AUTHORITY TO DRILL A WELL

CANADA

Exploratory ☒ Delineation ☐
Development ☐ Service ☐

AUTHORITY TO DRILL A WELL

APPLICATION

This application is submitted with Section 82 of the Canada Oil and Gas Drilling Regulations. When approved under Section 83 of the Regulations, it is the requisite authority for the commencement of drilling operations.

Well Name in Full: GREY WOLF - CANAXAS DEH CHO-1 B-25

Operator: GREY WOLF EXPLORATION INC. Drilling Program No.: N/A

Contractor: SHEHTAH DRILLING LIMITED Permit or Lease No.: --- Licence 389

Drilling Rig or Unit: #7 Estimated Well Cost: $2,480,000.00

Location-Unit: B Section: 25 Grid Area: 65° 20'N 126 30'W

Coordinates: Lat.: 65° 14' 01.23" (EST.) Long.: 126° 34' 32.36" (EST.)

Area: DEH CHO Field/Pool: WILDCAT

Elevation-RT/KB: 64.85m / 71.25m (ASL) Seafloor: N/A (BRT)

Approx. Spud Date: DECEMBER 1, 1998 Estimated Days on Location: 15 DAYS

Anticipated Total Depth: 711m Target Horizon(s): KEE SCARP FM

EVALUATION PROGRAM

Ten-metre sample intervals: ---

Five-metre sample intervals: SURFACE BEDROCK TO T.D.

Canned sample intervals: EVERY 10m, SURFACE BEDROCK TO T.D.

Conventional cores at: NO CORES PLANNED AT THIS TIME.

Logs and Tests: SEE ATTACHED SHEET

CASING AND CEMENTING PROGRAM

O.D.	Weight:	Grade:	Setting Depth Below Seafloor:	Cementing Program (Volumes):
508mm	140.2 kg/m	J-55	20.0mKB	11.1m³
339.7mm	81.1 kg/m	J-55	150.0mKB	35.5m³
244.5mm	53.6 kg/m	J-55	225.0mKB	9.6m³
177.8mm	29.8 kg/m	J-55	711.0mKB	13.0m³

B.O.P. Equipment: AS PER CANADA OIL AND GAS REGULATIONS, SECTION 60
346mm-35,000 kPa SHAFFER SPHERICAL COMPLETE WITH THREE CAMERON TYPE U SINGLE GATES. SEE ATTACHED RIG INVENTORY SHEET.

Other Information:

Signed: [signature] Title: SENIOR OPERATIONS ENGINEER

Date: Oct. 7, 1998 Company: GREY WOLF EXPLORATION INC.

APPROVAL

An approved copy of this notice is to be posted at each wellsite.

Signed: [signature]
Chief Conservation Officer

Date: Dec 4/98

File: 9211-G69-1-1, WID.1852

UWI 300B256520126300

Canada

WELL TERMINATION RECORD (with attachment)

National Energy Board | Office national de l'énergie

WELL TERMINATION RECORD

This record is submitted in compliance with Section 184 of the Canada Oil and Gas Drilling Regulations.

Well Name: Grey Wolf - Canaxas Deh Cho-1 B-25 Area: Deh Cho

Grid Area: 65°20'N - 126°30'W Field/Pool: Wildcat

Interest Identifier ..... Final Coordinates: Lat: 65°14'.01.23" Long: 126°34'.32.36"

Drilling Unit: Shehtah #7E Elevations-KB/RT 71.8 m K.B. (ASL) GL/Seafloor 64.9 m GL

Spud Date: Dec 16/98 R.R. Jan 8/99 Total Depth: 785 m K.B.

O.D. (mm)	Weight (kg/m)	Grade	Depth Set (m KB)	Cement (m³)
508.0 mm	140.2 kg/m	J-55	26.5 m	17.5 t Polarset
339.7 mm	81.3 kg/m	J-55	160.0 m	27.75 t Polarset
244.5 mm	53.6 kg/m	J-55	225.0 m	13.0 t Polarset

PLUGGING PROGRAM

Approval of the following program was obtained by (person) ..... from

(person) ..... of the ..... , by means of

..... on ..... 19 . .

Type of Plug	Interval (m KB)	Felt	Cement (m³)
0:1:0 Class G Cement	742.0 - 670.0	Logged	5.4 t
0:1:0 Class G Cement	670.0 - 230.0	Yes	24.1 t
0:1:0 Class G Cement	227.0 - 197.0	Yes	3.6 t
Polar Set Cement	189.0 - 120.0	Yes	3.4 t
0:1:0 Class G Cement	18.0 - 0	No	1.3 t

Lost Circulation/Overpressure Zones: None

Equipment left on Seafloor (Describe): None

Provision for Re-entry (Describe and attach sketch): N/A

Cores: Type: N/A Intervals:

Other Downhole Completion/Suspension Equipment: N/A

CERTIFICATION

I certify on the basis of personal knowledge of operations undertaken at the above named well that the above information is accurate.

Signed: [signature] Title: Senior Operations Engineer

Name: Glen Glass Date: April 1/99

Company: Grey Wolf Exploration Inc.

Acknowledged by: [signature]

Chief Conservation Officer

Well Status

Suspended ☐

Completed ☐

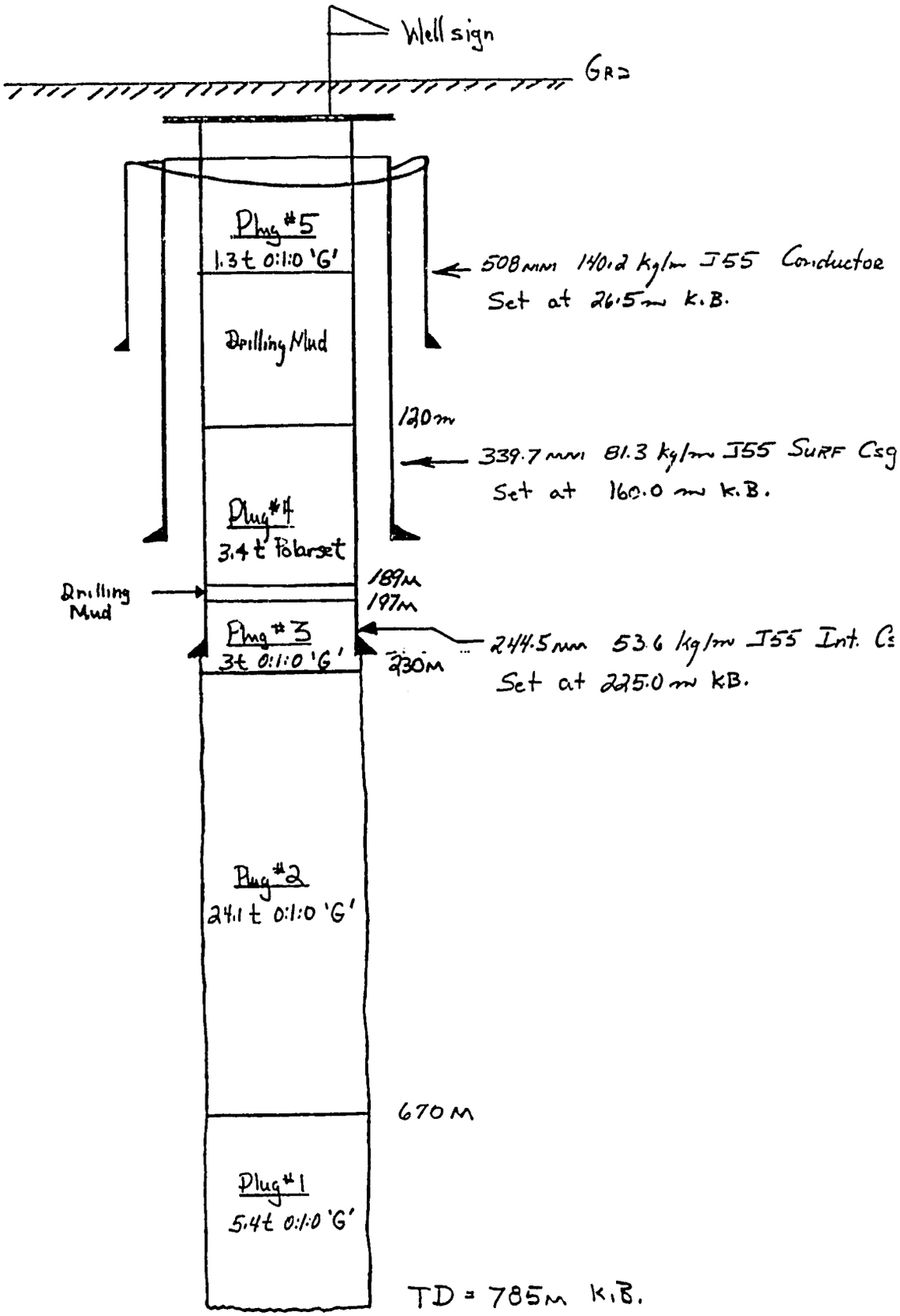
Abandoned ☒

Date: April 13/99

File: 9211-G69-1-1

UWI: 300B256520126300 WID: 1852

Grey Wolf - Canaxas Deh Cho-1 B-25



FINAL WELL REPORT

Grey Wolf-Canaxas
Deh Cho B-25
Final Well Report

Grey Wolf-Canaxas Deh Cho B-25

Final Well Report

Grey Wolf-Canaxas Deh Cho B-25

Final Well Report

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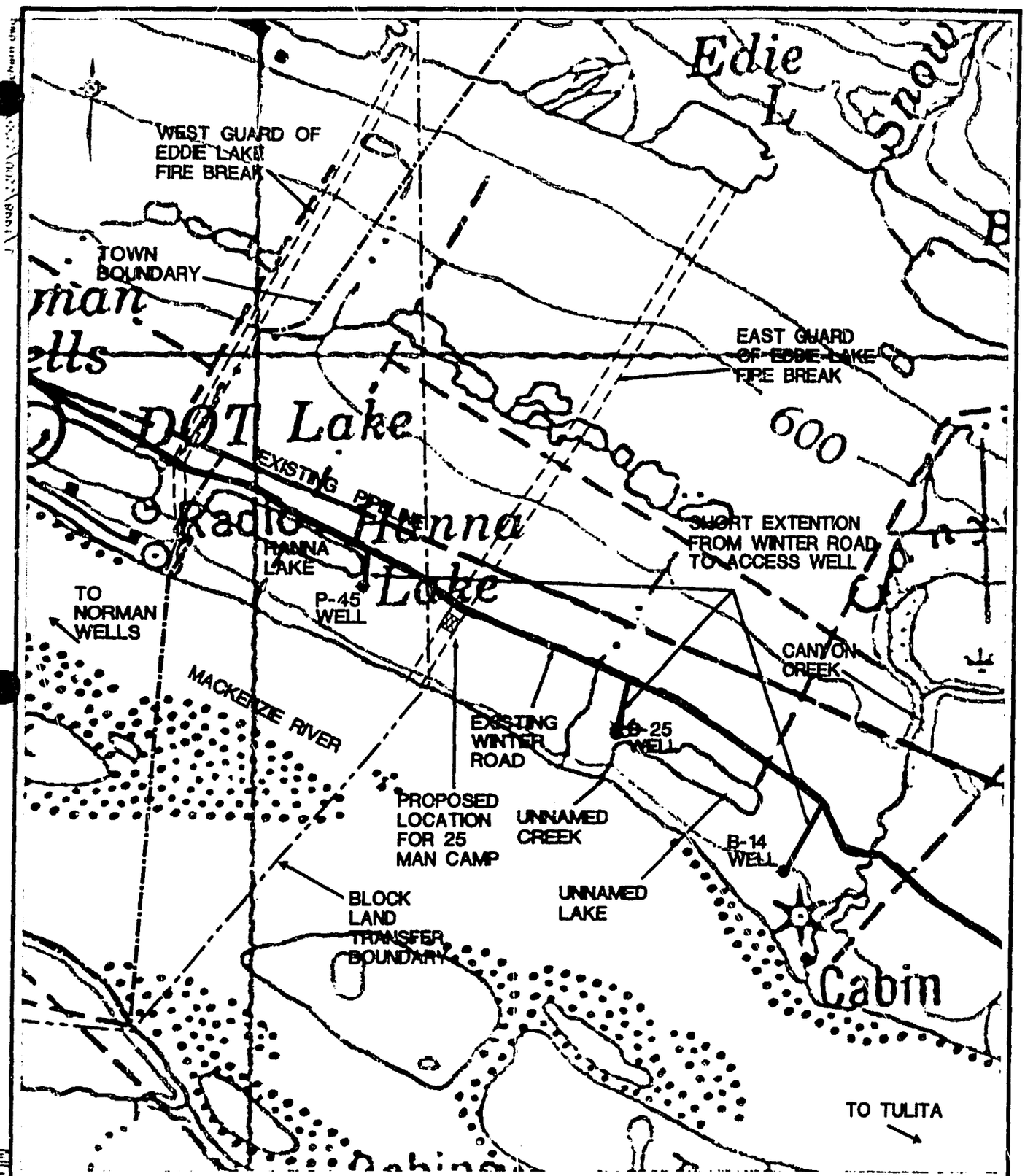
Introduction

1) Summary

Grey Wolf Exploration Inc. and its partner, Canadian Abraxas Petroleum Limited applied for an Authority to Drill A Well, for Grey Wolf Canaxas Deh Cho B-25 on October 7, 1998. Approval to proceed with the drilling of the above mentioned well and two additional wells in this project was received on December 4, 1998. Grey Wolf Exploration contracted Shehtah Rig #7E to drill to the Fort Norman Formation, which was prognosed to be at a total depth of approximately 800 m. The well was spudded on December 16, 1998 and reached total depth on January 2, 1999. The Kee Scarp formation was the primary objective, while the Canyon Creek Sand, upper member of the Hume formation, Landry and Arnica formations of Bear Rock were secondary objectives. Evaluation of the open hole logs indicated that the Canyon Creek Sand was developed in this well with an average porosity of 10%, however a DST which was conducted in this interval indicated very low permeability. The Kee Scarp formation (Reef) was not present in this well. The other potential formations were poorly developed and determined to have little potential for hydrocarbon production. On the basis of the DST, the open hole logs and drill samples, this well was plugged back as a dry hole and abandoned. The drilling rig was released January 8, 1999.

1 **Introduction**

2) **Map**



0 500 1000 1500 2000 2500(metres)

SCALE 1:50,000

REFERENCE

BASE MAP PROVIDED BY THE DEPARTMENT OF ENERGY, MINES AND RESOUCES MAP 96E/2 (1990).

Golder Associates

GREY WOLF EXPLORATION

SCHEMATIC OF WELL SITE LOCATIONS

DRAWN: RFM	APPROVED:	DATE: 01 OCT 98	
PROJECT: 982-2255.7010		FIGURE: 2	

General Data

Well Name: Grey Wolf-Canadas Deh Cho B-25
- **Unit:** B
- **Section:** 25
- **Grid Area:** 65°20'N 126°30'W
- **Coordinates:** Lat: 65°14'01.23"
  Long: 126°34'32.36"
- **Area:** Deh Cho
- **Field:** WILDCAT
  Exploration
- **License #:** 389
- **UWI:** 300B256520012630O
- **WID:** 1852
- **File:** 9211-G89-1-1

Operator: Grey Wolf Exploration Inc.
Suite 1200, 300 – 5th Avenue SW
Calgary, Alberta T2P 3C4
Ph: (403) 262-1949
Fax: (403) 262-1969

Drilling Contractor: Shehtah Drilling Limited
200, 14707 Bannister Road SE
Calgary, Alberta T2X 1Z2
Ph: (403) 279-9866
Fax: (403) 279-9859

Drilling Rig: Shehtah Rig 7E
National Model 610E

III Summary of Drilling Operations

1) General Data Summary

Well Name: Grey Wolf-Canaxas Deh Cho B-25

KB Elevation:	71.8 m
GRD Elevation:	64.9 m
Total Depth:	785 m
Spud Date:	1998.12.16 @ 06:00 hours
Rig Release Date:	1999.01.08 @ 23:59 hours
Well Status:	Dry and Abandoned

III **Summary of Drilling Operations**

2) **Hole Sizes and Bit Record**

Hole Size (mm)	Depth Out (m)
222.0	15
660.0	28
444.5	163
222.0	225
311.0	225
222.0	785

BIT RECORD

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106 SPUD DATE: 98/12/16

LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD RIG: 7E

Thu Feb 04 11:12:10 1999

RUN	BIT#	SIZE (mm)	TYPE	MAKE	SERIAL NUMBER	NOZZLE SIZE(mm) #1/4	#2/5	#3/6	DEPTH IN	DEPTH OUT	ON BIT DRILL (m)	ON BIT +CORE (hr)	REAMING (m)	REAMING (hr)	I-O-G-L	B-G-O-R	ROP MIN (m/hr)	ROP MAX (m/hr)	ROP AVG (m/hr)	WOB MIN daN	WOB MAX daN	WOB AVG daN	RPM MIN	RPM MAX	RPM AVG	AVG MUD DEN
1	1A	222.0	FV1	Smith	MD1304	11.1	11.1	11.1	0	15	15	1.00	0	0.00	1-1-WO-A	E-I -WO-BHA	15.0	15.0	15.0	3000	3000	3000	0	0	0	1104
2	2A	660.0	26DGJC	Smith	L41427	0.0	0.0	0.0	0	26	11	2.50	15	2.50	1-1-WO-A	E-I -WO-TD	4.4	4.4	4.4	3000	3000	3000	0	0	0	1069
3	3A	444.5	XJ7920	Smith	XJ7920	22.0 15.9	15.9	15.9	26	163	137	15.75	0	0.00	4-4-WT-A	E-I -WT-TD	8.5	8.7	8.6	3000	4000	3500	170	170	170	1105
4	4A	311.0	FDSS+C	Smith	LN4314	15.9 17.3	15.8	7.1	163	167	4	0.50	0	0.00	2-2-NO-A	3-I -NO-TD	8.0	8.0	8.0	4000	5000	4500	60	70	65	
5	5A	222.0	F2H	SMITH	KW8061	11.8 14.2	17.4	7.1	167	225	58	6.50	0	0.00	2-2-NO-A	3-I -NO-TD	8.9	8.9	8.9	4000	10000	7000	60	80	70	1031
6	6RR4	311.0	FDSS+C	Smith	LN4314	17.3	15.8	7.1	167	225	0	0.00	58	6.00	2-2-NO-A	3-I -NO-TD	0.0	0.0	0.0	4000	5000	4500	100	110	105	1031
7	7RR5	222.0	F2H	Smith	KW8061	11.8 14.2	17.4	7.1	225	521	.251	50.75	0	0.00	1-6-BT- H	4-I -CT-PR	4.9	10.5	7.7	5000	13000	9000	70	100	85	1042
8	8	222.0	F2HP	Smith	PR3606	11.1	10.3	10.3	521	785	264	68.00	0	0.00	1-4-BT-H	4-I -NO-TD	2.5	3.9	3.2	4000	17000	10500	60	110	85	1073

III Summary of Drilling Operations

3) Daily Drilling Reports

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/15
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 0
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 64.9 m KB-GL: m	SPUD DATE: @ : hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear	TEMP: -26 °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: Rigging up Shehtah Rig #7.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 868862 CUMULATIVE COST: $ 868862

BHA

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

TOTAL ROTATING HOURS:

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

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE:
163 5" H-90

BITS

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

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MF	MO	°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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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
Insco	165	406	50	1.47	Insco	165	406	50	1.47					0.00

SURVEYS

AZIMUTH

• @ m
• @ m
• @ m
• @ m
• @ m
• @ m
• @ m
• @ m
• @ m
• @ m

TIME BREAKDOWN

RIG UP/DN 96.00

TOTAL HOURS: 96.00

MUD ADDITIVES

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.)

1998.12.14 @ 00:00 Hours:
Boiler started 1998.12.13 @ 16:00 hours. Broke tour, worked midnight shift. Hauled out 80 joints of drill pipe, 21-161mm drill collars, 2-229mm drill collars, 72 joints 177.8mm casing, 24 joints 244.5mm casing, 14 joints 339.7mm casing, 3 joints 508mm casing.

Rigged up Shehtah Rig #7. Worked on steam lines and water lines. Wadeco, Pason and United Safety rigged in equipment. Had safety meeting and fire drill with all camp staff and all personnel working for Grey Wolf.
Worked on DB-550 pumps, installing heads and liners to 24:00 hours 1998.12.14.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/16
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 0
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 64.9 m KB-GL: m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear	TEMP: -25 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 0.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 13.00 m	8:00 a.m. OPERATION: Drilling mousehole and rathole.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 28716 CUMULATIVE COST: $ 897578

BHA

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.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE:
163 5" H-90

BITS

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

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY 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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	25	0.74	EMSCO	165	406				2.2	2.5		0.00

SURVEYS

AZIMUTH

- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m

TIME BREAKDOWN

RIG UP/DN	23.00
SAFETY MTG	1.00

TOTAL HOURS: 24.00

MUD ADDITIVES

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.)

1998.12.15 @ 00:00 Hours:
Installed heads and liners in Emsco DB-550 rebuilt pop valves on pumps 1# and 2#.
Hooked up shock hoses, worked on electrical, hydraulics and air lines.
Had safety meeting with crews and Shehtah safety coordinator
Rigged up floor and worked on shakers and mud tanks.
Picked up swivel and kelly to 24:00 hours 1998.12.15.
Note: Spudded after midnight 1998.12.15.
Tomorrow's report will be Day #1.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/17
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 1
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Snow, Very Windy	TEMP: -21 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 26.50 m	PROGRESS: 26.50 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 26.50 m	8:00 a.m. OPERATION: Welding on Diverter Flange	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 80123 CUMULATIVE COST: $ 977701

BHA

1 Bit 1 Bit Sub 1 Jars 1 X.O 1 X.O
1 Heavy Wate 1 Kelly

LENGTH: 17.83 m WT. BELOW JARS: daN JAR HRS: 8.0 JAR SERIAL #:

TOTAL ROTATING HOURS: 5.00

WT. ON BIT: 3 daN ROTARY RPM: 170 STRING WT.: 8000 daN
DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE:
163 5" H-90

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
1A	222.0	Smith	MD1304	FV1	11.1	11.1	11.1	0	15	15	15.0	1.00		3-3		1	1	WO	A	E	I	WO	BHA
2A	660.0	Smith	L41427	26DGJC	0.0	0.0	0.0	0		26	4.4	2.50	2.50	3-3		2	2			E	I		TD
														-									

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC m.m	PV/YP	GELS 0/10	Tot. Sol kg/m3	Drld. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
75	1120/1120	9.5	10.0	1.0	25/ 14.5	8.0/9.0	0.08	203.00		57			300	100			/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	EMSCO	165	406				3.0	3.4	44.1	20.48

SURVEYS

	AZIMUTH
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	

TIME BREAKDOWN

RIG UP/DN	10.00
SAFETY MTG	
DRILLING	5.00
RAT HOLE	3.00
RUN CSG	
RIG INSP	
HNDL TOOLS	4.00
CIRCULATE	2.00
TOTAL HOURS:	24.00

MUD ADDITIVES

Gel	40
Biozan	1
Caustic	1

MUD COMMENTS: Mud did a very good job cleaning 660mm hole.

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

1998.12.16 @ 00:00 Hours:
Kelly bar was frozen. Thawed out kelly bar. Made up 222mm bit on kelly bar and spudded well 1998.12.16 @ 06:00 hours. Drilled 222mm hole to 15mKB. Tightened quill on kelly bar. Installed kelly spinner on swivel and hydraulic hoses. Drilled rathole and mousehole. Made up 660mm bit and reamed 222mm hole to 660mm to a depth of 15mKB. Drilled 660mm hole to 26.50mKB. TD on conductor barrel 1998.12.16 @ 22:45 hrs. Circulated conductor hole to 24:00 hours 1998.12.16.
NOTE #1: Lots of gravel and rocks from 14mKB to 20mKB.
#2: Boiler No. 2 was started 1998.12.15 @ 20:00 hours.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 96/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 | LOCATION: 300-B25-6520-12630-0 | DATE: 98/12/18
U.W.I.: 3008256520126300 | CPA NO.: 3008256520126300 | DAY: 2
OFFICE SUPERVISOR: Mickey Sutherland | LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD | KB: 71.8 m | KB-GL: 6.9 m | SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E | GL: 64.9 m | KB-CF: m | RIG RELEASE: @ : hrs.
WELL STATUS:

WEATHER: Snow, Wind | TEMP: -28 °C | FINAL TD: m | FORMATION:
Midnight DEPTH: 26.50 m | PROGRESS: 0.00 m | PBTD: m | FORMATION:
8:00 a.m. DEPTH: 26.50 m | 8:00 a.m. OPERATION: Pressure testing diverter system.

AFE #: 9820106 | AFE AMT: $ 3960000 | DAILY COST: $ 43544 | CUMULATIVE COST: $ 1021245

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Jars	2	Drill Collar
1	X.O	1	X.O	1	Heavy Wate	1	Kelly		

LENGTH: 17.83 m | WT. BELOW JARS: daN | JAR HRS: 8.0 | JAR SERIAL #:

TOTAL ROTATING HOURS: 5.00

WT. ON BIT: 3000 daN | ROTARY RPM: 170 | STRING WT.: 8000 daN
DRILL PIPE O.D.: 114 | THREAD: 4 1/2 XH | DRILL COLLARS O.D.: 229 | THREAD: 7" H-90 | NO. IN HOLE:
163 | 5" H-90

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
2A	660.0	Smith	L41427	26DGJC	0.0	0.0	0.0	0	26	26	4.4	2.50	2.50	3-3		1	1	WO	A	E	I	WO	TD
3A	444.5	Smith	XJ7920	XJ7920	15.9	15.9	15.9	26		0		0.00		-									
										0				-									

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
75	1120/1120	9.5	10.0	1.0	25/ 14.5	8.0/9.0	0.08	203.00		57			300	100			/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	60	1.74	EMSCO	165	406	60	1.74		25.8	30.5	72.7	191.94

SURVEYS

AZIMUTH

- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m
- @ m

TIME BREAKDOWN

RIG UP/DN		W.O.C.	2.00
SAFETY MTG	0.25	W/N.U. BOP	19.00
DRILLING		CEMENTING	0.75
RAT HOLE			
RUN CSG	1.00		
RIG INSP			
HNDL TOOLS	1.00		
CIRCULATE			

TOTAL HOURS: 24.00

MUD ADDITIVES

Gel
Biozan
Caustic

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.)

1998.12.17 @ 00:00 Hours:
Hoisted out of hole and laid down 229mm drilling string.
Ran 2 joints, 508mm, 140.2 kg/m, J-55, Buttress thread.
Total of 27.60m, landed at 26.50mKB.
Had safety meeting with Nowsco and Shehtah personnel.
Cemented conductor barrel.
Pumped wash, 6m3 of water.
Cemented with 17.5 tonnes Polar Set plus .2% R-15.
Displaced with 2m3 of water. Plug down 1998.12.17 @ 03:03 hours. Had 2m3 of good cement returns.
Cement set up very fast after pumping, 20 minutes.
W.O.C. Cut casing and welded on Flange (10 hours.)

SUPERVISOR: Jack Brazel | PHONE #: (600) 700-5344 | CALLING CARD#: 454-037-6129-5326

CD 96/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/18
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 2 DEPTH: 26.50 m PROGRESS: 0.00 m CPA NO.: 300B256520126300

WEATHER: Snow, Wind TEMP: -28 °C
8:00 a.m. OPERATION: Pressure testing diverter system.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Nippled up 508mm Diverter to 24:00 hours 1998.12.17.

REPORTED BY: Jack Brazel

PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/19
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 3
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear	TEMP: -26 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 81.00 m	PROGRESS: 54.50 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 146.00 m	8:00 a.m. OPERATION: Drilling 444mm hole.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 45127 CUMULATIVE COST: $ 1066372

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Jars	2	Drill Collar
1	X.O	4	Drill Collar	1	X.O	1	Kelly		

LENGTH: 85.67 m WT. BELOW JARS: 100 daN JAR HRS: 24.0 JAR SERIAL #:

TOTAL ROTATING HOURS: 11.50

WT. ON BIT: 4000 daN ROTARY RPM: 170 STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE: 2

163 5" H-90 4

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
3A	444.5	Smith	XJ7920	XJ7920	15.9	15.9	15.9	26		55	8.5	6.50		3- 4	170								
										0				-									
										0				-									

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
40	1125/1125	9.5	22.0	1.0	10/ 5.5	5.0/8.0	203.08	162.00		41			700	1600	0.1	0.3	/
	/				/	/											/

CENTRIFUGE				DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
6 KR II	1900 kg/m3	OUT	1115 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	15 m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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
Imsco	165	406	60	1.74	Imsco	165	406	60	1.74		25.8	30.5	72.7	192.80

SURVEYS

	AZIMUTH
0.10 ° @ 33.00 m	
0.10 ° @ 60.00 m	
0.75 ° @ 76.00 m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG	0.25	W/N.U. BOP	6.00
DRILLING	6.50	CEMENTING	
RAT HOLE		PRESS TEST	1.00
RUN CSG		DRLG OUT	2.75
RIG INSP	0.25	RIG SERV	0.50
HNDL TOOLS	3.50		
CIRCULATE	0.75		
SURVEYING	0.75		
REPAIR	1.75		
		TOTAL HOURS:	24.00

MUD ADDITIVES

Gel	5
Biozan	
Caustic	
Bicarb	4
Sapp	1

MUD COMMENTS: Mud is in good condition for drilling surface hole

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

1998.12.18 @ 00:00 Hours:
Nippled up diverter. Made up Bottom hole assembly.
Note: Problems with HCR, leaking oil, (repaired). Pressure tested Diverter system with air, 700 kPa, 15 minutes. Held ok. Thawed out kicker hoses from both pumps. Repaired flow nipple,changed tong dies, tightened stand pipe. Drilled out cement from 16mKB to 26.5mKB. On formation 1998.12.18 @ 15:45 hours. Displaced cement water out to vacuum truck. Had safety and BOP drill with Shehtah crews. Drilled 444mm hole, survey as required, to 81mKB at 24:00 hours 1998.12.18.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 | LOCATION: 300-B25-6520-12630-0 | DATE: 98/12/20
U.W.I.: 3008256520126300 | CPA NO.: 3008256520126300 | DAY: 4
OFFICE SUPERVISOR: Mickey Sutherland | LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD | KB: 71.8 m | KB-GL: 6.9 m | SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E | GL: 64.9 m | KB-CF: m | RIG RELEASE: @ : hrs.
WELL STATUS:

WEATHER: Snow | TEMP: -14 °C | FINAL TD: m | FORMATION:
Midnight DEPTH: 163.00 m | PROGRESS: 82.00 m | PBTD: m | FORMATION:
8:00 a.m. DEPTH: 163.00 m | 8:00 a.m. OPERATION: Tearing out diverter

AFE #: 9820106 | AFE AMT: $ 3960000 | DAILY COST: $ 57520 | CUMULATIVE COST: $ 1123892

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Jars	2	Drill Collar
1	X.O	12	Drill Collar	1	X.O	1	Kelly		

LENGTH: 141.33 m | WT. BELOW JARS: 100 daN | JAR HRS: 24.0 | JAR SERIAL #:

TOTAL ROTATING HOURS: 20.75

WT. ON BIT: 4000 daN | ROTARY RPM: 170 | STRING WT.: 26000 daN
DRILL PIPE O.D.: 114 | THREAD: 4 1/2 XH | DRILL COLLARS O.D.: 229 | THREAD: 7" H-90 | NO. IN HOLE: 2
170 | 5" H-90 | 12

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT /	O	D	L	B	G	REMARKS O	R
3A	444.5	Smith	XJ7920	XJ7920	15.9	15.9	15.9	26	163	137	8.7	15.75		3-4	170	4	4	WT	A	E	I	WT	TD
										0				-									
										0				-									

LAST PIPE TALLY: 150.9 | BOARD: 150.95 | CORRECTION: YES [X] NO [ ]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
45	1150/1150	9.5	13.0	1.0	15/ 5.5	2.5/3.0	244.00	184.00		60			750	21	0.1	0.3	/
	/				/	/											/

CENTRIFUGE		DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
24 HR IN 1140 kg/m3	OUT 1910 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MPa	DP m/MIN	DC m/MIN	VELOCITY m/sec.	HHP
Emsco	165	406	60	1.74	Emsco	165	406	60	1.74	8500	25.8	30.5		0.00

SURVEYS

	AZIMUTH
0.75° @ 76.00 m	
0.50° @ 85.00 m	
0.50° @ 104.00 m	
0.74° @ 122.00 m	
1.00° @ 141.00 m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	9.25	CEMENTING	
RAT HOLE		PRESS TEST	
RUN CSG	3.50	DRLG OUT	
RIG INSP		RIG SERV	0.25
HNDL TOOLS	0.75	TRIPPING	4.00
CIRCULATE	4.00		
SURVEYING	2.25		
REPAIR			

TOTAL HOURS: 24.00

MUD ADDITIVES

Gel	15
Biozan	
Caustic	
Bicarb	
Sapp	1

MUD COMMENTS: Mud was in good shape for drilling and cementing.

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

1998.12.19 @ 00:00 Hours:
Drilled 444.5mm hole to 160mKB. Circulated and conditioned hole. Wiper tripped and strapped drill string. Drilled 444.5mm hole to 163mKB, TD. 1998.12.19 @ 15:30 hours. Circulated and conditioned hole. Hoisted out of hole. Had safety meeting with Rig service and Shehtah personnel.

Ran 12 joints 339.7mm, 81.1 kg/m J-55, ST&C, Lone Star casing. Total of 163.84mKB. Landed at 163mKB. Circulated casing and conditioned hole to 24:00 hours 1998.12.19.

SUPERVISOR: Jack Brazel | PHONE #: (600) 700-5344 | CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/21
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 5
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Snowing and blowing	TEMP: -5 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 163.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 163.00 m	8:00 a.m. OPERATION: Nippling up BOPs.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 48216 CUMULATIVE COST: $ 1172108

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Jars	2	Drill Collar
1	X.O	12	Drill Collar	1	X.O	1	Kelly		

LENGTH: 141.33 m WT. BELOW JARS: 100 daN JAR HRS: 24.0 JAR SERIAL #:

TOTAL ROTATING HOURS: 20.75

WT. ON BIT: 4000 daN ROTARY RPM: 170 STRING WT.: 26000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE: 2

170 5" H-90 12

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WTdaN	RPM	CUTTING STRUCT I	O	D	L	B	G	O	R	REMARKS
3A	444.5	Smith	XJ7920	XJ7920	15.9	15.9	15.9	26	163	137	8.7	15.75		3- 4	170	4	4	WT	A	E	I	WT	TD	
										0				-										
										0				-										

LAST PIPE TALLY: 150.9 BOARD: 150.95 CORRECTION: YES [X] NO [ ]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol kg/m3	Drill. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	Oil %	Cl ppm	Ca ppm	ALKALINITY Mf	Pf/Mo	°C IN/OUT
45	1150/1150	9.5	13.0	1.0	15/ 5.5	2.5/3.0	244.00	184.00		60			750	21	0.1	0.3	/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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
Imsco	165	406			Imsco	165	406				0.0	0.0		0.00

SURVEYS

AZIMUTH

°	@	m	
°	@	m	
°	@	m	
°	@	m	
°	@	m	
°	@	m	
°	@	m	
°	@	m	
°	@	m	
°	@	m	

TIME BREAKDOWN

RIG UP/DN	W.O.C.
SAFETY MTG	W/N.U. BOP
DRILLING	CEMENTING
RAT HOLE	PRESS TEST
RUN CSG	DRLG OUT
RIG INSP	RIG SERV
HNDL TOOLS	TRIPPING
CIRCULATE	
SURVEYING	
REPAIR	

TOTAL HOURS:

MUD ADDITIVES

Gel
Biozan
Caustic
Bicarb
Sapp

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.)

1998.12.20 @ 00:00 Hours:
Held safety meeting with Nowsco and Shehtah personal. Cemented 339.7mm casing. Pumped wash, 5m3 of water. Cemented with 27.75 tonnes Polarset Regular + .5% R-15. Mix water was 7 C, slurry volume was 20.43m3. Removed swedge and dropped plug, cement was U- Tubing. This operation took 8 minutes. Attempted to displace. Pumped 2.38m3 of water. Plug was down 1998.12.20 @ 01:16 hours. Pressured up to 13000 kPa, cement had set up. Calculated cement top in casing is at 29mKB. Wash had reached surface prior to dropping plug, calculated cement top in annulus should be around 30mKB. Ran 25.4mm pipe to a depth of 35mKB.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/21
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 5 DEPTH: 163.00 m PROGRESS: 0.00 m CPA NO.: 300B256520126300

WEATHER: Snowing and blowing TEMP: -5 °C
8:00 a.m. OPERATION: Nippling up BOPs.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Circulated to check pH of wash water, it was 11. Cemented from surface with 4 tonnes Polarset + .5% R-15. Slurry volume was 3m3. Good cement returns to surface, annulus static. Plug was down 1998.12.21 @ 16:21 hours. Cement sample set up very fast, 10 minutes. WOC.
Dismantled diverter. Cut casing. Welded on bowl. 339.7 x 346mm 21 MPa.
Nippled up BOPs to 24:00 hours 1998.12.21.

Note: Will investigate flash setting of cement with Nowsco.

REPORTED BY: Jack Brazel

PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0		DATE: 98/12/22
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300		DAY: 6
OFFICE SUPERVISOR: Mickey Sutherland			LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m	KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 00:00 hrs.
RIG #: 7E	GL: 64.9 m	KB-CF: m	RIG RELEASE: @ : hrs.
			WELL STATUS:
WEATHER: Overcast	TEMP: -24 °C		FINAL TD: m FORMATION:
Midnight DEPTH: 163.00 m	PROGRESS: 0.00 m		PBTD: m FORMATION:
8:00 a.m. DEPTH: 163.00 m	8:00 a.m. OPERATION: Drilling out cement at 110mKB		

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 64113 CUMULATIVE COST: $ 1236221

BHA

1 Bit | 1 Bit Sub | 1 Shock Sub | 1 Jars

LENGTH: 10.72 m WT. BELOW JARS: 100 daN JAR HRS: 25.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 20.75

WT. ON BIT: 5000 daN ROTARY RPM: 60 STRING WT.: 15000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE: 2

170 5" H-90 12

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
4A	311.0	Smith	LN4314	FDSS+C	17.3	15.8	7.1	24		-24				-									
										0				-									
										0				-									

LAST PIPE TALLY: 150.9 BOARD: 150.95 CORRECTION: YES [X] NO [ ]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MF1	ALKALINITY MF0	°C IN/OUT
28	1000/1000	8.0			/	/											/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					PRESSURE	ANNULAR VELOCITY		JET	
MODEL	LINER mm	STROKE mm	SPM	m3/MIN	MODEL	LINER mm	STROKE mm	SPM	m3/MIN	kPa	DP m/MIN	DC m/MIN	VELOCITY m/sec.	HHP
EMSCO	127	406	60	0.97	EMSCO	165	406	60	1.74	6500	41.3	48.3	77.6	151.71

SURVEYS

		AZIMUTH
@	m	
@	m	
@	m	
@	m	
@	m	
@	m	
@	m	
@	m	
@	m	
@	m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	16.00
DRILLING		CEMENTING	
RAT HOLE		PRESS TEST	4.50
RUN CSG		DRLG OUT	
RIG INSP		RIG SERV	
HNDL TOOLS	2.00	TRIPPING	
CIRCULATE		DRLG OUT	1.50
SURVEYING			
REPAIR			

TOTAL HOURS: 24.00

MUD ADDITIVES

Gel	
Biozan	8
Caustic	
Bicarb	
Sapp	
Stayflo	8
Starlose	32
U Seal	16

MUD COMMENTS: Premixed mud in premix tank.

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

1998.12.21 @ 00:00 Hours:
Nippled up BOPs.
Pressure tested blind rams, lower inside kill line valve and lower manifold line valve to 1500 kPa and 7000 kPa for 5 minutes and 15 minutes respectively.
Picked up bottom hole assembly, blew kelly and tagged cement at 24mKB.
Drilling out cement with water to 23:59 hours 1998.12.21.
Note: Pressure tested manifold and all manifold related valves individually to 1500 kPa and 7000 kPa for 5 minutes and 15 minutes respectively while picking up bottom hole assembly and drilling cement.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12030-0	DATE: 98/12/23
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 7
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Heavy snow	TEMP: -18 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 163.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 167.00 m	8:00 a.m. OPERATION: Tripping for 222mm bit. Cleaning mud tanks.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 22153 CUMULATIVE COST: $ 1258374

BHA

1 Bit	1 Bit Sub	1 Shock Sub	1 Jars	2 Drill Collar	
1 x/o	12 D.C.	1 x/o			

LENGTH: 141.20 m WT. BELOW JARS: 100 daN JAR HRS: 25.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 20.75

WT. ON BIT: 5000 daN ROTARY RPM: 60 STRING WT.: 15000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE: 2

170 5" H-90 12

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WTdaN	RPM	CUTTING STRUCT I	O	D	L	B	G	O	R	REMARKS
4A	311.0	Smith	LN4314	FDSS+C	17.3	15.8	7.1	163		-163				-										
										0				-										
										0				-										

LAST PIPE TALLY: 150.9 BOARD: 150.95 CORRECTION: YES [X] NO [ ]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drl. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY Mf	Pf	°C IN/OUT
30	1070/1070	12.5			/	/								1160			/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	60	1.74	EMSCO	127	406	60	0.97	2500	41.3	48.3	77.6	162.34

SURVEYS

		AZIMUTH
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING		CEMENTING	
RAT HOLE		PRESS TEST	9.50
RUN CSG		DRLG OUT	
RIG INSP		RIG SERV	
HNDL TOOLS		TRIPPING	
CIRCULATE		DRLG OUT	13.25
SURVEYING		BOP DRILL	0.25
REPAIR	1.00		
		TOTAL HOURS:	24.00

MUD ADDITIVES

Gel	
Biozan	
Caustic	
Bicarb	
Sapp	
Stayflo	
Starlose	
U Seal	
Ca Hypo	4

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.)

1998.12.22 @ 00:00 Hours:

Repaired casing and drill pipe sending units. Drilled out cement to 143mKB. Pressure tested BOPs and all BOP related equipment 1500 kPa and 7000 kPa, 5 and 10 minutes respectively. Repaired all leaks and equipment. Winterized same.

Note: Pressure testing recorded on Pason and Nowsco charts.
-30 degree temperatures hindered operations considerably.
Held safety meeting and BOP discussion with crew.
Performed accumulator function test.
Drilled out float and shoe to 23:59 hours 1998.12.22.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 96/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/24
U.W.I.: 300B256520126300	CPA NO.: 300B256520126300	DAY: 8
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Overcast	TEMP: -15 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 225.00 m	PROGRESS: 62.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 225.00 m	8:00 a.m. OPERATION: Reaming 222mm hole to 311mm hole at 170mKB.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 50747 CUMULATIVE COST: $ 1309121

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt RReamer
5	Drill collar	1	Jars	7	Drill collar	1	x/o	9	Heavy weight

LENGTH: 216.25 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 27.75

WT. ON BIT: 10000 daN ROTARY RPM: 80 STRING WT.: 29000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE: 2

170 5" H-90 13

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WTdaN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
4A	311.0	Smith	LN4314	FDSS+C	17.3	15.8	7.1	163	167	4	8.0	0.50		4-5	60	2	2	NO	A	3	I	NO	TD
5A	222.0	SMITH	KW8061	F2H	14.2	17.4	7.1	167	225	58	8.9	6.50		4-10	60	2	2	NO	A	3	I	NO	TD
										0				-									

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drill. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
175	1020/1020	9.5	9.2	0.5	27/ 33.0	5.0/6.5	32.00	31.00	0.005	1			700	150	0.2	0.5	18/ 17
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	37	1.07	Emsco	127	406			2500	37.6	56.8		0.00

SURVEYS

			AZIMUTH
0.50	@	191.00 m	
1.00	@	218.00 m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	7.00	CEMENTING	
RAT HOLE		PRESS TEST	1.50
RUN CSG		DRLG OUT	
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	11.00
CIRCULATE	2.00	DRLG OUT	1.50
SURVEYING	0.50	BOP DRILL	0.25
REPAIR			
		TOTAL HOURS:	24.00

MUD ADDITIVES

Gel	
Biozan	1
Caustic	
Bicarb	
Sapp	
Stayflo	1
Starlose	4
U Seal	2
Ca Hypo	
Starpac	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.)

1998.12.23 @ 00:00 Hours: Drilled out shoe and float. Held BOP drill with crew. Finished drilling out shoe and float. On formation 1998.12.23 at 01:45 hours. Drilled new 311mm hole from 163mKB to 167mKB. Preformed formation integrity test with Nowsco to a gradient of 24.2 kPa/m. Formation did not break down. Tripped out of hole. Picked up bottom hole assembly. Tripped in hole. Pumped a 13m3 clear water spacer between cement contaminated water and Gel free/polymer mud. Attempted to drill ahead. Could not keep mud on shaker. Circulated, changed shaker screens and worked on Pason weight indicator sending unit. Drilled 222mm hole

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 96/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/24
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 8 DEPTH: 225.00 m PROGRESS: 62.00 m CPA NO.: 300B256520126300

WEATHER: Overcast TEMP: -15 °C
8:00 a.m. OPERATION: Reaming 222mm hole to 311mm hole at 170mKB.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

from 167mKB to 225mKB, surveying as required. Circulated and conditioned hole for .5 hours. Wiper tripped into casing. Circulated, conditioned mud and hole for 1 hour. Surveyed and tripped out to log. Tripping out to log on 1998.12.23 at 23:59 hours.

