #

SIZE: 508.00mm

WEIGHT: 195

kg/m

THREAD: CVE

GRADE: 56

MAKE:

JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH
1	12.63	31		61		91		121	
2	12.92	32		62		92		122	
3	12.71	33		63		93		123	
4	13.01	34		64		94		124	
5	12.43	35		65		95		125	
6	12.98	36		66		96		126	
7	12.92	37		67		97		127	
8	12.91	38		68		98		128	
9	12.71	39		69		99		129	
10	12.67	40		70		100		130	
TOTAL	127.89	TOTAL		TOTAL		TOTAL		TOTAL	
JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH
11	13.05	41		71		101		131	
12	12.58	42		72		102		132	
13	12.16	43		73		103		133	
14	12.45	44		74		104		134	
15	12.20	45		75		105		135	
16	12.98	46	1	76		106		136	
17		47		77		107		137	
18		48		78		108		138	
19		49		79		109		139	
20		50		80		110		140	
TOTAL	75.42	TOTAL		TOTAL		TOTAL		TOTAL	
JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH	JT. #	LENGTH
21		51		81		111		141	
22		52		82		112		142	
23		53		83		113		143	
24		54		84		114		144	
25		55		85		115		145	
26		56		86		116		146	
27		57		87		117		147	
28		58		88		118		148	
29		59		89		119		149	
30		60		90		120		150	
TOTAL		TOTAL		TOTAL		TOTAL		TOTAL	

GROUP #	LENGTH	GROUP #	LENGTH	GROUP #	LENGTH	JTS	LENGTH	
1- 10	127.89	51- 60		101- 110				Brought Forward
11- 20	75.42	61- 70		111- 120		16	203.31	Page Total
21- 30		71- 80		121- 130		16	203.31	Total on Location
31- 40		81- 90		131- 140		1	12.98	Total Left Out (incl. LJ)
41- 50		91- 100		141- 150		15	190.33	Total Perm. in Hole
				TOTAL	203.31			

REMARKS



IMPORT TOOL CORPORATION LTD.

First in Service - First in Quality Tools

10340 - 71 AVENUE EDMONTON, ALBERTA, CANADA T6E 0W8
TELEPHONE: 434-6408 (24 HRS.) FAX: (403) 434-6400

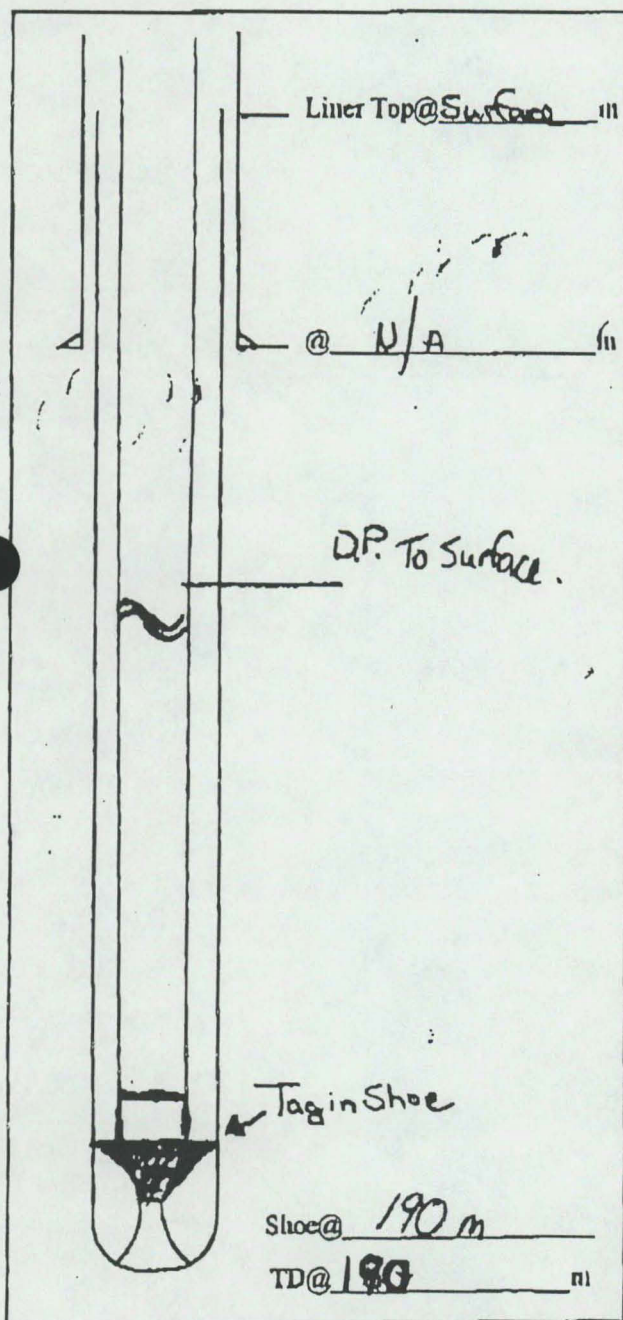
Vertical Liner Report

Date Aug 6, 7, 8, 9, 10, 11 2000

Company <u>Canadian Forest</u>		Well Name <u>Cou Forest et al Liard</u>	
Location <u>C-31</u>	Field Foreman <u>Doug Solberg</u>	Field Foreman Phone No. <u>1-600-701-2076</u>	Contractor <u>Akita 58</u>
Cement <u>Sandtel</u>	Mud Type <u>Water Base</u>	Mud Density <u>1090</u> kg/m ³	Viscosity <u>185</u>
Liner Displacement Fluid <u>Water</u>		DP Displacement Fluid <u>Water</u>	

Well Data

Liner Tool Data



Description	Type	Lgth m	OD mm	ID mm
Tieback Slv				
Hanger				
Tag in	Tag in Import	.25m	152mm	73mm
Collar				
Shoe	Tag in	.78m	530mm	485.75mm

Previous Casing

Size mm Depth m MD
Casing Wt at Hanger kg/m ID mm

Well Data

OH Size 660.4 mm Lgth 187 m MD Dev 0 1/2

Weights

Liner in Air daN Liner in Mud daN
String Wt Up daN String Wt Down daN
Average daN Rotate Off Wt daN

Pipe Movement ☒ None ☐ Recip ☐ Rotate

Rotating Torques

Max Liner Ft-Lbs DP Ft-Lbs
Max Surface Ft-Lbs Actual Ft-Lbs

Plug Bump ☒ Yes ☐ No

U-Tube ☐ Yes ☒ No

Volume m³

Description	From m KB	To m KB	Size mm	Weight kg/m	ID mm	Grade	Thd	Displcmnt m ³
Casing	190	Surface	508mm	139.87	485.75		CUE	35m ³
DP	190	Surface	127	29.02	108	E	4 DEF	1.8m ³
Liner Length								
Tool Length								
Total Liner								35m ³
DP Length	190							
Stick Up		2.00						
Total Length								1.8m ³
Total DP Capacity								

Operator Clay Ball

Total Capacity

Rig up by down, Tanga. Start run Casing M/up Tag in float shoe. run to T.D
Rig up to run pipe with Tag in pump cement, displac plug pump 1.8m³ bump
floats head pull pipe rig out.

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/08/10	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 6	
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: m		WELL STATUS:	
WEATHER: Clear		TEMP: 6 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 190.00 m		PROGRESS: 29.00 m		PBSD: m FORMATION:	
8:00 a.m. DEPTH: 190.00 m		8:00 a.m. OPERATION: Cementing 508mm conductor casing.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 39482 CUMULATIVE COST: \$ 2147916

B
H
A

1 Bit R3Hughes	1 Bit Sub	2 15"DC	1 15"X/O 9"	1 NMDC
1 JARS	3 9"DC	1 7"X/O 5"	9 171mm DC	1 X/O
3 HWDP				

TOTAL
ROTATING
HOURS: 62.00

LENGTH: 177.93 m WT. BELOW JARS: 17000 daN JAR HRS: 25.0 JAR SERIAL #: 10164

WT. ON BIT: 8000 daN

ROTARY RPM: 100/120

STRING WT.: 48000 daN

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

DRILL COLLARS O.D.: 381

THREAD: REG

NO. IN HOLE: 2

228

H90

3

171

H90

9

B
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BIT NO.	SIZE mm.	MAKE	SERIAL #	TYPE	NOZZLES mm.			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT	CUTTING STRUCT.										REMARKS
					1	2	3	IN	OUT			DRL	RMD		WTEN	RPM	I	O	D	L	B	G	O	I	
2A	660.0	HUGHES	BD895	R3	15.9	17.5	19.0	0	117	117	3.8	30.75		6-10	100	6	6	WT	A	6	1	NO	TQ		
3A	660.0	SMITH	KW0853	DGJ	15.9	17.5	19.0	117	190	73	11.7	6.25		6-8	100	2	2	WT	A	2	1	NO	TD		
										0				-											

LAST PIPE TALLY: 187.04

BOARD: 187.17

CORRECTION: YES [X] NO []

M
U
D

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot. Sol kg/m3	Dnd. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	PC IN/OUT
92	1095/1100	8.5	18.0	1.6	10/27.0	22./24.	0.06		0.004	60	0	0.000	400	640	0.1	0.5	39
113	1100/	8.5			/	/											/
CENTRIFUGE				DESILTER				DESANDER				DEGASSER				TOTAL MUD DUMPED	
48 HR IN	1100 kg/m3	OUT	1070 kg/m3	HR OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3	

P
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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	OP m/MIN	DC m/MIN	VELOCITY m/sec	HHP	
Emsco	152	254	100	1.38	Emsco	152	254	100	1.38	4800	8.4	12.1		0.00	

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				DRILLING	3.00	SURVEYING	0.50	Gel	78
0.50 ° @	181.16 m	86.00		RIG SERV	0.75	CLN TO BTM		Soda Ash	3
° @	m			HNOL TOOLS		SAFETY MTG	0.25	Pot Sulf	
° @	m			TRIPPING	10.75	RUN CSG	5.00	Drispac	
° @	m			CIRCULATE	3.75			Sod sulf	
° @	m							Corinox	
° @	m							Caustic	
° @	m							Alcomer110	
° @	m							Starpak	
° @	m							Lignite	2
° @	m							Lime	1
° @	m							Sawdust	
				TOTAL HOURS: 24.00					

MUD COMMENTS: K-10N - 7500, Sulfite - 80, Polymer -.4

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

2000.08.09 @ 00:00 Hours:

Drilled 660mm hole from 161-170mKB. Circulated hole and surveyed at 144mKB. Drilled from 170-187mKB. Circulated hole clean and built volume in mud tanks to trip out of hole. Tripped out bit #3A. Strapped pipe and tripped back to bottom with no fill. Drilled to 190mKB. Circulated hole

clean. Tripped out bit #3A. Changed BHA and tripped in with monel collar above bit. Circulated hole clean and surveyed at 182.16mKB. Tripped out with monel BHA assembly. Laid down jars, bit sub and bit. Picked up 190mm of drill pipe and racked in derrick. Rigged up to run 508mm conductor pipe. Held prejob safety meeting prior to running conductor

SUPERVISOR: D.Solberg/

PHONE #: (600) 701-2076

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/08/10
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0

DAY: 6 DEPTH: 190.00 m PROGRESS: 29.00 m CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 6 °C

8:00 a.m. OPERATION: Cementing 508mm conductor casing.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

pipe. Ran in hole with 508mm pipe to 23:59 hours 2000.08.09.

- Note 1: Safety Topic: Working on floor while tripping/picking up casing.
2: Strap: 187.04m, Board: 187.17m, Difference: .13m. (No correction.)
3: Attempted to screw Import Tool tag in 508mm float shoe on 508mm casing sent by CE Franklin. Threads would not make up. Float shoe is Buttress thread. CE Franklin sent what they thought was Buttress but was a CVE thread. This is a bastard thread used by Amoco's Beaufort Sea Project from the 1980's. Currently continue to be unimpressed with CE Franklin's knowledge of casing and their lack of concern for the customer. They also had no torque values for this bastard casing. Made the float shoe by grinding the threads, welding on the float shoe and welding straps from the 508mm casing to the float shoe.

*cemented with 90 TUNNES
got run-flush returns - estimated top @ 27m ±
held casing in position for 6 hours
cut off and do top job with stringer.*

REPORTED BY: D.Solberg/

PHONE #: (600) 701-2076

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: 00/08/09

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

CPA NO.: 300C316040123300

DAY: 5

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: m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Overcast

TEMP: 8 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 161.00 m

PROGRESS: -29.00 m

PBTD: m FORMATION:

8:00 a.m. DEPTH: 190.00 m

8:00 a.m. OPERATION: Circulating and conditioning @ TD, 190mKB.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 89113 CUMULATIVE COST: \$ 2108434

1 Bit R3Hughes	1 Bit Sub	2 15"DC	1 15"X/O 9"	1 NMDC
1 JARS	3 9"DC	1 7"X/O 5"	9 171mm DC	1 X/O
3 HWDP				

TOTAL ROTATING HOURS:	59.00
-----------------------	-------

LENGTH: 177.93 m WT. BELOW JARS: 17000 daN JAR HRS: 22.0 JAR SERIAL #: 10164

WT. ON BIT: 8000 daN

ROTARY RPM: 100/120

STRING WT.: 48000 daN

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

DRILL COLLARS O.D.: 381 THREAD: REG

NO. IN HOLE: 2

228 H90 3

171 H90 9

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS PER HOUR	HOURS ON BIT		BIT WT/LN	RPM	CUTTING STRUCT.								REMARKS
					1	2	3	IN	OUT		ORI	RMD			I	O	D	L	B	G	Q	R	
2A	660.0	Hughes	BD895	R3	15.9	17.5	19.0	0	117	117	3.8	30.75	6-10	100	6	6	WT	A	6	1	NO	TQ	
3A	660.0	SMITH	KW0853	DGJ	15.9	17.5	19.0	117		44	13.5	3.25	6-8	100									
										0			-										

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cu/30min	FC mm	PV/AF	GELS O/10	Tot. Sol. kg/m3	Diss. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFL MFO	°C IN/OUT
126	1095/1100	9.5	17.0	1.3	10/ 36.0	26./27.	0.06		0.003	54	0	0.000	750	520	0.1 0.5	/ 24
180	1120/	9.5	30.0	1.6	10/ 37.0	16./20.	0.08			60			750	560	0.1 0.4	/ 26
CENTRIFUGE			DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED							
48 HR IN	1100 kg/m3	OUT	1070 kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3					

PUMP NO. 1					PUMP NO. 2					PRESSURE kPa	ANNULAR VELOCITY		JET	
MODEL	LINER SIZE	STROKE J/ST	SPM	M3/MIN	MODEL	LINER SIZE	STROKE J/ST	SPM	M3/MIN		DP m/MIN	DC m/MIN	VELOCITY TR/SEC	THHP
Emsco	152	254	110	1.52	Emsco	152	254	110	1.52	6000	9.2	13.3	69.8	152.50

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH									
0.25 ° @	71.00 m	336.00		DRILLING	16.50	SURVEYING	0.75	Gel	
0.50 ° @	88.00 m	58.00		RIG SERV	1.00	CLN TO BTM		Soda Ash	
0.50 ° @	116.00 m	217.00		HNDL TOOLS	0.50			Pot Sulf	76
° @	m			TRIPPING	3.50			Driscac	
° @	m			CIRCULATE	1.75			Sod sulf	4
° @	m							Corinox	4
° @	m							Caustic	
° @	m							Alcomer110	
° @	m							Starpak	20
° @	m							Lignite	
° @	m							Lime	1
° @	m							Sawdust	
				TOTAL HOURS: 24.00					

MUD COMMENTS: K+Ion - 15,000, Polymer - 1.4, Sulfite - 180.

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

2000.08.08 @ 00:00 Hours:

161mKB at 23:59 hours 2000.08.08.

Drilled 660mm hole from 76-96mKB. Circulated and surveyed at 71mKB. Drilled to 117mKB. Circulated bottoms up. Surveyed at 88mKB. Tripped bit #2A. Changed bit and tripped in with bit #3A. Cleaned to bottom, .5m fill. Drilled 660mm hole to 141mKB. Circulated and surveyed at 116mKB. Drilled to

Note 1: Safety Topic: Connections/working the floor.

2: Hole good on trip.