REPORTED BY: Chuck Brazel

PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/25
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 9
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Overcast	TEMP: -7 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 225.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 225.00 m	8:00 a.m. OPERATION: W.O.C. Setting slips on 244mm casing. Merry Christmas	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 87385 CUMULATIVE COST: $ 1396506

BHA

1 Bit	1 Bit Sub	1 Shock Sub	1 Jars	2 Drill collar	
1 x/o	13 Drill collar	1 x/o			

LENGTH: 149.06 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 33.75

WT. ON BIT: 5000 daN ROTARY RPM: 80-100 STRING WT.: 30000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE: 2

170 5" H-90 13

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
5A	222.0	SMITH	KW8061	F2H	14.2	17.4	7.1	167	225	58	8.9	6.50		4-10	60	2	2	NO	A	3	I	NO	TD
6RR4	311.0	Smith	LN4314	FDSS+C	17.3	15.8	7.1	167	225	58			6.00	4-5	100	2	2	NO	A	3	I	NO	TD
										0				-									

LAST PIPE TALLY: 225 BOARD: 224.74 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
72	1025/1025	9.5	6.7	0.5	20/ 19.5	2.5/3.0	41.00	38.00	0.010	3			850	400	0.1	0.5	18/ 17
64	1035/	9.0	7.0	0.5	17/ 17.5	2.5/3.0	57.00	54.00	0.003	3			850	260	0.2	0.5	19/ 18

CENTRIFUGE	DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
24 HR IN 1025 kg/m3 OUT 1740 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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
Imsco	165	406	60	1.74	Imsco	127	406	60	0.97	2500	41.3	48.3		0.00

SURVEYS

		AZIMUTH
• @	m	
• @	m	
• @	m	
• @	m	
• @	m	
• @	m	
• @	m	
• @	m	
• @	m	
• @	m	
• @	m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG	0.25	W/N.U. BOP	
DRILLING		CEMENTING	
REAMING	5.75	PRESS TEST	
RUN CSG	2.25	DRLG OUT	
RIG INSP		RIG SERV	
HNDL TOOLS	2.50	TRIPPING	7.00
CIRCULATE	2.00	LOGGING	4.25
SURVEYING		BOP DRILL	
REPAIR			
		TOTAL HOURS:	24.00

MUD ADDITIVES

Gel	
Biozan	
Caustic	
Bicarb	2
Sapp	
Stayflo	
Starlose	
U Seal	
Ca Hypo	
Starpac	
DefoamerXL	1
TDL33	1

MUD COMMENTS: Mud foaming bad. Centrifugal mixing pumps cavitating.

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

1998.12.24 at 00:00 Hours: Tripped out to log. Rigged to and logged with Schlumberger in one log run as follows: Borehole Compensated Sonic Log - 210mKB to 160mKB. Phasor Induction SFL - 220mKB to 160mKB. Loggers Total Depth 224.8mKB. Tore out logging equipment. Tripped in hole with 311mm bit. Reamed 222mm hole to 311mm hole to a depth of 225mKB. Circulated .5 hours to condition hole. Wiper tripped into casing. Circulated 1.5 hours conditioning mud and hole. Tripped out, dropped drill collar across the derrick (1.5 hours) lost recovering same. Laid down 229mm collars and equipment. Rigged to and ran 17 joints of 244.5 mm 53:57 kg/m J-55 ST&C Rg-2 Lonestar casing

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/25
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 9 DEPTH: 225.00 m PROGRESS: 0.00 m CPA NO.: 300B256520126300

WEATHER: Overcast TEMP: -7 °C
8:00 a.m. OPERATION: W.O.C. Setting slips on 244mm casing. Merry Christmas

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Overall length 225.95m. To be set at 225mKB. Running casing on 1998.12.24 at 23:59 hours.
Notes:
Held safety meeting prior to logging and running 244.5mm casing.
Starter burnt out on 471 mixing motor for premix tank. Another one ordered and will be arriving December 26.
After centrifuge was put on line the mud started foaming bad enough to cause a problem with the mixing equipment.

Merry Christmas to all and to all a good night.

REPORTED BY: Chuck Brazel PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/26
U.W.I.: 300B256520126300	CPA NO.: 300B256520126300	DAY: 10
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Overcast	TEMP: -17 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 225.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 225.00 m	8:00 a.m. OPERATION: W.O.C.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 61739 CUMULATIVE COST: $ 1458245

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar
1	3 pt R Ream	7	Drill collar	1	Jars	10	Drill collar
1	x/o						

LENGTH: 176.98 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 33.75

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

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
7RR5	222.0	Smith	KW8061	F2H	14.2	17.4	7.1	225		-225				-									
										0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
64	1035/	9.0	7.0	0.5	17/ 17.5	2.5/3.0	57.00	54.00	0.003	3			850	260	0.2	0.5	19/ 18
	/				/	/											/

CENTRIFUGE				DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
24 HR IN	1025 kg/m3	OUT	1700 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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
Imsco	165	406	60	1.74	Imsco	127	406			2500	59.6	59.6	66.3	73.66

SURVEYS

	AZIMUTH
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG	0.25	W/N.U. BOP	8.75
DRILLING		CEMENTING	2.00
REAMING		PRESS TEST	
RUN CSG	0.75	DRLG OUT	
RIG INSP		RIG SERV	
HNDL TOOLS	1.50	TRIPPING	5.00
CIRCULATE	4.50	LOGGING	
SURVEYING		BOP DRILL	
REPAIR		SET SLIPS	1.25
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	13
Biozan	
Caustic	
Bicarb	
Sapp	
Stayflo	
Starlose	
U Seal	
Ca Hypo	
Starpac	
DefoamerXL	
TDL33	

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.)

1998.12.25 @ 0000 Hours: Finished running 244mm intermediate casing. Rigged to and circulated casing 4 hours. Held safety meeting prior to cement job. Rigged in and cemented with 13 tonnes of Polar mix cement with 2% R-15. 3.3 m3 of good clean cement returns. Plug down 1998.12.25 @ 0653 hours. Tore out BOPs and set a set of 346mm x 244mm type WC casing slips. Cut casing 152.4mm above casing head and installed a casing head spool type WCT-SP 346mm x 21000 kPa RWP x 279mm x 21000 kPa. Nippled up BOPs. Rigged up floor. Tripped in hole. Blew kelly and circulated for .5 hours. W.O.C prior to pressure testing on 1998.12.25 at 2359 hours.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 04/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/27
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 11
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Overcast	TEMP: -18 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 225.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 230.00 m	8:00 a.m. OPERATION: W.O.C.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 37286 CUMULATIVE COST: $ 1495531

BHA

1 Bit	1 Bit Sub	1 Shock Sub	1 Drill collar	1 3 pt R Ream	
7 Drill collar	1 Jars	10 Drill collar	1 x/o		

LENGTH: 176.98 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 33.75

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

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMG	WTdaN	RPM	I	O	D	L	B	G	O	R
7RR5	222.0	Smith	KW8061	F2H	14.2	17.4	7.1	225		-225				--									
										0				--									
										0				--									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [X]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS O/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	Oil %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
64	1035/	9.0	7.0	0.5	17/ 17.5	2.5/3.0	57.00	54.00	0.003	3			850	260	0.2	0.5	19/ 18
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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
Imsco	165	406			Imsco	127	406			2500	0.0	0.0	0.0	0.00

SURVEYS

	AZIMUTH
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	

TIME BREAKDOWN

RIG UP/DN	W.O.C.	16.25
SAFETY MTG	W/N.U. BOP	
DRILLING	CEMENTING	
REAMING	PRESS TEST	2.75
RUN CSG	DRLG OUT	
RIG INSP	RIG SERV	0.25
HNDL TOOLS	TRIPPING	4.75
CIRCULATE	LOGGING	
SURVEYING	BOP DRILL	
REPAIR	SET SLIPS	
	TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust
Biozan
Caustic
Bicarb
Sapp
Stayflo
Starlose
U Seal
Ca Hypo
Starpac
DefoamerXL
TDL33

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.)

1998.12.26 @ 00:00 Hours: WOC. Cleaned up and deiced rig. Pressure tested annular preventor, upper pipe rams, lower pipe rams, kill lines, manifold and sweep lines. Trip out of hole. Pressure tested blind rams. All pressure test done to 1500 kPa and 7000 kPa for 5 minutes (low) and 15 minutes (high). Checked brake linkage, crown saver, accumulator and all BOP functions. Continued to wait on cement until samples hardened on 1998.12.26 @ 23:59 hours.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/28
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 12
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear and calm	TEMP: -24 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 369.00 m	PROGRESS: 144.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 414.00 m	8:00 a.m. OPERATION: Tripping out to install TBR	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 38860 CUMULATIVE COST: $ 1534391

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o		

LENGTH: 176.98 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 47.50

WT. ON BIT: 5000 daN ROTARY RPM: 70-100 STRING WT.: 31000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R
7RR5	222.0	Smith	KW8061	F2H	14.2	17.4	7.1	225		144	10.5	13.75		5-13	70								
										0				--									
										0				--									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
53	1035/	12.5	10.0	1.0	15/ 12.5	2.5/4.0	57.00	57.00	0.003				600	120	0.2	0.5	18/
60	1040/	9.5	6.4	1.0	16/ 15.0	2.5/5.0	72.00	72.00	0.002				600	120	0.2	0.4	18/

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

PUMP

PUMP NO. 1			TYPE: DB-550		PUMP NO. 2			TYPE: DB-550		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	165	406	35	1.01	Emsco	127	406			5800	15.4	18.5	38.5	14.45

SURVEYS

		AZIMUTH
2.00	@ 278.00 m	
4.00	@ 330.00 m	
4.50	@ 354.00 m	
4.00	@ 364.00 m	
3.00	@ 401.00 m	
	@ m	
	@ m	
	@ m	
	@ m	
	@ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	5.50
SAFETY MTG		W/N.U. BOP	
DRILLING	13.75	CEMEN.ING	
REAMING		PRESS TEST	1.00
RUN CSG		DRLG OUT	1.50
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	
CIRCULATE		LOGGING	
SURVEYING	1.50	BOP DRILL	
REPAIR		REPAIR	0.50
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	2
Biozan	4
Caustic	2
Bicarb	
Sapp	
Stayflo	3
Starlose	12
U Seal	9
Ca Hypo	
Starpac	3
DefoamerXL	3
TDL33	3

MUD COMMENTS: Mud foaming real bad. Pump pressure varying between 5800 kPa and 2300 kPa.

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

1998.12.27 @ 00:00 Hours: Drilled out shoe and float. Drilled 222mm hole to 230mKB. Performed formation leak off test as slow as Nowsco could pump. Leak off gradient 14.7 kPa/m or 1000 kPa surface pressure with 1050 kg/m3 mud density. Based on the possibility the cement might not be set the decision was made to wait another 5 hours. Performed another formation leak off test gradient was 12.2 kPa with 1015 kg/m3 mud density. Drilled 222mm hole to 282m (13000 daN)-70 RPM. Survey 2 degrees. Drilled to 338m (11000 daN) 70 RPM. Survey 4 degrees. Drilled to 357m (7000 daN) at 100 RPM. Survey 4.5 degrees. Drilled to 367m (5000 daN. Survey 4 degrees. Drilled to 369m (7000 daN). Worked

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/28
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 12 DEPTH: 369.00 m PROGRESS: 144.00 m CPA NO.: 300B256520126300

WEATHER: Clear and calm TEMP: -24 °C
8:00 a.m. OPERATION: Tripping out to install TBR

DRILLING & GEOLOGICAL REMARKS (Cont'd)

on fuel hoses to generator set. Repairing on 1998.12.27 at 23:59 hours.

REPORTED BY: Chuck Brazel PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/29
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 13
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Calm & Crisp.	TEMP: -36 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 476.00 m	PROGRESS: 107.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 496.00 m	8:00 a.m. OPERATION: Drilling 222mm hole. Note: Survey at 490m 2.25 degrees.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 45963 CUMULATIVE COST: $ 1580354

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o	1	TBR

LENGTH: 178.77 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 67.00

WT. ON BIT: 6000 daN ROTARY RPM: 100 STRING WT.: 31000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
7RR5	222.0	Smith	KW8061	F2H	14.2	17.4	7.1	225		251	7.5	33.25		5-7	95								
										0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MF1	MFO	°C IN/OUT
58	1040/	9.5	6.5	1.0	16/ 15.0	3.0/5.0	72.00	72.00	0.002				600	100	0.1	0.3	18/
65	1050/	9.5	6.3	1.0	18/ 16.0	3.0/5.0	82.00	82.00	0.002				600	100	0.2	0.4	18/

CENTRIFUGE	DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
24 HR IN 1040 kg/m3 OUT 1850 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	Emsco	127	406			2000	35.5	58.3	38.5	14.55

SURVEYS

	AZIMUTH
4.00° @ 382.00 m	
3.00° @ 401.00 m	
4.00° @ 432.00 m	
3.00° @ 460.00 m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	19.50	CEMENTING	
REAMING		PRESS TEST	
RUN CSG		DRLG OUT	
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	2.00
CIRCULATE		LOGGING	
SURVEYING	1.75	BOP DRILL	
REPAIR	0.50		
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	
Biozan	
Caustic	
Bicarb	
Kelzan	1
Stayflo	3
Starlose	12
U Seal	11
Ca Hypo	2
Starpac	3
DefoamerXL	2
TDL33	2

MUD COMMENTS:

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

1998.12.28 @ 00:00 Hours: Repaired fuel line to generator set. Drilled with 7000 daN to 386mKB. Surveyed 4 degrees. Drilled with 6000 daN to 401mKB. Surveyed 3 degrees. Drilled with 7000 daN to 414mKB. Tripped out drill collars and installed a tapered blade reamer. Tripped in. Cleaned 10m of fill to bottom. Drilled with 8000 daN to 444mKB. Surveyed at 432mKB, 4 degrees. Drilled with 5000 daN to 463mKB. Surveyed at 460mKB, 3 degrees. Drilled with 6000 daN to 476mKB at 24:00 hours 1998.12.28.

Note: Kee-Scarp formation absent in this well.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/30
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 14
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear	TEMP: -45 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 521.00 m	PROGRESS: 45.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 529.00 m	8:00 a.m. OPERATION: Drilling 222mm hole.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 45117 CUMULATIVE COST: $ 1625471

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o	1	TBR

LENGTH: 178.77 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 84.50

WT. ON BIT: 5000 daN ROTARY RPM: 100 STRING WT.: 32000 daN

DR. PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RND	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
7RR5	222.0	Smith	KW8061	F2H	14.2	17.4	7.1	225	521	296	4.9	50.75		5-8	95	1	6	BT	H	4	I	CT	PR
8	222.0	Smith	PR3606	F2HP	11.1	10.3	10.3	521		0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [X]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MF	MO	°C IN/OUT
68	1050/	9.5	6.0	1.0	18/ 20.0	4.0/7.0	98.00	93.00	0.002	5			750	80	0.3	0.1	19/
75	1050/	9.5	6.0	1.0	20/ 20.0	4.0/7.0	81.00	75.00	0.002	6			800	60	0.5	0.2	18/

CENTRIFUGE	DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
24 HR IN 1040 kg/m3 OUT 1850 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	Emsco	127	406			2500	35.5	58.3	63.6	39.99

SURVEYS

			AZIMUTH
2.25	° @	489.00 m	
4.75	° @	520.00 m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	17.50	CEMENTING	
REAMING		PRESS TEST	
RUN CSG		DRLG OUT	
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	1.25
CIRCULATE		LOGGING	
SURVEYING	1.00	BOP DRILL	
REPAIR		THAW EQUIP	4.00
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	
Biozan	
Caustic	
Bicarb	
Kelzan	2
Stayflo	3
Starlose	12
U Seal	6
Ca Hypo	1
Starpac	3
DefoamerXL	1
TDL33	1

MUD COMMENTS: Mud still foaming

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

1998.12.29 @ 00:00 Hours:

Drilled 222mm hole with 5-6000 daN. Surveyed @ 489mKB, 2.25 degrees. Drilled 222mm hole with 7-8000 daN. Surveyed @ 520mKB, 4.75 degrees. Drilled 222mm hole with 4500-5500 daN for 1.5m to 521.5mKB. Penetration at 0.5m/hr. Circulated and prepared to trip. Thawed out kelly sock, kelly circulating line and trip tank system. Tripped for bit to 23:59 hours 1998.12.29.

Note: Held safety meeting with crew. Discussed fire prevention and fire extinguisher locations. Refilled and serviced same.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/31
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 15
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear & Cold	TEMP: -40 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 566.00 m	PROGRESS: 45.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 591.00 m	8:00 a.m. OPERATION: Drilling 222mm hole. Last survey, 2.25 degrees @ 567mKB.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 39273 CUMULATIVE COST: $ 1664744

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o	1	TBR

LENGTH: 178.77 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 102.25

WT. ON BIT: 6500 daN ROTARY RPM: 100 STRING WT.: 34000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R
8	222.0	Smith	PR3606	F2HP	11.1	10.3	10.3	521		45	2.5	17.75		4- 6	100								
										0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
83	1050/	9.0	6.2	1.0	17/ 17.5	3.0/5.0	89.00	83.00	0.002	6			800	50	0.2	0.5	18/
79	1060/	9.5	5.8	1.0	21/ 22.0	4.5/7.5	98.00	90.00	0.002	8			850	40	0.2	0.5	18/

CENTRIFUGE	DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
24 HR IN 1880 kg/m3 OUT 1050 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	Emsco	127	406			3800	35.5	58.3	63.6	40.18

SURVEYS

			AZIMUTH
2.00	° @	539.00 m	
2.00	° @	549.00 m	
2.25	° @	567.00 m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	
	° @	m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	17.75	CEMENTING	
REAMING		PRESS TEST	
RUN CSG		CLN TO BTM	0.25
RIG INSP		RIG SERV	0.50
HNDL TOOLS		TRIPPING	4.25
CIRCULATE		LOGGING	
SURVEYING	1.00	BOP DRILL	0.25
REPAIR		THAW EQUIP	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	
Biozan	
Caustic	1
Bicarb	
Kelzan	2
Stayflo	2
Starlose	8
U Seal	5
Ca Hypo	2
Starpac	2
DefoamerXL	1
TDL33	

MUD COMMENTS: Mud still foaming

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

1998.12.30 @ 00:00 Hours:
Finished tripping for bit. No tight hole on trip out. Cleaned 9m of fill to bottom. Drilled 222mm hole with 4500 to 5500 daN from 521 to 539mKB. Surveyed @ 539mKB, 2 degrees. Drilled 222mm hole with 5500 to 6500 daN from 539 to 549mKB. Surveyed @ 549mKB, 2 degrees. Drilled 222mm hole with 5500 to 6500 daN from 549 to 566mKB at 24:00 hours 1998.12.30.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/01
U.W.I.: 300B256520126300	CPA NO.: 300B256520126300	DAY: 16
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Overcast	TEMP: -26 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 650.00 m	PROGRESS: 84.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 705.00 m	8:00 a.m. OPERATION: Drilling 222mm hole.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 47155 CUMULATIVE COST: $ 1711899

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o	1	TBR

LENGTH: 178.77 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 123.75

WT. ON BIT: 14000 daN ROTARY RPM: 80-100 STRING WT.: 38000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
8	222.0	Smith	PR3606	F2HP	11.1	10.3	10.3	521		129	3.3	39.25		4-14	80								
										0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
95	1065/	9.5	5.6	1.0	24/ 29.0	5.0/9.0	98.00	90.00	0.002	8			850	40	0.2	0.5	19/
104	1065/	9.5	5.6	1.0	23/ 27.0	5.0/9.0	106.00	98.00	0.002	8			900	40	0.2	0.5	19/

CENTRIFUGE	DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
24 HR IN 1740 kg/m3 OUT 1050 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	Emsco	127	406			4030	35.5	58.3	63.6	40.56

SURVEYS

		AZIMUTH
1.75 °	@ 596.00 m	
2.25 °	@ 616.00 m	
2.00 °	@ 635.00 m	
°	@ m	
°	@ m	
°	@ m	
°	@ m	
°	@ m	
°	@ m	
°	@ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	21.50	CEMENTING	
REAMING		PRESS TEST	
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	0.50
HNDL TOOLS		TRIPPING	
CIRCULATE		LOGGING	
SURVEYING	2.00	BOP DRILL	
REPAIR		THAW EQUIP	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	
Biozan	3
Caustic	1
Bicarb	
Kelzan	
Stayflo	3
Starlose	12
U Seal	12
Ca Hypo	2
Starpac	3
DefoamerXL	2
TDL33	2

MUD COMMENTS: Mud foaming.

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

1998.12.31 @ 00:00 Hours:
Drilled 222mm hole with 5500-6500 daN from 566mKB to 596mKB.
Surveyed 1.75 degrees.
Drilled 222mm hole with 6500-7500 daN from 596mKB to 616mKB.
Surveyed 2.25 degrees.
Drilled 222mm hole with 7500-8500 daN from 616mKB to 635mKB.
Surveyed 2 degrees.
Drilled 222mm hole with 9-10000 daN from 635mKB to 638mKB.
Increased weight on bit to 13-14000 daN. Drilled from 638-650mKB to 24:00 hours 1998.12.31.
Happy New Year!!!!!

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 99/01/01
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 16 DEPTH: 650.00 m PROGRESS: 84.00 m CPA NO.: 300B256520126300

WEATHER: Overcast TEMP: -26 °C
8:00 a.m. OPERATION: Drilling 222mm hole.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Note: Held BOP drill and discussed procedures with both crews. Checked remote choke and gauges. Held safety meeting on proper use of steam hoses.

REPORTED BY: Chuck. Brazel

PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/02
U.W.I.: 3008256520126300	CPA NO.: 300825652012630	DAY: 17
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Overcast	TEMP: -29 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 758.00 m	PROGRESS: 108.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 785.00 m	8:00 a.m. OPERATION: Circulating at TD/TD on 1999.01.02 @ 06:45 hours.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 44709 CUMULATIVE COST: $ 1756608

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o	1	TBR

LENGTH: 178.77 m WT. BELOW JARS: daN JAR HRS: JAR SERIAL #:

TOTAL ROTATING HOURS: 146.00

WT. ON BIT: 17000 daN ROTARY RPM: 60-100 STRING WT.: 41000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
8	222.0	Smith	PR3606	F2HP	11.1	10.3	10.3	521		237	3.9	61.50		4-17	60								
										0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [X]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY Mfl	ALKALINITY Mfo	°C IN/OUT
150	1075/	9.0	5.5	1.0	28/ 31.0	1.0/13.	122.00	104.00	0.002	18			900	40	0.1	0.3	19/
135	1085/	9.0	4.5	1.0	24/ 30.0	7.0/14.	139.00	118.00	0.002	21			900	60	0.1	0.3	19/

CENTRIFUGE				DESILTER		DESANDER		DEGASSER		TOTAL MUD DUMPED
24 HR IN	2020 kg/m3	OUT	1060 kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	HR OUT	kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	Emsco	127	406			3990	35.5	58.3	63.6	41.13

SURVEYS

	AZIMUTH
2.00 ° @ 653.00 m	
2.25 ° @ 700.00 m	
2.25 ° @ 719.00 m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	22.25	CEMENTING	
REAMING		PRESS TEST	
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	
CIRCULATE		LOGGING	
SURVEYING	1.50	BOP DRILL	
REPAIR		THAW EQUIP	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	
Biozan	3
Caustic	2
Gel	44
Kelzan	
Stayflo	
Starlose	
U Seal	
Ca Hypo	1
Starpac	
DefoamerXL	1
TDL33	

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.)

1999.01.01 @ 00:00 Hours:
Drilled 222mm hole with 13-14000 daN from 650mKB to 653mKB.
Surveyed 2 degrees.
Drilled 222mm hole with 15-16000 daN from 653mKB to 700mKB.
Surveyed 2.25 degrees.
Drilled 222mm hole with 16-17000 daN from 700mKB to 719mKB.
Surveyed 2.25 degrees.
Drilled 222mm hole with 16-17000 daN from 719mKB to 758mKB at 24:00 hours 1999.01.01 (Notes follow).
Ft Norman formation @ 754mKB.
Safety meeting held on safety procedures on rig floor.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0		DATE: 99/01/03
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300		DAY: 18
OFFICE SUPERVISOR: Mickey Sutherland			LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m	KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m	KB-CF: m	RIG RELEASE: @ : hrs.
			WELL STATUS:
WEATHER: Calm & Clear	TEMP: -35 °C		FINAL TD: 785.00 m FORMATION: Ft Norman
Midnight DEPTH: 785.00 m	PROGRESS: 27.00 m		PBTD: m FORMATION:
8:00 a.m. DEPTH: 785.00 m	8:00 a.m. OPERATION: Handling tools for DST #1, 370mKB to 382mKB, Canyon Creek.		

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 35032 CUMULATIVE COST: $ 1791640

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o	1	TBR

LENGTH: 178.77 m WT. BELOW JARS: daN JAR HRS: JAR SERIAL #:

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: 17000 daN ROTARY RPM: 60-100 STRING WT.: 41000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R
8	222.0	Smith	PR3606	F2HP	11.1	10.3	10.3	521	785	264	3.9	68.00		4-17	60	1	4	BT	H	4	I	NO	TD
										0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol kg/m3	Drld. Sol kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
100	1085/	10.0	5.2	1.0	24/ 29.0	7.5/14.	138.00	118.00	0.002	20			900	120	0.2	0.6	20/
130	1080/	9.5	5.0	1.0	24/ 29.0	7.0/13.	130.00	110.00	0.002	20			900	200	0.2	0.5	19/

CENTRIFUGE	DESILTER	DESANDER	DEGASSER	TOTAL MUD DUMPED
12 HR IN 1075 kg/m3 OUT 1820 kg/m3	HR OUT kg/m3	HR OUT kg/m3	HR OUT kg/m3	m3

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	Emsco	127	406			3990	35.5	58.3		0.00

SURVEYS

	AZIMUTH
2.25 ° @ 785.00 m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	
° @ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	6.50	CEMENTING	
REAMING		PRESS TEST	
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	6.25
CIRCULATE	3.00	LOGGING	7.75
SURVEYING		BOP DRILL	
REPAIR		CLN TO BTM	0.25
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	
Biozan	1
Caustic	4
Gel	
Kelzan	1
Soda Ash	12
Barite	
U Seal	9
Ca Hypo	4
Starpac	1
Defoamer/L	
TDL33	2

MUD COMMENTS:

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

1999.01.02 @ 00:00 Hours: Drilled 222mm hole to TD at 785mKB. TD 1999.01.02 @ 06:45 hours. Circulated 1 hour. Pumped a pill. Dummy tripped to intermediate casing, 225mKB. Strapped pipe. 1m of fill. Circulated and conditioned hole 2.0 hours. Tripped out to log. Rigged to and logged 1st run: Borehole Compensated Sonic/Phasor Induction SFL 768.3mKB to 30mKB/778.8mKB to 225mKB. 2nd run: Compensated Neutron Litho-Density 782mKB to 225mKB Continued to log to 24:00 hours 1999.01.02. Note #1: Loggers TD 785.1mKB. Note #2: Held safety meeting with crew on filling out trip sheets and flow check procedures while tripping out of hole.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/04
U.W.I.: 300B256520126300	CPA NO.: 300B256520126300	DAY: 19
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Overcast, light wind	TEMP: -23 °C	FINAL TD: 785.00 m FORMATION: Ft Norman
Midnight DEPTH: 785.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 785.00 m	8:00 a.m. OPERATION: Running plug #1, 742mKB to 650mKB.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 91567 CUMULATIVE COST: $ 1883207

BHA

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

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: daN ROTARY RPM: STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WTdaN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
										0				–									
										0				–									
										0				–									

LAST PIPE TALLY: 785.00 BOARD: 785.31 CORRECTION: YES [ ] NO [X]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
130	1080/	9.5	5.0	1.0	24/ 29.0	7.0/13.	130.00	110.00	0.002	20			900	200	0.2	0.5	20/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406			Emsco	127	406			3990	0.0	0.0		0.00

SURVEYS

		AZIMUTH
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	
•	@ m	

TIME BREAKDOWN

RIG UP/DN		PU/LD PIPE	2.00
SAFETY MTG		W/N.U. BOP	
DRILLING		CEMENTING	
REAMING		TESTING	6.25
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	
HNDL TOOLS	8.75	TRIPPING	4.25
CIRCULATE		LOGGING	2.75
SURVEYING		BOP DRILL	
REPAIR		CLN TO BTM	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust
Biozan
Caustic
Gel
Kelzan
Soda Ash
Barite
U Seal
Ca Hypo
Starpac
DefoamerXL
TDL33

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.)

1999.01.03 @ 00:00 Hours: Finshed logging with Schlumberger. Ran in and laid down 12 drill collars. Made up DST #1, 370-382mKB, Canyon Creek, Inflate staddle. Tripped in hole. Headed up to test. Attempted to inflate packers at 70 RPM for .5 hour. Worked pipe. No seat. Inflated packers at 35 RPM for 35 minutes. Checked seat (soft). Inflated packers for 33 minutes. Tested with Baker Oil Tools. Times: 10/60/60 /90. Tripped out of hole. Recovered recorders and serviced tool. Laid down test tool to 23:59 hours 1999.01.03.

Note: Held safety and procedure meeting with both crews prior to testing operation. 75% of crew have never tested.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/05
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 20
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear	TEMP: -38 °C	FINAL TD: 785.00 m FORMATION: Ft Norman
Midnight DEPTH: 785.00 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 670.00 m	8:00 a.m. OPERATION: Waiting on repairs for Dowell (valve burst plate)	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 55576 CUMULATIVE COST: $ 1938783

BHA

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

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: daN ROTARY RPM: STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	O	R	REMARKS
										0				-										
										0				-										
										0				-										

LAST PIPE TALLY: 785.00 BOARD: 785.31 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
130	1080/	9.5	5.0	1.0	24/ 29.0	7.0/13.	130.00	110.00	0.002	20			900	200	0.2	0.5	20/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550 MODEL	LINER mm	STROKE mm	SPM	m3/MIN	PUMP NO. 2 TYPE: DB-550 MODEL	LINER mm	STROKE mm	SPM	m3/MIN	PRESSURE kPa	ANNULAR VELOCITY DP m/MIN	DC m/MIN	JET VELOCITY m/sec.	HHP
Emsco	165	406	25	0.72	Emsco	127	406			3990	25.3	41.6		0.00

SURVEYS

	AZIMUTH
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	

TIME BREAKDOWN

RIG UP/DN		PU/LD PIPE	
SAFETY MTG	0.25	W/N.U. BOP	
DRILLING		CEMENTING	
REAMING		ABNDNMENT	1.75
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	
HNDL TOOLS	2.75	TRIPPING	2.50
CIRCULATE	2.75	LOGGING	
SURVEYING		BOP DRILL	
REPAIR	14.00	CLN TO BTM	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Desco	3
Sawdust	
Caustic	
Gel	
Starlose	
Stayflo	
U Seal Cor	
U Seal	
Ca Hypo	
Starpac	
DefoamerXL	
T9L33	

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.)

1999.01.04 @ 00:00 Hours:
Finished servicing and laying down test equipment. Tripped in hole with drill pipe open ended. Picked up drill pipe. Ran in 3 stands of heavy weight pipe. Total depth 745mKB. Circulated and conditioned mud. Rigged to run plug #1. Worked on repairing Nowsco's precharge pump. Precharge damaged beyond field repair. Ordered Dowell Schlumberger and waited for them to arrive on location. Rigged up to cement. Held safety meeting with crews. Mixing chemical for plug #1 to 23:59 hours 1999.01.04.

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/06
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 21
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear	TEMP: -32 °C	FINAL TD: 785.00 m FORMATION: Ft Norman
Midnight DEPTH: 670.00 m	PROGRESS: -115.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 200.00 m	8:00 a.m. OPERATION: Waiting on cement. Plug #2 in place.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 48576 CUMULATIVE COST: $ 1987359

BHA

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

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: daN ROTARY RPM: STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
										0				–									
										0				–									
										0				–									

LAST PIPE TALLY: 785.00 BOARD: 785.31 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
130	1080/	9.5	5.0	1.0	24/ 29.0	7.0/13.	130.00	110.00	0.002	20			900	200	0.2	0.5	20/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	30	0.87	Emsco	127	406			3990	30.5	50.2		0.00

SURVEYS

	AZIMUTH
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	

TIME BREAKDOWN

RIG UP/DN		PU/LD PIPE	
SAFETY MTG		W/N.U. BOP	
DRILLING		CEMENTING	
REAMING		ABNDNMENT	5.25
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	
HNDL TOOLS		TRIPPING	0.50
CIRCULATE		LOGGING	1.50
SURVEYING		BOP DRILL	
REPAIR	16.00	REV CIRC	0.75
		TOTAL HOURS:	24.00

MUD ADDITIVES

Biozan	
Bicarb	4
Caustic	
Gel	
Starlose	
Stayflo	
U Seal Cor	
U Seal	
Ca Hypo	
Starpac	
DefoamerXL	
TDL33	

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.)

1999.01.05 @ 00:00 Hours:

Ran plug #1, 742-650mKB with 5.44 tonnes of 0:1:0 Class "G" with .75% T-10. Tripped out of plug. Rigged to and logged plug with Schlumberger. Top of plug 1200 kg/m3 at 656mKB, top 1500 kg/m3 at 667mKB. Tripped into 670mKB. Reversed out low density cement. Rigged to cement plug #2. Dowell pumper blew a valve burst plate in cementing unit. Circulated and waited on parts. Repaired. Attempted to run plug #2. Could not get density up above 1100 kg/m3. Circulated out cement. Rigged out and released Dowell. Waited on hydraulic orbit motor to come in for Nowsco cementing unit on Canadian Airlines. Repaired same. Held safety meeting with Nowsco

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 00/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 99/01/06
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 21 DEPTH: 670.00 m PROGRESS: -115.00 m CPA NO.: 300B256520126300

WEATHER: Clear TEMP: -32 °C
8:00 a.m. OPERATION: Waiting on cement. Plug #2 in place.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

and Shehteh personnel. Rigging to cement at 23:59 hours 1999.01.05.

REPORTED BY: Chuck Brazel PHONE #: (600)-700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/07
U.W.I.: 300B256520126300	CPA NO.: 300B256520126300	DAY: 22
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear	TEMP: -37 °C	FINAL TD: 785.00 m FORMATION: Ft Norman
Midnight DEPTH: 198.00 m	PROGRESS: -472.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 198.00 m	8:00 a.m. OPERATION: Rigging up to run plug #4, Polar Set	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 47933 CUMULATIVE COST: $ 2035292

BHA

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

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: daN ROTARY RPM: STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RND	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
										0				–									
										0				–									
										0				–									

LAST PIPE TALLY: 785.00 BOARD: 785.31 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
30	1010/1010	9.5			/	/											/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	40	1.16	Emsco	127	406			3990	40.7	67.0		0.00

SURVEYS

	AZIMUTH
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	
@ m	

TIME BREAKDOWN

RIG UP/DN		PU/LD PIPE	4.00
SAFETY MTG	0.50	W/N.U. BOP	
DRILLING		CEMENTING	4.25
REAMING		ABNDNMENT	
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	0.25
HNDL. TOOLS		TRIPPING	4.75
CIRCULATE		LOGGING	2.50
SURVEYING		W.O.C.	7.75
REPAIR		REV CIRC	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Biozan	
Bicarb	3
Caustic	
Gel	
Starlose	
Stayflo	
U Seal Cor	
U Seal	
Ca Hypo	
Starpac	
DefoamerXL	
TDL33	

MUD COMMENTS: Mud was in good condition for plug #3.

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

1999.01.06 @ 00:00 Hours:

Ran plug #2, 670-325mKB with 24 tonnes of 0:1:0 Class "G" + .75% T-10 (30% excess). Calculated top from log - 234mKB. Hoisted out and racked pipe. Positioned pipe bottom at 131mKB. Rigged up Schlumberger to log plug. Attempted to log plug but tool failed. No spare tool and no parts to repair same. Waited on cement 9 hours (until 10:07 hours). Laid down all pipe but 280m. Tripped in hole to 230mKB. Plug top took 5000 daN (string weight). Laid down 6 singles, tripped into 227mKB. Rigged in Nowsco Cement unit. Had safety meeting with Shehtah and Nowsco personnel. Ran plug #3, 227-200mKB with 3 tonnes 0:1:0 Class "G" + .75% T-10, 90%

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 99/01/07
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 22 DEPTH: 198.00 m PROGRESS: -472.00 m CPA NO.: 300B256520126300

WEATHER: Clear TEMP: -37 °C
8:00 a.m. OPERATION: Rigging up to run plug #4, Polar Set

DRILLING & GEOLOGICAL REMARKS (Cont'd)

excess. Calculated plug top - 170mKB. Waited on cement 8 hours to 22:00 hours 1999.01.06.
Note: Cleaned mud tanks while waiting on cement.
Tripped into 198mKB at 22:00 hours, plug was not set up. Hoisted out of hole. Waited on cement to 24:00 hours 1999.01.06.

REPORTED BY: Jack Brazel PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0		DATE: 99/01/08
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300		DAY: 23
OFFICE SUPERVISOR: Mickey Sutherland			LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m	KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m	KB-CF: m	RIG RELEASE: @ : hrs.
			WELL STATUS: ABANDONED
WEATHER: Clear	TEMP: -34 °C	FINAL TD: 785.00 m	FORMATION: Ft Norman
Midnight DEPTH: 7.00 m	PROGRESS: -191.00 m	PBTD: 0.00 m	FORMATION: Surface CSG
8:00 a.m. DEPTH: 7.00 m	8:00 a.m. OPERATION: Dismantling Shehtah Rig #7.		

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 65972 CUMULATIVE COST: $ 2101264

BHA

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

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: daN ROTARY RPM: STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WTdaN	RPM	CUTTING STRUCT I	O	D	L	B	G	REMARKS O	R
										0				–									
										0				–									
										0				–									

LAST PIPE TALLY: 785.00 BOARD: 785.31 CORRECTION: YES [ ] NO [X]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
30	1010/1010	9.5			/	/											/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406			Emsco	127	406			3990	0.0	0.0		0.00

SURVEYS

	AZIMUTH
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	

TIME BREAKDOWN

RIG UP/DN	4.00	PU/LD PIPE	1.00
SAFETY MTG	0.50	W/N.U. BOP	
DRILLING		CEMENTING	5.75
REAMING		ABNDNMENT	
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	
HNDL TOOLS		TRIPPING	1.75
CIRCULATE		LOGGING	
SURVEYING		W.O.C.	11.00
REPAIR		REV CIRC	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Biozan
Bicarb
Caustic
Gel
Starlose
Stayflo
U Seal Cor
U Seal
Ca Hypo
Starpac
Defoame-XL
TDL33

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.)

1999.01.07 @ 00:00 Hours:

Waited on cement until 06:00 hours. Note: Bubbles were noticed in annulus at 03:00 hours. Gas was migrating through plug #3. Tripped in, tagged plug top at 197mKB. Felt with 5000 daN. Tripped pipe up to 86mKB. Put 3.4 tonnes of Polar Set into cement bin. Had safety meeting with Nowsco and Shehtah personnel. Rigged in Nowsco cement unit. Tripped in hole to 197mKB, tagged plug #3 with 5000 daN (string weight) Plug was solid. Laid down one single. Pumped 6m3 of water ahead. Ran plug #4 from 188mKB to 126mKB, 3.42 tonnes Polar Set + .2% R15C. Plug was down 1999.01.07 at 11:20 hours. Hoisted out of hole. Closed blind rams and used Nowsco to

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 86/07

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 99/01/08
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 23 DEPTH: 7.00 m PROGRESS: -191.00 m CPA NO.: 300B256520126300

WEATHER: Clear TEMP: -34 °C
8:00 a.m. OPERATION: Dismantling Shehtah Rig #7.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

pressure up annulus, held 800 kPa for .5 hours, increased pressure to 1800 kPa and held for 4 hours. Note: Cement samples set up in 2.5 hours. Tripped in hole and tagged plug #4 at 120mKB with 2500 daN (string weight) at 17:30 hours 1999.01.07. Tripped out of hole. Laid down drill pipe. Held safety meeting with Nowsco and Shehtah personnel. Ran plug #5, 18mKB to 7.9mKB (base of cellar) with 1.3 tonnes 0-1-0 Class "G" + .5% A-11. Plug was down 1999.01.07 @ 20:13 hours. Laid down 2 singles of drill pipe. Dismantled rig floor and dismantled BOPs to 24:00 hours 1999.01.07.

Note: Had fire drill with all camp and Shehtah personnel.

REPORTED BY: Jack Brazel PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/09
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 24
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: 99/01/08 @ 23:59 hrs.
		WELL STATUS: ABANDONED
WEATHER: Clear	TEMP: -38 °C	FINAL TD: 785.00 m FORMATION: Ft Norman
Midnight DEPTH: 0.00 m	PROGRESS: -7.00 m	PBTD: 0.00 m FORMATION: KB ,Surface
8:00 a.m. DEPTH: 0.00 m	8:00 a.m. OPERATION: Dismantling Shehtah Rig #7	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 34907 CUMULATIVE COST: $ 2136171

BHA

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

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: daN ROTARY RPM: STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
										0				–									
										0				–									
										0				–									

LAST PIPE TALLY: 785.00 BOARD: 785.31 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MPI	ALKALINITY MFO	°C IN/OUT
30	1010/1010	9.5			/	/											/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406			Emsco	127	406			3990	0.0	0.0		0.00

SURVEYS

AZIMUTH

•	@	m
•	@	m
•	@	m
•	@	m
•	@	m
•	@	m
•	@	m
•	@	m
•	@	m
•	@	m
•	@	m

TIME BREAKDOWN

RIG UP/DN	14.00	PU/LD PIPE	
SAFETY MTG		W/N.U. BOP	8.00
DRILLING		CEMENTING	2.00
REAMING		ABNDNMENT	
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	
HNDL TOOLS		TRIPPING	
CIRCULATE		LOGGING	
SURVEYING		W.O.C.	
REPAIR		REV CIRC	
		TOTAL HOURS:	24.00

MUD ADDITIVES

Biozan
Bicarb
Caustic
Gel
Starlose
Stayflo
U Seal Cor
U Seal
Ca Hypo
Starpac
DefoamerXL
TDL33

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.)

1999.01.08 @ 00:00 Hours:
Dismantled BOPs. Removed casing hanger.
Ran in and checked top plug with 25.4mm pipe, it had not set up. Blew plug out of hole with air to 18mKB. Batch mixed 1 tonne of Polarset and spotted it in annulus to 18mKB. Plug was set up in 45 minutes. Very small amount of gas was migrating between 339.7mm and 244.5mm casing strings. Cut off casing bowl. Cut out donut and welded 9.5mm plate iron to 339.7mm casing and to 244.5mm casing. Cut off 244.5mm casing. Welded 9.5mm plate iron to cap the 244.5mm casing, 1m below ground level. Dismantled Shehtah rig #7 to 24:00 hours 1999.01.08.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 99/01/10
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 25
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: 99/01/08 @ 23:59 hrs.
		WELL STATUS: ABANDONED
WEATHER: Clear and Cold	TEMP: -41 °C	FINAL TD: 785.00 m FORMATION: Ft Norman
Midnight DEPTH: m	PROGRESS: 0.00 m	PBTD: 0.00 m FORMATION: KB ,Surface
8:00 a.m. DEPTH: m	8:00 a.m. OPERATION: Moving Shehtah Rig #7 to DEH-CHO-2	

AFE #: 9820106 **AFE AMT: $** 3960000 **DAILY COST: $** 25421 **CUMULATIVE COST: $** 2161592

BHA

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

TOTAL ROTATING HOURS: 152.50

WT. ON BIT: daN ROTARY RPM: STRING WT.: 22000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: THREAD: NO. IN HOLE:

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WT daN	RPM	CUTTING STRUCT I	O	D	L	B	G	O	REMARKS R
										0				-									
										0				-									
										0				-									

LAST PIPE TALLY: 785.00 BOARD: 785.31 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drill. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY Mf	Pm	°C IN/OUT
30	1010/1010	9.5			/	/											/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406			Emsco	127	406			3990	0.0	0.0		0.00

SURVEYS

	AZIMUTH
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	

TIME BREAKDOWN

RIG UP/DN	13.00	PU/LD PIPE	
SAFETY MTG		W/N.U. BOP	
DRILLING		CEMENTING	
REAMING		ABNDNMENT	
RUN CSG		CLN TO BTM	
RIG INSP		RIG SERV	
HNDL TOOLS		TRIPPING	
CIRCULATE		LOGGING	
SURVEYING		W.O.C.	
REPAIR		REV CIRC	

TOTAL HOURS: 13.00

MUD ADDITIVES

Biozan
Bicarb
Caustic
Gel
Starlose
Stayflo
U Seal Cor
U Seal
Ca Hypo
Starpac
DefoamerXL
TDL33

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.)

Rig released 1999.01.08 @ 23:59 hours.

FINAL REPORT.

1999.01.09 @ 00:00 Hours:
Dismantled Shehtah Rig #7.
Derrick was laid down 1999.01.09 @ 16:30 hours.
Status: D&A.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

III Summary of Drilling Operations

4) Casing & Cementing Records

a) 508.0 mm, 140.2 kg/m J-55
b) 339.7 mm, 81.0 kg/m J-55
c) 244.5 mm, 53.6 kg/m J-55

PAJAK ENGINEERING LTD.