SUPERVISOR: D.Solberg/

PHONE #: (600) 701-2076

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: 00/08/08	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 4	
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: m		WELL STATUS:	
WEATHER: Raining		TEMP: 6 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 190.00 m		PROGRESS: 0.00 m		PBTd: m FORMATION:	
8:00 a.m. DEPTH: 95.00 m		8:00 a.m. OPERATION: Drilled 660mm hole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 78564 CUMULATIVE COST: \$ 2019321

1 Bit R3Hughes	1 Bit Sub	2 15"DC	1 15"X/O 9"	1 NMDC
1 JARS	3 9"DC	1 7"X/O 5"	1 5"X/O 4.5"	3 HWDP

TOTAL ROTATING HOURS: 42.50

LENGTH: 93.13 m WT. BELOW JARS: 17000 daN JAR HRS: 5.5 JAR SERIAL #: 10164

WT. ON BIT: 5000 daN ROTARY RPM: 100 STRING WT.: 45000 daN

 DRILL PIPE O.D.: THREAD: DRILL COLLARS O.D.: 381 THREAD: REG NO. IN HOLE: 2
228 H90 3

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			DKT.	RMD	WT daN	RPM	I	O	D	L	B	G		D
1A	215.9	Hughes	CF863	J7	15.9	15.9	15.9	0	190	190	7.6	25.00	1.25	4- 6	37	8	8	WT	A	8	4	No	TD
2A	666.0	Hughes	BD895	R3	15.9	17.5	19.0	0		76	4.6	16.50		4- 5	100								
														-									

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/300mln	PC mm	PV/VP	GELS O/O	Tar. Sol. kg/m3	Drill. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CT ppm	Ca ppm	ALKALINITY MFI MFO		°C IN/OUT
65	1080/1080	10.5	8.0	1.2	14/ 14.0	14. /22.	0.05		0.003	56	0	0.000	800	600	0.2	0.5	/ 24
	/				/	/											/
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
24 HR IN	1070	kg/m3	OUT	1055	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	DP m ³ /MIN	DC m ³ /MIN	VELOCITY m/sec	HHP
Emsco	152	254	109	1.51	Emsco	152	254	109	1.51	5000	9.4	13.2	69.4	146.13

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES			
AZIMUTH											
0.50 ° @	39.00 m	2.00		DRILLING	16.00	SURVEYING	0.25	Gel			
° @	m			RIG SERV	1.00	CLN TO BTM	4.25	Soda Ash			
° @	m			HNDL TOOLS	2.50			Pot Sulf	104		
° @	m							Driscac	4		
° @	m							Sod sulf	4		
° @	m							Corinox	4		
° @	m							Caustic			
° @	m							Alcomer110			
° @	m							Starpak	2		
° @	m							Lignite			
° @	m							Lime			
° @	m							Sawdust			
				TOTAL HOURS: 24.00							

MUD COMMENTS: K+Ion = 9000, Sulfite = 180, Polymer = 1.9 kg/m3.

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

2000.08.07 @ 00:00 Hours:

tight hole. Drilled 660mm hole from 75-76mKB at 24:00 hours 2000.08.07.

Drilled 660mm hole from 17-23mKB. Made connection with 15" drill collars. Drilled 660mm hole from 23-65mKB. Circulated and cleaned hole prior to survey. Surveyed at 39mKB. Drilled 660mm hole from 65-73mKB. Worked and cleaned tight hole. Drilled 660mm hole from 73-75mKB. Circulated and cleaned

Note 1: Gravel cavities at 44.6-47mKB and again at 50.4-66.4mKB.

2: Progress for 660mm hole was 59m for the day.

Cont'd

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD#:

CD 06/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/08

LOCATION: 300-C31-6040-12330-0

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

DAY: 4 DEPTH: 190.00 m PROGRESS: 0.00 m CPA NO.: 300C316040123300

WEATHER: Raining

TEMP: 6 °C

5:00 a.m. OPERATION: Drilled 660mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 3: Mud properties as of 24:00 hours. Viscosity = 95,
density = 1070 kg/m³, water loss = 13 cc, pH = 10.

4: 215.9mm pilot hole drilled to 190mKB. Currently reaming out
215.9mm hole to 660mm. At 95mKB with 660mm hole at 08:00 hours.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

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: 00/08/07	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 3	
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-CP: m		WELL STATUS:	
WEATHER: Raining		TEMP: 9 °C		FINAL TD: 17.00 m FORMATION: BESA RIVER	
Midnight DEPTH: 17.00 m		PROGRESS: -77.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 28.00 m		8:00 a.m. OPERATION: Drilling 660mm hole			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 101968 CUMULATIVE COST: \$ 1940757

1 Bit R3Hughes	1 Bit Sub	1 15"DC	1 15"X/O 9"	1 9" X/O 7"
1 7" X/O 4.5"	1 HWDP			

TOTAL ROTATING HOURS:	0.50
-----------------------	------

LENGTH: 24.01 m	WT. BELOW JARS: daN	JAR HRS:	JAR SERIAL #:
WT. ON BIT: 5000 daN	ROTARY RPM: 60	STRING WT.: 20000 daN	
DRILL PIPE O.D.:	THREAD:	DRILL COLLARS O.D.: 381	THREAD: H90

NO. IN HOLE: 1

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	RMD	WT daN	RPM	1	2	3	4	5	6	7	8	9
1A	215.9	Hughes	CF863	J7	15.9	15.9	15.9	0	190	190	4.4	22.00	1.25	4	6	37	8	8	WT	A	8	4	No	TD
2A	666.0	Hughes	BD895	R3	15.9	17.5	19.0	0		17	34.0	0.50		4	5	60								

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

M U D	CORROSION TESTS																
	TEST NO. []																
	Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC min.	PP/YP	GELS O/G	Tot. Sol. kg/m3	Diss. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MPO	PC IN/OUT
	70	1090/1090	8.0	50.0	1.8	8/ 34.0	21./22.	0.06		0.004	50	0	0.000	400	600	0.5 0.3	/ 35
	CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED		
	14 HR IN	1070 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		ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	PSI	MPa	DP m/MIN	DC m/MIN	VELOCITY ft/sec	IN/OUT
Emsco	152	254	80	1.11	Emsco	152	254	80	1.11	670	6.7	9.7	51.0	58.58	

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				DRILLING	10.75	SURVEYING	3.25	Gel	173
1.50 ° @	85.64 m	45.00		RIG SERV	0.75	COND MUD	2.25	Soda Ash	6
1.00 ° @	114.11 m	43.00		HNDL TOOLS	5.00	TRIPPING	2.00	Pot Sulf	112
1.50 ° @	142.58 m	37.00						Drispac	
0.75 ° @	171.69 m	28.00						Sod sulf	6
° @	m							Corinox	6
° @	m							Caustic	3
° @	m							Alcomer110	
° @	m							Starpak	
° @	m							Lignite	5
° @	m							Lime	
								Sawdust	
				TOTAL HOURS: 24.00					

MUD COMMENTS: K-Ion=17000, Sulfite=180, Polymer=0.7Kg/m3.

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

2000.08.06 @ 00:00 hours

Drilled from 94-99mKB. Circulated. Cleaned hole for survey at a depth of 85.64mKB. Drilled from 99-128mKB. Circulated. Cleaned hole for survey at a depth of 114.11mKB. Drilled from 128-156mKB. Circulated. Clean hole for a survey at a depth of 142.58mKB. Drilled from 156-190mKB. Circulated.

Cleaned hole for a survey at a depth of 171.69mKB.

Circulated and conditioned hole as TD had been reached. Pilot hole TD was 190mKB. Tripped out of hole.

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/08/07
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: 3 DEPTH: 17.00 m PROGRESS: -77.00 m CPA NO.: 300C316040123300
WEATHER: Raining TEMP: 9 °C
8:00 a.m. OPERATION: Drilling 660mm hole

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Opened up hole with 660mm bit. Drilled from 0-17mKB to 23:59 hours
2000.08.06

Note #1 With the completion of the pilot hole, the hole depth has been
rest to 0mKB as the hole is being opened up to 660mm. As a result
the progress depth on the morning report will not indicate correct
depth. The progress depth will be manually entered into drilling
remarks.

Note #2 Progress depth at 08:00 hours is 11mKB.

Note #3 More mud products have arrived.

Note #4 Pason arrived and repaired their equipment (burnt circuit). Back
operating at 01:30hrs.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

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: 00/08/06

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

CPA NO.: 300C316040123300

DAY: 2

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: m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Clear

TEMP: 12 °C

FINAL TD: 94.00 m

FORMATION: BESA RIVER

Midnight DEPTH: 94.00 m

PROGRESS: 37.00 m

PBDT: m

FORMATION:

8:00 a.m. DEPTH: 128.00 m

8:00 a.m. OPERATION: Drilling 215.9mm pilot hole.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 104878 CUMULATIVE COST: \$ 1838789

1 Bit J7Hughes	1 Mud Motor	1 Float Sub	1 Mule Shoe	1 NMDC MWD
3 DC	1 Jars	6 DC	1 Crossover	

TOTAL ROTATING HOURS: 0.00

LENGTH: 109.57 m WT. BELOW JARS: 6000 daN JAR HRS: 2.0 JAR SERIAL #: 10701

WT. ON BIT: 4000 daN

ROTARY RPM: 37

STRING WT.: 39000 daN

DRILL PIPE O.D.:

THREAD:

DRILL COLLARS O.D.: 171

THREAD: H90

NO. IN HOLE: 8

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 ON	HEM	I	Q	D	L	B	C	U	R
1A	215.9	Hughes	CF863	J7	15.9	15.9	15.9	0		94	4.1	9.00	1.25	4	6	37							