DAILY DRILLING REPOR

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/18
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300	DAY: 2
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Snow, Wind	TEMP: -28 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 26.50 m	PROGRESS: 0.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 26.50 m	8:00 a.m. OPERATION: Pressure testing diverter system.	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 43544 CUMULATIVE COST: $ 1021245

BHA

1 Bit	1 Bit Sub	1 Shock Sub	1 Jars	2 Drill Collar
1 X.O	1 X.O	1 Heavy Wate	1 Kelly	

LENGTH: 17.83 m WT. BELOW JARS: daN JAR HRS: 8.0 JAR SERIAL #:

TOTAL ROTATING HOURS: 5.00

WT. ON BIT: 3000 daN ROTARY RPM: 170 STRING WT.: 8000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE:
163 5" H-90

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm 1	2	3	DEPTH IN	OUT	MTRS	MTRS PER HOUR	HOURS ON BIT DRL.	RMD	BIT WTdaN	RPM	CUTTING STRUCT. I	O	D	L	B	G	REMARKS O	R
2A	660.0	Smith	L41427	26DGJC	0.0	0.0	0.0	0	26	26	4.4	2.50	2.50	3- 3		1	1	WO	A	E	I	WO	TD
3A	444.5	Smith	XJ7920	XJ7920	15.9	15.9	15.9	26		0		0.00		-									
										0				-									

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	MFO	°C IN/OUT
75	1120/1120	9.5	10.0	1.0	25/ 14.5	8.0/9.0	0.08	203.00		57			300	100			/
	/				/	/											/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	60	1.74	EMSCO	165	406	60	1.74		25.8	30.5	72.7	191.94

SURVEYS

	AZIMUTH
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	
• @ m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	2.00
SAFETY MTG	0.25	W/N.U. BOP	19.00
DRILLING		CEMENTING	0.75
RAT HOLE			
RUN CSG	1.00		
RIG INSP			
HNDL TOOLS	1.00		
CIRCULATE			

TOTAL HOURS: 24.00

MUD ADDITIVES

Gel
Biozan
Caustic

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.)

1998.12.17 @ 00:00 HOURS.
Hoisted out of hole and laid down 229mm drilling string.
Ran 2 joints, 508mm, 140.2 kg/m, J55, Buttress thread.
Total of 27.60m, landed at 26.50 mKB.
Had safety meeting with Nowsco and Shehtah personnel.
Cemented conductor barrel.
Pumped wash, 6m3 of water.
Cemented with 17 .5 tonnes Polar Set plus .2% R-15.
Displaced with 2m3 of water. Plug down 1998.12.17 @ 03:03 hours. Had 2m3 of good cement returns.
Cement set up very fast after pumping, 20 minutes.
W.O.C. Cut casing and welded on Flange (10 hours.)

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 06/97

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/18
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 2 DEPTH: 26.50 m PROGRESS: 0.00 m CPA NO.: 300B256520126300

WEATHER: Snow , Wind, TEMP: -28 °C
8:00 a.m. OPERATION: Pressure testing diverter system.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

Nippled up 508mm Diverter to 24:00 hours 1998.12.17.

REPORTED BY: Jack Brazel

PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME:	GREY WOLF-CANAXAS DEH CHO-1 B-25	DATE:	98/12/20	RPT #:	1
LOCATION:	300-B25-6520-12630-0	AFE #:	9820106	DFS:	1
		CEMENT JOB ID (**):	P		
SUPERVISOR:	Jack Brazel	STRING IDENTIFIER (*):	C		
PHONE #:	(600) 700-5344	CALLING CARD #:	454-037-6129-5326		

(*) STRING IDENTIFIERS
C = Conductor
S = Surface
I = Intermediate
P = Production
L = Liner

(**) JOB IDENTIFIERS
P = Primary S = Squeeze

Summary

	CEMENT INTERVAL		ANNULAR VOLUME (m3)	
1st STAGE	m KB	m KB	CALIPER	2.79
2nd STAGE	m KB	m KB	GAUGE	2.79
3rd STAGE	m KB	m KB	SLURRY (actual)	12.90

Job Details

HOLE SIZE:	660.00	mm
CASING O.D.:	508.00	mm
SHOE DEPTH:	26.50	m KB
MAX. RECORDED BHT:		deg C

(***) JOB TYPES
1 = Conventional
2 = Foam

JOB TYPE (***): 1
PROPOSED CEMENT TOP: 0.00 m KB
MAXIMUM DEVIATION: 0.00 deg @ m KB

Comments

Good Cement Job

Mud Data (prior to cementing)

TYPE:	Gel-Chem	
DENSITY:	1125.00	kg/m3
VISCOSITY:	74.00	sec/l
YIELD POINT:	15.00	Pa
WATER LOSS:	10.00	ml/30 min
P. V.	25.00	mPa - sec
GELS	8.00 / 9.00	Pa

Plug Type

TOP:
BOTTOM:
OTHER:

Cement Head

TYPE:

Pipe Movement

WHILE:	CONDITIONING	CEMENTING
TYPE		
STROKE (m)		
RATE (stks/min)		

Stage Tools

TYPE	
DEPTH (m KB)	

Mix Water

400 Barrel,

Services & Equipment

CEMENT COMPANY: Nowsco
REPRESENTATIVE: Gerry Park
EQUIPMENT: Skid

STAGE ONE

A. Cement Blend Description

	CEMENT TYPE	ADDITIVES	PREFLUSH TYPE	PREFLUSH VOL (m3)
SCAVENGER			Water	6.00
FILL				
TAIL	Polar Set	.2% R-15		
OTHER				

B. Cement Data

	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER RATIO (m3/t)	MIX WATER TEMP (deg C)
SCAVENGER	-									
FILL	-									
TAIL	0.0 - 26.5	2.79	365	12.97	17.50	0.739	1880.00		0.390	5.00
OTHER	-									

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 | DATE: 98/12/20 | RPT #: 1
LOCATION: 300-B25-6520-12630-0 | AFE #: 9820106 | DFS: 1
CEMENT JOB ID (**): P
SUPERVISOR: Jack Brazel | STRING IDENTIFIER (*): C
PHONE #: (600) 700-5344 | CALLING CARD #: 454-037-6129-5326

(*) 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.	PRESSURE (kPa) MIN.
MUD CONDITIONING	/ :	/ :					
POOH W/ DRILL PIPE	/ :	/ :					
RIH W/ CASING	/ :	/ :					
CIRCULATION	/ :	/ :					
CEMENTING – PREFLUSH	17 / 02 : 15	17 / 02 : 28	0.22	6.0	0.5	1000	0
– SCAVENGER	/ :	/ :					
– FILL	/ :	/ :					
– TAIL	17 / 02 : 28	17 / 02 : 49	0.35	12.9	0.6	2000	0
– OTHER	/ :	/ :					
RLSE TOP PLUG & PO LINES	17 / 02 : 49	17 / 02 : 50	0.02				
DISPLACEMENT	17 / 02 : 50	17 / 03 : 03	0.22	2.0	0.5	1500	0
BUMP PLUG & BLEED OFF	/ :	/ :					
CEMENT RETURNS	TYPE: Good Cement		VOLUME: 2.00 m3				
FLOAT HELD	YES ☐	NO ☐					

STAGE TWO

A. Cement Blend Description

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

B. Cement Data

	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER RATIO (m3/t)	MIX WATER 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.	PRESSURE (kPa) 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:	GREY WOLF-CANAXAS DEH CHO-1 B-25	DATE:	98/12/19
LOCATION:	300-B25-6520-12630-0	G.L. ELEVATION:	64.90 m
		K.B. ELEVATION:	71.80 m
SURFACE (X)	INTERMEDIATE ( ) PRODUCTION ( )	KB TO GROUND:	6.90 m

SIZE: 339.70 mm	WEIGHT: 81 kg/m	GRADE: J-55
MAKE: Lonestar	THREAD: 8 Round	CONDITION: New

FLOAT/GUIDE SHOE - MAKE: WeatherFord | FLOAT COLLAR - MAKE: Weatherford

HANGER - TYPE:

RAN: 12 jts. 339.70 mm OD CASING SET @ 160.00 m (by pipe tally)

Casing String Details

ITEM	LENGTH (m)	DEPTH LANDED (mKB)	ITEM	LENGTH (m)	DEPTH LANDED (mKB)
Guide Shoe	0.28	160.00			
Float Collar	0.35	146.27			

CASING BOWL

SIZE:	346 x 339 mm
SERIAL #:	30519001-1
TYPE:	Barber
API:	21000 kPa

CENTRALIZERS

NO.:	12
INTERVALS:	0.00 - 160.00
MAKE:	Weatherford
TYPE:	Bow spring

CASING HANGER

SIZE:	X mm
MAKE:	
TYPE:	
API:	kPa

SCRATCHERS

NO.:	
INTERVALS:	-
MAKE:	
TYPE:	

RECIPROCATED/ROTATE CASING IN	6.00 m/rpm	STROKES/RPM	1 mins. PRIOR TO CEMENTING
RECIPROCATED/ROTATE CASING IN	6.00 m/rpm	STROKES/RPM	1 mins. WHILE CEMENTING

SURPLUS: 0

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

Circulating pressure 2500 kPa @ 2.4 m3/min. Viscocity 40 sec/l Yeild 4 Pa
Circulated 2 hours.
While cementing casing hydrauliced off bottom 3 m.

SUPERVISOR: Jack Brazel PHONE #: (600) 700-5344 CCARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

CASING TALLY

WELLNAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 | DATE: 98/12/19

LOCATION: 300-B25-6520-12630-0

SUPERVISOR: Jack Brazel | PHONE #: (600) 700-5344 | CCARD #: 454-037-6129-5326

SIZE: 339.70mm WEIGHT: 81 kg/m THREAD: 8 Round GRADE: J-55 MAKE: Lonestar

JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
1	13.10		31			61			91			121		
2	14.33		32			62			92			122		
3	13.53		33			63			93			123		
4	14.35		34			64			94			124		
5	14.33		35			65			95			125		
6	13.11		36			66			96			126		
7	13.54		37			67			97			127		
8	13.33		38			68			98			128		
9	13.53		39			69			99			129		
10	14.37		40			70			100			130		
TOTAL	137.52		TOTAL			TOTAL			TOTAL			TOTAL		
JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*	JT. #	LENGTH	*
11	12.84		41			71			101			131		
12	12.83		42			72			102			132		
13			43			73			103			133		
14			44			74			104			134		
15			45			75			105			135		
16			46			76			106			136		
17			47			77			107			137		
18			48			78			108			138		
19			49			79			109			139		
20			50			80			110			140		
TOTAL	25.67		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
1- 10	137.52	51- 60		101-110	
11- 20	25.67	61- 70		111-120	
21- 30		71- 80		121-130	
31- 40		81- 90		131-140	
41- 50		91-100		141-150	
				TOTAL	163.19

JTS.	LENGTH	
		Brought Forward
12	163.19	Page Total
12	163.19	Total on Location
0	0.00	Total Left Out (incl. LJ)
12	163.19	Total Perm. in Hole

REMARKS

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 | DATE: 98/12/20 | RPT #: 2
LOCATION: 300-B25-6520-12630-0 | AFE #: 9820106 | DFS: 4
CEMENT JOB ID (**): P
SUPERVISOR: Jack Brazel | STRING IDENTIFIER (*): S
PHONE #: (600) 700-5344 CALLING CARD #: 454-037-6129-5326

(*) STRING IDENTIFIERS
C = Conductor
S = Surface
I = Intermediate
P = Production
L = Liner
(**) JOB IDENTIFIERS
P = Primary S = Squeeze

Summary

	CEMENT INTERVAL				ANNULAR VOLUME (m3)	
1st STAGE	0.0	m KB	160.0	m KB	CALIPER	10.57
2nd STAGE		m KB		m KB	GAUGE	10.57
3rd STAGE		m KB		m KB	SLURRY (actual)	20.45

Job Details

HOLE SIZE: 444.50 mm
CASING O.D.: 339.70 mm
SHOE DEPTH: 160.00 m KB
MAX. RECORDED BHT: deg C

(***) JOB TYPES
1 = Conventional
2 = Foam
JOB TYPE (***): C
PROPOSED CEMENT TOP: 0.00 m KB
MAXIMUM DEVIATION: 0.75 deg @ 76.00 m KB

Comments

Pressured up to 13000 kPa ,cement had set up.
Calculated cement top in casing is at 29 mKB.
Wash had reached surface prior to dropping plug, calculated cement top in annulas should be around 30 mKB.
Ran 25.4 mm pipe to a depth of 35 mKB.
Circulated to check PH of wash water,it was 11 .
Cemented from surface 4 Tonnes Polar Set , .5% R-15.
Slurry volume was 3 m3
Plug was down 98/12/21,0621 hr,s
Cement sample set up very fast 10 miutes.

Mud Data (prior to cementing)

TYPE: Gel Chemical
DENSITY: 1125.00 kg/m3
VISCOSITY: 40.00 sec/l
YIELD POINT: 5.50 Pa
WATER LOSS: 22.00 ml/30 min
P. V. 10.00 mPa - sec
GELS 5.00 / 8.00 Pa

Plug Type

TOP: Wooden
BOTTOM: nil
OTHER: nil

Cement Head

TYPE: Swedge

Pipe Movement

WHILE:	CONDITIONING	CEMENTING
TYPE	Reciprocate	Reciprocate
STROKE (m)	6.0	6.0
RATE (stks/min)	1.0	1.0

Stage Tools

TYPE	
DEPTH (m KB)	

Mix Water

400 bbl tank

Services & Equipment

CEMENT COMPANY: Nowsco EQUIPMENT: Skid
REPRESENTATIVE: Gerry Park

STAGE ONE

A. Cement Blend Description

	CEMENT TYPE	ADDITIVES	PREFLUSH TYPE	PREFLUSH VOL (m3)
SCAVENGER			5 m3 of water	5.00
FILL				
TAIL	POLAR SET	.5% RTD		
OTHER				

B. Cement Data

	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER RATIO (m3/t)	MIX WATER TEMP (deg C)
SCAVENGER	-									
FILL	-									
TAIL	0.0 - 160.0	10.57	93	20.40	27.75	0.739	1880.00	10	0.390	
OTHER	-									

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME:	GREY WOLF-CANAXAS DEH CHO-1 B-25	DATE:	98/12/20	RPT #:	2
LOCATION:	300-B25-6520-12630-0	AFE #:	9820106	DFS:	4
		CEMENT JOB ID (**):	P		
SUPERVISOR:	Jack Brazel	STRING IDENTIFIER (*):	S		
PHONE #:	(600) 700-5344	CALLING CARD #:	454-037-6129-5326		

(*) 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.	PRESSURE (kPa) MIN.
MUD CONDITIONING	19 / 15 : 30	19 / 16 : 30	1.00				
POOH W/ DRILL PIPE	19 / 16 : 30	19 / 18 : 30	2.00				
RIH W/ CASING	19 / 18 : 30	19 / 22 : 30	4.00				
CIRCULATION	19 / 22 : 30	19 / 23 : 59	1.48			2500	2500
CEMENTING – PREFLUSH	20 / 00 : 15	20 / 00 : 25	0.17	5.0	0.6	2000	1500
– SCAVENGER	/ :	/ :					
– FILL	/ :	/ :					
– TAIL	20 / 00 : 25	20 / 01 : 00	0.58	20.5	0.7	2000	1500
– OTHER	/ :	/ :					
RLSE TOP PLUG & PO LINES	20 / 01 : 00	20 / 01 : 08	0.13				
DISPLACEMENT	20 / 01 : 08	20 / 01 : 16	0.13	2.4	0.3	13000	4000
BUMP PLUG & BLEED OFF	/ :	/ :					
CEMENT RETURNS	TYPE: NIL		VOLUME: 0.00 m3				
FLOAT HELD	YES [X] NO [ ]						

STAGE TWO

A. Cement Blend Description

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

B. Cement Data

	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER RATIO (m3/t)	MIX WATER 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.	PRESSURE (kPa) 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:	GREY WOLF-CANAXAS DEH CKO-1 B-25	DATE:	98/12/24
LOCATION:	300-B25-6520-12630-0	G.L. ELEVATION:	64.90 m
		K.B. ELEVATION:	71.80 m
SURFACE ( )	INTERMEDIATE (X) PRODUCTION ( )	KB TO GROUND:	6.90 m

SIZE:	244.50 mm	WEIGHT:	54 kg/m	GRADE:	J-55
MAKE:	Lonestar	THREAD:	8 Round	CONDITION:	New

FLOAT/GUIDE SHOE - MAKE: WeatherFord | FLOAT COLLAR - MAKE: Weatherford

HANGER - TYPE:

RAN: 17 jts. 244.50 mm OD CASING SET @ 225.00 m (by pipe tally)

Casing String Details

ITEM	LENGTH (m)	DEPTH LANDED (mKB)	ITEM	LENGTH (m)	DEPTH LANDED (mKB)
Float shoe	0.49	225.00			
Float collar	0.47	210.68			

CASING BOWL

SIZE:	346 x 339 mm
SERIAL #:	30519001-1
TYPE:	Barber
API:	21000 kPa

CENTRALIZERS

NO.:	5
INTERVALS:	225.00 - 157.00
MAKE:	Weatherford
TYPE:	Bow spring

CASING HANGER

SIZE:	346 x 244 mm
MAKE:	Barber
TYPE:	WC(automatic)
API:	21000 kPa

SCRATCHERS

NO.:	
INTERVALS:	-
MAKE:	
TYPE:	

RECIPROCATED/ROTATE CASING IN	6.00	m/rpm	STROKES/RPM	1	mins. PRIOR TO CEMENTING
RECIPROCATED/ROTATE CASING IN	6.00	m/rpm	STROKES/RPM	1	mins. WHILE CEMENTING

SURPLUS:

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

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CCARD #: 454-037-6129-5326

PAJAK ENGINEERING LTD.

CASING TALLY

WELLNAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 | DATE: 98/12/24

LOCATION: 300-B25-6520-12630-0

SUPERVISOR: Chuck Brazel | PHONE #: (600) 700-5344 | CCARD #: 454-037-6129-5326

SIZE: 244.50mm WEIGHT: 54 kg/m THREAD: 8 Round GRADE: J-55 MAKE: Lonestar

JT. #	LENGTH	•	JT. #	LENGTH	•	JT. #	LENGTH	•	JT. #	LENGTH	•	JT. #	LENGTH	•
1	13.36		31			61			91			121		
2	13.76		32			62			92			122		
3	13.69		33			63			93			123		
4	13.49		34			64			94			124		
5	13.59		35			65			95			125		
6	13.63		36			66			96			126		
7	13.75		37			67			97			127		
8	13.71		38			68			98			128		
9	13.72		39			69			99			129		
10	11.16		40			70			100			130		
TOTAL	133.86		TOTAL			TOTAL			TOTAL			TOTAL		
JT. #	LENGTH	•	JT. #	LENGTH	•	JT. #	LENGTH	•	JT. #	LENGTH	•	JT. #	LENGTH	•
11	13.73		41			71			101			131		
12	13.64		42			72			102			132		
13	13.13		43			73			103			133		
14	13.74		44			74			104			134		
15	14.05		45			75			105			135		
16	11.72		46			76			106			136		
17	11.12		47			77			107			137		
18			48			78			108			138		
19			49			79			109			139		
20			50			80			110			140		
TOTAL	91.13		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
1- 10	133.86	51- 60		101-110	
11- 20	91.13	61- 70		111-120	
21- 30		71- 80		121-130	
31- 40		81- 90		131-140	
41- 50		91-100		141-150	
				TOTAL	224.99

JTS.	LENGTH	
		Brought Forward
17	224.99	Page Total
17	224.99	Total on Location
0	0.00	Total Left Out (incl. LJ)
17	224.99	Total Perm. in Hole

REMARKS

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25
LOCATION: 300-B25-6520-12630-0
SUPERVISOR: Jack Brazel
PHONE #: (600) 700-5344 CALLING CARD #: 454-037-6129-5326

DATE: 98/12/25 RPT #: 3
AFE #: 9820106 DFS:
CEMENT JOB ID (**): P
STRING IDENTIFIER (*): I

(*) STRING IDENTIFIERS
C = Conductor
S = Surface
I = Intermediate
P = Production
L = Liner
(**) JOB IDENTIFIERS
P = Primary S = Squeeze

Summary

	CEMENT INTERVAL			
1st STAGE	0.0	m KB	225.0	m KB
2nd STAGE		m KB		m KB
3rd STAGE		m KB		m KB

	ANNULAR VOLUME (m3)
CALIPER	9.15
GAUGE	7.27
SLURRY (actual)	10.60

Job Details

HOLE SIZE: 311.00 mm
CASING O.D.: 244.50 mm
SHOE DEPTH: 13.36 m KB
MAX. RECORDED BHT: 19 deg C

(***) JOB TYPES
1 = Conventional
2 = Foam

JOB TYPE (***): C
PROPOSED CEMENT TOP: 0.00 m KB
MAXIMUM DEVIATION: 1.00 deg @ 225.00 m KB

Comments

Cement job went well. 4 cement samples caught and weight with a true weight scale. Densities varied from 1700 kg/m3 at the start to 1850 kg/m3 by end. Cement very viscous @ and poorly blended (Lumpy). The 4 cement samples caught from the 3.3 m3 of returns were well mixed (smooth) and weighted in at 1870 kg/m3 to 1890 kg/m3.
Annulus volume seeped away slowly after plug down.
Cement top estimated at +/- 5mGL.

Mud Data (prior to cementing)

TYPE: Gel free/poly
DENSITY: 1025.00 kg/m3
VISCOSITY: 62.00 sec/l
YIELD POINT: 17.50 Pa
WATER LOSS: 7.00 ml/30 min
P. V. 17.00 mPa – sec
GELS 2.50 / 3.00 Pa

Plug Type

TOP: Rubber
BOTTOM: nil
OTHER:

Cement Head

TYPE: Plug loading

Pipe Movement

WHILE:	CONDITIONING	CEMENTING
TYPE	Reciprocate	Reciprocate
STROKE (m)	6.0	6.0
RATE (stks/min)	1.0	1.0

Stage Tools

TYPE	
DEPTH (m KB)	

Mix Water

400 bbl tank

Services & Equipment

CEMENT COMPANY: Nowsco EQUIPMENT: Skid
REPRESENTATIVE: Gerry Park

STAGE ONE

A. Cement Blend Description

	CEMENT TYPE	ADDITIVES	PREFLUSH TYPE	PREFLUSH VOL (m3)
SCAVENGER			Water	3.00
FILL				
TAIL	Polar set	2% R-15		
OTHER	Polar set	2% R-15		

B. Cement Data

	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER RATIO (m3/t)	MIX WATER TEMP (deg C)
SCAVENGER	-									
FILL	-									
TAIL	160.0 - 225.0	1.88	100	3.76	5.08	0.739	1381.00		0.390	
OTHER	160.0 - 0.0	5.39	0	5.39	7.29	0.739	1881.00		0.390	

PAJAK ENGINEERING LTD.

CEMENTING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 | DATE: 98/12/25 | RPT #: 3
LOCATION: 300-B25-6520-12630-0 | AFE #: 9820106 | DFS:
CEMENT JOB ID (**): P
SUPERVISOR: Jack Brazel | STRING IDENTIFIER (*): I
PHONE #: (600) 700-5344 | CALLING CARD #: 454-037-6129-5326

(*) 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.	PRESSURE (kPa) MIN.
MUD CONDITIONING	24 / 13 : 20	24 / 13 : 47	0.45	67.5	2.5	2500	2500
POOH W/ DRILL PIPE	24 / 13 : 47	24 / 19 : 15	5.47				
RIH W/ CASING	24 / 19 : 15	25 / 01 : 45	6.50				
CIRCULATION	25 / 01 : 45	25 / 05 : 15	3.50	276.0	1.2	4000	4000
CEMENTING – PREFLUSH	25 / 05 : 47	25 / 05 : 57	0.17				
– SCAVENGER	/ :	/ :					
– FILL	/ :	/ :					
– TAIL	25 / 06 : 05	25 / 06 : 18	0.22	10.6	0.7	2000	2000
– OTHER	/ :	/ :					
RLSE TOP PLUG & PO LINES	25 / 06 : 18	25 / 06 : 25	0.12				
DISPLACEMENT	25 / 06 : 25	25 / 06 : 45	0.33	8.5	0.4	2000	2000
BUMP PLUG & BLEED OFF	25 / 06 : 45	25 / 06 : 53	0.13			5000	2000
CEMENT RETURNS	TYPE: yes		VOLUME: 3.30 m3				
FLOAT HELD	YES [X] NO [ ]						

STAGE TWO

A. Cement Blend Description

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

B. Cement Data

	CEMENTED INTERVAL (m) to (m)	ANNULAR VOLUME (m3)	EXCESS USED (%)	SLURRY VOLUME (m3)	BULK WEIGHT (tonnes)	YIELD (m3/t)	SLURRY DENSITY (kg/m3)	THICK TIME (mins)	MIX WATER RATIO (m3/t)	MIX WATER 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.	PRESSURE (kPa) 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 [ ]						

III Summary of Drilling Operations

5) Drilling Fluid Property Records and Mud Additive Summary

DRILLING MUD PROPERTIES RECORD

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106 SPUD DATE: 98/12/16

LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD RIG: 7E

Thu Feb 04 11:12:24 1999

DAY	DEPTH (m)	MUD TYPE	DENSITY	VIS	GELS	pH	PF/MF	PV	YP	WATER LOSS	FC	TEMP C in/out	SAND kg/m3	SOLIDS kg/m3	TOTAL SOLIDS kg/m3	OIL %	MBT	POLY	BENT	LCM	CA++	CL-	ALKALYDE MFI	ALKALYDE MFO
1	13	Gel-Chem	1120/1120	75	8.0/ 9.0	9.5	0/ 0	25	14	10.0	1.0	0/ 0	0.000	203.00	0.08	0.000	0	0	57	0	100	300	0.0	0.0
2	26	Gel-Chem	1120/1120	75	8.0/ 9.0	9.5	0/ 0	25	14	10.0	1.0	0/ 0	0.000	203.00	0.08	0.000	0	0	57	0	100	300	0.0	0.0
3	38	Gel-Chem	1125/1125	40	5.0/ 8.0	9.5	0/ 0	10	6	22.0	1.0	0/ 0	0.000	162.00	203.08	0.000	0	0	41	0	1600	700	0.1	0.3
4	153	Gel-Chem	1150/1150	45	2.5/ 3.0	9.5	0/ 0	15	6	13.0	1.0	0/ 0	0.000	184.00	244.00	0.000	0	0	60	0	21	750	0.1	0.3
5	153	Gel-Chem	1150/1150	45	2.5/ 3.0	9.5	0/ 0	15	6	13.0	1.0	0/ 0	0.000	184.00	244.00	0.000	0	0	60	0	21	750	0.1	0.3
6	24	Water	1000/1000	28	0.0/ 0.0	8.0	0/ 0	0	0	0.0	0.0	0/ 0	0.000	0.00	0.00	0.000	0	0	0	0	0	0	0.0	0.0
7	96	Water	1070/1070	30	0.0/ 0.0	12.5	0/ 0	0	0	0.0	0.0	0/ 0	0.000	0.00	0.00	0.000	0	0	0	0	1160	0	0.0	0.0
8	186	Gelfree/poly	1020/1020	175	5.0/ 6.5	9.5	0/ 0	27	33	9.2	0.5	18/ 17	0.005	31.00	32.00	0.000	0	0	1	0	150	700	0.2	0.5
9	177	Gelfree/poly	1025/1025	72	2.5/ 3.0	9.5	0/ 0	20	20	6.7	0.5	18/ 17	0.010	38.00	41.00	0.000	0	0	3	0	400	850	0.1	0.5
9	225	Gelfree/poly	1035/ 0	64	2.5/ 3.0	9.0	0/ 0	17	18	7.0	0.5	19/ 18	0.003	54.00	57.00	0.000	0	0	3	0	260	850	0.2	0.5
10	225	Gelfree/poly	1035/ 0	64	2.5/ 3.0	9.0	0/ 0	17	18	7.0	0.5	19/ 18	0.003	54.00	57.00	0.000	0	0	3	0	260	850	0.2	0.5
11	225	Gelfree/poly	1035/ 0	64	2.5/ 3.0	9.0	0/ 0	17	18	7.0	0.5	19/ 18	0.003	54.00	57.00	0.000	0	0	3	0	260	850	0.2	0.5
12	356	Gelfree/poly	1040/ 0	60	2.5/ 5.0	9.5	0/ 0	16	15	6.4	1.0	18/ 0	0.002	72.00	72.00	0.000	0	0	0	0	120	600	0.2	0.4
12	300	Gelfree/poly	1035/ 0	53	2.5/ 4.0	12.5	0/ 0	15	12	10.0	1.0	18/ 0	0.003	57.00	57.00	0.000	0	0	0	0	120	600	0.2	0.5
13	463	Gelfree/poly	1050/ 0	65	3.0/ 5.0	9.5	0/ 0	18	16	6.3	1.0	18/ 0	0.002	82.00	82.00	0.000	0	0	0	0	100	600	0.2	0.4
13	421	Gelfree/poly	1040/ 0	58	3.0/ 5.0	9.5	0/ 0	16	15	6.5	1.0	18/ 0	0.002	72.00	72.00	0.000	0	0	0	0	100	600	0.1	0.3
14	490	Gelfree/poly	1050/ 0	68	4.0/ 7.0	9.5	0/ 0	18	20	6.0	1.0	19/ 0	0.002	93.00	98.00	0.000	0	0	5	0	80	750	0.3	0.1
14	520	Gelfree/poly	1050/ 0	75	4.0/ 7.0	9.5	0/ 0	20	20	6.0	1.0	18/ 0	0.002	75.00	81.00	0.000	0	0	6	0	60	800	0.5	0.2
15	2130	Gelfree/poly	1060/ 0	79	4.5/ 7.5	9.5	0/ 0	21	22	5.8	1.0	18/ 0	0.002	90.00	98.00	0.000	0	0	8	0	40	850	0.2	0.5
15	521	Gelfree/poly	1050/ 0	83	3.0/ 5.0	9.0	0/ 0	17	18	6.2	1.0	18/ 0	0.002	83.00	89.00	0.000	0	0	6	0	50	800	0.2	0.5
16	580	Gelfree/poly	1065/ 0	95	5.0/ 9.0	9.5	0/ 0	24	29	5.6	1.0	19/ 0	0.002	90.00	98.00	0.000	0	0	8	0	40	850	0.2	0.5
16	648	Gelfree/poly	1065/ 0	104	5.0/ 9.0	9.5	0/ 0	23	27	5.6	1.0	19/ 0	0.002	98.00	106.00	0.000	0	0	8	0	40	900	0.2	0.5
17	742	Gelfree/poly	1085/ 0	135	7.0/14.0	9.0	0/ 0	24	30	4.5	1.0	19/ 0	0.002	118.00	139.00	0.000	0	0	21	0	60	900	0.1	0.3
17	710	Gelfree/poly	1075/ 0	150	1.0/13.0	9.0	0/ 0	28	31	5.5	1.0	19/ 0	0.002	104.00	122.00	0.000	0	0	18	0	40	900	0.1	0.3
18	785	Gelfree/poly	1080/ 0	130	7.0/13.0	9.5	0/ 0	24	29	5.0	1.0	19/ 0	0.002	110.00	130.00	0.000	0	0	20	0	200	900	0.2	0.5
18	781	Gelfree/poly	1085/ 0	100	7.5/14.0	10.0	0/ 0	24	29	5.2	1.0	20/ 0	0.002	118.00	138.00	0.000	0	0	20	0	120	900	0.2	0.6
19	785	Gelfree/poly	1080/ 0	130	7.0/13.0	9.5	0/ 0	24	29	5.0	1.0	20/ 0	0.002	110.00	130.00	0.000	0	0	20	0	200	900	0.2	0.5
20	785	Gelfree/poly	1080/ 0	130	7.0/13.0	9.5	0/ 0	24	29	5.0	1.0	20/ 0	0.002	110.00	130.00	0.000	0	0	20	0	200	900	0.2	0.5
21	785	Gelfree/poly	1080/ 0	130	7.0/13.0	9.5	0/ 0	24	29	5.0	1.0	20/ 0	0.002	110.00	130.00	0.000	0	0	20	0	200	900	0.2	0.5
22	227	Gelfree/poly	1010/1010	30	0.0/ 0.0	9.5	0/ 0	0	0	0.0	0.0	0/ 0	0.000	0.00	0.00	0.000	0	0	0	0	0	0	0.0	0.0
23	227	Gelfree/poly	1010/1010	30	0.0/ 0.0	9.5	0/ 0	0	0	0.0	0.0	0/ 0	0.000	0.00	0.00	0.000	0	0	0	0	0	0	0.0	0.0
24	227	Gelfree/poly	1010/1010	30	0.0/ 0.0	9.5	0/ 0	0	0	0.0	0.0	0/ 0	0.000	0.00	0.00	0.000	0	0	0	0	0	0	0.0	0.0
25	227	Gelfree/poly	1010/1010	30	0.0/ 0.0	9.5	0/ 0	0	0	0.0	0.0	0/ 0	0.000	0.00	0.00	0.000	0	0	0	0	0	0	0.0	0.0

PAJAK ENGINEERING LTD.

MUD ADDITIVES BY HOLE SECTION

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106
RIG: 7E
LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD

Thu Feb 04 11:12:20 1999

MUD ADDITIVE	NO. OF SACKS	INVENT ADJUST	KG/ SACK	KG TOT. WEIGHT	$COST/ SACK	% DISCOUNT	$TOTAL COST
Hole Section: CONDUC1							
Biozan	1	0	25.0	25	879.84	0.00	879.84
Caustic	1	0	22.7	23	41.64	0.00	41.64
Gel	40	0	40.0	1600	11.04	0.00	441.60
	42	0					1363.08
Hole Section: INTERM1							
Bicarb	2	0	22.7	45	26.85	0.00	53.70
Biozan	13	0	25.0	325	879.84	0.00	11437.92
Ca Hypo	4	0	1.0	4	13.67	0.00	54.68
Caustic	2	0	22.7	45	41.64	0.00	83.28
DefoamerXL	4	0	0.0	0	176.55	0.00	706.20
Sawdust	15	0	0.0	0	6.20	0.00	93.00
Starlose	48	0	22.7	1090	86.47	0.00	4150.56
Starpac	4	0	22.7	91	143.60	0.00	574.40
Stayflo	12	0	25.0	300	241.71	0.00	2900.52
TDL33	4	0	0.0	0	258.09	0.00	1032.36
U Seal	27	0	11.3	305	89.71	0.00	2422.17
	135	0					23508.79
Hole Section: MAIN							
Barite	0	-1	2400.0	0	1089.00	0.00	1089.00
Bicarb	7	0	22.7	159	26.85	0.00	187.95
Biozan	7	-11	25.0	175	879.84	0.00	15837.12
Ca Hypo	12	-1	1.0	12	13.67	0.00	177.71
Caustic	8	-1	22.7	182	41.64	0.00	374.76
DefoamerXL	7	2	0.0	0	176.55	0.00	882.75
Desco	3	0	11.4	34	77.91	0.00	233.73
Gel	44	-36	40.0	1760	11.04	0.00	883.20
Kelzan	6	0	25.0	150	646.31	0.00	3877.86
Sawdust	0	28	0.0	0	6.20	0.00	-173.60
Sawdust	0	-43	0.0	0	4.34	0.00	186.62
Soda Ash	12	0	40.0	480	37.60	0.00	451.20
Starlose	44	-36	22.7	999	86.47	0.00	6917.60
Starpac	12	-8	22.7	272	143.60	0.00	2872.00
Stayflo	11	-9	25.0	275	241.71	0.00	4834.20
TDL33	7	2	0.0	0	258.09	0.00	1290.45
U Seal Cor	0	-14	11.4	0	89.71	0.00	1255.94
U Seal	11	0	11.3	124	89.71	0.00	986.81

PAJAK ENGINEERING LTD.

MUD ADDITIVES BY HOLE SECTION

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106
RIG: 7E
LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD

Thu Feb 04 11:12:22 1999

MUD ADDITIVE	NO. OF SACKS	INVENT ADJUST	KG/ SACK	KG TOT. WEIGHT	$COST/ SACK	% DISCOUNT	$TOTAL COST
Hole Section: MAIN							
U Seal	9	0	11.4	103	89.71	0.00	807.39
U Seal	11	0	11.3	124	89.71	0.00	986.81
U Seal	12	-2	11.4	137	89.71	0.00	1255.94
	223	-130					45215.44
Hole Section: SURFACE							
Bicarb	4	0	22.7	91	26.85	0.00	107.40
Gel	20	0	40.0	800	11.04	0.00	220.80
Sapp	2	0	22.7	45	74.76	0.00	149.52
	26	0					477.72

PAJAK ENGINEERING LTD.

M U D A D D I T I V E S S U M M A R Y

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106
RIG: 7E
LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD

Thu Feb 04 11:12:23 1999

MUD ADDITIVE	NO. OF SACKS	INVENT ADJUST	KG/ SACK	KG TOT. WEIGHT	$COST/ SACK	% DISCOUNT	$TOTAL COST
Barite	0	-1	2400.0	0	1089.00	0.00	1089.00
Bicarb	13	0	22.7	295	26.85	0.00	349.05
Biozan	21	-11	25.0	525	879.84	0.00	28154.88
Ca Hypo	16	-1	1.0	16	13.67	0.00	232.39
Caustic	11	-1	22.7	250	41.64	0.00	499.68
DefoamerXL	11	2	0.0	0	176.55	0.00	1588.95
Desco	3	0	11.4	34	77.91	0.00	233.73
Gel	104	-36	40.0	4160	11.04	0.00	1545.60
Kelzan	6	0	25.0	150	646.31	0.00	3877.86
Sapp	2	0	22.7	45	74.76	0.00	149.52
Sawdust	15	28	0.0	0	6.20	0.00	-80.60
Sawdust	0	-43	0.0	0	4.34	0.00	186.62
Soda Ash	12	0	40.0	480	37.60	0.00	451.20
Starlose	92	-36	22.7	2088	86.47	0.00	11068.16
Starpac	16	-8	22.7	363	143.60	0.00	3446.40
Stayflo	23	-9	25.0	575	241.71	0.00	7734.72
TDL33	11	2	0.0	0	258.09	0.00	2322.81
U Seal Cor	0	-14	11.4	0	89.71	0.00	1255.94
U Seal	22	0	11.3	249	89.71	0.00	1973.62
U Seal	9	0	11.4	103	89.71	0.00	807.39
U Seal	11	0	11.3	124	89.71	0.00	986.81
U Seal	12	0	11.4	137	89.71	0.00	1076.52
U Seal	16	0	11.3	181	89.71	0.00	1435.36
U Seal	0	-2	11.4	0	89.71	0.00	179.42
	426	-130					70565.03

III Summary of Drilling Operations

6) Formation Leak Off Tests

PAJAK ENGINEERING LTD.

DAILY DRILLING REPOI

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0		DATE: 98/12/24
U.W.I.: 3008256520126300	CPA NO.: 3008256520126300		DAY: 8
OFFICE SUPERVISOR: Mickey Sutherland			LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m	KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m	KB-CF: m	RIG RELEASE: @ : hrs.
			WELL STATUS:
WEATHER: Overcast	TEMP: -15 °C		FINAL TD: m FORMATION:
Midnight DEPTH: 225.00 m	PROGRESS: 62.00 m		PBTD: m FORMATION:
8:00 a.m. DEPTH: 225.00 m	8:00 a.m. OPERATION: Reaming 222mm hole to 311mm hole at 170 mKB.		

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 50747 CUMULATIVE COST: $ 1309121

BHA

1 Bit	1 Bit Sub	1 Shock Sub	1 Drill collar	1 3 pt RReamer	
5 Drill collar	1 Jars	7 Drill collar	1 x/o	9 Heavy weight	

LENGTH: 216.25 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 27.75

WT. ON BIT: 10000 daN ROTARY RPM: 80 STRING WT.: 29000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 229 THREAD: 7" H-90 NO. IN HOLE: 2

170 5" H-90 13

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WTdaN	RPM	I	O	D	L	B	G	O	R
4A	311.0	Smith	LN4314	FDSS+C	17.3	15.8	7.1	163	167	4	8.0	0.50		4-5	60	2	2	NO	A	3	I	NO	TD
5A	222.0	SMITH	KW8061	F2H	14.2	17.4	7.1	167	225	58	8.9	6.50		4-10	60	2	2	NO	A	3	I	NO	TD
										0				-									

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

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
175	1020/1020	9.5	9.2	0.5	27/ 33.0	5.0/6.5	32.00	31.00	0.005	1			700	150	0.2	0.5	18/ 17
	/				/	/											/

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

PUMP

PUMP NO. 1			TYPE: DB-550		PUMP NO. 2			TYPE: DB-550		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	165	406	37	1.07	Emsco	127	406			2500	37.6	56.8		0.00

SURVEYS

			AZIMUTH
0.50	@	191.00 m	
1.00	@	218.00 m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	
SAFETY MTG		W/N.U. BOP	
DRILLING	7.00	CEMENTING	
RAT HOLE		PRESS TEST	1.50
RUN CSG		DRLG OUT	
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	11.00
CIRCULATE	2.00	DRLG OUT	1.50
SURVEYING	0.50	BOP DRILL	0.25
REPAIR			
		TOTAL HOURS:	24.00

MUD ADDITIVES

Gel	
Biozan	1
Caustic	
Bicarb	
Sapp	
Stayflo	1
Starlose	4
U Seal	2
Ca Hypo	
Starpac	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.)

1998.12.23 @ 00:00 Hrs. Drilled out shoe and float. Held BOP drill with crew. Finished drilling out shoe and float. On formation 98/12/23 at 0145 hours. Drilled new 311mm hole from 163 mKB to 167 mKB. Preformed formation integrity test with Nowsco to a gradient of 24.2 kPa/m. Formation did not break down. Tripped out of hole. Picked up Bottom hole assembly. Tripped in hole. Pumped a 13 m3 clear water spacer between cement contaminated water and Gel free/polymer mud. Attempted to drill ahead. Could not keep mud on shaker. Circulated, changed shaker screens and worked on Pason weight indicator sending unit. Drilled 222mm hole

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

CD 86/87

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/24
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 8 DEPTH: 225.00 m PROGRESS: 62.00 m CPA NO.: 300B256520126300

WEATHER: Overcast TEMP: -15 °C
8:00 a.m. OPERATION: Reaming 222mm hole to 311mm hole at 170 mKB.

DRILLING & GEOLOGICAL REMARKS (Cont'd)

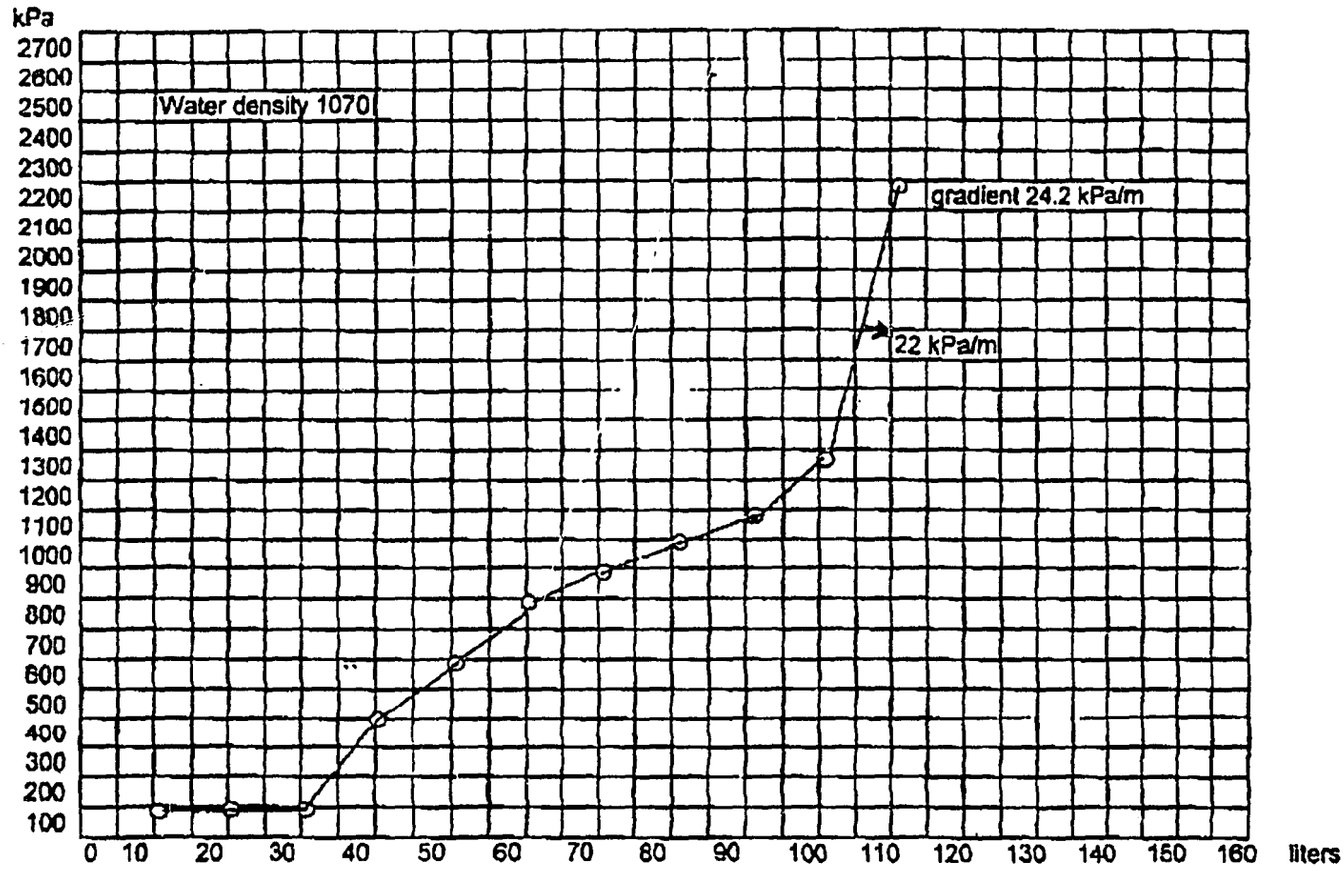
from 167 mKB to 225 mKB, surveying as required. Circulated and conditioned hole for .5 hours. Wiper tripped into casing. Circulated, conditioned mud and hole for 1 hour. Surveyed and tripped out to log. Tripping out to log on 98/12/23 at 2359 hours

REPORTED BY: Chuck Brazel PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

GREY WOLF EXPLORATION INC.

GREY WOLF-CANAXAS DEH CHO-1,B25
300-B25-6520-12630-0

Formation Leak off test



PAJAK ENGINEERING LTD.

DAILY DRILLING REPOR.

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25	LOCATION: 300-B25-6520-12630-0	DATE: 98/12/28
U.W.I.: 300B256520126300	CPA NO.: 300B256520126300	DAY: 12
OFFICE SUPERVISOR: Mickey Sutherland		LICENCE NO.: 1852
CONTRACTOR: SHEHTAH DRILLING LTD	KB: 71.8 m KB-GL: 6.9 m	SPUD DATE: 98/12/16 @ 06:00 hrs.
RIG #: 7E	GL: 64.9 m KB-CF: m	RIG RELEASE: @ : hrs.
		WELL STATUS:
WEATHER: Clear and calm	TEMP: -24 °C	FINAL TD: m FORMATION:
Midnight DEPTH: 369.00 m	PROGRESS: 144.00 m	PBTD: m FORMATION:
8:00 a.m. DEPTH: 414.00 m	8:00 a.m. OPERATION: Tripping out to install TBR	

AFE #: 9820106 AFE AMT: $ 3960000 DAILY COST: $ 38860 CUMULATIVE COST: $ 1534391

BHA

1	Bit	1	Bit Sub	1	Shock Sub	1	Drill collar	1	3 pt R Ream
7	Drill collar	1	Jars	10	Drill collar	1	x/o		

LENGTH: 176.98 m WT. BELOW JARS: 100 daN JAR HRS: 6.5 JAR SERIAL #:

TOTAL ROTATING HOURS: 47.50

WT. ON BIT: 5000 daN ROTARY RPM: 70-100 STRING WT.: 31000 daN

DRILL PIPE O.D.: 114 THREAD: 4 1/2 XH DRILL COLLARS O.D.: 170 THREAD: 5" H-90 NO. IN HOLE: 18

BITS

BIT NO.	SIZE mm	MAKE	SERIAL #	TYPE	NOZZLES mm			DEPTH		MTRS	MTRS PER HOUR	HOURS ON BIT		BIT		CUTTING STRUCT						REMARKS	
					1	2	3	IN	OUT			DRL.	RMD	WT daN	RPM	I	O	D	L	B	G	O	R
7RR5	222.0	Smith	KW8061	F2H	14.2	17.4	7.1	225		144	10.5	13.75		5-13	70								
										0				-									
										0				-									

LAST PIPE TALLY: 224.74 BOARD: 225.00 CORRECTION: YES [ ] NO [x]

MUD

Viscosity Sec/L	DENSITY IN/OUT	pH	WL cc/30min	FC mm	PV/YP	GELS 0/10	Tot. Sol. kg/m3	Drld. Sol. kg/m3	SAND kg/m3	BENTONITE kg/m3	LCM kg/m3	OIL %	Cl ppm	Ca ppm	ALKALINITY MFI	ALKALINITY MFO	°C IN/OUT
53	1035/	12.5	10.0	1.0	15/ 12.5	2.5/4.0	57.00	57.00	0.003				600	120	0.2	0.5	18/
60	1040/	9.5	6.4	1.0	16/ 15.0	2.5/5.0	72.00	72.00	0.002				600	120	0.2	0.4	18/

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

PUMP

PUMP NO. 1 TYPE: DB-550					PUMP NO. 2 TYPE: DB-550					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	165	406	35	1.01	Emsco	127	406			5800	15.4	18.5	38.5	14.45

SURVEYS

			AZIMUTH
2.00	@	278.00 m	
4.00	@	330.00 m	
4.50	@	354.00 m	
4.00	@	364.00 m	
3.00	@	401.00 m	
	@	m	
	@	m	
	@	m	
	@	m	
	@	m	

TIME BREAKDOWN

RIG UP/DN		W.O.C.	5.50
SAFETY MTG		W/N.U. BOP	
DRILLING	13.75	CEMENTING	
REAMING		PRESS TEST	1.00
RUN CSG		DRLG OUT	1.50
RIG INSP		RIG SERV	0.25
HNDL TOOLS		TRIPPING	
CIRCULATE		LOGGING	
SURVEYING	1.50	BOP DRILL	
REPAIR		REPAIR	0.50
		TOTAL HOURS:	24.00

MUD ADDITIVES

Sawdust	2
Biozan	4
Caustic	2
Bicarb	
Sapp	
Stayflo	3
Starlose	12
U Seal	9
Ca Hypo	
Starpac	3
DefoamerXL	3
TDL33	3

MUD COMMENTS: Mud foaming real bad. Pump pressure varying between 5800 kPa and 2300 kPa.

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

98/12/27 at 0000 hours. Drilled out shoe and float. Drilled 222mm hole to 230 mKB. Performed formation leak off test as slow as Nowsco could pump. Leak off gradient 14.7 kPa/m or 1000 kPa surface pressure with 1050 kg/m3 mud density. Based on the possibility the cement might not be set the decision was made to wait another 5 hours. Performed another formation leak off test gradient was 12.2kPa with 1015 kg/m3 mud density. Drilled 222 mm hole to 282m(13000daN)-70 rpm. Survey 2 degrees. Drilled to 338m (11000 daN)70 rpm. Survey 4 degrees. Drilled to 357m(7000 daN)at 100 rpm. Survey. 4.5 degrees. Drilled to 367 m(5000 daN. Survey 4 degrees. Drilled to 369m(7000 daN). Worked

SUPERVISOR: Chuck Brazel PHONE #: (600) 700-5344 CALLING CARD#: 454-037-6129-5326

PAJAK ENGINEERING LTD.

DAILY DRILLING REPORT

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 DATE: 98/12/28
LOCATION: 300-B25-6520-12630-0 U.W.I.: 300B256520126300

DAY: 12 DEPTH: 369.00 m PROGRESS: 144.00 m CPA NO.: 300B256520126300

WEATHER: Clear and calm TEMP: -24 °C
8:00 a.m. OPERATION: Tripping out to install TBR

DRILLING & GEOLOGICAL REMARKS (Cont'd)

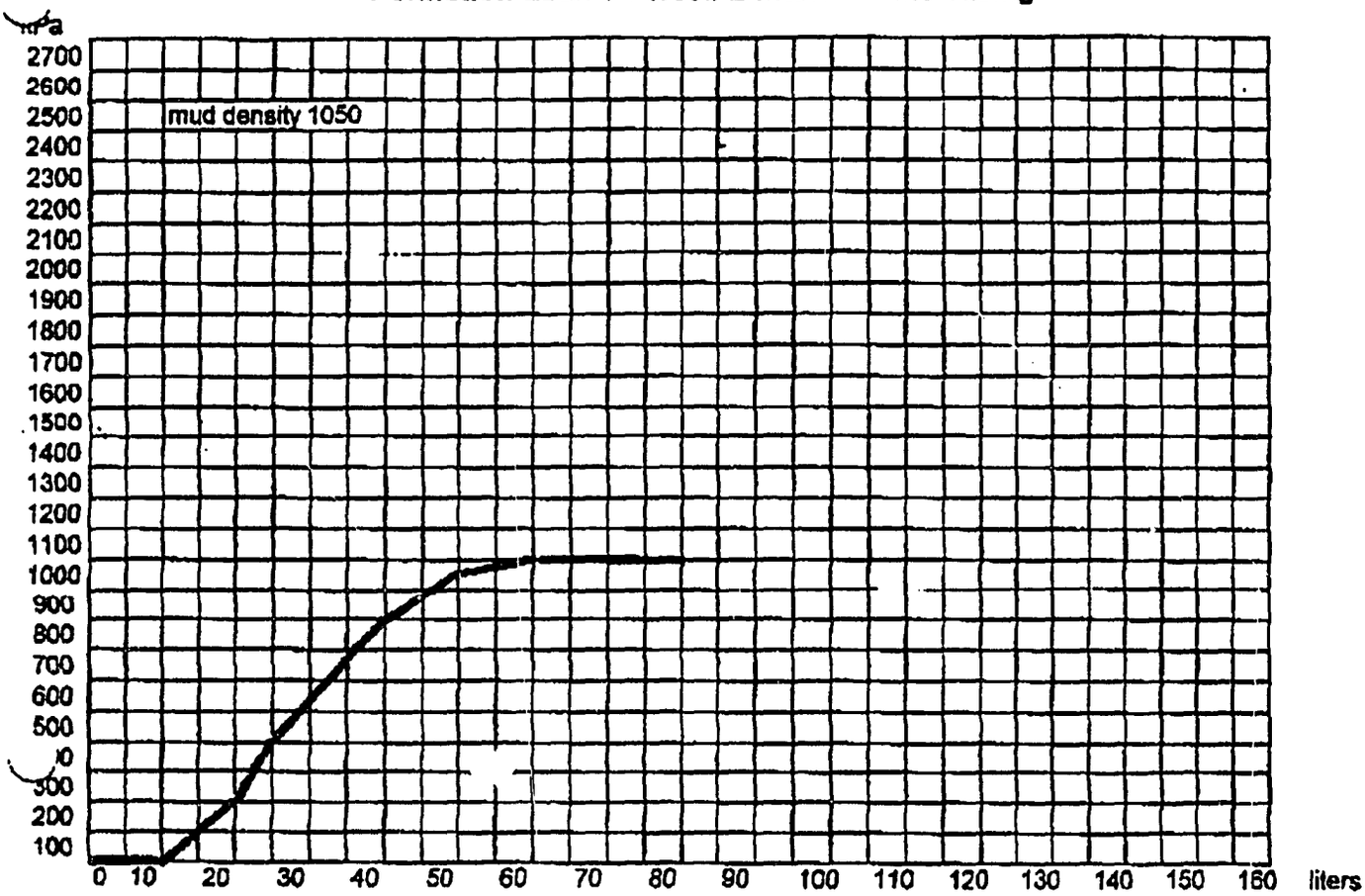
on fuel hoses to generator set. Repairing on 98/12/27 at 2359 hours.

REPORTED BY: Chuck Brazel

PHONE #: (600) 700-5344
CALLING CARD #: 454-037-6129-5326

GREY WOLF-CANAXAS DEH CHO-1 B25
300-B25-8520-12630-0

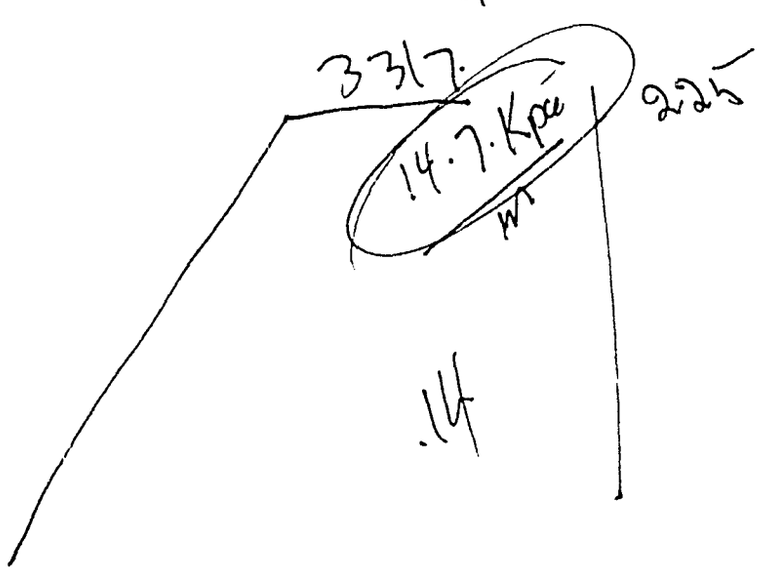
Formation Leak off test # 2 Intermediate casing



225 m x 22 kPa/m=4950 kPa total pressure
1050 kg/m3 x .00981 x 225m = 2317 kPa hydrostatic
4950 kPa total pressure-2317 kPa hydrostatic=2633 kPa maximum allowable surface pressure

Leak off gradient=3317 kPa / 225m=14.7 kPa/m

4950
- 2317
2633



III Summary of Drilling Operations

7) Time Distribution

PAJAK ENGINEERING LTD.

R I G A C T I V I T Y S U M M A R Y

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106
RIG: 7E
LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD

Thu Feb 04 11:12:13 1999

HOLE SECTION	ACTIVITY	HOURS	PERCENTAGE	
(Missing)	RIG UP/DN	96.00	100.0	
		96.00	100.0	14.0%
CONDUC1	CIRCULATE	2.00	4.2	
	DRILLING	5.00	10.4	
	HNDL TOOLS	4.00	8.3	
	RAT HOLE	3.00	6.2	
	RIG UP/DN	33.00	68.8	
	SAFETY MTG	1.00	2.1	
		48.00	100.0	7.0%
SURFACE	CEMENTING	0.75	1.0	
	CIRCULATE	4.75	6.6	
	DRILLING	15.75	21.9	
	DRLG OUT	2.75	3.8	
	HNDL TOOLS	5.25	7.3	
	PRESS TEST	1.00	1.4	
	REPAIR	1.75	2.4	
	RIG INSP	0.25	0.3	
	RIG SERV	0.75	1.0	
	RUN CSG	4.50	6.2	
	SAFETY MTG	0.50	0.7	
	SURVEYING	3.00	4.2	
	TRIPPING	4.00	5.6	
	W.O.C.	2.00	2.8	
	W/N.U. BOP	25.00	34.7	
		72.00	100.0	10.5%
INTERM1	BOP DRILL	0.50	0.3	
	CEMENTING	2.00	1.2	
	CIRCULATE	8.50	5.1	
	DRILLING	20.75	12.4	
	DRLG OUT	17.75	10.6	
	HNDL TOOLS	6.00	3.6	
	LOGGING	4.25	2.5	
	PRESS TEST	19.25	11.5	
	REAMING	5.75	3.4	
	REPAIR	1.50	0.9	
	RIG SERV	0.75	0.4	

PAJAK ENGINEERING LTD.

R I G A C T I V I T Y S U M M A R Y

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106
RIG: 7E
LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD

Thu Feb 04 11:12:14 1999

HOLE SECTION	ACTIVITY	HOURS	PERCENTAGE	
	RUN CSG	3.00	1.8	
	SAFETY MTG	0.50	0.3	
	SET SLIPS	1.25	0.7	
	SURVEYING	2.00	1.2	
	TRIPPING	27.75	16.5	
	W.O.C.	21.75	12.9	
	W/N.U. BOP	24.75	14.7	
		168.00	100.0	24.5%
MAIN	ABNDNMENT	7.00	2.3	
	BOP DRILL	0.25	0.1	
	CEMENTING	12.00	4.0	
	CIRCULATE	5.75	1.9	
	CLN TO BTM	0.50	0.2	
	DRILLING	105.00	34.9	
	HNDL TOOLS	11.50	3.8	
	LOGGING	14.50	4.8	
	PU/LD PIPE	7.00	2.3	
	REPAIR	30.50	10.1	
	REV CIRC	0.75	0.2	
	RIG SERV	2.25	0.7	
	RIG UP/DN	31.00	10.3	
	SAFETY MTG	1.25	0.4	
	SURVEYING	7.25	2.4	
	TESTING	6.25	2.1	
	THAW EQUIP	4.00	1.3	
	TRIPPING	27.50	9.1	
	W.O.C.	18.75	6.2	
	W/N.U. BOP	8.00	2.7	
		301.00	100.0	43.9%
TOTAL	ABNDNMENT	7.00	1.0	
	BOP DRILL	0.75	0.1	
	CEMENTING	14.75	2.2	
	CIRCULATE	21.00	3.1	
	CLN TO BTM	0.50	0.1	
	DRILLING	146.50	21.4	
	DRLG OUT	20.50	3.0	
	HNDL TOOLS	26.75	3.9	
	LOGGING	18.75	2.7	
	PRESS TEST	20.25	3.0	
	PU/LD PIPE	7.00	1.0	
	RAT HOLE	3.00	0.4	

PAJAK ENGINEERING LTD.

R I G A C T I V I T Y S U M M A R Y

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106
RIG: 7E
LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD

Thu Feb 04 11:12:15 1999

HOLE SECTION	ACTIVITY	HOURS	PERCENTAGE	
	REAMING	5.75	0.8	
	REPAIR	33.75	4.9	
	REV CIRC	0.75	0.1	
	RIG INSP	0.25	0.0	
	RIG SERV	3.75	0.5	
	RIG UP/DN	160.00	23.4	
	RUN CSG	7.50	1.1	
	SAFETY MTG	3.25	0.5	
	SET SLIPS	1.25	0.2	
	SURVEYING	12.25	1.8	
	TESTING	6.25	0.9	
	THAW EQUIP	4.00	0.6	
	TRIPPING	59.25	8.6	
	W.O.C.	42.50	6.2	
	W/N.U. BOP	57.75	6.2	
		685.00	100.0	100.0%

TOTAL ESTIMATED: 0.00 Hours

VARIANCE: -685.00 Hours

7) Summary of Drilling Operations

8) Survey Record

PAJAK ENGINEERING LTD.

S U R V E Y R E C O R D (Minimum curvature method)

WELL NAME: GREY WOLF-CANAXAS DEH CHO-1 B-25 AFE: 9820106
RIG: 7E
LOCATION: 300-B25-6520-12630-0 CONTRACTOR: SHEHTAH DRILLING LTD

Thu Feb 04 11:12:49 1999

Target not specified.

#	DEPTH (m)	DRIFT(m)	TRUE BEARING (deg)	V.SECT. (m)	--DEFLECTION (m)- N+ S-	E+ W-	TRUE DEPTH (m)	DLS (d/30m)
1	33.00	0.10						
2	60.00	0.10						
3	76.00	0.75						
4	76.00	0.75						
5	85.00	0.50						
6	104.00	0.50						
7	122.00	0.74						
8	141.00	1.00						
12	191.00	0.50						
10	218.00	1.00						
14	278.00	2.00						
12	330.00	4.00						
13	354.00	4.50						
14	364.00	4.00						
15	401.00	3.00						
16	382.00	4.00						
16	401.00	3.00						
17	432.00	4.00						
18	460.00	3.00						
19	489.00	2.25						
20	520.00	4.75						
21	539.00	2.00						
22	549.00	2.00						
23	567.00	2.25						
24	596.00	1.75						
24	616.00	2.25						
25	635.00	2.00						
26	653.00	2.00						
27	700.00	2.25						
28	719.00	2.25						
29	785.00	2.25						

III Summary of Drilling Operations

9) Abandonment Plugs

PAJAK ENGINEERING LTD.

PLUG BACK AND ABANDONMENT REPORT

WELLNAME:	GREY WOLF-CANAXAS DEH CHO-1 B-25	DAY NO:	23
LOCATION:	300-B25-6520-12630-0	DATE:	99/01/07

KB Elevation: 71.8
F.T.D.: 785.0

Plug Back String: 114 mm XH pipe
Service Company: Nowsco Well Service
Fluid in Hole: Gelfree/Polymer drlg mud

	HOLE SIZE (mm)	CASING SIZE (mm)	DEPTH (m)	TOP OF CEMENT (m)
SURFACE	444.50	339.70	160.00	0.00
INTERMEDIATE	311.00	244.50	225.00	0.00
PRODUCTION				

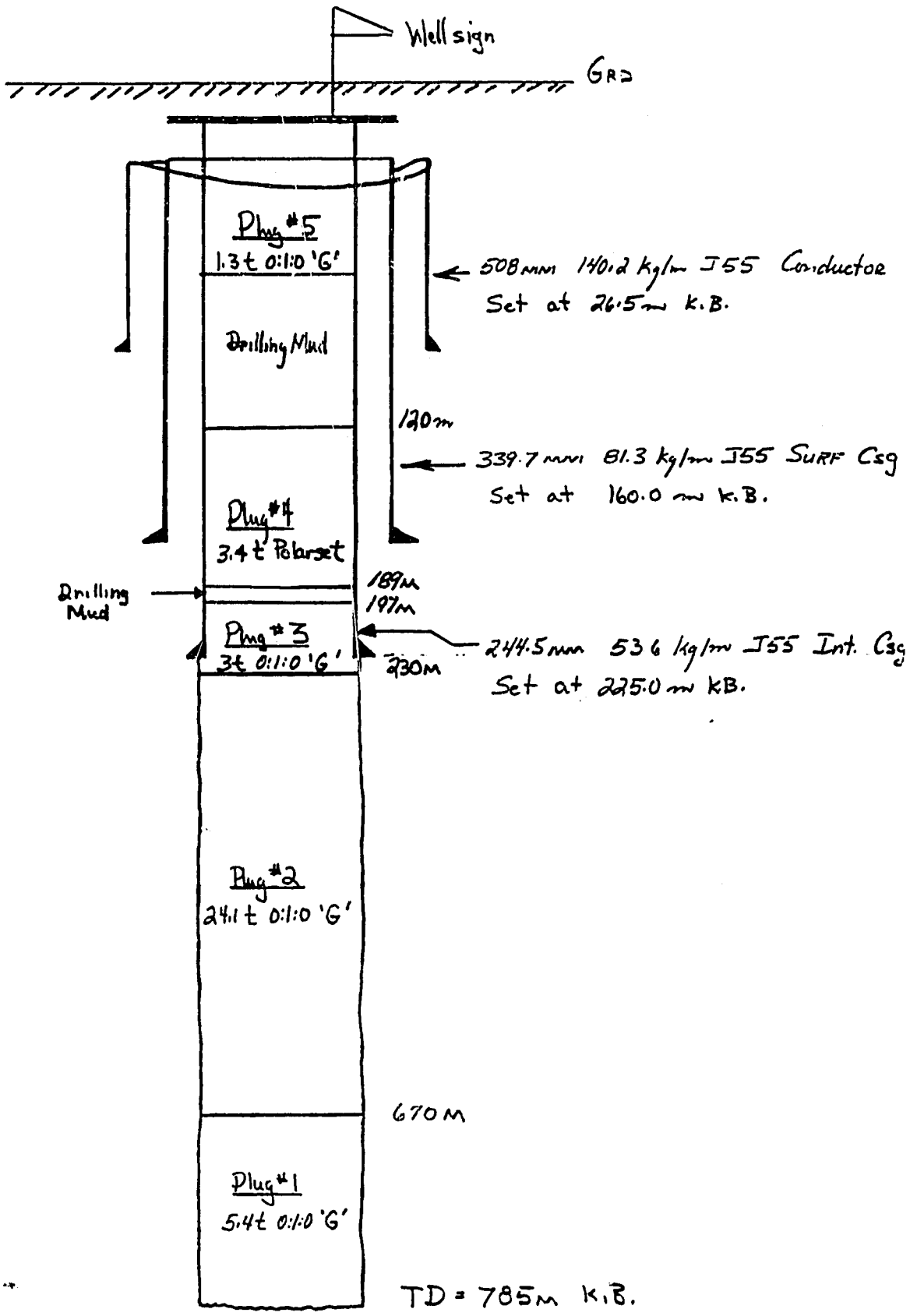
		PLUG # 1	PLUG # 2	PLUG # 3	PLUG # 4	PLUG # 5
DATE		99/01/04	99/01/05	99/01/06	99/01/07	99/01/07
INTERVAL (m)	Top	650.00	345.00	200.00	126.00	7.90
	Bottom	742.00	670.00	227.00	189.00	18.00
FELT PLUG DEPTH (m)		656.00	230.00	197.00	120.00	7.90
FORMATION	Name	Ft Norman	Canyon CK	Casing	Casing	Surface
	Depth (m)	737.00	371.00	225.00	225.00	7.90
AVERAGE CALIP. HOLE SIZE (mm)		223.00	236.00	226.00	226.00	226.00
TYPE OF CEMENT		G 0-1-0	G 0-1-0	Class-G	Polarset	Class-G
NO. OF TONNES		5.4	24.1	3.0	3.4	1.3
ADDITIVES		.75% T-10	.75% T-10	.75% T-10	.2% R-15C	.5% A-11
LITRES OF H2O AHEAD		2290.0	8000.0	3000.0	6500.0	300.0
DISPLACEMENT (LITRES)	Water	500.0	1740.0	1000.0	800.0	200.0
	Mud	3400.0	0.0			
SLURRY DENSITY (kg/m3)		1901.0	1901.0	1901.0	1881.0	1900.0
MIXING TIME	Start	00:02	00:38	14:09	11:18	20:07
	Finish	00:30	01:05	14:13	11:23	20:09
DISPLACING TIMES	Start	00:35	01:05	14:13	11:23	20:09
	Finish	00:43	01:07	14:15	11:25	20:10
FELT PLUG TIME		04:00	10:07	06:00	17:20	:
FELT PLUG WEIGHT (dAN)		0.0	5000.0	5000.0	3000.0	

SURFACE CASING CUT: 1.00 m BELOW GROUND
SURFACE PLUG: 1.30 TONNES
PLATE WELDED: Y
CASING SALVAGE: SHOT OFF AT m
BELOW GROUND: JTS. RECOVERED

REMARKS: Plug #1 was logged at 656mKB (1200 kg/m3), 667mKB (1500 kg/m3). Ran pipe into 670mKB, reversed out light cement. 1999.01.05. Cemented with Dowell. Dowell attempted to run plug #2, but could not get proper density. Nowsco got skid unit repaired and ran the rest of the plugs. Plug #3 would not set up properly due to gas migration. Plug #4 was run on top and pressure was held on annulus for 5 hours. Plug #5 was run for top plug. Plug was down 1999.01.07 @ 20:10 hours. Logging unit broke down after first plug, the rest of plugs felt with DP.

SUPERVISOR: Jack & Chuck Brazel PHONE #: (600) 700-5344 · CCARD #: 454-037-6129-5326

Grey Wolf - Canaxas Deh Cho-1 B-25



IV Geology

1) Geological Report

GEOLOGICAL WELLSITE REPORT
GREY WOLF CANAXAS DEH CHO 1B-25
300-B25-6520-12630-0
065 14 01.227 126 34 32.360

Prepared For: Grey Wolf Exploration Inc..

By: Azam Zaidi, January, 1999

Pro Geo Consultants

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WELL SUMMARY

WELL NAME:	GREY WOLF CANAXAS DEH CHO 1B-25			
LOCATION:	Unit: B, SEC: 25 Grid Area: 65 20\ N 126 30\ W			
UWI:	300-B25-6520-12630-0			
COORDINATES:	065 14 01.227 126 34 32.360			
WELL LICENSE #:	1852 AFE#: 9820106			
ELEVATION:	Ground: 64.9 m; K.B.: 71.8 m			
OPERATOR:	GREY WOLF EXPLORATION INC.			
DRILL CONTRACTOR:	Shehtah Drilling Ltd. RIG # 7E			
WELLSITE SUPERVISION:	Engineer: JACK BRAZEL/CHUCK BRAZEL			
	Geologist: AZAM ZAIDI			
WELL SPUDDED:	06:00 Hours, 1998-12-16			
DRILLING COMPLETED:	06:30 Hours, 1999-01-02			
BOTTOM HOLE FORM:	Fort Norman (Bear Rock)			
TOTAL DEPTH:	Driller: 785.00 m Logger: 785.1 m			
BIT SIZES:	Surface: 444.0 mm			
	Downhole: 222.0 mm			
CASING SIZES:	Surface: 339.7 mm Intermediate: 244.5 mm			
CORES CUT:	NONE			
LOGS RUN:	RUN ONE: DILL-SP-GR; SONIC-GR 210 m – 160 m (GR to surface)			
	RUN TWO: DILL-SP-GR; SONIC-GR; Density-Neutron (785m – 225m			
DRILL STEM TESTS:	DST 1 370.0 m - 382.0 m (Canyon Creek)			
RIG RELEASE:	23:59 Hours, 1999 - 01 - 08			
WELL STATUS:	Dry and abandoned			
SAMPLE REQUIREMENTS:	Company:	One set of vials	150 m – 785 m	(every 5m)
	Government:	Two sets of vials	150 m – 785 m	(every 5m)
		Samples in plastic jars	150 m – 785 m	(every 10m)
		Unwashed sample bags	150 m – 785 m	(every 5 m)

DAILY SUMMARY

1998-12-09
Shehtah Rig #7 moved into the location of Grey Wolf Canaxas DEH CHO 1B-25, camp and other building units moving into the location

1998-12-10
Rig up draw works, dog house and put all other buildings in places

1998-12-11
Rig move and set up in progress, install all lines

1998-12-12
Rig up operation in progress, derrick up, and set up other parts of the rig into proper places

1998-12-13
Rigging up operation in progress, installed prefabs on rig floor, and mud tanks
Worked on steam lines, hauled in drill pipe, drill collars, and casing joints

1998-12-14
Rig up in progress, rigging up Wadeco, Pason and United Safety

1998-12-15
Rig up operation in final stages, prior to spud the well

1998-12-16
Spudded well at 06:00 Hours, drill pilot hole
Drill mouse hole and rat hole, ran conductor pipe, and cement, wait on cement
Install diverter

1998-12-17
Depth: 26m, weld on 508 mm diverter,

1998-12-18
Depth: 26m, pressure testing, drill ahead 444 mm hole from 26m to 142m

1998-12-19
Depth: 142m, drilling ahead 444 mm hole, drill to 163m, surface casing point
Ran surface casing and ran cement

1998-12-20
Depth: 163 m, ran cement, plug down at 06:30 Hours
Wait on cement

1998-12-21
Depth: 163 m, nipple up BOP'S, pressure testing
Drill out cement, tag cement at 24m, and drill cement from 24m

1998-12-22
Depth: 163m, drilling casing cement at 95m, drill cement from 95m – 163m
Pressure testing, drill to 167m and leak off test, trip out for bit

1998-12-23
Depth: 167m, tripping in with new bit, and resume drilling
Drill to 225m, intermediate casing point, logging with Schlumberger

1998-12-24
Depth: 225m, trip in after logging, and ream hole to run inter casing
Trip out to pick inter casing

1998-12-25
Depth: 225 m, running inter casing, and ran cement, wait on cement
Set slip on 244 mm casing, weld on casing bowl, nipple up BOP'S

1998-12-26
Depth: 225 m, wait on cement, make up new BHA, and trip in with bit to drill out cement
Drill from 225m – 230m, and leak off test, very poor readings, possible cement is wet
Circulate, and wait on cement

1998-12-27
Depth: 230m, wait on cement, drill ahead from 230m
Drilling ahead, and survey as required

1998-12-28
Depth: 414m, circulate to clean hole, and trip out to pick TBR
Control drilling to bring survey back from 4.5 degree

1998-12-29
Depth: 492 m, drilling ahead 222 mm hole, drill to 521m, and trip out for bit
Trip in with new bit, and resume drilling

1998-12-30
Depth: 528m, drilling ahead 222 mm hole, and survey as required
Drilling ahead

1998-12-31
Depth: 591 m, drilling ahead 222 mm hole
Drilling ahead and survey as required

1999-01-01 Depth: 700m, drilling ahead 222 mm hole
Drilling ahead

1999-01-02
Depth: 785m (TD), circulate bottom hole sample, dummy trip, circulate to condition hole and mud
Logging with Schlumberger

1999-01-03
Depth: 785m, make up test tools to run DST ONE: 370m – 382m

1999-01-04 to 1999-01-08
Ran drill stem test, ran plugs
Rig released at 23:59 Hours, 1999-01-08

CASING SUMMARY

Surface Casing
Ran 12 joints of 339.7 mm, 81.7 kg/m, J-55, ST &C, surface casing. Cemented by NOWSCO with 27.75 tones of polar sep cement. Landed at 160.00 m K.B. Plug down at 06:00 hours, 1998-12-21

Intermediate Casing
Ran 17 joints of 244.5 mm, 53.57 Kg/m, J-55, ST & C intermediate casing. Cemented by NOWSCO with 13.0 Tones of polar Sep + 2% R15 cement. Landed at 225.oo m K.B. Plug down at 06:30 Hours, 1998-12-25

DRILL STEM TEST SUMMARY

DST#1: INTERVAL: 370.0 – 382.0 m, FM: Canyon Creek TYPE: Inflate Straddle

Times:	10.5 – 59.0 – 60.5 – 92.5	
On PF:	Weak air blow decreasing to faint in 5 minutes. No gas to surface	
VO:	Weak air blow decreasing to very faint. No gas to surface	
Recovery:	9.00 m of drilling fluid 800 ppm salinity	
HP:	4003 / 4032	kPA
SIP:	938 / 487	kPA
FP:	282 / 313 / ____	KPA
Other:	1st. Flow: 241 / 239	KPA

ABANDONMENT PROGRAM

Plug #1	Interval:	650 m – 742 m
	Cemented with:	5.4 tonnes of 0-1-0, class "G"
	Plug down at:	04:00 Hours, 1999-01-04
Plug #2	Interval:	345 m – 670 m
	Cemented with:	24.1 tonnes of 0-1-0 class "G"
	Plug down at:	10:07 Hours, 1999-01-05
Plug #3	Interval:	200 m – 227 m
	Cemented with:	3.0 tonnes of 0-1-0 class "G"
	Plug down at:	06:00 Hours, 1999-01-06
Plug # 4	Interval:	126.0 m – 189.0 m
	Cemented with:	3.4 tonnes of Polareset
	Plug down at:	17:20 Hours, 1999-01-07
Plug # 5	Interval:	7.90 m - -18.00 m
	Cemented with:	1.3 tonnes of 0-1-0 class "G"
	Plug down at:	20:09 Hours, 1999-01-07

GEOLOGICAL SUMMARY

The well Grey Wolf Canaxas DEH CHO 1B-25 in the province of Northwest Territories within the Norman Wells area was drilled as an exploratory well based on seismic line 83374, shot point 1045 to evaluate Kee Scrap formation (Reef), in the Norman Wells area.

The well was spudded on December 16, 1998, and reached a total depth of 785.0 m on January 02, 1999 into the Fort Norman formation of Bear Rock group. The Kee Scarp formation was primary objective, while the Canyon Creek Sand, Upper Member of Hume formation, Landry and Arnica of Bear Rock as secondary objectives. Sample study and continuos hot-wire readings from 150 m- 785 m, and no core.

The Canyon Creek Sand , within the Imperial formation on logs at 371.0m, and consisted of, Sandstone; light brown, quartzitic, very fine to slightly fine grained, silty, dolomitic, mostly firm, and uneven poor to streaky fair porosity (8-12%), bright yellowish milky white cut. Gas readings range from 200-550 units within 371m-382m, possible reservoir quality formation. Logs shows 12-15% porosity and up to 30-OHMS resistivity. One drill stem test (370.0m – 382.0 m) was in progress to evaluate hydrocarbon potential in this formation.

The Kee Scarp formation (Reef) was not present.

The Upper Member of Hume formation topped on logs at 600.0 m, and consisted of, Limestone; light brown, cream and white, partly chalky, microcrystalline, clean, tight and partly very fine to fine fragmental, bioclastic debris, pellet, crinoid, mostly cemented by calcite and no visible porosity, no shows. Logs indicated, tight formation and no hydrocarbon potential.

The Landry formation of Bear Rock group, consisted of, mostly Limestone; brown to brownish gray, cryptocrystalline, clean, tight and partly fine fragmental, pelletal and fossiliferous, tight, no shows and possible no hydrocarbon potential.

The Arnica formation of Bear Rock, which consisted of, Dolomite; light brown, cream, sugary and sucrosic, very fine to fine crystalline, clean, poor to slightly fair intercrystalline and vuggy porosity at the top, and tight downwards, bright yellow white fluorescence, slow yellowish milky white cut, possible good reservoir, and should be investigate for any hydrocarbon potential.

The bottom hole formation, Fort Norman, which consisted of, Anhydrite; light brown, white and brownish gray, cryptocrystalline, clean and massive, interbedded with thin, tight, Dolomite.

The Kee Scarp reef was not developed in this well. One test within the Canyon Creek Sand formation, indicated, very tight formation. On the basis of logs, test and sample, this well being plugged back as a dry hole.

FORMATION TOPS

FORMATION	PROGNOSED	SAMPLE		LOG TOPS	
	Depth(m)	Depth(m)	SS(m)	Depth(m)	SS(m)
IMPERIAL TM	56.8			50.0	21.8
CANYON CREEK SAND	198.8	371.0	-299.2	370.5	-298.7
CANOL	208.8	400.0	-328.2	401.5	-329.7
KEE SCARP	238.8	-	-	-	-
HARE INDIAN					
Black Shale Member	388.8	464.0	-392.2	451.0	-379.2
Grey Shale Member	476.8	552.0	480.2	542.5	-470.7
Bluefish Member	507.8	583.0	-511.2	586.0	-514.2
HUME					
Upper Member	521.8	597.5	-525.7	600.0	-528.2
Lower Member	567.8	643.0	-571.2	652.0	-580.2
LANDRY (Bear Rock)	636.8	712.0	-640.2	697.0	-625.2
ARNICA (Bear Rock)	646.8	721.0	-649.2	721.0	-649.2
FORT NORMAN	685.8	754.0	-682.2	737.0	-665.2
TOTAL DEPTH	710.8	785.0	-713.2	785.1	-713.3

SAMPLE DESCRIPTIONS

150 - 160	**SHALE**; light to medium gray, trace light gray-green, micro micaceous, silty, blocky, sub fissile, trace thin band, SILTSTONE; light gray, sandy, argillaceous, siliceous, micaceous, grading to, very silty, dirty SANDSTONE.
160 - 168	**SHALE**; medium to dark gray, micro micaceous, silty, and sandy, As above, scattered thin, SILTSTONE; light gray, sandy, argillaceous, siliceous, grading to, dirty SANDSTONE.
168 - 175	**SHALE**; light gray, gray-green, blocky, flaky and fissile, scattered SILTSTONE; band, As above.
175 - 180	**SHALE**; light gray, trace light gray-green, silty and sandy, micro micaceous, blocky, interbedded with, SILTSTONE; light gray, argillaceous, sandy, siliceous, grading to, silty, SANDSTONE; As above.
180 - 190	**SHALE**; medium to dark gray, gray-brown, micro micaceous, silty and sandy, blocky, trace stringers of, dirty, SANDSTONE; and sandy, siliceous, SILTSTONE.
190 - 195	**SANDSTONE**; light to medium brown, very fine grained, sub angular to sub round, well sorted, silty, dolomitic, mostly tight, no shows, argillite, and grading to, sandy, SILTSTONE; interbedded with, SHALE; dark gray, micromicaceous, As above.
195 - 200	**SANDSTONE**; medium brown, trace buff, silt to very fine grained, sub angular to subrounded, well sort, silty, calcareous and dolomitic, tight, no shows, argillite, As above.
200 - 205	**SANDSTONE**; medium to dark brown and buff, very fine grained, sub angular, well sort, silty, mostly consolidated, possible poor porosity in places, no shows, argillite, interbedded with, SHALE; dark gray, micromicaceous, silty, sandy, As above.
205 - 210	**SANDSTONE**; light - medium brown, silt to very fine grained, sub angular, well sort, silty, dolomitic, argillite, consolidated, no shows.
210 - 215	**SHALE**; dark gray, gray-brown, trace black, micromicaceous, blocky, trace bituminous
215 - 220	**SHALE**; dark gray, black and gray-brown, micromicaceous, blocky to sub fissile, carbonaceous As above.
220 - 225	**SHALE**; medium to dark gray, gray-brown, micromicaceous, flaky, fissile, trace bituminous, as above.
225 - 230	**SHALE**; dark gray and gray-brown, micromicaceous, blocky, silty in part, trace carbonaceous, and casing cement. SHALE; medium to dark gray, As above.
232 - 236	**SHALE**; gray, dark gray-brown, micromicaceous, blocky, silty in part, As above.
236 - 240	**SHALE**; medium to dark gray, and dark gray-brown, micromicaceous, blocky, sub fissile, trace carbonaceous flake, trace of, LIMESTONE; light brown, brown-gray, microcrystalline, argillaceous, silty, tight, no shows.
240 - 250	**SHALE**; dark gray, gray-brown, micromicaceous, blocky, sub fissile, silty in part, trace of, LIMESTONE; brown-gray, microcrystalline to silt size, silty, argillaceous, tight, no shows.
250 - 260	**SHALE**; dark gray, dark gray-brown, micromicaceous, blocky, flaky in part, trace silty, carbonaceous, scattered SILTSTONE; light gray, argillaceous, siliceous.

260 - 270	**SHALE**; dark gray and gray-brown, micromicaceous, blocky, trace silty, and carbonaceous, dark brown siderite stringer, and pyritic, trace of, LIMESTONE; light brown-gray, argillaceous, silty, tight, no shows.
270 - 280	**SHALE**; dark gray, black, and gray-brown, micromicaceous, blocky, non-calcareous, hard, trace pyritic, siderite stringer.
280 - 285	**SHALE**; dark gray, and light gray-brown, micromicaceous, blocky, flaky in part, trace carbonaceous, as above.
285 - 290	**SHALE**; dark gray, and dark gray-brown, micromicaceous, blocky, flaky, fissile in part, trace carbonaceous, scattered band and stringer of, LIMESTONE; brown-gray, microcrystalline to silt size, trace very fine, argillaceous, silty, pyritic, tight, no shows.
290 - 300	**SHALE**; dark gray, black and gray-brown, micromicaceous, blocky, trace silty, stringer of, LIMESTONE; dark brown-gray, microcrystalline, argillaceous, silty, trace fossiliferous, no shows.
300 - 310	**SHALE**; dark gray, gray-brown, micromicaceous, silty in part, trace pyritic, blocky, trace of, dirty, tight, LIMESTONE; As above.
310 - 320	**SHALE**; medium to dark gray, gray-brown, micromicaceous, blocky, trace pyritic, As above, trace LIMESTONE; brown-gray, microcrystalline, argillaceous, silty, tight, trace fossiliferous, no shows.
320 - 330	**SHALE**; medium to dark gray, micromicaceous, blocky, flaky, fissile in part, trace carbonaceous flake, dark brown siderite parting.
330 - 340	**SHALE**; dark gray, brown-gray, micromicaceous, blocky, As above, trace of, dirty, argillaceous, silty, tight, LIMESTONE; no shows.
340 - 345	**SHALE**; dark gray, micromicaceous, blocky, flaky, fissile, in part, trace pyritic, and carbonaceous, As above.
345 - 350	**SANDSTONE**; light brown, silt to very fine grained, sub angular, well sorted, silty, dolomitic, mostly firm, possible streaky very poor porosity, dull brown-yellow fluorescence, bright milky yellow cut, interbedded with, SHALE; as above.
350 - 360	**SANDSTONE**; light brown, silt to very fine grained, sub angular, well sort, silty, dolomitic, firm, no visible porosity, poor fluorescence, uneven bright yellow-milky cut, argillite, interbedded with, SHALE; dark gray, gray- brown, micromicaceous, blocky, fissile, As above.
360 - 371	**SHALE**; dark gray, gray-brown, micromicaceous, blocky, silty, trace carbonaceous, As above, interbedded with, SANDSTONE; light brown, very fine grained, sub angular, well sort, silty, dolomitic and siliceous, mostly tight, poor fluorescence, bright yellow-milky cut in places.
	CANYON CREEK SAND 371.0m (-299.2m SS)
371 - 375	**SANDSTONE**; light brown, brown-gray, silt to very fine grained, trace fine, sub angular to sub rounded, silty, dolomitic, siliceous, argillite, mica flake, possible streaky poor porosity, light to dark brown stain, poor fluorescence, bright milky yellow cut.
375 - 382	**SANDSTONE**; light brown, quartz, very fine grained, sub angular, well sort, silty, dolomitic, As above, mostly tight, possible poor porosity in places, argillite, mica flake, dull fluorescence, bright yellow-milky cut.