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

Viscosity Sec/L	DENSITY IN/OUT	pH	WT 20/300ml	FC mm	PV/VP	GELS O/d	Tot. Sol kg/m3	Dnd. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CL ppm	Ca ppm	ALKALINITY MFI	MEQ	°C IN/OUT
97	1090/1090	8.5	34.0	1.8	8' 25.0	17. /22.	0.05		0.006	52	0	0.000	200	560	0.5	0.2	/ 29
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
18 HR IN	1090 kg/m3	OUT	1055 kg/m3	HR OUT		kg/m3		HR OUT		kg/m3		HR OUT		kg/m3		m3	

PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNUAL VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	Q/GPM	MODEL	LINER mm	STROKE mm	SPM	Q/GPM		DP m/min	DC m/min	VELOCITY m/sec	IMP
Emsco	152	254	72	1.00	Emsco	152	254	72	1.00	6690	83.6	146.7	55.7	63.04

SURVEYS				TIME BREAKDOWN				MUD ADDITIVES	
AZIMUTH				DRILLING	9.00	CLN TO BTM	1.75	Gel	229
1.50 ° @	67.22 m	23.00		SURVEYING	0.75	REAMING	1.25	Soda Ash	5
° @	m			RIG SERV	1.50	COND MUD	9.75	Pot Sulf	224
° @	m							Drispac	
° @	m							Sod sulf	4
° @	m							Corinox	4
° @	m							Caustic	
° @	m							Alcomer110	2
° @	m							Starpak	
° @	m							Lignite	
° @	m							Lime	2
° @	m							Sawdust	25
				TOTAL HOURS: 24.00					

MUD COMMENTS: K-ion=10000, Sulfite=20, Polymer=1.2

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

2000.08.05 @ 00:00 hours

Drill from 61-63mKB. Flow check. Lost 2m3 mix sawdust.

Drilled from 63-63.5mKB. Major loss 10m3. Flow check.

Circulated and build volume. Raised vis. Reamed 5m to

bottom. Drilled 63.5- 64mKB. Conditioned mud as it was going

over the shakers due to adding Alcomer110. Drilled from

64-74mKB. Circulated and condition mud. Drilled from

74-81mKB. Survey at 67mKB, deviation=1.5, direction=23AZ.

Drilled from 81-84mKB. Work and clean hole. Drilled from

84-91mKB. Continued to clean and work hole. Drilled from

91-94mKB to 23:59 hours 2000.08.05

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD#:

CD 05/97



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/06

LOCATION: 300-C31-6040-12330-0

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

DAY: 2

DEPTH: 94.00 m

PROGRESS: 37.00 m

CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 12 °C

8:00 a.m. OPERATION: Drilling 215.9mm pilot hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note #1 Build volume from 25m3 to 35m3.

Note #2 Pason went down at 2:00 hours.

Note #3 Once mud properties were corrected, hole was cleaning very effective as pump #2 was put on line (2.00m3 flow rate).

Note #4 No mud logger report as Pason went down.

Note #5 DC energy has completed installing tank farm.

Note #6 26 bucket loads of cuttings was taken to shale pit. Cuttings size range from 1/4" to all most road gravel size.

Note #7 Survey #3 on survey sheet was taken after 23:59hours 2000.08.06.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

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: 00/08/05	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY: 1	
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: m	RIG RELEASE: @ : hrs.	
				WELL STATUS:	
WEATHER: Cloudy		TEMP: 15 °C		FINAL TD: 61.00 m FORMATION: BESA RIVER	
Midnight DEPTH: 57.00 m		PROGRESS: 57.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: m		8:00 a.m. OPERATION: cleaning hole with 90 vis and building vis volume.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 51898 CUMULATIVE COST: \$ 1733911

1	Bit J7Hughes	1	Mud Motor	1	Float Sub	1	Mule Shoe	1	NMDC MWD
3	DC	1	Jars	6	DC	1	Crossover		

TOTAL ROTATING HOURS:	0.00
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LENGTH: 109.57 m WT. BELOW JARS: 6000 daN JAR HRS: 2.0 JAR SERIAL #: 10701

WT. ON BIT: 4 daN ROTARY RPM: 20 STRING WT.: 31000 daN

DRILL PIPE O.D.: THREAD: DRILL COLLARS O.D.: 171 THREAD: H90 NO. IN HOLE: 9

[illegible]

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

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	FW/FV	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 MEL MFO	°C IN/OUT
68	1060/1060	10.5	9.0	1.2	4/ 1.0	0.0/0.0	0.02		0.000	0	0	0.000	1600	380	0.6	/
	/				/	/										/
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		

P U M P	PUMP NO. 1				PUMP NO. 2				PRESSURE	ANNULAR VELOCITY		TEST				
	MODEL	LINEAR	STROKE	SPM	m3/MIN	MODEL	LINEAR	STROKE		SPM	m3/MIN	DIP m/MIN	DC m/MIN	VELOCITY m/sec	MHP	
		mm	mm				mm	mm								
	Emsco	152	254	100	1.38	Emsco	152	254				57.7	101.2	38.5	20.14	

SURVEYS			TIME BREAKDOWN				MUD ADDITIVES	
		AZIMUTH	RIG UP/DN	10.50	HNDL TOOLS	1.00	Gel	
0.75 ° @	33.46 m	68.00	BOP CHECK	0.25	SAFETY MTG	0.25	Soda Ash	
° @	m		DRILLING	3.25	TRIPPING	0.75	Pot Sulf	
° @	m		TRIPPING	1.00	CLN TO BTM	1.00	Drifpac	
° @	m		DRILLING	1.00	REAMING	2.00	Sod sulf	5
° @	m		SURVEYING	0.25	DRILLING	2.50	Corinox	5
° @	m		RIG SERV	0.25			Caustic	
° @	m						Alcomer110	1
° @	m						Starpak	20
° @	m						Lignite	1
° @	m							
					TOTAL HOURS:	24.00		

MUD COMMENTS: K+ion=10000,Sulfite=180,Polymer=1.6

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

2000.08.04 @ Hours

Finished with top drive at 04:30hrs. Elbow for the goose neck to the Kelly hose had to be refitted because it was rubbing against electrical wires. Made up BHA. Tested diverter and function. Held pre-spud meeting prior to drilling. Spudded well at 12:15 hours. Drilled 215.9mm hole

from 0-38mKB. Tripped for plugged jets. RIG and washed to bottom. Worked tight hole. Drill from 38-49mKB. Worked and cleaned tight hole. Surveyed at 33mKB. Drilled from 49-61mKB. Rig service to 23:59 hours 2000.08.04.

Note #1 At 18:00hrs hole pressured up possibly due to

SUPERVISOR: D.Solborg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/05

LOCATION: 300-C31-6040-12330-0

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

DAY: 1 DEPTH: 57.00 m PROGRESS: 57.00 m CPA NO.: 300C316040123300

WEATHER: Cloudy

TEMP: 15 °C

8:00 a.m. OPERATION: Cleaning hole with 90 vis and building vis volume.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

packing off. Lost 10m3 over 2 hours. Started to mix premix to build volume.

Note #2 Cannot drill. Could be that the difference between pilot and conductor pipe is too great. Cuttings may be falling with the loss of annular velocity once in the conductor.

Note #3 Increasing vis and yield point to help clean the hole.

Note #4 Hit water at camp at 180ft. Well flowed at 30 gal/min. Installed 10gal/min pump. Moved to the rig. Entered water zone at 100ft. Drilled another 20ft. Set another 10gal/min pump.

Note #5 Had a visit with Shane Parrish and Brian Balance of Beaver Enterprises as they just looked at CDN Forest Oil operations.

Note #6 DC energy arrived with piping and 2-400bbl for the tank farm.

Note #7 More mud product has arrived.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD #:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31 DATE: 00/08/04
LOCATION: 300-C31-6040-12330-0 U.W.I.: 300-C31-6040-12330-0
DAY: DEPTH: 0.00 m PROGRESS: 0.00 m CPA NO.: 300C316040123300
WEATHER: Clear TEMP: 13 °C
8:00 a.m. OPERATION: Refitting kelly hose union. Picking up tools to spud.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

- Note 3: Petron has arrived and set up two way radios, 1 in Supervisors shack, Supervisors truck, Construction Foreman's truck and camp.
- 4: Water well drillers have moved back to camp and have started drilling 2m away from old hole.
- 5: More mud products delivered.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076
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: 00/08/03	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1900			
CONTRACTOR: AKITA DRILLING LTD.		KB: 488.3 m	KB-GL: 7.0 m	SPUD DATE:	@ : hrs.
RIG #: 58E		GL: 481.3 m	KB-CF: m	RIG RELEASE:	@ : hrs.
		WELL STATUS:			
WEATHER: Clear		TEMP: 9 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 0.00 m	PROGRESS: 0.00 m	PBTD: m	FORMATION:		
8:00 a.m. DEPTH: 0.00 m 8:00 a.m. OPERATION: Finishing with top drive rig up.					