382 -	391	**SANDSTONE**; light brown, brown-gray, silt to very fine grained, sub angular, well sort, silty, mica flake, dolomitic, siliceous, consolidated, light to dark brown stain, uneven bright milky yellow cut, interbedded with, SHALE; dark gray, black, brown-gray, micromicaceous, flaky, fissile.
391 -	400	**SHALE**; dark gray, black, brown-gray, micromicaceous, flaky, fissile, bituminous, trace pyritic, and minor, SANDSTONE; As above, tight.
		CANOL 400.0m (-328.2m SS)
400 -	405	**SHALE**; dark gray, black, dark brown-gray, micromicaceous, flaky, fissile, bituminous, trace pyritic.
405 -	410	**SHALE**; dark gray, black, gray-brown, micromicaceous, flaky, fissile, trace silty, bituminous, trace pyritic, As above.
410 -	420	**SHALE**; dark gray, black and dark gray-brown, micromicaceous, flaky and fissile, bituminous, trace pyritic, petroliferous odor, trace fracture.
420 -	430	**SHALE**; brown-gray, dark gray and black, micromicaceous, silty, sideritic, stringer of, SILTSTONE; dark brown-gray, argillaceous, siliceous and sideritic.
430 -	440	**SHALE**; dark gray, black, and brown-gray, micromicaceous, blocky, flaky in part, hard, silty, sideritic, pyritic, trace fracture, slickensided.
440 -	445	**SHALE**; dark gray-brown, black, micromicaceous, hard, bituminous, trace silty, pyritic, disseminated pyrite, trace fracture, trace slickensided.
445 -	455	**SHALE**; As above, trace fracture, slickensided, interbedded with, thin, LIMESTONE; dark brown, buff, microcrystalline, argillaceous, bituminous, tight, slightly silty, no shows.
455 -	465	**LIMESTONE**; dark brown, buff, microcrystalline, hard, argillaceous, bituminous, no shows, thinly interbedded with, SHALE; dark gray, brown-gray, micromicaceous, blocky, slightly fracture, trace slickensided, disseminated pyrite, and sideritic, As above.
		HARE INDIAN (Black Shale Member 464.0m (-392.2m SS)
465 -	475	**SHALE**; dark brown-gray, black, micromicaceous, blocky, bituminous, slightly fracture, trace slickensided, pyritic and disseminated pyrite, thin band of, LIMESTONE; dark brown, buff, microcrystalline, argillaceous, tight, no shows.
475 -	480	**SHALE**; dark brown-gray, black, micromicaceous, blocky and flaky in part, sideritic, pyritic, As above, stringer of, dark brown, argillaceous, tight, LIMESTONE; As above.
480 -	490	**SHALE**; dark gray, brown-gray, and black, micromicaceous, blocky, flaky and fissile in part, sideritic, pyritic, trace fracture and slickensided, minor, LIMESTONE; stringer, dark brown, microcrystalline, argillaceous, tight, no shows, grading to Marlstone.
490 -	500	**SHALE**; brown-gray, dark gray, and black, micromicaceous, blocky, flaky in part, sideritic, trace pyritic, As above, scattered thin, LIMESTONE; brown and brown-gray, microcrystalline, argillaceous, silty, tight, indistinct fossils, no shows.
500 -	510	**SHALE**; dark brown, brown-gray, micromicaceous, flaky, fissile, blocky in part, As above, trace fracture, minor LIMESTONE; light brown-gray, cryptocrystalline to microcrystalline, argillaceous, bituminous, tight, no shows.

510 -	515	**SHALE**; dark brown, and brown-gray, micromicaceous, dull in part, pyritic, slightly sideritic, flaky, fissile, trace disseminated pyrite.
515 -	520	**SHALE**; dark gray, brown-gray, micromicaceous, blocky, hard, bituminous, trace calcareous, and silty, As above.
520 -	530	**SHALE**; brown-gray, dark gray, micromicaceous, blocky, hard, flaky in part, trace fracture, trace slickensided, thin band of, LIMESTONE; dark brown, buff, microcrystalline, argillaceous, slightly dolomitic, bituminous, tight.
530 -	537	**SHALE**; dark gray, black, and brown-gray, dull to micromicaceous, flaky, fissile, calcareous in part, trace white calcareous speck, minor LIMESTONE; light to dark brown, microcrystalline, argillaceous, bituminous, tight, trace dolomitic.
537 -	541	**LIMESTONE**; dark brown, buff, microcrystalline, argillaceous, dolomitic and pyritic in part, bituminous, tight, trace very fine -fine fragment, interbedded with, SHALE; as above.
541 -	545	**LIMESTONE**; light -medium brown, buff, cream, microcrystalline to very fine and fine fragment, dolomitic, pyritic in part, slightly argillaceous, bituminous, tight, bioclastic debris, pellet, trace crinoid, with, SHALE; as above.
545 -	549	**LIMESTONE**; brown, cream and dark brown, very fine to fine fragment, argillaceous, dolomitic, pellet, trace crinoid, bioclastic debris, bituminous, tight, interbedded with, SHALE; light gray, gray-green, micromicaceous, calcareous, marly.
549 -	555	**SHALE**; light gray, light green, dull to micromicaceous, calcareous in part, flaky and fissile, grading to Marlstone; interbedded.
		HARE INDIAN (Grey Shale Member) 552.0m (-480.2m SS)
555 -	560	**MARLSTONE**; light green, light gray, grading to, SHALE: light gray-green, dull to micromicaceous, flaky, fissile, calcareous in part, and grading to, Marlstone; as above.
560 -	565	**SHALE**; light gray, light green, micromicaceous, dull in part, slightly calcareous, flaky and fissile, grading to, Marlstone; light green, calcareous, as above.
565 -	570	**SHALE**; light gray, gray-green and black, micromicaceous, slightly pyritic, scattered band of, SILTSTONE; light brown, argillaceous, calcareous, and stringer of, Marlstone.
570 -	580	**SHALE**; light gray, gray-green, micromicaceous, blocky, and flaky in part, slightly silty, and pyritic, stringer of, SILTSTONE; As above, and trace dark brown, tight, LIMESTONE. BLUEFISH MBR. 579.0m (-507.2m SS)
580 -	581	**SHALE**; light to medium gray and dark gray, black, micromicaceous, blocky, trace flaky, fissile, pyritic in part, calcareous and silty, As above.
		BLUEFISH MEMBER 583.0m (-511.2m SS)
581 -	590	**SHALE**; dark gray, black, micromicaceous, blocky, calcareous and bituminous in part, band of, SILTSTONE; dark brown, argillaceous, dolomitic, bituminous.
590 -	597	**SHALE**; dark gray, black, micromicaceous, blocky, calcareous in part, bituminous, dark brown, calcareous, SILTSTONE; As above.

HUME (Upper Member) 597.5m (-525.7m SS)

597 - 605	**LIMESTONE**; light brown, cream, white and brown-gray, chalky in part, microcrystalline, clean, tight, bituminous, partly very fine to fine fragmental, bioclastic debris, pellet, crinoid, tight, calcite cement, slightly fracture, trace stylolite, no visible porosity, black dead material, and SHALE; dark gray, black, As above.
605 - 610	**LIMESTONE**; light brown white, cream, cryptocrystalline to microcrystalline, clean, tight, and very fine to fine fragment, As above, pellet, crinoid, possible fracture, black bituminous material, slightly dolomitic.
610 - 620	**LIMESTONE**; light brown, cream, As above, partly very fine fragmental, pellet, crinoid, tight, calcite cement, slightly dolomitic, oily scum in acid in acid residue, black bituminous material, stringer of, DOLOMITE; dark brown, very fine crystalline, calcareous, tight.
620 - 625	**LIMESTONE**; light to medium brown, cream and white, cryptocrystalline, clean, tight, scattered fossiliferous, As above, partly microcrystalline, dolomitic, bituminous, tight, fossiliferous As above.
625 - 630	**LIMESTONE**; brown, brown-gray, cryptocrystalline, clean, tight, no shows, As above, trace bioclastic debris, argillaceous, slightly dolomitic, calcite cement, fracture.
630 - 640	**LIMESTONE**; light brown, cream, white, cryptocrystalline, clean, tight, As above, partly very fine fragmental, bioclastic debris, crinoid, calcite cement, slightly dolomitic, tight, bituminous.
640 - 650	**LIMESTONE**; dark brown, brown-gray, chalky, microcrystalline to very fine fragment, argillaceous, bituminous, dolomitic in part, tight, scattered crinoid, fossil shadows.

HUME (Lower Member) 643.0m (-571.2m SS)

650 - 655	**LIMESTONE**; As above, mostly tight, no shows, interbedded with, SHALE; dark gray, black, micromicaceous, trace dolomitic and pyritic, silty.
655 - 665	**LIMESTONE**; light brown, light gray, cryptocrystalline, clean, slightly argillaceous and dolomitic, tight, grading to Marlstone; light gray, calcareous, and minor SHALE; light gray, dull, calcareous and marly.
665 - 671	**LIMESTONE**; light -dark brown, cryptocrystalline and microcrystalline, clean, tight, slightly argillaceous, dolomitic, scattered pellet, crinoid, interbedded with, SHALE; light gray, and gray-green, flaky, calcareous, marly, pyritic, As above.
671 - 675	**LIMESTONE**; light to medium brown, trace dark brown, microcrystalline to very fine, pelletoidal, argillaceous, dolomitic, bituminous, tight, chalky in part, no visible porosity, no shows.
675 - 683	**LIMESTONE**; light gray, brown-gray, very fine to fine fragment, pelletoidal, trace crinoid, mostly calcite cement, slightly dolomitic, tight, black bituminous material, no shows, thin SHALE; light gray, gray- green, flaky, calcareous, marly.
683 - 690	**LIMESTONE**; light brown, light gray, cryptocrystalline, clean, trace pyritic, and microcrystalline, argillaceous, dolomitic, tight, trace pellet, crinoid, trace DOLOMITE; dark brown, silt to very fine crystalline, sandy, calcareous, bituminous.
690 - 700	**LIMESTONE**; light brown, light gray, As above, clean, tight, pellet, trace crinoid, slightly

dolomitic, tight, trace thin DOLOMITE; dark brown, buff, very fine crystalline, sandy, calcareous, bituminous.

700 - 710 **LIMESTONE**; light brown, cream and brown-gray, cryptocrystalline to microcrystalline, clean, tight, partly very fine to fine fragment, pellet, crinoid, argillaceous, dolomitic, bituminous, mostly tight, possible earthy and pinpoint porosity, trace stylolite, and sandy, dark brown DOLOMITE.

LANDRY (Bear ROCK 712.0m (-640.2m SS)

710 - 724 **LIMESTONE**; brown-gray, As above, and very fine to fine pelletal, slightly dolomitic, tight, black dead bituminous material, clear calcite cement, and thin, DOLOMITE; dark brown, buff, very fine crystalline, sandy, calcareous, bituminous, grading to, dolomitic SANDSTONE; minor SHALE; light gray, micromicaceous, calcareous marly.

ARNICA (Bear Rock) 721.0m (-649.2m SS)

724 - 730 **DOLOMITE**; light brown, very fine to fine crystalline, sugary, clean, slightly calcareous, black bituminous material, uneven poor to streaky fair intercrystalline and vuggy porosity, uneven light brown stain, bright yellow- white fluorescence and slow yellow-milky cut, partly tight, trace sandy.

730 - 740 **DOLOMITE**; light brown, very fine to fine crystalline, sugary, trace sandy, slightly calcareous, bituminous, tight to uneven poor intercrystalline porosity, uneven fluorescence and cut, As above, thin, ANHYDRITE; light brown-gray, cryptocrystalline, clean, slightly dolomitic.

740 - 750 **DOLOMITE**; light brown, cream, very fine crystalline, sugary, mostly clean, slightly calcareous, and sandy, tight, trace uneven poor intercrystalline porosity, trace light stain, poor fluorescence and cut, trace, ANHYDRITE; white, light brown, cryptocrystalline, clean, slightly dolomitic.

750 - 754 **DOLOMITE**; light brown, very fine crystalline, sugary, calcareous, trace sandy, slightly anhydritic, tight, no shows, thin, ANHYDRITE; white, light brown, clean, slightly dolomitic.

FORT NORMAN (Bear Rock) 754.0m (-682.2m SS)

754 - 760 **ANHYDRITE**; white, light brown and brown-gray, cryptocrystalline, clean, massive, slightly dolomitic, interbedded with, thin, DOLOMITE; brown, very fine crystalline, anhydritic, tight, no shows.

760 - 770 **ANHYDRITE**; white, brown-gray, cryptocrystalline, clean, massive, slightly dolomitic, interbedded with, DOLOMITE; medium to dark brown, microcrystalline to very fine crystalline, slightly sandy, argillaceous, anhydritic, tight.

770 - 780 **ANHYDRITE**; white, brown-gray, cryptocrystalline, clean, massive, slightly dolomitic, trace very fine crystalline, and thin, DOLOMITE; brown, brown-gray, very fine crystalline, argillaceous, anhydritic, tight, no shows.

780 - 785 **ANHYDRITE**; brown-gray, white, cryptocrystalline, clean, massive, As above, interbedded with, DOLOMITE; brown, very fine crystalline, anhydritic, tight, no shows.

TOTAL DEPTH (Drillers) 785.0m (-713.2m SS)

IV Geology

2) Lithology Strip Log

Pro Geo Consultants
Azam Zaidi

WELL NAME: Grey Wolf Canessa DEH CHO 1B-25 **FIELD:** DEH CHO

WELL IDENTIFIER: 300-825-6520-12930-0

CO-ORDINATES: Surface: 55 14 01.077, -124 38 32.090 Hz: _____ Bore Hole: _____

ELEVATION: Grd.: 449 m K.B.: 71.8 m

LICENCE NUMBER: 1852 **A.F.E.:** 9820186335

Well History: Contractor: Shahtah Drilling Rig # 7E — Operator: Grey Wolf Exploration Inc.
Spud: 1800-12-18 @ 08:00 Hour — F.I.D.: 1999-01-02 @ 06:30 Hours
Rig Release: — Status: _____
Geologist: Azam Zaidi — Rep.: Jack Brazel / Charles Brazel

Casing: Surf: 105.7 m, 11.7 deg/m — Set @ 101.700 K.B.
Int: 594.7 m, 93.6 Deg/m — Set @ 275.100 K.B.
Production: _____ — Set @: _____

Logs Run: Type: Run Gen: BCSL + DT, GR AND 2085C-GR
Interval: 275m - 103m
Company: Schlumberger

Cores: NONE

D.S.T.: ONE: 370.0 m - 382.0 m Canyon Creek

Formation Tops:	Prognosis MD	Prognosis TVD	Sample Depth MD	Sample Depth TVD
Imperial	55.0 m			
Canyon Creek	370.0 m		371.0 m	
Camp	398.8 m		400.0 m	
Kee Scarp	436.0 m			
Black Shale	468.8 m		464.0 m	
Grey Shale	478.8 m		550.0 m	
Bluefish	507.8 m		553.0 m	
Hume I - I. Mbr.	521.8 m		561.0 m	
Hume I - Mbr.	561.8 m		640.0 m	
Landry	636.8 m		712.0 m	
Arnica	646.8 m		721.0 m	
FT. NC.: MAN	685.8 m		754.0 m	
TOTAL DEPTH	710.8 m		785.0 m	

Comments:

ROCK TYPE

ANHYDRITE, ARGILLACEOUS LIMESTONE, BANDED, BASALT, BENTONITE, BIOCLASTIC LIMESTONE, BOUNDSTONE, BRECCIA, CHALK, CHERT, COAL, DOLOMITE, DOLOSTONE, EVAPORITE, GYPSUM, LIMESTONE, MARL, MUDSTONE, OOLITIC LIMESTONE, PACKSTONE, SALT, SANDSTONE, SHALE, SILTSTONE, WACKESTONE

ACCESSORIES

ANGULAR, ARGILLACEOUS, BIOTURBATED, CALCAREOUS, CARBONACEOUS, CHERTY, CLAYEY, CONGLOMERATIC, CRINOIDAL, CRYSTALLINE, DOLOMITIC, FELDSPATHIC, FERRUGINOUS, FISSILE, FOSSILIFEROUS, GLAUCONITIC, GRADED, GRANULAR, GYPSIFEROUS, HEMATITIC, INTERBEDDED, LAMINATED, MICACEOUS, NODULAR, OOLITIC, PEBBLY, PYRITIC, ROUNDED, SALTY, SILTY, SUBANGULAR, SUBROUNDED, VARIEGATED, VUGGY, WELL SORTED

ROCK BUILDERS

ALGAL, BAFFLESTONE, BINDSTONE, BIOHERM, BIOSTROME, CORAL, CRINOIDAL, FRAMESTONE, OOLITIC, OOLITIC/SKELETAL, PISOLITIC, SKELETAL, STROMATOLITHS, THROMBOLITE, WACKESTONE

MISCELLANEOUS

OIL SHOWS

DRILLING RATE (min/m) 10.0 — 0; TOTAL GAS (units) 1000 — 0; LITHOLOGY (%) 100 — 0; DEPTH (m) 150

Tar Sand Cap @ 350m

Lower Camp Sand

Upper Camp Sand

Lower Bluefish Sand

Upper Bluefish Sand

CANYON CREEK, 371.0m (1208.0m SS)

Lower Arnica Sand

Upper Arnica Sand

HARE INDIAN 464.0m (-382.2m SS)

Lower Hare Indian Sand

Upper Hare Indian Sand

Lower Kee Scarp Sand

Upper Kee Scarp Sand

Lower Camp Sand

Upper Camp Sand

Lower Bluefish Sand

Upper Bluefish Sand

Lower Arnica Sand

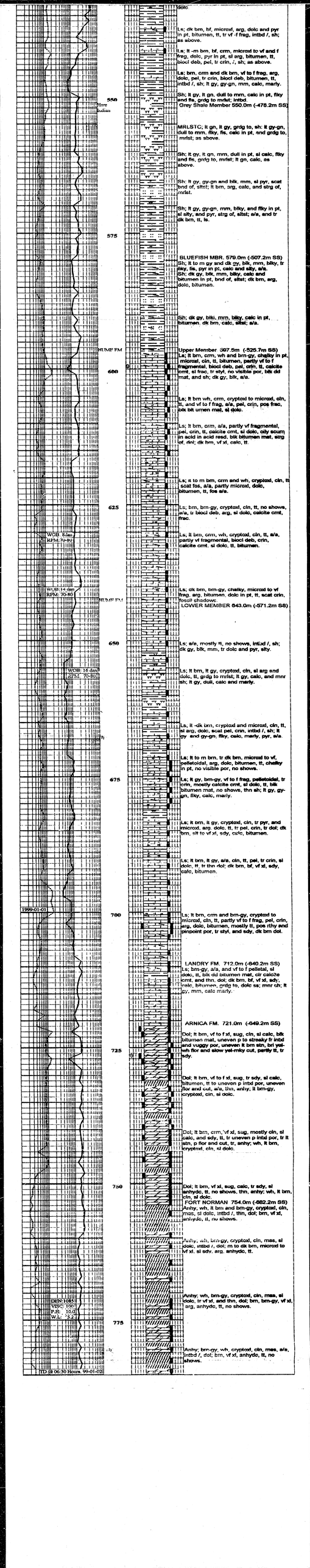
Upper Arnica Sand

Lower Hare Indian Sand

Upper Hare Indian Sand

Lower Kee Scarp Sand

Upper Kee Scarp Sand


dolo
Ls; dk brn, bf, microxl, arg, dolo and pyr in pt, bitumen, tt, tr vf -f frag, intbd /, sh; as above.
Ls; lt -m brn, bf, crm, microxl to vf and f frag, dolo, pyr in pt, sl arg, bitumen, tt, bioci deb, pel, tr crin, /, sh; as above.
Ls; brn, crm and dk brn, vf to f frag, arg, dolo, pel, tr crin, bioci deb, bitumen, tt, intbd /, sh; lt gy, gy-gn, mm, calc, marly.
Sh; lt gy, lt gn, dull to mm, calc in pt, flky and fis, grdg to mrlst; intbd
Grey Shale Member 550.0m (-478.2m SS)
MRLSTG; lt gn, lt gy, grdg to, sh: lt gy-gn, dull to mm, flky, fis, calc in pt, and grdg to, mrlst; as above.
Sh; lt gy, lt gn, mm, dull in pt, sl calc, flky and fis, grdg to, mrlst; lt gn, calc, as above.
Sh; lt gy, gy-gn and blk, mm, sl pyr, scat bnd of, sltst; lt brn, arg, calc, and strg of, mrlst.
Sh; lt gy, gy-gn, mm, blky, and flky in pt, sl silty, and pyr, strg of, sltst; a/a, and tr dk brn, tt, ls.
BLUEFISH MBR. 579.0m (-507.2m SS)
Sh; lt to m gy and dk gy, blk, mm, blky, tr flky, fis, pyr in pt, calc and silty, a/a.
Sh; dk gy, blk, mm, blky, calc and bitumen in pt, bnd of, sltst; dk brn, arg, dolo, bitumen.
Sh; dk gy, blki, mm, blky, calc in pt, bitumen, dk brn, calc, sltst; a/a.
HUME FM
Upper Member 597.5m (-525.7m SS)
Ls; lt brn, crm, wh and brn-gy, chalky in pt, microxl, cln, tt, bitumen, partly vf to f fragmental, bioci deb, pel, crin, tt, calcite cmt, sl frac, tr styl, no visible por, blk dd mat, and sh; dk gy, blk, a/a.
Ls; lt brn wh, crm, cryptoxl to microxl, cln, tt, and vf to f frag, a/a, pel, crin, pos frac, blk bit umen mat, sl dolc.
Ls; lt brn, crm, a/a, partly vf fragmental, pel, crin, tt, calcite cmt, sl dolc, oily scum in acid in acid resd, blk bitumen mat, strg ef, dol; dk brn, vf xl, calc, tt.
Ls; lt to m brn, crm and wh, cryptoxl, cln, tt scat fos, a/a, partly microxl, dolc, bitumen, tt, fos a/a.
Ls; brn, brn-gy, cryptoxl, cln, tt, no shows, a/a, lr bioci deb, arg, sl dolc, calcite cmt, frac.
WOB: 8 klbs
RPM: 70-80
Ls; lt brn, crm, wh, cryptoxl, cln, tt, a/a, partly vf fragmental, bioci deb, crin, calcite cmt. sl dolc, tt, bitumen.
WOB:14 klbs
RPM: 70-80
HUME FM
Ls; dk brn, brn-gy, chalky, microxl to vf frag, arg, bitumen, dolc in pt, tt, scat crin, fossil shadows.
LOWER MEMBER 643.0m (-571.2m SS)
Ls; a/a, mostly lt, no shows, intbd /, sh; dk gy, blk, mm, tr dolc and pyr, silty.
WOB: 16 klbs
RPM: 70-80
Ls; lt brn, lt gy, cryptoxl, cln, sl arg and dolc, tt, grdg to mrlst; lt gy, calc, and mnr sh; lt gy, dull, calc and marly.
Ls, lt -dk brn, cryptoxl and microxl, cln, tt, sl arg, dolc, scat pel, crin, intbd /, sh; lt gy and gy-gn, flky, calc, marly, pyr, a/a.
Ls; lt to m brn, tr dk brn, microxl to vf, pelletoidal, arg, dolc, bitumen, tt, chalky in pt, no visible por, no shows.
Ls; lt gy, brn-gy, vf to f frag, pelletoidal, tr crin, mostly calcite cmt, sl dolc, tt, blk bitumen mat, no shows, thn sh; lt gy, gy-gn, flky, calc, marly.
Ls; lt brn, lt gy, cryptoxl, cln, tr pyr, and microxl, arg, dolc, tt, tr pel, crin, tr dol; dk brn, slt to vf xl, sdy, calc, bitumen.
Ls; lt brn, lt gy, a/a, cln, tt, pel, tr crin, sl dolc, tt, tr thn dol; dk brn, bf, vf xl, sdy, calc, bitumen.
1999-01-01
Ls; lt brn, crm and brn-gy, cryptoxl to microxl, cln, tt, partly vf to f frag, pel, crin, arg, dolc, bitumen, mostly tt, pos rthy and pinpoint por, tr styl, and sdy, dk brn dol.
LANDRY FM. 712.0m (-640.2m SS)
Ls; brn-gy, a/a, and vf to f pelletal, sl dolc, tt, blk dd bitumen mat, clr calcite cmt, and thn. dol; dk brn, bf, vf xl, sdy; calc, bitumen, grdg to, dolc ss; mnr sh; lt gy, mm, calc marly.
ARNICA FM. 721.0m (-649.2m SS)
Dol; lt brn, vf to f xl, sug, cln, sl calc, blk bitumen mat, uneven p to streaky fr intxl and vuggy por, uneven lt brn stn, bri yel-wh flor and slow yel-may cut, partly tt, tr sdy.
Dol; lt brn, vf to f xl, sug, tr sdy, sl calc, bitumen, tt to uneven p intxl por, uneven flor and cut, a/a, thn, anhy; lt brn-gy, cryptoxl, cln, sl dolc.
Dol; lt brn, crm, vf xl, sug, mostly cln, sl calc, and sdy, tt, tr uneven p intxl por, tr lt stn, p flor and cut, tr, anhy; wh, lt brn, cryptoxl, cln, sl dolc.
Dol; lt brn, vf xl, sug, calc, tr sdy, sl anhydc, tt, no shows, thn, anhy; wh, lt brn, cln, sl dolc.
FORT NORMAN 750.0m (-682.2m SS)
Anhy, wh, lt brn and brn-gy, cryptoxl, cln, mas, sl dolc, intbd /, thn, dol; brn, vf xl, anhydc, tt, no shows.
Anhy, wh, brn-gy, cryptoxl, cln, mas, sl dolc, intbd /, dol; m to dk brn, microxl to vf xl. sl sdy, arg, anhydc, tt.
Anhy; wh, brn-gy, cryptoxl, cln, mas, sl dolc, tr vf xl, and thn, dol; brn, brn-gy, vf xl, arg, anhydc, tt, no shows.
DEN:1085
VISC: 100
P.H: 10.0
W.L: 5.2
Anhy; brn-gy, wh, cryptoxl, cln, mas, a/a, intbd /, dol; brn, vf xl, anhydc, tt, no shows.
TD @ 06:30 Hours, 99-01-02
550
575
600
625
650
675
700
725
750
775

BEST
COPY
ON FILE

V **Well Evaluation**

1) Open Hole Logs

Logs filmed following Well History Report

V **Well Evaluation**

2) **Synthetic Seismograms**

RELEASE DATE
DATE BE DIFFUSION:
Jan 8, 2004

V Well Evaluation

3) DST's

EXTRA.

BAKER HUGHES

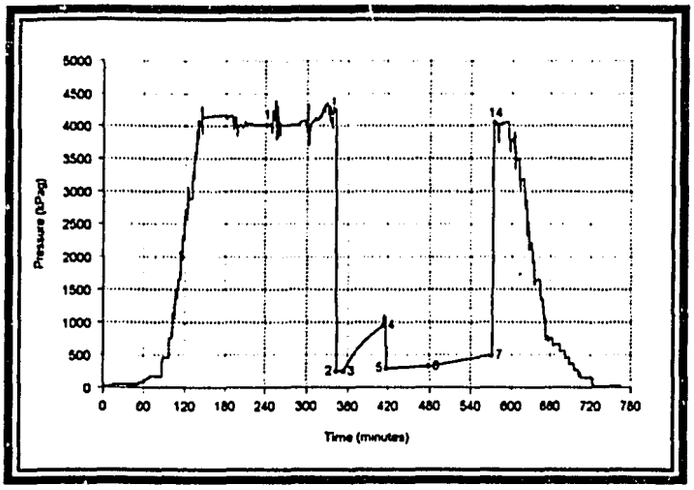
GREY WOLF CANAXAS DEH
00/ 65.140 / 126.343 /0
DST# 1

Baker Oil Tools

Formation: Canyon Creek
Interval - from: 370.00 **to:** 382.00 meters

Test Date: 1999-01-03
Test Type : Inflate Straddle

Recorder# 70114 at 373.00 meters



Max Btm Hole Temperature @ FSI: 19.5 C

		Pressure *(kPag)*	*Time* *(min)*	*Extrapolated Pressure (kPag)*
1	Initial Hydrostatic	4003		
2	Start of 1st Flow	241		
3	End of 1st Flow	239	10.5	
4	End of 1st Shut-in	938	59.0	
5	Start of 2nd Flow	282		
6	End of 2nd Flow	313	60.5	
7	End of 2nd Shut-in	487	92.5	
14	Final Hydrostatic	4032		

Liquid Recovery 9.00 meters

Salinity : 800 g/m3

Recovery	*Description*
9.00 m	DRILLING FLUID

Blow Description:

PREFLOW: Weak air blow decreasing to faint in 5 minutes. No gas to surface.

FINAL FLOW: Weak air blow decreasing to very faint. No gas to surface.

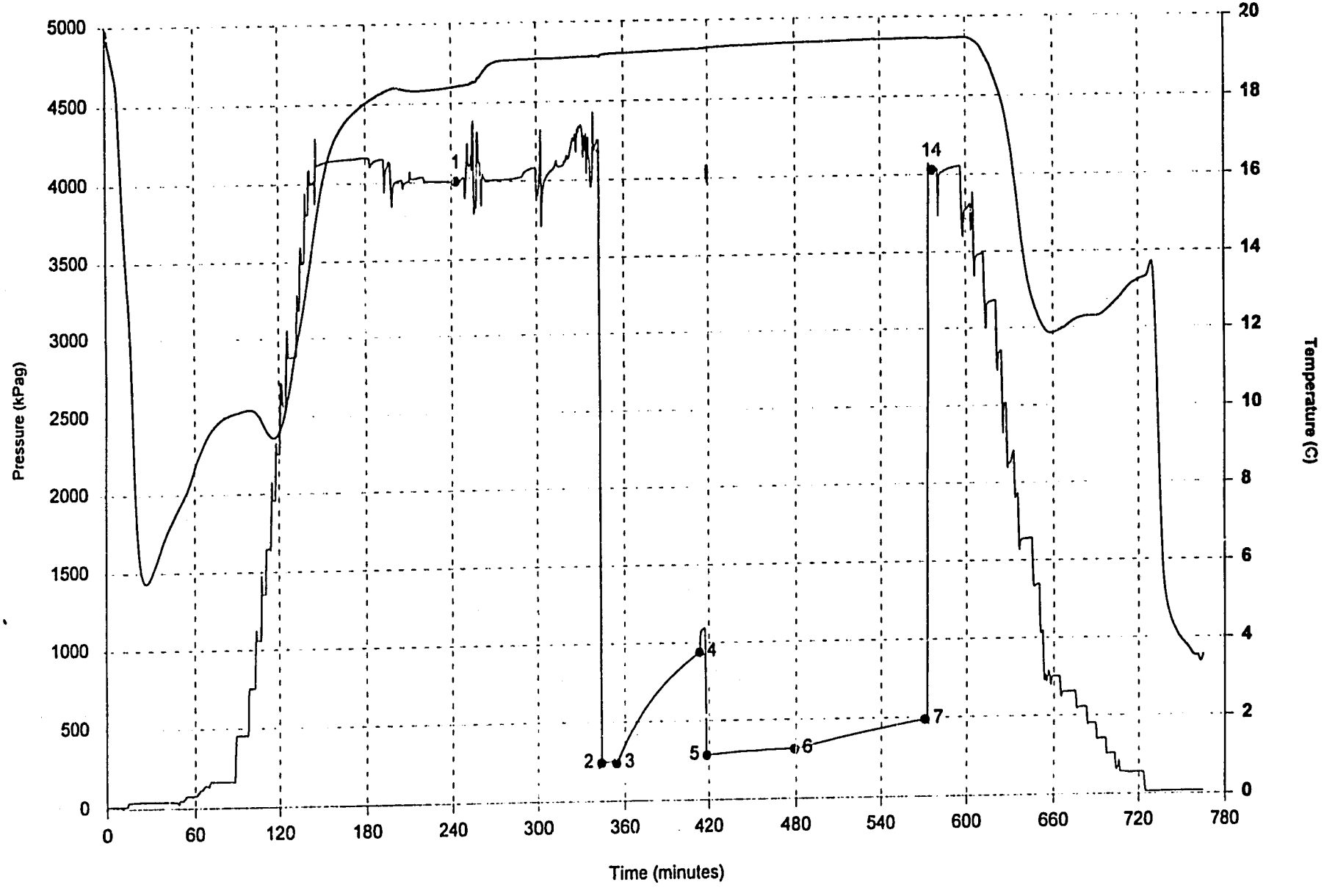
Remarks:

Mechanically successful test. Results suggest virtually no permeability within the interval tested.

GREY WOLF CANAXAS DEH
00/ 65.140 / 126.343 /0
DST #: 1
Recorder: 70114

Pressure (kPag) at Critical Points:

1:	4003	4:	938	7:	487
2:	241	5:	282	14:	4032
3:	239	6:	313		



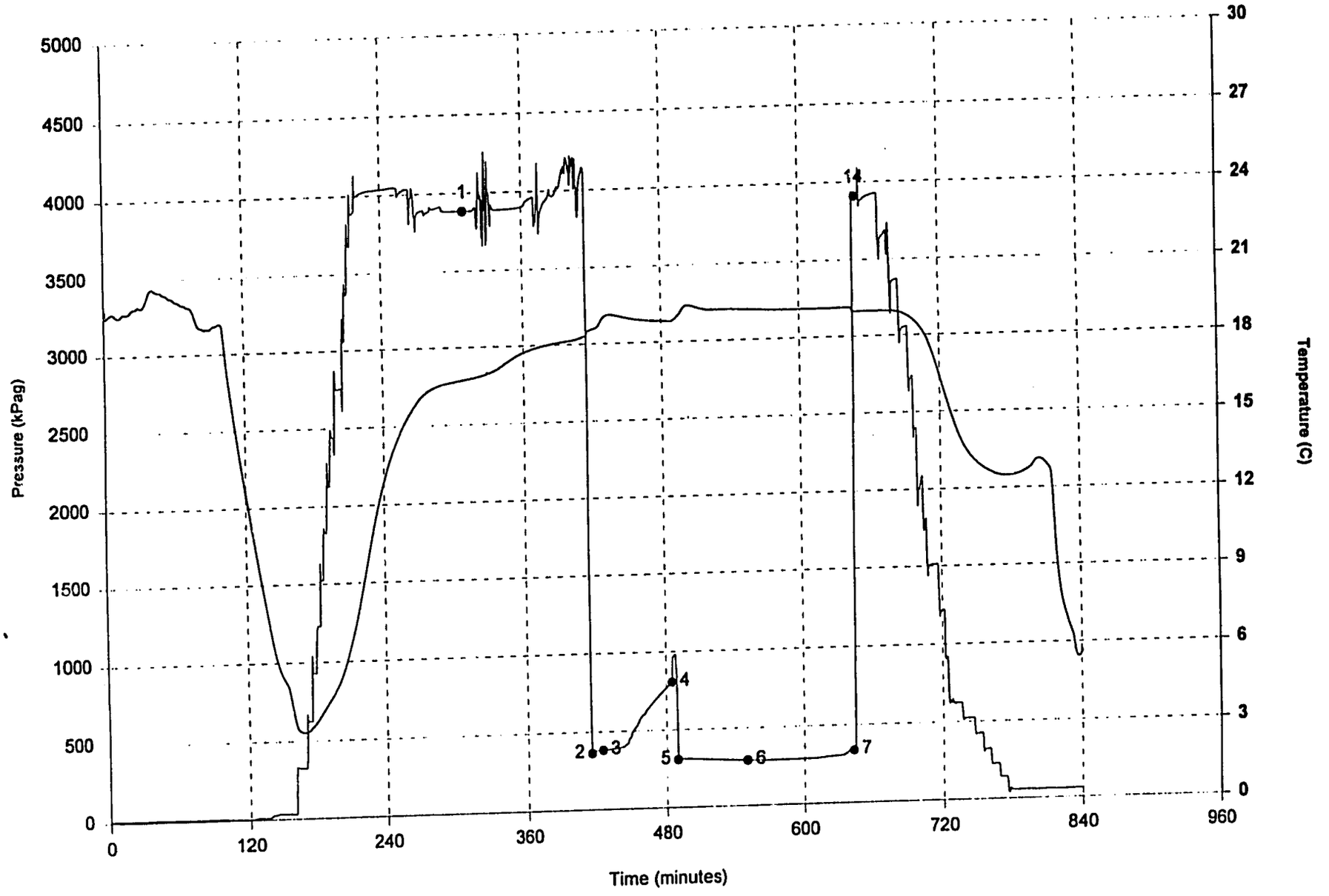
BAKER OIL TOOLS / LYNES DRILL STEM TESTING

GREY WOLF CANAXAS DEH
00/ 65.140 / 126.343 /0
DST #: 1
Recorder: 70105

Pressure (kPag) at Critical Points:

1:	3883	4:	804	7:	337
2:	362	5:	308	14:	3908
3:	381	6:	291		

Above interval



BAKER OIL TOOLS / LYNES DRILL STEM TESTING

GREY WOLF CANAXAS DEH
00/ 65.140 / 126.343 /0
DST# 1

General Information:

Operator: GreyWolf Exploration Inc.
c/o:Pajak Engineering Ltd.
1660, 717 - 7th Avenue SW
Calgary Alberta T2P 0Z3

Licence#: 1845
Tester: Poole R
Ticket#: 807803
Reverse Circulated? N
KB Elevation: 71.80 meters
Ground Elevat'n: 64.90 meters
Total Depth: 785.00 meters

Mud Data:

Weight: 1080 kg/m3
Type: Gel Polymer
Viscosity: 130 s/l
Water Loss: 5.0 cc/s
Filter Cake: 1.5 mm

Hole Data:

Drilled Hole Size: 311 mm
Calipered Hole Size: 222 mm
Hole Condition at Test Time: Good
Conditioned prior to this test? N

Recorder Summary:

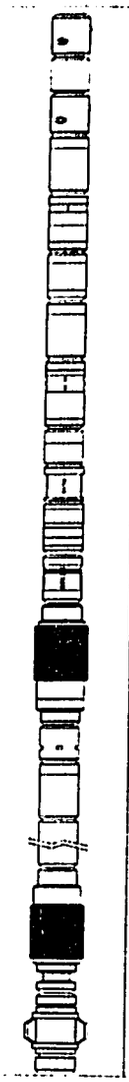
Recorder#	*Type*	*Position*	*Capacity*	*Units*	*Depth*	*Comments*
9023	K-3	Inside	40679	kPag	357.50	Recovery recorder - malfunction
70105	SPAR	Inside	34500	kPag	361.00	Above interval
13654	K-3	Outside	20000	kPag	373.00	
70114	SPAR	Outside	34500	kPag	373.00	

Distributions:

Reports Sent To: Gerard Geib
Fluid Samples - no of: 3

GREY WOLF CANAXAS DEH
00/ 65.140 / 126.343 /0
DST# 1

Tool Sequence:



Description	*Length*
Pump Out Sub	0.30 m
Cross Over Sub	0.28 m
Pump Out Sub	0.30 m
Recorder Carrier	1.38 m
Hydraulic Tool	1.50 m
Bottom Hole Sampler	1.03 m
Recorder Carrier	1.38 m
Hydraulic Jars	2.22 m
Safety Joint	0.65 m
Inflate Pump	2.38 m
Screen	1.16 m
Top Inflate Packer	1.78 m
Packer Stick Down	0.82 m
Port Sub	0.36 m
Recorder Carrier	2.02 m
Spacing	8.23 m
Packer Stick Up	0.42 m
Bottom Inflate Packer	1.90 m
Belly Spring	2.00 m

Tool String Length:	30.11 m
Drill Collar I.D.: 70 mm	55.85 m
Drill Pipe O.D.: 114 mm	311.06 m
Collar Pipe Total:	366.91 m
Stick Up:	11.27 m
Tool Above:	14.36 m
Interval Tested:	12.00 m
Bottom Hole Choke Size:	25.40 mm

GREY WOLF CANAXAS DEI
00/ 65.140 / 126.343 /0
DST# 1

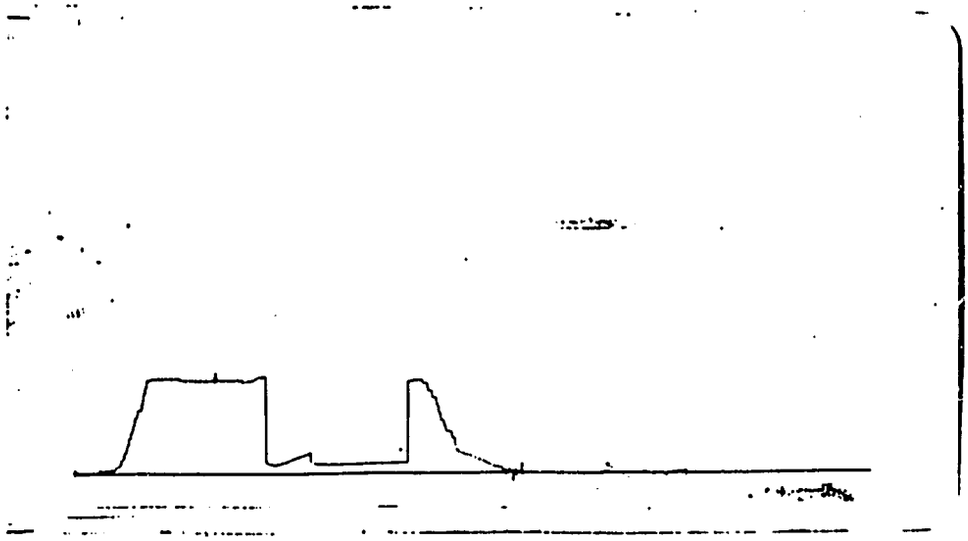
Recorder# 13654

Depth: 373.00 m

Location: Outside

Recorder Type: K-3

Capacity: 20,000 kPag



		Pressure (kPag)	Time (min)
1	Initial Hydrostatic	3951	
2	Start of 1st Flow	351	
3	End of 1st Flow	417	10.5
4	End of 1st Shut-in	875	59.0
5	Start of 2nd Flow	437	
6	End of 2nd Flow	446	60.5
7	End of 2nd Shut-in	497	92.5
14	Final Hydrostatic	3951	

Recorder# 70105

Depth: 361.00 m

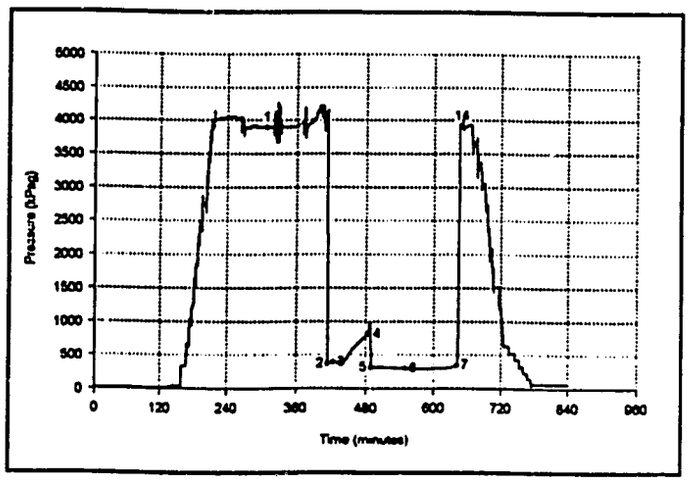
Temperature: 19.0 C

Location: Inside

Recorder Type: SPAR

Capacity: 34,500 kPag

Comments: Above interval



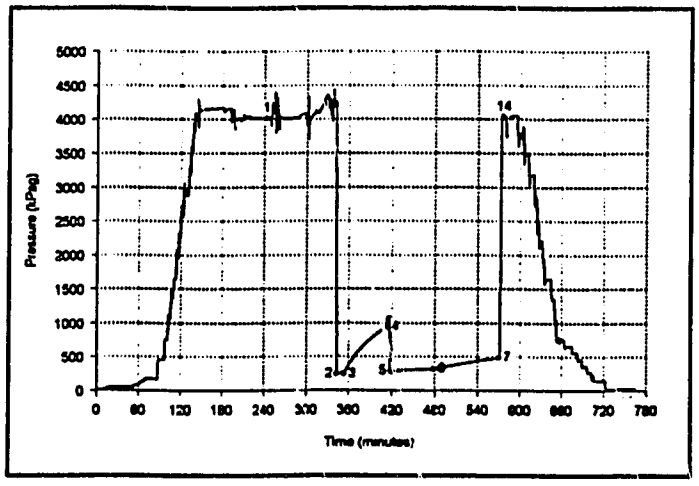
		Pressure (kPag)	Time (min)
1	Initial Hydrostatic	3883	
2	Start of 1st Flow	362	
3	End of 1st Flow	381	10.5
4	End of 1st Shut-in	804	59.0
5	Start of 2nd Flow	308	
6	End of 2nd Flow	291	60.5
7	End of 2nd Shut-in	337	92.5
14	Final Hydrostatic	3908	

GREY WOLF CANAXAS DEH
00/ 65.140 / 126.343 /0
DST# 1

Recorder# 70114

Depth: 373.00 m
Temperature: 19.5 C
Location: Outside

Recorder Type: SPAR
Capacity: 34,500 kPag



		Pressure (kPag)	Time (min)
1	Initial Hydrostatic	4003	
2	Start of 1st Flow	241	
3	End of 1st Flow	239	10.5
4	End of 1st Shut-in	938	59.0
5	Start of 2nd Flow	282	
6	End of 2nd Flow	313	80.5
7	End of 2nd Shut-in	487	92.5
14	Final Hydrostatic	4032	

Recorder# 9023

Depth: 357.50 m
Location: Inside

Recorder Type: K-3
Capacity: 40,679 kPag
Comments: Recovery recorder - malfunction

VI Appendices

1) Fluid Analysis

CORELAB

Core Laboratories Canada Ltd.

CORELAB

MUD FILTRATE ANALYSIS

842 — CONTAINER IDENTITY

52136-99-0040 — LABORATORY NUMBER

Grey Wolf Exploration Inc. — OPERATOR

1 — PAGE

LOCATION

Grey Wolf-Canaxas DEH CHO-1. 25-B — WELL OR SAMPLE LOCATION

71.8 — KB ELEV. (m)

64.9 — GR ELEV. (m)

FIELD OR AREA

Canyon Creek — POOL OR ZONE

Grey Wolf — SAMPLER

DST# 1 — TEST TYPE & NO

9 Metres of Fluid — TEST RECOVERY

Bottom of Collars — POINT OF SAMPLE

AMT. & TYPE CUSHION

@ °C — MUD RESISTIVITY

370.0 -382.0 — TEST INTERVAL (meters)

PUMPING | FLOWING | GAS LIFT | SWAB

WATER m³/d | OIL m³/d | GAS m³/d

SEPARATOR | RESERVOIR | @ °C CONTAINER WHEN SAMPLED | @ °C CONTAINER WHEN RECEIVED

Pressures, kPa (gauge)

SEPARATOR

Temperatures, °C

99 01 06	99 01 11	99 01 12	MF	
DATE SAMPLED (Y/M/D)	DATE RECEIVED (Y/M/D)	DATE ANALYZED (Y/M/D)	ANALYST	SIGNATURE

Resistivity at 25 Degrees C (ohm-metre) : 0.654

Chloride (mg/L) : 557

Core Laboratories Canada Ltd.

MUD FILTRATE ANALYSIS

P243 (CONTAINER IDENTITY)	52136-99-0040 (LABORATORY NUMBER)
Grey Wolf Exploration Inc. (OPERATOR)	2 (PAGE)
(LOCATION) Grey Wolf-Canaxas DEH CHO-1. 25-B (WELL OR SAMPLE LOCATION)	71.8 (KB ELEV (m)) 64.9 (GR ELEV (m))
(FIELD OR AREA) Canyon Creek (POOL OR ZONE)	Grey Wolf (SAMPLER)
DST# 1 (TEST TYPE & NO.) 9 Metres of Fluid (TEST RECOVERY)	
Sampler (POINT OF SAMPLE)	(AMT & TYPE CUSHION) @ °C (MUD RESISTIVITY)
370.0 -382.0 (TEST INTERVAL (meters))	PUMPING FLOWING GAS LIFT SWAB WATER m^3/d OIL m^3/d GAS m^3/d
SEPARATOR RESERVOIR @ °C (CONTAINER WHEN SAMPLED) @ °C (CONTAINER WHEN RECEIVED)	SEPARATOR
Pressures, kPa (gauge)	Temperatures, °C
99 01 06 (DATE SAMPLED (Y/M/D)) 99 01 11 (DATE RECEIVED (Y/M/D)) 99 01 12 (DATE ANALYZED (Y/M/D)) MF (ANALYST) (SIGNATURE)	

Resistivity at 25 Degrees C (ohm-metre) : 0.657

Chloride (mg/L) : 541

VI Appendices

2) Final Survey Plan

WELL SURVEY PLAN

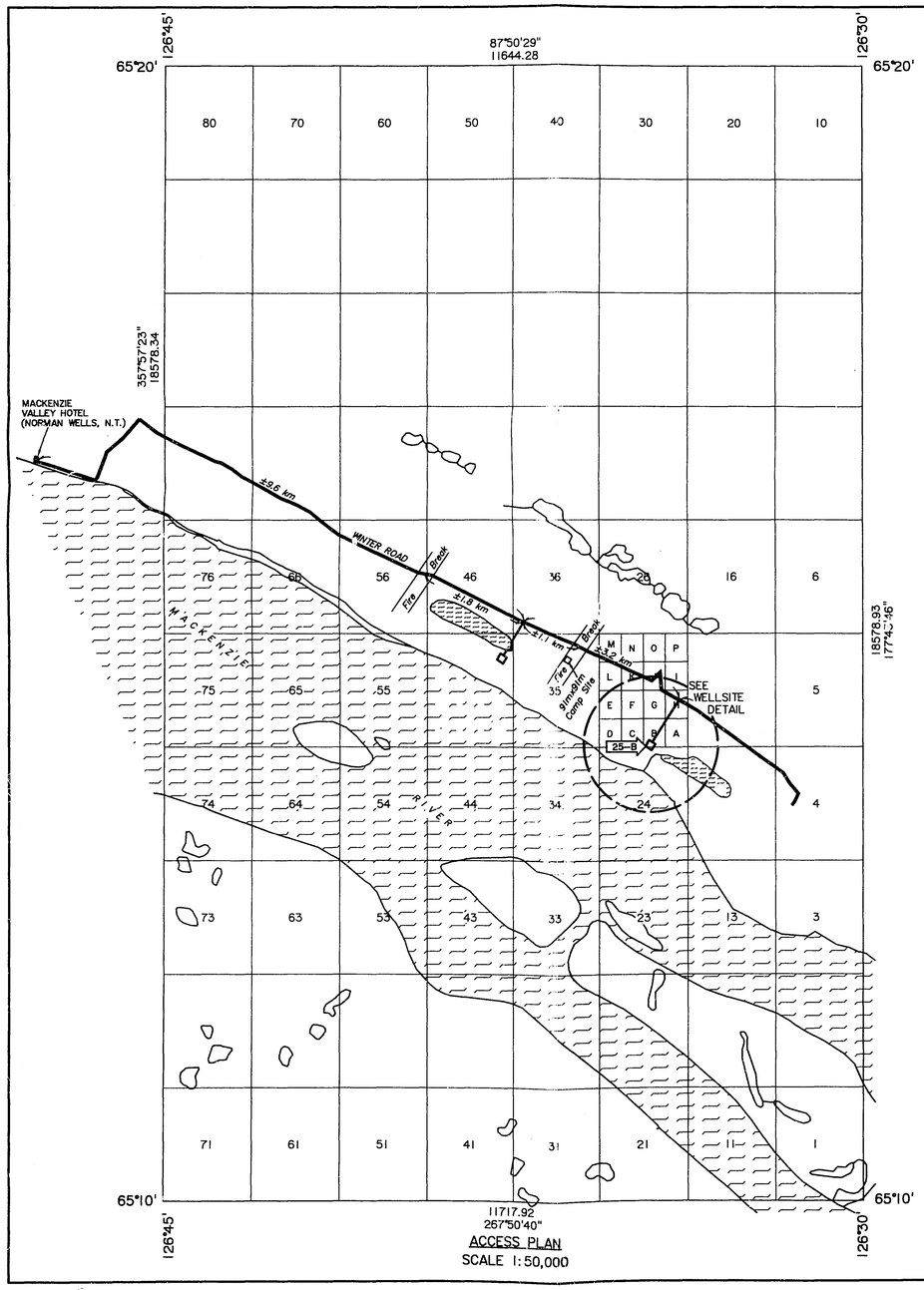
OVERSIZED

DOCUMENT

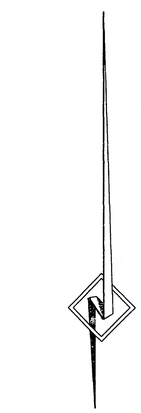
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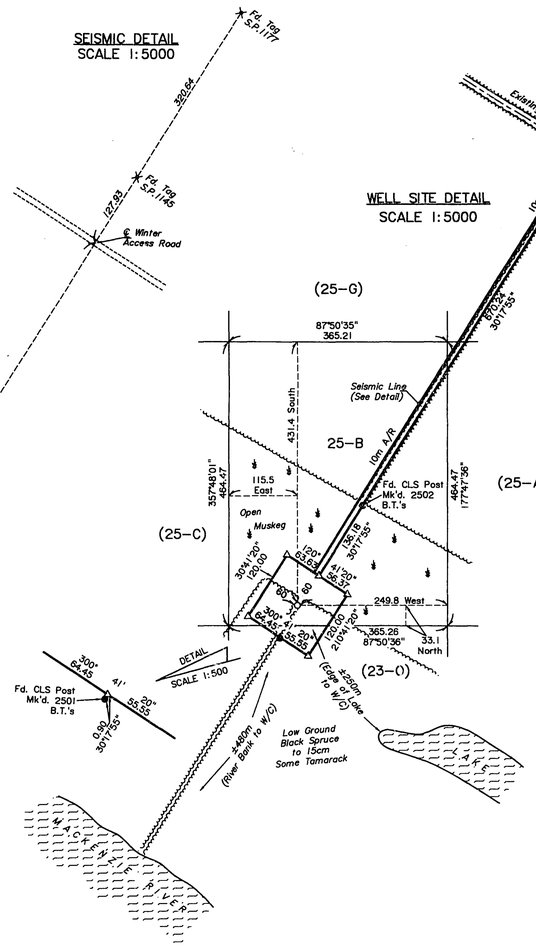
ON

35mm



ACCESS PLAN
SCALE 1:50,000





ELEVATIONS:

GROUND: 64.85
Corners:
N.: 64.77
W.: 64.68 E.: 64.98
S.: 64.25
Datum: GSC 519017
Elev.=71.63

AREAS:

Within	ha	Ac
W/S:	1.440	3.56
10m A/R:	0.806	1.99
Total:	2.246	5.55

NAD 27 CO-ORDINATES:

	Northing	Easting	Latitude	Longitude
W/C:	7236482.3	613307.1	65°14'01.227"	126°34'32.360"
CLS Post 2501:	7236427.7	613279.8	65°13'59.498"	126°34'34.620"
CLS Post 2502:	7236649.6	613409.5	65°14'06.500"	126°34'23.985"

LEGEND
CLS 77 Post Found: ●
25cm Iron Spike Placed: △

OPERATOR:
GREY WOLF Exploration Inc.

I, PATRICE LANTEIGNE, CANADA LANDS SURVEYOR, OF CALGARY, ALBERTA, CERTIFY THAT THE SURVEY REPRESENTED BY THIS PLAN IS TRUE AND CORRECT, TO THE BEST OF MY KNOWLEDGE, AND WAS COMPLETED ON THE 5th DAY OF SEPTEMBER, 1998.

P. Lanteigne, a.c.l.s
(CANADA LANDS) SURVEYOR
Sept 23, 1998

ALBERTA LAND SURVEYORS' ASSOCIATION PERMIT NUMBER P042 S.E.S.L. Geomatics Ltd.

GREY WOLF–CANAXAS
DEH CHO – 1 , 25–B
IN SECTION 25 , UNIT B
GRID AREA 65°20' , 126°30'

SCALES AS SHOWN

SESL GEOMATICS
LAND SURVEYING & SURVEY ENGINEERING

Surveyor: PL Calculator: FS
Draftsperson: BD Chk'd: FS
Job No.: 98N006A

No.	Revision	Date
1	Co-ordinates	23/09/98

SHEET 1 OF 1

TOLL FREE 1-800-565-2389 PH. (403) 234-9018 FAX. (403) 266-2919

20X

RESISTIVITY/ CONDUCTIVITY

WELL COPY

1852

COMPANY: GREY WOLF EXPLORATION LTD.

WELL: GREY WOLF CANAXAS DEH CHO 1B-25

FIELD: CANAXAS DEH CHO

PROVINCE: N.W.T.

9211-6691-1

Schlumberger

PHASOR INDUCTION SFL

PROVINCE: N.W.T. | Field: CANAXAS DEH CHO | Location: | Well: GREY WOLF EXPLORATION LTD | Company: GREY WOLF EXPLORATION LTD

Permanent Datum:	GROUND LEVEL	Elev.:	K.B. 71.6 M
Log Measured From:	KELLY BUSHING 0.0 M above Perm. Datum		G.L. 64.9 M
Drilling Measured From:	KELLY BUSHING		D.F.

API Serial No. | LAT. 65 14' 01.227" | LONG 126 34' 30.32.360"

	Run 1	Run 2	Run 3	Run 4
Logging Date	24-DEC-1998			
Run Number	1			
Depth Driller	225 M			
Schlumberger Depth	224.8 M			
Bottom Log Interval	220 M			
Top Log Interval	160 M			
Casing Driller Size @ Depth	0 MM @ 0 M	@ 160 M	@	@
Casing Schlumberger	160 M			
Bit Size	603.000 MM			
Type Fluid In Hole	GEL STEP POLYMER			
Density / Viscosity	1030 K/M3			
Fluid Loss / PH				
Source Of Sample				
RM @ Measured Temperature	24.600 OHMM @ 17 DEGC	@	@	@
RMF @ Measured Temperature	25.600 OHMM @ 16 DEGC	@	@	@
RMC @ Measured Temperature	43.000 OHMM @ 14 DEGC	@	@	@
Source: RMF / RMC				
RM @ MRT / RMF @ MRT	@ @	@ @	@ @	@ @
Maximum Recorded Temperatures				
Circulation Stopped: Time	23-DEC-1998 23:30			
Logger On Bottom: Time	24-DEC-1998 2:15			
Unit Number / Location	8416 6964			
Recorded By	SEAN MCCONKEY			
Witnessed By	CHUCK BRADEL			

	Run 1	Run 2	Run 3	Run 4
Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth	@	@	@	@
Casing Schlumberger				
Bit Size				
Type Fluid In Hole				
Density / Viscosity				
Fluid Loss / PH				
Source Of Sample				
RM @ Measured Temperature	@	@	@	@
RMF @ Measured Temperature	@	@	@	@
RMC @ Measured Temperature	@	@	@	@
Source: RMF / RMC				
RM @ MRT / RMF @ MRT	@ @	@ @	@ @	@ @
Maximum Recorded Temperatures				
Circulation Stopped: Time				
Logger On Bottom: Time				
Unit Number / Location				
Recorded By				
Witnessed By				

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. ANY INTERPRETATION MADE BY OFFICERS, AGENTS OR EMPLOYEES OF SCHLUMBERGER IS SUBJECT TO OUR GENERAL TERMS AND CONDITIONS AS SET FORTH IN OUR CURRENT PRICE SCHEDULE.

OTHER SERVICES: OBDI, OBDJ, OBEA, OBEB, OBEC, OBEH, OBEK, OBEL

DEPTH CONTROLLED AT (DRILLER'S): KOTHOUSE (SURFACE CASING)

DEPTH REFERENCE: PERMANENT DATUM

ELEVATIONS: K.B. 71.6 M, D.F. , G.L. 64.9 M

ALL TIMES ARE DEPTH

LOGGING UNIT NUMBER: 8416

LOGGING ENGINEER'S STATION: YELLOWKNIFE

WITNESS: CHUCK BRADEL

RUN 1 — BOREHOLE RECORD

BIT NO.	BIT SIZE (MM)	FROM	TO
1	603.000	0 M	160 M

CASING RECORD

SIZE (MM)	WEIGHT (KG/M)	GRADE	FROM	TO
406.400	0.000		0 M	160 M

RUN 2 — BOREHOLE RECORD

BIT NO.	BIT SIZE (MM)	FROM	TO
2	603.000	160 M	225 M

CASING RECORD

SIZE (MM)	WEIGHT (KG/M)	GRADE	FROM	TO
406.400	0.000		0 M	160 M

RUN 1 — SERVICE ORDER #: 8078883 — FLOAT: — STOP: — LOGGING INTERVAL: —

RUN 2 — SERVICE ORDER #: 8078883 — FLOAT: — STOP: — LOGGING INTERVAL: —

RUN 1 — EQUIPMENT DESCRIPTION

SURFACE EQUIPMENT

SDM-C	
CTSM-A	

DOWNHOLE EQUIPMENT

PEH-A	
AMS-A	
TCC-A	
ECH-KD 427	
SGT-J	
SGC-SA	
SGT-G	
SGC-SA	
ECH-KD 1183	
ECH-KB 1183	
PCD-B	
PCS-C	
PCS-D	
AH-107	
AH-107	
AH-107	
AH-107	
DAT-B	
DAS-B	
DIS-B	

24.41	
20.86	
23.45	
22.54	TriStatus
22.51	Gamma Ray
20.86	
13.34	
13.83	
13.83	
14.59	
14.59	
11.67	PCSB Data
10.74	
10.13	
9.82	
3.15	SP
2.99	Deep Rxz
2.83	Axial Rxz
1.83	Med Rxz
.000	PCSB Stand-off
	TENSION
	TOOL ZERO

MNEMONICS TIMING SMARTER 1/4M, MSFC
MICROSECONDS, MILLIVOLTS, OHMS, PPM
ALL LENGTHS IN METERS

RUN 2

Input DLIS Files			
DEFAULT	DITE .004	FN:5	FIELD 24-Dec-1998 02:04 255.2 M 25.0 M
Output DLIS Files			
DEFAULT	DITE .018	FN:15	FIELD 24-Dec-1998 09:52 255.2 M 25.0 M
OP System Version: 8C1-205			
	DIT-E 8CI-205		MCH 8CI-205
	SFLA ACW=8201		SGC-K 8CI-L
	DPHI ACW=8201		ACW=8201

Time Mark Every 60 S

SP (MV) -120 to 30 | Gamma Ray (GR) 0 to 150 | Tension (TENS) 10000 to 0

DEPTH (M) 1:200

[MAIN PASS]

SFL Averaged (SFLA) (OHMM) 0 to 50

Deep Induction Phase-processed (ILD) (OHMM) 0 to 50

Deep Induction Phase-processed Conductivity (CIDP) (MMHO) 1000 to 0

CASING BOTTOM

50 | 100 | 150 | 200

SP (MV) -120 to 30 | Gamma Ray (GR) 0 to 150 | Tension (TENS) 10000 to 0

Time Mark Every 60 S

[REPEAT PASS]

SFL Averaged (SFLA) (OHMM) 0 to 50

Deep Induction Phase-processed (ILD) (OHMM) 0 to 50

Deep Induction Phase-processed Conductivity (CIDP) (MMHO) 1000 to 0

Parameters	Value
BSAL	0
BSNC	32
CIDP	1000
DFD	1030
DFPH	0
DFV	0
DFL	0
MATR	0
MDEN	2.71
RMF	0.1
RMFS	0.1
RMC	0.1
RMCS	0.1
RM	0.1
RMS	0.1
TLAB	0
TMAT	0
TMD	0
TMS	0
WTMD	0
WTMS	0

DLIS Name	Description
BSAL	Borehole Salinity
BSNC	Borehole Sodium Chloride Concentration (used in calculations)
CIDP	Deep Induction Phase-processed Conductivity
DFD	Drilling Fluid Density
DFPH	Drilling Fluid pH
DFV	Drilling Fluid Viscosity
DFL	Drilling Fluid Loss
MATR	Matrix
MDEN	Matrix Density
RMF	Mud Filtrate Resistivity
RMFS	Mud Filtrate Resistivity at Surface
RMC	Mud Cake Resistivity
RMCS	Mud Cake Resistivity at Surface
RM	Mud Resistivity
RMS	Mud Resistivity at Surface
TLAB	Time Since Circulation
TMAT	Matrix Temperature
TMD	Maximum Recorded Temperature
TMS	Surface Temperature
WTMD	Mud Weight
WTMS	Mud Weight at Surface

PIP SUMMARY

PIP SUMMARY

DFD	Drilling Fluid Density	1030.00	K/M3
DPH2	Deep 20 kHz Gain Factor	1.00016	
DO	Depth Offset	0.0	M
DPH2	Deep 20 kHz Phase Shift	-0.089346	DEG
DRE2	Deep Real 20 kHz Borate Error Correction	14	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Borate Error Correction	78.7356	MM/M
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTBE	Generalized Temperature Selection	LINEAR_ESTIMATE	
IFRA	DIT-E Induction Frequency Selector	20	
IPRO	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ITEN	DIT-E Temperature Enable	ENABLE	
M2F2	Medium 20 kHz Gain Factor	1.02958	
MPH2	Medium 20 kHz Phase Shift	-0.92764	DEG
MRE2	Medium Real 20 kHz Borate Error Correction	10.4744	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3260	MM/M
MXE2	Medium Quad 20 kHz Borate Error Correction	33.130	MM/M
PP	Playback Processing	RECOMPUTE	
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	0	DEGC
SPMV	SP Next Value	0	MV
TD	Total Depth	224.8	M

Format: DITE_LinPhasor Vertical Scale: 1:600 Graphics File Created: 24-Dec-1998 06:52

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

Input DLIS Files

DEFAULT	DITE .008	FN:6	FIELD	24-Dec-1998 02:04	225.2 M	25.0 M

Output DLIS Files

DEFAULT	DITE .018	FN:15	FIELD	24-Dec-1998 06:52		

Input DLIS Files

DEFAULT	DITE .008	FN:6	FIELD	24-Dec-1998 02:04	225.2 M	25.0 M

Output DLIS Files

DEFAULT	DITE .018	FN:15	FIELD	24-Dec-1998 06:52	225.2 M	25.0 M

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

MAIN PASS

PIP SUMMARY

Time Mark Every 60 S

Tension (TENS) (N)	20000 / 0	Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)	0.2 / 2000
Gamma Ray (GR) (GAPI)	0 / 150	Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)	0.2 / 2000
SP (SP) (MV)	-120 / 30	SFL Unwrapped (SFLU) (OHMM)	0.2 / 2000

50 / 75 / 100 / 125 / 150 / 175 / 200 / 225

SP (SP) (MV)	-120 / 30	SFL Unwrapped (SFLU) (OHMM)	0.2 / 2000
Gamma Ray (GR) (GAPI)	0 / 150	Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)	0.2 / 2000
Tension (TENS) (N)	20000 / 0	Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)	0.2 / 2000

PIP SUMMARY

MAIN PASS

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BHT	Bottom Hole Temperature (used in calculations)	30	DEGC
DFD	Drilling Fluid Density	1030.00	K/M3
DGR2	Deep 20 kHz Gain Factor	1.00016	
DO	Depth Offset	0.0	M
DPH2	Deep 20 kHz Phase Shift	-0.089346	DEG
DRE2	Deep Real 20 kHz Borate Error Correction	14	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Borate Error Correction	78.7356	MM/M
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTBE	Generalized Temperature Selection	LINEAR_ESTIMATE	
IFRA	DIT-E Induction Frequency Selector	20	
IPRO	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ITEN	DIT-E Temperature Enable	ENABLE	
M2F2	Medium 20 kHz Gain Factor	1.02958	
MPH2	Medium 20 kHz Phase Shift	-0.92764	DEG
MRE2	Medium Real 20 kHz Borate Error Correction	10.4744	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3260	MM/M
MXE2	Medium Quad 20 kHz Borate Error Correction	33.130	MM/M
PP	Playback Processing	RECOMPUTE	
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	0	DEGC
SPMV	SP Next Value	0	MV
TD	Total Depth	224.8	M

Format: DITE_LogPhasor Vertical Scale: 1:240 Graphics File Created: 24-Dec-1998 06:52

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

Input DLIS Files

DEFAULT	DITE .008	FN:6	FIELD	24-Dec-1998 02:04	225.2 M	25.0 M

Output DLIS Files

DEFAULT	DITE .018	FN:15	FIELD	24-Dec-1998 06:52		

Input DLIS Files

DEFAULT	DITE .012	FN:10	FIELD	24-Dec-1998 02:45	225.9 M	131.7 M

Output DLIS Files

DEFAULT	DITE .017	FN:14	FIELD	24-Dec-1998 06:52	225.9 M	131.7 M

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

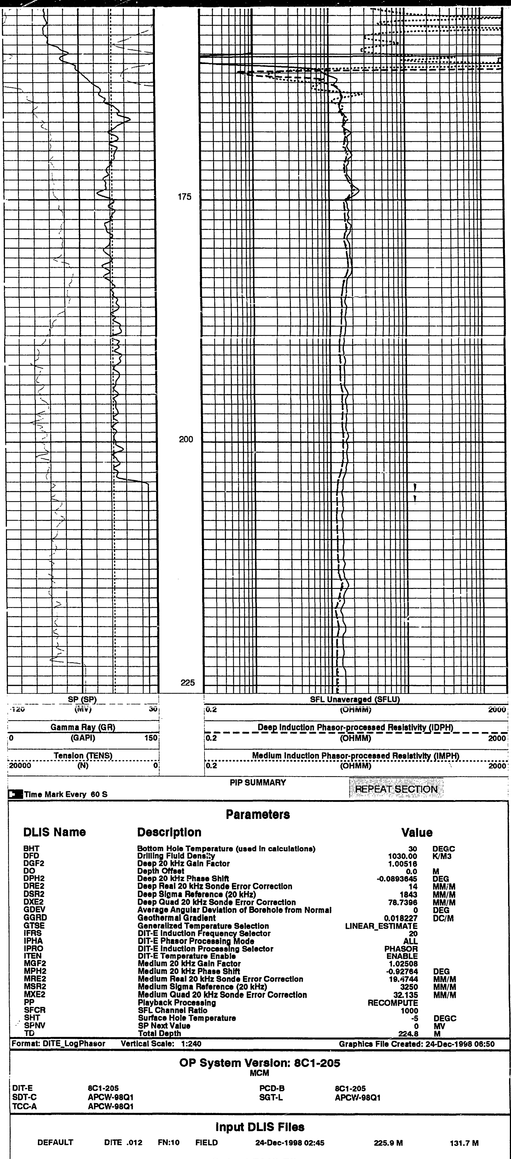
REPEAT SECTION

PIP SUMMARY

Time Mark Every 60 S

Tension (TENS) (N)	20000 / 0	Medium Induction Phasor-processed Resistivity (IMPH) (OHMM)	0.2 / 2000
Gamma Ray (GR) (GAPI)	0 / 150	Deep Induction Phasor-processed Resistivity (IDPH) (OHMM)	0.2 / 2000
SP (SP) (MV)	-120 / 30	SFL Unwrapped (SFLU) (OHMM)	0.2 / 2000

150



SP (SP)		SFL Unsraveged (SFLU)	
-120 (MV)	30	0.2 (OHMM)	2000
Gamma Ray (GR)		**Deep Induction Phasor-processed Resistivity (IDPH)**	
0 (GAPI)	150	0.2 (OHMM)	2000
Tension (TENS)		**Medium Induction Phasor-processed Resistivity (IMPH)**	
20000 (N)	0	0.2 (OHMM)	2000

PIP SUMMARY

REPEAT SECTION

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BHT	Bottom Hole Temperature (used in calculations)	30	DEGC
DFD	Drilling Fluid Density	1030.00	K/M3
DSF2	Deep 20 kHz Gain Factor	1.00516	
DO	Depth Offset	0.0	M
DPH2	Deep 20 kHz Phase Shift	-0.0893645	DEG
DRE2	Deep Real 20 kHz Sonde Error Correction	14	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1843	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	78.7396	MM/M
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
GTSE	Generalized Temperature Selection	LINEAR_ESTIMATE	
IFRS	DIT-E Induction Frequency Selector	20	
IPHA	DIT-E Phasor Processing Mode	ALL	
IPRO	DIT-E Induction Processing Selector	PHASOR	
ITEN	DIT-E Temperature Enable	ENABLE	
MGF2	Medium 20 kHz Gain Factor	1.02508	
MPH2	Medium 20 kHz Phase Shift	-0.92764	DEG
MRE2	Medium Real 20 kHz Sonde Error Correction	19.4744	MM/M
MSR2	Medium Sigma Reference (20 kHz)	3250	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	32.135	MM/M
PP	Playback Processing	RECOMPUTE	
SFCR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	-5	DEGC
SPNV	SP Next Value	0	MV
TD	Total Depth	224.8	M

Format: DITE_LogPhasor Vertical Scale: 1:240 Graphics File Created: 24-Dec-1998 06:50

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

Input DLIS Files

DEFAULT	DITE .012	FN:10	FIELD	24-Dec-1998 02:45	225.9 M	131.7 M

Output DLIS Files

DEFAULT	DITE .017	FN:14	FIELD	24-Dec-1998 06:50		

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration							
Before: Dec 09 14:49 1998							
Gamma Ray Background	30.00	N/A	24.71	N/A	N/A	N/A	GAPI
Gamma Ray (Lig - Bkg)	151.1	N/A	151.1	N/A	N/A	13.73	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

Dual Induction - E / Equipment Identification

Primary Equipment:		
Dual Induction Sonde	DIS - HB	
Dual Induction Cartridge	DIC - EB	83
Auxiliary Equipment:		
Mass Isolated Housing	MIH - ZA	

Dual Induction - E Wellsite Calibration

Induction Electronics (10 kHz)

Phase	ID Elect Real Offset 10 kHz MM/M	Value	Phase	ID Elect Real Gain 10 kHz	Value	Phase	ID Elect Phase 10 kHz DEG	Value
Before		26.45	Before	0.9545		Before		7.000
-273.6 (Minimum)	26.43 (Nominal)	326.4 (Maximum)	0.8046 (Minimum)	0.9546 (Nominal)	1.104 (Maximum)	-2.727 (Minimum)	7.273 (Nominal)	17.27 (Maximum)
Phase	ID Elect Quad Offset 10 kHz MM/M	Value	Phase	ID Elect Quad Gain 10 kHz	Value	Phase	IM Elect Phase 10 kHz DEG	Value
Before		29.16	Before	0.9612		Before		9.735
-270.1 (Minimum)	29.92 (Nominal)	329.9 (Maximum)	0.8106 (Minimum)	0.9606 (Nominal)	1.145 (Maximum)	0.01334 (Minimum)	10.01 (Nominal)	20.01 (Maximum)
Phase	IM Elect Real Offset 10 kHz MM/M	Value	Phase	IM Elect Real Gain 10 kHz	Value			
Before		37.35	Before	0.9087				
512.7 (Minimum)	37.32 (Nominal)	587.3 (Maximum)	0.7674 (Minimum)	0.9174 (Nominal)	1.083 (Maximum)			
Phase	IM Elect Quad Offset 10 kHz MM/M	Value	Phase	IM Elect Quad Gain 10 kHz	Value			
Before		87.65	Before	0.9326				
-462.5 (Minimum)	87.46 (Nominal)	637.5 (Maximum)	0.7668 (Minimum)	0.9368 (Nominal)	1.111 (Maximum)			

Before: Dec 14 11:44 1998

Dual Induction - E Wellsite Calibration

Induction Electronics (20 kHz)

Phase	ID Elect Real Offset 20 kHz MM/M	Value	Phase	ID Elect Real Gain 20 kHz	Value	Phase	ID Elect Phase 20 kHz DEG	Value
Before		10.07	Before	0.9516		Before		3.617
-115.0 (Minimum)	10.03 (Nominal)	135.0 (Maximum)	0.8017 (Minimum)	0.9517 (Nominal)	1.132 (Maximum)	-10.97 (Minimum)	4.025 (Nominal)	19.03 (Maximum)
Phase	ID Elect Quad Offset 20 kHz MM/M	Value	Phase	ID Elect Quad Gain 20 kHz	Value	Phase	IM Elect Phase 20 kHz DEG	Value
Before		11.40	Before	0.9582		Before		6.915
-113.3 (Minimum)	11.66 (Nominal)	136.7 (Maximum)	0.8078 (Minimum)	0.9578 (Nominal)	1.140 (Maximum)	-7.671 (Minimum)	7.329 (Nominal)	22.33 (Maximum)
Phase	IM Elect Real Offset 20 kHz MM/M	Value	Phase	IM Elect Real Gain 20 kHz	Value			
Before		18.18	Before	0.9455				
-209.4 (Minimum)	18.18 (Nominal)	240.1 (Maximum)	0.7971 (Minimum)	0.9471 (Nominal)	1.128 (Maximum)			
Phase	IM Elect Quad Offset 20 kHz MM/M	Value	Phase	IM Elect Quad Gain 20 kHz	Value			
Before		35.96	Before	0.9692				
-186.2 (Minimum)	35.78 (Nominal)	260.9 (Maximum)	0.8172 (Minimum)	0.9672 (Nominal)	1.164 (Maximum)			

Before: Dec 14 11:46 1998

Dual Induction - E Wellsite Calibration

Induction Electronics (40 kHz)

Phase	ID Elect Real Offset 40 kHz MM/M	Value	Phase	ID Elect Real Gain 40 kHz	Value	Phase	ID Elect Phase 40 kHz DEG	Value
Before		8.365	Before	0.9151		Before		14.67
-78.92 (Minimum)	8.365 (Nominal)	91.35 (Maximum)	0.7734 (Minimum)	0.9234 (Nominal)	1.092 (Maximum)	-4.166 (Minimum)	15.83 (Nominal)	36.83 (Maximum)
Phase	ID Elect Quad Offset 40 kHz MM/M	Value	Phase	ID Elect Quad Gain 40 kHz	Value	Phase	IM Elect Phase 40 kHz DEG	Value
Before		7.403	Before	0.9208		Before		17.87
-77.41 (Minimum)	7.592 (Nominal)	92.59 (Maximum)	0.7787 (Minimum)	0.9287 (Nominal)	1.099 (Maximum)	-1.141 (Minimum)	18.86 (Nominal)	38.66 (Maximum)
Phase	IM Elect Real Offset 40 kHz MM/M	Value	Phase	IM Elect Real Gain 40 kHz	Value			
Before		9.726	Before	0.9421				
-120.3 (Minimum)	9.726 (Nominal)	139.7 (Maximum)	0.7968 (Minimum)	0.9468 (Nominal)	1.125 (Maximum)			
Phase	IM Elect Quad Offset 40 kHz MM/M	Value	Phase	IM Elect Quad Gain 40 kHz	Value			
Before		23.12	Before	0.9655				
-107.0 (Minimum)	23.06 (Nominal)	153.0 (Maximum)	0.8166 (Minimum)	0.9666 (Nominal)	1.153 (Maximum)			

Before: Dec 14 11:46 1998

Dual Induction - E Wellsite Calibration

SFL Electronics

Phase	SFL Voltage Offset MV	Value	Phase	SFL Voltage Gain	Value
Before		1.123	Before	0.9840	
-18.00 (Minimum)	0 (Nominal)	18.00 (Maximum)	0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)
Phase	SFL Current Offset MA	Value	Phase	SFL Current Gain	Value
Before		0.03963	Before	0.9806	
-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)	0.8000 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Before: Dec 14 11:47 1998

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:	
Scintillation Gamma Cartridge	SGC - SA
Scintillation Gamma Detector	SGD - TAA
Auxiliary Equipment:	
Scintillation Gamma Housing	SGH - K
Gamma Source Radioactive	GSR - UY

Scintillation Gamma-Ray - L Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Lig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		24.71	Before	151.1		Before		165.0
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	137.3 (Minimum)	151.1 (Nominal)	164.8 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)

Before: Dec 09 14:49 1998

COMPANY	GREY WOLF EXPLORATION LTD.	BOTTOM LOG INTERVAL	220 M
WELL	GREY WOLF CANAXAS DEH CHO 1B-25	SCHLUMBERGER DEPTH	224.8 M
FIELD	CANAXAS DEH CHO	DEPTH DRILLER	225 M
PROVINCE	N.W.T.	KELLY BUSHING	71.8 M
		DRILL FLOOR	
		GROUND LEVEL	64.9 M

Schlumberger

PHASOR INDUCTION SFL

N.E.B. COPY

COMPANY: GREY WOLF EXPLORATION LTD.

WELL: GREY WOLF CANAXAS DEH CHO 1B-25

FIELD: CANAXAS DEH CHO

PROVINCE: N.W.T.

Schlumberger — PHASOR INDUCTION SFL

3000Z9D0D1D0000		Elev. K.B.	71.4 M
UC #1952		D.L.	69.0 M
		G.L.	
Permanent Datum:	GRD,MSL LEVEL	Elev.	69.0 M
Log Measured From:	KELLY BUSHING	6.4 M	above Perm. Datum
Drilling Measured From:	KELLY BUSHING		

API Serial No. 9000Z9D0D1D0000 | Loc. 60 I 44' 01.220" | Long. 123 45' 39.000"

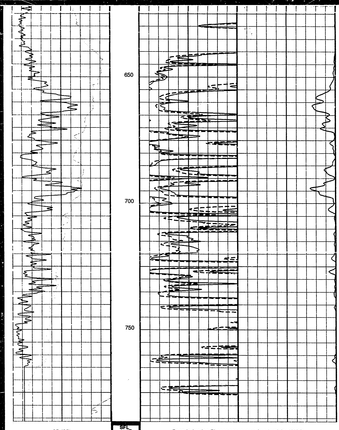
	Run 1	Run 2	Run 3	Run 4
Date	27-JAN-1999			
Time	1900			
Depth Driller	7609 M			
Schlumberger Depth	7613 M			
Bottom Log Interval	7610 M			
Top Log Interval	1800 M			
Casing Driller Size @ Depth	244.5MM @ 1800 M	@	@	@
Casing Schlumberger	2570			
Bit Size	215.9MM			
Type Fluid In Hole	GEL / DIS POLYMER, WITH OIL ADDED			
Density / Viscosity	1060 KG/M3 / 130 S			
PH / Fluid Loss	9.5 / 6 ML			
Source Of Sample	CIRC			
Rm @ Measured Temperature	12.600 OHMM @ 24 DEGC	@	@	@
Rmf @ Measured Temperature	11.700 OHMM @ 24 DEGC	@	@	@
Rmc @ Measured Temperature	11.700 OHMM @ 24 DEGC	@	@	@
Source: RMF / RMC	RMC			
Rm @ BHT	10.700 @ 66 BHT	@	@	@
Maximum Recorded Temperatures	66 DEGC			
Circulation Stopped	Time 0.45h 1999			
Logger On Bottom	Time 1415			
Unit Number / Location	6418 / 6864			
Recorded By	SEAN MCCONKEY			
Witnessed By	CHUCK BRAZIL			

EQUIPMENT DESCRIPTION

RUN 1 — SERVICE EQUIPMENT (Class 3)

DOWNHOLE EQUIPMENT

PEX-A	14.65				
AH-54	14.31				
TCC-B	13.93				
TCM-B		13.84			
SS-C		13.73			
SSSC-AA					
HCGB			11.31		
SGC-C					
SGC-A					
AU-107				8.71	
AU-107				8.10	
AT-A					7.49
CNTH-A					
CNTG-A					
CNTC-A					
CNTB-A					
CNTD-A					
CNTE-A					
CNTF-A					
SLS-AA					
CNTA-A					
CNTA-A					
CNTA-A



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BHT	Bottom Hole Temperature (used in calculations)	20	DEGC
DFD	Drilling Fluid Density	1065.00	K/M3
DGF2	Deep 20 kHz Gain Factor	1.00510	
DH	Depth Offset	1.0	M
DPAZ	Deep Offset Tensor Analysis	0.0	M
DPH2	Deep Short Phase Shift	-0.089040	DEG
DRE2	Deep Real 20 kHz Sonde Error Correction	14	MM/M
DSR2	Deep Sigma Reference (20 kHz)	1845	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	78.000	MM/M
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.014227	DC/M
HTEN	DIT-E Tension Cartridge Selection	LINEAR_ESTIMATE	
IFIS	DIT-E Induction Frequency Selector	20	
IPHA	DIT-E Phasor Processing Mode	ALL	
ITEM	DIT-E Temperature Cartridge Selector	PHASOR	
MTEN	DIT-E Telemetrics Cartridge Selector	ENABLED	
MSF2	Medium 20 kHz Gain Factor	1.02500	
MPH2	Medium 20 kHz Phase Shift	-0.92744	DEG
MRE2	Medium Real 20 kHz Sonde Error Correction	19.4744	MM/M
MSR2	Medium Sigma Reference (20 kHz)	1000	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	32.135	MM/M
PP	Playback Processing	NORMAL	
RMCR	Rm at Circ Rec	0.2	
SHT	Surface Hole Temperature	20	DEGC
SPNV	SP Nwd Value	-25	MV
TDD	Total Depth	784.1	M

Format: DITE_LimPhasor Vertical Scale: 1:600 Graphics File Created: 02-Jan-1999 20:41

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.3 M	29.4 M

Output DLIS Files

DEFAULT	DITE .030	FN:20	FIELD	02-Jan-1999 20:41		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.3 M	29.4 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41	786.4 M	30.5 M

OP System Version: 8C1-205

MCM

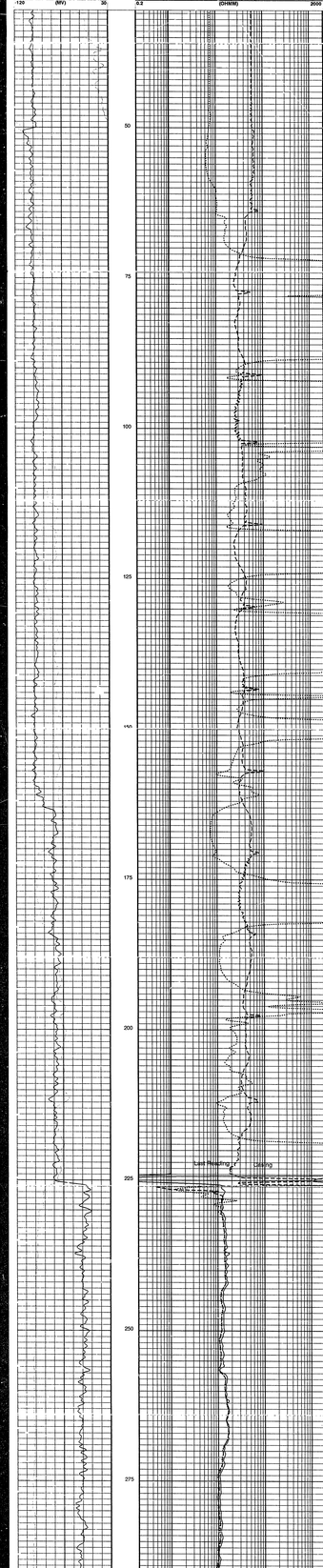
DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

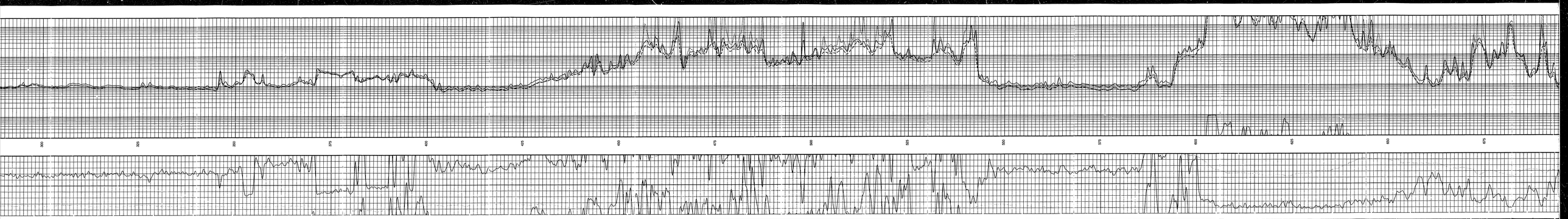
MAIN PASS

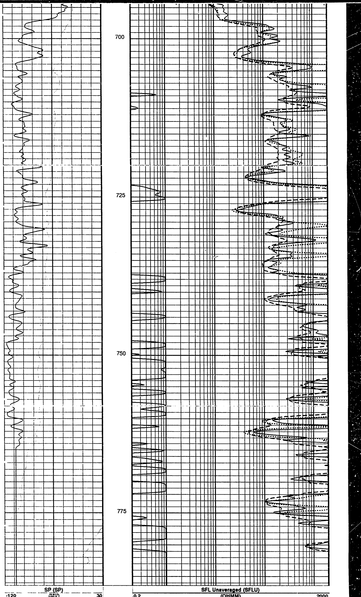
PIP SUMMARY

Time Mark Every 60 S

Medium Induction Phasor-processed Resistivity (IMPH)
0.2
2000
(OHMM)
Deep Induction Phasor-processed Resistivity (IDPH)
0.2
2000
(OHMM)
SFL Unaveraged (SFLU)
0.2
2000
(OHMM)
Gamma Ray (GR)
(GAPI)
0
150
SP (SP)
(MV)
-120
30




300
325
350
375
400
425
450
475
500
525
550
575
600
625
650
675



PIP SUMMARY

Time Mark Every 60 S

MAIN PASS

Parameters

DLIS Name	Description	Value	
BHT	Bottom Hole Temperature (used in calculations)	88	DEGC
DFD	Drilling Fluid Density	1665.00	K/M3
CGF2	Deep 20 kHz Gain Factor	1.00316	
DCHL	Depth Offset	0.0	M
DCHL	Depth Offset Repeat Analysis	0.0	M
DIR2	Deep 20 kHz Phase Shift	-0.0892842	DEG
DSE2	Deep Real 20 kHz Sonde Error Correction	14	MM/M
DSE2	Deep Quad 20 kHz Sonde Error Correction	184.5	MM/M
DXE2	Deep Quad 20 kHz Sonde Error Correction	76.7266	MM/M
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GSEW	Geometrical Standoff	0.318227	OHM
GTSC	Geometrical Temperature Selection	LINEAR_DITHAUTY	
IFRQ	DIT-I Induction Frequency Selector	20	
IPAS	DIT-I Phasor Processing Mode	2	
IPRC	DIT-I Computation Processing Selector	PHASOR	
ITEN	DIT-I Temperature Selector	ENABLE	
MGF2	Medium 20 kHz Gain Factor	1.22045	
MPH2	Medium 20 kHz Phase Shift	-0.92764	DEG
MSE2	Medium Real 20 kHz Sonde Error Correction	2.2266	MM/M
MSR2	Medium Sigma Reference (20 kHz)	2000	MM/M
MXE2	Medium Quad 20 kHz Sonde Error Correction	30.139	MM/M
SFNC	SFL Near Curve Selector	NORMAL	
SFR	SFL Channel Ratio	1000	
SHT	Surface Hole Temperature	25	DEGC
TVD	Total Vertical Depth	0	M
TVD	Total Vertical Depth	784.1	M

Format: DITE_LogPhasor Vertical Scale: 1:240 Graphics File Created: 02-Jan-1999 20:41

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.5 M	26.4 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.5 M	26.4 M
DEFAULT	DITE .024	FN:20	FIELD	02-Jan-1999 17:32	785.6 M	214.8 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41		