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 74008 CUMULATIVE COST: \$ 1616198

					TOTAL ROTATING HOURS: 0.00	
LENGTH:	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:		

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 LN	RPM	I	O	D	L	B	G	O	R
															-								
															-								
															-								

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

VISCOSITY Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	THL SOL kg/m ³	DRI 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
	/				/	/										/
	/				/	/										/
CENTRIFUGE				DESILTER				DESANDER				DEGASSER				TOTAL MUD DUMPED
HR IN	kg/m ³	OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	HR OUT	kg/m ³	m ³				

[illegible]

SURVEYS		TIME BREAKDOWN	MUD ADDITIVES
	AZIMUTH	RIG UP/DN 24.00	Gel 83
u	m		Soda Ash 1
a	m		Pot Sulf 112
o	m		Drispac 2
o	m		Sod sulf 2
o	m		Corinox 2
o	m		
o	m		
u	m		
u	m		
o	m		
		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.)

2000.08.03 a 08:00 Hours:

Continued to rig up top drive. Mudded up Wadeco premix tank with gel, soda ash and prehydrated gel. Volume = 40m³. The rigs two suction tanks were filled. Volume = 50m³. Started to mix Potassium Sulphate until density is 1030 kg/m³. Welded on the 30" flange for the diverter. Prepared for

nipple up. The water well drillers moved onto location and drilled a good well, depth 100 ft. Well flowed at 60 gallons per minute. They will then install a pump tomorrow. Well is located behind the mud tanks. Rick Turner, Operations Inspector of NEB, and Dan, DIAND Land Use Officer, flew to the rig and met with Pajak and Canadian Forest Oil personnel.

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD#:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/03

LOCATION: 300-C31-6040-12330-0

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

DAY: DEPTH: 0.00 m PROGRESS: 0.00 m CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 9 °C

8:00 a.m. OPERATION: Finishing with top drive rig up.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

and discussed any concerns that both parties may have had. What was addressed is the erosion around the water well that was drilled this Spring. This concern can easily be corrected by removing the dirt that accumulated from the drilling of the well and dirt taken from borrow pit until its original topsoil is exposed. Other than that, they were very happy with this operation. Continued to rig up to 24:00 hours 2000.08.03.

Note 1: More mud products arrived.

2: Pason also arrived.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD #:

DAILY DRILLING REPORT

CD 06/27



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/02

LOCATION: 300-C31-6040-12330-0

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

DAY:

DEPTH: 0.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Partly Cloudy

TEMP: 13 °C

8:00 a.m. OPERATION: Rigging up top drive.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

and delivered surface, main hole bits and bit breakers. Continued to rig up to 23:59 hours 2000.08.01.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD #:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/08/01

LOCATION: 300-C31-6040-12330-0

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

DAY: DEPTH: 0.00 m PROGRESS: 0.00 m CPANO.: 300C316040123300

WEATHER: Clear

TEMP: 14 °C

8:00 a.m. OPERATION: Rigging up the rig and Wadeco equipment.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

tools arrived as did Weatherford tools. Shut down rig up at 22:00 hours
2000.07.31.

Note: Released rig moving trucks.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

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: 00/07/31	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: 481.3 m	KB-GL: m	SPUD DATE:	@ : hrs.
RIG #: 58E		GL: 481.3 m	KB-CF: m	RIG RELEASE:	@ : hrs.
		WELL STATUS:			
WEATHER: Partly Cloudy		TEMP: 15 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Safety meeting and continue to rig up.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 32557 CUMULATIVE COST: \$ 1034075

						TOTAL ROTATING HOURS:	0.00
LENGTH:	ft	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:

[illegible]

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

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/300ml	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 IN/OUT
															MPH	MFO	
	/				/	/											/
	/				/	/											/
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	
TYPE:					TYPE:									
MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	MODEL	LINER mm	STROKE mm	SPM	m ³ /MIN	kgf _s	DP m/MIN	DC m/MIN	VELOCITY m/sec.	HP

[illegible]

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.)

2000.07.30 @ 08:00 Hours:

Location had dried of up enough to continue rigging up

Akita #58E. Held safety meeting and resumed rig up.

Installed spreader beams, rotory table and drawworks. Rigged up and pinned derrick. Spotted matting, mud tanks, pumps,

generators, SCR and dog house. Shut down due to darkness at

23:59 hours 2000.07.30

Note 1: Released both cranes.

2: Mud products, 508mm, 339.7mm casing, downhole tools and cement bulkers will arrive tomorrow plus the directional drillers shack.

cont'd

SUPERVISOR: D. Solberg/C. Piche PHONE #: (600) 701-2076 CALLING CARD#:

CD 00197



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/07/31

LOCATION: 300-C31-6040-12330-0

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

DAY:

DEPTH:

0.00 m

PROGRESS:

0.00 m

CPA NO.: 300C316040123300

WEATHER: Partly Cloudy

TEMP: 15 °C

8:00 a.m. OPERATION: Safety meeting and continue to rig up.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note 3: Water well drillers attempted to pull out of the hole and move 2m away and start new well, but at 65 ft a boulder had caused the casing to collapse therefore preventing the bit to get past that area. As a result, the bit was jarred loose and also lost down hole. The water well driller then phoned for a new bit that is being flown in from Calgary to Grande Prairie. The plane will be in Grande Prairie tomorrow morning. Anderson will then be in Grande Prairie to pick up the new bit and drive back to location.

REPORTED BY: D.Solberg/C.Piche

PHONE#: (600) 701-2076

CALLING CARD #:



PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

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

DATE: 00/07/30

LOCATION: 300-C31-6040-12330-0

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

DAY:

DEPTH:

m

PROGRESS:

m

CPA NO.: 300C316040123300

WEATHER: Overcast

TEMP: 14 °C

8:00 a.m. OPERATION: Prejob safety meeting and started to rig up

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note #1 This ring acts as a hole opener and prevents sloughing. When water has been encountered the bit will be rotated for 20min to heat the ring. Causeing the ring to expand and detact from bit. This allows for the bit to be pulled up though the casing as the casing will be left in the hole. Building of the mud house has been completed at the staggering area.

Note #2 Badger rentals supplied mud house and construction.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD #:

DAILY DRILLING REPORT

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/28	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB:	m	KB-GL:	m
RIG #: 58E		GL:	m	KB-CF:	m
		SPUD DATE:		@	hrs.
		RIG RELEASE:		@	hrs.
		WELL STATUS:			
WEATHER: High cloud		TEMP: 13 °C		FINAL TD: m	
Midnight DEPTH: m		PROGRESS: m		FORMATION: m	
8:00 a.m. DEPTH: m		8:00 a.m. OPERATION: Install cribbing and drill mousehole		FORMATION: m	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 42756 CUMULATIVE COST: \$ 839091

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 TOTAL
ROTATING
HOURS: 0.00

 LENGTH: 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:
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT					REMARKS
					1	2	3	IN	OUT			DRL	TMD	WTG	RPM	I	D	O	L	B	
																-					
																-					
																-					

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

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Viscosity Sec/l	DENSITY IN/OUT	plf	WL 60/30min	FC In/ft	PV/YP	GELS 0/10	Tot. Sol. g/m3	Dried Sol. g/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	CI ppm	CC ppm	ALKALINITY MFI	MFO	°C 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	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kg	psi	ft/min	in/min	ft/min	HP

SURVEYS		TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH					
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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.)

2000.07.27 a 00:00 Hours

Rigged up OK Rathole. Set a liner at 8.5mGL. Drilled to 12mGL. Encountered a water zone. Ran liner to 12mGL. Drilled to 16mGL. Hit a hard sandstone stringer. Pilot hole to 20mGL. Opened hole to 914mm. Ran 762mm pipe to 18mGL (25mKB). Unable to go any further. Weld cap on

on conductor pipe. Rigged in Sanjel cements. Held prejob safety meeting. Mixed and pumped 21 tonnes 0-1-0 "G" + 3% CaCl2. Displaced with 1.5m3 water. Cement top at .7m from surface to 23:59 hours 2000.07.27.

Note #1: Construction worked on building location today

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD#:

CD 06-97



PAJAK ENGINEERING LTD

DAILY DRILLING REPORT

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

DATE: 00/07/28

LOCATION: 300-C31-6040-12330-0

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

DAY:

DEPTH:

m

PROGRESS:

m

CPA NO.: 300C316040123300

WEATHER: High cloud

TEMP: 13 °C

3:00 a.m. OPERATION: Install cribbing and drill mousehole

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note #2: Hauled all remaing rig load from Ft. Liard to rack site across river. Will load pipe and collars Friday and deliver on Saturday.

Note #3: Held safety meeting prior to loading trucks.