OP System Version: 8C1-205

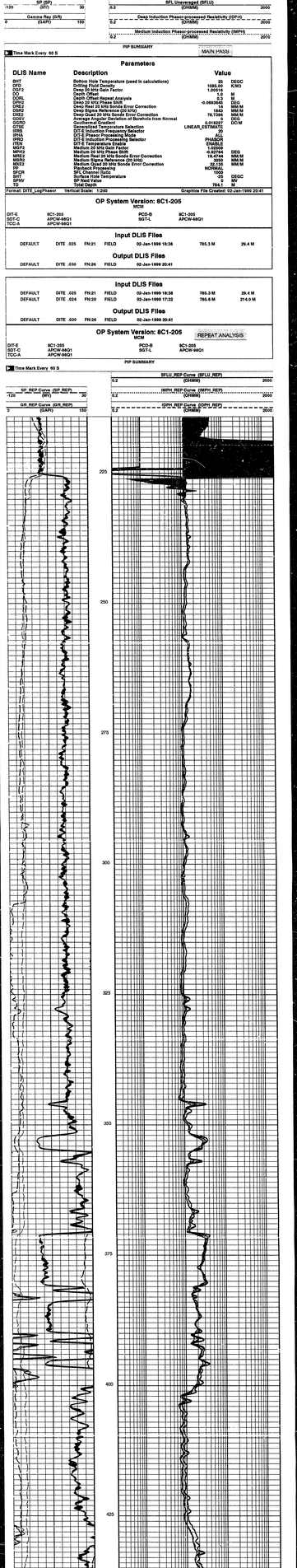
REPEAT ANALYSIS

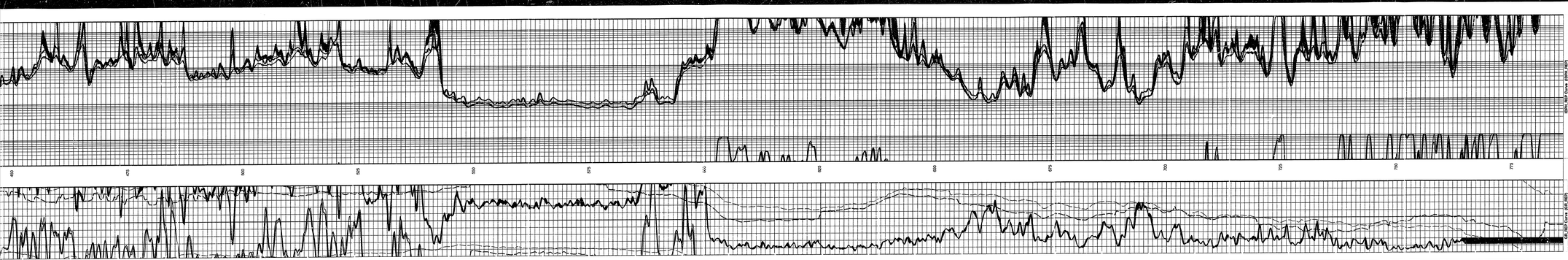
MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

PIP SUMMARY

Time Mark Every 60 S





PIP SUMMARY | REPEAT ANALYSIS

DLIS Name | **Description** | **Value**

DLIS Name	Description	Value
BHT	Bottom Hole Temperature (used in calculations)	150 DEGC
DDEV	Drilling Deviation	1064.35 M
DGCS	Depth Gyro Cable Slack	0.0 M
DGRD	Depth Gyro Resolution	0.000152 M
DMEA	Hole Azimuth, Mean Value	0.000152 DEGR
DMEA2	Hole Azimuth, Mean Value Error Correction	0.000152 DEGR
DMEA3	Hole Azimuth, Mean Value Error Correction	0.000152 DEGR
DMEA4	Hole Azimuth, Mean Value Error Correction	0.000152 DEGR

Dual Induction - E / Equipment Identification

Primary Equipment:		
Dual Induction Sonde	DIS - HB	
Dual Induction Cartridge	DIC - EB	83
Auxiliary Equipment:		
Mass Isolated Housing	MIH - ZA	

Dual Induction - E Wellsite Calibration
Induction Electronics (10 kHz)

Phase	ID Elect Real Offset 10 kHz MM/M	Value
Before		26.45
-273.6 (Minimum)	26.43 (Nominal)	326.4 (Maximum)

Phase	ID Elect Real Gain 10 kHz	Value
Before		0.9545
0.8046 (Minimum)	0.9546 (Nominal)	1.136 (Maximum)

Phase	ID Elect Phase 10 kHz DEG	Value
Before		7.000
-2.727 (Minimum)	7.273 (Nominal)	17.27 (Maximum)

Phase	ID Elect Quad Offset 10 kHz MM/M	Value
Before		29.16
-270.1 (Minimum)	29.92 (Nominal)	329.9 (Maximum)

Phase	ID Elect Quad Gain 10 kHz	Value
Before		0.9612
0.8108 (Minimum)	0.9608 (Nominal)	1.145 (Maximum)

Phase	IM Elect Phase 10 kHz DEG	Value
Before		9.735
0.01334 (Minimum)	10.01 (Nominal)	20.01 (Maximum)

Phase	IM Elect Real Offset 10 kHz MM/M	Value
Before		37.35
-512.7 (Minimum)	37.32 (Nominal)	587.3 (Maximum)

Phase	IM Elect Real Gain 10 kHz	Value
Before		0.9097
0.7674 (Minimum)	0.9174 (Nominal)	1.083 (Maximum)

Phase	IM Elect Quad Offset 10 kHz MM/M	Value
Before		87.85
-462.5 (Minimum)	87.48 (Nominal)	637.5 (Maximum)

Phase	IM Elect Quad Gain 10 kHz	Value
Before		0.9326
0.7868 (Minimum)	0.9368 (Nominal)	1.111 (Maximum)

Before: Dec 14 11:44 1998

Dual Induction - E Wellsite Calibration
Induction Electronics (20 kHz)

Phase	ID Elect Real Offset 20 kHz MM/M	Value
Before		10.07
-115.0 (Minimum)	10.03 (Nominal)	135.0 (Maximum)

Phase	ID Elect Real Gain 20 kHz	Value
Before		0.9516
0.8017 (Minimum)	0.9517 (Nominal)	1.132 (Maximum)

Phase	ID Elect Phase 20 kHz DEG	Value
Before		3.617
-10.97 (Minimum)	4.025 (Nominal)	19.03 (Maximum)

Phase	ID Elect Quad Offset 20 kHz MM/M	Value
Before		11.40
-113.3 (Minimum)	11.68 (Nominal)	136.7 (Maximum)

Phase	ID Elect Quad Gain 20 kHz	Value
Before		0.9582
0.8078 (Minimum)	0.9578 (Nominal)	1.140 (Maximum)

Phase	IM Elect Phase 20 kHz DEG	Value
Before		6.915
-7.671 (Minimum)	7.329 (Nominal)	22.33 (Maximum)

Phase	IM Elect Real Offset 20 kHz MM/M	Value
Before		15.18
-209.9 (Minimum)	15.15 (Nominal)	240.1 (Maximum)

Phase	IM Elect Real Gain 20 kHz	Value
Before		0.9455
0.7971 (Minimum)	0.9471 (Nominal)	1.125 (Maximum)

Phase	IM Elect Quad Offset 20 kHz MM/M	Value
Before		35.96
-189.2 (Minimum)	35.76 (Nominal)	260.8 (Maximum)

Phase	IM Elect Quad Gain 20 kHz	Value
Before		0.9692
0.8172 (Minimum)	0.9672 (Nominal)	1.154 (Maximum)

Before: Dec 14 11:45 1998

Dual Induction - E Wellsite Calibration
Induction Electronics (40 kHz)

Phase	ID Elect Real Offset 40 kHz MM/M	Value
Before		6.385
-78.62 (Minimum)	6.395 (Nominal)	91.38 (Maximum)

Phase	ID Elect Real Gain 40 kHz	Value
Before		0.9151
0.7734 (Minimum)	0.9234 (Nominal)	1.092 (Maximum)

Phase	ID Elect Phase 40 kHz DEG	Value
Before		14.87
-4.166 (Minimum)	15.83 (Nominal)	35.83 (Maximum)

Phase	ID Elect Quad Offset 40 kHz MM/M	Value
Before		7.403
-77.41 (Minimum)	7.592 (Nominal)	92.59 (Maximum)

Phase	ID Elect Quad Gain 40 kHz	Value
Before		0.9208
0.7787 (Minimum)	0.9287 (Nominal)	1.099 (Maximum)

Phase	IM Elect Phase 40 kHz DEG	Value
Before		17.97
-1.141 (Minimum)	18.86 (Nominal)	35.86 (Maximum)

Phase	IM Elect Real Offset 40 kHz MM/M	Value
Before		9.726
-120.3 (Minimum)	9.728 (Nominal)	139.7 (Maximum)

Phase	IM Elect Real Gain 40 kHz	Value
Before		0.9421
0.7968 (Minimum)	0.9468 (Nominal)	1.125 (Maximum)

Phase	IM Elect Quad Offset 40 kHz MM/M	Value
Before		23.12
-107.0 (Minimum)	23.05 (Nominal)	153.0 (Maximum)

Phase	IM Elect Quad Gain 40 kHz	Value
Before		0.9655
0.8168 (Minimum)	0.9686 (Nominal)	1.153 (Maximum)

Before: Dec 14 11:46 1998

Dual Induction - E Wellsite Calibration
SFL Electronics

Phase	SFL Voltage Offset MV	Value
Before		1.123
-15.00 (Minimum)	0 (Nominal)	15.00 (Maximum)

Phase	SFL Voltage Gain	Value
Before		0.9840
0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Phase	SFL Current Offset MA	Value
Before		0.03983
-0.6000 (Minimum)	0 (Nominal)	0.6000 (Maximum)

Phase	SFL Current Gain	Value
Before		0.9808
0.8500 (Minimum)	1.000 (Nominal)	1.200 (Maximum)

Before: Dec 14 11:47 1998

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:		
Scintillation Gamma Cartridge	SGC - SA	
Scintillation Gamma Detector	SGD - TAA	
Auxiliary Equipment:		
Scintillation Gamma Housing	SGH - K	
Gamma Source Radioactive	GSR - U/Y	

Scintillation Gamma-Ray - L Wellsite Calibration
Detector Calibration

Phase	Gamma Ray Background GAPI	Value
Before		24.71
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)

Phase	Gamma Ray (Jig - Bkg) GAPI	Value
Before		151.1
137.3 (Minimum)	151.1 (Nominal)	164.8 (Maximum)

Phase	Gamma Ray (Calibrated) GAPI	Value
Before		165.0
150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)

Before: Dec 09 14:49 1998

COMPANY: GREY WOLF EXPLORATION LTD.

WELL: GREY WOLF CANAXAS DEH CHO 1B-25

FIELD: CANAXAS DEH CHO

PROVINCE: N.W.T.

BOTTOM LOG INTERVAL	778.8 M
SCHLUMBERGER DEPTH	795.1 M
DEPTH DRILLER	785 M
KELLY BUSHING	71.8 M
DRILL FLOOR	
GROUND LEVEL	64.9 M

Schlumberger

PHASOR INDUCTION SFL

SONIC
NEUTRON
DENSITY

COMPANY: GREY WOLF EXPLORATION LTD.

WELL: GREY WOLF CANAXAS DEH CHO 1B-25

FIELD: CANAXAS DEH CHO

PROVINCE: N.W.T.

Schlumberger

BOREHOLE COMPENSATED SONIC LOG

PROVINCE:N.W.T.
Field: CANAXAS DEH CHO
Location:
Well: GREY WOLF CANAXAS DEH CHO 1B-25
Company: GREY WOLF EXPLORATION LTD.

LOCATION

Other Services		Permanent Datum: GROUND LEVEL	Elev.: K.B. 718 M
		Log Measured From: KELLY BUSHING 6.9 M above Perm. Datum	D.F. 643 M
		Drilling Measured From: KELLY BUSHING	G.L. 643 M
API Serial No. 50-301-20335-00	Sec. 25	Twp. 31N	Rge. 16E

	Run 1	Run 2	Run 3	Run 4
Logging Date	24-DEC-1998			
Run Number	1			
Depth Driller	225.0 M			
Schlumberger Depth	224.6 M			
Bottom Log Interval	223.0 M			
Top Log Interval	0.0 M			
Casing Driller Size @ Depth	168 @ 0 M	@	@	@
Casing Schlumberger	0 M			
Bit Size	222.000 MM			
Type Fluid in Hole	GEL POLYMER			
Density	1.40			
Viscosity	67			
PH	9.5			
Fluid Loss	4.0			
Source	RMF	RMC	RM @ Measured Temperature	RMF @ Measured Temperature	RMC @ Measured Temperature
Source RMF	RMC			
RM @ Measured Temperature	24.600 OHMM @ 23 DEGC	@	@	@
RMF @ Measured Temperature	29.600 OHMM @ 16 DEGC	@	@	@
RMC @ Measured Temperature	43.000 OHMM @ 14 DEGC	@	@	@
Source RMF RMC	MEAS MEAS			
RM @ BHT	0.000 OHMM @ 0 DEGC	@	@	@
Time Circulation Stopped	23:30			
Time Logger on Bottom	2:15			
Maximum Recorded Temperatures	23 DEGC			
Equipment Number	8416	8964		
Location	FSHV	MCKINNEY		
Recorded By	G.GAGNE	BRAEL		
Witnessed By				

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO CLAUSE 4 OF OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

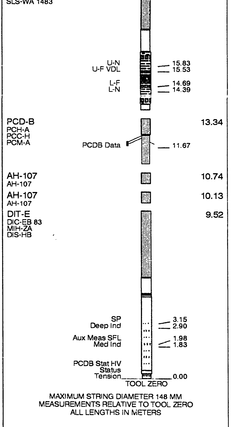
OTHER SERVICES1	OTHER SERVICES2
OS1: PHASOR	OS1:
OS2:	OS2:
OS3:	OS3:
OS4	OS4:
OS5:	OS5:
REMARKS: RUN NUMBER 1	REMARKS: RUN NUMBER 2
DEPTH CORRELATED TO BOTTOM OF SURFACE CASING	
MUD RESISTIVITY HIGH, GEL FREE POLYMER MUD	
CENTRALIZERS RUN ON SONIC	
36 MM STANDOFFS ON PHASOR	

RUN 1			RUN 2		
SERVICE ORDER #:		6078663	SERVICE ORDER #:		
PROGRAM VERSION:		8C1-205	PROGRAM VERSION:		
FLUID LEVEL:			FLUID LEVEL:		
LOGGED INTERVAL	START	STOP	LOGGED INTERVAL	START	STOP

EQUIPMENT DESCRIPTION

RUN 1	RUN 2
SURFACE EQUIPMENT	
STM-C GSR-UY CTSM-A	

DOWNHOLE EQUIPMENT



MAXIMUM STRING DIAMETER 148 MM
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Input DLIS Files

DEFAULT	DITE .008	FN:6	FIELD	24-Dec-1998 02:04	225.2 M	25.0 M

Output DLIS Files

DEFAULT	DITE .019	FN:16	FIELD	24-Dec-1998 06:58		

OP System Version: 8C1-205

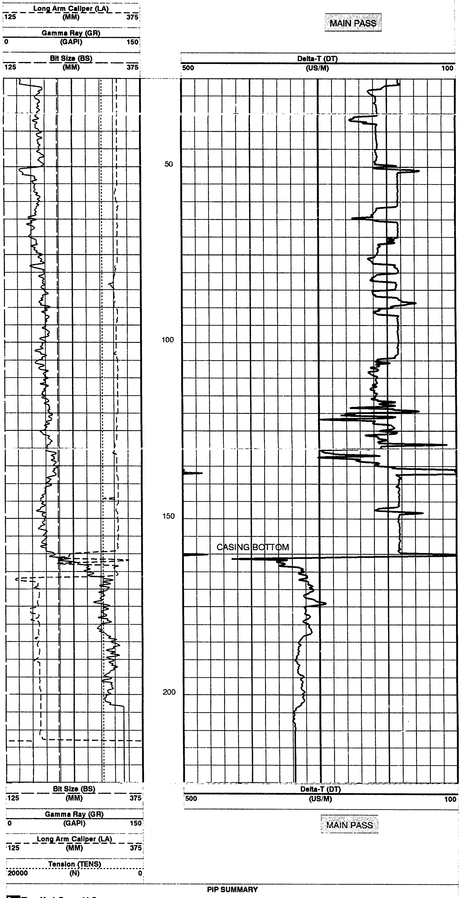
MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

PIP SUMMARY

Time Mark Every 60 S

Tension (TENS)	
20000 (N)	0



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BS	Bit Size	222.000	MM
DO	Depth Offset	0.0	M
DTCM	Delta-T Computation Mode	FULL	
MODE	Firing Mode	BHC	
PP	Playback Processing	RECOMPUTE	

Format: GW_SONI_600 Vertical Scale: 1:600 Graphics File Created: 24-Dec-1998 06:58

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

Input DLIS Files

DEFAULT	DITE .008	FN:6	FIELD	24-Dec-1998 02:04	225.2 M	25.0 M

Output DLIS Files

DEFAULT	DITE .019	FN:16	FIELD	24-Dec-1998 06:58		

Input DLIS Files

DEFAULT	DITE .008	FN:6	FIELD	24-Dec-1998 02:04	225.2 M	25.0 M

Output DLIS Files

DEFAULT	DITE .019	FN:16	FIELD	24-Dec-1998 06:58		

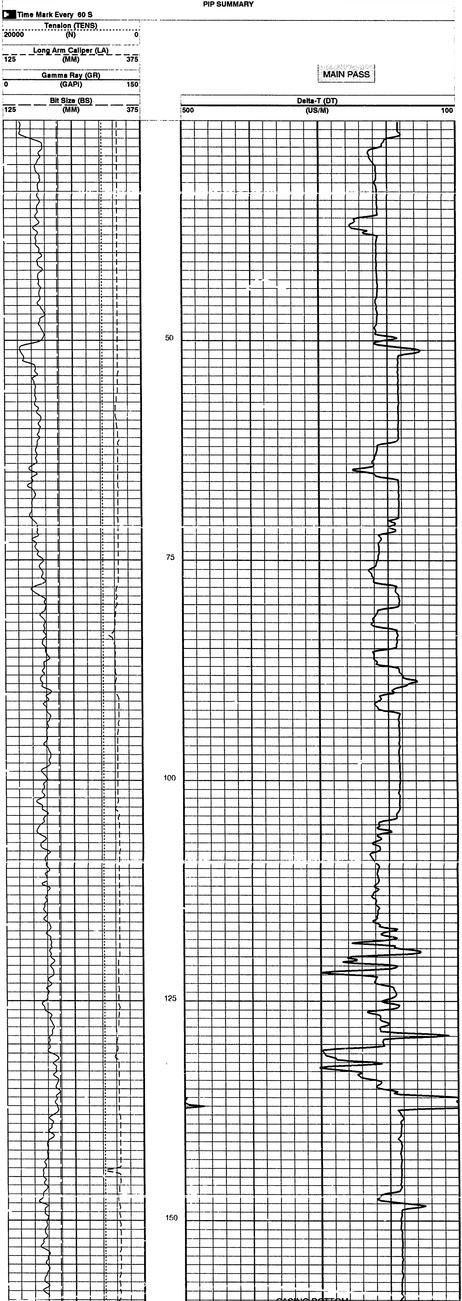
OP System Version: 8C1-205

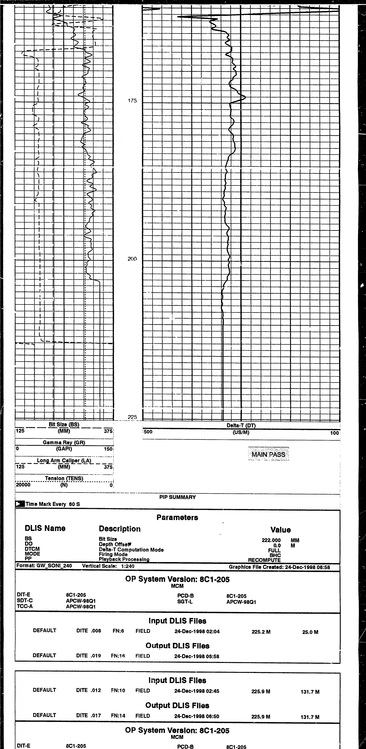
MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

PIP SUMMARY

Time Mark Every 60 S





Parameters

DLIS Name	Description	Value
BS	Bit Size	222.000 MM
DO	Depth Offset#	0.0 M
DTCM	Delta T Computation Mode	FULL
MODE	Firing Mode	SHC
PP	Playback Processing	RECOMPUTE

Format: GW_SCNS_240 Vertical Scale: 1:240 Graphics File Created: 24-Dec-1998 08:58

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCO-A	APCW-98Q1		

Input DLIS Files

DEFAULT	DITE .008	FN:6	FIELD	26-Dec-1998 02:04	225.2 M	25.0 M

Output DLIS Files

DEFAULT	DITE .019	FN:14	FIELD	26-Dec-1998 00:58		

Input DLIS Files

DEFAULT	DITE .012	FN:10	FIELD	24-Dec-1998 02:45	225.9 M	131.7 M

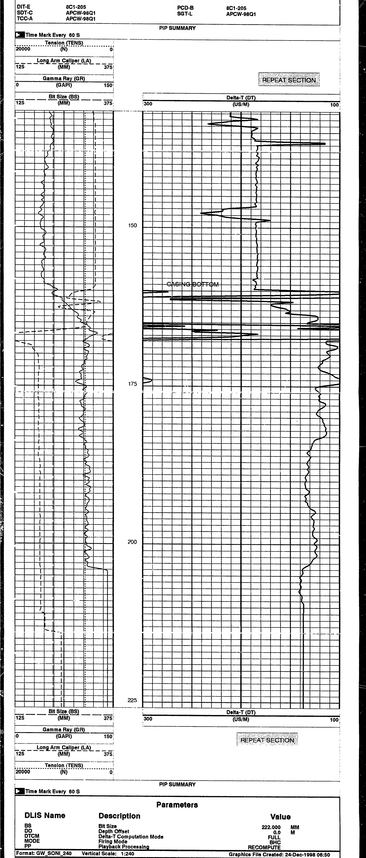
Output DLIS Files

DEFAULT	DITE .017	FN:14	FIELD	26-Dec-1998 00:50	225.9 M	131.7 M

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCO-A	APCW-98Q1		



Parameters

DLIS Name	Description	Value
BS	Bit Size	222.000 MM
DO	Depth Offset#	0.0 M
DTCM	Delta T Computation Mode	FULL
MODE	Firing Mode	SHC
PP	Playback Processing	RECOMPUTE

Format: GW_SCNS_240 Vertical Scale: 1:240 Graphics File Created: 24-Dec-1998 08:50

OP System Version: 8C1-205

TCCH

DIT-E	8C1-205	PCD-B	8C1-205		
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1		
TCO-A	APCW-98Q1				

Input DLIS Files

DEFAULT	DITE .012	FN:10	FIELD	24-Dec-1998 02:45	225.9 M	131.7 M

Output DLIS Files

DEFAULT	DITE .017	FN:14	FIELD	26-Dec-1998 00:50		

Calibration and Check Summary

Nominal Master Before After Change Limit Units

Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration
Before Dec 26 14:48 1998

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Gamma Ray Background	30.00	N/A	24.71	N/A	N/A	N/A	GAPI
Gamma Ray (Calibrate)	150.0	N/A	150.0	N/A	N/A	15.00	GAPI
Gamma Ray (Calibrated)	180.0	N/A	183.0	N/A	N/A	15.00	GAPI

Dual Induction - E / Equipment Identification

Primary Equipment:
Dual Induction Sonde DIS - HS
Dual Induction Cartridge DIC - ES 60

Auxiliary Equipment:
Mass Isolated Housing MIH - ZA

Dual Induction - E Wellsite Calibration

Induction Electronics (40 kHz)

Phase	ID Direct Real Offset 10 kHz	MMHO	Value	Phase	ID Direct Real Gain 10 kHz	Value	Phase	ID Direct Phase 10 kHz	DEG	Value
Before			26.45	Before	0.9540		Before			7.500
Minimum	215.4	26.50	326.4 Maximum	Nominal	2.1048	1.134 Maximum	Minimum	-0.727	7.270	11.27 Maximum

Phase	IM Direct Real Offset 10 kHz	MMHO	Value	Phase	IM Direct Quad Gain 10 kHz	Value	Phase	IM Direct Phase 10 kHz	DEG	Value
Before			29.16	Before	0.9613		Before			8.706
Minimum	205.1	26.50	326.9 Maximum	Nominal	0.9738	0.9858 1.134 Maximum	Minimum	7.270	11.20	20.01 Maximum

Phase	IM Direct Real Offset 10 kHz	MMHO	Value	Phase	IM Direct Real Gain 10 kHz	Value
Before			37.39	Before	0.9697	
Minimum	202.7	37.32	327.2 Maximum	Nominal	0.9774	0.9858 1.000 Maximum

Phase	IM Direct Quad Offset 10 kHz	MMHO	Value	Phase	IM Direct Quad Gain 10 kHz	Value
Before			17.65	Before	0.9926	
Minimum	192.5	37.40	327.2 Maximum	Nominal	0.9966	0.9858 1.011 Maximum

Before Dec 14 11:44 1998

Dual Induction - E Wellsite Calibration

Induction Electronics (20 kHz)

Phase	ID Direct Real Offset 20 kHz	MMHO	Value	Phase	ID Direct Real Gain 20 kHz	Value	Phase	ID Direct Phase 20 kHz	DEG	Value
Before			10.07	Before	0.9614		Before			9.917
Minimum	215.0	10.03	138.0 Maximum	Nominal	0.9917	1.139 Maximum	Minimum	-0.727	7.270	13.09 Maximum

Phase	IM Direct Quad Offset 20 kHz	MMHO	Value	Phase	IM Direct Quad Gain 20 kHz	Value	Phase	IM Direct Phase 20 kHz	DEG	Value
Before			11.40	Before	0.9662		Before			8.915
Minimum	211.88	10.03	138.0 Maximum	Nominal	0.9879	0.9858 1.141 Maximum	Minimum	7.421	7.329	20.25 Maximum

Phase	IM Direct Real Offset 20 kHz	MMHO	Value	Phase	IM Direct Real Gain 20 kHz	Value
Before			15.19	Before	0.9455	
Minimum	208.0	10.04	138.0 Maximum	Nominal	0.9761	0.9858 1.138 Maximum

Phase	IM Direct Quad Offset 20 kHz	MMHO	Value	Phase	IM Direct Quad Gain 20 kHz	Value
Before			26.96	Before	0.9662	
Minimum	196.8	26.76	262.3 Maximum	Nominal	0.9872	0.9858 1.134 Maximum

Before Dec 14 11:42 1998

Dual Induction - E Wellsite Calibration

Induction Electronics (10 kHz)

Phase	ID Direct Real Offset 40 kHz	MMHO	Value	Phase	ID Direct Real Gain 40 kHz	Value	Phase	ID Direct Phase 40 kHz	DEG	Value
Before			9.366	Before	0.9614		Before			14.97
Minimum	79.52	9.369	91.04 Maximum	Nominal	0.9924	1.092 Maximum	Minimum	-0.156	19.92	38.62 Maximum

Phase	ID Direct Quad Offset 40 kHz	MMHO	Value	Phase	ID Direct Quad Gain 40 kHz	Value	Phase	IM Direct Phase 40 kHz	DEG	Value
Before			7.403	Before	0.9926		Before			17.47
Minimum	75.40	7.382	92.59 Maximum	Nominal	0.9787	0.9857 1.089 Maximum	Minimum	-0.156	19.92	38.66 Maximum

Phase	IM Direct Real Offset 40 kHz	MMHO	Value	Phase	IM Direct Real Gain 40 kHz	Value
Before			12.84	Before	0.9460	
Minimum	230.3	9.728	126.7 Maximum	Nominal	0.7169	0.9856 1.126 Maximum

Phase	IM Direct Quad Offset 40 kHz	MMHO	Value	Phase	IM Direct Quad Gain 40 kHz	Value
Before			23.12	Before	0.9662	
Minimum	207.0	23.05	153.0 Maximum	Nominal	0.9738	0.9856 1.083 Maximum

Before Dec 14 11:46 1998

Dual Induction - E Wellsite Calibration

SFL Electronics

Phase	SFL Voltage Offset 1kV	Value	Phase	SFL Voltage Gain	Value
Before		1.120	Before	0.9742	0.9940
Minimum	14.50	1.120 Maximum	Nominal	0.9922	1.000 1.000 Maximum

Phase	SFL Current Offset 1kV	Value	Phase	SFL Current Gain	Value
Before		0.03883	Before	0.9927	0.9808
Minimum	0.000	0.0000 Maximum	Nominal	1.000	1.000 1.000 Maximum

Before Dec 14 11:47 1998

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:
Scintillation Gamma Cartridge SGC - SA
Scintillation Gamma Detector SGD - TAA

Auxiliary Equipment:
Scintillation Gamma Housing SGH - K
Gamma Source Radioactive GMA - LIV

Scintillation Gamma-Ray - L Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background (SAT)	Value	Phase	Gamma Ray Cal. Sig. (Sig) (SAT)	Value	Phase	Gamma Ray (Calibrated) (SAT)	Value
Before		24.71	Before		150.1	Before		180.0
Minimum	30.00	120.0 Maximum	Nominal	150.0	180.0 Maximum	Minimum	180.0	180.0 Maximum

Before Dec 26 14:48 1998

COMPANY:	GREY WOLF EXPLORATION LTD.	BOTTOM LOG INTERVAL	232 M
WELL:	GREY WOLF CANAXAS DEH 6HO 1B-25	SCHLUMBERGER DEPTH	224.8 M
FIELD:	CANAXAS DEH CHO	DEPTH DRILLER	225 M
PROVINCE:	N.W.T.	KELLY BUSHING	71.8 M
		DRILL FLOOR	
		GROUND LEVEL	44.9 M

Schlumberger

BOREHOLE COMPENSATED SONIC LOG

N.E.B. COPY

182

COMPANY: GREY WOLF EXPLORATION LTD.

WELL: GREY WOLF CANAXAS DEH CHO 1B-25

FIELD: CANAXAS DEH CHO

PROVINCE: N.W.T.

Schlumberger

BOREHOLE COMPENSATED SONIC LOG

Well	GREY WOLF CANAXAS DEH CHO 1B-25
Field	CANAXAS DEH CHO
Province	N.W.T.
Location	300B258201260I00
Service Order	70000258201260I00
Permanent Datum	GROUND LEVEL
Log Measured From	KELLY BUSHING, 6.9 M above Perm. Datum
Drilling Measured From	KELLY BUSHING

Elev.: K.B. 71.8 M
G.L. 64.9 M
D.F.

Elev.: 64.9 M

API Serial No. 300258201260I00 | LAT. 65 14 01.227"N | LONG. 126 34'32.30.360"

	Run 1	Run 2	Run 3	Run 4
Logging Date	2-JAN-1999			
Run Number	1			
Depth Driller	385 M			
Schlumberger Depth	385.1 M			
Bottom Log Interval	769.2 M			
Top Log Interval	30 M			
Casing Driller Size @ Depth	244.5 MM @ 225 M	@	@	@
Casing Schlumberger	229 M			
Bit Size	222.000 MM			
Type Fluid in Hole	GEL FREE POLYMER, WITH GEL ADDED			
Density / Viscosity	1070 K/M3 130 S			
Fluid Loss / PH	9.0			
Source Of Sample				
RM @ Measured Temperature	12.000 OHMM @ 18 DEGC	@	@	@
RMF @ Measured Temperature	12.000 OHMM @ 16 DEGC	@	@	@
RMC @ Measured Temperature	11.700 OHMM @ 14 DEGC	@	@	@
Source RMF / RMC	RMC			
RM @ MRT / RMF @ MRT	10.705 @ 25 / 9.679 @ 25	@ / @	@ / @	@ / @
Maximum Recorded Temperatures	25 DEGC			
Circulation Stopped / Time	2-JAN-1999 14:00			
Logger On Bottom / Time	2-JAN-1999 19:00			
Unit Number / Location	3416 / 6864			
Recorded By	SEAN MCCONKEY			
Witnessed By	CHUCK BRACEL			

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT, GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. ANY INTERPRETATION WE MAKE WILL BE SUBJECT TO OUR GENERAL TERMS AND CONDITIONS SET OUT IN OUR CURRENT PRICE SCHEDULE.

OTHER SERVICES
CBS
CBS
CBL
CBL
SGR
SGR
DSN
DSN
CNT-G
CNTH-A
CNTG-A

RUN 1
RUN 2
RUN 3
RUN 4
BOTTOM
TOP
BOTTOM
TOP
BOTTOM
TOP
BOTTOM
TOP

EQUIPMENT DESCRIPTION

RUN 1
SURFACE EQUIPMENT
DOWNHOLE EQUIPMENT

CNTH-A
CNTG-A
CNTC-A

RUN 2
RDHC-KA
RDHC-KB
RDHC-KC
RDHC-KD
RDHC-KE
RDHC-KF
RDHC-KG
RDHC-KH
RDHC-KI
RDHC-KJ
RDHC-KK
RDHC-KL
RDHC-KM
RDHC-KN
RDHC-KO
RDHC-KP
RDHC-KQ
RDHC-KR
RDHC-KS
RDHC-KT
RDHC-KU
RDHC-KV
RDHC-KW
RDHC-KX
RDHC-KY
RDHC-KZ
RDHC-LA
RDHC-LB
RDHC-LC
RDHC-LD
RDHC-LE
RDHC-LF
RDHC-LG
RDHC-LH
RDHC-LI
RDHC-LJ
RDHC-LK
RDHC-LL
RDHC-LM
RDHC-LN
RDHC-LO
RDHC-LP
RDHC-LQ
RDHC-LR
RDHC-LS
RDHC-LT
RDHC-LU
RDHC-LV
RDHC-LW
RDHC-LX
RDHC-LY
RDHC-LZ
RDHC-MA
RDHC-MB
RDHC-MC
RDHC-MD
RDHC-ME
RDHC-MF
RDHC-MG
RDHC-MH
RDHC-MI
RDHC-MJ
RDHC-MK
RDHC-ML
RDHC-MM
RDHC-MN
RDHC-MO
RDHC-MP
RDHC-MQ
RDHC-MR
RDHC-MS
RDHC-MT
RDHC-MU
RDHC-MV
RDHC-MW
RDHC-MX
RDHC-MY
RDHC-MZ
RDHC-NA
RDHC-NB
RDHC-NC
RDHC-ND
RDHC-NE
RDHC-NF
RDHC-NG
RDHC-NH
RDHC-NI
RDHC-NJ
RDHC-NK
RDHC-NL
RDHC-NM
RDHC-NN
RDHC-NO
RDHC-NP
RDHC-NQ
RDHC-NR
RDHC-NS
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RDHC-NV
RDHC-NW
RDHC-NX
RDHC-NY
RDHC-NZ
RDHC-OA
RDHC-OB
RDHC-OC
RDHC-OD
RDHC-OE
RDHC-OF
RDHC-OG
RDHC-OH
RDHC-OI
RDHC-OJ
RDHC-OK
RDHC-OL
RDHC-OM
RDHC-ON
RDHC-OO
RDHC-OP
RDHC-OQ
RDHC-OR
RDHC-OS
RDHC-OT
RDHC-OU
RDHC-OV
RDHC-OW
RDHC-OX
RDHC-OY
RDHC-OZ
RDHC-PA
RDHC-PB
RDHC-PC
RDHC-PD
RDHC-PE
RDHC-PF
RDHC-PG
RDHC-PH
RDHC-PI
RDHC-PJ
RDHC-PK
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RDHC-PM
RDHC-PN
RDHC-PO
RDHC-PP
RDHC-PQ
RDHC-PR
RDHC-PS
RDHC-PT
RDHC-PU
RDHC-PV
RDHC-PW
RDHC-PX
RDHC-PY
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RDHC-QA
RDHC-QB
RDHC-QC
RDHC-QD
RDHC-QE
RDHC-QF
RDHC-QG
RDHC-QH
RDHC-QI
RDHC-QJ
RDHC-QK
RDHC-QL
RDHC-QM
RDHC-QN
RDHC-QO
RDHC-QP
RDHC-QQ
RDHC-QR
RDHC-QS
RDHC-QT
RDHC-QU
RDHC-QV
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RDHC-RT
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RDHC-RY
RDHC-RZ
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RDHC-TT
RDHC-TU
RDHC-TV
RDHC-TW
RDHC-TX
RDHC-TY
RDHC-TZ
RDHC-UA
RDHC-UB
RDHC-UC
RDHC-UD
RDHC-UE
RDHC-UF
RDHC-UG
RDHC-UH
RDHC-UI
RDHC-UJ
RDHC-UK
RDHC-UL
RDHC-UM
RDHC-UN
RDHC-UO
RDHC-UP
RDHC-UQ
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RDHC-US
RDHC-UT
RDHC-UU
RDHC-UV
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RDHC-WM
RDHC-WN
RDHC-WO
RDHC-WP
RDHC-WQ
RDHC-WR
RDHC-WS
RDHC-WT
RDHC-WU
RDHC-WV
RDHC-WW
RDHC-WX
RDHC-WY
RDHC-WZ
RDHC-XA
RDHC-XB
RDHC-XC
RDHC-XD
RDHC-XE
RDHC-XF
RDHC-XG
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RDHC-ZA
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RDHC-ZQ
RDHC-ZR
RDHC-ZS
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RDHC-ZY
RDHC-ZZ

PEH-A
AH-64
TCC-A
EDI-HC 627
SGC-SA
SGC-SB
SGC-SC
SGC-SD
SGC-SE
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SGC-SH
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SGC-VU
SGC-VV
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SGC-VY
SGC-VZ
SGC-WA
SGC-WB
SGC-WC
SGC-WD
SGC-WE
SGC-WF
SGC-WG
SGC-WH
SGC-WI
SGC-WJ
SGC-WK
SGC-WL
SGC-WM
SGC-WN
SGC-WO
SGC-WP
SGC-WQ
SGC-WR
SGC-WS
SGC-WT
SGC-WU
SGC-WV
SGC-WW
SGC-WX
SGC-WY
SGC-WZ
SGC-XA
SGC-XB
SGC-XC
SGC-XD
SGC-XE
SGC-XF
SGC-XG
SGC-XH
SGC-XI
SGC-XJ
SGC-XK
SGC-XL
SGC-XM
SGC-XN
SGC-XO
SGC-XP
SGC-XQ
SGC-XR
SGC-XS
SGC-XT
SGC-XU
SGC-XV
SGC-XW
SGC-XX
SGC-XY
SGC-XZ
SGC-YA
SGC-YB
SGC-YC
SGC-YD
SGC-YE
SGC-YF
SGC-YG
SGC-YH
SGC-YI
SGC-YJ
SGC-YK
SGC-YL
SGC-YM
SGC-YN
SGC-YO
SGC-YP
SGC-YQ
SGC-YR
SGC-YS
SGC-YT
SGC-YU
SGC-YV
SGC-YW
SGC-YX
SGC-YY
SGC-YZ
SGC-ZA
SGC-ZB
SGC-ZC
SGC-ZD
SGC-ZE
SGC-ZF
SGC-ZG
SGC-ZH
SGC-ZI
SGC-ZJ
SGC-ZK
SGC-ZL
SGC-ZM
SGC-ZN
SGC-ZO
SGC-ZP
SGC-ZQ
SGC-ZR
SGC-ZS
SGC-ZT
SGC-ZU
SGC-ZV
SGC-ZW
SGC-ZX
SGC-ZY
SGC-ZZ

LIN
LIF
CAL

PCDB
PCC-1
PCNA

AH-107
AH-107
DIT-E
DIT-E
SGC-SB
SGC-SA

PCDB Data

PCDB Batch V
Sensor

Depth Offsets
Driller 597
Logger 597
Aux Meas (F1)
Aux Meas (F2)

MAXIMUM STRING DIAMETER 7.68 MM
MUDCAKE CORRECTIONS ARE ZERO
ALL LENGTHS IN METERS

24.41
22.86
22.45
22.54
22.94
20.98
15.83
14.99
14.39
13.34
11.67
10.74
10.13
9.62
2.15
1.68
1.68
0.00

Input DLIS Files
02-Jan-1999 21:58
Output DLIS Files
02-Jan-1999 20:41
OP System Version: 8C1-205
MCM
8C1-205
8CH-4401
8CH-4401

769.3 M
784.4 M

29.4 M
30.5 M

PIP SUMMARY

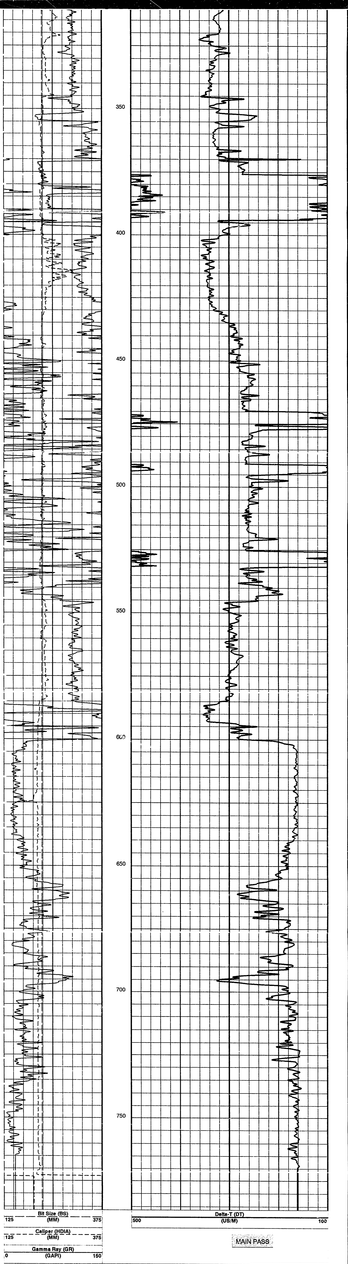
LOGIN PASSES

Depth (DEPTH)
Scale 1/200

Time Mark Every 60 S

DEFAULT	DITE -253	FN:21	FIELD
DEFAULT	DITE -200	FN:36	FIELD
DIT-E	8C1-205		
SGC-C	8CH-4401		
SGC-SA	8CH-4401		

Tension (LBF) 0 — 10000
Speed (F/HR) 0 — 3600
Gamma Ray (API) 0 — 150
Bit Size (IN) 6 — 22
Caliper 1 (IN) 6 — 22
Caliper 2 (IN) 6 — 22
Delta-T (US/F) 140 — 40
Delta-T (US/F) 140 — 40



125 | Bit Size (BS) (MM) | 375

0 | Caliper (HDIA) (MM) | 375

0 | Gamma Ray (GR) (GAPI) | 150

500 | Delta-T (DT) (US/M) | 100

MAIN PASS

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BS	Bit Size	222.000	MM
DO	Depth Offset	1.0	M
DORL	Depth Offset Repeat Analysis	0.0	M
MTOM	Delta T Computation Mode	FULL	
NPHI	Porosity Type	SWC	
PP	Playback Processing	NORMAL	

Format: DW_SCHL_600 Vertical Scale: 1:600 Graphics File Created: 02-Jan-1999 20:41

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.3 M	29.4 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.3 M	29.4 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41	786.4 M	30.5 M

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

PIP SUMMARY

Time Mark Every 60 S

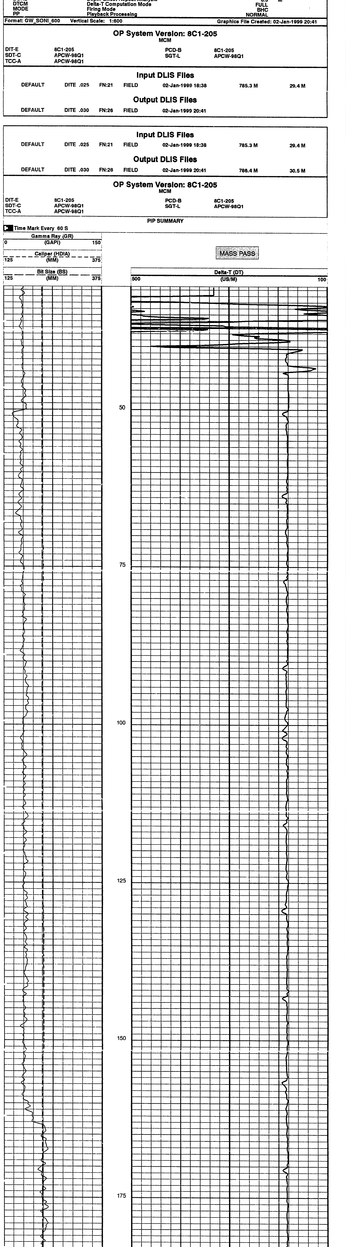
0 | Gamma Ray (GR) (GAPI) | 150

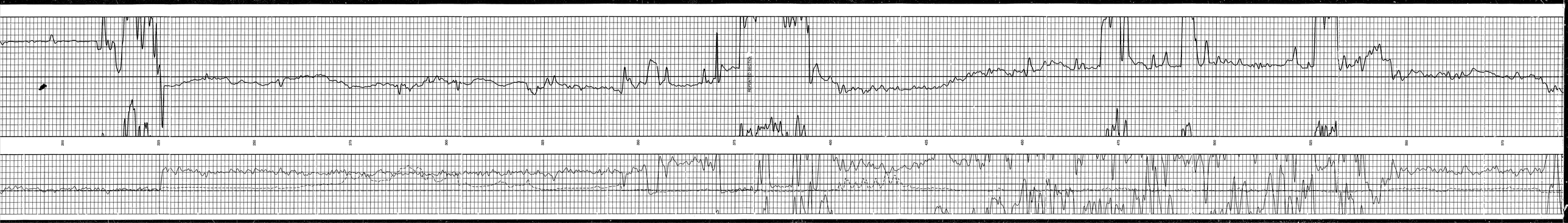
0 | Caliper (HDIA) (MM) | 375

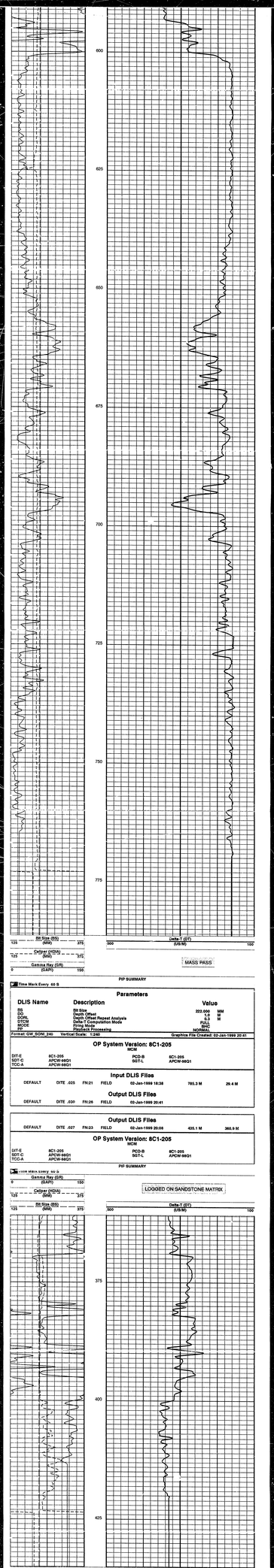
125 | Bit Size (BS) (MM) | 375

500 | Delta-T (DT) (US/M) | 100

MASS PASS




REMOVED SECTION
200
225
250
275
300
325
350
375
400
425
450
475
500
525
550
575



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BS	Bit Size	222.000	MM
DO	Depth Offset	0.0	M
DOFL	Depth Offset Repeat Analysis	3.3	M
DTCM	Delta-T Computation Mode	FULL	
MODE	Pulling Mode	RMC	
PP	Playback Processing	NORMAL	

Format: GW_SONI_24G Vertical Scale: 1:240 Graphics File Created: 02-Jan-1999 20:41

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

PIP SUMMARY

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.3 M	29.4 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41	

Output DLIS Files

DEFAULT	DITE .027	FN:23	FIELD	02-Jan-1999 20:08	435.1 M	360.9 M

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

PIP SUMMARY

Time Mark Every 60 S

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BS	Bit Size	222.000	MM
DTCM	Delta-T Computation Mode	FULL	
MODE	Pulling Mode	RMC	

Format: GW_SONI_24G Vertical Scale: 1:240 Graphics File Created: 02-Jan-1999 20:08

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

Output DLIS Files

DEFAULT	DITE .027	FN:23	FIELD	02-Jan-1999 20:08		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.3 M	29.4 M
DEFAULT	DITE .024	FN:20	FIELD	02-Jan-1999 17:32	785.8 M	214.0 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41	

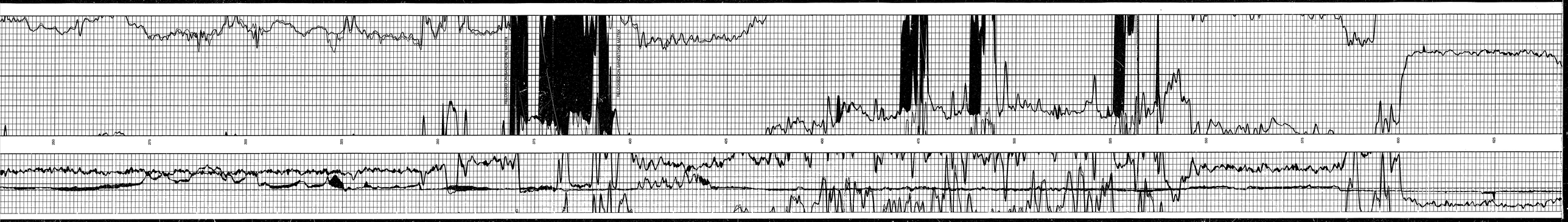
OP System Version: 8C1-205

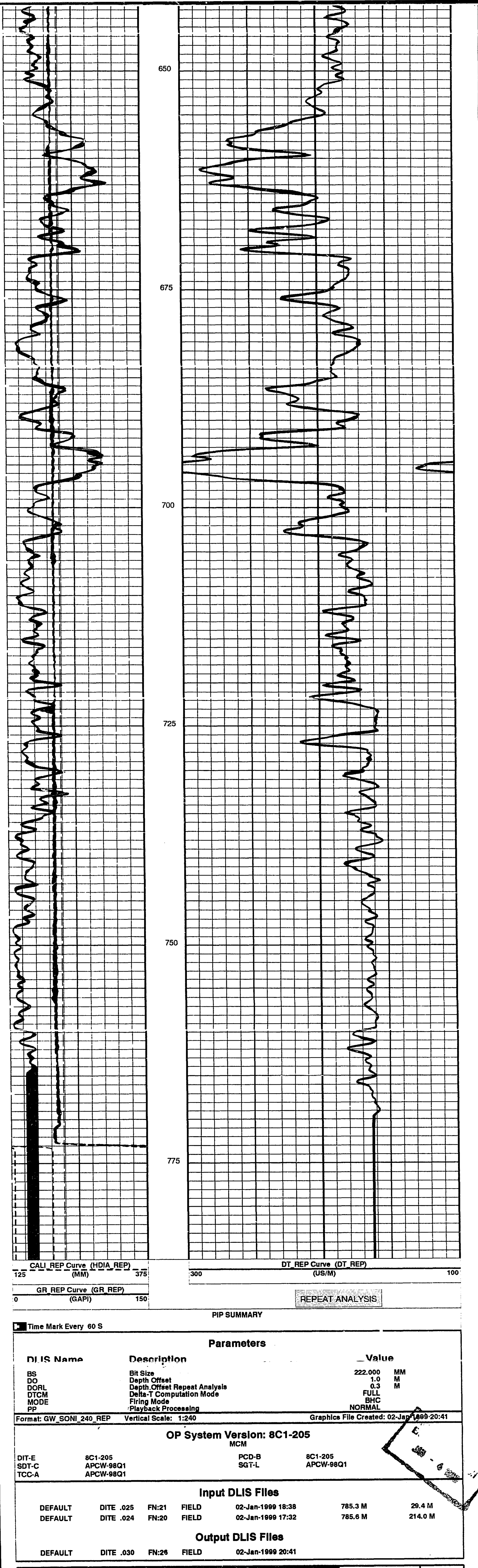
MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98G1	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

PIP SUMMARY

Time Mark Every 60 S


RECORDED DURING ANESTHESIA
RECORDED DURING ANESTHESIA
350
375
400
325
350
375
400
425
450
475
500
525
550
575
600
625



CALI_REP Curve (HDIA_REP)
125 (MM) 375

GR_REP Curve (GR_REP)
0 (GAPI) 150

DT_REP Curve (DT_REP)
300 (US/M) 100

REPEAT ANALYSIS

PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BS	Bit Size	222.000	MM
DO	Depth Offset	1.0	M
DORL	Depth Offset Repeat Analysis	0.3	M
DTCM	Delta-T Computation Mode	FULL	
MODE	Firing Mode	BHC	
PP	Playback Processing	NORMAL	

Format: GW_SONI_240_REP Vertical Scale: 1:240 Graphics File Created: 02-Jan-1999 20:41

OP System Version: 8C1-205

MCM

DIT-E	8C1-205	PCD-B	8C1-205
SDT-C	APCW-98Q1	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

Input DLIS Files

DEFAULT	DITE .025	FN:21	FIELD	02-Jan-1999 18:38	785.3 M	29.4 M
DEFAULT	DITE .024	FN:20	FIELD	02-Jan-1999 17:32	785.6 M	214.0 M

Output DLIS Files

DEFAULT	DITE .030	FN:26	FIELD	02-Jan-1999 20:41

COMPANY GREY WOLF EXPLORATION LTD.

WELL GREY WOLF CANAXAS DEH CHO 1B-25

FIELD CANAXAS DEH CHO

PROVINCE N.W.T.

BOTTOM LOG INTERVAL	768.3 M
SCHLUMBERGER DEPTH	784.1 M
DEPTH DRILLER	225 M
KELLY BUSHING	71.8 M
DRILL FLOOR	
GROUND LEVEL	64.9 M

Schlumberger

BOREHOLE COMPENSATED SONIC LOG

N.E.B. COPY

COMPANY: GREY WOLF EXPLORATION LTD.

WELL: GREY WOLF CANAXAS DEH CHO 1B-25

FIELD: CANAXAS DEH CHO

PROVINCE: N.W.T.

Schlumberger

COMPENSATED NEUTRON LITHO-DENSITY

Permanent Datum:	GROUND LEVEL	Elev.:	68.8 M
Log Measured From:	KELLY BUSHING	6.0 M	Above Perm. Datum
Drilling Measured From:	KELLY BUSHING		

API Serial No.: LAT: 61° 26' 41.39" LONG: 123° 45' 31.39"

Logging Date	4-JAN-1999				
Run Number	ONE				
Depth Driller	762 M				
Schlumberger Depth	761.1 M				
Bottom Log Interval	760 M				
Top Log Interval	225 M				
Casing Driller Size @ Depth	244.5MM @ 225 M				
Casing Schlumberger	244.5MM @ 225 M				
Bit Size	222.3MM				
Type Fluid in Hole	LIGNOSULPHONATE MUD				
Density	1080 KG/M3	VISC 65			
PH / Fluid Loss	9.5	6 C3			
Source of Sample	FLOWLINE				
RM @ Measured Temperature	0.650 OHMM	@	15 DEGC		
RMF @ Measured Temperature	0.490 OHMM	@	15 DEGC		
RMC @ Measured Temperature	0.780 OHMM	@	15 DEGC		
Source: RMF	RMC				
RM @ BHT	0.300 OHMM	@	40 DEGC		
Maximum Recorded Temperature	40 DEGC				
Circulation Stopped	7AM				
Logger On Bottom	1PM				
Unit Number	1	Location			
Recorded By	MIKE STEWART				
Witnessed By	CHUCK SNAZEL				

	Run 1	Run 2	Run 3	Run 4
Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth				
Casing Schlumberger				
Bit Size				
Type Fluid in Hole				
Density / Viscosity				
PH / Fluid Loss				
Source of Sample				
RM @ Measured Temperature				
RMF @ Measured Temperature				
RMC @ Measured Temperature				
Source: RMF / RMC				
RM @ BHT				
Maximum Recorded Temperature				
Circulation Stopped				
Logger On Bottom				
Unit Number	Location			
Recorded By				
Witnessed By				

EQUIPMENT DESCRIPTION

RUN 3

RUN 4

DOWNHOLE EQUIPMENT

HGNS-H	1425	14.66	
HLDS-H	1426	14.31	
APS-AB	1427	13.80	
APS-CD	1428	13.17	
HNGS	1429	12.89	
Mud Cake			
Gamma Ray			
HLDS Pad		11.51	
APS Pad		8.44	
APS-CD	1427	8.71	
APS-AB	1428	8.10	
HNGS	1429	7.49	
HLDS	1426	6.28	
HGNS-H	1425		
Telemetry		5.28	
Cartridge			
Sonde			

MUD PROPERTIES AND REMARKS

MEASURED FROM KELLY BUSHING

LOGGED WITH 1 SONDE

RUN 3 AND 4 COMBINED

RUN 3 AND 4 COMBINED

Input DLIS Files

3D1A27	1470 .dfs	Pass 1	762.0 ft	213.1 ft
3D1A27	1470 .dfs	Pass 2	762.0 ft	213.1 ft

Output DLIS Files

3D1A27	1470 .dfs	Pass 1	762.0 ft	213.1 ft

Merged Files, Curve Name Summary

Tool Version = 8.1 Mnemonic (TCC-B) = 3D1A27

Tool Version = 8.1 Mnemonic (TCC-B) = 3D1A27

OP System Version: 6C1-209

PP SUMMARY

TCC-A APCW-98Q1

Input DLIS Files

DEFAULT	LDTD .044	FN:40	FIELD	03-Jan-1999 00:29	785.6 M	213.1 M

Output DLIS Files

DEFAULT	LDTD .049	FN:15	FIELD	03-Jan-1999 02:34		

Input DLIS Files

DEFAULT	LDTD .044	FN:40	FIELD	03-Jan-1999 00:29	785.6 M	213.1 M

Output DLIS Files

DEFAULT	LDTD .049	FN:45	FIELD	03-Jan-1999 02:34	785.6 M	213.1 M

Integrated Hole/Cement Volume Summary

Hole Volume = 23.78 M3
Cement Volume = 0.88 M3 (assuming 177.20 MM casing O.D.)
Computed from 784.9 M to 225.1 M using data channel(s) CALI LA

OP System Version: 8C1-205

MCM

LDT-D	APCW-98Q1	CNT-H	APCW-98Q1
PCD-B	8C1-205	SGTL	APCW-98Q1
TCC-A	APCW-98Q1		

PIP SUMMARY
Integrated Hole Volume Minor Plp Every 0.1 M3
Integrated Hole Volume Major Plp Every 1 M3
Integrated Cement Volume Minor Plp Every 0.1 M3
Integrated Cement Volume Major Plp Every 1 M3

MAIN PASS

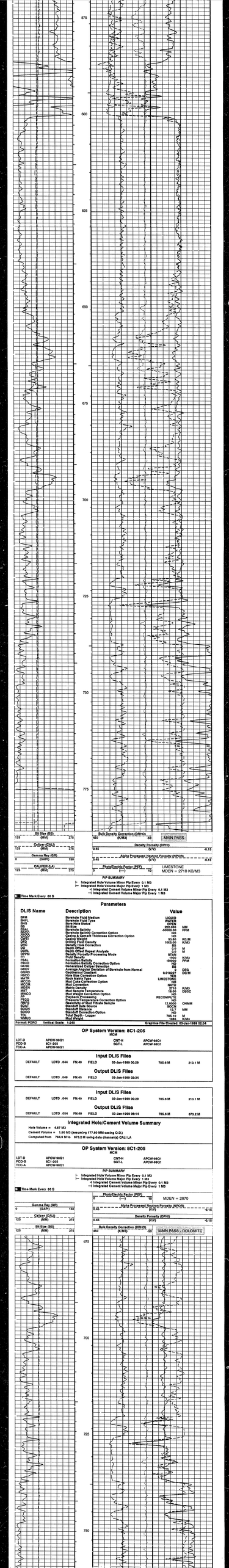
Time Mark Every 60 S

CALIPER (LA) (MM) 125 375
Gamma Ray (GR) (GAPI) 0 150
Caliper (CALI) (MM) 125 375
Bit Size (BS) (DIM) 125 375

Photoelectric Factor (PEF) (---) 0 10
Alpha Processed Neutron Porosity (NPOR) (V/V) 0.45 -0.15
Density Porosity (DPHI) (V/V) 0.45 -0.15
Bulk Density Correction (DRHO) (KG/M3) -150 150
Bulk Density (RHOB) (KG/M3) 1950 2950

MDEN=2710 KG/M3
LIMESTONE

225
250
275
300
325
350
375
400
425
450
475
500
525
550



Parameters

DLIS Name	Description	Value
BFM	Borehole Fluid Medium	LIQUID
BHFL	Borehole Fluid Type	WATER
BH	Bore Hole Status	OPEN
BS	Bit Size	216.00 MM
EBAL	Borehole Salinity	40000.00 PPM
RBCO	Borehole Salinity Correction Option	NO
CWCO	Casing Weight and Thickness Correction Option	NO
CWGT	Casing Weight	53.60 KG/M
DFD	Drilling Fluid Density	1065.00 K/M3
DOC	Depth Offset Correction	NO
DO	Depth Offset	0.0 M
DORL	Depth Offset Repeat Analysis	0.0 M
DPHM	Density Porosity Processing Mode	STAN
DT	Delta T	0000 K/M3
FBAL	Formation Salinity	40000 PPM
FSCO	Formation Salinity Correction Option	NO
GDEV	Generalized Caliper Selection	BS
GDPC	Geometrical Correction of Borehole from Normal	DES
GSRD	Geothermal Gradient	0.018337 DC/M
HBCO	Hole Bias Correction Option	YES
LMF	Log Measure Point	LIMESTONE
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MDEN	Matrix Density	2710 K/M3
MEAS	Mud Sample Temperature	0.0 DEGC
MWCO	Mud Weight Correction Option	NO
PP	Playback Processing	RECOMPUTE
PTCO	Pressure Correction Correction Option	NO
RMFS	Resistivity of Mud Filtrate Sample	10.0000 OHMM
SDAT	Standoff Data Source	MAN
SOCO	Standoff Distance	0.7 MM
SOCO	Standoff Correction Option	NO
TDL	Total Depth - Logger	785.10 M
WMUD	Mud Weight	1085 K/M3

Format: PORO Vertical Scale: 1:240 Graphics File Created: 03-Jan-1999 02:34

OP System Version: 8C1-205

MCM

LDT-D	APCW-98G1	CNT-H	APCW-98G1
FCO-B	APC-205	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

Input DLIS Files

DEFAULT	LDTD .044	FN:40	FIELD	03-Jan-1999 00:29	785.6 M	213.1 M

Output DLIS Files

DEFAULT	LDTD .049	FN:45	FIELD	03-Jan-1999 02:34		

Input DLIS Files

DEFAULT	LDTD .044	FN:40	FIELD	03-Jan-1999 00:29	785.6 M	213.1 M

Output DLIS Files

DEFAULT	LDTD .054	FN:49	FIELD	03-Jan-1999 06:14	785.6 M	673.2 M

Integrated Hole/Cement Volume Summary

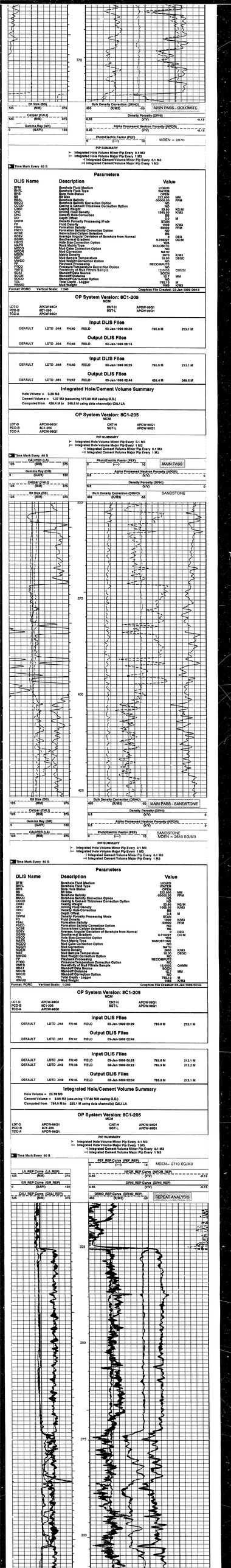
Hole Volume = 4.67 M3
Cement Volume = 1.90 M3 (assuming 177.80 MM casing O.D.)
Computed from 764.9 M to 673.2 M using data channel(s) CALI LA

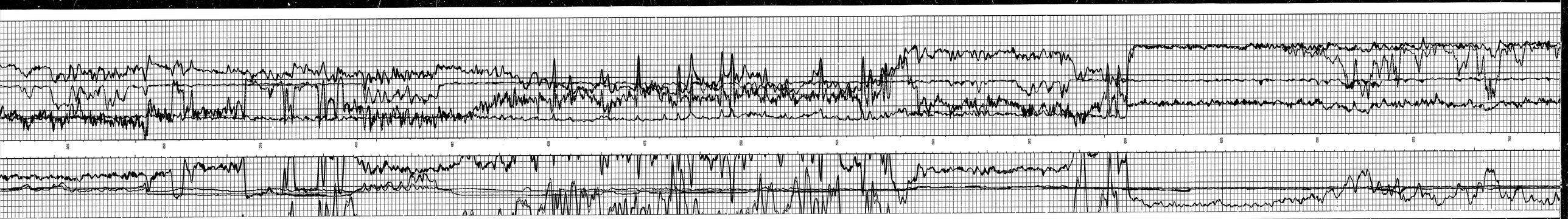
OP System Version: 8C1-205

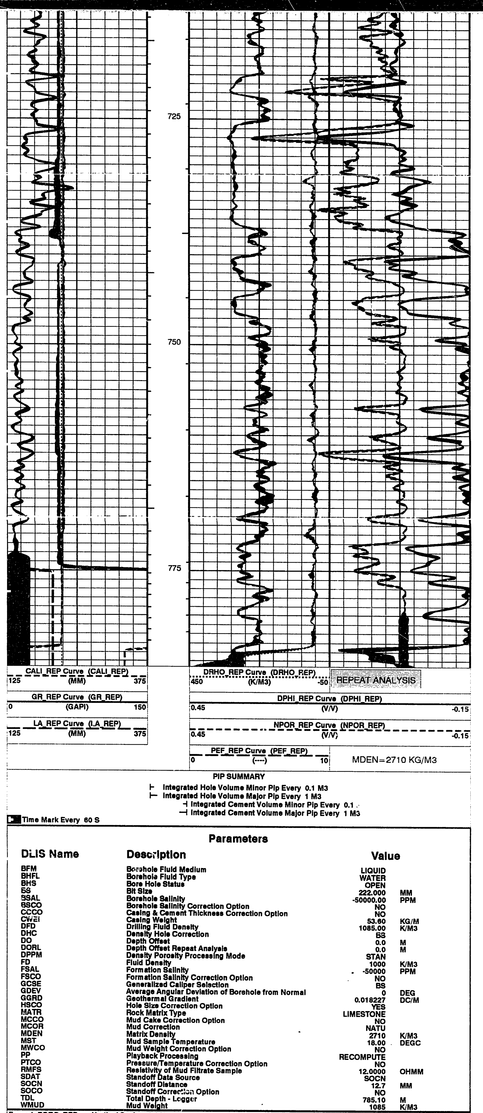
MCM

LDT-D	APCW-98G1	CNT-H	APCW-98G1
FCO-B	8C1-205	SGT-L	APCW-98G1
TCC-A	APCW-98G1		

PIP SUMMARY
Integrated Hole Volume Minor Pip Every 0.1 M3
Integrated Hole Volume Major Pip Every 1 M3
Integrated Cement Volume Minor Pip Every 0.1 M3
Integrated Cement Volume Major Pip Every 1 M3
Time Mark Every 60 S


Bit Size (BS)
Caliber (CALI)
Gamma Ray (GR)
Bulk Density Correction (DRHO)
MAIN PASS - DOLOMITE
Density Porosity (DPHI)
Alpha Processed Neutron Porosity (NPOR)
Photo/Electric Factor (PEF)
MDEN = 2870
PIP SUMMARY
Integrated Hole Volume Minor Pip Every 0.1 M3
Integrated Hole Volume Major Pip Every 1 M3
Integrated Cement Volume Minor Pip Every 0.1 M3
Integrated Cement Volume Major Pip Every 1 M3
Time Mark Every 60 S
Parameters
DLIS Name
Description
Value
BFM Borehole Fluid Medium LIQUID
BHFL Borehole Fluid Type WATER
BHS Bore Hole Status OPEN
BS Bit Size 222.000 MM
CBADL Borehole Salinity -50000.00 PPM
CBOCO Borehole Salinity Correction Option NO
CCOCO Casing & Cement Thickness Correction Option NO
CWEI Casing Weight 53.60 KG/M
DFD Drilling Fluid Density 1053.00 K/M3
DHC Density Hole Correction BS
DPHI Density Porosity M
DPHZ Density Porosity Processing M*de 0.000
FD Fluid Density 1100 K/M3
FSAL Formation Salinity -50000 PPM
FSCO Formation Salinity Correction Option NO
GCSC Geochemical Gradient Selection NO
GDEV Average Angular Deviation of Borehole from Normal 0 DEG
GGRD Geothermal Gradient 0.018227 DC/M
HTEN Hole Temperature 150
MATR Rock Matrix Type DOLOMITE
MCOI Mud Cake Correction Option NO
MCOR Mud Correction NATU
MDEN Matrix Density 2870 K/M3
MST Mud Sample Temperature 18.00 DEGC
MWCO Mud Weight Correction Option NO
NPHI Neutron Porosity RECONSTRUCTED
PTCO Pressure/Temperature Correction Option NO
RMFS Resistivity of Mud Filtrate Sample 13.0000 OHMM
SCST Standoff Data Source SOCN
SOCO Standoff Correction MM
SOCOO Standoff Correction Option NO
TD Total Depth - Logger 785.10 M
WMUD Mud Weight 1080 K/M3
Format: PORO Vertical Scale: 1:240 Graphics File Created: 03-Jan-1999 06:14
OP System Version: 8C1-205
MCM
LDT-O APCW-98Q1 CNT-H APCW-98Q1
PCD-B 8C1-205 SGT-L APCW-98Q1
TCC-A APCW-98Q1
Input DLIS Files
DEFAULT LDTD .044 FN:40 FIELD 03-Jan-1999 00:29 785.6 M 213.1 M
Output DLIS Files
DEFAULT LDTD .054 FN:49 FIELD 03-Jan-1999 06:14
Input DLIS Files
DEFAULT LDTD .044 FN:40 FIELD 03-Jan-1999 00:29 785.6 M 213.1 M
Output DLIS Files
DEFAULT LDTD .051 FN:47 FIELD 03-Jan-1999 02:44 426.4 M 349.5 M
Integrated Hole/Cement Volume Summary
Hole Volume = 3.26 M3
Cement Volume = 1.37 M3 (assuming 177.80 MM casing O.D.)
Computed from 426.4 M to 349.5 M using data channel(s) CALI LA
OP System Version: 8C1-205
MCM
LDT-O APCW-98Q1 CNT-H APCW-98Q1
PCD-B 8C1-205 SGT-L APCW-98Q1
TCC-A APCW-98Q1
PIP SUMMARY
Integrated Hole Volume Minor Pip Every 0.1 M3
Integrated Hole Volume Major Pip Every 1 M3
Integrated Cement Volume Minor Pip Every 0.1 M3
Integrated Cement Volume Major Pip Every 1 M3
Time Mark Every 60 S
CALIPER (LA)
Gamma Ray (GR)
Caliber (CALI)
Bit Size (BS)
MAIN PASS
Alpha Processed Neutron Porosity (NPOR)
Density Porosity (DPHI)
Bu k Density Correction (DRHO)
SANDSTONE
Photo/Electric Factor (PEF)
PIP SUMMARY
Integrated Hole Volume Minor Pip Every 0.1 M3
Integrated Hole Volume Major Pip Every 1 M3
Integrated Cement Volume Minor Pip Every 0.1 M3
Integrated Cement Volume Major Pip Every 1 M3
Time Mark Every 60 S
Parameters
DLIS Name
Description
Value
BFM Borehole Fluid Medium LIQUID
BHFL Borehole Fluid Type WATER
BHS Bore Hole Status OPEN
BS Bit Size 222.000 MM
BSCO Borehole Salinity -50000.00 PPM
CBOCO Borehole Salinity Correction Option NO
CCOCO Casing & Cement Thickness Correction Option NO
CWEI Casing Weight 53.60 KG/M
DFD Drilling Fluid Density 1053.00 K/M3
DHC Density Hole Correction BS
DPHI Depth Offset 2.4 M
DPHM Density Porosity Processing Mode 0.000
FD Fluid Density 1100 K/M3
FSAL Formation Salinity -50000 PPM
FSCO Formation Salinity Correction Option NO
GCSC Geochemical Gradient Selection NO
GDEV Average Angular Deviation of Borehole from Normal 0 DEG
GGRD Geothermal Gradient 0.018227 DC/M
HTEN Hole Temperature YES
MATR Rock Matrix Type SANDSTONE
MCOI Mud Cake Correction Option NO
MCOR Mud Correction NATU
MDEN Matrix Density 2650 K/M3
MST Mud Sample Temperature 18.00 DEGC
MWCO Mud Weight Correction Option NO
NPHI Neutron Porosity RECONSTRUCTED
PTCO Pressure/Temperature Correction Option YES
RMFS Resistivity of Mud Filtrate Sample 13.0000 OHMM
SCST Standoff Data Source SOCN
SOCO Standoff Correction MM
SOCOO Standoff Correction Option NO
TD Total Depth - Logger 785.10 M
WMUD Mud Weight 1080 K/M3
Format: PORO Vertical Scale: 1:240 Graphics File Created: 03-Jan-1999 02:44
OP System Version: 8C1-205
MCM
LDT-O APCW-98Q1 CNT-H APCW-98Q1
PCD-B 8C1-205 SGT-L APCW-98Q1
TCC-A APCW-98Q1
Input DLIS Files
DEFAULT LDTD .044 FN:40 FIELD 03-Jan-1999 00:29 785.6 M 213.1 M
Output DLIS Files
DEFAULT LDTD .051 FN:47 FIELD 03-Jan-1999 02:44
Input DLIS Files
DEFAULT LDTD .044 FN:40 FIELD 03-Jan-1999 00:29 785.6 M 213.1 M
DEFAULT LDTD .042 FN:26 FIELD 03-Jan-1999 00:22 789.9 M 213.2 M
Output DLIS Files
DEFAULT LDTD .049 FN:45 FIELD 03-Jan-1999 02:34 785.6 M 213.1 M
Integrated Hole/Cement Volume Summary
Hole Volume = 9.66 M3 (assuming 177.80 MM casing O.D.)
Cement Volume = 9.66 M3 (assuming 177.80 MM casing O.D.)
Computed from 784.9 M to 225.1 M using data channel(s) CALI LA
OP System Version: 8C1-205
MCM
LDT-O APCW-98Q1 CNT-H APCW-98Q1
PCD-B 8C1-205 SGT-L APCW-98Q1
TCC-A APCW-98Q1
PIP SUMMARY
Integrated Hole Volume Minor Pip Every 0.1 M3
Integrated Hole Volume Major Pip Every 1 M3
Integrated Cement Volume Minor Pip Every 0.1 M3
Integrated Cement Volume Major Pip Every 1 M3
Time Mark Every 60 S
LA_REP Curve (LA_REP)
GR_REP Curve (GR_REP)
CALI_REP Curve (CALI_REP)
PEF_REP Curve (PEF_REP)
MDEN= 2710 KG/M3
NPOR_REP Curve (NPOR_REP)
DPHI_REP Curve (DPHI_REP)
DRHO_REP Curve (DRHO_REP)
REPEAT ANALYSIS
HOLE VOLUME (M3)
CEMENT VOLUME (M3)





CALI_REP Curve (CALI_REP)
125 (MM) 375

GR_REP Curve (GR_REP)
0 (GAPI) 150

LA_REP Curve (LA_REP)
125 (MM) 375

DRHO_REP Curve (DRHO_REP)
.450 (K/M3) -.50

REPEAT ANALYSIS

DPHI_REP Curve (DPHI_REP)
0.45 (V/V) -0.15

NPOR_REP Curve (NPOR_REP)
0.45 (V/V) -0.15

PEF_REP Curve (PEF_REP)
0 (----) 10

MDEN=2710 KG/M3

PIP SUMMARY
Integrated Hole Volume Minor Pip Every 0.1 M3
Integrated Hole Volume Major Pip Every 1 M3
Integrated Cement Volume Minor Pip Every 0.1
Integrated Cement Volume Major Pip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BFM	Borehole Fluid Medium	LIQUID	
BHFL	Borehole Fluid Type	WATER	
BHS	Bore Hole Status	OPEN	
BS	Bit Size	222.000	MM
BSAL	Borehole Salinity	-50000.00	PPM
BSCO	Borehole Salinity Correction Option	NO	
CCCO	Casing & Cement Thickness Correction Option	NO	
CWGI	Casing Weight	53.80	KG/M
DFD	Drilling Fluid Density	1085.00	K/M3
DHC	Density Hole Correction	BS	
DO	Depth Offset	0.0	M
DORL	Depth Offset Repeat Analysis	0.0	M
DPPM	Density Porosity Processing Mode	STAN	
FD	Fluid Density	1000	K/M3
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCSE	Generalized Caliper Selection	BS	
GDEV	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix Type	LIMESTONE	
MCCO	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MDEN	Matrix Density	2710	K/M3
MST	Mud Sample Temperature	18.00	DEGC
MWCO	Mud Weight Correction Option	NO	
PP	Playback Processing	RECOMPUTE	
PTCO	Pressure/Temperature Correction Option	NO	
RMFS	Resistivity of Mud Filtrate Sample	12.0000	OHMM
SDAT	Standoff Data Source	SOCN	
SOCN	Standoff Distance	12.7	MM
SOCO	Standoff Correction Option	NO	
TDL	Total Depth - Logger	785.10	M
WMUD	Mud Weight	1085	K/M3

Format: PORO_REP Vertical Scale: 1:240 Graphics File Created: 03-Jan-1999 02:34

OP System Version: 8C1-205 MCM

LDT-D	APCW-98Q1	CNT-H	APCW-98Q1
PCD-B	8C1-205	SGT-L	APCW-98Q1
TCC-A	APCW-98Q1		

Input DLIS Files

DEFAULT	LDTD .044	FN:40	FIELD	03-Jan-1999 00:29	785.6 M	213.1 M
DEFAULT	LDTD .042	FN:38	FIELD	03-Jan-1999 00:22	785.9 M	213.2 M

Output DLIS Files

DEFAULT	LDTD .049	FN:45	FIELD	03-Jan-1999 02:34

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Litho Density - D Wellsite Calibration - Background Measurement							
Master: Dec 12 14:05 1998 Before: Jan 02 22:04 1999							
LL Background	20.00	17.84	17.82	N/A	N/A	1.000	CPS
LU Background	76.00	67.50	67.64	N/A	N/A	1.000	CPS
LS Background	57.00	51.59	51.64	N/A	N/A	1.000	CPS
LITH Background	5.500	5.085	5.065	N/A	N/A	0.3000	CPS
SS1 Background	16.00	16.59	16.48	N/A	N/A	0.5000	CPS
SS2 Background	11.00	11.34	11.35	N/A	N/A	0.5000	CPS
Litho Density - D Wellsite Calibration - Tool Quality Control Information HV							
Master: Dec 12 14:05 1998 Before: Jan 02 22:04 1999							
LSHV Background	1500	1405	1409	N/A	N/A	N/A	V
SSHV Background	1500	1259	1296	N/A	N/A	N/A	V
Litho Density - D Wellsite Calibration - Detectors Resolution From BKG Measurments							
Master: Dec 12 14:05 1998 Before: Jan 02 22:04 1999							
LS Resolution Background	8.000	8.497	8.437	N/A	N/A	N/A	
SS Resolution Background	8.000	8.541	8.531	N/A	N/A	N/A	
Litho Density - D Wellsite Calibration - Caliper Calibration							
Before: Calibration not done							
Caliper Small Ring	203.2	N/A	N/A	N/A	N/A	N/A	MM
Caliper Large Ring	304.8	N/A	N/A	N/A	N/A	N/A	MM
Compensated Neutron - H Wellsite Calibration - Zero Measurement							
Master: Dec 08 11:26 1998 Before: Jan 02 22:16 1999							
CNTC Background	27.24	27.24	28.22	N/A	N/A	4.088	CPS
CFTC Background	33.74	33.74	32.34	N/A	N/A	5.061	CPS
Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration							
Before: Jan 02 22:03 1999							
Gamma Ray Background	30.00	N/A	15.47	N/A	N/A	N/A	GAPI
Gamma Ray (Lg - Bkg)	160.4	N/A	160.4	N/A	N/A	14.56	GAPI
Gamma Ray (Calibrated)	165.0	N/A	175.2	N/A	N/A	15.00	GAPI

The CNT Master Calibration Was Done With The Following Parameters :

NCT-B Water Temperature 20.0 DEGC.
Thermal Housing Size 85.573 MM.

Litho Density - D / Equipment Identification

Primary Equipment:

Nuclear Services Cartridge	NSC - E	785
Powered Gamma Detector	PGD - G	1867
Gamma Source Radioactive	GSR - J	2043

Auxiliary Equipment:

Density Resistivity Sonde	DRS - C	3926
Electronics Cartridge Housing	ECH - MKA	787
Powered Detector Housing	PDH - L	3745

Litho Density - D Wellsite Calibration

Background Measurment

Phase	LL Background CPS	Value	Phase	LU Background CPS	Value	Phase	LS Background CPS	Value
Master		17.84	Master		67.50	Master		51.59
Before		17.82	Before		67.64	Before		51.64
15.00 (Minimum)	20.00 (Nominal)	25.00 (Maximum)	68.00 (Minimum)	76.00 (Nominal)	84.00 (Maximum)	43.00 (Minimum)	57.00 (Nominal)	72.00 (Maximum)

Phase	LITH Background CPS	Value	Phase	SS1 Background CPS	Value	Phase	SS2 Background CPS	Value
Master		5.085	Master		16.59	Master		11.34
Before		5.065	Before		16.48	Before		11.35
4.000 (Minimum)	5.500 (Nominal)	7.000 (Maximum)	12.00 (Minimum)	16.00 (Nominal)	18.50 (Maximum)	8.000 (Minimum)	11.00 (Nominal)	13.50 (Maximum)

Master: Dec 12 14:05 1998 Before: Jan 02 22:04 1999

Litho Density - D Wellsite Calibration

Detectors Resolution From BKG Measurments

Phase	LS Resolution Background	Value	Phase	SS Resolution Background	Value
Master		8.497	Master		8.541
Before		8.437	Before		8.531
5.000 (Minimum)	8.000 (Nominal)	11.50 (Maximum)	5.000 (Minimum)	8.000 (Nominal)	11.50 (Maximum)

Master: Dec 12 14:05 1998 Before: Jan 02 22:04 1999

Compensated Neutron - H / Equipment Identification

Primary Equipment:

Compensated Neutron Cartridge	CNC - HA	1247
Neutron Logging Source	NLS - KL	1491
Neutron Source Radioactive	NSR - F	1491
Neutron Detector with Alpha Source	CND - A	
Compensated Neutron Box	CNB - AB	

Auxiliary Equipment:

Compensated Neutron Housing	CNH - A	4465
Neutron Calibration Tank	NCT - B	

Compensated Neutron - H Wellsite Calibration

Zero Measurment

Phase	CNTC Background CPS	Value	Phase	CFTC Background CPS	Value
Master		27.24	Master		33.74
Before		28.22	Before		32.34
8.000 (Minimum)	27.24 (Nominal)	40.00 (Maximum)	8.000 (Minimum)	33.74 (Nominal)	40.00 (Maximum)

Master: Dec 08 11:26 1998 Before: Jan 02 22:16 1999

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:

Scintillation Gamma Cartridge	SGC - SA	1046
Scintillation Gamma Detector	SGD - TAA	

Auxiliary Equipment:

Scintillation Gamma Housing	SGH - K	530
Gamma Source Radioactive	GSR - UY	

Scintillation Gamma-Ray - L Wellsite Calibration

Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Lg - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		15.47	Before		160.4	Before		175.2
0 (Minimum)	30.00 (Nominal)	120.0 (Maximum)	140.8 (Minimum)	160.4 (Nominal)	179.0 (Maximum)	150.0 (Minimum)	165.0 (Nominal)	180.0 (Maximum)

Before: Jan 02 22:03 1999

COMPANY:	GREY WOLF EXPLORATION LTD.
WELL:	GREY WOLF CANAXAS DEH CHO 1B-25
FIELD:	CANAXAS DEH CHO
PROVINCE:	N.W.T.

BOTTOM LOG INTERVAL	782 M
SCHLUMBERGER DEPTH	785.1 M
DEPTH DRILLER	785 M
KELLY BUSHING	71.8 M
DRILL FLOOR	
GROUND LEVEL	64.9 M

Schlumberger

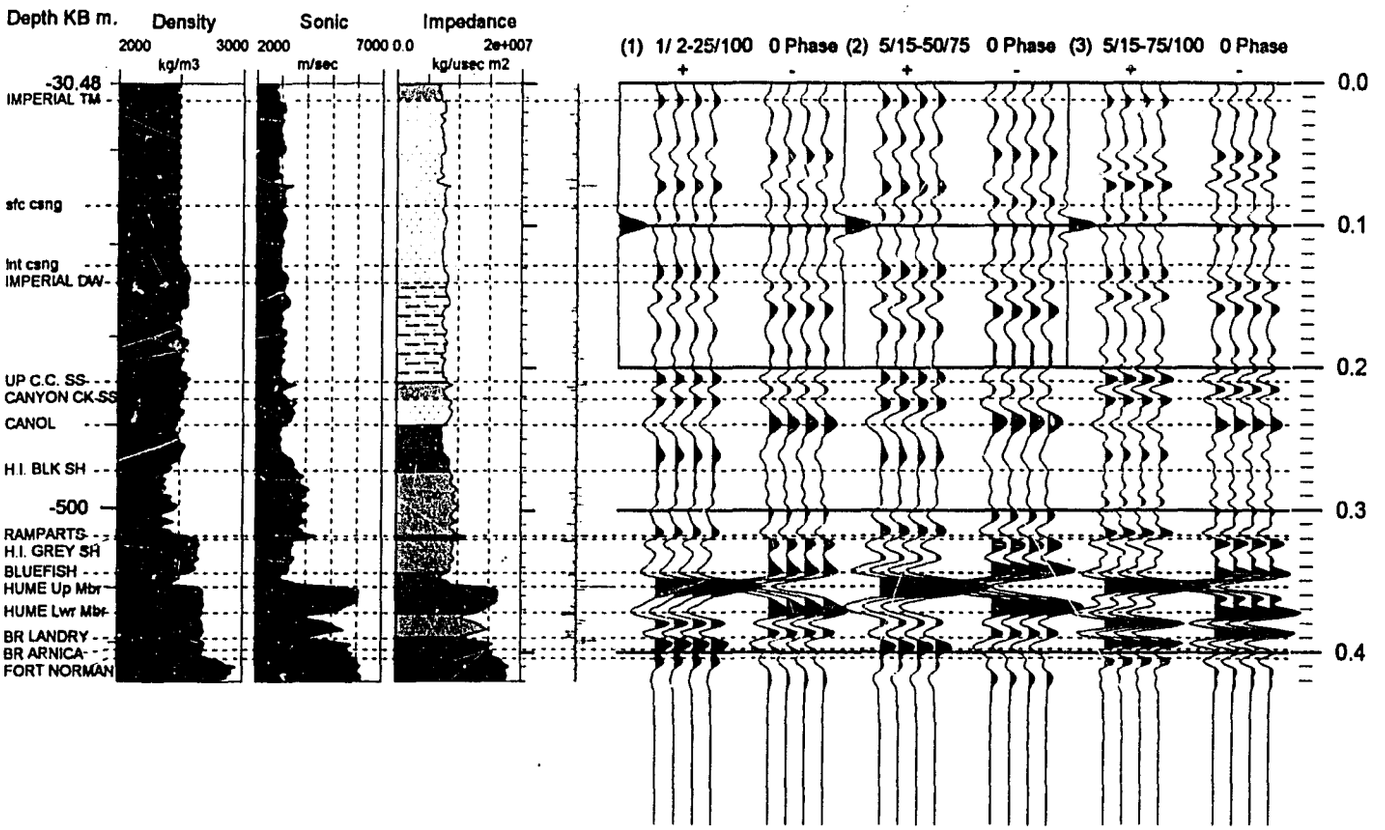
COMPENSATED NEUTRON LITHO-DENSITY

GeoSyn FAR-AWAY RESOURCES LTD.

07:27 AM Sat Feb 06, 1999
Binary source file C:\GEOSYN\SYNTHE~1\WWT\B25DEHCH.SYN

GREY WOLF CANAXAS DEH CHO 1B-25
300B25S520126300
GREY WOLF EXPLORATION LTD.
300/ B25 65-20 126-30 /00

Start depth(KB): -30.48 (m.)
End depth(KB): -786.28 (m.)
Start time: 0.000 secs
End time: 0.422 secs
KB: 71.80 (m.) above msl
Time scale: 19.05 (cm/sec.)
Trace amplitude: 1.000
Sample rate: 2.00 (ms)
** Density is included in the reflection calculation*



Jan. 8, 2004

GREY WOLF CANAXAS DEH CHO 1B-25

Tops Author: RMC	Depth KB m.	Depth SS m.	Time 2 Way secs.	Vav. m/sec	Vint. m/sec	Isochron secs.	Isopach m.
Kelly Bushing =	71.80 (m.) above msl						
Top of Log	-30.48	41.32	0				
					2828.9	0.0138	19.52
IMPERIAL TM	-50.00	21.80	0.0138	2828.9			
					2999.5	0.0740	111.00
sfc csng	-161.00	-89.20	0.0878	2972.7			
					3036.9	0.0421	64.00
int csng	-225.00	-153.20	0.1300	2993.5			
					3163.7	0.0114	18.00
IMPERIAL DW	-243.00	-171.20	0.1413	3007.2			
					3090.1	0.0702	108.50
UP C.C. SS	-351.50	-279.70	0.2116	3034.7			
					3214.8	0.0118	19.00
CANYON CK SS	-370.50	-298.70	0.2234	3044.3			
					3453.8	0.0180	31.00
CANOL	-401.50	-329.70	0.2413	3074.7			
					3121.5	0.0317	49.50
H.I. BLK SH	-451.00	-379.20	0.2731	3080.2			
					3865.1	0.0453	87.50
RAMPARTS	-538.50	-466.70	0.3183	3191.8			
					4644.7	0.0017	4.00
H.I. GREY SH	-542.50	-470.70	0.3200	3199.6			
					3429.3	0.0255	43.80
BLUEFISH	-586.30	-514.50	0.3456	3216.6			
					3215.9	0.0086	13.90
HUME Up Mbr	-600.20	-528.40	0.3542	3216.6			
					5850.3	0.0179	52.30
HUME Lwr Mbr	-632.50	-580.70	0.3721	3343.1			
					4592.0	0.0194	44.50
BR LANDRY	-697.00	-625.20	0.3915	3405.0			
					5489.0	0.0084	23.00
BR ARNICA	-720.00	-648.20	0.3999	3448.6			
					5823.0	0.0058	17.00
FORT NORMAN	-737.00	-665.20	0.4057	3482.8			
					6106.5	0.0161	49.28
Bottom of Log	-786.28	-714.48	0.4219	3583.2			

RETAINED
DATA DIVISION
Jan. 8, 2004