Note #4: Pulled liner prior to displacing cement.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (600) 701-2076

CALLING CARD #:



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/27	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m	KB-GL: m	SPUD DATE: @ : hrs.	
RIG #: 58E		GL: m	KB-CF: m	RIG RELEASE: @ : hrs.	
		WELL STATUS:			
WEATHER: overcast		TEMP: 14 °C	FINAL TD: m	FORMATION:	
Midnight DEPTH: m		PROGRESS: m	PBTD: m	FORMATION:	
8:00 a.m. DEPTH: m		8:00 a.m. OPERATION: Drilling 30" conductor hole with OK Ratehole.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 48923 CUMULATIVE COST: \$ 796335

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LENGTH: 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: 0.00B
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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	WTdaN	RPM	I	O	D	L	B	G	O	R

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

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J

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		
	/				/	/											/	
	/				/	/											/	
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	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

SURVEYS		TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH					
° @	m				
° @	m				
° @	m				
° @	m				
° @	m				
° @	m				
° @	m				
° @	m				
° @	m				
		TOTAL HOURS:			

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.)

2000.07.26 at 00:00 Hours:

Hauled Akita rig loads, 2 loads of Wadeco and Akita rental mats with Transcontinental. Hauled 400 BBL open tank with Cooper Barging. The majority of the rig is across the river. Remaining loads in Ft. Liard are the mud pumps and generators. Pipe and collars remain in Ft. St. John.

Ok Rathole arrived on C-31 location. Rigged up and spudded conductor at 20:00 hours. Drilled to 28 feet and hit a water seem. Shut down operations at 21:00 hours 2000.07.26.

Note #1: Will start up at 06:00 tomorrow morning.

Note #2: Held prejob safety meeting prior to loading trucks.

Note #3: Probably have to set liner to isolate water zone.

SUPERVISOR: D.Solberg/C.Piche PHONE #: (600) 701-2076 CALLING CARD#:

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 53514 CUMULATIVE COST: \$ 747412

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

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SURVEYS			TIME BREAKDOWN	MUD ADDITIVES
	AZIMUTH			
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
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0	@	m		
			TOTAL HOURS:	

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

Note 3: Received 4 Akita rig loads today.

Note 1: Held prejob safety meeting prior to loading trucks.

2: Construction worked on lease and staging area.

CD 06/97

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/25	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB:	m	KB-GL:	m
RIG #: 58E		GL:	m	KB-CF:	m
				SPUD DATE:	@ : hrs.
				RIG RELEASE:	@ : hrs.
				WELL STATUS:	
WEATHER: Clear		TEMP: 15 °C		FINAL TD:	m
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m		PBTD:	m
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Hauling rig loads from Ft. Liard across river to rack site.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 103563 CUMULATIVE COST: \$ 693898

					TOTAL ROTATING HOURS:		0.00
LENGTH:	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:	

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	WTdN	RPM	I	O	D	L	B	G	O	R
														-									
														-									
														-									

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

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	
	/				/	/											/
	/				/	/											/
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	
TYPE:					TYPE:									
- 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

SURVEYS			TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH				
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
			TOTAL HOURS:	

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.)

2000.07.24 @ 08:00 Hours:

Hauled 12 rig loads from Ft. Liard to racking area at K-29
with 5 trucks to 23:59 hours 2000.07.24.

Notes:

1: Construction worked on building lease and staging area today.

- 2: Made arrangements for OK Rathole and Sanjel Cementers to set rathole, mousehole Wednesday afternoon, July 26, 2000
- 3: Arrangements made for one Akita crew to fly in Wednesday afternoon and second crew on Thursday morning, with Deh Cho Air, to start rigging up.
- 4: Held prejob safety meeting prior to loading trucks.

SUPERVISOR: D.Solberg/C.Piche PHONE #: (780) 831-9040 CALLING CARD#:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/24	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m	KB-GL: m	SPUD DATE:	@ : hrs.
RIG #: 58E	GL: m	KB-CF: m	RIG RELEASE:	@ : hrs.	
		WELL STATUS:			
WEATHER: Clear	TEMP: 11 °C	FINAL TD: m	FORMATION:		
Midnight DEPTH: 0.00 m	PROGRESS: 0.00 m	PBTD: m	FORMATION:		
8:00 a.m. DEPTH: 0.00 m	8:00 a.m. OPERATION: Hauling rig loads to racking area.				

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 52819 CUMULATIVE COST: \$ 590335

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					TOTAL ROTATING HOURS: 0.00	
LENGTH:	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:

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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.						REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R
																-							
																-							
																-							

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

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

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SURVEYS			TIME BREAKDOWN	MUD ADDITIVES
		AZIMUTH		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
0	@	m		
			TOTAL HOURS:	

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.)

2000.07.23 @ 08:00 Hours:

Received rig mud pump today. Hauled to rock quarry, between Chevron K-29 location and camp location, 2 wellsite trailers with Hawrylenko Trucking, doghouse and flare line pipe sloop with Land Transport. Report to 2000.07.23 @ 23:59 hours.

Enterprises trucks hauling to rock quarry. Area estimated to hold 12-15 loads. Single barge can haul 2 loaded tractor trailer units plus 4 vehicles per trip. The barge makes 1 round trip per hour. Round trip from barge landing and rack site 3-4 hours. Construction worked on building lease and staging area.

SUPERVISOR: D.Solberg/C.Piche PHONE #: (780) 831-9040 CALLING CARD#:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/23	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m	KB-GL: m	SPUD DATE: @ : hrs.	
RIG #: 58E		GL: m	KB-CF: m	RIG RELEASE: @ : hrs.	
WEATHER: High cloud		TEMP: 13 °C		WELL STATUS:	
Midnight DEPTH: m	PROGRESS: m	FINAL TD: m	FORMATION:		
8:00 a.m. DEPTH: m	8:00 a.m. OPERATION: Building location & preparing staging area to rack rig.	PBTD: m	FORMATION:		

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 17685 CUMULATIVE COST: \$ 537516

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

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

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
	/				/	/										/
	/				/	/										/

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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	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

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS:	

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.)

2000.07.22 @ 08:00 Hours:

ff loaded Akita #58E rig loads, Wadeco equipment and weatherford diverter system in racking area in Ft. Liard to 23:59 hours, 2000.07.22.

Note #1: Held safety meeting prior to unloading trucks.

#2: Received 2 loads of rig today. Second rig pump tomorrow and rest of the rig on tractors when we start transporting rig to staging area across the river.

#3: Worked on construction of lease and preparation of staging area.

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (780) 831-9040

CALLING CARD#:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/22	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m	KB-GL: m	SPUD DATE: @ : hrs.	
RIG #: 58E	GL: m	KB-CF: m	RIG RELEASE: @ : hrs.		
WELL STATUS:					
WEATHER: Clear		TEMP: 11 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: m		PROGRESS: m		PBSD: m FORMATION:	
8:00 a.m. DEPTH: m 8:00 a.m. OPERATION: Bringing in Akita #58E & equipment to Ft. Liard.					

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 364417 CUMULATIVE COST: \$ 519831

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				TOTAL ROTATING HOURS: 0.00	
LENGTH: 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:	

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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																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

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

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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	HHP

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS: 	

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.)

2000.07.21 @ 08:00 hours. Hauled wet sleeper and generators
Hauled wet sleeper and generators from Ft. Liard to K-29
location. Hauled camp from Ranger P-66 to K-29 location.
Rigged up same to 23:59 hours, 2000.07.21.

#2: Camp started @ 18:00 hours, 2000.07.21.

#3: Worked on location and staging area access road.

#4: Held prejob safety meeting prior to moving camp.

Note #1: Recieved 14 loads of Akita 58E today.

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (780) 831-9040

CALLING CARD#:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/21	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m	KB-GL: m	SPUD DATE: @ : hrs.	
RIG #: 58E		GL: m	KB-CF: m	RIG RELEASE: @ : hrs.	
WEATHER: High cloud		TEMP: 14 °C		WELL STATUS:	
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m		FORMATION:	
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Haul camp from P-66 to K-29 camp site and rig up same.		FORMATION:	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 22519 CUMULATIVE COST: \$ 155414

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LENGTH: 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:	0.00
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.								REMARKS
					1	2	3	IN	OUT			DRL	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R	

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

M

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	
	/				/	/											/
	/				/	/											/

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

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PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS:	

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.)

2000.07.20 @ 08:00 Hours:

continued to build camp site. Tore out camp at Ranger P-66. kitted camp shacks off matting. Hauled matting to K-29 location and unloaded same. Hauled wet 8-man sleeper from Ft. Liard to K-29 location to 24:00 hours 2000.07.20.

Started clearing brush off C-31 location today.

Started moving Akita 58E from Ft. St. John to Ft. Liard, total loads received today (15).

Held prejob safety meeting prior to moving camp.

SUPERVISOR: D.Solberg/C.Piche

PHONE #: (780) 831-9040

CALLING CARD#:

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/20	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB:	m	KB-GL:	m @ : hrs.
RIG #: 58E		GL:	m	KB-CF:	m @ : hrs.
WEATHER: High cloud		TEMP: 14 °C		WELL STATUS:	
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m		FINAL TD:	m FORMATION:
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Building pad for camp site.		PBTD:	m FORMATION:

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SURVEYS			TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH						
°	@	m				
°	@	m				
°	@	m				
°	@	m				
°	@	m				
°	@	m				
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°	@	m				
°	@	m				
			TOTAL HOURS:			

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

during lease and camp construction. Spoke with Brian Balance with Beaver about where to offload the rig until ready for moving. The heavier loads will be at Beaver's yard and a few loads at the barge landing. Started building the new camp location. Prepared the camp for moving. Met with Jess Corbett with Chevron Logistics and made an agreement regarding the

CALLING CARD#:



DAILY DRILLING REPORT

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

DATE: 00/07/20

LOCATION: 300-C31-6040-12330-0

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

DAY: DEPTH: 0.00 m

PROGRESS: 0.00 m

CPA NO.: 300C316040123300

WEATHER: High cloud

TEMP: 14 °C

8:00 a.m. OPERATION: Building pad for camp site.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

barge. The plan is that CFO can use it Friday, Saturday and Sunday. Chevron will use it Monday, Tuesday, Wednesday and Thursday, but CFO can also use it during Chevron's days. The deal is whoever uses it the most during Chevron's days will pay the cost and CFO will cover the cost on the remaining days. A work and road permit will be issued from Chevron in the morning before work is to begin and at the end of the day. A new form is to be submitted for the next day.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (780) 831-9040

CALLING CARD #:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/19	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m KB-GL: m		SPUD DATE: @ : hrs.	
RIG #: 58E		GL: m KB-CF: m		RIG RELEASE: @ : hrs.	
WELL STATUS:					
WEATHER: Cloudy		TEMP: 15 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m		PBTd: m FORMATION:	
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Begin moving in camp. Mobilize equipment.			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 19000 CUMULATIVE COST: \$ 119944

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LENGTH: 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:	0.00
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.							REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R	
														-										
														-										
														-										

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

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

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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		TYPE			PUMP NO. 2		TYPE			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

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS: 	

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.)

Met with Stan Ross, Badger Rentals, about garbage bins.
Spoke with Paul Janzen, DC Energy, regarding the 400 barrel tanks that will be used for the tank farm and at the water well. Lyle Wood, Inland Pressure Testing, will be doing the pressure testing. The plan is to leave a truck at the rig, and when needed, call for Manley or Dean to fly up. Phoned

Ken Dueck, Phoenix Welding, he will be doing the welding on this well. Met with Dan Webster and Ed Lambert, Alpine Environmental Ltd., discussed some methods of treating the waste water. Chuck MacDougall, Raven Oilfield Rentals, spoke with us regarding the ash bins, incinerators and potable water tanks.

SUPERVISOR: D.Solberg/C.Piche PHONE #: (780) 831-9040 CALLING CARD#:



DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/18	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
VICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:		SPUD DATE: @ : hrs.	
TRACTOR: AKITA DRILLING LTD.		KB: m KB-GL: m		RIG RELEASE: @ : hrs.	
RIG #: 58E		GL: m KB-CF: m		WELL STATUS:	
WEATHER: Clear		TEMP: 9 °C		FINAL TD: m FORMATION:	
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m		PBTD: m FORMATION:	
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Wait on final approval of Land Use and Water Licence Permits			

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 3170 CUMULATIVE COST: \$ 100944

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

TOTAL
ROTATING
HOURS: 0.00

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.					REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WTdaN	RPM	I	O	D	L	B	G	O
															-							
															-							
															-							

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

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
	/				/	/										/
	/				/	/										/

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 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

SURVEYS		TIME BREAKDOWN		MUD ADDITIVES	
AZIMUTH					
o @	m				
o @	m				
o @	m				
o @	m				
o @	m				
o @	m				
o @	m				
o @	m				
o @	m				
		TOTAL HOURS:			

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.)

2000.07.17 @ 08:00 Hours:

ed on Land Use and Water Licence permit applications to
o the Mackenzie Valley Environmental Review Board for
preliminary screening on July 19, 2000.

* Toured potential C-31 and camp locations. Also went and
checked camp at Ranger P-66.

* Had meeting with Chevron representative Peter Grooteler,
discussed future loads coming in. Chevron has 4 vessels
coming in approximately August 1, 2, 3 and traffic will be
limited until the vessels are in place. They also have a
workover rig coming in approximately August 21. Peter also
voiced Chevron's road safety concerns using their road.

SUPERVISOR: D.Solberg/C.Piche PHONE #: (780) 831-9040 CALLING CARD#:



DAILY DRILLING REPORT

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

DATE: 00/07/18

LOCATION: 300-C31-6040-12330-0

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

DAY: DEPTH: 0.00 m PROGRESS: 0.00 m CPA NO.: 300C316040123300

WEATHER: Clear

TEMP: 9 °C

8:00 a.m. OPERATION: Wait on final approval of Land Use and Water Licence Permits

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Will fax document with their rules and regulations.

* Noticed that Chevron has a location surveyed I-40.

REPORTED BY: D.Solberg/C.Piche

PHONE #: (780) 831-9040

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: 00/07/17	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m KB-GL: m		SPUD DATE: @ : hrs.	
RIG #: 58E		GL: m KB-CF: m		RIG RELEASE: @ : hrs.	
WEATHER: Clear		TEMP: 8 °C		WELL STATUS:	
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m		FINAL TD: m FORMATION:	
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Wait on final approval of Land Use and Water Licence permits		PBTd: m FORMATION:	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 3945 CUMULATIVE COST: \$ 97774

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LENGTH: 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:	0.00
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.							REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WTDaN	RPM	I	O	D	L	B	G	O	R	

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

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

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	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

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS:	

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.)

2000.07.16 @ 08:00 Hours:

Waited on Land Use and Water Licence permit applications to go to the Mackenzie Valley Environmental Review Board for preliminary screening on July 19. Met with Cal Piche. Introduced him to Harold Pearson and Gordon Gauvreau. Brought Cal up to speed on the progress of the well C-31.

Note: Continued to contact service companies to co-ordinate start up date which should be July 19, 2000.

SUPERVISOR: D.Solberg/C.Piche PHONE #: (780) 831-9040 CALLING CARD#:

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31			LOCATION: 300-C31-6040-12330-0			DATE: 00/07/16		
U.W.I.: 300-C31-6040-12330-0			CPA NO.: 300C316040123300			DAY:		
OFFICE SUPERVISOR: Mickey Sutherland			LICENCE NO.:					
CONTRACTOR: AKITA DRILLING LTD.			KB:	m	KB-GL:	m	SPUD DATE:	@ : hrs.
RIG #: 58E			GL:	m	KB-CF:	m	RIG RELEASE:	@ : hrs.
						WELL STATUS:		
WEATHER: overcast			TEMP: 9 °C			FINAL TD: m FORMATION:		
Midnight DEPTH: 0.00 m			PROGRESS: 0.00 m			PBTD: m FORMATION:		
8:00 a.m. DEPTH: 0.00 m			8:00 a.m. OPERATION: Wait on final approval of Land Use and Water Licence Permits					

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 2290 CUMULATIVE COST: \$ 93829

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

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
															-								
															-								
															-								

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

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		^a C IN/OUT	
															MFI	MFO		
	/				/	/											/	
	/				/	/											/	
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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SURVEYS		TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH			
° @	m		
° @	m		
° @	m		
° @	m		
° @	m		
° @	m		
° @	m		
° @	m		
° @	m		
° @	m		
° @	m		
		TOTAL HOURS:	

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.)

00/07/15 08:00 Waited on land use and water licence permit application to go to Mackenzie Valley Environmental Review Board for preliminary screening. The approval is expected by July 19, 2000.

Note(1) Talked with Land Transport, they are sending up a

few loads of rig today, for arrival on Sunday.

Note(2) Inspected the Ranger barge landing, south of the Flett Rapids I-61 well.

Note(3) Contacted all services and placed them on standby for operation startup +/- July 19, 2000.

SUPERVISOR: Doug Solberg PHONE #: (780) 831-9040 CALLING CARD#:

WELL NAME: CDN FOREST ET AL NORTH L.I.ARD C-31			LOCATION: 300-C31-6040-12330-0			DATE: 00/07/15		
U.W.I.: 300-C31-6040-12330-0			CPA NO.: 300C316040123300			DAY:		
OFFICE SUPERVISOR: Mickey Sutherland			LICENCE NO.:					
CONTRACTOR: AKITA DRILLING LTD.			KB:	m	KB-GL:	m	SPUD DATE:	@ : hrs.
RIG #: 58E			GL:	m	KB-CF:	m	RIG RELEASE:	@ : hrs.
			WELL STATUS:					
WEATHER: overcast			TEMP: 12 °C			FINAL TD: m FORMATION:		
Midnight DEPTH: m			PROGRESS: 0.00 m			PBTD: m FORMATION:		
8:00 a.m. DEPTH: m			8:00 a.m. OPERATION: Wait on final approval of Land Use and Water Licence permits					

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

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Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YF	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
															MEI	MFO	
	/				/	/											/
	/				/	/											/
CENTRIFUGE					DESILTER			DESANDER			DEGASSER			TOTAL MUD DUMPED			
HR IN	kg/m3	OUT	kg/m3		HR OUT	kg/m3		HR OUT	kg/m3		HR OUT	kg/m3		m3			

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PUMP NO. 1					PUMP NO. 2					PRESSURE	ANNULAR VELOCITY		JET	
TYPE					TYPE									
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	HPH

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH		
° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m		
	TOTAL HOURS:	

Dave Lauck a call at home, to be there when loading heavier components of the rig. Received a fax that the Mackenzie Valley Land and Water Board has approved the Land Use and Water Licence but has to be sent to Mackenzie Valley Environmental Review Board for preliminary screening on July 19, 2000.

CD 06/97

DAILY DRILLING REPORT

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31		LOCATION: 300-C31-6040-12330-0		DATE: 00/07/14	
U.W.I.: 300-C31-6040-12330-0		CPA NO.: 300C316040123300		DAY:	
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.:			
CONTRACTOR: AKITA DRILLING LTD.		KB: m KB-GL: m		SPUD DATE: @ : hrs.	
RIG #: 58E		GL: m KB-CF: m		RIG RELEASE: @ : hrs.	
WEATHER: Raining		TEMP: 15 °C		WELL STATUS:	
Midnight DEPTH: 0.00 m		PROGRESS: 0.00 m		FINAL TD: m FORMATION:	
8:00 a.m. DEPTH: 0.00 m		8:00 a.m. OPERATION: Wait on Land Use Permit, move in of Akita #58E.		PBTD: m FORMATION:	

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 1595 CUMULATIVE COST: \$ 87911

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

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

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Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot. Sol. kg/m3	Drid. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY		° C IN/OUT
	/				/	/											/
	/				/	/											/
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	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec	HHP

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS:	

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.)

2000.07.13 @ 08:00 Hours:

Received 2 loads of rig components today. Was contacted by Duane Robinson with Land Transport at 09:15 hours, said they were having problems with their trucks stuck in the mud and there were some unfinished rig moves that they wanted to complete, but were shut down due to the rain. He said that

Land Transport had a window open Saturday, July 15 and that they would get the majority of the rig components that we need on the road at that point.

SUPERVISOR: Doug Solberg PHONE #: (780) 831-9040 CALLING CARD#:

WELL NAME: CDN FOREST ET AL NORTH LIARD C-31			LOCATION: 300-C31-6040-12330-0			DATE: 00/07/13		
U.W.I.: 300-C31-6040-12330-0			CPA NO.: 300C316040123300			DAY:		
OFFICE SUPERVISOR: Mickey Sutherland			LICENCE NO.:					
CONTRACTOR: AKITA DRILLING LTD.			KB:	m	KB-GL:	m	SPUD DATE:	@ : hrs.
RIG #: 58E			GL:	m	KB-CF:	m	RIG RELEASE:	@ : hrs.
			WELL STATUS:					
WEATHER: Foggy			TEMP: 14 °C			FINAL TD: m FORMATION:		
Midnight DEPTH: 0.00 m			PROGRESS: 0.00 m			PBTD: m FORMATION:		
8:00 a.m. DEPTH: 0.00 m			8:00 a.m. OPERATION: Moving heavier loads from Ft. St. John to Ft. Liard.					

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TOTAL ROTATING HOURS:	0.00
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Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot. Sol. kg/m3	Dried Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI MFO	°C 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		m3		

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SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH		
° @ m		
° @ m		
° @ m		
° @ m		
° @ m		
° @ m		
° @ m		
° @ m		
° @ m		
° @ m	TOTAL HOURS:	

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.)

2000.07.12 @ 08:00 Hours:

Received approximately 3-4 inches of rain during the night. Cancelled rig moving trucks at 07:00 hours. Talked to Deh Cho Air about chartering a plane flight to Calgary on Tuesday afternoon, July 18. Contacted Land Transport at 15:00 hours and made arrangements to bring the heavier rig

loads and rack them in Beaver Enterprises maintenance yard tomorrow morning, July 13. That will give the area up on the hill an extra day to dry.

SUPERVISOR: Doug Solberg

PHONE #: (780) 831-9040

CALLING CARD#:

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/07/12

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

CPA NO.: 300C316040123300

DAY:

OFFICE SUPERVISOR: Mickey Sutherland

CONTRACTOR: AKITA DRILLING LTD.

RIG #: 58E

KB: m KB-GL: m
GL: m KB-CF: m

LICENCE NO.:

SPUD DATE: @ : hrs.

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: Raining

TEMP: 12 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 0.00 m

PROGRESS: 0.00 m

PBD: m FORMATION:

8:00 a.m. DEPTH: 0.00 m

8:00 a.m. OPERATION: Loading Akita #58E in Ft. St. John and racking in Ft. Liard.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 1540 CUMULATIVE COST: \$ 81208

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LENGTH: 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: 0.00B
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BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT.					REMARKS	
					1	2	3	IN	OUT			DRL	RMD	WTdaN	RPM	I	O	D	L	B		

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

M

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 MEI MFO	°C 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	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

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS:	

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.)

2000.07.11 @ 00:00 Hours:

Talked with Merle Park with Akita Drilling, will start bringing up Akita #58E and racking in Ft. Liard tomorrow. Met with Land Transport representatives, Rick Henning, Joe Dore and Lyle Campbell, toured around Ft. Liard and checked racking space for Akita #58E.

SUPERVISOR: Doug Solberg

PHONE #: (780) 831-9040

CALLING CARD#:

DAILY DRILLING REPORT

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

LOCATION: 300-C31-6040-12330-0

DATE: 00/07/11

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

CPA NO.: 300C316040123300

DAY:

OFFICE SUPERVISOR: Mickey Sutherland

LICENCE NO.:

CONTRACTOR: AKITA DRILLING LTD.

KB: m KB-GL: m

SPUD DATE: @ : hrs.

RIG #: 58E

GL: m KB-CF: m

RIG RELEASE: @ : hrs.

WELL STATUS:

WEATHER: High Cloud

TEMP: 11 °C

FINAL TD: m FORMATION:

Midnight DEPTH: 0.00 m

PROGRESS: 0.00 m

PBDT: m FORMATION:

8:00 a.m. DEPTH: 0.00 m

8:00 a.m. OPERATION: Meetings with Land Transport representatives.

AFE #: AFE AMT: \$ 12658500 DAILY COST: \$ 79668 CUMULATIVE COST: \$ 79668

B
H
A

LENGTH: 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: 0.00B
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	R		
															-										
															-										
															-										

LAST PIPE TALLY:

BOARD:

CORRECTION: YES [] NO []

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
	/				/	/											/
	/				/	/											/

M

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

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	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec.	HHP

SURVEYS	TIME BREAKDOWN	MUD ADDITIVES
AZIMUTH ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m ° @ m	TOTAL HOURS:	

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.)

2000.07.06:

Drove from Grande Prairie to Calgary, picked up Suburban vehicle and drove to Pajak office. Had meeting with Mullen Trucking on up and coming rig move. Drove rental vehicle to Red Deer.

2000.07.07:

Drove rental vehicle from Red Deer to Beaverlodge.

2000.07.08:

Alerted all services for project.

2000.07.09:

Drove from Beaverlodge to Ft. Liard, NT.

SUPERVISOR: Doug Solberg

PHONE #: (780) 831-9040

CALLING CARD#:



DAILY DRILLING REPOR.

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

DATE: 00/07/11

LOCATION: 300-C31-6040-12330-0

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

DAY: DEPTH: 0.00 m

PROGRESS: 0.00 m

CPA NO.: 300C316040123300

WEATHER: High Cloud

TEMP: 11 °C

8:00 a.m. OPERATION: Meetings with Land Transport representatives.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

2000.07.10:

Met with new Beaver Enterprises personnel. Checked out Flett barge landing, camp on Ranger P-66, existing roads, proposed new lease and camp spot. Met with Jesse Corbet (Chevron representative) on the proposed rig move, road use agreement and tentative loads for the barge. Contacted Land Transport and Akita Drilling on availability of bringing Akita #58E from Ft. St. John and racking in Ft. Liard. Representatives from Land Transport will be flying up tomorrow for a premove meeting at 10:00 hours and check on rack site space.

REPORTED BY: Doug Solberg

PHONE #: (780) 831-9040

CALLING CARD #: