

National Energy
Board



Office national
de l'énergie

File: WID# 1996 & 1997
16 December 2003

Ms. Jennifer Liutkus
Reservoir Engineer
EnCana Corporation
150 - 9th Avenue SW
PO Box 2850
Calgary, AB T2P 2S5

Dear Ms. Liutkus:

**Approval to Drill a Well (ADW) for:
ECA et al Begadéh J-66 (1996) & ECA et al Begadéh B-76 (1997)**

Please be advised that your application for an "Approval to Drill a Well" application, pursuant to section 83 of the *Canada Oil and Gas Drilling Regulations*, is approved for the wells ECA et al Begadéh J-66 and ECA et al Begadéh B-76. Attached please find the signed Approval to Drill a Well forms, one of which is to be posted in a conspicuous place at the drill site as per the *Canada Oil and Gas Drilling Regulations*.

Any changes or deviation from the program will require the additional specific approval of the Chief Conservation Officer. Please be reminded that all oil and gas activities are, at minimum, to meet the requirements of the *Canada Oil and Gas Drilling Regulations*, the *Oil and Gas Occupational Safety and Health Regulations* and the *Canada Labour Code, Part II*. Conditions of approval are attached.

If you have any questions, please do not hesitate to contact Chris Knoechel at 299-3866.

Yours truly,

T. M. Baker
Chief Conservation Officer

cc: M. Fortier - DIAND

444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444, Septième Avenue S.-O.
Calgary (Alberta) T2P 0X8

Canada

Telephone/Téléphone : (403) 292-4800
Facsimile/Télécopieur : (403) 292-5503
<http://www.neb.gc.ca>

Attachment
Approval to Drill a Well for:
ECA et al Begadéh J-66
ECA et al Begadéh B-76

1. Please be advised that EnCana Corporation is to provide two sets of washed cutting samples and one set of unwashed cutting samples for each five metre interval for NEB retention for both J-66 and B-76. The ADW has been updated to reflect this change. Additionally, canned samples are required every 10 metres for J-66.
2. Please note that the ADW form for B-76 under the heading of surface casing; the depth of setting of the surface casing has been changed to 560 metres from 540 metres as per the drilling program.
3. Daily drilling reports are to be faxed by 8:30 am to the attention of the Chief Conservation Officer (fax number (403) 292-5876). Please contact Trena Barnes (phone number (403) 299-3192) should there be any difficulty in delivery of the daily drilling reports.
4. Geological reports are to be submitted daily which include sample descriptions, strip logs and gas detection readings.
5. Please provide immediate copies of any log run as well as 2 copies of all final prints and digital files in LASII format of all logs run.
6. Information to be submitted to the Chief Conservation Officer includes all logs run, drill chips samples, core and fluid samples collected, descriptions and analyses performed on any core, DST results and any pressure and temperature data collected. Actual samples collected are to be submitted to the Core and Sample Repository at the Geological Survey of Canada - Calgary. Additionally, a copy of the core and sample transmittal letter should be forwarded to the Chief Conservation Officer.
7. As per section 122 of the *Canada Oil and Gas Drilling Regulations* formation leak-off tests are to be conducted after the drilling out of surface casing. The leak-off test data and plot are to be faxed in with the accompanying daily drilling report.
8. Well suspension operations are required to meet the requirements of the *Canada Oil and Gas Drilling Regulations*. Upon program termination and well suspension/abandonment a "Well Termination Record" is required to be submitted and a wellbore schematic is to be included.
9. The Approval to Drill a Well is to be displayed at a prominent place on the drill site (section 103 of the *Canada Oil and Gas Drilling Regulations*). Also, copies of the *Canada Oil and Gas Drilling Regulations* as well as the *Oil and Gas Occupational Safety and Health Regulations* are to be kept at the drill site and available on request by any person at the drill site (section 102 of the *Canada Oil and Gas Drilling Regulations* and paragraph 125.(1)(e) of the *Canada Labour Code, Part II*, respectively).
10. Please note the following provisions taken from the *Canada Oil and Gas Operations Act* regarding the powers of a Conservation Officer. Conservation Officers are normally trained in various industry oil and gas safety courses. Please note that while neither the Act nor regulations require a Conservation Officer to possess any industry safety courses to enter and inspect a

drilling site, however, we do ensure that our inspectors are fully trained and have all the prerequisite training to enter any site. Conservation Officers appointed by the Board are only required to provide the person in charge of a drill site proof of their certificate of designation.

11. EnCana Corporation shall implement or cause to be implemented all of the policies, practices, mitigative measures, recommendations and procedures for the protection of the environment referred to in its application.
12. Within 30 days of the completion the well EnCana Corporation shall file with the Chief Conservation Officer a confirmation, by an officer of the company, that the approved Project was completed in compliance with all applicable conditions in the Approval to Drill a Well. If compliance with any of these conditions cannot be confirmed, the officer of the company shall file with the Chief Conservation Officer details as to why compliance cannot be confirmed.
13. EnCana Corporation shall meet the Guideline for Ambient Air Quality Standards in the Northwest Territories when conducting any flaring associated with the Begadéh Program.

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2003 NOV 17 P 3:40

Exploratory ☒
Development ☐Delineation ☐
Service ☐

APPROVAL TO DRILL A WELL

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

Well Name: ECA et al BEGADEN J-66
 Operator: ENCANA CORPORATION Drilling Program No.:
 Contractor: AKITA DRILLING LTD Interest Identifier:
 Drilling Rig or Unit: RIG #55 Estimated Well Cost: \$6,500,000
 Location-Unit: J Section: 66 Grid: 64°40', 125°00'
 Coordinates: Lat: 64°35'30.771" Long: 125°11'58.448"
 Area: TUNITA / TATE LAKE Field / Pool: EXPLORATORY
 Elevation-KBRT: 195.0 (ASL) GL / Seafloor: 190.6
 Approx. Spud Date: FEBRUARY 1, 2004 Est. Days on Location: 20
 Anticipated Total Depth: 2150 Target HUME, HANICA, LANDAY

EVALUATION PROGRAM

Ten-metre sample Canned
 Five-metre sample 2 washed and 1 unwashed
 Canned sample intervals SURFACE TO TD
 Conventional cores at NO CORES
 Logs and Tests PERM, MATH, LDT, BHCS, GPR, FMI, DSI, SPGR, GPIT, MISC, VSP
 UP TO 4 DSI'S BASED ON LOG INTERPRETATION

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing
339.1	81.1	J-55	54	PRIMA FROST C.
244.5	53.57	J-55	540	PRIMA FROST C.
				CLASS 6.122601
132.7	25.3	J-55	2150	FDP-6661-122
				ULTRABOND M

B.O.P. Equipment: HYDRAULIC ANNULAR PREVENTER - 273mm x 21m Pa, 2" SHAFFER
LUIS SINGLE GATE VALVE - 273mm x 21m Pa, VARIOUS GATE VALVES - 76mm
x 21m Pa, VARIOUS SPACER SPOOLS

Other Information: _____

Signed: [Signature] Title: VP. NEW VENTURES, EXPLORATION
 Responsible Officer

Name: DANIEL P. O'NEIL Company: ENCANA CORPORATION
 Date: Nov 5, 2003 Phone: (403) 645-5574

APPROVAL

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

Date: Dec 16/03 Signed: [Signature]
 File: 9211-E043-1-1 Chief Conservation Officer
 WID: 1996
 UWI: 300J666440125000

Canada

WELL
TERMINATION
RECORD

National Energy
Board



Office national
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WELL TERMINATION RECORD

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

Well Name: ECA et al Begadeh J-66 Area: Tulita / Tate Lake
Grid Area: 64° 40' 125° 00' Field / Pool: Exploration
Interest _____ Final _____ Lat 64° 35' 30.991" Long: 125° 11' 58.448"
Drilling Alkita #55 Elevations: 195.57 m (ASL) 190.60 m (SU/Seafloor)
Spud Date: January 28, 2004 R.R.: Feb 15, 2004 Total Depth: 1425.00 m
O.D. (mm) Weight (kg/m) Grade Depth Set (m KB) Cement (m³)
339.7 81.10 J-55 66.63 8.03
244.5 53.57 J-55 564.36 26.88

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Allan W. Capps
from (person) Chris Knoechel of the National Energy Board
by means of telephone conversation on February 11, 2004

Type of Plug	Interval (m KB)	Felt	Cement (m³)
<u>Single</u>	<u>1425 - 1175</u>	<u>Not required</u>	<u>11.4</u>
<u>Single</u>	<u>1175 - 925</u>	<u>Not required</u>	<u>12.1</u>
<u>Single</u>	<u>925 - 675</u>	<u>Not required</u>	<u>15.36</u>
<u>Single</u>	<u>675 - 525</u>	<u>525</u>	<u>10.2</u>
<u>Surface</u>	<u>10 - 0</u>	<u>Not required</u>	<u>0.76</u>

Lost Circulation/Overpressure Zones: None

Equipment left on Seafloor (Describe): N/A

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

Cores: Type: N/A Interval: N/A

Other Downhole Completion/Suspension: N/A

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

Signed: A.W. Capps Title: Drilling Technologist

Name: ALLAN W. CAPPS Date: 2004 03 18

Company: ENGANA CORPORATION

Well Status

Suspended ☐

Completed ☐

Abandoned ☒

Acknowledged by: C. Vail

for/ Chief Conservation Officer

Date: April 22/04

File: 9211-E043-1-1

UWI: 300J666440125000

WID: 1966

FINAL WELL REPORT



N.E.B. COPY

March 18, 2004

National Energy Board
444 Seventh Avenue SW
Calgary, Alberta
T2P 0X8

Attention: T.M. Baker

Dear Sir:

Re: **ECA et al Begadeh J-66**
Final Well Report

Enclosed for you information and files is the Final Well Report for the above well. As per the Canada Oil and Gas Drilling Regulations the following is enclosed:

- a). General Well Data
- b). Summary of Drilling and Related Operations
- c). Geological Information
- d). Directional Summary
- e). Reservoir and Well Evaluation Data
- f). Wireline Logs, Analysis and other Pertinent Reports

The Begadeh well was drilled from January 28, 2004 to February 15, 2004 to a TD of 1425 m from a proposed TD of 2150 m. The majority of the zones were absent and the prospective zones were approximately 700 m high and deemed wet. Open hole logs were run and a set of the logs have been sent in to the NEB by our geological department. I had attached a copy of the geological strip log, petrophysical evaluation and prognosis summary of the well when I submitted the Well Abandonment Program.

If you have any questions or require further information, please contact the undersigned at (403) 645-5436 at your convenience.

Yours truly

A handwritten signature in cursive script that reads "A. W. Capps".

Allan W. Capps
Drilling Technologist



A). GENERAL WELL DATA

- 1) WELL TERMINATION RECORD
- 2) WELL HISTORY
- 3) COMPLETE WELL SUMMARY
- 4) JOB SUMMARY

Well History

WELL NAME: SURFICIAL BEGADEH-156

Bottom Hole UWI 300J666440125000	Surface Legal Location J-66	Field Name BEGADEH	License # 1996	State/Province NWT	Profile Type VERTICAL
KB Elevation (m) 195.57	Gr Elev (m) 190.62	CF Elev (m) 190.92	KB-Grd (m) 4.95	KB-CF (m) 4.65	Spud Date 2004-01-28 01:30
				Rig Release Date 2004-02-15 23:59	Current Operation Stage DRILL/CASE

2004-01-11	Logs - Type: PEX-AIT-LDT-BHC; Top: 563.50 mKB; Btm: 1,425.50 mKB; Comment: NO PROBLEMS LOGGING MAIN HOLE LOGGERS TO 1425.50m
2004-01-28	Casing - Des: CONDUCTOR; Btm: 66.63 mKB; Comment: NO PROBLEMS RUNNING OR CEMENTING CONDUCTOR PIPE
2004-01-28	Sections - Size: 444.5 mm; Top: 0.00 mKB; Btm: 66.63 mKB
2004-01-28	Cement - Des: CONDUCTOR CEMENT; Comment: NO PROBLEMS CEMENTING OR RUNNING CONDUCTOR. CEMENTED WITH 11 TON PERMAFROST C. 8.03m3 MIXED @ 1880 kg/m3. DISPLACED WITH 5.39m3 FRESH WATER. PLUG HELD FLOAT WOULD NOT. BUMP PLUG AGAIN AND HOLD PRESSURE UNTIL CEMENT SET. GOOD RETURNS DURING JOB AND 2m3 OF GOOD CEMENT TO SURFACE. ANNULAS STABLE AFTER JOB COMPLETION. PLUG DOWN 22:48 28-01-04. 1m3 FRESH WATER PRE FLUSH ALONG WITH 0.5m3 SODIUM CITRATE WATER. CEMENT SAMPLES ON SURFACE SET TO STRONG GEL IN 1.5 HRS.
2004-01-30	Sections - Size: 311.1 mm; Top: 66.63 mKB; Btm: 563.50 mKB
2004-02-03	Cement - Des: SURFACE CASING CEMENT
2004-02-03	Logs - Type: PEX-AIT-EMS-BHC-SONIC; Top: 66.00 mKB; Btm: 563.50 mKB; Comment: NO PROBLEMS LOGGING SURFACE HOLE
2004-02-03	Wellheads - Make: COOPER CAMERON; Size: 0.0 mm; WP: 21,000 kPa
2004-02-03	Casing - Des: SURFACE; Btm: 564.36 mKB; Comment: NO PROBLEMS RUNNING OR CEMENTING SURFACE CASING
2004-02-05	LOTS - Depth: 564.36 mKB; Frm: EAST FORK, 60.00mKB; Comment: CSG. DEPTH 564.36m MUD GRADIENT 9.90 kPa/m HYDROSTATIC PRESSURE 5573.70kPa LEAK-OFF PRESSURE 10000 kPa TOTAL PRESSURE AT SHOE 15573.7 kPa FORMATION FRACTURE GRADIENT 27.66 kPa/m MAXIMUM ALLOWABLE MUD DENSITY WITH NO ANNULUS PRESSURE 2819.57 kg/m ³
2004-02-10	Sections - Size: 222.2 mm; Top: 563.50 mKB; Btm: 1,425.00 mKB
2004-02-13	Cement - Des: CEMENT PLUG 1; Eval Res: 1m3 GOOD CEMENT RETURNS; Comment: NO PROBLEMS CEMENTING PLUG 1, REVERSE CIRCULATED AND OBTAINED 1m3 OF GOOD CEMENT RETURNS

Complete Well Summary

Bottom Hole UWI 300J663440125000		Operator ENCANA CORPORATION		License # 1996	Profile Type VERTICAL
KB-Grd (m) 4.95	KB-CF (m) 4.65	KB-TH (m)	PBTD (mKB)	Spud Date 2004-01-28	
Surface Legal Location J-65		N/S Dist 15.8	N/S Ref N	E/W Dist 119.8	E/W Ref W
		Latitude (DMS)		Longitude (DMS)	

Job: DRILLING, 2004-01-15

Job Category Drilling	Type DRILLING	Start Date 2004-01-15	End Date	Cost Type
Target Formation MCUNT KHOLE	Tgt Depth (mKB) 1,700.00	AFE/Cost Center 0325167	Total AFE Amt (\$) 6,121,540	Total FIC Cost (\$) 6,125,946

Summary

Possible Cost Savings (\$)	Poss Time Save (hrs)	Est Prob. Cost (\$)	Est Lost Time (hrs)
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AFE Costs

Code	Sub Code	Sub 2	Item Des	Amount (\$)
8715	322		CONSULTING/EVALUATION/DESIGN	10,000.00
8715	324		SURFACE RIGHTS/SURVEY/EASEMENT	475,000.00
8715	326		LICENSE/TAX	
8715	330		LEASE/ROAD MAINT/STANDBY CAT	163,000.00
8715	328		PERMITS/RELEASES/DAMAGES/LIC	
8715	334		CLEANUP/RESTORATION	57,500.00
8715	336		CONDUCTOR RAT/MOUSEHOLE	
8715	377		MAT RENTALS	
8715	338		RIG/CAMP MOVE IN/OUT	1,300,000.00
8715	623		DIRECTIONAL EQUIP/SERV	157,500.00
8715	346		DAYWORK	436,625.00
8715	332		POWER/FUEL	168,000.00
8715	348		STEAMER	45,600.00
8715	350		TRAVEL/SUBSTANCE/CAMP	254,100.00
8715	354		MUD/FLUIDS/LUBRICATION	214,400.00
8715	534		DRILL BITS	75,500.00
8715	335		WATER ACCESS & HAULING	36,000.00
8715	360		TRANSPORT/TRUCKING	196,000.00
8715	364		INSPECTION/SERVICE	15,000.00
8715	622		CORE ANALYSIS	
8715	368		LOG/PERF/ANALYSIS	85,000.00
8715	636		DRILLSTEM TEST	56,000.00
8715	376		SUPERVISION	165,000.00
8715	380		COMMUNICATION / TELEPHONE	16,800.00
8715	384		SAFETY	25,200.00
8715	648		ENVIRONMENTAL CONTROL	25,000.00
8715	388		INSURANCE	2,000.00
8715	392		MISCELLANEOUS/CONTINGENCY	125,500.00
8715	396		OVERHEAD	62,500.00
8715	400		CASING BOWL	7,500.00
8715	402		SURFACE CASING	37,800.00
8715	404		SURFACE CASE-CEMENT	80,000.00
8715	406		SURFACE CASE-ACCWELD/TONGS	13,825.00
8715	408		INTERMEDIATE CASING	
8715	412		INTERMED CASE-ACCWELD/TONGS	
8715	410		INTERMEDIATE CASING-CEMENTING	
8715	692		ABANDONMENT EQUIP/SERVICE	
8715	362		WAREHOUSING & HANDLING	94,500.00
8715	464		UNDERBALANCED SERVICES	
8715	369		SURFACE EQUIP RENTAL	50,150.00
8715	632		DOWNHOLE EQUIP RENTAL	25,500.00
8715	355		CAMP/CATERING/CREW/ALLOWANCE	18,450.00
8715	414		PRODUCTION CASING	77,500.00
8715	416		PRODUCTION CASING-CEMENT	45,000.00
8715	418		PROD'N CASING-ACCWELD/TONGS	3,000.00

Job Contacts

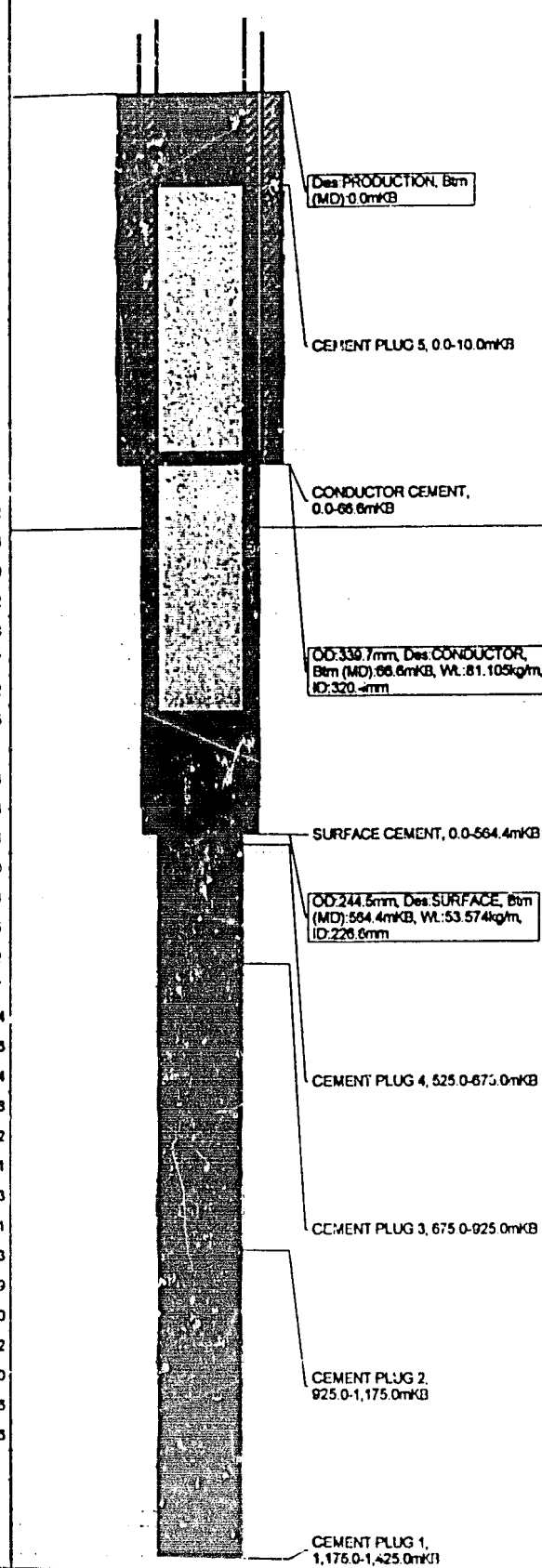
Name	Comp	Title	Office	Cell Phone
BOB ROLFES	AKITA DRILLING LTD.	RIG MANAGER		403-33-8512
BOB ROLFES/LINUS BOIRE	AKITA DRILLING LTD.	Rig Manager		
BOIRE, LINUS	AKITA DRILLING LTD.	RIG MANAGER		403-33-8512
BRIAN HALLOCK / LINUS BOIRE	AKITA DRILLING LTD.	Rig Manager		
HALLOCK, BRIAN	AKITA DRILLING LTD.	RIG MANAGER		403-33-8512
IRWIN, TONY	AKITA DRILLING LTD.	RIG MANAGER		403-33-3512
MADDISON, MIKE	ENCANA CORPORATION	DRILLING FOREMAN		403-33-8515
MIKE MADDISON	ENCANA CORPORATION	Drilling Foreman		
WESLEY, DARREN	ENCANA CORPORATION	DRILLING FOREMAN		403-33-0515

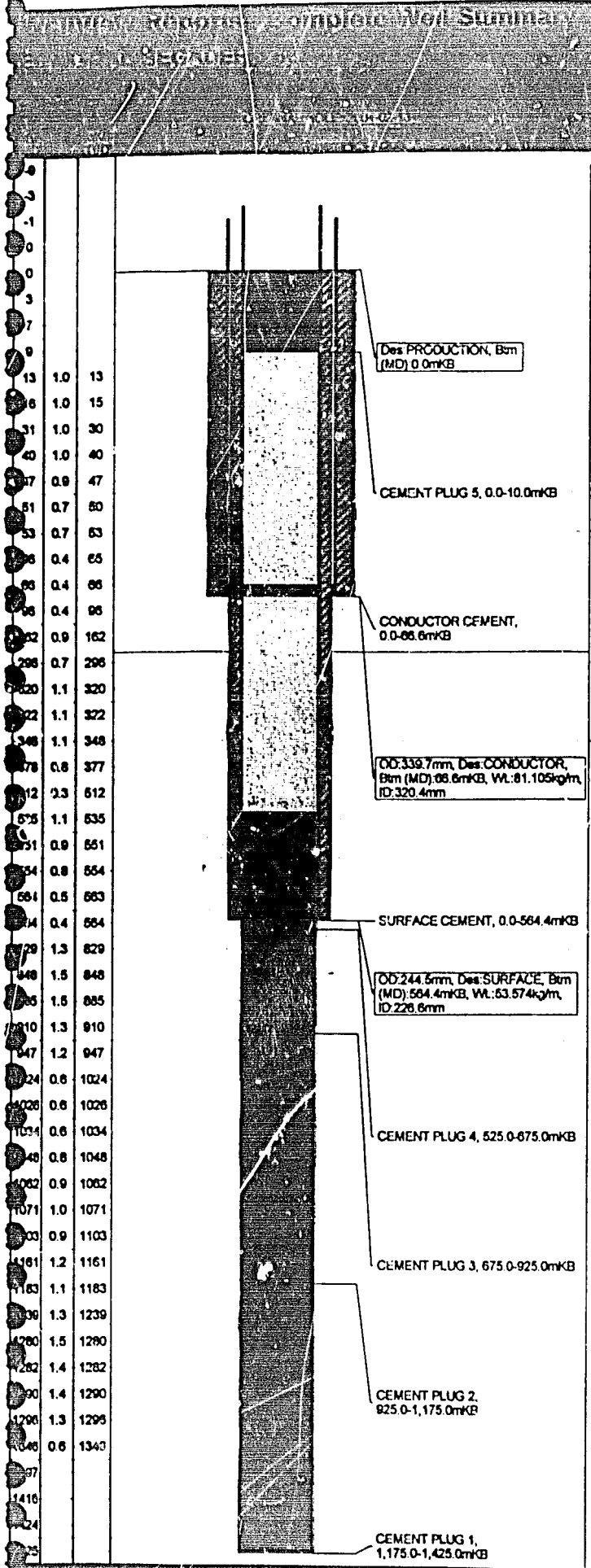
Drill Strings, BHA #1, Drilling Assembly

BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull
1	444.5	S33SG			
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (hr)	IADC Bit Dull
0.00	31.00	51.00	6.25	6.25	

String Components

J&L SUPPLY S33SG, BIT SUB, D.C., X.O., D.C., X.O.





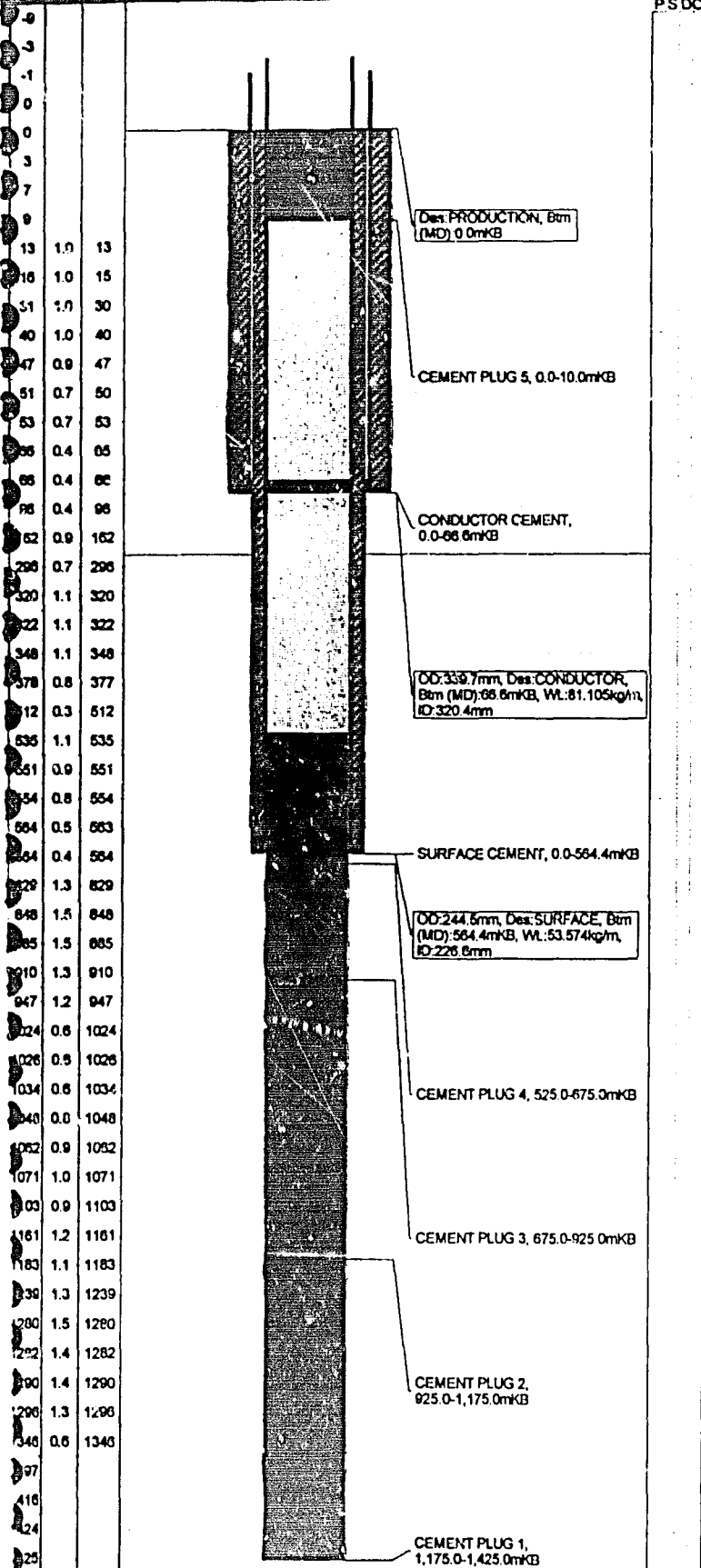
Drill Strings: BHA #2, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
2	444.5	S33SG			3-FC-A-E-0 00-NO-	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
51.00	66.00	15.00	1.25	7.50	3-FC-A-E 0 00-NO-	
String Components						
J&L SUPPLY S33SG, BIT SUB, D.C., X.O., D.C., X.O.						
Drill Strings: BHA #3, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
3	311.1	LJ1001			3-FC-A-E-0 00-NO-	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
66.63	348.00	281.37	20.50	20.50	4-FC-A-E-0 00-NO-	
String Components						
J&L SUPPLY LJ1001, BIT D C COMBO, D.C., X.O., DRILL COLLAR, DRILLING JARS - HYDRAULIC, DRILL COLLAR, X.O, HWDP, KELLY						
Drill Strings: BHA #4, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
4	311.1	LJ213			3-FC-A-6-0 00-NC-	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
345.00	563.50	211.50	18.00	18.00	3-FC-A-6-0 00-NO-T	
String Components						
J&L SUPPLY LJ213, BIT D C COMBO, D.C., X.O., DRILL COLLAR, JAR, DRILL COLLAR, X.O., HWDP, DRILL PIPE, KELLY						
Drill Strings: BHA #5, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
5	222.2	FMX 563 C2			3-FC-A-N-0 00-WT-	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
564.00	1,034.00	470.00	20.00	20.00	3-FC-A-N-0 00-WT-F	
String Components						
D.B.S. FMX 563 C2, 1.25 FIXED MOTOR, FLOAT SUB, O.S, NMDC, DRILL COLLAR, JAR, DRILL COLLAR, CROSS OVER, HWDP, DRILL PIPE, KELLY						
Drill Strings: BHA #6, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
6	222.2	FMX 543 B2			3-FC-A-N-0 00-BT-F	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
1,034.00	1,071.00	37.00	6.00	6.00	3-FC-A-N-0 00-BT-F	
String Components						
SECURITY FMX 543 B2, 1.25 FIXED, FLOAT SUB, O.S, NMDC, DRILL COLLAR, JAR, DRILL COLLAR, CROSS OVER, HWDP, DRILL PIPE, KELLY						
Drill Strings: BHA #7, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
7	222.2	HRS 35			4-FC-A-5-2 00-BT-F	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
1,071.00	1,290.00	219.00	35.00	35.00	4-FC-A-5-2 00-BT-F	
String Components						
WESTERN HRS 35, 1.25 FIXED, FLOAT SUB, O.S, NMDC, DRILL COLLAR, JAR, DRILL COLLAR, CROSS OVER, HWDP, DRILL PIPE, KELLY						
Drill Strings: BHA #8, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
8	222.2	F37HY			2-WT-A-E-1.00-CT-	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
1,290.00	1,425.00	104.00	10.75	10.75	2-WT-A-E-1.00-CT-	
String Components						
SMITH F37HY, 1.25 FIXED, FLOAT SUB, O.S, NMDC, DRILL COLLAR, JAR, DRILL COLLAR, CROSS OVER, HWCP, DRILL PIPE, KELLY						
Drill Strings: BHA #9, Drilling Assembly						
BHA No.	Size (mm)	Model	IADC Codes		IADC Bit Dull	
9	222.2	F37HY			---	
Depth In (mKB)	Depth Out (mKB)	Drilled (m)	Drill Time (hr)	Bit Hrs Out (h)	IADC Bit Dull	
1,425.00	1,425.00	0.00	0.00	10.75	---	
String Components						
SMITH F37HY, BIT SUB, DRILL COLLAR, XO SUB, HWDP, DRILL PIPE, KELLY DOWN						
Formations						
Name			Top (mKB)			
PLEISTOCENE			0.00			
EAST FORK			60.00			
LITTLE BEAR			906.00			
MOUNT KINDLE			1,032.00			
FRANKLIN MTN			1,340.00			
SALIN' RIVER			1,500.00			
Wellbores: ORIGINAL HOLE						
Wellbore Btm Hole UWI			Profile Type	KOP (mKB)	VS Dir (*)	
300J66440125000			VERTICAL			
Size (mm)		Top (mKB)	Btm (mKB)			
444.5			0.00		66.63	
311.1			66.63		563.50	
222.2			563.50		1,425.00	
Casing						
Run Date	Btm (mKB)	Max OD (mm)	Wt (kg/m)	Grade		
2004-01-28	66.63					
2004-02-03	564.36					
Cement: CONDUCTOR CEMENT, casing 2004-01-28 21:45						
Cementing Company		Evaluation Method	Cement Evaluation Results			
Stage Number	Description	Top (mKB)	Bottom (mKB)	Full Return	Cmnt Rtn (m³)	
1	CONDUCTOR CEMENT	0.00	66.63	Yes	2.00	

REPORT: Complete Well Summary BEGADE-1186

ORIGINAL WELL LOG

Wellbore Data

PS DC



Type	Class	Am't (tonnes)	Yield (m ³ /sack)	Mix H2O Ratio (m ³ /tonnes)	V (m ³)	Fluid Des
PREFLUSH		1.0			1.00	1m ³ FRESH WATER PREFLUSH
PREFLUSH		0.5			0.50	0.50m ³ SODIUM CITRATE WATER PREFLUSH
LEAD	THERMA	11.0	0.730	0.39	8.03	8.03m ³ OF PERMAFROST C 11.00 TON @ 1800kg/m ³
DISPLACE		5.4			5.39	5.39m ³ OF FRESH WATER DISPLACEMENT FLUID

Cement: SURFACE CASING CEMENT, casing, 2004-02-03 00:00

Cementing Company		Evaluation Method		Cement Evaluation Results		
Stage Number	Description	Top (mKB)	Bottom (mKB)	Full Return	Cmnt Rtn (m ³)	

Type	Class	Am't (tonnes)	Yield (m ³ /sack)	Mix H2O Ratio (m ³ /tonnes)	V (m ³)	Fluid Des
PREFLUSH		3.0			3.00	3m ³ OF FRESH WATER
LEAD	THERMA	16.0	0.740	0.39	11.68	16 TONNE, 11.68m ³ OF PERMAFROST C @ 1800kg/m ³
TAIL	G	20.0	0.760	0.44	15.20	20 TONNE 0-1-0" G + 2" lead, 15.20m ³ @ 1800kg/m ³
DISPLACE		20.0			20.00	20m ³ OF FRESH WATER DISPLACEMENT FLUID

Cement: CEMENT PLUG 1, plug, 2004-02-13 18:30

Cementing Company		Evaluation Method		Cement Evaluation Results		
HALLIBURTON		RETURNS TO SURFACE		1m ³ GOOD CEMENT RETURNS		

Stage Number	Description	Top (mKB)	Bottom (mKB)	Full Return	Cmnt Rtn (m ³)	
1	CEMENT PLUG 1	1,175.00	1,425.00	Yes	1.00	
2	CEMENT PLUG 2	925.00	1,175.00	Yes	1.00	
3	CEMENT PLUG 3	675.00	925.00	Yes	1.00	
4	CEMENT PLUG 4	525.00	675.00	Yes	1.00	
5	CEMENT PLUG 5	0.00	10.00	Yes	1.00	

Type	Class	Am't (tonnes)	Yield (m ³ /sack)	Mix H2O Ratio (m ³ /tonnes)	V (m ³)	Fluid Des
LEAD	G	15.0	0.760	0.44	11.40	PLUG CEMENT
LEAD	G	16.6	0.760	0.44	12.60	PLUG CEMENT
LEAD	G	20.3	0.760	0.44	15.36	PLUG CEMENT
LEAD	G	13.5	0.760	0.44	10.20	PLUG CEMENT
LEAD	G	1.0	0.760	0.44	0.76	PLUG CEMENT

Wellheads: WELLHEAD, COOPER CAMERON on 2004-02-03

Install Date	Type	Make	WP (kPa)	Size (mm)	Last Overhaul
2004-02-03	WELLHEAD	COOPER CAMERON	21,000	0.0	

Wellhead Components

Make	Model	ectic	Top Conn	Top Sz (mm)	Btm Conn	Btm Sz (mm)	Des	WP (kPa)
COOPER	IC-9		SURFLANGED	279.0	WELDED		CASING BOWL	21,000

Directional Surveys

Date	Des	Srvy Comp
2004-01-28	Ets Dir. survey for ORIGINAL HOLE	

Logs

Date	Type	Top (mKB)	Btm (mKB)	Log Comp
2004-01-11	PEX-AIT-LDT-BHC	563.50	1,425.50	SCHLUMBERGER WIRELINE
2004-02-03	PEX-AIT-EMS-BHC-SONIC	65.00	563.50	SCHLUMBERGER WIRELINE

Leak Off Tests

Test Date	Casing	P(L) (kPa)	Depth (mKB)	Dens Fluid (kg/m ³)	Leak off?
2004-02-05	SURFACE, 564.36mKB	10,000	564.36	1010.00	Yes

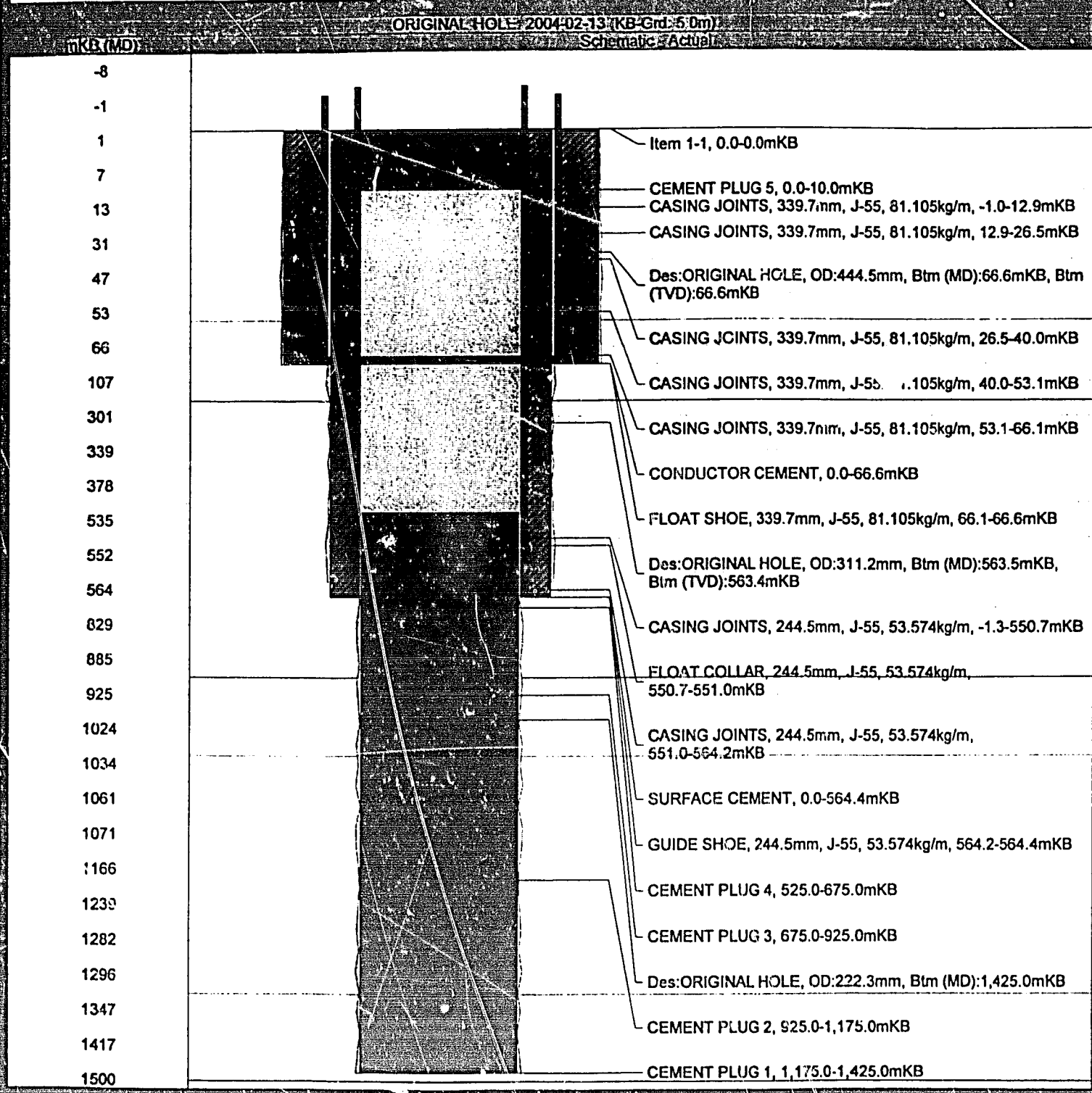
Unit last updated: 2004-03-01 13:39 PM GMT

Printed on: Wednesday, March 3, 2004

Page: 1 of 1

Well Name UWI 300J003440125000	Surface Legal Location J-68	Field Name BEGADEH	License # 1996	State/Province NWT	Profile Type VERTICAL
Rig Elev (m) 195.57	Gr Elev (m) 190.62	CF Elev (m) 190.92	KB-Grd (m) 4.95	KB-CF (m) 4.65	Spud Date 2004-01-28 01:30
Job Category Drilling	Type DRILLING	Sub Type ORIGINAL	Start Date 2004-01-15	End Date	
AFE #/Cost Center # 0325167	Total AFE Amt (\$) 6,121,540	Total Field Est Cost (\$) 6,135,946	AFE-Field Est Variance (\$) -14,406	Working Interest (%) 30.00	Rig Release Date 2004-02-15 21:59
Current Operation Stage DRILL/CASE					

Contractor AKITA DRILLING LTD.	Rig No. 55	Rig Type DRILLING RIG	Start Date 2004-01-15	RR Date 2004-02-15
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B) SUMMARY OF DRILLING AND RELATED OPERATIONS

- 1). WELL SUMMARY – DRILLING**
- 2). DAILY DRILLING REPORTS**
- 3). SIGNED DAILY TOUR SHEETS**

Fluid Type TAIL	Fluid Description 20 TONNE 9-1-0" G" + 2% cac2, 15.20 m3 @ 1895 kg/m3	Estimated Top (mKB) 100.00	Estimated Bottom (mKB) 564.36	Amount (tonnes) 20.0	Class G	Yield (m3/neck) 0.760	Excess (%)
Fluid Type DISPLACEMENT	Fluid Description 20m3 OF FRESH WATER DISPLACEMENT FLUID	Estimated Top (mKB) 0.00	Estimated Bottom (mKB) 551.99	Amount (tonnes) 20.0	Class	Yield (m3/neck)	Excess (%)

CEMENT PLUG 1				Cementing Start Date 2004-02-13 18:30		Cementing End Date 2004-02-13 19:30	
Sig No	Description	Top (mKB)	Bottom (mKB)	Full Return	Cement Volume Return (m³)		
1	CEMENT PLUG 1	1,175.00	1,425.00	Yes	1.00		
Sig No	Description	Top (mKB)	Bottom (mKB)	Full Return	Cement Volume Return (m³)		
2	CEMENT PLUG 2	625.00	1,175.00	Yes	1.00		
Sig No	Description	Top (mKB)	Bottom (mKB)	Full Return	Cement Volume Return (m³)		
3	CEMENT PLUG 3	675.00	925.00	Yes	1.00		
Sig No	Description	Top (mKB)	Bottom (mKB)	Full Return	Cement Volume Return (m³)		
4	CEMENT PLUG 4	525.00	675.00	Yes	1.00		
Sig No	Description	Top (mKB)	Bottom (mKB)	Full Return	Cement Volume Return (m³)		
5	CEMENT PLUG 5	0.00	10.00	Yes	1.00		
Fluid Type	Fluid Description	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class	Yield (m³/neck)	Excess (%)
LEAD	PLUG CEMENT	1,175.00	1,425.00	15.0	G	0.760	20.0
Fluid Type	Fluid Description	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class	Yield (m³/neck)	Excess (%)
LEAD	PLUG CEMENT	625.00	1,175.00	16.6	G	0.760	20.0
Fluid Type	Fluid Description	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class	Yield (m³/neck)	Excess (%)
LEAD	PLUG CEMENT	675.00	925.00	20.3	G	0.760	20.0
Fluid Type	Fluid Description	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class	Yield (m³/neck)	Excess (%)
LEAD	P_LUG CEMENT	525.00	675.00	13.5	G	0.760	20.0
Fluid Type	Fluid Description	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class	Yield (m³/neck)	Excess (%)
LEAD	PLUG CEMENT	0.00	10.00	1.0	G	0.760	20.0

300J66440125000 J-68 MWT VERTICAL 2004-01-28 01:30 2004-02-15 23:59 1996 195.57 190.62 190.92 4.95 4.65 1,425.00

AF & Cost Center Total AF & (S) Total F&I Cost (S) Var (F&I Exp) (S)
0325167 6,121,540 6,135,946 -14,406

Summary
AKITA DRILLING LTD. 55

O DAYLIGHT	68.00
BHA	13.00
COND MUD & CIRC	1.00
CUT OFF DRILLING LINE	72.75
DEV. SURVEY	1.75
DIR. WORK	8.25
DRILL ACTUAL	2.25
MOVE RENTAL	121.00
MOVE RIG	15.75
MUD RING	10.75
NIPPLE UP B.O.P.	4.25
RATHOLE	28.75
REAMING	3.50
REPAIR RIG	0.25
RIG SERVICE	28.75
RIG UP AND TEAR DOWN	4.75
RIGUP & TEARDOWN	12.00
RUN CASING AND CEMENT	277.75
SAFETY MEETING	18.50
TEST B.O.P.	6.75
THRASH PUMPS	9.25
TRIPS	1.75
W.O.ORDERS	85.25
WAIT ON CEMENT	1.75
WELD ON FLANGE	7.25
WIRELINE LOGS	7.50
	13.25

1 444.5mm, S33S/S, NP833	0.00	51.00	51.00	6.25
2 444.5mm, S33S/S, NP833	51.00	66.00	15.00	1.25
3 311.1mm, LJ1001, S44SC	66.63	348.00	281.37	20.50
4 311.1mm, LJ213, M11	349.00	563.50	214.50	18.00
5 222.2mm, FMX 563 C2, 10417353	564.00	1,034.00	470.00	20.00
6 222.2mm, FMX 543 B2, 10410488	1,034.00	1,071.00	37.00	6.00
7 222.2mm, HRS 35, 6020350	1,071.00	1,290.00	219.00	35.00
8 222.2mm, F37HY, MT0645	1,290.00	1,425.00	104.00	10.75
8 222.2mm, F37HY, MT0645	1,425.00	1,425.00	0.00	0.00

Description		Cementing Start Date		Cementing End Date	
CONDUCTOR CEMENT		2004-01-28 21:45		2004-01-28 22:45	
Big No.	Description	Top (mKB)	Bottom (mKB)	Full Return	Cement Volume Return (m³)
1	CONDUCTOR CEMENT	0.00	66.63	Yes	2.00
Fluid Type	PREFLUSH	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class
	1m3 FRESH WATER	0.00	0.00	1.0	
Fluid Type	PREFLUSH	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class
	0.50m3 SODIUM CITRATE WATER	0.00	0.00	0.5	
Fluid Type	LEAD	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class
	8.03m3 OF PERMAFROST C	0.00	66.63	11.0	THERMAL
Fluid Type	DISPLACEMENT	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class
	5.39m3 OF FRESH WATER	0.00	66.63	5.4	
	DISPLACEMENT FLUID				

Description		Cementing Start Date		Cementing End Date	
SURFACE CASING CEMENT		2004-02-03 00:00		2004-02-03 00:00	
Big No.	Description	Top (mKB)	Bottom (mKB)	Full Return	Cement Volume Return (m³)
1	SURFACE CEMENT	0.00	564.36	Yes	9.00
Fluid Type	PREFLUSH	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class
	3m3 OF FRESH WATER	0.00	0.00	3.0	
Fluid Type	LEAD	Estimated Top (mKB)	Estimated Bottom (mKB)	Amount (tonnes)	Class
	18 TONNE, 11.68m3 OF PERMAFROST C @ 1860kg/m3	0.00	100.00	16.0	THERMAL

Formation Pick Group	
Cuttings	
EAST FORK	60.00
LITTLE BEAR	906.00
MOUNT KINDLE	1,032.00
FRANKLIN MTN	1,340.00
SALINE RIVER	1,500.00

Name		Kick Off Point (mKB)	
ORIGINAL HOLE			
Cond actor	444.5	0.00	66.63
surface	311.1	66.63	563.50
main	222.2	563.50	1,425.00

PRODUCTION	
CONDUCTOR	339.7 81.105 J-65 66.63
SURFACE	244.5 53.574 J-65 564.36

PEX-AIT-LOT-B	563.50	1,425.50	SCHLUMBER
PEX-AIT-EM-S	66.00	563.50	WIRELINE & TESTING
			SCHLUMBER
			WIRELINE & TESTING

2004-01-13

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1998 ECA ET AL BEGADEH J-68

ENCANA CORPORATION AKITA DRILLING LTD.

64 35 30.89 N 125 11 58.45 W 300J686440175000

MIKE MADDOSON BRIAN HALLOCK / LINUS BO

2004 2 17

2004 2 17

2004 2 17

ALL IN ONE

ENCANA CORPORATION AKITA DRILLING LTD.

BRIAN HALLOCK / LINUS BO

DAY TOUR

FROM 1200 TO 2400

CREW

DRILLER

DRIVER

LEADER

HAIRER

HAIRER

DAY TOUR

FROM 1200 TO 2400

CREW

DRILLER

DRIVER

LEADER

HAIRER

HAIRER

DAY TOUR

FROM 1200 TO 2400

CREW

DRILLER

DRIVER

LEADER

HAIRER

HAIRER

1995

ECA ET AL BEGADEN J-88

ENCAH CORPORATION

AKITA DRILLING LTD.

64.35 30 N 125.11-58 W

300.00000000000000

MIKE MADDOSON

BRIAN HALLOCK / LINDS BO

- 1.1 Safety Head Assembly
1.2 Safety Head Assembly
1.3 Safety Head Assembly
1.4 Safety Head Assembly
1.5 Safety Head Assembly
1.6 Safety Head Assembly
1.7 Safety Head Assembly
1.8 Safety Head Assembly
1.9 Safety Head Assembly
1.10 Safety Head Assembly

ITEM	QTY	UNIT	PRICE	TOTAL
1.1	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.2	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.3	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.4	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.5	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.6	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.7	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.8	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.9	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.10	1	SAFETY HEAD ASSEMBLY	12.00	12.00

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ITEM	QTY	UNIT	PRICE	TOTAL
1.1	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.2	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.3	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.4	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.5	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.6	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.7	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.8	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.9	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.10	1	SAFETY HEAD ASSEMBLY	12.00	12.00

ITEM	QTY	UNIT	PRICE	TOTAL
1.1	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.2	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.3	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.4	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.5	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.6	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.7	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.8	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.9	1	SAFETY HEAD ASSEMBLY	12.00	12.00
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ITEM	QTY	UNIT	PRICE	TOTAL
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1.4	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.5	1	SAFETY HEAD ASSEMBLY	12.00	12.00
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1.7	1	SAFETY HEAD ASSEMBLY	12.00	12.00
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1.9	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.10	1	SAFETY HEAD ASSEMBLY	12.00	12.00

ITEM	QTY	UNIT	PRICE	TOTAL
1.1	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.2	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.3	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.4	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.5	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.6	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.7	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.8	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.9	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.10	1	SAFETY HEAD ASSEMBLY	12.00	12.00

ITEM	QTY	UNIT	PRICE	TOTAL
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1.2	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.3	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.4	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.5	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.6	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.7	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.8	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.9	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.10	1	SAFETY HEAD ASSEMBLY	12.00	12.00

ITEM	QTY	UNIT	PRICE	TOTAL
1.1	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.2	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.3	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.4	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.5	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.6	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.7	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.8	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.9	1	SAFETY HEAD ASSEMBLY	12.00	12.00
1.10	1	SAFETY HEAD ASSEMBLY	12.00	12.00

1998 ECA ET AL BEGADEN J-65

ENCANA CORPORATION AKOTA DRILLING LTD.

34.35 30 99 N 125.11 58 45 W

300J666440125000

BRAN HALLOCK / LINUS BO

11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

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11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

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| | | | |
|------------------------------|---|---|--------------------------------|
| DATE
1998 | WELL NAME AND NO.
ECA ET AL BEGADEN J-08 | DRILLING COMPANY
AKITA DRILLING LTD. | WELL NO.
300JEN840125000 |
| CLIENT
ENCANA CORPORATION | ADDRESS
64 35 28 20 N 125 11 58 45 W | WELL TYPE
300JEN840125000 | WELL STATUS
300JEN840125000 |
| DRILLER
BOKE MADISON | WELL TYPE
300JEN840125000 | WELL TYPE
300JEN840125000 | WELL TYPE
300JEN840125000 |

ALL IN ONE
PRINTED AND PRINTED

| WELL LOG | | | | | | | | | | RENTALS / SERVICES | | | | | | | | | | DRILLING CREW PAYROLL DATA | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|
| <p>WELL LOG</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>RENTALS / SERVICES</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>DRILLING CREW PAYROLL DATA</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | |
| <p>WELL LOG</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>RENTALS / SERVICES</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>DRILLING CREW PAYROLL DATA</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | |

| WELL LOG | | | | | | | | | | RENTALS / SERVICES | | | | | | | | | | DRILLING CREW PAYROLL DATA | | | | | | | | | |
|---|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|---|--|--|--|--|--|--|--|--|--|
| <p>WELL LOG</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>RENTALS / SERVICES</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>DRILLING CREW PAYROLL DATA</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | |
| <p>WELL LOG</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>RENTALS / SERVICES</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | | <p>DRILLING CREW PAYROLL DATA</p> <p>DATE: 1998</p> <p>WELL NAME: ECA ET AL BEGADEN J-08</p> <p>WELL NO.: 300JEN840125000</p> <p>WELL TYPE: 300JEN840125000</p> <p>WELL STATUS: 300JEN840125000</p> | | | | | | | | | |

[illegible]

Job No. 10706 ECA ET AL BEGADON J-08
EMICANA CORPORATION AKITA DRILLING LTD.
84.23.30.00 N 125.11.58.45 W 300.8004401290.00
BRIAN HALLOCK / LINUS BOE

ALL IN ONE
PAGE 001 OF 001

Logbook section containing multiple tables for recording drilling operations, including columns for time, depth, and various parameters. Includes sections for 'EVENING TOUR', 'MIDNIGHT RECORD', and 'DAY FOUR'.

Summary and personnel section containing tables for 'EVENING TOUR', 'MIDNIGHT RECORD', and 'DAY FOUR' personnel lists, including names, roles, and contact information.

[illegible]

1100 ECA ET AL BEGADEN J-05

ENCANA CORPORATION AKITA DRILLING LTD.

04 21 20 09 H 125 11 58 45 W

ISSUE MADISON TONY IRWIN

DATE: 2004-11-20

TIME: 12:00

LOCATION: 1100

WELL: 1100

DEPTH: 1100

DRILLER: 1100

LOGGERS: 1100

TIME LOG

DETAILS OF OPERATIONS IN DESCENDANCE & REMARKS

WELL LOG

DETAILS OF OPERATIONS IN DESCENDANCE & REMARKS

ALL IN ONE

ENCANA CORPORATION AKITA DRILLING LTD.

TONY IRWIN

N.W.T.

DAY TOUR

WELL LOG

DETAILS OF OPERATIONS IN DESCENDANCE & REMARKS

WELL LOG

DETAILS OF OPERATIONS IN DESCENDANCE & REMARKS

WELL LOG

DETAILS OF OPERATIONS IN DESCENDANCE & REMARKS

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1996
 ECA ET AL. GADEN J-88
 ECA CORPORATION
 SURFACE LOCATION
 84 25 30 99 N 125 11 58 45 W
 BRUCE MADDOCK
 AKITA DRILLING LTD.
 300J888440125000
 TONY BROWN

ALL IN ONE
 DESIGN AND REPORT

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

ECA ET AL. GADEN J-88
 ECA CORPORATION
 TONY BROWN
 84 25 30 99 N 125 11 58 45 W
 AKITA DRILLING LTD.
 300J888440125000
 TONY BROWN

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

ECA ET AL. GADEN J-88
 ECA CORPORATION
 TONY BROWN
 84 25 30 99 N 125 11 58 45 W
 AKITA DRILLING LTD.
 300J888440125000
 TONY BROWN

ALL IN ONE
POWER THE FUTURE

[illegible]

1998 ECA ET AL BEGADEH J-88

OPERATION: ENCAINA CORPORATION AKOTA DRILLING LTD.

64 38 30 89 N 125 11 52 45 W

300.868440125000

BOB ROLFE

ALL IN ONE

DATE: 2004 7 7

ENCAINA CORPORATION AKOTA DRILLING LTD

BOB ROLFE

H.W.T.

DATE SCHEDULE: 2004 7 7

CREW SAFETY DAYS: 7

DAY TOUR: 2004 7 7

CREW: BOB ROLFE, KEVIN CARLSON, BRAD HENKE, ANDY ALBERT, JORDAN STEPHENS, DEREK GEBRETRADIK

DATE SCHEDULE: 2004 7 7

CREW SAFETY DAYS: 7

DAY TOUR: 2004 7 7

CREW: DAVE RYAN, STEPHEN HAYE, JIM HEDGETH, TREVOR GREEN, PAUL FLETCHER, ROBERT WHITTEN



[illegible]

1808 ECA ET AL BEGADEN J-66

ENCANA CORPORATION

94.95 30.99 N 125.11.59.45 W

BRUCE MADDOSON

AKITA DRILLING LTD

300J06640125000

BOB ROLFES

- DAILY CHECKS
- 1. Check that all equipment is working properly.
 - 2. Check that all equipment is properly maintained.
 - 3. Check that all equipment is properly calibrated.
 - 4. Check that all equipment is properly labeled.
 - 5. Check that all equipment is properly stored.
 - 6. Check that all equipment is properly secured.
 - 7. Check that all equipment is properly protected.
 - 8. Check that all equipment is properly preserved.
 - 9. Check that all equipment is properly protected.
 - 10. Check that all equipment is properly preserved.

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DRILLING CREW/PAYROLL DATA

ECA ET AL BEGADEN J-66

ENCANA CORPORATION AKITA DRILLING LTD

BOB ROLFES

1808

2004 1 18

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1996 ECA ET AL BEGADEH J-46
ENCANA CORPORATION
64 35 30 99 N 125 11 58 45 W
JOHN ALTWASSER

CONTRACTOR
AKITA DRILLING LTD.
300.666440/25000
BOB ROLFES

DATE 1996 1 16
TIME 12:00
WELL NO. 1
WELL NAME 1
WELL TYPE 1
WELL STATUS 1
WELL DEPTH 1
WELL DIAMETER 1
WELL LOCATION 1
WELL COORDINATES 1
WELL ELEVATION 1
WELL SURFACE 1
WELL BOTTOM 1
WELL TOTAL 1
WELL REMARKS 1

ALL IN ONE
PAGE 04 PROFILE

WELL LOG
DATE 1996 1 16
TIME 12:00
WELL NO. 1
WELL NAME 1
WELL TYPE 1
WELL STATUS 1
WELL DEPTH 1
WELL DIAMETER 1
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WELL LOG
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WELL LOG
DATE 1996 1 16
TIME 12:00
WELL NO. 1
WELL NAME 1
WELL TYPE 1
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WELL COORDINATES 1
WELL ELEVATION 1
WELL SURFACE 1
WELL BOTTOM 1
WELL TOTAL 1
WELL REMARKS 1

| | | | | |
|---------------------|--------------------------|----------------------|------------------------|----------------|
| Bottom Hole DWH | Surface / Legal Location | License # | Field Name | State/Province |
| 300J068440125000 | J-68 | 1968 | BEGA/DEH | NWT |
| Equal Date | Permit Release Date | Rd Elevation (m) | Rd Ground Distance (m) | Rd CF (m) |
| 1/28/2004 01:00 | 2/15/2004 23:59 | 195.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MACP (kPa) |
| CLEAR | -40 | ICE | P&A | |
| Ops and depth @ 6m | Conn Gas (%) | Diagmd Gas (%) | Trip Gas (%) | |
| TRAVEL TO FT NELSON | | | | |

24 hr Summary
TRAVEL TO FT NELSON.
FLUID HAULED TO SUMP 160m3
WATER HAULED TO LOCATION 850m3

24 hr Forecast
TRAVEL TO FT NELSON

| | |
|------------------------|------------------------|
| WFE # | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum. Cost To Date (\$) |
| 18,920 | 5,475,782 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 26,312.37 |
| Depth Start (mKB) | Depth End (mKB) |
| 1,425.00 | 1,425.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

| | |
|----------------|--------------|
| Daily Contacts | |
| Contact | Cell Phone |
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

| | |
|-------------------------------|------------------|
| Rigs: AKITA DRILLING LTD., 55 | |
| Contractor | Rig Number |
| AKITA DRILLING LTD. | 55 |
| Rig Start Date | Rig Release Date |
| 1/15/2004 00:00 | 2/15/2004 23:59 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

| | | |
|-----------------|-------------|-------------------|
| 1. EMSCO, F-300 | | |
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 1 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m³/sk) |
| 152.0 | 229.0 | 0.012 |

| | | |
|-----------------|-------------|-------------------|
| 2. EMSCO, F-300 | | |
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 2 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m³/sk) |
| 152.0 | 229.0 | 0.012 |

| | | | |
|------------------------|-------|-------|----|
| HG DRYER, DST2+, DST2+ | | | |
| Description | Make | Model | SN |
| HG DRYER | DST2+ | DST2+ | |

| | | | |
|------------------------|-------|-------|----|
| HG DRYER, DST2+, DST2+ | | | |
| Description | Make | Model | SN |
| HG DRYER | DST2+ | DST2+ | |

| | |
|-----------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

| | |
|-----------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| | |
|----------------------|-----------|
| Formation Pick Group | |
| Cuttings | |
| Name | Top (mKB) |
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |
| LITTLE BEAR | 906.00 |
| MOUNT KINDLE | 1,032.00 |
| FRANKLIN MTN | 1,340.00 |

| | | |
|-----------|-----------|-----------|
| Casing | | |
| Use | Len (mKB) | Run Date |
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.38 | 2/3/2004 |

| | |
|---------------|-----------|
| Wellbore | |
| Name | KOP (mKB) |
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...
Description
Ets Dir. survey for ORIGINAL HOLE

| Daily Drilling Detail | | | | | | Report Start Date: 3/10/2004 | |
|--|------------------------|-----------------------|------------------------|----------------|---|------------------------------|------------------------|
| Well Name: EC/ | | | | | | Report: 352 OF 8: 21.94 | |
| | | | | | | Depth Progress: 0.00 | |
| Bottom Hole Unit | Surface Legal Location | License # | Field Name | State/Province | | AFE # | Total AFE Amt (\$) |
| 300J500440125000 | J-68 | 1998 | BEGADEH | NWT | | 0325167 | 6,121,540 |
| Spud Date | Rig Release Date | Rd Elevation (m) | Rd Ground Distance (m) | Rd CF (m) | | Daily Cost Total (\$) | Cum. Cost To Date (\$) |
| 1/28/2004 01:30 | 2/15/2004 23:59 | 195.57 | 4.95 | 4.65 | | 31,825 | 5,456,842 |
| Well | Temperature (°C) | Road/Access Condition | Hole Condition | MACP (kPa) | | Lud Additive Cost (\$) | Mud Cum To Date (\$) |
| clear | -39 | ICE | P&A | | | 0.00 | 26,312.37 |
| Ops and depth @ 8 a.m. | | | Conn Gas (%) | Bagmd Gas (%) | Trip Gas (%) | | |
| WAIT ON DAY LIGHT | | | | | | | |
| 24 Hr Summary | | | | | | | |
| SAFETY MEETING WITH SWANBERG AND CREWS | | | | | | | |
| RIG OUT CAMP AND MOVE TO RIVER. | | | | | | | |
| CREWS FLYING OUT TO EDMONTON. | | | | | | | |
| LOAD OUT LAST LOADS AND TRAVEL TO FT NELSON. | | | | | | | |
| 24 Hr Forecast | | | | | | | |
| TRAVEL TO FT NELSON | | | | | | | |
| Time Log | | | | | | | |
| Start Date | End Time | Dur (hrs) | Code | Activity | Comments | | |
| 00:00 | 07:00 | 7.00 | 22 | | WAIT ON DAYLIGHT | | |
| 07:00 | 07:15 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. WITH TRUCKERS PRIOR TO TEARING OUT CAMP | | |
| 07:15 | 10:00 | 2.75 | 23 | | TEAR CAMP APART | | |
| 10:00 | 12:00 | 2.00 | 24 | | FIRST CREW, CAUGHT FLIGHT TO NORMAN WELLS | | |
| 12:00 | 13:00 | 1.00 | 24 | | SECOND CREW, CAUGHT FLIGHT INTO NORMAN WELLS | | |
| | | | | | RENTAL COMPANY, PICKED UP CREW TRUCKS AS WE WERE BORDING. | | |
| 13:00 | 00:00 | 11.00 | 24 | | FLY FROM NORMAN WELLS TO EDMONTON AND CALGARY. | | |
| Contractor | | | | | | | |
| AKITA DRILLING LTD. 65 | | | | | | | |
| Rig Number | | | | | | | |
| 55 | | | | | | | |
| Rig Start Date | | | | | | | |
| 1/15/2004 00:00 | | | | | | | |
| Rig Release Date | | | | | | | |
| 2/15/2004 23:59 | | | | | | | |
| Rig Supervisor | | | | | | | |
| HALLOCK, BRIAN | | | | | | | |
| Cell Phone | | | | | | | |
| 403-313-8512 | | | | | | | |
| 1. ENSCO F-800 | | | | | | | |
| Pump Number | Per (kW) | Rod Diameter (mm) | | | | | |
| 1 | 590.0 | | | | | | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m³/sk) | | | | | |
| 152.0 | 229.0 | 0.012 | | | | | |
| 2. ENSCO F-800 | | | | | | | |
| Pump Number | Per (kW) | Rod Diameter (mm) | | | | | |
| 2 | 560.0 | | | | | | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m³/sk) | | | | | |
| 152.0 | 229.0 | 0.012 | | | | | |
| HG DRYER, DST2+, DST2+ | | | | | | | |
| Description | Make | Model | SN | | | | |
| HG DRYER | DST2+ | DST2+ | | | | | |
| HG DRYER, DST2+, DST2+ | | | | | | | |
| Description | Make | Model | SN | | | | |
| HG DRYER | DST2+ | DST2+ | | | | | |
| Centrifuges/Cyclones: LGS CENTRIF | | | | | | | |
| Type | Make | | | | | | |
| LGS CENTRIFUGE | UNITED | | | | | | |
| Centrifuges/Cyclones: LGS CENTRIF | | | | | | | |
| Type | Make | | | | | | |
| LGS CENTRIFUGE | UNITED | | | | | | |
| Formation Pickups Group: Cuttings | | | | | | | |
| Formation Pickups Group | | | | | | | |
| Cuttings | | | | | | | |
| Name | Top (mKB) | | | | | | |
| PLEISTOCENE | 0.00 | | | | | | |
| EAST FORK | 60.00 | | | | | | |
| LITTLE BEAR | 906.00 | | | | | | |
| MOUNT KINDLE | 1,032.00 | | | | | | |
| FRANKLIN MTN | 1,340.00 | | | | | | |
| Casing | | | | | | | |
| Description | Gas | Bin (mKB) | Run Date | | | | |
| CONDUCTOR | 66.63 | 1/28/2004 | | | | | |
| SURFACE | 564.36 | 2/3/2004 | | | | | |
| Wellbores | | | | | | | |
| Name | KOP (mKB) | | | | | | |
| ORIGINAL HOLE | | | | | | | |
| Directional Surveys: Ets Dir, survey f | | | | | | | |
| Description | | | | | | | |
| Ets Dir, survey for ORIGINAL HOLE | | | | | | | |

| | | | | | |
|--|--|----------------------------|--|--------------------------------------|--|
| Report Start Date: 2/17/2004 | | Report End Date: 2/17/2004 | | Depth Progress: 0.00 | |
| Well Name: J-63 | | License # | | Field Name | |
| 300J63440125000 | | 1098 | | BEGADEH | |
| Surface Legal Location | | KB Elevation (m) | | KB-CP (m) | |
| J-63 | | 195.57 | | 4.05 | |
| Rig Release Date | | Road/Sea Condition | | Hole Condition | |
| 2/15/2004 01:30 | | 2/15/2004 23:59 | | P&A | |
| Weather | | Temperature (°C) | | MACP (kPa) | |
| CLOUDY | | -30 | | ICE | |
| Ops and depth @ 6m | | Conn Gas (%) | | Skidged Gas (%) | |
| WAIT ON DAY LIGHT | | | | | |
| 24 Hr Summary | | | | | |
| WOD | | | | | |
| HELD SAFETY MEETING WITH SWANBERG AND CREWS. | | | | | |
| TEAR OUT RIG AND LOAD OUT TRUCKS. | | | | | |
| MOVE FROM J-68 BEGADEH TO C-97-A/94-1-14 | | | | | |
| 24 Hr Forecast | | | | | |
| RIG OUT CAMP AND MOVE | | | | | |
| Time | | Start Date | | End Date | |
| | | 00:00 | | 08:00 | |
| | | 08:00 | | 08:15 | |
| | | 08:15 | | 12:00 | |
| | | 12:00 | | 19:00 | |
| | | 19:00 | | 00:00 | |
| Dur (hrs) | | Code | | Activity | |
| 8.00 | | 22 | | O.DAYLIGHT | |
| 0.25 | | 21 | | SAFETY MEETING | |
| 3.75 | | 23 | | MOVE RIG | |
| 7.00 | | 23 | | MOVE RIG | |
| 5.00 | | 22 | | O.DAYLIGHT | |
| | | | | WAIT ON DAYLIGHT | |
| | | | | SAFETY MTG. WITH TRUCKERS | |
| | | | | TEAR TIG OUT WITH TRUCKS | |
| | | | | MOVE RIG TO FT. NELSON, C-97A-94114 | |
| | | | | MOVE RIG TO FT. NELSON | |
| | | | | WAIT ON DAYLIGHT, START GETTING CAMP | |
| | | | | READY TO BE TORE OUT | |
| Rig Number | | Contractor | | Rig Release Date | |
| 0325167 | | AKITA DRILLING LTD. | | 2/15/2004 | |
| Total A/E Amt (\$) | | Rig Release Date | | 2/15/2004 | |
| 6,121,540 | | 2/15/2004 | | 23:59 | |
| Daily Cost Total (\$) | | Rig Supervisor | | Cell Phone | |
| 33,740 | | HALLOCK, BRIAN | | 403-313-8512 | |
| Cum. Cost To Date (\$) | | Rig Release Date | | 2/15/2004 | |
| 5,425,017 | | 2/15/2004 | | 23:59 | |
| Mud Additive Cost (\$) | | Rig Release Date | | 2/15/2004 | |
| 0.00 | | 2/15/2004 | | 23:59 | |
| Mud Cum To Date (\$) | | Rig Release Date | | 2/15/2004 | |
| 26,312.37 | | 2/15/2004 | | 23:59 | |
| Depth Start (mKB) | | Depth End (mKB) | | Target Depth (mKB) | |
| 1,425.00 | | 1,425.00 | | 1,700.00 | |
| Target Formation | | Target Depth (mKB) | | 1,700.00 | |
| MOUNT KINDLE | | 1,700.00 | | | |
| Daily Contacts | | Contact | | Cell Phone | |
| | | MADDISON, MIKE | | 403-313-8515 | |
| | | WESLEY, DARREN | | 403-313-8515 | |
| Rigs: AKITA DRILLING LTD., 55 | | Contractor | | Rig Number | |
| | | AKITA DRILLING LTD. | | 55 | |
| Rig Start Date | | Rig Release Date | | 2/15/2004 | |
| 1/15/2004 00:00 | | 2/15/2004 | | 23:59 | |
| Rig Supervisor | | Rig Release Date | | 2/15/2004 | |
| HALLOCK, BRIAN | | 2/15/2004 | | 23:59 | |
| Cell Phone | | Rig Release Date | | 2/15/2004 | |
| 403-313-8512 | | 2/15/2004 | | 23:59 | |
| EMSCO F-500 | | Pump Number | | Pwr (kW) | |
| | | 1 | | 560.0 | |
| Rod Diameter (mm) | | Liner Size (mm) | | Stroke (mm) | |
| | | 152.0 | | 229.0 | |
| V/Six (m³/sk) | | V/Six (m³/sk) | | 0.012 | |
| 0.012 | | V/Six (m³/sk) | | 0.012 | |
| EMSCO F-500 | | Pump Number | | Pwr (kW) | |
| | | 2 | | 560.0 | |
| Rod Diameter (mm) | | Liner Size (mm) | | Stroke (mm) | |
| | | 152.0 | | 229.0 | |
| V/Six (m³/sk) | | V/Six (m³/sk) | | 0.012 | |
| 0.012 | | V/Six (m³/sk) | | 0.012 | |
| HG DRYER, DST2+, DST2+ | | Description | | Make | |
| | | HG DRYER | | DST2+ | |
| HG DRYER, DST2+, DST2+ | | Description | | Make | |
| | | HG DRYER | | DST2+ | |
| Centrifuges/Cyclones: LGS CENTRIF... | | Type | | Make | |
| | | LGS CENTRIFUGE | | UNITED | |
| Centrifuges/Cyclones: LGS CENTRIF... | | Type | | Make | |
| | | LGS CENTRIFUGE | | UNITED | |
| Formation Pick Groups: Cuttings | | Formation Pick Group | | Cuttings | |
| | | Name | | Top (mKB) | |
| | | PLEISTOCENE | | 0.00 | |
| | | EAST FORK | | 60.00 | |
| | | LITTLE BEAR | | 908.00 | |
| | | MOUNT KINDLE | | 1,032.00 | |
| | | FRANKLIN MTN | | 1,340.00 | |
| Casing | | Des | | Btm (mKB) | |
| | | CONDUCTOR | | 68.63 | |
| | | SURFACE | | 584.36 | |
| Wellbore | | Name | | KOP (mKB) | |
| | | ORIGINAL HOLE | | | |
| Directional Surveys: Ets Dir. survey 1 | | Description | | Ets Dir. survey for ORIGINAL HOLE | |
| | | | | | |

ENCANA.

Daily Drilling - Detail

Report Start Date: 2/10/2004

Report #: 33.0, DFB: 10.04

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH J-00

| | | | | |
|------------------|------------------------|-----------------------|------------------------|----------------|
| Polotom File ID# | Surface Legal Location | License # | Field Name | State/Province |
| 300JGG6440125000 | J-68 | 1998 | BEGADEH | NWT |
| Spud Date | Rig Release Date | KB Elevation (m) | KB-Ground Distance (m) | KB-CF (m) |
| 1/28/2004 01:30 | 2/15/2004 23:59 | 195.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Rig Release Condition | Hole Condition | MAOP (kPa) |
| CLOUDY | -30 | ICE | P&A | |

Ops end depth @ 6a.m

WAITING ON MOVE

24 hr Summary

LOAD OUT MUD PRODUCTS AND RENTALS MAKE SUCK ON LOADS FROM RIG.

MOVE 16 LOADS OFF LOCATION

24 hr Forecast

LOAD OUT RIG

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|------------------|---|
| 00:00 | 08:00 | 8.00 | 1 | RIGUP & TEARDOWN | CONTINUE TEAR OUT |
| 08:00 | 08:15 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. LOADING TRUCKS TEAR OUT RIG |
| 08:15 | 12:00 | 3.75 | 22 | MOVE RENTAL | MOVE RENTAL EQUIPMENT AND MUD PRODUCTS |
| 12:00 | 00:00 | 12.00 | 22 | MOVE RENTAL | MOVE RENTAL EQUIPMENT AND START TO TEAR OUT RIG |

| | |
|------------------------|-----------------------|
| AFE # | Ytd AFE Amt (\$) |
| 0325107 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 34,681 | 5,391,277 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 26,312.37 |
| Depth Start (mKB) | Depth End (mKB) |
| 1,425.00 | 1,425.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 56

| | |
|--------------------|--------------|
| Contractor | Rig Number |
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK BRIAN | 403-313-8512 |

1. EMSCO, F-800

| | | |
|-----------------|-------------|-------------------|
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 1 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m³/sk) |
| 152.0 | 229.0 | 0.012 |

2. EMSCO, F-800

| | | |
|-----------------|-------------|-------------------|
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 2 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m³/sk) |
| 152.0 | 229.0 | 0.012 |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| Name | Yop (mKB) |
|--------------|-----------|
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |
| LITTLE BEAR | 906.00 |
| MOUNT KINDLE | 1,032.00 |
| FRANKLIN MTN | 1,340.00 |

Casing

| Des | Btm (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description |
|-----------------------------------|
| Ets Dir. survey for ORIGINAL HOLE |

ENCANA

Daily Drilling - Data!!

Report Start Date: 2/18/2004

Report #: 32.0, DFB: 18.04

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH J-38

| | | | | |
|------------------|-----------------------|-----------------------|-------------------------|----------------|
| Drill Hole ID# | Surface Log# Location | License # | Field Name | State/Province |
| 300J603440125000 | J-68 | 1998 | BEGADEH | NWT |
| Drill Date | Rig Release Date | Rd Caravan (m) | R3-Zealand Distance (m) | KB-CF (m) |
| 1/28/2004 01:30 | | 185.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Road/Lessie Condition | Hole Condition | MAEP (kPa) |
| CALM | -35 | ICE | P&A | |

Ops and depth of 68 m

RIGGING OUT RIG AND RENTALS FOR MOVE

24 hr Summary

RIG DOWN

24 hr Forecast

LOAD OUT RENTALS

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|------------------|--|
| 00:00 | 08:00 | 8.00 | 1 | RIGUP & TEARDOWN | CONTINUE TEAR OUT |
| 08:00 | 08:15 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. RIG CREW, RIG MANAGERS-(FALL ARREST, TEAROUT, FROSTBITE) |
| 03:15 | 12:00 | 3.75 | 1 | RIGUP & TEARDOWN | CONTINUE TEAROUT |
| 12:00 | 00:00 | 12.00 | 1 | RIGUP & TEARDOWN | TEAR OUT RIG INSP DERRICK LOWER DERRICK
CLEAN MATTING
COOL BOILER #2 DOWN AND WASH OUT
AND WINTERIZE
Rig Release 02-15-04 @ 23:59
Mike Maddison |

| | |
|------------------------|------------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 5,127,540 |
| Daily Cost Total (\$) | Cum. Cost To Date (\$) |
| 379,644 | 5,356,596 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 26,312.37 |
| Depth Start (mkb) | Depth End (mkb) |
| 1,425.00 | 1,425.00 |
| Target Formation | Target Depth (mkb) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WESLEY, DARREN | 403-313-8515 |
| MADDISON, MIKE | 403-313-8515 |

Rigs: AKITA DRILLING LTD, 55

| | |
|--------------------|--------------|
| Contractor | Rig Number |
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

1, EMSCO, F-800

| | | |
|-----------------|-------------|-------------------|
| Pump Number | Pwr (kW) | Rod Diameter (mm) |
| 1 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m/ft) |
| 152.0 | 229.0 | 0.012 |

2, EMSCO, F-800

| | | |
|-----------------|-------------|-------------------|
| Pump Number | Pwr (kW) | Rod Diameter (mm) |
| 2 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sk (m/ft) |
| 152.0 | 229.0 | 0.012 |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| Formation Pick Group | Cuttings |
|----------------------|-----------|
| Name | Top (mkb) |
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |
| LITTLE BEAR | 906.00 |
| MOUNT KINDLE | 1,032.00 |
| FRANKLIN MTN | 1,340.00 |

Casing

| Des | Den (mkb) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | KOP (mkb) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description |
|-----------------------------------|
| Ets Dir. survey for ORIGINAL HOLE |

ENCANA.

Daily Drilling - Detail

Report Start Date: 2/14/2004

Report #: 31.0, DFS: 17.94

Depth Progress: 0.00

Well Name: ECA ET AL. BEGADEH J-66

| | | | | |
|------------------|------------------------|-----------------------|-------------------------|----------------|
| Bottom Hole T/M | Surface Legit Location | License # | Field Name | State/Province |
| 300J666440125000 | J-66 | 1996 | BEGADEH | NWT |
| Spud Date | Rig Release Date | KB Elevation (m) | KB Ground Clearance (m) | KB CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Road/Lessio Condition | Hole Condition | MACP (kPa) |
| OVERCAST | -25 | ICE | PLUGGED | |

Ons and depth @ Ge m

RIGGING OUT RIG

24 hr Summary

RUN PLUG 4 FROM 673m TO 519m, PULL OUT OF PLUG AND LAW DOWN 16 JT'S

PULL 5 STANDS AND RACK, CIRCULATE TO CONDITION MUD

RIH TO FEEL PLUG. PLUG TAGGED AT 525m, SET 17000daN ON TOP

RIG OUT KELLY, LAY DOWN DRILL PIPE, NIPPLE DOWN BOP'S

RUN PLUG 5 FROM 10m TO 0m

RIG OUT PREFABS AND PASON

SERVICE RIG AS REQUIRED

24 hr Forecast

RIG OUT

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|-----------------------|---|
| 00:00 | 00:15 | 0.25 | 5 | COND MUD & CIRC | ATTEMPT REVERSE CIRCULATION |
| 00:15 | 02:15 | 2.00 | 5 | COND MUD & CIRC | CIRCULATE CONTAMINATED MUD FROM ANNULUS |
| 02:15 | 02:30 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG-RIG HANDS, AND CEMENTERS |
| 02:30 | 03:15 | 0.75 | 12 | RUN CASING AND CEMENT | CEMENT PLUG # 4 673.15-519.31 METRES |
| 03:15 | 04:00 | 0.75 | 6 | TRIPS | LAY DOWN 16 SINGLES, 5 STANDS INTO DERRICK |
| 04:00 | 10:00 | 6.00 | 5 | COND MUD & CIRC | CIRCULATE |
| 10:00 | 10:45 | 0.75 | 6 | TRIPS | RUN IN HOLE FEEL PLUG AT 525m SET 17000 daN ON CEMENT TOP |
| 10:45 | 12:00 | 1.25 | 6 | TRIPS | BRAKE DOWN KELLY BAR |
| 12:00 | 14:15 | 2.25 | 6 | TRIPS | LAYDOWN DRILL PIPE |
| 14:15 | 18:00 | 3.75 | 14 | NIPPLE UP B.O.P. | NIPPLE DOWN BOP'S BRAKE DOWN H.C.R VALVES @ PIPE RAMS |
| 18:00 | 00:00 | 6.00 | 1 | RIGUP & TEARDOWN | RIG OUT PREFABS, PASON. |

| | |
|------------------------|-----------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 59,007 | 4,976,953 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 3,260.12 | 26,312.37 |
| Depth Start (mKB) | Depth End (mKB) |
| 1,425.00 | 1,425.00 |
| Target Formation | Target Depth (mAD) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WESLEY, DARREN | 403-313-8515 |
| MADDISON, MIKE | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 55

| | |
|---------------------|--------------|
| Contractor | Rig Number |
| AKITA DRILLING LTD. | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

1. EMSCO, F-800

| | | |
|----------------|-------------|-------------------|
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 1 | 560.0 | |
| Line Size (mm) | Stroke (mm) | V/Sk (m³/sk) |
| 152.0 | 229.0 | 0.012 |

| P (kPa) | Slow Sod | Stroke (spm) | ER (%) |
|---------|----------|--------------|--------|
| No | | 80 | 100 |

2. EMSCO, F-800

| | | |
|----------------|-------------|-------------------|
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 2 | 560.0 | |
| Line Size (mm) | Stroke (mm) | V/Sk (m³/sk) |
| 152.0 | 229.0 | 0.012 |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | SN |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | SN |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Des | Cost (\$/unit) | Cons |
|----------------|----------------|------|
| ALCOMER 74 | 207.75 | 2.0 |
| BICARB | 32.63 | 8.0 |
| BARITE | 22.31 | 10.0 |
| SAWDUST | 6.56 | 10.0 |
| SAPP | 100.80 | 10.0 |
| SULPHAMIC ACID | 72.56 | 18.0 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Cuttings |
|----------------------|-----------|
| Name | Ysp (mKB) |
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |
| LITTLE BEAR | 906.00 |
| MOUNT KINDLE | 1,032.00 |
| FRANKLIN MTN | 1,340.00 |

Casing

| Des | Btn (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

Ets Dir. survey for ORIGINAL HOLE

ENCA

Cement (Drilling)
CEMENT PLUG 1

ECA ET AL BEGADEH J-66

PBTD (mKB):

| | | | | | |
|------------------|------------------------|-------------|-------------|----------------|-------------------------|
| Well ID | Surface Legal Location | Field Name | License # | State/Province | Profile Type |
| 20CJ55C440125000 | J-66 | BEGADEH | 1996 | NWT | VERTICAL |
| Gr Elev (m) | Gr Elev (m) | Gr Elev (m) | Gr Elev (m) | Gr Elev (m) | Current Operation Stage |
| 193.57 | 190.82 | 190.92 | 4.95 | 4.65 | DRILL/CASE |
| Spud Date | Rig Release Date | | | | |
| 1/28/2004 01:30 | | | | | |

| | |
|-----------------|-----------------|
| Comment | Original Hole |
| 2/13/2004 18:30 | 2/13/2004 19:30 |

NO PROBLEMS CEMENTING PLUG 1, REVERSE CIRCULATED AND OBTAINED 1m3 OF GOOD CEMENT RETURNS

Cement Stages: 1, 1,175.00-1,425.00mKB

| | | | | | |
|--------------------|---------------------------------|---------------------------------|--------------------------|------------------|---------------------------|
| Description | Objective | Top (mKB) | Bottom (mKB) | Full Return | Cmnt Rtn (m³) |
| CEMENT PLUG 1 | PLUG AND ABANDON | 1,175.00 | 1,425.00 | Yes | 1.00 |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min) | Final Pump Rate (m³/min) | Q (avg) (m³/min) | Final Pump Pressure (kPa) |
| No | No | 1.000 | 1.000 | 1.000 | 2,000 |
| Pipe Recirculated? | Recirculation Stroke Length (m) | Pipe Rotated? | Pipe RPM (rpm) | | |
| | | | | | |
| Depth tagged (mKB) | Tag Method | Depth Plug Drilled Out To (mKB) | Drill out diameter (mm) | | |
| 1,175.00 | NOT FELT | 1,175.00 | | | |

Cement Stages: 2, 925.00-1,175.00mKB

| | | | | | |
|--------------------|---------------------------------|---------------------------------|--------------------------|------------------|---------------------------|
| Description | Objective | Top (mKB) | Bottom (mKB) | Full Return | Cmnt Rtn (m³) |
| CEMENT PLUG 2 | PLUG AND ABANDON | 925.00 | 1,175.00 | Yes | 1.00 |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min) | Final Pump Rate (m³/min) | Q (avg) (m³/min) | Final Pump Pressure (kPa) |
| No | No | 1.000 | 1.000 | 1.000 | 2,000 |
| Pipe Recirculated? | Recirculation Stroke Length (m) | Pipe Rotated? | Pipe RPM (rpm) | | |
| | | | | | |
| Depth tagged (mKB) | Tag Method | Depth Plug Drilled Out To (mKB) | Drill out diameter (mm) | | |
| 925.00 | NOT FELT | 925.00 | | | |

Cement Stages: 3, 675.00-925.00mKB

| | | | | | |
|--------------------|---------------------------------|---------------------------------|--------------------------|------------------|---------------------------|
| Description | Objective | Top (mKB) | Bottom (mKB) | Full Return | Cmnt Rtn (m³) |
| CEMENT PLUG 3 | PLUG AND ABANDON | 675.00 | 925.00 | Yes | 1.00 |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min) | Final Pump Rate (m³/min) | Q (avg) (m³/min) | Final Pump Pressure (kPa) |
| No | No | 1.000 | 1.000 | 1.000 | 2,000 |
| Pipe Recirculated? | Recirculation Stroke Length (m) | Pipe Rotated? | Pipe RPM (rpm) | | |
| | | | | | |
| Depth tagged (mKB) | Tag Method | Depth Plug Drilled Out To (mKB) | Drill out diameter (mm) | | |
| 675.00 | NOT FELT | 675.00 | | | |

Cement Stages: 4, 525.00-675.00mKB

| | | | | | |
|--------------------|---------------------------------|---------------------------------|--------------------------|------------------|---------------------------|
| Description | Objective | Top (mKB) | Bottom (mKB) | Full Return | Cmnt Rtn (m³) |
| CEMENT PLUG 4 | PLUG AND ABANDON | 525.00 | 675.00 | Yes | |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min) | Final Pump Rate (m³/min) | Q (avg) (m³/min) | Final Pump Pressure (kPa) |
| No | No | 1.000 | 1.000 | 1.000 | 2,000 |
| Pipe Recirculated? | Recirculation Stroke Length (m) | Pipe Rotated? | Pipe RPM (rpm) | | |
| | | | | | |
| Depth tagged (mKB) | Tag Method | Depth Plug Drilled Out To (mKB) | Drill out diameter (mm) | | |
| 525.00 | WORK STRING | 525.00 | | | |

Cement Stages: 5, 0.00-10.00mKB

| | | | | | |
|--------------------|---------------------------------|---------------------------------|--------------------------|------------------|---------------------------|
| Description | Objective | Top (mKB) | Bottom (mKB) | Full Return | Cmnt Rtn (m³) |
| CEMENT PLUG 5 | PLUG AND ABANDON | 0.00 | 10.00 | Yes | |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min) | Final Pump Rate (m³/min) | Q (avg) (m³/min) | Final Pump Pressure (kPa) |
| No | No | 0.200 | 0.200 | 0.200 | 0 |
| Pipe Recirculated? | Recirculation Stroke Length (m) | Pipe Rotated? | Pipe RPM (rpm) | | |
| | | | | | |
| Depth tagged (mKB) | Tag Method | Depth Plug Drilled Out To (mKB) | Drill out diameter (mm) | | |
| 0.00 | OBSERVED | 0.00 | | | |

Cement Fluids: 1, LEAD

| | | | | | | |
|---------------------------|-------------------|---------------------|------------------------|-----------------------|--------------------------------|-----------------|
| Fluid Type | Fluid Description | Estimated Top (mKB) | Estimated Bottom (mKB) | Ami (tonnes) Class | Volume Pumped (m³) | Yield (m³/sack) |
| LEAD | PLUG CEMENT | 1,175.00 | 1,425.00 | 15.0 G | 11.40 | 0.760 |
| Mix H2O Ratio (m³/tonnes) | Free Water (%) | Density (kg/m³) | Plastic Viscosity (cp) | Thickening Time (hrs) | 1st Compressive Strength (kPa) | |
| 0.44 | 0.00 | 1895 | | 3.00 | | |

Cement Fluids: 2, LEAD

| | | | | | | |
|---------------------------|-------------------|---------------------|------------------------|-----------------------|--------------------------------|-----------------|
| Fluid Type | Fluid Description | Estimated Top (mKB) | Estimated Bottom (mKB) | Ami (tonnes) Class | Volume Pumped (m³) | Yield (m³/sack) |
| LEAD | PLUG CEMENT | 925.00 | 1,175.00 | 16.6 G | 12.60 | 0.760 |
| Mix H2O Ratio (m³/tonnes) | Free Water (%) | Density (kg/m³) | Plastic Viscosity (cp) | Thickening Time (hrs) | 1st Compressive Strength (kPa) | |
| 0.44 | 0.00 | 1895 | | 2.00 | | |

ENCANA

Cement (Drilling)
CEMENT PLUG 1

Well Name: ECA ET AL BEGADEH J-03

PBTD (mKB):

| | | | | | |
|-----------------------------------|--------------------------------|-----------------------|-------------------|-----------------------|---------------------------------------|
| Well Hole UWI
300J066440125000 | Surface Legal Location
J-66 | Field Name
BEGADEH | License #
1998 | State/Province
NWT | Profile Type
VERTICAL |
| KB Elevation (m)
195.57 | Gr Elev (m)
190.62 | CF Elev (m)
190.92 | KB-CD (m)
4.95 | KB-CF (m)
4.65 | Current Operation Stage
DRILL/CASE |
| Sput Date
1/28/2004 01:30 | | | Rig Release Date | | |

Cement Details

| | | | |
|---|---------------------------------------|--------|-----------------------|
| Cementing Start Date
2/13/2004 18:30 | Cementing End Date
2/13/2004 19:30 | String | Name
ORIGINAL HOLE |
|---|---------------------------------------|--------|-----------------------|

Comment
NO PROBLEMS CEMENTING PLUG 1, REVERSE CIRCULATED AND OBTAINED 1m3 OF GOOD CEMENT RETURNS

Cement Stages: 1, 1,175.00-1,425.00mKB

| | | | | | | | |
|--------------------------------|--------------|-------------------------------------|-----------------------------------|---|------------------------------------|--------------------------|-----------------------|
| Description
CEMENT PLUG 1 | | Objective
PLUG AND ABANDON | | Top (mKB)
1,175.00 | Bottom (mKB)
1,425.00 | Full Return
Yes | Cmnt Rtn (m³)
1.00 |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min)
1.000 | Final Pump Rate (m³/min)
1.000 | Q (avg) (m³/min)
1.000 | Final Pump Pressure (kPa)
2,000 | Plug Bump Pressure (kPa) | |
| No | No | | | | | | |
| Pipe Recirculated? | | Recirculation Stroke Length (m) | | Pipe Rotated? | | Pipe RPM (rpm) | |
| Depth Tagged (mKB)
1,175.00 | | Tag Method
NOT FELT | | Depth Plug Drilled Out To (mKB)
1,175.00 | | Drill out diameter (mm) | |

Comment

Cement Stages: 2, 925.00-1,175.00mKB

| | | | | | |
|-------------------------------------|--------------------------------------|--|--|----------------------------------|---|
| Description
CEMENT PLUG 2 | Objective
PLUG AND ABANDON | Top (mkb)
925.00 | Bottom (mkb)
1,175.00 | Full Return
Yes | Cml Rtn (m³)
1.00 |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min)
1.000 | Final Pump Rate (m³/min)
1.000 | Q (avg) (m³/min)
1.000 | Final Pump Pressure (kPa)
2,000 |
| Pipe Recirculated? | Recirculation Stroke Length (m) | Pipe Rotated? | Pipe RPM (rpm) | Plug Bump Pressure (kPa) | |
| Depth Tagged (mkb)
925.00 | Tag Method
NOT FELT | Depth Plug Drilled Out To (mkb)
925.00 | Drill out diameter (mm) | | |

Comment

Cement Stages: 3, 675.00-925.00mKB

| | | | | | | | | | | | |
|------------------------------|--|---------------------------------|--|-------------------------------------|--|---|--|---------------------------|--|------------------------------------|--|
| Description
CEMENT PLUG 3 | | Objective
PLUG AND ABANDON | | Top (mKB)
675.00 | | Bottom (mKB)
925.00 | | Full Return
Yes | | Cmnt Rtn (m³)
1.00 | |
| Top Plug? | | Bottom Plug? | | Initial Pump Rate (m³/min)
1.000 | | Final Pump Rate (m³/min)
1.000 | | Q (avg) (m³/min)
1.000 | | Final Pump Pressure (kPa)
2,000 | |
| No | | No | | | | | | | | Plug Bump Pressure (kPa) | |
| Pipe Recirculated? | | Recirculation Stroke Length (m) | | | | Pipe Rotated? | | | | Pipe RPM (rpm) | |
| Depth Tagged (mKB)
675.00 | | Tag Method
NOT FELT | | | | Depth Plug Drilled Out To (mKB)
675.00 | | | | Drill out diameter (mm) | |

Comment

Cement Stages: 4, 525.00-675.00mKB

| | | | | | | | |
|--------------------|---------------------------------|----------------------------|---------------------------------|------------------|---------------------------|--------------------------|---------------|
| Description | Objective | Top (mKB) | | Bottom (mKB) | | Full Return | Cmnt Rtn (m³) |
| CEMENT PLUG 4 | PLUG AND ABANDON | 525.00 | | 675.00 | | Yes | |
| Top Plug? | Bottom Plug? | Initial Pump Rate (m³/min) | Final Pump Rate (m³/min) | Q (avg) (m³/min) | Final Pump Pressure (kPa) | Plug Bump Pressure (kPa) | |
| No | No | 1.000 | 1.000 | 1.000 | 2,000 | | |
| Pipe Recirculated? | Recirculation Stroke Length (m) | | Pipe Rotated? | | Pipe RPM (rpm) | | |
| Depth Tagged (mKB) | Tag Method | | Depth Plug Drilled Out To (mKB) | | Drill out diameter (mm) | | |
| 525.00 | WORK STRING | | 525.00 | | | | |

Comment

Cement Stages: 5, 0.00-10.00mKB

| | | | | | | | | | | | |
|-------------------------------------|--|--------------------------------------|--|--|--|--|--|----------------------------------|--|---------------------------------------|--|
| Description
CEMENT PLUG 5 | | Objective
PLUG AND ABANDON | | Top (mKB)
0.00 | | Bottom (mKB)
10.00 | | Full Return
Yes | | Cmnt Rtn (m³) | |
| Top Plug? | | Bottom Plug? | | Initial Pump Rate (m³/min)
0.2CJ | | Final Pump Rate (m³/min)
0.200 | | Q (avg) (m³/min)
0.200 | | Final Pump Pressure (kPa)
0 | |
| No | | No | | | | | | | | Plug Bump Pressure (kPa) | |
| Pipe Recirculated? | | Recirculation Stroke Length (m) | | | | Pipe Rotated? | | | | Pipe RPM (rpm) | |
| Depth Tagged (mKB)
0.00 | | Tag Method
OBSERVED | | | | Depth Plug Drilled Out To (mKB)
0.00 | | | | Drill out diameter (mm) | |

Comment

Cement Fluids: 1, LEAD

| | | | | | | | |
|---------------------------|-------------------|---------------------|------------------------|-----------------------|--------------------------------|--------------------|-----------------|
| Fluid Type | Fluid Description | Estimated Top (mKB) | Estimated Bottom (mKB) | Am (tonnes) | Class | Volume Pumped (m³) | Yield (m³/sack) |
| LEAD | PLUG CEMENT | 1,175.00 | 1,425.00 | 15.0 | G | 11.40 | 0.760 |
| Mix H2O Ratio (m³/tonnes) | Free Water (%) | Density (kg/m³) | Plastic Viscosity (cp) | Thickening Time (hrs) | 1st Compressive Strength (kPa) | | |
| 0.44 | 0.00 | 1895 | | 3.00 | | | |

Cement Fluids: 2, LEAD

| Fluid Type | Fluid Description | Estimated Top (mKB) | Estimated Bottom (mKB) | Am (tonnes) | Class | Volume Pumped (m³) | Yield (m³/sack) |
|---------------------------|-------------------|---------------------|------------------------|-----------------------|--------------------------------|--------------------|-----------------|
| LEAD | PLUG CEMENT | 925.00 | 1,175.00 | 16.6 | G | 12.60 | 0.760 |
| Mix H2O Ratio (m³/tonnes) | Free Water (%) | Density (kg/m³) | Plastic Viscosity (cp) | Thickening Time (hrs) | 1st Compressive Strength (kPa) | | |
| 0.44 | 0.00 | 1895 | | 2.00 | | | |

Cement (Drilling) CEMENT PLUG 1

PBTD (mKB):

| | | | | | | | | | |
|------------------------|--------|-------------|---------|------------|------|----------------|------|-------------------------|-----------------|
| Well Name | J-65 | Field Name | BEGADEH | License # | 1808 | State/Province | NWT | Probe Type | VERTICAL |
| Surface Legal Location | 180.62 | CF Elev (m) | 180.92 | KB-Ord (m) | 4.95 | KB-CP (m) | 4.65 | Spud Date | 1/28/2004 01:30 |
| Rig Release Date | | | | | | | | Current Operation Stage | DRILL/CASE |

| | | | | | | | | | | | | | |
|------------------|-------------|---------------------|--------|------------------------|--------|-----------------------|------|--------------------------------|---|--------------------|-------|-----------------|-------|
| Lead Description | PLUG CEMENT | Estimated Top (mKB) | 675.00 | Estimated Bottom (mKB) | 925.00 | Ann (tonnes) | 20.3 | Class | G | Volume Pumped (m³) | 15.36 | Yield (m³/sack) | 0.760 |
| Free Water (%) | 0.00 | Density (kg/m³) | 1895 | Plastic Viscosity (cp) | | Thickening Time (hrs) | 2.00 | 1st Compressive Strength (kPa) | | | | | |
| Lead Description | PLUG CEMENT | Estimated Top (mKB) | 525.00 | Estimated Bottom (mKB) | 675.00 | Ann (tonnes) | 13.5 | Class | G | Volume Pumped (m³) | 10.20 | Yield (m³/sack) | 0.760 |
| Free Water (%) | 0.00 | Density (kg/m³) | 1895 | Plastic Viscosity (cp) | | Thickening Time (hrs) | 2.00 | 1st Compressive Strength (kPa) | | | | | |
| Lead Description | PLUG CEMENT | Estimated Top (mKB) | 0.00 | Estimated Bottom (mKB) | 10.00 | Ann (tonnes) | 1.0 | Class | G | Volume Pumped (m³) | 0.76 | Yield (m³/sack) | 0.760 |
| Free Water (%) | 0.00 | Density (kg/m³) | 1895 | Plastic Viscosity (cp) | | Thickening Time (hrs) | 1.50 | 1st Compressive Strength (kPa) | | | | | |

ENCANA

Cement (Drilling)
CEMENT PLUG 1

Well Name: ECA ET AL BEGADEH J-68

PBTD (mKB):

| | | | | | |
|-------------------------------------|-------------------------------|-----------------------|-------------------|-----------------------|--------------------------------------|
| Bottom Hole LWD
300J866440125000 | Surface Legal Location
-68 | Field Name
BEGADEH | License #
1098 | State/Province
NWT | Profile Type
VERTICAL |
| KB Elevation (m)
195.57 | CF Elev (m)
190.62 | CF Elev (m)
190.92 | KB-CP (m)
4.95 | KB-CP (m)
4.65 | Spud Date
1/28/2004 01:30 |
| | | | | Rig Release Date | Cement Operation Stage
DRILL/CASE |

Cement Details

Cement Fluids: 3, LEAD

| | | | | | | | |
|-----------------------------------|----------------------------------|-------------------------------|----------------------------------|-------------------------------|--------------------------------|-----------------------------|--------------------------|
| Fluid Type
LEAD | Fluid Description
PLUG CEMENT | Estimated Top (mKB)
675.00 | Estimated Bottom (mKB)
925.00 | Ans (tonnes)
20.3 | Class
G | Volume Pumped (m³)
15.36 | Yield (m³/mack)
0.760 |
| Max H2O Ratio (m³/tonnes)
0.44 | Free Water (%)
0.00 | Density (kg/m³)
1895 | Plastic Viscosity (cp) | Thickening Time (hrs)
2.00 | 1st Compressive Strength (MPa) | | |

Cement Fluids: 4, LEAD

| | | | | | | | |
|-----------------------------------|----------------------------------|-------------------------------|----------------------------------|-------------------------------|--------------------------------|-----------------------------|--------------------------|
| Fluid Type
LEAD | Fluid Description
PLUG CEMENT | Estimated Top (mKB)
525.00 | Estimated Bottom (mKB)
675.00 | Ans (tonnes)
13.5 | Class
G | Volume Pumped (m³)
10.20 | Yield (m³/mack)
0.760 |
| Max H2O Ratio (m³/tonnes)
0.44 | Free Water (%)
0.00 | Density (kg/m³)
1895 | Plastic Viscosity (cp) | Thickening Time (hrs)
2.00 | 1st Compressive Strength (MPa) | | |

Cement Fluids: 5, LEAD

| | | | | | | | |
|-----------------------------------|----------------------------------|-----------------------------|---------------------------------|-------------------------------|--------------------------------|----------------------------|--------------------------|
| Fluid Type
LEAD | Fluid Description
PLUG CEMENT | Estimated Top (mKB)
0.00 | Estimated Bottom (mKB)
10.00 | Ans (tonnes)
1.0 | Class
G | Volume Pumped (m³)
0.76 | Yield (m³/mack)
0.760 |
| Max H2O Ratio (m³/tonnes)
0.44 | Free Water (%)
0.00 | Density (kg/m³)
1895 | Plastic Viscosity (cp) | Thickening Time (hrs)
1.50 | 1st Compressive Strength (MPa) | | |

ENCANA

Daily Drilling - Detail

Report Start Date: 2/12/2004

Report #: 29.0, DFS: 15.94

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH J-03

| | | | | |
|------------------|------------------------|----------------------|-------------------------|----------------|
| Station Hole URA | Surface Legal Location | License # | Field Name | State/Province |
| 300JG03440125000 | J-66 | 1926 | BEGADEH | NWT |
| Spud Date | Rig Release Date | RII Elevation (m) | RII-Ground Distance (m) | RII-CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MACP (N/A) |
| SNOWING | -19 | ICE | GOOD | 4239 |

Ops and depth @ 66 m

WAITING ON CEMENT BULKERS

24 hr Summary

CONDITION HOLE AND WORK PIPE AS REQUIRED
POOH AND LAY DOWN HWDP AND DRILL COLLARS
PAU 14 DRILL PIPE AND RIH TO BTM. CONTINUE CIRCULATING.
RIG SERVICE AS REQUIRED

24 hr Forecast

PLUG AND ABANDON WELL.

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|-----------------|--|
| 00:00 | 12:00 | 12.00 | 5 | COND MUD & CIRC | CIRC HOLE & WORK PIPE |
| 12:00 | 14:15 | 2.25 | 5 | COND MUD & CIRC | CIRCULATE HOLE AND WORK PIPE |
| 14:15 | 14:30 | 0.25 | 7 | RIG SERVICE | RIG SERVICE- FUNCTIONED PIPE RAMS- 7 SECONDS CLOSE /OPEN |
| 14:30 | 15:00 | 0.50 | 5 | COND MUD & CIRC | CIRCULATE HOLE AND WORK PIPE |
| 15:00 | 17:30 | 2.50 | 6 | TRIPS | POOH-FROM 1425 METRES, FLOW CHECK @ 1412, 1325, 751 137 METRES |
| 17:30 | 19:00 | 1.50 | 3 | TRIPS | POOH - 137 METRES-LAY DOWN 6 HWDP, 8 COLLARS |
| 19:00 | 22:00 | 3.00 | 6 | TRIPS | RIH-PICK UP 14 DP-RIH TO BTM. |
| 22:00 | 00:00 | 2.00 | 5 | COND MUD & CIRC | CIRCULATE HOLE FILL-MEAS -5.97 M3 CALC 4.80 M3 (+1.17 M3) |

| | |
|------------------------|-----------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 8,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 64,748 | 4,861,257 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 22,069.54 |
| Depth Start (mKB) | Depth End (mKB) |
| 1,425.00 | 1,425.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WESLEY, DARREN | 403-313-8515 |
| MADDISON, MIKE | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 55

| | |
|--------------------|--------------|
| Contractor | Rig Number |
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

1, EMSCO, F-800

| | | |
|-----------------|-------------|-------------------|
| Pump Number | Per (N/A) | Rod Diameter (mm) |
| 1 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sb (m/min) |
| 152.0 | 229.0 | 0.012 |
| P (N/A) | Slow Spd | Stroke (rpm) |
| 1,850 | Yes | 57 |
| EF (%) | | 100 |

2, EMSCO, F-800

| | | |
|-----------------|-------------|-------------------|
| Pump Number | Per (N/A) | Rod Diameter (mm) |
| 2 | 560.0 | |
| Liner Size (mm) | Stroke (mm) | V/Sb (m/min) |
| 152.0 | 229.0 | 0.012 |
| P (N/A) | Slow Spd | Stroke (rpm) |
| 1,850 | Yes | 1422 |
| EF (%) | | 100 |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| Formation Pick Group | Cuttings |
|----------------------|-----------|
| Name | Top (mKB) |
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |
| LITTLE BEAR | 906.00 |
| MOUNT KINDLE | 1,032.00 |
| FRANKLIN MTN | 1,340.00 |

Casing

| Des | Botm (mKB) | Run Date |
|-----------|------------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

Description
Ets Dir. survey for ORIGINAL HOLE

Daily Drilling - Detail

Report Start Date: 2/11/2004

Report #: 28.0, DFS: 14.94

Depth Progress: 0.00

| | | | | |
|-------------------------------|------------------------------|---------------------------|-------------------------------|---------------------|
| Project Code: 300300440125000 | Surface Legal Location: J-63 | License #: 1008 | Field Name: BEGADEH | State/Province: NWT |
| Start Date: 1/28/2004 01:30 | Relinquish Date: | Alt Elevation (m): 185.57 | Alt Ground Distance (m): 4.95 | Alt ZF (m): 4.65 |
| Weather: CLOUDY | Temperature (°C): -12 | Lead/Less Condition: ICE | Hole Condition: GOOD | MAEP (N/A): 4235 |

One and depth @ 8 m.
PREPARING TO PLUG AND ABANDON

24 hr Forecast:

CEMENT PLUGS

RIG OUT DIRECTIONAL TOOLS
RIG IN LOGGERS AND LOG OPEN HOLE SECTION W/ PEX/AIT/LDT/BHC
TAGGED BTM @ 1425.5M AT 0330HRS. TIME ON BTM: 11MIN 45 SEC.
RIG OUT LOGGERS
RIH W/ 16 COLLARS, POOH AND LAY DOWN 8 COLLARS
RIH TO BTM. CIRCULATE/CONDITION HOLE AS REQUIRED
WAITING FOR CEMENTERS
SERVICE RIG AS REQUIRED

24 hr Forecast:

CEMENT PLUGS

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|-----------------------|--|
| 00:00 | 00:30 | 0.50 | 20 | DIR. WORK | DIR. WORK/ LAY OUT DIR. TOOLS |
| 00:30 | 00:45 | 0.25 | 7 | RIG SERVICE | RIG SERVICE/FUNCTION BLIND RAMS
CLOSE 4 SEC. |
| 00:45 | 01:00 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. WITH SCHLUMBERGER |
| 01:00 | 07:30 | 6.50 | 11 | WIRELINE LOGS | RIG TO & WIRE LINE LOG-RUN #
1=PEX-AIT-LDT-BHC
REACHED 1425.5m @ 03:30 hrs
TIME ON BTM. 11MIN 45SEC. |
| 07:30 | 08:15 | 0.75 | 9 | CUT OFF DRILLING LINE | CUT & SLIP 18m DRILL LINE |
| 08:15 | 10:30 | 2.25 | 6 | TRIPS | RIH WITH 16 COLLARS. POOH LAY DOWN
8 COLLARS |
| 10:30 | 12:00 | 1.50 | 6 | TRIPS | RIH 78 METRES- 500 METRES
REVIEWED JSA M-23(WIRE LINE LOGGING)
REVIEWED JSA F9 (LAY DOWN COLLARS)
REVIEWED JSA (F-4 SLIP AND CUT BOTH
CREWS) |
| 12:00 | 12:30 | 0.50 | 6 | TRIPS | TRIPS-RIH500-560 METRES-FLOW CHECK |
| 12:30 | 14:15 | 1.75 | 6 | TRIPS | RIH-560 METRES-1307 METRES |
| 14:15 | 15:00 | 0.75 | 6 | TRIPS | PICK UP 12 JOINTS, RIH-1425 METRES |
| 15:00 | 16:30 | 3.50 | 5 | COND MUD & CIRC | CIRCULATE HOLE AND WORK PIPE |
| 16:30 | 18:45 | 0.25 | 7 | RIG SERVICE | RIG SERVICE- FUNCTION PIPE RAMS |
| 18:45 | 00:00 | 5.25 | 5 | COND MUD & CIRC | CIRC HOLE, WORK PIPE |

Mud Checks: 1,425.00mKB, 2/11/2004 07:53

| Type | Date | Depth (mKB) | Density (kg/m³) | Vis (cP) | Flow Vis (cP) | Yield Point (cp) |
|---------------------|-----------------|-----------------------|----------------------|---------------------|------------------------|-------------------|
| Water Base | 07:53 | 1,425.00 | 1110.00 | 75 | 25.0 | 11.0 |
| gel TO sec (cp) | 12.0 | Gradient (N/100m) | Filtrate (mL/30min) | Filter Cake (mm) | pH | Solids (%) |
| 6.0 | 10.89 | 7.0 | 1 | 9.5 | 7.0 | |
| MBY (kg/m³) | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Stab (V) |
| 52 | 93.0 | 300.000 | 40.000 | | | |
| Excess PHFA (kg/m³) | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Lost (Surf) (m³) | Mud Vol (Rise) (m³) | Active Mud Volume (m³) | |
| | | | | | 78.90 | |

Drill String: BHA #9, Drilling Assembly

| | | | | | |
|------------------------|----------------|-------------------|---------------------|------------|------------|
| Bit Run | 84 | ADC Bit Out | TFA (incl Noz) (mm) | | |
| 222.2mm, F37HY, MT0645 | | | 1,357 | | |
| Nozzles (mm) | 24.0/24.0/24.0 | String Length (m) | String Wt (daN) | ROP (m/hr) | |
| | | 1424.95 | 38,684 | | |
| Item Date | Size | OD (mm) | ID (mm) | Len (m) | Top Thread |
| KELLY DOWN | 1 | 101.6 | | 12.06 | |
| DRILL PIPE | 133 | 101.6 | 84.8 | 1279.02 | FH |
| HWDP | 6 | 101.6 | 69.8 | 55.27 | FH |
| XO SUB | 1 | 165.1 | | 0.88 | FH |
| DRILL COLLAR | 6 | 165.1 | 69.8 | 78.44 | XH |
| BIT SUB | 1 | 152.0 | | 1.00 | XH |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (flow) (m³/min) |
|------------------|-------------|------------------|-----------------|--------------------|----------------------|-------------------|---------------------|
| ORIGINAL HOLE | 1,425.00 | | 0.00 | 0.00 | 0.00 | | 1.450 |
| WOB (daN) | RPM (rpm) | SPR (kPa) | Rot HL (daN) | PU RL (daN) | SOTL (daN) | Drilling Torque | Off Bitm Fg |
| 0 | 20 | 6,540 | 42 | 43 | 41 | | 1,000.0 |
| Q (g/m) (1000m³) | T (kg) (°C) | P (BH Ann) (kPa) | T (bh) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (kg/m) (m³/day) | Q (g return) (1000) |

| AFE # | Total AFE Amt (\$) |
|------------------------|------------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum. Cost To Date (\$) |
| 192,644 | 4,796,510 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 201.52 | 22,069.54 |
| Depth Start (mKB) | Depth End (mKB) |
| 1,425.00 | 1,425.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 55

| Contractor | Rig Number |
|--------------------|--------------|
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

1. EMSCO, F-800

| | | | |
|----------------|-------------|-------------------|--------|
| Pump Number | Per (kW) | Rot Diameter (mm) | |
| 1 | 560.0 | | |
| Unit Size (mm) | Stroke (mm) | V-Stk (m³/sb) | |
| 152.0 | 229.0 | 0.012 | |
| P (kPa) | Slow End | Strokes (rpm) | ER (%) |
| 1,850 | Yes | 57 | 100 |

2. EMSCO, F-800

| | | | |
|----------------|-------------|-------------------|--------|
| Pump Number | Per (kW) | Rot Diameter (mm) | |
| 2 | 560.0 | | |
| Unit Size (mm) | Stroke (mm) | V/Strk (m³/stk) | |
| 152.0 | 229.0 | 0.012 | |
| P (kPa) | Slow Spd | Strokes (rpm) | ER (%) |
| 1,850 | Yes | 1420 | 100 |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make | Model |
|----------------|--------|-------|
| LGS CENTRIFUGE | UNITED | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make | Model |
|----------------|--------|-------|
| LGS CENTRIFUGE | UNITED | |

Mud Additive Amounts

| Des | Cost (\$/bbl) | Cons |
|------------|---------------|------|
| ENVIROFLOC | 51.56 | 2.0 |
| SAWDUST | 6.56 | 15.0 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|--------------|-----------|
| Cuttings | | |
| | PLEISTOCENE | 0.00 |
| | EAST FORK | 60.00 |
| | LITTLE BEAR | 906.00 |
| | MOUNT KINDLE | 1,032.00 |
| | FRANKLIN MTH | 1,340.00 |

Casing

| Des | Bitm (mKB) | Foot Date |
|-----------|------------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | ROP (m/hr) |
|---------------|------------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description |
|-----------------------------------|
| Ets Dir. survey for ORIGINAL HOLE |

Daily Drilling - Detail

Report Start Date: 2/10/2004

Report #: 27.0, DFS: 13.04

Depth Progress: 135.00

| | | | | |
|-----------------|--------|------|---------|------|
| 300003443125000 | JCS | 1663 | DEGADEH | NWT |
| 1/22/2004 01:30 | 193.57 | 4.95 | 4.65 | |
| CLEAR | -24 | ICE | GOOD | 4014 |

Open end depth 13.6m

RIG DOWN LOGGERS

34 hr Summary

CONDITION HOLE FROM 1268m TO BOTTOM
DRILL FROM 1290m TO 1425m (TD) @ 9.8m/hr
WORK PIPE AND FLOW CHECK AS REQUIRED
CIRCULATE SAMPLE UP AND WORK HOLE, WIPER TRIP 1425m - 1224m
TRIP OUT TO LOG, LAY DOWN DIRECTIONAL TOOLS
RIG SERVICE AS REQUIRED

NO DETECTABLE BACKGROUND GAS
SLIDE FROM 1341m TO 1345m

34 hr Forecast

WAIT ON ORDERS, PREPARE TO PLUG AND ABANDON

| Time | Start Time | End Time | Code | Activity | Comment |
|-------|------------|----------|------|-----------------|---|
| 00:00 | 00:30 | 0.50 | 8 | TRIPS | WASH FR/1268m TO BTM |
| 00:30 | 07:30 | 7.00 | 2 | DRILL ACTUAL | DRILL FR/1290m TO 1360m |
| 07:30 | 08:00 | 0.50 | 10 | DEV. SURVEY | DEV. SURVEY(ACC.) |
| 08:00 | 08:45 | 0.75 | 5 | COND MUD & CIRC | ACCUMULATED TIME WORKING PIPE/FLOW CHECKS |
| 08:45 | 11:45 | 3.00 | 2 | DRILL ACTUAL | DRILL-1360 TO 1391 METRES |
| 11:45 | 12:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE FUNCTION HYDRIL-14 SECS CLOSE/ OPEN |
| 12:00 | 12:15 | 0.25 | 10 | DEV. SURVEY | DEV. SURVEY-TOTAL SURVEY TIME |
| 12:15 | 13:00 | 0.75 | 5 | COND MUD & CIRC | WORKING CONNECTIONS AND FLOW CHECKS |
| 13:00 | 16:45 | 3.75 | 2 | DRILL ACTUAL | DRILL 1391-1425 METRES
CIRCULATE UP BOTTOM HOLE SAMPLE
NAD WORK HOLE |
| 16:45 | 17:30 | 0.75 | 6 | TRIPS | TRIPS-WIPER TRIP 1425-1224
METRES-FLOW CHECK @ 1423,
AND 1222 METRES |
| 17:30 | 18:15 | 0.75 | 6 | TRIPS | RIH-1222 METRES-1425 METRES |
| 18:15 | 19:45 | 1.50 | 5 | COND MUD & CIRC | CIRCULATE BOTTOMS UP WORK PIPE |
| 19:45 | 23:30 | 3.75 | 6 | TRIPS | FLOW CHECK, TRIP OUT TO WIRE LINE
LOG, FLOW CHECK @ 1283m, 245m, WOOH |
| 23:30 | 00:00 | 0.50 | 20 | DIR. WORK | HANDLE DIR. TOOLS
STRAP OUT DP, HW, DC, & JARS
STRAP=1387.92 BOARD=1387.01 DIF.=+ 91m
HOLE FILL VOL. CALC. 6.20 MEAS. 6.46
DIF.=+ 26m ³
WIPER TRIP- MEAS. 83m ³ calc. -52M3
(+29 m) |

Mud Checks: 1425.00 mKB, 2/10/2004 18:00

| Type | Date | Depth (mKB) | Density (kg/m ³) | Vis (cP) | Plas Vis (cP) | Yield Point (cp) |
|----------------------------------|-------|-----------------------------|------------------------------------|-----------------------------------|---------------------------------|-------------------------------------|
| Water Base | 18:00 | 1,425.00 | 1085.00 | 85 | 28.0 | 12.0 |
| gel 10 min (cp) | 15.0 | 10.94 | 7.0 | 2 | 11.0 | 7.0 |
| API (kg/m ³) | 83 | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Potassium (mg/L) |
| | | 93.0 | 300.000 | 40.000 | | Electric Stab (V) |
| Excess PHFA (kg/m ³) | | Mud Added (m ³) | Mud Lost to Hole (m ³) | Mud Lost (Surf) (m ³) | Mud Vol (Res) (m ³) | Active Mud Volume (m ³) |
| | | | | | | 85.60 |

Drill Bits: DRILLS, Drilling Assembly

| Bit Run | | ADC Bit | TFA (incl Noz) (mm) | | |
|----------------|------------------------|-----------------------|---------------------|------------|------------|
| 7: | 222.2mm, F37HY, MT0645 | 1-1-3T-S-E-0.00-NO-TD | 851 | | |
| Nozzle (mm) | | String Length (m) | String Vd (dm) | ROP (m/hr) | |
| 19.0/19.0/19.0 | | 1425.39 | 51.458 | 9.7 | |
| Item Desc | Size | OD (mm) | ID (mm) | Len (m) | Top Thread |
| KELLY | 1 | | | 9.50 | |
| DRILL PIPE | 122 | 101.6 | 84.8 | 1173.64 | FH |
| HWDP | 6 | 101.6 | 69.8 | 55.26 | FH |
| CROSS OVER | 1 | 162.0 | 69.8 | 0.88 | FH |
| DRILL COLLAR | 6 | 162.0 | 69.8 | 57.24 | XH |
| JAR | 1 | 162.0 | 64.0 | 5.05 | XH |
| DRILL COLLAR | 10 | 162.0 | 69.8 | 95.40 | XH |
| NMDC | 2 | 162.0 | 69.8 | 18.70 | XH |
| O.B. | 1 | 162.0 | 72.0 | 0.72 | XH |
| FLOYD SUB | 1 | 162.0 | 76.0 | 0.76 | XH |
| 1-25 FIXED | 1 | 162.0 | | 7.56 | XH |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (Flow) (m ³ /min) |
|------------------------------------|---------------|------------------|-----------------|--------------------|----------------------|--------------------------------|--------------------------------|
| ORIGINAL HOLE | 1,290.00 | 1,360.00 | 70.00 | 7.00 | 7.00 | 10.0 | 1.570 |
| Wellbore | ROP (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Bim Tq |
| 20 | 35 | 13,300 | 48 | 49 | 47 | 1,600.0 | 700.0 |
| Q (Flow) (1000m ³ /day) | T (Flow) (°C) | P (BH Ann) (kPa) | T (BH) (°C) | P (Surf Ann) (kPa) | T (Surf Ann) (°C) | Q (Flow) (m ³ /day) | Q (Flow) (m ³ /day) |
| | | | | | | | |
| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (Flow) (m ³ /min) |
| ORIGINAL HOLE | 1,391.00 | 1,425.00 | 104.00 | 3.75 | 10.75 | 9.1 | 1.570 |
| Wellbore | ROP (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Bim Tq |
| 20 | 30 | 0 | 49 | 50 | 48 | 1,600.0 | 700.0 |
| Q (Flow) (1000m ³ /day) | T (Flow) (°C) | P (BH Ann) (kPa) | T (BH) (°C) | P (Surf Ann) (kPa) | T (Surf Ann) (°C) | Q (Flow) (m ³ /day) | Q (Flow) (m ³ /day) |
| | | | | | | | |

| AFE # | Total AFE Amt (\$) |
|------------------------|-----------------------|
| 0325167 | 6,121,540 |
| Only Cost Total (\$) | Cum Cost To Date (\$) |
| 58,719 | 4,603,866 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 2,992.75 | 21,668.02 |
| Depth Start (mKB) | Depth End (mKB) |
| 1,290.00 | 1,425.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 65

| Contractor | Rig Number |
|--------------------|--------------|
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

1. EMSCO, F-800

| | | | |
|-----------------|--------------|-------------------|---------|
| Pump Number | Flow (m³/hr) | Rod Diameter (mm) | |
| 1 | 560.0 | | |
| Liner Size (mm) | Stroke (mm) | V/Strk (m³/strk) | |
| 152.0 | 229.0 | 0.012 | |
| P (kPa) | Slow Spd | Strokes (spm) | Eff (%) |
| 7,640 | Yes | 51 | 100 |

2. EMSCO, F-800

| | | | |
|-----------------|-------------|-------------------|---------|
| Pump Number | Flow (kW) | Rod Diameter (mm) | |
| 2 | 560.0 | | |
| Liner Size (mm) | Stroke (mm) | V/Strk (m³/strk) | |
| 152.0 | 229.0 | 0.012 | |
| P (kPa) | Slow Spd | Strokes (spm) | Eff (%) |
| 7.640 | Yes | 53 | 100 |

<Des?>, 2, <Model?>

| Description | Make | Model | SN |
|-------------|------|-------|----|
| 2 | | | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Des | Cost (\$/unit) | Cons |
|---------|----------------|------|
| CAUSTIC | 67.69 | 1.0 |
| LIME | 15.19 | 1.0 |
| LIGNITE | 16.13 | 2.0 |
| DRISPAC | 288.56 | 2.0 |
| NEW GEL | 20.25 | 8.0 |
| SAWDUST | 6.56 | 30.0 |
| CAUSTIC | 67.69 | 1.0 |
| BARITE | 22.31 | 25.0 |
| NEW GEL | 20.25 | 65.0 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|------|-----------|
| Cuttings | | |
| PLEISTOCENE | | 0.00 |
| EAST FORK | | 60.00 |
| LITTLE BEAR | | 905.00 |
| MOUNT KINDLE | | 1,032.00 |
| FRANKLIN MTN | | 1,340.00 |

Casing

| Des | Bim (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description | Ets Dir. survey for ORIGINAL HOLE |
|-------------|-----------------------------------|
| | |
| M3 (mKB) | 1,276.96 |
| 1,276.96 | 1.50 |
| 1,325.00 | 1.00 |
| 1,353.94 | 0.40 |
| | 105.30 |
| | 163.90 |
| | 1,324.82 |
| | 90.60 |
| | 1,353.75 |

Well Name: ECA ET AL CECADEN-1-30

| | | | | |
|------------------|------------------------|----------------------|------------------------|----------------|
| Bottom Hole ID# | Surface Legal Location | License # | Field Name | State/Province |
| 300J568440125000 | J-68 | 1826 | BEGADEH | NWT |
| Spout Date | Log Release Date | KB Elevation (m) | KB Ground Distance (m) | KB CF (m) |
| 1/28/2004 01:30 | | 185.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Ice/Lenset Condition | Water Condition | MACP (kPa) |
| CLEAR | -21 | ROCE | GOOD | 4233 |

DRILLING 222mm HOLE @ 1340m@11.8m/hr

24 in. diameter

DRILL FROM 1200m TO 1265m WORK PIPE AND FLOW CHECK EVERY CONNECTION
DRILL 1265m TO 1290m

POOL AND FLOW CHECK

PULL BHA

MAKE UP

SAFETY MTG. BOP DRILL

SAFETY MRS. BOB DRILL
BIN TO 1268m. BULKELLY

RIG TO 1268111, PU KELLY, WASHED TO BOTTOM, NO FILL ON BOTTOM
RIG SERVICE AS REQUIRED

RIG SERVICE AS REQUIRED

SLIDE FROM 1293m - 1299m
NO BACKGROUND GAS DETECTED
DRILLING FRANKLIN MTN. FORMATION

34 by 20 cm and

DRILL 222mm HOLE TO TD

| Time Log | | | Activity | | Comment |
|------------|----------|-----------|----------|-----------------|---|
| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
| 00:00 | 07:15 | 7.25 | 2 | DRILL ACTUAL | DRILL FR/ 1200m to 1242m |
| 07:15 | 08:45 | 1.50 | 5 | COND MUD & CIRC | WORK PIPE & FLOW CHECK EVERY CONNECTION |
| 08:45 | 11:45 | 3.00 | 2 | DRILL ACTUAL | DRILL-1242-1265 METRES |
| 11:45 | 12:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE- FUNCTION PIPE RAMS- 7 SECS CLOSE OPEN |
| 12:00 | 16:15 | 4.25 | 2 | DRILL ACTUAL | DRILL-1265- 1266 METRES |
| 16:15 | 16:45 | 2.50 | 6 | TRIPS | POOH- FLOW CHECK @ 1260 METRES, PUMP PILL, FLOW CHECK @ 1184 METRES ,705 METRES ,264 METRES |
| 16:45 | 21:00 | 4.15 | 6 | TRIPS | PULL BHA- 264 METRES- 108 METRES |
| 20:00 | 20:15 | 0.25 | 7 | RIG SERVICE | RIG SERVICE/FUNCTION BLIND RAMS CLOSE 3 SEC. |
| 20:15 | 22:30 | 2.25 | 6 | TRIPS | MAKE UP BIT, RIH to 567m |
| 22:30 | 22:45 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG./BOP DRILL WITH CREW(WHILE TRIPPING) |
| 22:45 | 00:00 | 1.25 | 6 | TRIPS | RIH to 1266m, PICK UP KELLY HOLE FILL VOL. CALC. 5.64 MEAS. 6.87 DIF. =+1.23m ³ |

| | | | | | | | |
|---|-----------------------------|------------------------------------|-----------------------------------|---------------------------------|-------------------------------------|-------------------|--|
| Mud Checks: 1. 280.0mKCB, 2. 10/20/04 14:00 | | | | | | | |
| Type | Date | Depth (mKCB) | Density (kg/m ³) | Vis (cP) | Mass Vis (cp) | Yield Point (cp) | |
| Water Base | 18:00 | 1,290.00 | 1090.00 | 50 | 10.0 | 5 | |
| gel 10 sec (cp) | gel 10 min (cp) | Gradient (P-Pa/m) | Filtrate (mL/30min) | Fiber Cuts (mm) | pH | Solids (%) | |
| 3.0 | 8.0 | 1064.00 | 7.0 | 1 | 10.0 | 5.0 | |
| MBT (kg/m ³) | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Stab (V) | |
| 25 | | 95.0 | 300.00 | 40.000 | | | |
| Excess PPA (kg/m ³) | Mud Added (m ³) | Mud Lost in Hole (m ³) | Mud Lost (Surf) (m ³) | Mud Vol (Res) (m ³) | Active Mud Volume (m ³) | | |
| | | | | | 80.50 | | |

Drill String: BHA #7 Drilling Assembly

| | | | |
|----------------|-------------------------|----------------------|---------------------|
| Bit Run | Dr | WDC Bit Due | TFA (incl Noz) (mm) |
| 0 | 22.2mm, HRS 35, 6020350 | 44-FC-A-5-2.00-BT-HR | 722 |
| Nozzle (mm) | | String Length (m) | String WH (dash) |
| 17.5/17.5/17.5 | | 1290.30 | 46,743 |
| Item Desc | Qty | OD (mm) | ID (mm) |
| KELLY | 1 | 101.6 | 9.40 |
| DRILL PIPE | 108 | 101.6 | 1038.59 FH |
| FWDP | 8 | 101.6 | 55.27 FH |
| CROSS OVER | 1 | 165.1 | 0.88 FH |
| DRILL COLLAR | 8 | 165.1 | 57.26 XH |
| JAR | 1 | 160.0 | 5.05 XH |
| DRILL COLLAR | 10 | 165.1 | 95.42 XH |
| NMDC | 2 | 165.1 | 18.71 XH |
| O.S | 1 | 165.0 | 0.72 XH |
| FLOAT SUB | 1 | 165.0 | 0.76 XH |
| 1.25 FIXED | 1 | 165.0 | 7.96 XH |

| | | | | | | | |
|------------------------------|--------------|------------------|-----------------|--------------------|----------------------|----------------------|--------------------|
| Wellbore
ORIGINAL
HOLE | Start (mKb) | Depth End (mKb) | Cum Depth (mKb) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (flow) (m³/min) |
| | 1,200.00 | 1,265.00 | 194.00 | 10.25 | 30.75 | 6.3 | 1.570 |
| WOB (daN) | APM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Btm Tq |
| 16 | 30 | 8,000 | 46 | 48 | 44 | 1,600.0 | 700.0 |
| Q (inj) (1000m³/d) | T (inj) (°C) | P (BH Ann) (kPa) | T (bit) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (air run) (m³/day) | Q (g return) (100) |
| | | | | | | | |
| Wellbore
ORIGINAL
HOLE | Start (mKb) | Depth End (mKb) | Cum Depth (mKb) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (flow) (m³/min) |
| | 1,265.00 | 1,290.00 | 219.00 | 4.25 | 35.00 | 5.9 | 1.570 |
| WOB (daN) | APM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Btm Tq |
| 16 | 30 | 8,000 | 46 | 48 | 44 | 1,600.0 | 700.0 |
| Q (inj) (1000m³/d) | T (inj) (°C) | P (BH Ann) (kPa) | T (bit) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (air run) (m³/day) | Q (g return) (100) |
| | | | | | | | |

| | |
|-------------------------|--------------------------|
| A/E's | Total A/E Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost Yr To Date (\$) |
| 109,763 | 4,545,147 |
| Inst Additive Cost (\$) | Inst Cum Yr To Date (\$) |
| 765.14 | 18,875.27 |
| Depth Start (mkt) | Depth End (mkt) |
| 1,200.00 | 1,290.00 |
| Target Formation | Target Depth (mkt) |
| MOUNT KINDLE | 1,700.00 |

| Daily Contacts | |
|----------------|--------------|
| Contact | Cell Phone |
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

| | |
|-------------------------------|--------------|
| Rigs: AKITA DRILLING LTD., 55 | |
| Contractor | Rig Number |
| AKITA DRILLING LTD. | 55 |
| Rig Supervisor | Cell Phone |
| BOB ROLFES | 403-313-8512 |

| | | | |
|-----------------|-------------|----------------------------|--------|
| 1, EMSCO, F-800 | | | |
| Pump Number | Power (kW) | Rod Diameter (mm) | |
| 1 | 560.0 | | |
| Line Size (mm) | Stroke (mm) | V/Sk (m ³ /sec) | |
| 152.0 | 229.0 | 0.012 | |
| P (kPa) | Stow Spd | Stroke (spm) | EF (%) |
| 3.400 | Yes | 70 | 100 |

| | | | |
|------------------------|-------------|---------------------------------|---------|
| 2, EMSCO, F-800 | | | |
| Pump Number | Power (kW) | Rod Diameter (mm) | |
| 2 | 560.0 | | |
| Linear Size (mm) | Stroke (mm) | V/Str. (m ³ /stroke) | |
| 152.0 | 229.0 | 0.012 | |
| P (kPa) | Slow Spd | Strokes (spm) | Eff (%) |
| 3,400 | Yes | 1280 | 100 |

| Description | Make | Model | SN |
|-------------|------|-------|----|
| | 2 | | |

| HG DRYER, DST2+, DST2+ | | | |
|------------------------|-------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DST2+ | DST2+ | |

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

| Mud Additive Amounts | | |
|----------------------|----------------|------|
| Des | Cost (\$/unit) | Cons |
| DRISPAC | 288.56 | 1.0 |

| | | |
|--------|-------|------|
| LIME | 15.19 | 2.0 |
| BARITE | 22.31 | 20.0 |

Formation Pick Groups: Cuttings
Formation Picks Group
Cuttings

| Name | Top (mKB) |
|--------------|-----------|
| PLEISTOCENE | 0.00 |
| FAST FORK | 60.00 |
| LITTLE BEAR | 906.00 |
| MOUNT KINDLE | 1,032.00 |

| Case | Size (mm) | Material |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

[illegible]

Directional Surveys: Eta Dir. survey f...

| Ets Dir. survey for ORIGINAL HOLE | | | |
|-----------------------------------|---------|---------|-----------|
| MO (mKB) | Inc (°) | Azm (°) | TVD (mKB) |
| 1,209.65 | 0.60 | 79.00 | 1,209.49 |
| 1,238.54 | 1.30 | 76.10 | 1,238.38 |
| 1,257.70 | 1.60 | 79.70 | 1,257.53 |

Depth Progress: 126.00

| | |
|------------------------|------------------------|
| AFE# | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 60,976 | 4,435,384 |
| Mud Additive Cost (\$) | Water Cum To Date (\$) |
| 3,037.42 | 18,110.13 |
| Depth Cost (mKB) | Depth Cost (mKB) |
| 1,074.00 | 1,200.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

| | |
|--------------------------------------|---------------------|
| Rigs: AKITA DRILLING LTD., 55 | |
| Contractor | Rig Number |
| AKITA DRILLING LTD. | 55 |
| Rig Supervisor | Cell Phone |
| BOB ROLFES | 403-313-8512 |

1, EMSCO, F-800

| | | | |
|------------------|-------------|----------------------------|---------|
| Pump Number | Per (kW) | Rod Diameter (mm) | |
| 1 | 560.0 | | |
| Cliner Size (mm) | Stroke (mm) | Visk (m ² /stk) | |
| 152.0 | 229.0 | 0.012 | |
| P (kPa) | Slow Spd | Strokes (rpm) | Eff (%) |
| 2.870 | Yes | 70 | 100 |

2. EMSCO. F-800

| | | | | | |
|----------------|-------|-------------|-------|--------------------------------------|-------|
| Pump Number | 2 | Power (kW) | 560.0 | Root Diameter (mm) | |
| Line Size (mm) | 152.0 | Stroke (mm) | 229.0 | Vel ² (m ² /s) | 0.012 |
| P (kPa) | 2.870 | Slow Spd | Yes | Strokes (spm) | 1152 |
| | | | | Eff (%) | 100 |

HQ DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

| HG DRYER, DST2+, DST2+ | | | |
|------------------------|-------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| | |
|----------------|--------|
| Type | Make |
| LGS CENTRIFUGE | UNITED |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Des | Cost (\$/lb) | Cons |
|---------------------------|--------------|------|
| KELZAN XCD | 661.69 | 1 |
| GUARDS MAN 12
(BLEACH) | 95.00 | 1 |
| DRISPAC | 288.56 | 1 |
| CAUSTIC | 67.69 | 2 |
| JETCIDE 250 | 345.19 | 3 |
| LIME | 15.19 | 1 |
| DRISPAC | 288.56 | 1 |
| BARITE | 22.31 | 2 |
| BICARB | 32.63 | 3 |
| ENVIROFLOC | 51.56 | 6 |
| SAWDUST | 6.56 | 10 |

Formation Pick Groups: Cuttings

| Formation Picks Group | |
|-----------------------|-----------|
| Cuttings | |
| Name | Top (mKB) |
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |
| LITTLE BEAR | 906.00 |
| MOUNT KINDLE | 1,032.00 |

Casing

| Des | Bin (mKB) | Rui Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66 63 | 1/28/2004 |
| SURFACE | 564 36 | 2/3/2004 |

Wellbores

| | |
|------|-----------|
| Name | НОР (HAK) |
|------|-----------|

Directional Surveys: Ets Dir. survey f...

| Description | | | |
|-----------------------------------|-----------|----------|-----------|
| Ets Dir. survey for ORIGINAL HOLE | | | |
| MO (mRb) | Incl. (°) | Azm. (°) | TVD (mRb) |
| 1.065 63 | 1.00 | 95 00 | 1.065 49 |
| 1.094 40 | 0.80 | 239 40 | 1.094 26 |
| 1.123 09 | 1.20 | 250 80 | 1.122 95 |
| 1.151 93 | 1.30 | 106 80 | 1.151 78 |
| 1.180 86 | 1.10 | 164 30 | 1.180 71 |

| | | | | | | | |
|-----------------|-------------------------|-----------------------------|------------------------------------|-----------------------------------|---------------------------------|-------------------------------------|--|
| Job No. 19-10 | | | | | | | |
| Job Name | Date | Depth (m/d) | Density (kg/m ³) | Vin (s/L) | Press Vin (cp) | Yield Point (cp) | |
| 19-10 | 19-10 | 1,175.00 | 1080.00 | 48 | 13.0 | 5.0 | |
| Spd 10 min (cp) | Gradients (Pa/m) | Filtrate (mL/30min) | Filtrate Cake (mm) | pH | Solids (%) | | |
| 8.0 | 10.59 | 7.5 | 1 | 10.4 | 0.0 | | |
| Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Slab (V) | | |
| | 0.9 | 300.00 | 60.00 | | | | |
| Control | Water (m ³) | Mud Added (m ³) | Mud Lost to Hole (m ³) | Mud Loss (Surf) (m ³) | Mud Vol (Res) (m ³) | Active Mud Volume (m ³) | |
| 212 | | 0.00 | 0.00 | 0.00 | 0.00 | 76.40 | |

| Drilling Assembly | | | | | | ADC Bit Dual | | TFA (incl Moz) (mm ²) | |
|----------------------------|----|---------|---------|---------|------------|-------------------|-----------------|-----------------------------------|--|
| Ø 222.2mm, HRS 35, 6020350 | | | | | | | | 722 | |
| 17.5/17.5/17.5 | | | | | | Siring Length (m) | Siring Wt (daN) | ROP (m/hr) | |
| | | | | | | 1200.00 | 44,974 | 6.3 | |
| | Jc | OD (mm) | ID (mm) | Lan (m) | Top Thread | | | | |
| KELLY BAR | 1 | 101.6 | | 5.68 | | | | | |
| DRILL PIPE | 69 | 101.6 | 84.8 | 952.01 | FH | | | | |
| HWDOP | 6 | 101.6 | 69.8 | 55.27 | FH | | | | |
| CROSS OVER | 1 | 165.1 | 69.8 | 0.88 | FH | | | | |
| DRILL COLLAR | 6 | 165.1 | 69.8 | 57.26 | XH | | | | |
| JAR | 1 | 160.0 | 84.0 | 5.05 | XH | | | | |
| GRILL COLLAR | 10 | 165.1 | 69.8 | 95.42 | XH | | | | |
| NMDC | 2 | 165.1 | 69.8 | 18.71 | XH | | | | |
| O.B. | 1 | 165.0 | 72.0 | 0.72 | XH | | | | |
| FLOAT SUB | 1 | 165.0 | 76.0 | 0.76 | XH | | | | |
| T-25 FIXED | 1 | 165.0 | | 7.96 | XH | | | | |

| | | | | | | | |
|---------------------------------|-------------|-----------------|-----------------|-------------------|----------------------|---------------------------------|-------------------------------------|
| Wellbore | Start (mKb) | Depth End (mKb) | Cum Depth (mKb) | Drill Time (hrs) | Cum Drill Time (hrs) | Int ROP (m/hr) | Q(flow) (m ³ /min) |
| ORIGINAL HOLE | 1,074.00 | 1,139.00 | 68.00 | 10.50 | 10.50 | 6.2 | 1.570 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Roi HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Btm Tq |
| 16 | 30 | 8,000 | 43 | 45 | 42 | 1,600.0 | 700.0 |
| Q(g in) (1000m ³ /d) | T(lin) (°C) | P(BH Ann) (kPa) | T(bn) (°C) | P(Surf Ann) (kPa) | T(surf ann) (°C) | Q(kg rim) (m ³ /day) | Q(g return) (1000m ³ /d) |

| | | | | | | | |
|---------------------------------|-------------|-----------------|-----------------|-------------------|----------------------|---------------------------------|-------------------------------------|
| Wellbore | Start (mKb) | Depth End (mKb) | Cum Depth (mKb) | Drill Time (hrs) | Cum Drill Time (hrs) | Int ROP (m/hr) | Q(flow) (m ³ /min) |
| ORIGINAL HOLE | 1,139.00 | 1,200.00 | 129.00 | 10.00 | 20.50 | 6.1 | 1.570 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Roi HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Btm Tq |
| 16 | 30 | 8,000 | 46 | 48 | 43 | 1,400.0 | 700.0 |
| Q(g in) (1000m ³ /d) | T(lin) (°C) | P(BH Ann) (kPa) | T(bn) (°C) | P(Surf Ann) (kPa) | T(surf ann) (°C) | Q(kg rim) (m ³ /day) | Q(g return) (1000m ³ /d) |

Well Name: ECA ET AL BEGADEN J-03

| | | | | |
|------------------|------------------------|------------------------|--------------------------|----------------|
| Union Hole U/H | Surface Legal Location | License # | Field Name | State/Province |
| 300JSG8440123000 | J-66 | 1893 | BE 3ADEH | NWT |
| Rig Date | Rig Release Date | Rig Elevation (m) | Rig-2: Fund Distance (m) | Rig-CP (m) |
| 1/28/2004 01:30 | | 185.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Hard-Release Condition | Hole Condition | MACP (kPa) |
| CLEAR | -27 | ICE | GOOD | 4235 |

Ops and depth @ 64 m
DRILLING 222mm HOLE @ 1104m

24 hr Summary

RUN IN HOLE TO 982m, PULL OUT OF HOLE FOR PIPE SCREEN, RUN IN HOLE TO 1024m.
WASH TO BOTTOM 10m SOFT FILL.
DRILL 222mm HOLE FROM 1034m - 1066m @ 6.4m/hr.
WORK STRING AND FLOW CHECK CONNECTIONS.
SURVEY AS REQUIRED.
DRILL 222mm HOLE FROM 1066m - 1071m @ 5m/hr.
BIT TORQUING EXCESSIVE.
CIRCULATE HOLE CLEAN.
PULL OUT OF HOLE TO CHECK BIT AND MOTOR, BIT RINGED OUT
HANDLE DIRECTIONAL TOOLS, CHANGE OUT BIT.
RUN IN HOLE AND TEST MWD TOOLS.
HELD BOP DRILL WITH CREW.
CIRCULATE AND WASH BOTTOM, PATTERN BIT.
DRILL 222mm HOLE FROM 1071m - 1074m @ 12m/hr.

24 hr Forecast

DRILL 222mm HOLE

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|-----------------|--|
| 00:00 | 03:45 | 3.75 | 6 | TRIPS | RIH to 982m |
| 03:45 | 05:15 | 1.50 | 6 | TRIPS | FLOW CHECK, TRIP OUT FOR PIPE SCREEN, FLOW CHECK @ 588m, RIH TO 982m |
| 05:15 | 06:00 | 0.75 | 6 | TRIPS | RIH TO 1024m, PICK UP KELLY, WASH TO BTM, 10m FILL |
| 06:00 | 07:45 | 1.75 | 2 | DRILL ACTUAL | DRILL FR/ 1034m to 1045m |
| 07:45 | 08:15 | 0.50 | 5 | COND MUD & CIRC | WORK PIPE & FLOW CHECK ON CONNECTIONS |
| 08:15 | 08:45 | 0.50 | 10 | DEV. SURVEY | TOTAL SURVEY TIME 0000HRS-1200 HRS |
| 08:45 | 12:00 | 3.25 | 2 | DRILL ACTUAL | DRILL - 1045 METRES-1066 METRES |
| 12:00 | 12:15 | 0.25 | 7 | RIG SERVICE | RIG SERVICE FUNCTIONED PIPE RAMS - 7 SECS CLOSE/ OPEN |
| 12:15 | 13:15 | 1.00 | 2 | DRILL ACTUAL | DRILL 1066 - 1071 METRES |
| 13:15 | 14:15 | 1.00 | 5 | COND MUD & CIRC | CIRC. HOLE PRIOR TO BIT TRIP |
| 14:15 | 16:00 | 1.75 | 6 | TRIPS | POOH- FLOW CHECK @ 1058 , 962, 580, AND 242 METRES |
| 16:00 | 17:00 | 1.00 | 6 | TRIPS | POOH- 242 METRES-28 METRES |
| 17:00 | 19:15 | 2.25 | 6 | TRIPS | HANDLE DIRECTIONAL TOOLS , SURFACE TEST MWD |
| 19:15 | 22:45 | 3.50 | 6 | TRIPS | RIH-1059m, TEST MWD TOOL @ 588m |
| 22:45 | 23:00 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG./BOP DRILL WITH CREW IN POSITION 90 SEC. |
| 23:00 | 23:30 | 0.50 | 5 | COND MUD & CIRC | CIRC ON BTM/PATTERN BIT |
| 23:30 | 23:45 | 0.25 | 2 | DRILL ACTUAL | DRILL FR/ 1071m to 1074m
HOLE FILL- MEAS.-5.86 m3
CALC.-5.24m3 (+.62 m3) |

Mud Checks: 1,071.00mKB, 2/7/2004 13:45

| Type | Depth (mKB) | Density (kg/m³) | Vis (cSt) | Pies Vis (cp) | Yield Point (cp) |
|----------------------|-------------|------------------|-----------------------|----------------------|------------------------|
| Water Base | 13:45 | 1,071.00 | 1080.00 | 46 | 13.0 |
| gel 10 sec (cp) | 4.0 | Gradient (kPa/m) | Filtrate (mL/30min) | Filter Cake (mm) | pH |
| | 8.0 | 4236.00 | 8.0 | 1 | 10.5 |
| MBT (kg/m³) | 25 | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) |
| | 0.0 | 0.0 | 95.0 | 300.000 | 100.000 |
| Excess PHIPA (kg/m³) | | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Lost (Surf) (m³) | Mud Vol (Rat) (m³) |
| | | 0.00 | 0.00 | 2.00 | 0.00 |
| | | | | | Active Mud Volume (m³) |
| | | | | | 69.60 |

Drill Strings: BHA #6, Drilling Assembly

| B4 Run | B4 | ADC B4 Out | TFA (incl Noz) (mm²) |
|--------------|-------------------------------|------------------------|----------------------|
| 5 | 222.2mm, FMX 543 B2, 10410488 | 7-8-FC-A-N-0.00-BT-SPR | 1,650 |
| Nozzles (mm) | 20.5/20.5/20.5/20.5/20.5 | String Length (m) | String Wt (daN) |
| | | 1074.00 | 42,424 |
| | | | ROP (m/hr) |
| | | | 6.2 |

| Item Desc | Its | OD (mm) | ID (mm) | Len (m) | Top Thread |
|--------------|-----|---------|---------|---------|------------|
| KELLY | 1 | 101.6 | | 4.43 | FH |
| DRILL PIPE | 86 | 101.6 | 84.8 | 827.28 | FH |
| HWDP | 6 | 101.6 | 69.8 | 55.27 | FH |
| CROSS OVER | 1 | 165.1 | 69.8 | 0.88 | FH |
| DRILL COLLAR | 8 | 165.1 | 69.8 | 57.28 | XH |
| JAR | 1 | 160.0 | 64.0 | 5.05 | XH |
| DRILL COLLAR | 10 | 165.1 | 69.8 | 95.42 | XH |
| NMDC | 2 | 165.1 | 69.8 | 18.71 | XH |
| O.S | 1 | 165.0 | 72.0 | 0.72 | XH |
| FLOAT SUB | 1 | 165.0 | 76.0 | 0.76 | XH |
| 1.25 FIXED | 1 | 165.0 | | 7.96 | XH |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (flow) (m³/min) |
|-----------------|-------------|------------------|-----------------|--------------------|----------------------|-----------------|---------------------|
| ORIGINAL HOLE | 1,034.00 | 1,066.00 | 32.00 | 5.00 | 5.00 | 6.4 | 1.800 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rat HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Btm Tq |
| 9 | 30 | 10,000 | 42 | 43 | 41 | 1,800.0 | 700.0 |
| Q (m³) (1000m³) | T (kg) (°C) | P (BH Ann) (kPa) | T (bh) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (kg) (m³/day) | Q (g return) (1000) |

| APL # | Total APL Ann (k) |
|------------------------|-----------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 133,360 | 4,359,398 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 1,169.02 | 15,072.71 |
| Depth Start (mKB) | Depth End (mKB) |
| 1,034.00 | 1,071.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

| Rigs: | AKITA DRILLING LTD., 55 |
|--------------------|-------------------------|
| Contractor | Rig Number |
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| BOB ROLFES | 403-313-8512 |

| 1. CONTINENTAL-EMSCO, F-800 | Pump Number | Power (kW) | Rod Diameter (mm) |
|-----------------------------|-------------|------------|-------------------|
| | 1 | 560.0 | |

| 2. CONTINENTAL-EMSCO, F-800 | Pump Number | Power (kW) | Rod Diameter (mm) |
|-----------------------------|-------------|------------|-------------------|
| | 2 | 560.0 | |

| HQ DRYER, DST2+, DST2+ | Description | Make | Model | SN |
|------------------------|-------------|-------|-------|----|
| HQ DRYER | DST2+ | DST2+ | | |

| HQ DRYER, DST2+, DST2+ | Description | Make | Model | SN |
|------------------------|-------------|-------|-------|----|
| HQ DRYER | DST2+ | DST2+ | | |

| Centrifuges/Cyclones: LGS CENTRIF... | Type | Make |
|--------------------------------------|--------|------|
| LGS CENTRIFUGE | UNITED | |

| Centrifuges/Cyclones: LGS CENTRIF... | Type | Make |
|--------------------------------------|--------|------|
| LGS CENTRIFUGE | UNITED | |

| Mud Additive Amounts | Conc. | Cost (\$/m³) | Cum |
|----------------------|-------|--------------|------|
| CAUSTIC | | 67.69 | 1.0 |
| DRISPAK | | 288.56 | 1.0 |
| CAUSTIC | | 67.69 | 1.0 |
| DESCO | | 91.13 | 1.0 |
| ALCOMER 74 | | 207.75 | 1.0 |
| BARITE | | 22.31 | 20.0 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|------|-----------|
| Cuttings | | |
| PLEISTOCENE | | 0.00 |
| EAST FORK | | 60.00 |
| LITTLE BEAR | | 906.00 |
| MOUNT KINDLE | | 1,032.00 |

| Casing | Des | Bin (mKB) | Run Date |
|-----------|-----|-----------|-----------|
| CONDUCTOR | | 66.63 | 1/28/2004 |
| SURFACE | | 564.26 | 2/3/2004 |

| Wellbores | Name | KOP (mKB) |
|---------------|------|-----------|
| ORIGINAL HOLE | | |

Directional Surveys: Ets Dir. survey f...

| Ets Dir. survey for ORIGINAL HOLE | MD (mKB) | Ind (°) | Azm (°) | TVD (mKB) |
|-----------------------------------|----------|---------|---------|-----------|
| | 1,036.81 | 0.60 | 104.00 | 1,036.68 |

ENCANA

Daily Drilling - Detail

Report Start Date: 2/7/2004

Report #: 24.0, DFS: 10.04

Depth Progress: 37.00

Well Name: ECA ET AL DECADETJ-03

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (flow) (m ³ /min) |
|----------------------------------|-------------|------------------|-----------------|--------------------|----------------------|-----------------------------------|--------------------------------------|
| ORIGINAL HOLE | 1,066.00 | 1,071.00 | 37.00 | 1.00 | 8.00 | 5.0 | 1.800 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Bm Tq |
| 11 | 40 | 9,000 | 42 | 43 | 41 | 1,800.0 | 700.0 |
| Q (g in) (1000m ³ /d) | T (in) (°C) | P (BH Ann) (kPa) | T (in) (°C) | P (Surf Ann) (kPa) | T (Surf Ann) (°C) | Q (liq rim) (m ³ /day) | Q (g return) (1000m ³ /d) |

Drill Strings: BHA #7, Drilling Assembly

| Dr Run | Dr | WDC Dr Drill | TFA (incl Noz) (mm) |
|--------------|--------------------------|-------------------|---------------------|
| 6 | 222 2mm, HRS 35, 6020350 | | 722 |
| Nozzles (mm) | 17.5/17.5/17.5 | String Length (m) | String Wt (daN) |
| | | 1074.00 | 42,424 |
| | | ROP (m/hr) | 12.0 |
| Item Desc | Jts | OD (mm) | ID (mm) |
| KELLY | 1 | 101.6 | 4.43 |
| DRILL PIPE | 86 | 101.6 | 84.8 |
| HWOP | 6 | 101.6 | 69.8 |
| CROSS OVER | 1 | 165.1 | 69.8 |
| DRILL COLLAR | 6 | 165.1 | 69.8 |
| JAR | 1 | 160.0 | 64.0 |
| DRILL COLLAR | 10 | 165.1 | 69.8 |
| NMDC | 2 | 165.1 | 69.8 |
| O.S | 1 | 165.0 | 72.0 |
| FLOAT SUB | 1 | 165.0 | 76.0 |
| 1.25 FIXED | 1 | 165.0 | 79.6 |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (flow) (m ³ /min) |
|----------------------------------|-------------|------------------|-----------------|--------------------|----------------------|-----------------------------------|--------------------------------------|
| ORIGINAL HOLE | 1,071.00 | 1,074.00 | 3.00 | 0.25 | 0.25 | 12.0 | 1.570 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Bm Tq |
| 9 | 30 | 9,000 | 43 | 44 | 42 | 1,800.0 | 700.0 |
| Q (g in) (1000m ³ /d) | T (in) (°C) | P (BH Ann) (kPa) | T (in) (°C) | P (Surf Ann) (kPa) | T (Surf Ann) (°C) | Q (liq rim) (m ³ /day) | Q (g return) (1000m ³ /d) |

ENCANA.

Daily Drilling - Detail

Report Start Date: 2/6/2004

Report #: 23.0, DFS: 9.94

Depth Progress: 242.00

Well Name: ECA ET AL BEGADEH J-66

| | | | | |
|------------------|------------------------|----------------------|------------------------|----------------|
| Bottom Hole Unit | Surface Legal Location | License # | Field Name | State/Province |
| 300J668440125000 | J-66 | 1998 | BEGADEH | NWT |
| Solid Date | Rig Release Date | KB Elevation (m) | KB-Ground Distance (m) | KB-CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MAACP (kPa) |
| OVERCAST | -22 | ICE | GOOD | 10.59 |

Name and depth @ 6m

DRILLING 222mm HOLE @ 1040m

24 hr Summary

DRILL 222mm HOLE FROM 792m - 1013m @ 27.62m/hr.

SURVEY AS REQUIRED.

RIG SERVICE AS REQUIRED.

WORK CONNECTIONS, FLOW CHECKS.

DRILL 222mm HOLE FROM 1013m - 1034m @ 9.33m/hr.

WORK CONNECTIONS AND FLOW CHECK.

FORMATIONS COMING IN HIGHER THAN EXPECTED 700+m.

CIRCULATE AND MUD UP SYSTEM WITH PREMIXED MUD.

PULL OUT OF HOLE TO CHANGE BIT AND CHECK DIRECTIONAL BHA.

BOP DRILL WHILE TRIPPING.

FLOW CHECK AS REQUIRED.

MAKE UP BIT AND RUN IN HOLE TEST MWD TOOLS @ 51m.

STRAP = 1001.74 BOARD = 1001.80 NO CORRECTION MADE.

BACK GROUND GAS 1-3 UNITS NO CONNECTION INCREASE.

FORMATION MOUNT KINDLE @ 1007m

DEVIATION SLIDES FROM.

678m - 681m

727m - 732m

745m - 750m

764m - 770m

860m - 886m

908 - 914m

937m - 943m

996m - 1002m

1014m - 1017m

24 hr Forecast

DRILL 222mm HOLE

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|-----------------|---|
| 00:00 | 08:00 | 8.00 | 2 | DRILL ACTUAL | DRILL F/792m to 1013m |
| 08:00 | 08:30 | 0.50 | 10 | DEV. SURVEY | DEV. SURVEY ACCUM |
| 08:30 | 11:45 | 3.25 | 5 | COND MUD & CIRC | WORK PIPE/ CONNECTION TIME/ FLOW CHECK EVERY CONNECTION |
| 11:45 | 12:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE/FUNCTION MOTOR KILLS(6 SEC.) |
| 12:00 | 14:15 | 2.25 | 2 | DRILL ACTUAL | DRILL FR/1013m to 1034m |
| 14:15 | 14:45 | 0.50 | 5 | COND MUD & CIRC | WORK PIPE/FLOW CHECK EVERY CONNECTION |
| 14:45 | 16:45 | 2.00 | 5 | COND MUD & CIRC | COND MUD & CIRC. SWITCH DRILLING FLUID TO PRE-MIXED MUD |
| 16:45 | 18:30 | 1.75 | 6 | TRIPS | FLOW CHECK, TRIP OUT FOR BIT FLOW CHECK @ 1030 METRES |
| 18:30 | 18:45 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. - BOP DRILL WHILE TRIPPING |
| 18:45 | 23:15 | 4.50 | 6 | TRIPS | PULL TO SURFACE |
| 23:15 | 23:45 | 0.50 | 6 | TRIPS | MAKE UP BIT / RUN IN HOLE |
| 23:45 | 00:00 | 0.25 | 20 | DIR. WORK | PICK UP KELLY DIR. WORK TEST MWD TOOL @ 51m |
| | | | | | STRAP=DC, HWDP, DP, & JARS=1001.74m |
| | | | | | STRAP=1001.80m |
| | | | | | HOLE FILL- MEAS.- 5.85 m3 CALC.- 5.16 m3 (+.69 m3) |

Mud Checks: 1,034.00mKB, 2/6/2004 17:04

| Type | Date | Depth (mKB) | Density (kg/m³) | Vis (cP) | Plas Vis (cP) | Yield Point (cP) |
|------------------------|-------|-------------|-----------------|----------|---------------|------------------|
| Water Base | 17:04 | 1,034.00 | 1075.00 | 52 | 15.0 | 8.0 |
| gel 10 sec (cP) | 10.0 | 10.59 | 7.0 | 1 | 8.0 | 5.0 |
| MBT (kg/m³) | 25 | 95.0 | 300.000 | 150.000 | | |
| Percent Oil (%) | 0.0 | | | | | |
| Percent Water (%) | | | | | | |
| Chlorides (mg/L) | | | | | | |
| Calcium (mg/L) | | | | | | |
| Potassium (mg/L) | | | | | | |
| Electric Slab (V) | | | | | | |
| Excess PHPA (kg/m³) | | | | | | |
| Mud Added (m³) | 25.00 | | | | | |
| Mud Lost to Hole (m³) | 0.00 | | | | | |
| Mud Lost (Surf) (m³) | 0.00 | | | | | |
| Mud Vol (Res) (m³) | 0.00 | | | | | |
| Active Mud Volume (m³) | 50.00 | | | | | |

Drill Strings: BHA #5, Drilling Assembly

| Item Desc | Size | OD (mm) | ID (mm) | Len (m) | Top Thread |
|--------------|------|---------|-----------|-----------------------|------------|
| KELLY | 4 | 222.2mm | 104.17353 | 6-8-FC-A-N-0.00-WT-PR | 1,650 |
| DRILL PIPE | 4 | 222.2mm | 104.17353 | 1034.00 | 41,219 |
| HWDP | 4 | 222.2mm | 104.17353 | 23.5 | |
| CROSS OVER | 1 | 162.0 | 71.4 | 0.88 | FH |
| DRILL COLLAR | 6 | 165.1 | 71.4 | 57.26 | XH |
| JAR | 1 | 162.0 | 64.0 | 5.05 | XH |
| DRILL COLLAR | 10 | 165.1 | 71.4 | 95.42 | XH |
| NMDC | 2 | 165.1 | 69.8 | 18.71 | XH |
| O.S | 1 | 165.0 | 72.0 | 0.72 | XH |
| FLOAT SUB | 1 | 165.0 | 76.0 | 0.76 | XH |

| AFE # | Total AFE Amt (\$) |
|------------------------|------------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum. Cost to Date (\$) |
| 63,716 | 4,226,038 |
| Mud Additive Cost (\$) | Mud Additive Cost (\$) |
| 2,277.08 | 13,903.69 |
| Depth Start (mKB) | Depth End (mKB) |
| 792.00 | 1,034.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 55

| Contractor | Ref Number |
|--------------------|--------------|
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| BOB ROLFES | 403-313-8512 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Prod Diameter (mm) |
|-------------|----------|--------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Prod Diameter (mm) |
|-------------|----------|--------------------|
| 2 | 560.0 | |

HG DRYER, DST2+, DST2+

| Description | Make | Mod. Yr | Size |
|-------------|-------|---------|------|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Mod. Yr | Size |
|-------------|-------|---------|------|
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Item | Cost (\$/kg) | Cum. |
|--------------|--------------|------|
| LIME | 15.19 | 5.0 |
| ALKAPAM 1103 | 242.25 | 5.0 |
| ENVIROFLOC | 51.56 | 8.0 |
| SAWDUST | 5.50 | 20.0 |
| BARITE | 22.31 | 20.0 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Cuttings | Trap (mKB) |
|----------------------|----------|------------|
| PLEISTOCENE | | 0.00 |
| EAST FORK | | 60.00 |
| LITTLE BEAR | | 906.00 |

Casing

| Case | Dim (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | ROP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

Description

Ets Dir. survey for ORIGINAL HOLE

| MD (mKB) | Incl (°) | Azm (°) | TVD (mKB) |
|----------|----------|---------|-----------|
| 805.80 | 1.00 | 122.80 | 805.72 |
| 863.49 | 1.70 | 110.60 | 863.39 |
| 921.16 | 1.20 | 150.80 | 921.04 |
| 979.07 | 1.10 | 141.10 | 978.94 |
| 1,007.00 | 0.60 | 138.10 | 1,006.87 |

Well Name: ECA ET AL BEGADEH J-03

| Item Desc | | Jis | | OD (mm) | ID (mm) | Len (m) | Top Thread |
|----------------------|--------------|------------------|-----------------|--------------------|----------------------|---------------------|-------------------------|
| 1.25 FIXED MOTOR | | 1 | | 165.0 | | 7.96 | XH |
| Well Core | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | Rate ROP (m/hr) | Q (m³/min) |
| ORIGINAL HOLE | 792.00 | 1,013.00 | 449.00 | 8.00 | 17.75 | 27.6 | 1.700 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SD HL (daN) | Drilling Torque | Off Btm Tq |
| 4 | 50 | 9,500 | 42 | 44 | 40 | 1,200.0 | 500.0 |
| Q (g/min) (1000m³/d) | T (hPa) (°C) | P (BH Ann) (kPa) | T (bh) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (kg/min) (m³/day) | Q (g return) (1000m³/d) |
| | | | | | | | |
| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | Rate ROP (m/hr) | Q (m³/min) |
| ORIGINAL HOLE | 1,013.00 | 1,034.00 | 470.00 | 2.25 | 20.00 | 9.3 | 1.700 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SD HL (daN) | Drilling Torque | Off Btm Tq |
| 5 | 50 | 9,250 | 42 | 44 | 40 | 1,300.0 | 500.0 |
| Q (g/min) (1000m³/d) | T (hPa) (°C) | P (BH Ann) (kPa) | T (bh) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (kg/min) (m³/day) | Q (g return) (1000m³/d) |
| | | | | | | | |

EKCANA

Daily Drilling - Detail

Report Start Date: 2/5/2004

Report #: 22.0, DFS: 8.94

Depth Progress: 228.00

Well Name: ECA IET AL BEGADEH J-05

| | | | | |
|------------------|------------------------|----------------------|-------------------------|----------------|
| Bottom Hole TWT | Surface Legal Location | License # | Field Name | State/Province |
| 300JF56440125000 | J-66 | 1998 | BEGADEH | NWT |
| Start Date | Rig Release Date | Rd Elevation (m) | Rd Ground Elevation (m) | Rd CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MACP (kPa) |
| CLEAR | -20 | ICE | GOOD | 4623 |

On and depth @ 6m
 DRILLING 222mm HOLE @ 907m @ 40.0m/hr.

24 hr Summary

NIPPLE UP BOP SYSTEM

MAKE UP BIT AND DIRECTIONAL BHA AND RUN IN HOLE, FUNCTION MWD TOOLS

TAG CEMENT @ 471M.

LAY OUT 9 SINGLES

SLIP AND CUT DRILL LINE

PRESSURE TEST BOVL CONNECTION 1500kPa LOW, 14000kPa HIGH 10 MINUTES EACH

DRILL OUT CEMENT FLOAT AND SHOE TRACK

DRILL 7m NEW HOLE RUN FORMATION INTEGRITY TEST LEAK OFF GRADIENT 27.66kPa/m

DRILL 222mm HOLE FROM 571m - 792m @ 23.26m/hr.

REPAIR HAMMER UNION CN PUMP LINES

SURVEY AS REQUIRED.

RIG SERVICE AS REQUIRED.

FORMATION LITTLE BEAR 70m HIGH B36M

BACK GROUND GAS 2-4 UNITS.

NO LOSSES

24 hr Forecast

DRILL 222mm HOLE PREPARE FOR MUD UP.

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|-----------------------|---|
| 00:00 | 00:30 | 0.50 | 14 | NIPPLE UP B.O.P. | NIPPLE UP B.O.P. |
| 00:30 | 02:00 | 1.50 | 6 | TRIPS | MAKE UP BIT RUN DIR TOOS |
| 02:00 | 03:00 | 1.00 | 20 | DIR. WORK | DIR. WORK CHECK MWD TOOLS |
| 03:00 | 05:00 | 2.00 | 6 | TRIPS | RUN BHA 17471 TAG CEMENT |
| 05:00 | 06:00 | 1.00 | 6 | TRIPS | LAY DOWN 9 SINGLES |
| 06:00 | 07:00 | 1.00 | 9 | CUT OFF DRILLING LINE | CUT OFF DRILL LINE SLIP CUT |
| 07:00 | 07:15 | 0.25 | 7 | RIG SERVICE | RIG SERVICE |
| 07:15 | 08:00 | 0.75 | 15 | TEST B.O.P. | PRESSURE TEST B.O.P. 1500KPA LOW
14000KPA HIGH 10 MIN EACH |
| 08:00 | 10:30 | 2.50 | 23 | | DRILL OUT CEMENT, FLOAT, & SHOE
FR/471m to 564m |
| 10:30 | 10:45 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG/BOP DRILL WITH CREW |
| 10:45 | 11:00 | 0.25 | 2 | DRILL ACTUAL | DRILL FR/564m to 571m |
| 11:00 | 11:30 | 0.50 | 5 | COND MUD & CIRC | CIRC HOLE CLEAN |
| 11:30 | 12:00 | 0.50 | 15 | TEST B.O.P. | PERFORM LEAK OFF TEST |
| 12:00 | 13:45 | 1.75 | 2 | DRILL ACTUAL | DRILL FR/571m to 610m |
| 13:45 | 14:45 | 1.00 | 8 | REPAIR RIG | REPAIR HAMMER UNION ON HIGH
PRESSURE MUD LINE |
| 14:45 | 22:30 | 7.75 | 2 | DRILL ACTUAL | DRILL FR/610m to 792 |
| 22:30 | 23:30 | 1.00 | 10 | DEV. SURVEY | DEV. SURVEY (ACC.) |
| 23:30 | 23:45 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. BOP DRILL |
| 23:45 | 00:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE FUNCTION ANNULAR 12 SEC |

Mud Checks: 698.00mKB, 2/5/2004 18:27

| Type | Date | Depth (mKB) | Density (kg/m³) | Vis (cP) | Plas Vis (cP) | Yield Point (cP) |
|----------------------|-----------------|-----------------------|----------------------|---------------------|------------------------|-------------------|
| Water Base | 18:37 | 698.00 | 1005.00 | 29 | 0.5 | 0.5 |
| gel 10 sec (cP) | | | Gradient (kPa/m) | Filtrate (mL/30min) | Fiber Count (mm) | pH |
| | | | 9.91 | | | |
| GRIT (kg/m³) | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Slab (V) |
| | 0.0 | 99.0 | 520.000 | 1200.000 | | |
| Casene Filtr (kg/m³) | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Lost (Surf) (m³) | Mud Vol (Res) (m³) | Active Mud Volume (m³) | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 44.30 | |

Drill Strings: BHA #8, Drilling Assembly

| | | | | | |
|--------------------------|-------------------------------|-------------------|---------|----------------------------------|------------|
| Bit Run | Bit | WDC Bit Data | | YFA (incl Noz) (mm) ³ | |
| 4 | 222.2mm, FMX 563 C2, 10417353 | | | 1.650 | |
| Nozzles (mm) | | String Length (m) | | String Wt (daN) | ROP (m/hr) |
| 20 5/20 5/20 5/20 5/20 5 | | 780.83 | | 36.104 | 23.4 |
| Item Desc | Size | OD (mm) | Wt (mm) | Len (m) | Top Thread |
| DRILL PIPE | 1 | 101.6 | 84.8 | 9.62 | FH |
| DRILL PIPE | 27 | 101.6 | 84.8 | 528.90 | FH |
| FWOP | 6 | 101.6 | 69.8 | 55.27 | FH |
| CROSS OVER | 1 | 162.0 | 71.4 | 0.88 | FH |
| DRILL COLLAR | 6 | 165.1 | 71.4 | 57.26 | XH |
| JAR | 1 | 162.0 | 64.0 | 5.05 | XH |
| DRILL COLLAR | 10 | 165.1 | 71.4 | 95.42 | XH |
| NMDC | 2 | 165.1 | 69.8 | 18.71 | XH |
| O.S. | 1 | 165.0 | 72.0 | 0.72 | XH |
| FLOAT SUB | 1 | 165.0 | 76.0 | 0.76 | XH |
| 1.25 FIXED MOTOR | 1 | 165.0 | | 7.96 | XH |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (m³/hr ROP) (m³/hr) | Drift (m/min) |
|---------------|---------------|-----------------|-----------------|------------------|------------------------------------|-----------------|
| ORIGINAL HOLE | 564.00 | 571.00 | 7.00 | 0.25 | 0.25 | 28.0 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PJHL (daN) | BDHL (daN) | Drilling Torque |
| 2 | 115 | 7.250 | 38 | 39 | 38 | 1,200.0 |
| Drift (m/min) | Drift (m/min) | Drift (m/min) | Drift (m/min) | Drift (m/min) | Drift (m/min) | Drift (m/min) |
| 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

| AFE # | Total AFE Amt (\$) |
|------------------------|-----------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 75,594 | 4,162,000 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 3,452.78 | 11,384.36 |
| Depth Start (mKB) | Depth End (mKB) |
| 564.00 | 792.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

Rigs: AKITA DRILLING LTD. 55

| Contractor | Rig Number |
|--------------------|--------------|
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| BOB ROLFES | 403-313-8512 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Power (kW) | Rod Diameter (mm) |
|-------------|------------|-------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Power (kW) | Rod Diameter (mm) |
|-------------|------------|-------------------|
| 2 | 560.0 | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Dis | Con (Barrel) | Con |
|--------------|--------------|------|
| ALKAPAM 1103 | | 10 C |
| DRISPAC | 288.56 | 10 C |
| ENVIRUFLOC | 51.56 | 11 C |

Formation Pick Groups: Cuttings

| Formation Pick Group | Cuttings |
|----------------------|----------|
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |

Casing

| Dis | Bin (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbores

| Name | ROP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

Description: Ets Dir. survey for ORIGINAL HOLE

| MD (mKB) | Inc (°) | Alt (°) | TVD (mKB) |
|----------|---------|---------|-----------|
| 575.10 | 0.08 | 65.60 | 575.05 |
| 661.37 | 1.20 | 104.90 | 661.31 |
| 690.16 | 1.30 | 92.60 | 690.09 |
| 719.08 | 1.50 | 93.20 | 719.00 |
| 776.89 | 0.08 | 125.70 | 776.81 |

ENCANA:

Daily Drilling - Detail

Report Start Date: 2/5/2004

Report #: 22.0, DFS: 8.94

Depth Progress: 228.00

Well Name: ECA ET AL BEGADEH U-01

| | | | | | | | |
|------------------------------------|--------------|--------------------|-----------------|--------------------|----------------------|----------------------------------|--------------------------------|
| Wellbore | Start (mKS) | Depth End (mKS) | Cum Depth (mKS) | Drill Time (hrs) | Cum Drill Time (hrs) | RSP (m/hr) | Q (flow) (m ³ /min) |
| ORIGINAL HOLE | 571.00 | 792.00 | 228.00 | 9.50 | 9.75 | 23.3 | 1.700 |
| WOB (dash) | APM (rpm) | SPP (kPa) | Rat HL (dash) | FJ HL (dash) | SD HL (dash) | Drilling Torque | Off Btm Yq |
| 3 | 115 | 8,000 | 38 | 39 | 38 | 1,200.0 | 500.0 |
| Q (inj) (1000 m ³ /day) | T (inj) (°C) | P (Surf Ann) (kPa) | T (bm) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (eq ann) (m ³ /day) | Q (g return) (1000) |

ENCANA

Daily Drilling - Detail

Report Start Date: 2/4/2004

Report #: 21.0, DFS: 7.94

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH J-65

| | | | | |
|-----------------|------------------------|-----------------------|------------------------|----------------|
| Bottom Hole (m) | Surface Legal Location | License # | Field Name | State/Province |
| 300J65440125000 | J-65 | 1998 | BEGADEH | NWT |
| Spud Date | Rig Release Date | KB Elevation (m) | KB-Ground Distance (m) | KB-CE (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | 4.65 |
| Weather | Temperature (°C) | Road/Access Condition | Hole Condition | MAOP (kPa) |
| CLEAR | -20 | ICE | CASED | |

Dip and depth @ 68 m

RUNNING IN HOLE WITH DIRECTIONAL TOOLS

24 hr Summary

WELD CASING BOWL AND TEST TO 10,000kPa.

NIPPLE UP BOP SYSTEM

SAFETY MEETING WITH INLAND PRESSURE TESTING AND CREW.

PRESSURE TEST BOP SYSTEM, ALL TEST 1500kPa LOW, 14,000kPa HIGH 10 MINUTES EACH

TEST ALL MANIFOLD VALVES SWEEP LINES HCR VALVES, KILL LINE VALVES.

PRESSURE TEST BLIND RAMS, PIPE RAMS, ANNULAR, INSIDE BOP, STABBING VALVE, UPPER AND

LOWER KELLY COCKS, MANUAL RELIEF VALVE.

RIG IN FLARE TANK, FLOWLINE, CATCH CAN AND ALL PASON CORDS.

HELD SAFETY MEETING WITH NEWS CO AND CREW PICKING UP TOOLS.

PICK UP AND MAKE UP DIRECTIONAL TOOLS.

UNABLE TO GET BIT THROUGH BOWL PICK UP STACK AND GRIND OUT EXCESS WELD ON CASING

BOWL.

RIG SERVICE AS REQUIRED

24 hr Forecast

RIH TAG CEMENT PRESSURE TEST BOWL CONNECTION, DRILL OUT, DRILL 222mm HOLE

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|------------------|---|
| 00:00 | 03:30 | 3.50 | 22 | | WELD CASING BOWL |
| 03:30 | 04:00 | 0.50 | 15 | TEST B.O.P. | TEST CASING WELD 10,000kPa |
| 04:00 | 09:00 | 5.00 | 14 | NIPPLE UP B.O.P. | NIPPLE UP B.O.P. |
| 09:00 | 09:15 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. WITH INLAND PRESSURE TESTER |
| 09:15 | 12:00 | 2.75 | 15 | TEST B.O.P. | PRESSURE TEST KILL LINE VALVES, CHECK VALVE, BLIND RAMS, HCR 1500 KPA LOW, 14000 KPA HIGH, 10 MIN. EACH |
| 12:00 | 16:30 | 4.50 | 15 | TEST B.O.P. | PRESSURE TEST, PIPE RAMS, ANNULAR, INSIDE BOP & STABBING VALVE UPPER & LOWER KELLY COCKS, MAN. RELIEF VALVE, SWEEP LINES, MANIFOLD SHACK VALVES, CHOKES, 1500 KPA LOW, 14000 KPA HIGH, 10 MIN. EACH |
| 16:30 | 18:15 | 1.75 | 1 | RIGUP & TEARDOWN | RIG IN FLARE TANK, FLOW LINE, CATCH CAN, PASON CORDS |
| 18:15 | 18:30 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG./REVIEW JSA ON HANDLING DIR. TOOLS |
| 18:30 | 21:00 | 2.50 | 24 | | PICK UP & MAKE UP DIR. TOOLS |
| 21:00 | 00:00 | 3.00 | 14 | NIPPLE UP B.O.P. | NIPPLE DOWN BOP GRIND OUT EXCESS WELD |

| | |
|------------------------|------------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum. Cost To Date (\$) |
| 354,387 | 4,086,485 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 901.43 | 7,931.60 |
| Depth Start (mKB) | Depth End (mKB) |
| 563.50 | 563.50 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| | |
|----------------|--------------|
| Contact | Cell Phone |
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 55

| | |
|--------------------|--------------|
| Contractor | Rig Number |
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

1, CONTINENTAL-EMSCO, F-800

| | | |
|-------------|-----------|-------------------|
| Pump Number | Per (H/W) | Rod Diameter (mm) |
| 1 | 560.0 | |

2, CONTINENTAL-EMSCO, F-800

| | | |
|-------------|-----------|-------------------|
| Pump Number | Per (H/W) | Rod Diameter (mm) |
| 2 | 560.0 | |

HG DRYER, DST2+, DST2+

| | | | |
|-------------|-------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| | | | |
|-------------|-------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DST2+ | DST2+ | |

Centrifuges/Cyclones: LGS CENTRIF...

| | |
|----------------|--------|
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| | |
|----------------|--------|
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Dis | Cost (Mud) | Cum |
|----------------------------|------------|------|
| CAUSTIC | 67.69 | 1.0 |
| POLE-E-FLAKE (CELLO-FLANE) | 39.75 | 3.0 |
| SAWDUST | 6.56 | 20.0 |
| CAUSTIC | 67.69 | 1.0 |
| ENVIROFLOC | 51.56 | 10.0 |

Formation Pick Groups: Cuttings

| Name | Top (mKB) |
|-------------|-----------|
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |

Casing

| Dis | Inst (mKB) | Run Date |
|-----------|------------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

Wellbore

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

Description
Ets Dir. survey for ORIGINAL HOLE

ENCA

Daily Drilling - Detail

Report Start Date: 2/3/2004

Report #: 20.0, DFS: 6.94

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH J-03

| | | | | |
|------------------|------------------------|----------------------|-------------------------|----------------|
| Bottom Hole UTM | Surface Legal Location | License # | Field Name | State/Province |
| 300J060440125000 | J-65 | 1693 | BEGADEH | NWT |
| Spud Date | Rig Release Date | R/E Elevation (m) | R/E Ground Distance (m) | R/E CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MACP (µPa) |
| CLEAR | -28 | ICE | CASED | |

Ons and depth @ 6m

NIPPLE UP BOP SYSTEM

24 hr Summary

LOG RIG OUT LOGGERS

RIG UP POWER TONGS AND WAIT ON ORDERS

HELD SAFETY MEETING WITH FI AND CREW ON RUNNING CASING

RUN 244.5mm CASING

CIRCULATE CASING AND CONDITION MUD AND HOLE

HELD SAFETY MEETING WITH HALLIBURTON AND CREW ON CEMENTING

CEMENT SURFACE CASING

WAIT ON CEMENT

NIPPLE DOWN DIVERter SYSTEM

24 hr Forecast

CUT CASING WELD ON BOWL TEST TO 10,000KPa, NIPPLE UP BOP, PRESSURE TEST

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|-----------------------|---|
| 00:00 | 03:30 | 3.50 | 11 | WIRELINE LOGS | RUN LOG # 1 PXE-AIT-EMS-BHC-SONIC TO 564
RIG OUT LOGGERS |
| 03:30 | 04:00 | 0.50 | 12 | RUN CASING AND CEMENT | RIG UP POWER TONGS |
| 04:00 | 05:45 | 1.75 | 22 | W/O ORDERS | WOO |
| 05:45 | 06:00 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. RUNNING CASING REVIEW JSA |
| 06:00 | 11:15 | 5.25 | 12 | RUN CASING AND CEMENT | RUN SURFACE CSG |
| 11:15 | 12:00 | 0.75 | 5 | COND MUD & CIRC | COND MUD & CIRC CASING
RAN 43 JOINTS 244.5mm 53 574kg/m J-55
LT&C CASING
TOTAL LENGTH 565.45m SET @ 564.36m
WEATHERFORD FLOAT COLLAR AND GUIDE SHOE USED
14 WEATHERFORD BOW SPRING CENTRALIZERS |
| 12:00 | 13:00 | 1.00 | 5 | COND MUD & CIRC | COND MUD & CIRC CASING |
| 13:00 | 13:15 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. WITH HALLIBURTON |
| 13:15 | 15:15 | 2.00 | 12 | RUN CASING AND CEMENT | RIG TO & CEMENT CASING |
| 15:15 | 19:15 | 4.00 | 13 | WAIT ON CEMENT | WAIT ON CEMENT |
| 19:15 | 00:00 | 4.75 | 1 | RIGUP & TEARDOWN | NIPPLE DOWN DIVERter,
CEMENTED WITH 10.8m3 PERMAFROST C @ 1880kg/m3
13.3m3 0-1-0G @ 1895kg/m3
DISPLACED WITH 22.25m3 FRESH WATER
BUMP PLUG 3500KPa OVER PLUG HELD
FLOATS HELD
GOOD RETURNS DURING JOB
ANNULAS STABLE AFTER JOB
PLUG DOWN @ 14:52 hrs 02/03/04 9m3 OF
GOOD CEMENT RETURNS |

| | |
|------------------------|-----------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 0,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 52,467 | 3,732,098 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 680.01 | 7,030.17 |
| Depth Start (mKB) | Depth End (mKB) |
| 563.50 | 563.50 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Number |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8515 |

| | |
|-------------------------------|---------------|
| Rigs: AKITA DRILLING LTD., 65 | Contractor |
| AKITA DRILLING LTD | Rig Number 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8512 |

| | | | |
|-----------------------------|-------------|------------|-------------------|
| 1, CONTINENTAL-EMSCO, F-800 | Pump Number | Flow (L/W) | Rod Diameter (mm) |
| 1 | 560.0 | | |

| | | | |
|-----------------------------|-------------|------------|-------------------|
| 2, CONTINENTAL-EMSCO, F-800 | Pump Number | Flow (L/W) | Rod Diameter (mm) |
| 2 | 560.0 | | |

| | | | | |
|------------------------|-------------|------|-------|------|
| HG DRYER, DST2+, DST2+ | Description | Make | Model | Size |
| HG DRYER, DST2+, DST2+ | | | | |

| | | | | |
|------------------------|-------------|------|-------|------|
| HG DRYER, DST2+, DST2+ | Description | Make | Model | Size |
| HG DRYER, DST2+, DST2+ | | | | |

| | | |
|--------------------------------------|--------|------|
| Centrifuges/Cyclones: LGS CENTRIF... | Type | Make |
| LGS CENTRIFUGE | UNITED | |

| | | |
|--------------------------------------|--------|------|
| Centrifuges/Cyclones: LGS CENTRIF... | Type | Make |
| LGS CENTRIFUGE | UNITED | |

| Mud Additive Amounts | | | |
|----------------------|--------------|--------------|--------------|
| Use | Cost (\$/m3) | Cost (\$/m3) | Cost (\$/m3) |
| SAPP | 10.88 | 1.0 | |
| SODA ASH | 23.44 | 1.0 | |
| DESCO | 91.13 | 1.0 | |
| BICARB | 32.63 | 2.0 | |
| NEW GEL | 20.25 | 10.0 | |
| SAWDUST | 6.56 | 30.0 | |

Formation Pick Groups: Cuttings

| Formation Pick Group | | Cuttings |
|----------------------|-----------|----------|
| Name | Top (mKB) | |
| PLEISTOCENE | 0.00 | |
| EAST FORK | 60.00 | |

| Casing | | |
|-----------|----------|-----------|
| Use | Run Date | Run Date |
| CONDUCTOR | 66.63 | 1/28/2004 |
| SURFACE | 564.36 | 2/3/2004 |

| Wellbores | |
|---------------|-----------|
| Name | ROP (mKB) |
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...
Description
Ets Dir. survey for ORIGINAL HOLE

Well Name: ECA ET AL BEGADEH 140

| | | | | |
|------------------|------------------------|----------------------|-------------------------|----------------|
| Bottom Hole UTM | Surface Legel Location | License # | Field Name | State/Province |
| 300JSC6440125000 | J-68 | 1990 | BEGADEH | NWT |
| Start Date | Rig Release Date | R/B Elevation (m) | R/B Ground Distance (m) | R/B ZP (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Lease Condition | Rig Condition | MACP (N/A) |
| CLEAR | -27 | ICE | GOOD | |

Doe and depth @ 6m

RUNNING 244 5mm CASING

24 hr Summary

DRILL 311mm HOLE FROM 474m - 563.5m @ 9.17m/hr.
CIRCULATE AND CONDITION MUD AND HOLE.
SAFETY MEETING BOP DRILL WELL SECURE IN 90 SEC.
WIPE TRIP 15 STANDS FLOW CHECK AS REQUIRED.
CIRCULATE AND CONDITION MUD AND HOLE.
PULL OUT OF HOLE TO LOG FLOW CHECK AS REQUIRED.
LAY OUT 229mm DRILL CALLARS.
SAFETY MEETING WITH LOGGERS RIG UP SAME.
RUN LOG 31 PEX-AIT-EMS-BHC-SONIC.
LOGGERS TO 564m - ON BOTTOM 23.50

24 hr Forecast

LOG WAIT ON ORDERS. RUN CASING. CEMENT SAME. WCC. NIPPLE UP. PRESSURE TEST BOP SYSTEM

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|-----------------|--|
| 00 00 | 02 00 | 2.00 | 2 | DRILL ACTUAL | DRILL F/ 474 T/ 493 |
| 02 00 | 02 30 | 0.50 | 10 | DEV. SURVEY | DEV. SURVEY ACCUM |
| 02 30 | 10 15 | 7.75 | 2 | DRILL ACTUAL | DRILL F/ 493 T/ 563.5m |
| 10 15 | 10 45 | 0.50 | 10 | DEV. SURVEY | DEV. SURVEY (ACC) |
| 10 45 | 11 15 | 0.50 | 5 | COND MUD & CIRC | COND MUD & CIRC |
| 11 15 | 12 00 | 0.75 | 6 | TRIPS | FLOW CHECK WIPER TRIP (15 STDs)
FLOW CHECK @ 459m, 287m
HOLE FILL VOL. CALC. 78 MEAS. 83 |
| 12 00 | 13 45 | 1.75 | 6 | TRIPS | WIPE TRIP |
| 13 45 | 15 45 | 2.00 | 5 | COND MUD & CIRC | COND MUD & CIRC |
| 15 45 | 16 00 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. BOP DRILL WITH CREW IN POSITION 90 SEC. |
| 16 00 | 18 30 | 2.50 | 6 | TRIPS | FLOW CHECK, TRIP OUT TO RUN LOGS. FLOW CHECK @ 479, 198, WOOH
HOLE FILL VOL. CALC. 4.28 MEAS. 4.49
DIF. = +.21m³ |
| 18 30 | 20 30 | 2.00 | 22 | | LAY OUT & D.C. |
| 20 30 | 20 45 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. RIG UP LOGGERS & LOGGING |
| 20 45 | 00 00 | 3.25 | 11 | WIRELINE LOGS | RIG UP & LOG # 1 PEX-AIT-EMS-BHC-SONIC
TD 564 TIME ON BOTTOM @ 23.50 |

Mud Checks: 563.00mKB, 2/2/2004 11:00

| Type | Date | Depth (mKB) | Density (kg/m³) | Via (mL) | Flow Via (cp) | Yield Point (cp) |
|---------------------|-----------------|-----------------------|----------------------|---------------------|------------------------|-------------------|
| Water Base | 11:00 | 563.00 | 1175.00 | 98 | 16.0 | 10.0 |
| gel 10 sec (cp) | gel 10 min (cp) | Gradient (kPa/m) | Filtrate (mL/30min) | Fiber Cake (mm) | pH | Solids (%) |
| 6.0 | 16.0 | 11.52 | | | 9.0 | 11.0 |
| W/SY (kg/m³) | Percent Oil (%) | Percent Water (%) | Chloride (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Slab (V) |
| 95 | 0.0 | 89.0 | 300.000 | 0.000 | | |
| Excess PHFA (kg/m³) | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Lost (Burr) (m³) | Mud Vol (Flow) (m³) | Active Mud Volume (m³) | |
| | | 0.00 | 0.00 | 0.00 | 72.60 | |

Drill String: BHA #4, Drilling Assembly

| | | | | | |
|----------------|---------------------|-----------------------|---------------------|---------|------------|
| Dr Run | Dr | ADC B4 Dia | T/A (Ind Noz) (mm²) | | |
| 3 | 311.1mm, LJ213, M11 | 3-3-FC-A-6-0.00-NO-TD | 1.044 | | |
| Nozzles (mm) | 19.0/22.0/22.0 | 563.59 | 29.337 | | |
| | | 11.9 | | | |
| Item Desc | As | OD (mm) | ID (mm) | Len (m) | Top Thread |
| KELLY | 1 | 101.6 | | 4.72 | |
| DRILL PIPE | 33 | 101.6 | 84.6 | 317.62 | FH |
| HWDP | 6 | 101.6 | 69.8 | 55.27 | FH |
| X.O. | 1 | 139.0 | 69.8 | 0.88 | FH |
| DRILL COLLAR | 14 | 165.1 | 69.8 | 133.53 | XH |
| JAR | 1 | 162.0 | 69.8 | 4.36 | XH |
| DRILL COLLAR | 2 | 165.1 | 69.8 | 19.01 | XH |
| X.O. | 1 | 161.0 | 69.8 | 1.23 | XH |
| D.C. | 2 | 222.0 | 75.0 | 17.47 | H 90 |
| BIT D.C. COMBO | 1 | 221.0 | 75.0 | 9.15 | H 90 |

| | | | | | | | |
|----------------------|-------------|-------------------|-----------------|--------------------|----------------------|---------------------|----------------------|
| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (Flow) (m³/min) |
| ORIGINAL HOLE | 474.00 | 563.50 | 214.50 | 9.75 | 18.00 | 9.2 | 2.200 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Rim Tq |
| 10 | 160 | 8,000 | 35 | 36 | 34 | 1,300.0 | 700.0 |
| Q (g min) (1000m³/d) | T (kg) | P (BHT Ann) (kPa) | T (daN) | P (Surf Ann) (kPa) | T (Surf Ann) (kPa) | Q (kg/min) (m³/day) | Q (g/min) (1000m³/d) |

| AFE # | Total A/E Ann (h) |
|------------------------|-----------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 152,457 | 3,679,631 |
| Mud Additive Cost (\$) | Mud Cost To Date (\$) |
| 1,832.38 | 6,350.16 |
| Depth Start (mKB) | Depth End (mKB) |
| 474.00 | 563.50 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

| Rigs: AKITA DRILLING LTD, 65 | Rig Number |
|------------------------------|--------------|
| AKITA DRILLING LTD | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8515 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Flow (L/min) | Rod Diameter (mm) |
|-------------|--------------|-------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Flow (L/min) | Rod Diameter (mm) |
|-------------|--------------|-------------------|
| 2 | 560.0 | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

HG DRYER, DST2+, DST2+

| Description | Make | Model | SN |
|-------------|-------|-------|----|
| HG DRYER | DST2+ | DST2+ | |

Mud Additive Amounts

| Chem | Cost (\$/unit) | Cons |
|----------------|----------------|------|
| KELZAN XCD | 661.69 | 1.0 |
| DYNA DETERGENT | 72.00 | 1.0 |
| SODA ASH | 23.44 | 3.0 |
| SAWDUST | 6.56 | 12.0 |
| NEW GEL | 20.25 | 15.0 |
| SODA ASH | 23.44 | 1.0 |
| DYNA DETERGENT | 72.00 | 1.0 |
| SAWDUST | 6.56 | 16.0 |
| NEW GEL | 20.25 | 22.0 |

Safety Incidents

| Date | Type |
|-------|-----------|
| 19 45 | FIRST AID |

Formation Pick Groups: Cuttings

| Formation Pick Group | Cuttings |
|----------------------|-----------|
| Name | Top (mKB) |
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |

Casing

| Case | Len (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |

Wellbore

| Name | ROP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description | | | |
|-----------------------------------|----------|---------|-----------|
| Ets Dir. survey for ORIGINAL HOLE | | | |
| MD (mKB) | Incl (°) | Arm (°) | TVD (mKB) |
| 468.00 | 1.00 | | 465.96 |
| 509.00 | 0.25 | | 508.95 |
| 539.00 | 1.25 | | 538.95 |

Report Printed: 2/3/2004

ENVIRNA

Daily Drilling - Detail

Report Start Date: 1/31/2004

Report #: 17.0, DFS: 3.84

Depth Progress: 227.00

Well Name: ECA ET AL BLGADEH

| | | | | |
|---------------------------------------|--------------------------------|----------------------------|--------------------------------|------------------------|
| Surface Hole Unit
330J308440125000 | Surface Layer Location
J-66 | License #
1093 | Hole Name
BEGADEH | Status/Province
NWT |
| Drill Date
1/28/2004 01:30 | Rig Release Date | NO Elevation (m)
105.57 | NO-Ground Distance (m)
4.95 | NO-CF (m) |
| Weather
ICE FOG | Temperature (°C)
-35 | Road/Less Condition
ICE | Hole Condition
GOOD | MAOP (kPa) |

Ops and depth @ 8m

DRILLING 311mm HOLE @ 338m@330m/hr.

24 hr Summary

DRILL 311mm HOLE FROM 121m TO 348m@13.75m/hr.

SURVEY AS REQUIRED.

RIG SERVICE AS REQUIRED.

DEVIATION SLOWLY INCREASING. CIRCULATE HOLE CLEAN AND TRIP OUT OF HOLE TO CHECK BIT.

SLM ON TRIP OUT STRAP 337.48m BOARD 337.45m NO CORRECTION MADE.

MAKE UP BIT AND BHA AND RUN IN HOLE.

NO HOLE PROBLEMS ON TRIP OUT OR IN HOLE.

24 hr Forecast

DRILL TO TD, WIPER TRIP.

Time Log

| Start Date | End Time | Log (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|-----------------|---|
| 00:00 | 05:45 | 6.75 | 2 | DRILL ACTUAL | DRILL F/121 T 233 |
| 06:45 | 07:45 | 1.00 | 10 | DEV. SURVEY | DEV. SURVEY ACCUM |
| 07:45 | 08:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE |
| 08:00 | 12:00 | 4.00 | 2 | DRILL ACTUAL | DRILL FR/233m to 281m |
| 12:00 | 17:30 | 5.50 | 2 | DRILL ACTUAL | DRILL FR/281m to 348m |
| 17:30 | 18:30 | 1.00 | 10 | DEV. SURVEY | DEV. SURVEY (ACC.) |
| 18:30 | 19:30 | 1.00 | 5 | COND MUD & CIRC | COND MUD & CIRC |
| 19:30 | 21:45 | 2.25 | 6 | TRIPS | FLOW CHECK, TRIP FOR BIT, FLOW CHECK @ 60 MT ON BANK |
| 21:45 | 22:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE |
| 22:00 | 00:00 | 2.00 | 6 | TRIPS | MAKE UP BIT RUN IN HOLE STRAP IN TRIP VOLUM MEAS 3.81 CALC 3.39 DIFF .42 M3 STRAP - 337.48 M BOARD - 337.45 M |

Mud Checks: 348.00mKB, 1/31/2004 10:20

| Type | Date | Depth (mKB) | Density (kg/m³) | Vis (cP) | Flow Rate (cp) | Yield Point (cp) |
|---------------------|-----------------|-----------------------|----------------------|---------------------|------------------------|-------------------|
| Water Base | 19:20 | 348.00 | 1220.00 | 59 | 12.0 | 8.0 |
| gel 10 sec (cp) | 4.0 | 9.0 | 11.98 | | | |
| MAV (kg/m³) | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Proteins (mg/L) | Electric Slab (V) |
| | 0.0 | 87.0 | 300.000 | 120.000 | | |
| Excess PHPA (kg/m³) | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Loss (Surf) (m³) | Mud Vol (Flow) (m³) | Active Mud Volume (m³) | |
| | 0.00 | 0.00 | 0.00 | 0.00 | 57.80 | |

Drill Strings: BHA #3, Drilling Assembly

| | | | | | | |
|---------------------------|------------------------|---------------------|---------------------|-----------------|------------|------------|
| Bit Run | Bit | WDC Bit Dst | YFA (incl Hse) (mm) | | | |
| 2 | 311.1mm, LJ1001, S44SC | 5-4-FC-A-E-00-NO-PR | 530 | | | |
| Nozzles (mm) | 15.0/15.0/15.0 | | Str g Len Jb (m) | Strng Wt (dash) | ROR (mhrs) | |
| | | | 251.80 | 31,813 | 13.7 | |
| Item Desc | | Jbs | OD (mm) | ID (mm) | Len (m) | Top Thread |
| KELLY | | 1 | | | 10.55 | |
| FWOP | | 6 | 101.5 | 69.8 | 55.27 | FH |
| X/O | | 1 | 139.0 | 65.0 | 0.88 | FH |
| DRILL COLLAR | | 14 | 185.1 | 63.5 | 133.53 | XH |
| DRILLING JARS - HYDRAULIC | | 1 | 182.0 | 62.0 | 4.36 | XH |
| DRILL COLLAR | | 2 | 185.1 | 71.4 | 19.01 | XH |
| X.O. | | 1 | 181.0 | 62.0 | 1.23 | XH |
| D.C. | | 2 | 222.0 | 75.0 | 17.47 | H 60 |
| BIT D.C COMBO | | 1 | 221.0 | 75.0 | 9.15 | H 60 |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (Flow) (m³/min) |
|-------------------|--------------|------------------|-----------------|--------------------|----------------------|----------------------|---------------------|
| ORIGINAL HOLE | 121.00 | 281.00 | 214.37 | 10.75 | 15.00 | 14.9 | 2.000 |
| WOB (dash) | APM (rpm) | SPP (kPa) | Rot HL (dash) | PU HL (dash) | SO HL (dash) | Drilling Torque | Off Bim Tq |
| 5 | 180 | 6.500 | 32 | 32 | 31 | 3,000.0 | 1,200.0 |
| Q (m³) (1000m³/d) | T (hPa) (°C) | P (BH Ann) (kPa) | T (hPa) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (liq rem) (m³/day) | Q (g return) (1000) |
| | | | | | | | |
| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (Flow) (m³/min) |
| ORIGINAL HOLE | 281.00 | 348.00 | 281.37 | 5.50 | 20.50 | 12.2 | 2.000 |
| WOB (dash) | APM (rpm) | SPP (kPa) | Rot HL (dash) | PU HL (dash) | SO HL (dash) | Drilling Torque | Off Bim Tq |
| 5 | 180 | 7.000 | 32 | 32 | 31 | 3,000.0 | 1,200.0 |
| Q (m³) (1000m³/d) | T (hPa) (°C) | P (BH Ann) (kPa) | T (hPa) (°C) | P (Surf Ann) (kPa) | T (surf ann) (°C) | Q (liq rem) (m³/day) | Q (g return) (1000) |
| | | | | | | | |

| AP E # | Total AP E Amt (\$) |
|------------------------|-----------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 53,888 | 3,613,565 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 1,444.53 | 3,848.81 |
| Depth Start (mKB) | Depth End (mKB) |
| 121.00 | 348.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WESLEY, DARREN | 403-313-8514 |
| MADISON, MIKE | 403-313-8515 |

Rigs: AKITA DRILLING LTD., 55

| Contractor | Rig Number |
|---------------------|--------------|
| AKITA DRILLING LTD. | 55 |
| Rig Supervisor | Cell Phone |
| HALLOCK, BRIAN | 403-313-8515 |

Mud Additive Amounts

| Item | Cost (MUSD) | Cons |
|----------------|-------------|------|
| SAPP | 100.88 | 1.0 |
| DYNA DETERGENT | 72.00 | 1.0 |
| DESCO | 91.13 | 2.0 |
| NEW GEL | 20.25 | 10.0 |
| SAWDUST | 6.56 | 12.0 |
| SAPP | 100.88 | 2.0 |
| DYNA DETERGENT | 72.00 | 2.0 |
| BICARB | 32.63 | 3.0 |
| DESCO | 91.13 | 4.0 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|------|-----------|
| Cuttings | | |
| PLEISTOCENE | | 0.00 |
| EAST FORK | | 60.00 |

Casing

| Size | Ben (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |

Wellbores

| Name | ROP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description | MD (mKB) | Ind (°) | Arm (°) | TVD (mKB) |
|-----------------------------------|----------|---------|---------|-----------|
| Ets Dir. survey for ORIGINAL HOLE | | | | |
| | 138.00 | 1.50 | | 137.99 |
| | 166.00 | 0.75 | | 165.98 |
| | 193.00 | 0.50 | | 192.98 |
| | 219.00 | 0.75 | | 218.98 |
| | 278.00 | 0.25 | | 277.98 |
| | 307.00 | 1.00 | | 306.97 |
| | 336.00 | 1.25 | | 335.97 |

Well Name: ECA ET AL DECADE HJ

| | | | | |
|---------------------|------------------------|----------------------|-------------------------|----------------|
| Location Hole (NAD) | Surface Legal Location | License # | Well Name | Water/Drainage |
| 300J333440125000 | J-63 | 1693 | REGADEH | MWT |
| Spud Date | Rig Release Date | R/E Elevation (m) | R/E Ground Distance (m) | R/E CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MAEP (kPa) |
| OVERCAST | -36 | ICE | GOOD | |

Open end depth @ 64 m

FIX AIR LINES

24 hr Summary

REPAIR AND THAW RIG.

MAKE UP BHA AND RUN IN HOLE.

TAG CEMENT TOP @ 62.73M.

PRESSURE TEST DIVERTER SYSTEM TO 1500kPa FOR 10 MINUTES HELD.

DRILL OUT CEMENT FLOAT SHOE TRACK.

DRILL 311mm HOLE FROM 66.63m TO 121m @ 12.79M/hr.

SURVEY AS REQUIRED.

RIG SERVICE AS REQUIRED

24 hr Forecast

DRILL 311mm SURFACE HOLE.

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|------------------|---|
| 00:00 | 05:00 | 5.00 | 22 | | THAW OUT MUDLINES, CENTRIFUGES |
| 05:00 | 08:00 | 3.00 | 8 | REPAIR RIG | FIX ROTO SEAL HOSE ON HOISTING
DRUM, REPAIR BROKEN AIRLINE TO
DRAW WORKS, REPLACE THREE AIR BAGS
ON FLOW LINE. |
| 08:00 | 10:00 | 2.00 | 14 | NIPPLE UP B.O.P. | REPAIR LEAK (FLOW T/DIVERTER FLANGE) |
| 10:00 | 11:45 | 1.75 | 6 | TRIPS | MAKE UP BHA RIH T 37m. |
| 11:45 | 12:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE |
| 12:00 | 14:00 | 2.00 | 6 | TRIPS | MAKE UP BHA-RIH TO 37m |
| 14:00 | 16:00 | 2.00 | 8 | REPAIR RIG | WORK ON PASON CORDS F/
TORQUE, FLOW, SIDEKICK |
| 16:00 | 18:15 | 0.25 | 15 | TEST B.O.P. | PRESSURE TEST HYDRIL 1500 KPA 10 MIN. |
| 18:15 | 18:15 | 2.00 | 22 | | TAG CEMENT @ 62.73m, DRILL OUT
CEMENT & SHOE |
| 18:15 | 22:30 | 4.25 | 2 | DRILL ACTUAL | DRILL 311mm HOLE FR/ 66m to 121m |
| 22:30 | 23:00 | 0.50 | 10 | DEV. SURVEY | DEV. SURVEY (ACC.) |
| 23:00 | 00:00 | 1.00 | 23 | | CLEAN FLOW LINE/CHANGE SHAKER
SCREENS |

Mud Checks: 74.00mKB, 1/30/2004 21:24

| Type | Date | Depth (mKB) | Density (kg/m³) | Vis (cP) | Flow Vis (cp) | Yield Point (cp) |
|--------------------|-----------------|-----------------------|----------------------|---------------------|------------------------|-------------------|
| GEL-CHEM | 21:24 | 74.00 | 1140.00 | 42 | 10.0 | 6.0 |
| gel 10 sec (cp) | | | Gradient (kPa/m) | Filter's (mL/min) | Filter Cake (mm) | pH |
| 4.0 | 10.0 | 11.18 | | | | 9.0 |
| Mud (kg/m³) | Percent Sol (%) | Percent Water (%) | Chloride (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Slab (V) |
| | 0.0 | 91.0 | 320.000 | 300.000 | | |
| Excess HPA (kg/m³) | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Loss (Burl) (m³) | Mud Vol (Rise) (m³) | Active Mud Volume (m³) | |
| | 0.00 | 0.00 | 4.00 | 0.00 | 51.10 | |

Drill Strings: BHA #3, Drilling Assembly

| | | | | | |
|---------------------------|------------------------|-------------------|--------------------|------------|------------|
| Bit Run | Bit | ADC Bit Dnt | YFA (mtr Noz) (mm) | | |
| 2 | 311.1mm, LJ1001, S44SC | | 530 | | |
| Nozzles (mm) | 15.0/15.0/15.0 | String Length (m) | String Wt (dnt) | RDP (m/hr) | |
| | | 121.51 | 20.573 | 12.8 | |
| Item Desc | Jfs | OD (mm) | ID (mm) | Len (m) | Yop Thread |
| KELLY | 1 | 165.1 | | 12.58 | |
| DRILL COLLAR | 6 | 165.1 | 63.5 | 57.38 | XH |
| DRILLING JARS - HYDRAULIC | 1 | 162.0 | 62.0 | 4.36 | XH |
| DRILL COLLAR | 2 | 165.1 | 71.4 | 19.02 | XH |
| X O | 1 | 161.0 | 62.0 | 1.23 | XH |
| D.C. | 2 | 222.0 | 75.0 | 17.48 | H 90 |
| BIT D.C. COMBO | 1 | 221.0 | 75.0 | 9.15 | H 90 |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | RDP (m³) | ROP (m/hr) |
|--------------------|-------------|-------------------|-----------------|-------------------|----------------------|---------------------|------------------------|
| ORIGINAL HOLE | 66.63 | 121.00 | 54.37 | 4.25 | 4.25 | 12.8 | 2.000 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SO HL (daN) | Drilling Torque | Off Bm Tq |
| 3 | 130 | 4,000 | 25 | 25 | 25 | 1,500.0 | 700.0 |
| Q (g/min) (1000m³) | T (kg) (°C) | P (B/H Ann) (kPa) | T (kg) (°C) | P (B/H Ann) (kPa) | T (kg) (°C) | Q (kg/min) (m³/day) | Q (kg return) (1000m³) |

| AFE # | Total AFE Amt (\$) |
|-----------------------|-----------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 217,456 | 3,559,679 |
| Mud Addn Cost (\$) | Mud Cum To Date (\$) |
| 1,069.70 | 2,404.28 |
| Depth Start (mKB) | Depth End (mKB) |
| 66.63 | 121.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 55

| Contractor | Rig Number |
|----------------|--------------|
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

1, CONTINENTAL-EMSCO, F-800

| Pump Number | Power (kW) | Rod Diameter (mm) |
|-------------|------------|-------------------|
| 1 | 560.0 | |

2, CONTINENTAL-EMSCO, F-800

| Pump Number | Power (kW) | Rod Diameter (mm) |
|-------------|------------|-------------------|
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Desc | Cost (MUSD) | Cons |
|----------------|-------------|------|
| DESCO | 91.13 | 1.0 |
| BICARB | 32.63 | 2.0 |
| DYNA DETERGENT | 72.00 | 2.0 |
| BICARB | 32.63 | 3.0 |
| DESCO | 91.13 | 6.0 |
| SAWDUST | 6.56 | 19.0 |

Formation Pick Groups: Cuttings

| Name | Yop (mKB) |
|-------------|-----------|
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |

Cast...

| Run Date |
|-----------|
| 1/28/2004 |

Wellbores

| Name | RDP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description |
|-----------------------------------|
| Ets Dir. survey for ORIGINAL HOLE |

| Mu (mKB) | Incl (°) | Azm (°) | YVD (mKB) |
|----------|----------|---------|-----------|
| 77.00 | 0.25 | | 76.99 |

| Mu (mKB) | Incl (°) | Azm (°) | YVD (mKB) |
|----------|----------|---------|-----------|
| 107.00 | 0.50 | | 106.99 |

ENCANA

Daily Drilling - Detail

Report Start Date: 1/20/2004

Report #: 14.0, DFS: 0.94

Depth Progress: 63.00

Well Name: ECA ET AL BEGADEH JAV

| | | | | |
|------------------|------------------------|-----------------------|------------------------|----------------|
| Bottom Hole UTM | Surface Legal Location | License # | Field Name | State/Province |
| 300J568440125000 | J-68 | 18V6 | BEGADEH | NMVT |
| Spud Date | Rig Release Date | KB Elevation (m) | KB Ground Distance (m) | KB CF (m) |
| 1/23/2004 01:30 | | 195.57 | 4.95 | |
| Wellbore | Temperature (°C) | Road/Lessie Condition | Hole Condition | MAAP (kPa) |
| CLEAR | -30 | ICE | GOOD | |

Ops and depth @ 64 m

NIPPLE UP DIVERter SYSTEM

24 hr Summary

DRILL CONDUCTOR HOLE FROM 5M - 66.63M @ 8m/HR.

SURVEY EVERY 10m.

CIRCULATE AND CLEAN HOLE.

TRIP OUT TO RUN 339.7mm CASING SLM 66.63 NO CORRECTION MADE.

RIG TO AND RUN 339.7mm CASING WITH FI AND CREWS.

HELD SAFETY MEETING PRIOR TO RUNNING CASING.

CIRCULATE CASING AND CONDITION MUD AND HOLE LOWER VIS FOR CEMENTING.

HELD SAFETY MEETING PRIOR TO CEMENTING CASING.

RIG TO AND CEMENT 339.7mm CASING WITH HALLIBURTON.

PLUG DOWN 22:42 HRS. FLOAT WOULD NOT HOLD BUMP PLUG AGAIN 22:48 AND HOLD PRESSURE

ON CASING 2m3 OF GOOD CEMENT RETURNS TO SURFACE.

WAIT ON CEMENT.

24 hr Forecast

WOC NIPPLE UP, PREPARE TO DRILL 311mm HOLE SECTION

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|-----------------------|---|
| 00:00 | 01:00 | 1.00 | 22 | BHA | MAKE UP BHA |
| 01:00 | 01:15 | 0.25 | 2 | DRILL ACTUAL | DRILL 0-4 METRES |
| 01:15 | 03:00 | 1.75 | 23 | THRASH PUMPS | CHANGE OUT TRASH PUMP, CHANGE ROTATION ON TRASH PUMP |
| 03:00 | 03:30 | 0.50 | 2 | DRILL ACTUAL | DRILL 4 METRES-15 METRES |
| 03:30 | 04:15 | 0.75 | 8 | REPAIR RIG | REPAIR RIG / WORK ON TRASH PUMPS |
| 04:15 | 05:15 | 1.00 | 2 | DRILL ACTUAL | DRILL TO 24 METERS |
| 05:15 | 05:30 | 0.25 | 7 | RIG SERVICE | RIG SERVICE |
| 05:30 | 06:30 | 1.00 | 8 | REPAIR RIG | REPAIR RIG // RIG IN SECOND THRASH PUMP |
| 06:30 | 11:00 | 4.50 | 2 | DRILL ACTUAL | DRILL FROM 24 METERS T/51. MT |
| 11:00 | 12:00 | 1.00 | 10 | DEV. SURVEY | DEV. SURVEY ACCUM |
| 12:00 | 13:15 | 1.25 | 2 | DRILL ACTUAL | DRILL F/51 T/66.63 |
| 13:15 | 14:00 | 0.75 | 5 | COND MUD & CIRC | CIRC WORK PIPE |
| 14:00 | 14:15 | 0.25 | 10 | DEV. SURVEY | DEV. SURVEY & BLOW KELLY |
| 14:15 | 15:45 | 1.50 | 6 | TRIPS | TRIP OUT HOLE STRAP = 66.63 0 DIFF |
| 15:45 | 18:45 | 1.00 | 12 | RUN CASING AND CEMENT | RIG TO RUN CASING |
| 18:45 | 17:00 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. |
| 17:00 | 20:00 | 3.00 | 12 | RUN CASING AND CEMENT | RUN 339.7mm CASING |
| 20:00 | 21:00 | 1.00 | 5 | COND MUD & CIRC | CIRCULATE CASING AND LOWER VIS FOR CEMENT JOB |
| 21:00 | 21:15 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG-RIG CREW, CEMENTERS, ENCANIA REPRESENTATIVES |
| 21:15 | 22:45 | 1.50 | 12 | RUN CASING AND CEMENT | CEMENT 339.7 mm. CASING |
| 22:45 | 00:00 | 1.25 | 13 | WAIT ON CEMENT | WAIT ON CEMENT |

Mud Checks: 66.09mKB, 1/28/2004 21:38

| Type | Date | Depth (mKB) | Density (kg/m³) | Vis (cP) | Flow Rate (cp) | Yield Point (cp) |
|---------------------|-----------------|-----------------------|----------------------|--------------------|------------------------|-------------------|
| GEL-CHEM | 21:38 | 66.00 | 1220.00 | 47 | | |
| gel 10 sec (cp) | gel 10 min (cp) | Gradient (kPa/m) | Filtrate (mL/30min) | Filter Cake (mm) | pH | Solids (%) |
| | | | | | 8.5 | |
| MBT (kg/m³) | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Slab (V) |
| | | | 100.000 | | | |
| Excess PHPA (kg/m³) | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Lost (Surf) (m³) | Mud Vol (Res) (m³) | Active Mud Volume (m³) | |
| | 0.00 | 3.00 | 0.00 | 0.00 | 24.00 | |

Drill Strings: BHA #1, Drilling Assembly

| Item | Size | Length (m) | Weight (daN) | ROP (m/hr) |
|-----------------------|------|------------|--------------|------------|
| 444.5mm, S33SG, NP833 | | 59.46 | | 8.2 |
| Item | Size | Length (m) | Weight (daN) | ROP (m/hr) |
| X.O. | 1 | 0.0 | 0.88 | FH |
| D.C. | 4 | 0.0 | 38.12 | XH |
| X.O. | 1 | 0.0 | 1.23 | XH |
| D.C. | 2 | 0.0 | 17.47 | H 90 |
| BIT SUB | 1 | 0.0 | 1.22 | H 90 |

| Wellbore | Start (mKB) | Depth End (mKB) | Cum Depth (mKB) | Drill Time (hrs) | Cum Drill Time (hrs) | ROP (m/hr) | Q (flow) (m³/min) |
|-------------------|-------------|------------------|-----------------|--------------------|----------------------|-----------------|-------------------|
| ORIGINAL HOLE | 0.00 | 51.00 | 51.00 | 6.25 | 6.25 | 8.2 | 1.600 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PU HL (daN) | SOT HL (daN) | Drilling Torque | Off Bm Tq |
| 7 | 130 | 2,300 | 15 | 15 | 15 | 1,200.0 | |
| Q (in) (l/cc/min) | T (in) (°C) | P (BH Ann) (kPa) | T (in) (°C) | P (Surf Ann) (kPa) | T (Surf Ann) (°C) | Q (in) (m³/day) | Q (in) (m³/day) |

Drill Strings: BHA #2, Drilling Assembly

| Item | Size | Length (m) | Weight (daN) | ROP (m/hr) |
|-----------------------|------|------------|--------------|------------|
| 444.5mm, S33SG, NP833 | | 59.46 | | 12.0 |
| Item | Size | Length (m) | Weight (daN) | ROP (m/hr) |
| X.O. | 1 | 162.0 | 0.88 | FH |
| D.C. | 4 | 162.0 | 38.12 | XH |
| X.O. | 1 | 223.0 | 1.23 | XH |
| D.C. | 2 | 223.0 | 17.47 | H 90 |

| AFE # | Total AFE Amt (\$) |
|------------------------|-----------------------|
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 47,109 | 1,639,904 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 1,262.58 | 1,358.02 |
| Depth Start (mKB) | Depth End (mKB) |
| 0.00 | 66.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 55

| Contractor | Rig Number |
|----------------|--------------|
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

1, CONTINENTAL-EMSCO, F-800

| Pump Number | Power (kW) | Rod Diameter (mm) |
|-------------|------------|-------------------|
| 1 | 560.0 | |

2, CONTINENTAL-EMSCO, F-800

| Pump Number | Power (kW) | Rod Diameter (mm) |
|-------------|------------|-------------------|
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Date | Cost (\$/m³) | Cost (\$/m³) |
|----------------|--------------|--------------|
| SODA ASH | 23.44 | 1.0 |
| SAWDUST | 6.56 | 10.0 |
| NEW GEL | 20.25 | 40.0 |
| SODA ASH | 23.44 | 1.0 |
| DYNA DETERGENT | 72.00 | 1.0 |
| NEW GEL | 20.25 | 10.0 |
| SAWDUST | 6.56 | 10.0 |

Lost Circulation

| Start Date | Top (mKB) | Bottom (mKB) | V (m³) |
|------------|-----------|--------------|--------|
| 04:30 | 15.00 | 15.50 | 3.00 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Cuttings |
|----------------------|----------|
|----------------------|----------|

| Name | Top (mKB) |
|-------------|-----------|
| PLEISTOCENE | 0.00 |
| EAST FORK | 60.00 |

Casing

| Date | Run (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |

Wellbores

| Name | ROP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Ets Dir. survey f...

| Description | Ets Dir. survey for ORIGINAL HOLE |
|-------------|-----------------------------------|
|-------------|-----------------------------------|

| MU (mKB) | Inc (°) | Arm (°) | TVD (mKB) |
|----------|---------|---------|-----------|
| 11.00 | 1.00 | | 11.00 |
| 21.00 | 1.00 | | 21.00 |
| 31.00 | 1.00 | | 31.00 |
| 42.00 | 1.00 | | 41.99 |
| 58.00 | 0.50 | | 57.99 |

ENCANA

Daily Drilling - Detail

Report Start Date: 1/20/2004

Report #: 14.0, DFS: 0.94

Depth Progress: 66.00

Well Name: ECA ET AL BECADEN

| Item Desc | | As | WOB (mm) | WOB (mm) | Len (m) | Top Thread | |
|---------------------|-------------|-----------------|-----------------|-------------------|----------------------|---------------------|---------------------|
| BIT SUB | | 1 | 223.0 | | 1.22 | H 60 | |
| Workover | Start (mkt) | Depth End (mkt) | Cum Depth (mkt) | Drill Time (hrs) | Cum Drill Time (hrs) | Rate ROP (m/hr) | Q (flow) (m³/min) |
| ORIGINAL HOLE | 51.00 | 66.00 | 15.00 | 1.25 | 1.25 | 12.0 | 1.600 |
| WOB (daN) | RPM (rpm) | SPP (kPa) | Rot HL (daN) | PIU HL (daN) | SO HL (daN) | Drilling Torque | Oil Bem Tq |
| 7 | 180 | 2,300 | 17 | 17 | 17 | | |
| Q (g in) (1000m³/d) | T (in) (°C) | P1 BH Ann (kPa) | T (in) (°C) | P1 Surf Ann (kPa) | T (surf ann) (°C) | Q (kg rim) (m³/day) | Q (g return) (1000) |

EX-101A Daily Drilling - Detail

Report Start Date: 1/27/2004

Report #: 13.0, DFS: -0.03

Depth Progress: 0.00

| | | | | |
|-----------------------------------|--------------------------------|-----------------------------|---------------------------------|-----------------------|
| Wellbore Unit
300JSS3440125000 | Surface Legal Location
J-63 | License #
1098 | Well Name
BEGADEH | State/Province
MWT |
| Spud Date
1/28/2004 01:30 | Rig Release Date | R/E Elevation (m)
195.57 | R/G Ground Distance (m)
4.95 | R/G CF (m) |
| Weather
CLEAR | Temperature (°C)
-24 | Road/Leave Condition
ICE | Hole Condition | MAEP (N/A) |

Open and depth @ 6 m

DRILLING CONDUCTOR HOLE

34 iv Summary

RIG TO SPUD.
PRE SPUD SAFETY MEETING WITH BOTH CREWS AND SUPPORT PERSONNEL.
RIG TO AND DRILL MOUSE HOLE AND RAT HOLE.
CUT MATTING FOR RAT HOLE.
DRILL MOUSE HOLE AND RAT HOLE.
WELD ON KELLY SOCK AND INSTALL SAME.
GRIND BIT BREAKER TO FIT TABLE BUSHINGS.
RIG SERVICE AS REQUIRED.

34 iv Forecast

DRILL, RUN, CEMENT CONDUCTOR HOLE.

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|------------------|---|
| 00:00 | 08:00 | 8.00 | 1 | RIGUP & TEARDOWN | RIG UP FLOOR |
| 08:00 | 09:00 | 1.00 | 21 | SAFETY MEETING | PRE SPUD MEETING WITH BOTH CREWS |
| 09:00 | 11:00 | 2.00 | 1 | RIGUP & TEARDOWN | RIG T/ SPUD |
| 11:00 | 11:45 | 0.75 | 22 | | PICKUP @ MAKUP BHA T/ DRILL MOUSE HOLE |
| 11:45 | 12:00 | 0.25 | 7 | RIG SERVICE | RIG SERVICE FUNCTION CROWN SAVER |
| 12:00 | 13:00 | 1.00 | 6 | TRIPS | MAKUP BHA T/DRILL MOUSE HOLE |
| 13:00 | 14:00 | 1.00 | 23 | | RIG UP TRASH PUMP T/ FLOW LINE |
| 14:00 | 16:00 | 2.00 | 8 | REPAIR RIG | CUT OUT MATTING FOR RAT HOLE |
| 16:00 | 19:30 | 3.50 | 24 | RATHOLE | DRILL MOUSEHOLE/RAT HOLE |
| 19:30 | 21:30 | 2.00 | 8 | REPAIR RIG | REPAIR RIG- WELD RATHOLE |
| 21:30 | 23:00 | 1.50 | 8 | REPAIR RIG | INSTALL RATHOLE |
| 23:00 | 00:00 | 1.00 | 8 | REPAIR RIG | GRIND BIT BREAKER TO FIT TABLE BUSHINGS |

Mud Checks: <Depth> mKB, 1/27/2004 19:00

| Type | Date | Depth (mKB) | Density (kg/m³) | Via (uL) | Plus Via (cp) | Yield Point (cp) |
|---------------------|-----------------|-----------------------|----------------------|--------------------|------------------------|-------------------|
| Water Base | 19:00 | | 1000.00 | 28 | | |
| gel 10 sec (cp) | gel 10 min (cp) | Gradient (kPa/m) | Filtrate (mL/30min) | Filter Cake (mm) | pH | Solids (%) |
| | | | | | 7.0 | |
| MBT (kg/m³) | Percent Oil (%) | Percent Water (%) | Chlorides (mg/L) | Calcium (mg/L) | Potassium (mg/L) | Electric Stab (V) |
| Excess PHPA (kg/m³) | Mud Added (m³) | Mud Lost to Hole (m³) | Mud Lost (Surf) (m³) | Mud Vol (Res) (m³) | Active Mud Volume (m³) | |

| | |
|----------------------------------|------------------------------------|
| AFE #
0325187 | Total AFE Area (\$)
6,121,540 |
| Daily Cost Total (\$)
71,596 | Cum Cost To Date (\$)
1,592,795 |
| Mud Additive Cost (\$)
95.44 | Mud Cum To Date (\$)
95.44 |
| Depth Start (mKB)
0.00 | Depth End (mKB)
0.00 |
| Target Formation
MOUNT KINDLE | Target Depth (mKB)
1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 65

| Contractor | Rig Number |
|----------------|--------------|
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 2 | 560.0 | |

HQ DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HQ DRYER | DERRICK | | |

HQ DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HQ DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Mud Additive Amounts

| Date | Cost (\$/unit) | Cost |
|----------------|----------------|------|
| SODA ASH | 23.44 | 1.0 |
| DYNA DETERGENT | 72.00 | 1.0 |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|-------------|-----------|
| Cuttings | PLEISTOCENE | 0.00 |

Casing

| Date | Run (mKB) | Run Date |
|-----------|-----------|-----------|
| CONDUCTOR | 66.63 | 1/28/2004 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Directional Surveys: Eta Dir, survey f...

| Description |
|-----------------------------------|
| Eta Dir, survey for ORIGINAL HOLE |

Report Start Date: 1/26/2004

Report #: 12.0, DFS: -1.06

Depth Progress: 0.00

| | | | | |
|-------------------|------------------------|----------------------|-------------------------|----------------|
| Station Hole U/I# | Surface Legal Location | License # | Field Name | State/Province |
| 300553440125000 | J-66 | 1093 | BEGADEH | NWTT |
| Spud Date | Rig Release Date | R/L Elevation (m) | R/L Ground Distance (m) | R/L CF (m) |
| 1/29/2004 01:30 | | 195.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MACP (N/P) |
| OVERCAST | -23 | ICE | | |

| | |
|------------------------|-----------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Only Cost Total (\$) | Cum Cost To Date (\$) |
| 52,468 | 1,521,199 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 0.00 |
| Depth Start (mks) | Depth End (mks) |
| 0.00 | 0.00 |
| Target Formation | Target Depth (mks) |
| MOUNT KINLE | 1,700.00 |

Ops and depth 6.6 m
RIGGING TO SPUD

24 hr Summary
BREAK TOWER WITH CREWS.
WORK ON AIR AND WATER LINES WARM UP HOSES INSIDE.
RIG TO AND RAISE DERRICK HOLD SAFETY MEETING PRIOR TO RAISING DERRICK.
F'G IN WATER LINES AND INSTALL PREFABS ON RIG FLOOR.
RIG UP DRILL FLOOR.
WORK ON AIR STRIP LIGHTING.
DISTRIBUTE SAFETY EQUIPMENT AROUND LOCATION.
RIG TO SPUD

24 hr Forecast

RIG TO SPUD DRILL MOUSE AND RAT HOLE

| Time Log | | | | | |
|------------|----------|-----------|------|------------------|--|
| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
| 00 00 | 12 00 | 12.00 | 1 | RIGUP & TEARDOWN | BREAK TOUR WITH BOTH CREWS / WORK ON AIR LINES AND STEAM LINES
PRE-HEAT ALL HOSES INSIDE PRIOR TO INSTALL
MAKE ROOM ON LOCATION FOR SITE SHACK
GRAVEYARD CREW LEFT FOR CAMP AT NOON |
| 12 00 | 16 30 | 4.50 | 1 | RIGUP & TEARDOWN | RIG UP TO RAISE DERRICK |
| 16 30 | 16 45 | 0.25 | 21 | SAFETY MEETING | SAFETY MTG. WORK AND RAISE DERRICK |
| 16 45 | 23 00 | 6.25 | 1 | RIGUP & TEARDOWN | RIG IN WATER LINES / INSTALL PREFABS ON FLOOR AND MOTOR HOUSE |
| 23 00 | 00 00 | 1.00 | 1 | RIGUP & TEARDOWN | RIG UP FLOOR |

| Daily Contacts | |
|----------------|--------------|
| Contact | Cell Phone |
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

| | |
|-----------------|--------------|
| Rigs: AKITA, 55 | Rig Number |
| Contractor | 55 |
| AKITA | Cell Phone |
| Rig Supervisor | 403-313-8512 |
| IRWIN, TONY | |

| | | |
|-----------------------------|----------|-------------------|
| 1, CONTINENTAL-EMSCO, F-800 | | |
| Pump Number | Pin (kW) | Rod Diameter (mm) |
| 1 | 550.0 | |

| | | |
|-----------------------------|----------|-------------------|
| 2, CONTINENTAL-EMSCO, F-800 | | |
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 2 | 560.0 | |

| HG DRYER, DERRICK, <Model?> | | | |
|-----------------------------|---------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DERRICK | | |

| HG DRYER, DERRICK, <Model?> | | | |
|-----------------------------|--------|-------|----|
| Description | Name | Model | SN |
| HG DRYER | DERRIC | | |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings
Formation Pick Group
Cuttings

| Name | Top (mKB) |
|-------------|-----------|
| PLEISTOCENE | 0.00 |

| | |
|---------------|-----------|
| Wellbore | |
| Name | ROP (m/B) |
| ORIGINAL HOLE | |

ERTONA

Daily Drilling - Dr. II

Report Start Date: 1/25/2004

Report #: 11.0, DFB: -2.03

Depth Progress: 0.00

| | | | | |
|------------------------------------|------------------------------|-----------------------------|--------------------------------|-----------------------|
| Custom Hdr, UWI
300J03440125000 | Surf. Legal Location
J-58 | License #
1998 | Field Name
BEGADEH | State/Province
NWT |
| Spud Date
1/26/2004 01:30 | Rig Release Date | KB Elevation (m)
195.57 | KB Ground Distance (m)
4.95 | KB CF (m) |
| Weather
OVERCAST | Temperature (°C)
-34 | Road/Lease Condition
ICE | Hole Condition | MACP (N/A) |

24 hr Summary
RIG UP AND SPOT ALL RIG AND PIN DERRICK TO SUB.
RIG UP SPOT ALL RENTAL MATS AND EQUIPMENT.
FIRE BOILER AND START FLOOR.
WARM HOSES AND CORDS TO RIG UP.

24 hr Forecast
RIGGING UP AND WARMING UP EQUIPMENT

| Time Log | | | | | |
|------------|----------|-----------|------|------------------|--|
| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
| 00 00 | 12 00 | 12 00 | 1 | RIGUP & TEARDOWN | RIG UP AND SPOT ALL RIG AND PIN DERRICK
TOUR SHEET RE- SENT WITH HR CHANGE TO 16 HR |
| 12 00 | 00 00 | 12 00 | 1 | RIGUP & TEARDOWN | RIG UP AND SPOT ALL RENTAL MATS AND RENTAL EGIP
FIRE BOILER AND START FLOOR MOTOR |

| | |
|----------------------------------|-------------------------------------|
| AFE#
0325187 | Cost YTD (\$)
0,121,540 |
| Daily Cost Total (\$)
735,810 | Cum. Cost To Date (\$)
1,468,731 |
| Mud Additive Cost (\$)
0.00 | Mud Cum YTD (\$)
0.00 |
| Depth Start (m-B)
0.00 | Depth End (m-B)
0.00 |
| Target Formation
MOUNT KINDLE | Target Depth (m-B)
1,700.00 |

| Daily Contacts | |
|----------------|--------------|
| Contact | Cell Phone |
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

| | |
|-------------------------------|----------------------------|
| Rigs: AKITA, 55 | |
| Contractor
AKITA | Rig Number
55 |
| Rig Supervisor
IRWIN, TONY | Cell Phone
403-313-8512 |

| | | |
|-----------------------------|-------------------|-------------------|
| 1. CONTINENTAL-EMSCO, F-800 | | |
| Pump Number
1 | Per (kW)
560.0 | Rod Diameter (mm) |

| | | |
|-----------------------------|-------------------|-------------------|
| 2. CONTINENTAL-EMSCO, F-800 | | |
| Pump Number
2 | Per (kW)
560.0 | Rod Diameter (mm) |

| | | | |
|-----------------------------|---------|-------|----|
| HG DRYER, DERRICK, <Model?> | | | |
| Description | Make | Model | SN |
| HG DRYER | DERRICK | | |

| | | | |
|-----------------------------|---------|-------|----|
| HG DRYER, DERRICK, <Model?> | | | |
| Description | Make | Model | SN |
| HG DRYER | DERRICK | | |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | |
| Type | Make |
| LGS CENTRIFUGE | UNITED |

| | |
|---------------------------------|-----------|
| Formation Pick Groups: Cuttings | |
| Formation Pick Group | |
| Cuttings | |
| Name | Top (m-B) |
| PLEISTOCENE | 0.00 |

| | |
|---------------|-----------|
| Wellbores | |
| Name | KOP (m-B) |
| ORIGINAL HOLE | |

ENCANA

Daily Drilling - Detail

Report Start Date: 1/24/2004

Report #: 10.0, DFS: -3.03

Depth Progress: 0.00

| | | | | |
|------------------|------------------------|----------------------|-------------------------|----------------|
| Custom Hole U.A. | Surface Legal Location | License # | Field Name | State/Province |
| 300J08440125000 | J-03 | 1998 | BEGADEH | NWT |
| Spud Date | Rig Release Date | R/E Elevation (m) | R/C Ground Distance (m) | R/C CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MACP (NPS) |
| CLEAR | -45 | ICE | | |

Ops and depth @ 6 m
MOVING IN LOADS

24 hr Summary

RIG UP PROPANE SYSTEM TO SHACKS AND SEWAGE LINES.
SPOT MATTING AND PUT SUB ON MATS.
RECEIVE LOADS FROM TULITA.

24 hr Forecast

SPOT LOADS

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|------------------|---|
| 00:00 | 12:00 | 12:00 | 1 | RIGUP & TEARDOWN | RIG UP / SPOT MATTING / SPOT SUB |
| 12:00 | 00:00 | 12:00 | 1 | RIGUP & TEARDOWN | RIG UP PROPANE TO SHACKS
WATER UP SOME SHACKS
WAIT ON RIG LOADS |

| | |
|------------------------|------------------------|
| AFE# | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum. Cost To Date (\$) |
| 529,535 | 732,921 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 0.00 |
| Depth Start (mKB) | Depth End (mKB) |
| 0.00 | 0.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WESLEY, DARREN | 403-313-8514 |
| MADDISON, MIKE | 403-313-8515 |

Rigs: AKITA, 65

| | |
|----------------|--------------|
| Contractor | Rig Number |
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

1. CONTINENTAL-EMSCO, F-670

| | | |
|-------------|----------|----------------|
| Pump Number | Per (kW) | Rod Diam. (mm) |
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| | | |
|-------------|----------|-------------------|
| Pump Number | Per (kW) | Rod Diameter (mm) |
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| | | | |
|-------------|---------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| | | | |
|-------------|---------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| | |
|----------------|--------|
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| | |
|----------------|--------|
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|-------------|-----------|
| Cuttings | PLEISTOCENE | 0.00 |

Wellbore

| Name | TOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

ENGANA

Daily Drilling - Detail

Report Start Date: 1/23/2004

Report #: 6.0, DFS: -4.08

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH

| | | | | |
|--------------------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------|
| Bottom Hole Unit
300JG66440125000 | Surface Legal Location
J-F# | License #
1998 | Field Name
BEGADEH | State/Province
NWT |
| Spud Date
1/28/2004 01:30 | Rig Release Date | KB Elevation (m)
195.57 | KB Ground Distance (m)
4.95 | KB CP (m) |
| Weather
CLEAR | Temperature (°C)
-50 | Road/Lease Condition
ICE | Hole Condition | NAACP (N/A) |

Ops and depth @ 6a m

RIG MOVE AND TRAVEL

24 hr Summary

MOVE LOADS TO LOCATION FROM TULITA.
RIG UP LIGHT TOWERS AND WARM WELLSITE UNITS.
DIG CELLAR INSTALL CRIBBING.
DIG SEPTIC PITS

24 hr Forecast

HAUL: LOADS TO LOCATION

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|------------------|--|
| 00 00 | 12 00 | 12 00 | 1 | RIGUP & TEARDOWN | RIG MOVE AND TRAVEL // |
| 12 00 | 00 00 | 12 00 | 1 | RIGUP & TEARDOWN | RIG MOVE AND TRAVEL /
START SHACK GENERATORS / WARM
SHACKS |

| | |
|----------------------------------|----------------------------------|
| AFE #
0325167 | Total AFE Amt (\$)
6,121,540 |
| Daily Cost Total (\$)
51,028 | Cum Cost To Date (\$)
203,386 |
| Mud Additive Cost (\$)
0.00 | Mud Cum To Date (\$)
0.00 |
| Depth Start (mKB)
0.00 | Depth End (mKB)
0.00 |
| Target Formation
MOUNT KINDLE | Target Depth (mKB)
1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 55

| | |
|-------------------------------|----------------------------|
| Contractor
AKITA | Rig Number
55 |
| Rig Supervisor
IRWIN, TONY | Cell Phone
403-313-8512 |

1, CONTINENTAL-EMSCO, F-800

| | | |
|-------------|------------|-------------------|
| Pump Number | Power (kW) | Rod Diameter (mm) |
| 1 | 560.0 | |

2, CONTINENTAL-EMSCO, F-800

| | | |
|-------------|------------|-------------------|
| Pump Number | Power (kW) | Rod Diameter (mm) |
| 2 | 560.0 | |

HQ DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HQ DRYER | DERRICK | | |

HQ DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HQ DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

Formation Pick Group

Cuttings

| Name | Top (mKB) |
|-------------|-----------|
| PLEISTOCENE | 0.00 |

WellBores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

| | |
|---------------|-----------|
| Name | KOP (M-1) |
| ORIGINAL HOLE | |

EN/CANA

Daily Drilling - Detail

Report Start Date: 1/21/2004

Report #: 7.0, DFG: -6.06

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEM J-55

| | | | | |
|------------------|------------------------|-----------------------|------------------------|----------------|
| Wellbore Hole ID | Surface Legal Location | License # | Well Name | State/Province |
| 300J688440125000 | J-55 | 1895 | BEGADEM | NWT |
| Start Date | Rig Release Date | KB Elevation (m) | KB Ground Distance (m) | KB CF (m) |
| 1/28/2004 01:30 | | 185.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Lessie Condition | Photo Condition | MAOP (kPa) |
| CLEAR | -35 | ICE | | |

Ops and depth @ 6a in

WAIT ON DAYLIGHT TO LOAD OUT

24 hr Summary

LOAD OUT RIG AND TRAVEL TO TULITA

24 hr Forecast

TRAVEL TO TULITA

Time Log

| Start Date | End Time | Run Time | Code | Activity | Comments |
|------------|----------|----------|------|------------------|---------------------|
| 00:00 | 12:00 | 12:00 | 1 | RIGUP & TEARDOWN | RIG MOVE AND TRAVEL |
| 12:00 | 00:00 | 12:00 | 1 | RIGUP & TEARDOWN | RIG MOVE AND TRAVEL |

| | |
|------------------------|-----------------------|
| AFE # | Total A/E Amt (\$) |
| 0325167 | 6,121,540 |
| Drill Cost Total (\$) | Cum Cost To Date (\$) |
| 14,689 | 120,554 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 0.00 |
| Depth Start (mKB) | Depth End (mKB) |
| 0.00 | 0.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 55

| | |
|----------------|--------------|
| Contractor | Rig Number |
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|-------------|-----------|
| Cuttings | PLEISTOCENE | 0.00 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

Report Start Date: 1/29/2004 Report #: 6.0, DFG: -7.06 Depth Progress: 0.00

Well Name: ECK ET AL DEO/DEH J-05

| | | | | |
|------------------|------------------------|----------------------|-------------------------|----------------|
| License Hole ID# | Surface Legal Location | License # | Well Name | State/Province |
| 300J050440125000 | J-05 | 1995 | BEGADEH | NWT |
| Spud Date | Rig Release Date | R/E Elevation (m) | R/E Ground Distance (m) | R/E CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Asset Condition | Notes/Location | MACP (N/A) |
| CLEAR | -20 | ICE | | |

Ops and depth @ 8m

RIG WATCH AND REPAIR

24 hr Summary

RIG WATCH AND PREPAIR FOR MOVE IN MORNING

24 hr Forecast

LOAD OUT RIG

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|----------|--------------------|
| 00:00 | 12:00 | 12:00 | 25 | | RIG WATCH / REPAIR |
| 12:00 | 00:00 | 12:00 | 25 | | RIG WATCH / REPAIR |

| | |
|------------------------|-----------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 14,089 | 105,865 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 0.00 |
| Depth Start (mkt) | Depth End (mkt) |
| 0.00 | 0.00 |
| Target Formation | Target Depth (mkt) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WESLEY, DARREN | 403-313-8514 |
| MADDISON, MIKE | 403-313-8515 |

Rigs: AKITA, 65

| | |
|----------------|--------------|
| Contractor | Rig Number |
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

| | |
|-----------------------------|-------------------|
| 1, CONTINENTAL-EMSCO, F-800 | Rod Diameter (mm) |
| Pump Number (Pwr (kW)) | |
| 1 | 560.0 |

| | |
|-----------------------------|-------------------|
| 2, CONTINENTAL-EMSCO, F-800 | Rod Diameter (mm) |
| Pump Number (Pwr (kW)) | |
| 2 | 560.0 |

| | |
|-----------------------------|---------|
| HG DRYER, DERRICK, <Model?> | Model |
| Description | Make |
| HG DRYER | DERRICK |

| | |
|-----------------------------|---------|
| HG DRYER, DERRICK, <Model?> | Model |
| Description | Make |
| HG DRYER | DERRICK |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | Make |
| Type | |
| LGS CENTRIFUGE | UNITED |

| | |
|--------------------------------------|--------|
| Centrifuges/Cyclones: LGS CENTRIF... | Make |
| Type | |
| LGS CENTRIFUGE | UNITED |

| | |
|---------------------------------|----------------------|
| Formation Pick Groups: Cuttings | Formation Pick Group |
| Cuttings | |
| Name | Yop (mkt) |
| PLEISTOCENE | 0.00 |

| | |
|---------------|-----------|
| Wellbore | ROP (mkt) |
| ORIGINAL HOLE | |

ENCANA

Navy Drilling - Detail

Report Start Date: 1/19/2004

Report #: 6.0, DFB: -8.03

Depth Progress: 0.00

Well Name: ECA ETAL BEGADEH 004

| | | | | |
|-------------------------------------|--------------------------------|----------------------------|--------------------------------|-----------------------|
| Bottom Hole UWI
300JG66440125000 | Surface Legit Location
J-65 | License #
1995 | Field Name
BEGADEH | State/Province
NWT |
| Spud Date
1/28/2004 01:30 | Rig Release Date | KB Elevation (m)
195.57 | KB Ground Distance (m)
4.95 | KB-CP (m) |
| Weather
CLEAR | Temperature (°C)
-20 | Road/Sea Condition
ICE | Hole Condition | MAOP (kPa) |

Dip and depth @ 64 m

RIG WATCH AND REPAIR

24 hr Summary

LOAD OUT CAMP AND WELL SITE UNITS.

PACKAGE RIG.

SORT AND LOAD TUBULARS FOR MOVE AND TO BE SENT BACK TO NISKU

24 hr Forecast

RIG WATCH AND REPAIR

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|------------------|-----------------------------------|
| 00 00 | 08 00 | 8 00 | 1 | RIGUP & TEARDOWN | RIG WATCH |
| 12 00 | 00 00 | 12 00 | 1 | RIGUP & TEARDOWN | LOAD OUT CAMP, WELL SITE TRAILERS |

| | |
|----------------------------------|----------------------------------|
| AFE #
0325107 | Total AFE Amt (\$)
6,121,540 |
| Daily Cost Total (\$)
17,799 | Cum. Cost To Date (\$)
91,176 |
| Mud Additive Cost (\$)
0.00 | Mud Cum To Date (\$)
0.00 |
| Depth Start (mKB)
0.00 | Depth End (mKB)
0.00 |
| Target Formation
MOUNT KINDLE | Target Depth (mKB)
1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 55

| | |
|-------------------------------|----------------------------|
| Contractor
AKITA | Rig Number
55 |
| Rig Supervisor
IRWIN, TONY | Cell Phone
403-313-8512 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Per (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

Formation Pick Form

| Cuttings | Name | Top (mKB) |
|-------------|------|-----------|
| PLEISTOCENE | | 0.00 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

CANADA

Daily Drilling - Detail

Report Start Date: 1/18/2004

Report #: 4.0, DFS: -9.03

Depth Progress: 0.00

| | | | | |
|-----------------|----------------------|----------------------|------------------------|----------------|
| Well Name | Surface Log Location | License # | Field Name | State/Province |
| 300J00440125000 | J-GS | 1028 | BEGADEH | NWT |
| Spud Date | Rig Release Date | RB Elevation (m) | RB-Ground Distance (m) | RB-CF (m) |
| 1/28/2004 01:30 | | 195.57 | 4.95 | |
| Weather | Temperature (°C) | Road/Lease Condition | Hole Condition | MACP (kPa) |
| CLEAR | -14 | ICE | | |

Ops and depth @ 6a.m.

RIG WATCH AND REPAIR

24 hr Summary

PIPE FIT VARIOUS STEAM AND WATER LINES.

INSTALL PASON AUTO DRILLER.

INVENTORY RIG AND ORGANIZE

24 hr Forecast

LOAD OUT CAMP

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|------------------|---|
| 07:00 | 19:00 | 12:00 | 1 | RIGUP & TEARDOWN | PIPE FIT VARIOUS STEAM LINES & WATER/STEAM MANIFOLDS
INSTALL PASON AUTO DIGGER
ORGANIZE & INVENTORY RIG |

| | |
|------------------------|-----------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 6,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 18,183 | 73,377 |
| Mud Additive Cost (\$) | Mud Cum To Date (\$) |
| 0.00 | 0.00 |
| Depth Start (mKB) | Depth End (mKB) |
| 0.00 | 0.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| WESLEY, DARREN | 403-313-8514 |
| MADDISON, MIKE | 403-313-8515 |

Rigs: AKITA, 55

| | |
|----------------|--------------|
| Contractor | Rig Number |
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Par (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Par (kW) | Rod Diameter (mm) |
|-------------|----------|-------------------|
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

Formation Picks Group

Cuttings

| Name | Top (mKB) |
|-------------|-----------|
| PLEISTOCENE | 0.00 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

ENCANA

Daily Drilling Detail

Report Start Date: 1/17/2004

Report #: 3.0, DFB: -10.03

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH J-50

| | | | | |
|-------------------|------------------------|----------------------|------------------------|----------------|
| Location Hole UTM | Surface Legal Location | License # | Field Name | State/Province |
| 300J65440125000 | J-65 | 1993 | BEGADEH | NWT |
| Spud Date | Rig Release Date | KB Elevation (m) | KB Ground Distance (m) | KB-CP (m) |
| 1/28/2004 01:30 | | 193.57 | 4.95 | |
| Weather | Temperature (°C) | Flow/Lease Condition | Hole Condition | VAC/P (kPa) |
| CLEAR | -25 | ICE | | |

Open and depth @ 66 m

RIG WATCH AND REPAIR

24 hr Summary

RIG REPAIRS & WELDING
COOL DOWN & DRAIN BOILER
INSPECT DRILL COLLARS

24 hr Forecast

RIG OUT AND REPAIR RIG

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comments |
|------------|----------|-----------|------|----------------------|--|
| 00 00 | 12 00 | 12 00 | 1 | RIGUP & TEARDOWN | RIG OUT, RIG WATCH |
| 12 00 | 00 00 | 12 00 | 01 | RIG UP AND TEAR DOWN | RIG REPAIRS AND WELDING
COOL DOWN AND DRAIN BOILER
INSPECT DRILL COLLARS |

| | |
|------------------------|-----------------------|
| AFE # | Total AFE Amt (\$) |
| 0325167 | 9,121,540 |
| Daily Cost Total (\$) | Cum Cost To Date (\$) |
| 19,398 | 55,194 |
| Mud Additive Cost (\$) | Mud Cost To Date (\$) |
| 0.00 | 0.00 |
| Depth Start (mKB) | Depth End (mKB) |
| 0.00 | 0.00 |
| Target Formation | Target Depth (mKB) |
| MOUNT KINDLE | 1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 55

| | |
|----------------|--------------|
| Contractor | Rig Number |
| AKITA | 55 |
| Rig Supervisor | Cell Phone |
| IRWIN, TONY | 403-313-8512 |

1, CONTINENTAL-EMSCO, F-800

| Pump Number | Port (kW) | Rod Diameter (mm) |
|-------------|-----------|-------------------|
| 1 | 560.0 | |

2, CONTINENTAL-EMSCO, F-800

| Pump Number | Port (kW) | Rod Diameter (mm) |
|-------------|-----------|-------------------|
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| Dis. option | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (mKB) |
|----------------------|-------------|-----------|
| Cuttings | PLEISTOCENE | 0.00 |

Wellbores

| Name | KOP (mKB) |
|---------------|-----------|
| ORIGINAL HOLE | |

ENCAVA

Daily Drilling - Detail

Report Start Date: 1/10/2004

Report #: 2.0, DFS: -11.06

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH 1501

| | | | | |
|-------------------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------|
| Bottom Hole UTM
300J668440125000 | Surface Legal Location
J-66 | License #
1998 | Field Name
BEGADEH | State/Province
NWT |
| Bruid Date
1/28/2004 01:30 | Rig Release Date | K8 Elevation (m)
195.57 | K8 Ground Distance (m)
4.95 | Ku-CP (m) |
| Weather
CLEAR | Temperature (°C)
-23 | Road/Lease Condition
ICE | Hole Condition | MACP (kPa) |

Ops and depth @ 8 m

RIG WATCH AND REPAIR

24 hr Summary

RIG OUT

REPAIR RIG

24 hr Forecast

RIG OUT AND REPAIR RIG

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|------------------|--|
| 00 00 | 12 00 | 12 00 | 8 | REPAIR RIG | REPAIR RIG
FIX STEAM LINE; CLEAN UP RIG |
| 12 00 | 00 00 | 12 00 | 1 | RIGUP & TEARDOWN | RIG OUT |

| | |
|----------------------------------|---------------------------------|
| A/E #
0325167 | Total A/E Amt (\$)
6,121,540 |
| Daily Cost Total (\$)
18,398 | Cum Cost To Date (\$)
36,796 |
| Mud Additive Cost (\$)
0.00 | Mud Cum To Date (\$)
0.00 |
| Depth Start (mktB)
0.00 | Depth End (mktB)
0.00 |
| Target Formation
MOUNT KINDLE | Target Depth (mktB)
1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 53

| | |
|-------------------------------|----------------------------|
| Contractor
AKITA | Rig Number
55 |
| Rig Supervisor
IRWIN, TONY | Cell Phone
403-313-8512 |

1. CONTINENTAL-EMSCO, F-800

| Pump Number | Pair (kW) | Rod Diameter (mm) |
|-------------|-----------|-------------------|
| 1 | 560.0 | |

2. CONTINENTAL-EMSCO, F-800

| Pump Number | Pair (kW) | Rod Diameter (mm) |
|-------------|-----------|-------------------|
| 2 | 560.0 | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| Description | Make | Model | SN |
|-------------|---------|-------|----|
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| Type | Make |
|----------------|--------|
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

Formation Pick Group

Cuttings

| Name | Top (mktB) |
|-------------|------------|
| P-EISTOCENE | 0.00 |

Wellbores

| Name | KCP (mktB) |
|---------------|------------|
| ORIGINAL HOLE | |

ENCANA

Daily Drilling - Detail

Report Start Date: 1/16/2004

Report #: 1.0, DFS: -12.03

Depth Progress: 0.00

Well Name: ECA ET AL BEGADEH J-65

| | | | | |
|---------------------------------------|--------------------------------|-----------------------------|--------------------------------|-----------------------|
| Bottom Hole Depth
300J653440125000 | Surface Legal Location
J-65 | License #
1998 | Field Name
BEGADEH | State/Province
NWT |
| Spud Date
1/29/2004 01:30 | Rig Release Date | Rd Elevation (m)
195.57 | Rd-Ground Distance (m)
4.95 | Rd-CP (m) |
| Weather
CLEAR | Temperature (°C)
-20 | Road/Lease Condition
ICE | Host Condition | MAOP (J/Fs) |

Ops and depth @ 84 m

RIG WATCH AND REPAIR

24 hr Summary

RIG OUT

INSPECT BRAKES AND LINKAGES.

24 hr Forecast

RIG OUT AND REPAIR RIG

Time Log

| Start Date | End Time | Dur (hrs) | Code | Activity | Comment |
|------------|----------|-----------|------|------------------|--|
| 00:00 | 10:00 | 10:00 | 1 | RIGUP & TEARDOWN | TEAR OUT DEICE MATTING RIG OUT PREMIX TANK |
| 10:00 | 10:15 | 0:25 | 21 | SAFETY MEETING | SAFETY MTG. ON LAYING DERRICK OVER |
| 10:15 | 12:00 | 1:75 | 1 | RIGUP & TEARDOWN | INSPECT BRAKES & LINKAGES PRIOR TO LOWERING MAST @ 10:30 HRS RIG OUT DERRICK |
| 12:00 | 00:00 | 12:00 | 1 | RIGUP & TEARDOWN | RIG OUT, RIG WATCH |

| | |
|----------------------------------|----------------------------------|
| Job #
0325167 | Well A/E Amt (ft)
6,121,540 |
| Daily Cost Total (\$)
18,398 | Cum Cost To Date (\$)
18,398 |
| Mud Additive Cost (\$)
0.00 | Mud Cum To Date (\$)
0.00 |
| Depth Start (m/kft)
0.00 | Depth End (m/kft)
0.00 |
| Target Formation
MOUNT KINDLE | Target Depth (m/kft)
1,700.00 |

Daily Contacts

| Contact | Cell Phone |
|----------------|--------------|
| MADDISON, MIKE | 403-313-8515 |
| WESLEY, DARREN | 403-313-8514 |

Rigs: AKITA, 55

| | |
|-------------------------------|----------------------------|
| Contractor
AKITA | Rig Number
55 |
| Rig Supervisor
IRWIN, TONY | Cell Phone
403-313-8512 |

1, CONTINENTAL-EMSCO, F-800

| | |
|------------------------|-------------------|
| Pump Number (Pwr (kW)) | Rod Diameter (mm) |
| 1 560.0 | |

2, CONTINENTAL-EMSCO, F-800

| | |
|------------------------|-------------------|
| Pump Number (Pwr (kW)) | Rod Diameter (mm) |
| 2 560.0 | |

HG DRYER, DERRICK, <Model?>

| | | | |
|-------------|---------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DERRICK | | |

HG DRYER, DERRICK, <Model?>

| | | | |
|-------------|---------|-------|----|
| Description | Make | Model | SN |
| HG DRYER | DERRICK | | |

Centrifuges/Cyclones: LGS CENTRIF...

| | |
|----------------|--------|
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Centrifuges/Cyclones: LGS CENTRIF...

| | |
|----------------|--------|
| Type | Make |
| LGS CENTRIFUGE | UNITED |

Formation Pick Groups: Cuttings

| Formation Pick Group | Name | Top (m/kft) |
|----------------------|-------------|-------------|
| Cuttings | PLEISTOCENE | 0.00 |

Wellbores

| Name | ROP (m/kft) |
|---------------|-------------|
| ORIGINAL HOLE | |



C). GEOLOGICAL INFORMATION

1) GEOLOGICAL SUMMARY

Geological Summary

This well spudded on January 28, 2004. It was drilled to evaluate the oil potential of an untested anticlinal structure believed to be cored by Paleozoic carbonates, including a combination of the Middle Devonian Upper Hume Formation and/or the Lower Devonian Arnica, and/or the Silurian Mount Kindle and Ordovician Franklin Mountain. An updip erosional edge was combined with the structure to further define the trap. Samples were collected from surface to the T.D. of 1425 meters. A gas chromatograph was rigged in and ran by Datalog from 66.6 m to T.D. Surface hole was drilled to 564 m and logged by Schlumberger, then cased. No evidence for hydrocarbons were found. Casing was run and drilling re-commenced. The seismic data was re-interpreted using the new sonic log obtained for the shallow section. This resulted in updated velocity conversions, and indicated that the sub-cretaceous unconformity would most likely be encountered at a higher level than originally progged (estimated at 1032 m). All Paleozoic progs were updated accordingly.

Formations started coming in high in the Cretaceous section where the Little Bear formation was 70 meters high. Slater River was not seen in samples and as prognosed, the Lower Slater River was absent. The Subcretaceous Unconformity was encountered 203 m high at 1007 m, as expected based on the updated prog using the new sonic log data obtained for the shallow section. Underlying the unconformity is believed to be Silurian-Ordovician Mount Kindle-Franklin based on the abundance of chert. The entire Devonian section is absent at this location, which explains the difference between the original prognosed tops and the actual tops at that level. Although the prognosed tops assumed that a full Devonian and Silurian-Ordovician section would be encountered, the seismic data indicated that several other possibilities could occur including full erosion of the Devonian.

The well was mudded up at 1034 m and drilling continued to a depth of 1425 m where T.D. was called based on re-interpretation of seismic data and a lack of any hydrocarbon indicators. Gas readings were extremely low through all formations. A total of about 45 m at average of ~7% porosity was encountered in the Paleozoic section, but all was interpreted to be wet based on petrophysical evaluation, and the lack of hydrocarbon shows in cuttings and mud log. About 20 m of net pay at 20% porosity was also encountered in the Cretaceous section, but was also interpreted to be wet based on petrophysical analyses, mud log, and cuttings. Detailed petrophysical evaluation and data are presented in sections h) and i). No live shows were encountered in this well and it was abandoned with four plugs which essentially fills the wellbore. A brief summary of all formations encountered follows.

East Fork Formation – Late Cretaceous

Surface casing was set at 564 m in the East Fork Formation. Lithology was unconsolidated Sands, Shales and Siltstones. No shows were noted.

Little Bear Formation – Late Cretaceous

Formation top is at 836 m. (Log 836.5 m). This formation is composed of variable cemented sands with Shale. The quartz sandstones were moderately cemented to

unconsolidated with porosity ranging from 3 to 12%. No significant shows seen through this portion of the well.

Devonian Formations

Not present in this well.

Mount Kindle – Lower Silurian

This formation directly underlies the Subcretaceous Unconformity @ 1007 m. (1007.0 m Log). The upper portion, to approximately 1100 m consists of Dolostone, Shale, Chert & minor Sandstone. Porosity is streaky ranging from 3-18+% and seems related to the Chert, possibly fractured. Samples show common euhedral quartz crystals indicating open fractures/vugs as well as some intercrystalline porosity. No shows evidenced. The lower portion consists of predominantly tight Dolostone with lesser Shale interbeds. No evidence of hydrocarbons present.

Franklin Mountain – Ordovician

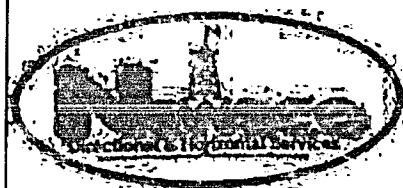
This top is picked at 1317 m (Logs 1317 m). The top is marked by a thinly interbedded Shale and Limestone unit 13 m thick. Lithology for remainder of formation consists of grey, red & green shale & generally light brown to yellowish colored limestone with minor wackestone probably lagoonal deposits. Dolostone laminations are present locally and contained some porosity that appeared to be wet (5 m at 7.6%). No hydrocarbons present. TD is called at 1425 meters in this formation.



D). DIRECTIONAL SUMMARY

1) NEWSCO DIRECTIONAL SURVEYS

2). NEWSCO DIRECTIONAL PLOTS



Job Number: 24023
 Company: Encana Corporation
 Lease/Well: ECA et al Begadeh
 Location: (J-66) J-66
 Rig Name:
 RKB: 195.50m (Est.)
 G.L. or M.S.L.: 191.52m (SP)

State/Country: Northwest Territories
 Declination: 28.28913
 Grid: 1.10
 File name: I:\2004\24023-1\WINSERVE24023.SVY
 Date/Time: 17-Feb-04 / 11:21
 Curve Name: Final Surveys

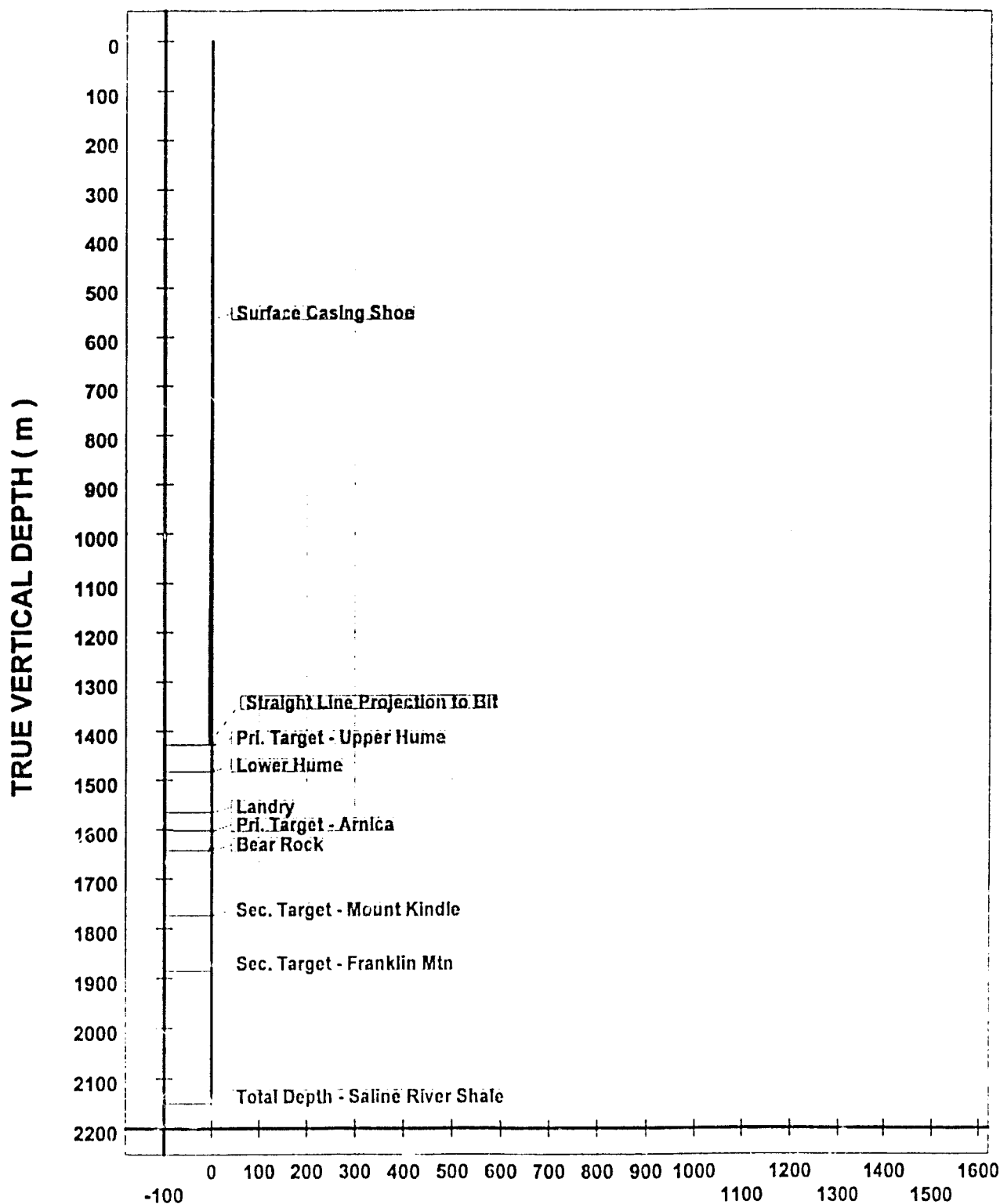
Final Surveys - February 17th, 2004

WINSERVE SURVEY CALCULATIONS
Minimum Curvature Method
Vertical Section Plane .00
Vertical Section Referenced to Wellhead
Rectangular Coordinates Referenced to Wellhead

| Measured
Depth
Meters | Incl
Angle
Deg | Drift
Direction
Deg | True
Vertical
Depth | Subsea
TVD
Meters | N-S
Meters | E-W
Meters | Vertical
Section
Meters | Dogleg
Severity
Deg/30 |
|-----------------------------|----------------------|---------------------------|---------------------------|-------------------------|---------------|---------------|-------------------------------|------------------------------|
| .00 | .00 | .00 | .00 | 195.57 | .00 | .00 | .00 | .00 |
| Surface Casing Shoe | | | | | | | | |
| 564.36 | .00 | .00 | 564.36 | -368.79 | .00 | .00 | .00 | .00 |
| 575.10 | .80 | 65.60 | 575.10 | -379.53 | .03 | .07 | .03 | 2.23 |
| 603.90 | .80 | 62.70 | 603.90 | -400.33 | .21 | .43 | .21 | .04 |
| 632.60 | .90 | 89.60 | 632.59 | -437.02 | .30 | .83 | .30 | .43 |
| 661.40 | 1.20 | 104.90 | 661.39 | -465.82 | .22 | 1.35 | .22 | .43 |
| 690.20 | 1.30 | 92.60 | 690.18 | -494.61 | .13 | 1.97 | .13 | .30 |
| 719.10 | 1.50 | 93.20 | 719.07 | -523.50 | .10 | 2.67 | .10 | .21 |
| 748.00 | 1.50 | 99.20 | 747.96 | -552.39 | .01 | 3.43 | .01 | .16 |
| 776.90 | .80 | 125.70 | 776.86 | -581.29 | -.16 | 3.96 | -.16 | .39 |
| 805.80 | 1.00 | 122.80 | 805.75 | -610.18 | -.42 | 4.34 | -.42 | .21 |
| 834.50 | 1.20 | 112.10 | 834.45 | -638.88 | -.67 | 4.83 | -.67 | .30 |
| 863.49 | 1.70 | 110.60 | 863.43 | -667.86 | -.93 | 5.51 | -.93 | .52 |
| 892.30 | 1.50 | 122.80 | 892.23 | -696.66 | -1.29 | 6.23 | -1.29 | .41 |
| 921.20 | 1.20 | 150.80 | 921.12 | -725.55 | -1.76 | 6.69 | -1.76 | .74 |
| 950.10 | .80 | 149.20 | 950.02 | -754.45 | -2.19 | 6.94 | -2.19 | .42 |
| 979.07 | 1.10 | 141.10 | 978.98 | -783.41 | -2.58 | 7.22 | -2.58 | .34 |
| 1007.90 | .60 | 138.10 | 1007.81 | -812.24 | -2.91 | 7.50 | -2.91 | .52 |
| 1036.80 | .60 | 104.00 | 1036.71 | -841.14 | -3.06 | 7.75 | -3.06 | .37 |
| 1065.60 | 1.00 | 95.00 | 1065.50 | -869.93 | -3.12 | 8.14 | -3.12 | .44 |
| 1094.40 | .80 | 239.40 | 1094.30 | -898.73 | -3.24 | 8.22 | -3.24 | 1.79 |

| Measured
Depth
Meters | Incl
Angle
Deg | Drift
Direc .ion
Deg | True
Vertical
Depth | Subsea
TVD
Meters | N-S
Meters | E-W
Meters | Vertical
Section
Meters | Dogleg
Severity
Deg/30 |
|--|----------------------|----------------------------|---------------------------|-------------------------|---------------|---------------|-------------------------------|------------------------------|
| 1123.10 | 1.20 | 250.80 | 1123.00 | -927.43 | -3.44 | 7.76 | -3.44 | .46 |
| 1151.90 | 1.30 | 186.80 | 1151.79 | -956.22 | -3.87 | 7.44 | -3.87 | 1.38 |
| 1180.90 | 1.10 | 164.30 | 1180.79 | -985.22 | -4.46 | 7.48 | -4.46 | .53 |
| 1209.60 | .60 | 79.00 | 1209.48 | -1013.91 | -4.70 | 7.70 | -4.70 | 1.26 |
| 1238.50 | 1.30 | 76.10 | 1238.38 | -1042.81 | -4.59 | 8.16 | -4.59 | .73 |
| 1267.40 | 1.70 | 86.90 | 1267.27 | -1071.70 | -4.49 | 8.91 | -4.49 | .51 |
| 1296.10 | 1.00 | 139.40 | 1295.96 | -1100.39 | -4.66 | 9.50 | -4.66 | 1.41 |
| 1325.00 | 1.00 | 163.90 | 1324.86 | -1129.29 | -5.09 | 9.73 | -5.09 | .44 |
| 1353.40 | .40 | 90.60 | 1353.26 | -1157.69 | -5.33 | 9.90 | -5.33 | 1.02 |
| 1382.80 | 1.20 | 68.10 | 1382.65 | -1187.08 | -5.22 | 10.29 | -5.22 | .86 |
| 1409.00 | 2.80 | 68.20 | 1408.84 | -1213.27 | -4.88 | 11.14 | -4.88 | 1.83 |
| Straight Line Projection to Bit | | | | | | | | |
| 1425.00 | 2.80 | 68.20 | 1424.82 | -1229.25 | -4.59 | 11.86 | -4.59 | .00 |

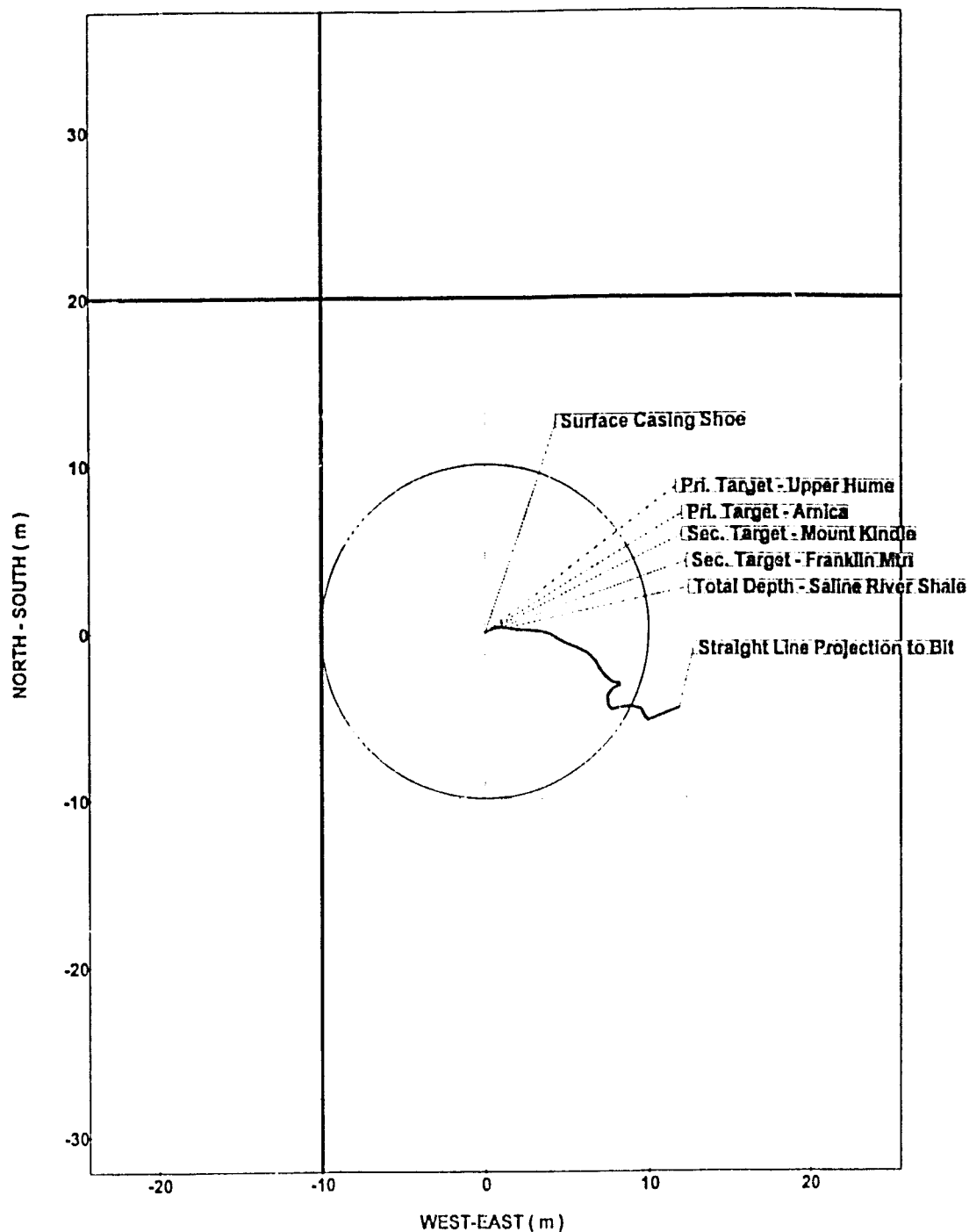
Job Number: 24023
Company: Encana Corporation
Lease/Well: ECA et al Begadeh
Location: (J-66) 1-66



-- Final Surveys -- Proposal - January 20th

VERTICAL SECTION (m) @ .00°

Job Number: 24023
Company: Encana Corporation
Lease/Well: ECA et al Begadeh
Location: (J-66) J-66



- Final Surveys
- Proposal - January 20th



E). RESERVOIR AND WELL EVALUATION DATA

1) PETROPHYSICAL EVALUATION

ENCANA.

To: Eva Drivet-Legault

Date: 5 March, 2004

From: Dave Tivey

Subject: Petrophysical Evaluation of Begadeh J-66
CC: D.Tivey/file

Objective

Review hires petrophysical data for the above well, to quantify reservoir and hydrocarbon potential in the Cretaceous and Silurian-Ordovician age formations.

Summary

Cretaceous – Little Bear Formation

Porous sandstone is encountered from 836 to 887mKB.

Minor mud gas readings were noted throughout this interval, but no shows were observed in cuttings. The sand is described as very fine to fine grained and contains lithic components. This would explain the slightly high PEF reading and Neutron/Density separation.

Formation water salinity is unknown for this area. The SP shows very little deflection; therefore formation water is very similar to the mud filtrate salinity.

Petrophysical analysis shows that this sand has 20.1 metres of net reservoir at 19.9% ave porosity, however it is essentially wet with an average $S_w = 73\%$.

Devonian Age Formations

These formations are not present in this wellbore.

Silurian – Ordovician Age – Mt. Kindle and Franklin Mountain Formations

The Mt. Kindle Formation is a wet porous dolostone. No shows were encountered in cuttings.

Evidence of fractures is seen on the logs at 1075.8, 1082.3 and 1092.8 metres.

Petrophysical analysis shows that this formation has 39.6 metres of net reservoir at 6.0% ave porosity, however it is essentially wet with an average $S_w = 75\%$.

The Franklin Mountain Formation is primarily limestone with laminations of porous dolostone.

These dolostone laminations appear to be mostly wet, with minor gas readings encountered but no shows in cuttings.

Petrophysical analysis shows that this formation has 4.9 metres of net reservoir at 7.6% ave porosity, however it is essentially wet with an average $S_w = 48\%$.

Net pay summaries are shown on the following pages.

Interpretation Technique

The Elemental Analysis technique, ELAN, was computed with the models and parameters as shown on the attached listings.

Porosity is calculated primarily from the Neutron and Density measurements.

Water saturation is computed with the Dual Water equation and the following formation water resistivity:

Cretaceous: 2.70 @ 25 degC, 1.35 @ 50 degC and 2700 ppm NaCl.

Silurian-Ordovician: 0.27 @ 25 degC, 0.172 @ 50 degC and 22,232 ppm NaCl.

Silurian-Ordovician formation water salinity has been determined from the following offset well water chemistry analysis:

- East McKay B-45 DST#2 tested salt water at 21,922 TDS from Mt. Kindle Formation.
- Stewart B-30 DST#4 tested salt water at 54873 TDS from the Bear Rock Formation.
- Stewart B-30 DST#2 tested muddy water at 41912 TDS from the Bear Rock Formation.
- Tate J-65 DST#10 tested muddy water at 41361 TDS from the Bear Rock Formation.
- Tate J-65 DST#6 tested muddy water at 27280 TDS from the Bear Rock Formation.
- Dodo Canyon K-03 DST#1 tested liquid at 27678 TDS from the Bear Rock Formation.
- Keele N-62 DST#3 tested salt water at 30623 TDS from the Bear Rock Formation.
- Windy Island A-53 DST#4 tested salt water at 25846 TDS from the Franklin Formation.

Cretaceous formation water salinity has been determined from the following offset well water chemistry analysis:

- Losh Lake G-22 tested water at 5896 TDS.
- Losh Lake DST#1 G-22 tested water at 6524 TDS.
- Police Island L-66 DST#2 tested water at 40212 TDS.

Water chemistry Stiff diagrams are attached.

Carbonate log analysis is complicated by the fact that Archie's water saturation exponents, a , m and n are varying based on porosity type. Carbonate rocks with predominately inter-crystalline type porosity have "m" values close to 2, while vuggy type porosity will have higher "m" values, 2 to 3 and fracture type porosity will have "m" values less than 2.

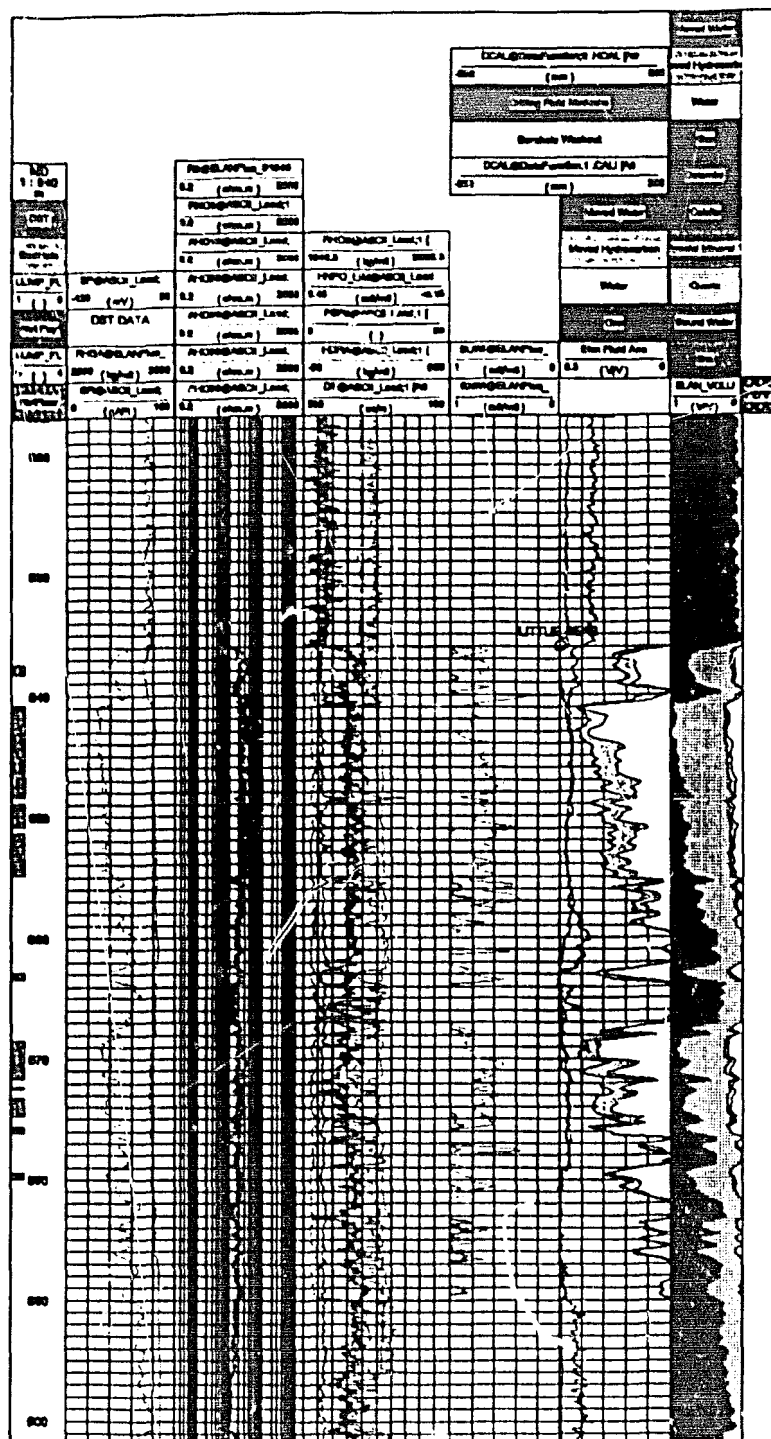
This study uses "a" "m" and "n" values of 1, 2 and 2 respectfully.

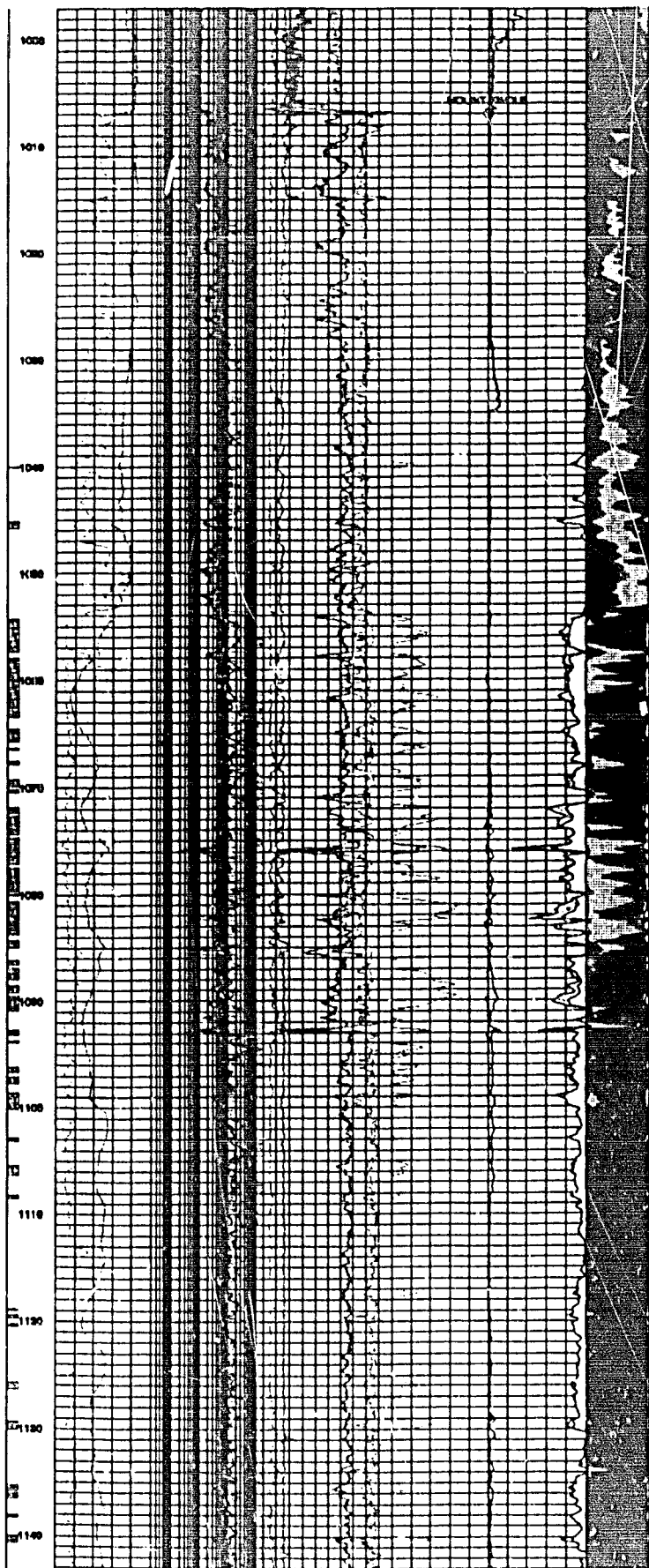
Conclusion

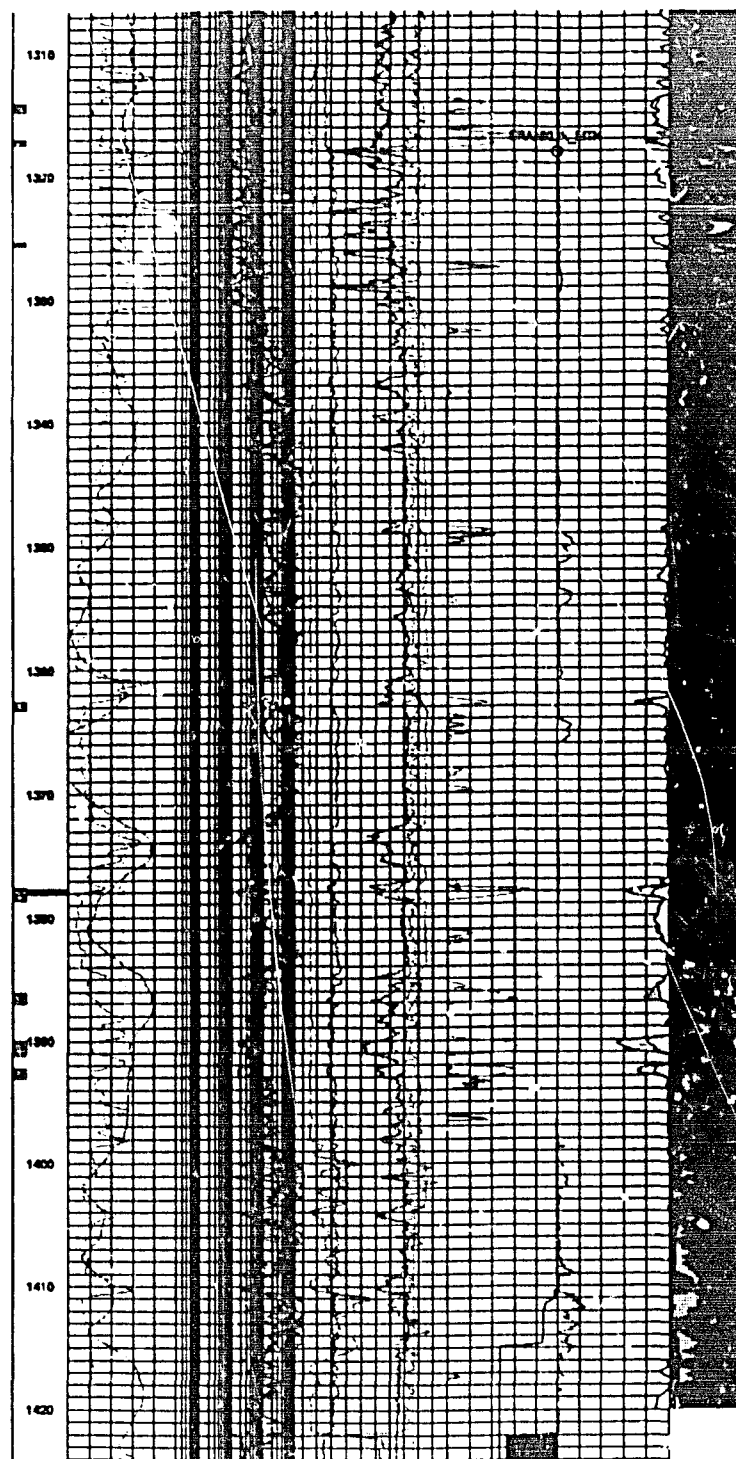
This well has no economic value and will be abandoned.

If you have any questions do not hesitate to ask.

David G. Tivey P.Eng







PETROPHYSICAL RESULTS

Vshale < 25%, Porosity > 4% and Water Saturation < 30%

| Interval Data | | | | | Net (Vsh) | | Net Reservoir (Vsh,Poro) | | | | | Net Pay (Vsh,Poro,Sw) | | | | | | |
|------------------------------|--------------|---------|----------|-------------|-----------|-----------|--------------------------|-----------|---------|-------|--------|-----------------------|-----------|---------|-------|-----------|--------|------|
| Well Name | Formation | Top (m) | Base (m) | Gross Thick | Net Thick | Net/Gross | Thick | Net/Gross | Ave PHI | Por-m | Ave Sw | Thick | Net/Gross | Ave PHI | Por-m | Ave Shale | Ave Sw | HPV |
| ECA ET AL BEGADEH J-66 HIRES | LITTLE BEAR | 833.0 | 1007.0 | 171.0 | 20.1 | 12% | 20.1 | 12% | 19.9% | 4.00 | 73% | 0.0 | 0% | 0.0% | 0.00 | 0% | 0% | 0.00 |
| ECA ET AL B GADEH J-66 HIRES | MOUNT KINDLE | 1007.0 | 1318.0 | 311.0 | 232.6 | 75% | 39.6 | 13% | 6.0% | 2.39 | 75% | 0.0 | 0% | 0.0% | 0.00 | 0% | 0% | 0.00 |
| ECA ET AL BEGADEH J-66 HIRES | FRANKLIN_MTN | 1318.0 | 1420.0 | 102.0 | 74.9 | 73% | 4.9 | 5% | 7.6% | 0.37 | 48% | 0.5 | 0% | 8.5% | 0.04 | 13% | 23% | 0.03 |

LOG DATA CROSS PLOTS

Figure 1 Silurian Section - Neutron/Density cross plot

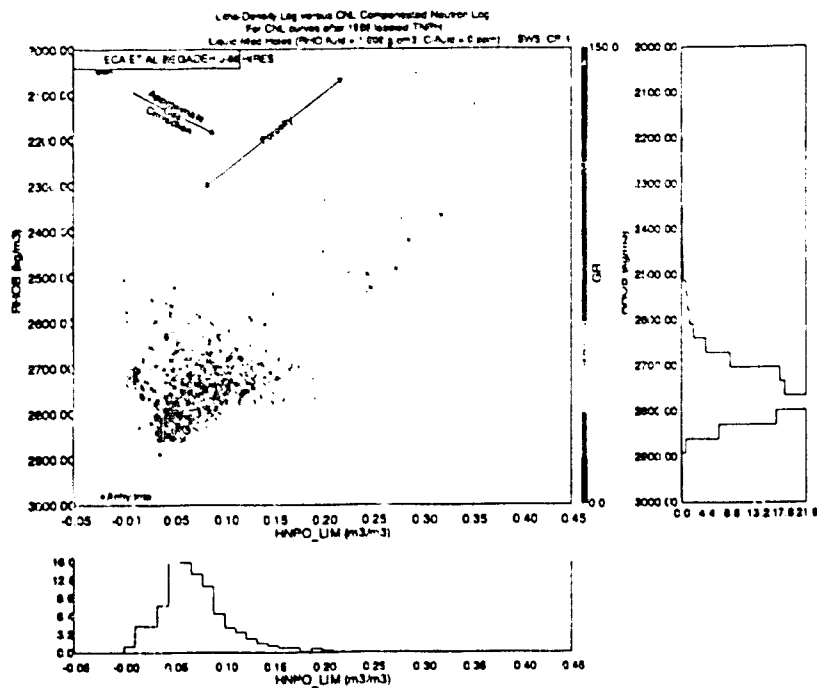
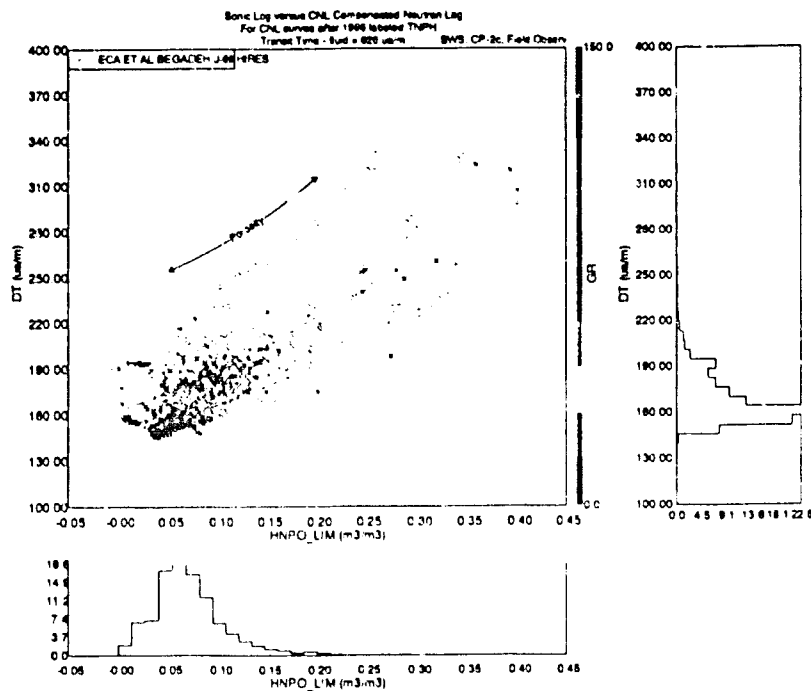
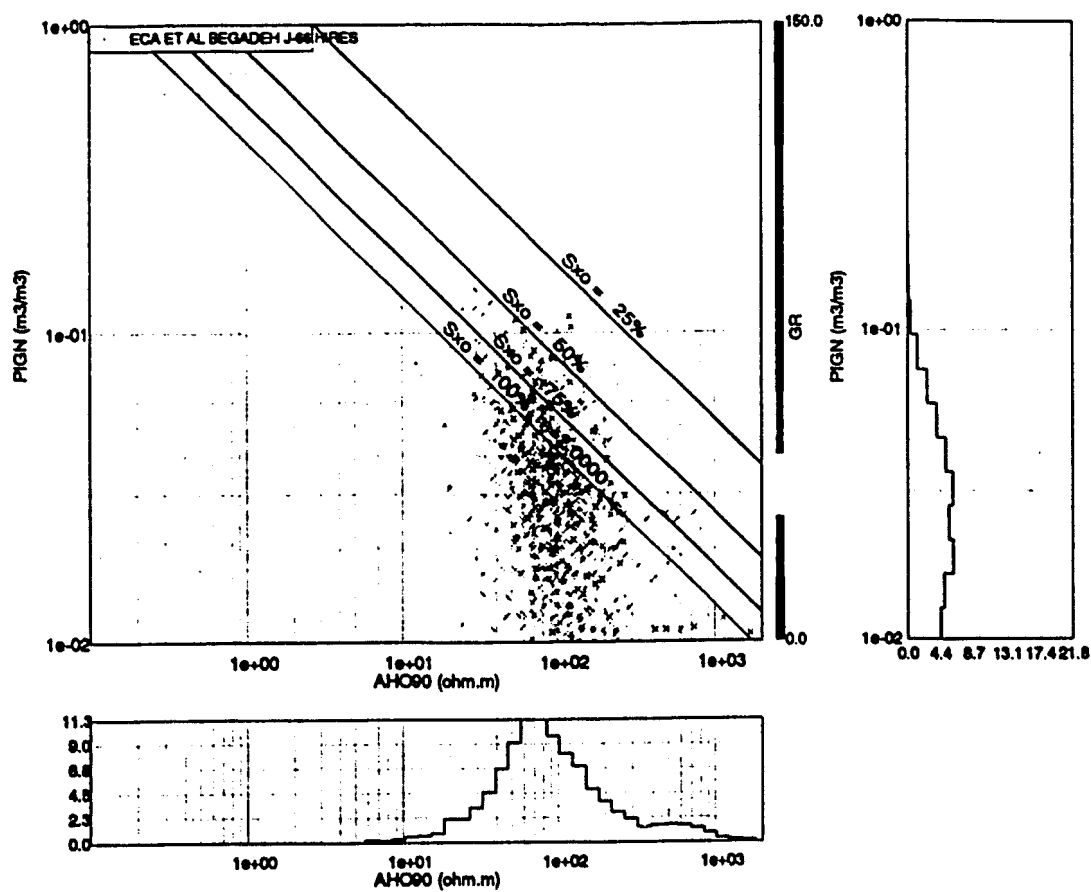


Figure 2 Silurian Section - Neutron/Sonic cross plot



LOG DATA CROSS PLOTS

Figure 3 Silurian Section - Pickett plot (Formation Water Salinity = 22,232 ppm NaCl)



LOG DATA CROSS PLOTS

Figure 4 Cretaceous Section - Neutron/Density cross plot

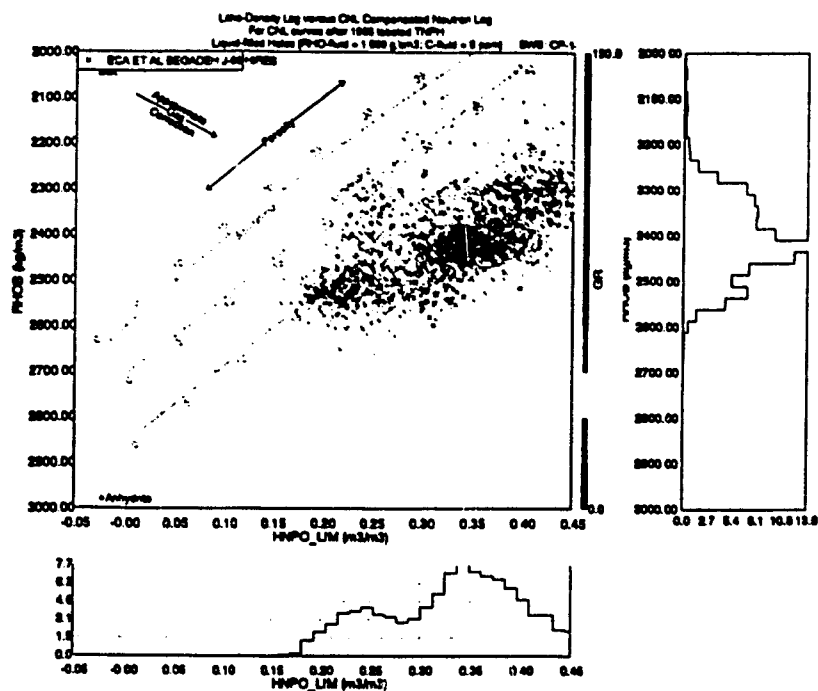
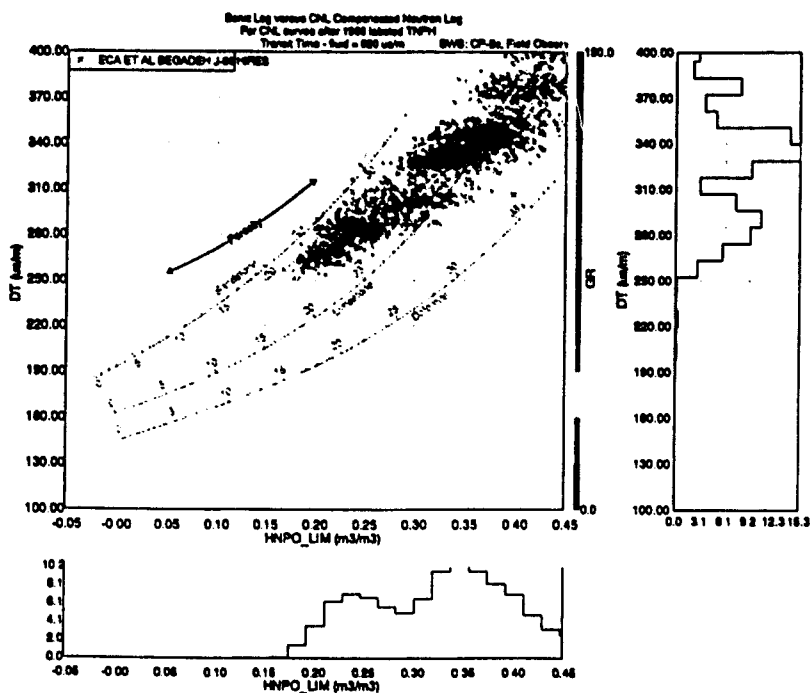
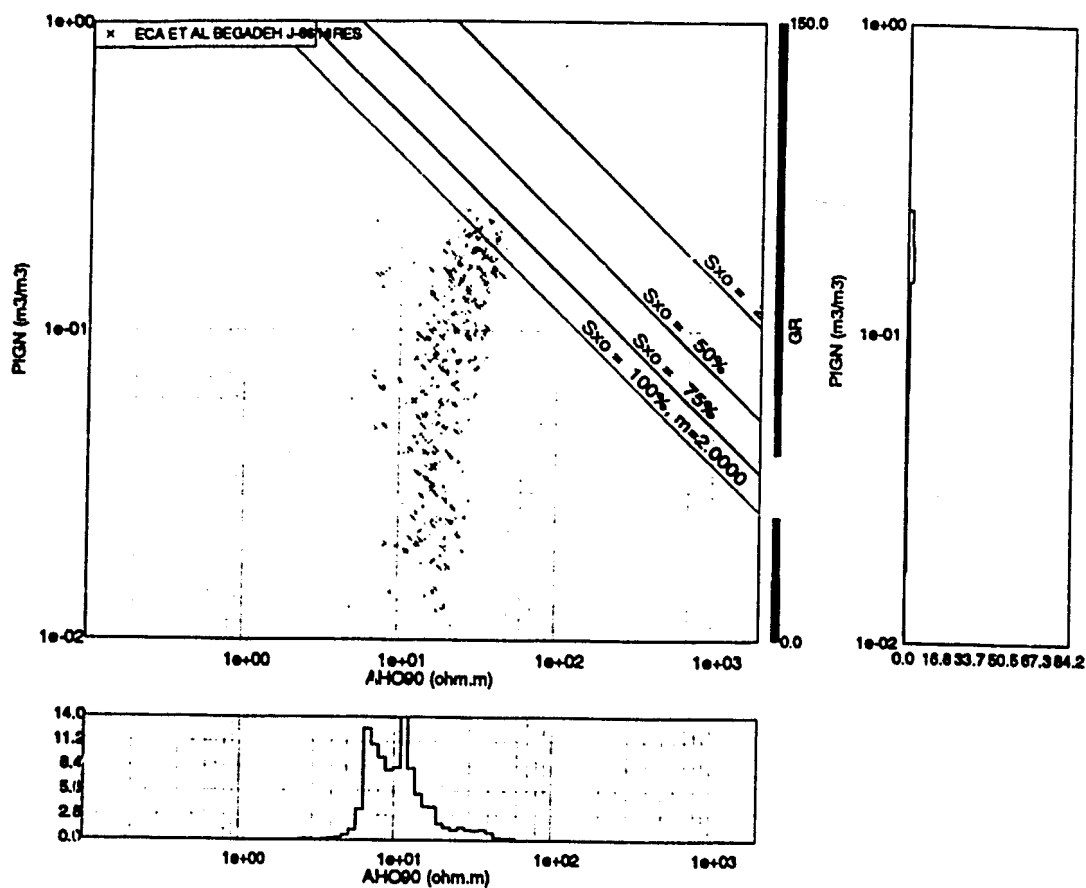


Figure 5 Cretaceous Section - Neutron/Sonic cross plot



LOG DATA CROSS PLOTS

Figure 6 Cretaceous Section - Pickett plot (Formation Water Salinity = 2700 ppm NaCl).



SALINITY DEPENDANT PARAMETERS

Figure 7 Silurian Section Salinity Parameters

Parameter is: 13.0 / 13.0

Input Parameters

RW(ohm.m) RMF(ohm.m) Zone Temp(degC) TVD(m)

RWT(degC) MST(degC) Mud Weight(kg/m3)

SALIN_UWAT(ppk) SALIN_XWAT(ppk) Avg.Porosity(m3/m3)

Output Parameters

| Salinity Dependent @BHT | | Clay Parameters | | Porosity/Gas Dependent | | Zones to Update |
|---|----------|---|-----------|--|------------|---|
| ☒ RW | 0.171796 | ☒ RWB_ILLI | 0.0771567 | ☒ NPHI_QUAR | -0.0339324 | <input type="button" value="1006"/> |
| ☒ RWT | 50 | ☒ WCLP_ILLI | 0.119425 | ☒ NPHI_DOLO | 0.0111415 | <input checked="" type="button" value="UNDEFINED"/> |
| ☒ RMF | 1.30041 | ☒ WCLP_KAOL | 0.0663904 | ☒ RHOB_UGAS | -18.3665 | |
| ☒ MST | 50 | ☒ WCLP_MONT | 0.457521 | ☒ RHOB_XGAS | -18.3665 | |
| ☒ SALIN_UWAT | 22.2319 | ☒ WCLP_CHLO | 0.120473 | ☒ NPHI_UGAS | 0.198246 | |
| ☒ SALIN_XWAT | 2.3897 | | | ☒ NPHI_XGAS | 0.198246 | |
| ☒ RT_UWAT | 0.171796 | | | ☒ RHOB_IFAC_ZP | 1 | |
| ☒ RXO_XWAT | 1.30041 | | | ☒ NPHI_IFAC_ZP | 1 | |
| ☒ RHOB_UWAT | 1002.30 | | | <input type="button" value="M_DWA"/> | 2.1556 | |
| ☒ RHOB_XWAT | 988.391 | | | | | |
| ☒ U_XWAT | 0.403651 | | | | | |
| ☒ CUDC_UNC_ZP | 72.3793 | | | | | |
| ☒ CXDC_UNC_ZP | 25.5339 | | | | | |

SALINITY DEPENDANT PARAMETERS

Figure 8 Cretaceous Section Salinity Parameters

Parameter Initialization

Input Parameters

RW(ohm.m) RMF(ohm.m) Zone Temp(degC) TVD(m)

RWT(degC) MST(degC) Mud Weight(kg/m3)

SALIN_UWAT(ppk) SALIN_XWAT(ppk) Avg.Porosity(m3/m3)

Output Parameters

| Salinity Dependent @BHT | | Clay Parameters | | Porosity/Gas Dependent | | Zones to Update | | | | |
|---|----------|---|----------|--|------------|--|--|--|--|--|
| ☒ RW | 1.3553 | ☒ RWB_ILLI | 0.135768 | ☒ NPHI_QUAR | -0.0356657 | ☒ 1006 | | | | |
| ☒ RWT | 50 | ☒ WCLP_ILLI | 0.192666 | ☒ NPHI_DOLO | 0.0105631 | <input type="button" value="J UNDEFINED"/> | | | | |
| ☒ RMF | 1.38041 | ☒ WCLP_KAOL | 0.112183 | ☒ RHOB_UGAS | -18.3665 | | | | | |
| ☒ MST | 50 | ☒ WCLP_MONT | 0.597433 | ☒ RHOB_XGAS | -18.3665 | | | | | |
| ☒ SALIN_UWAT | 2.4361 | ☒ WCLP_CHLO | 0.194215 | ☒ NPHI_UGAS | 0.198246 | | | | | |
| ☒ SALIN_XWAT | 2.3897 | | | ☒ NPHI_XGAS | 0.198246 | | | | | |
| ☒ RT_UWAT | 1.3553 | | | ☒ RHOB_IFAC_ZP | 1 | | | | | |
| ☒ RHO_XWAT | 1.38041 | | | ☒ NPHI_IFAC_ZP | 1 | | | | | |
| ☒ RHOB_UWAT | 988.424 | | | <input "="" type="checkbox" value="J M_DWA</td> <td>2.1556</td> <td></td> </tr> <tr> <td><input checked="/> RHOB_XWAT | 988.391 | | | | | |
| ☒ U_XWAT | 0.403651 | | | | | | | | | |
| ☒ CUDC_UNC_ZP | 25.7693 | | | | | | | | | |
| ☒ CUDC_UNC_ZP | 25.5339 | | | | | | | | | |

GEOFLUIDS WATER ANALYSIS

GEOFLUIDS WATER ANALYSIS FILE

Core Labs Inc
3016-30-6470-1251500
STEWART B-30
BEAR ROCK
HCWW 5553

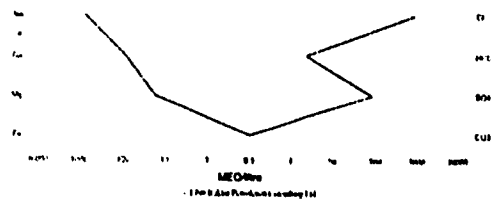
SALT WATER 276 m XW

DST #4 (TOP OF TOOL)
8500.0 8250.0
04/Apr/1972

1.0397
7.6

| mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
|------|---------|-------|------------------|---------|-------|
| Na | 18798.0 | 617.7 | Cl | 29608.0 | 840.8 |
| K | | | Br | | |
| Ca | 1857.0 | 92.7 | I | | |
| Mg | 211.0 | 17.4 | HCO ₃ | 151.0 | 2.5 |
| Ba | 0.0 | 0.0 | SO ₄ | 4048.0 | 84.3 |
| Sr | | | CO ₃ | 0.0 | 0.0 |
| Fe | | | OH | 0.0 | |
| Cu | | | H ₂ S | ABSENT | |

NAME: 1676 THACE IN FIELD 1676 ADP IN FIELD BA IN FIELD 1676 DO3 CH



GEOFLUIDS WATER ANALYSIS FILE

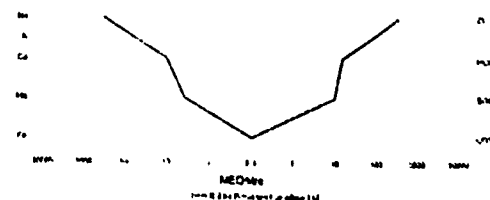
Core Labs Inc
3016-30-6470-1253000
EAST MACKAY B-45
PALEOLITHIC
HCWW 5574

SALT WATER 1048 XW

TOP OF TOOL
4042.0 4196.0
25/Feb/1971

1.0171
6.3

| mg/L | mg/L | mg/L | mg/L | mg/L | mg/L |
|------|--------|-------|------------------|---------|-------|
| Na | 8114.0 | 352.9 | Cl | 12158.0 | 342.9 |
| K | 8114.0 | 207.5 | Br | | |
| Ca | 217.0 | 10.8 | I | | |
| Mg | 49.0 | 4.0 | HCO ₃ | 822.0 | 15.1 |
| Ba | | | SO ₄ | 462.0 | 9.6 |
| Sr | | | CO ₃ | | |
| Fe | TRACE | | OH | | |
| Cu | | | H ₂ S | | |



GEOFLUIDS WATER ANALYSIS

GEOFLUIDS WATER ANALYSIS FILE

Core Labs Inc
300 B-30-6420-12515181
STEWART B-30
BEAR ROCK
HCWW 5553

SALT WATER 296 - XW

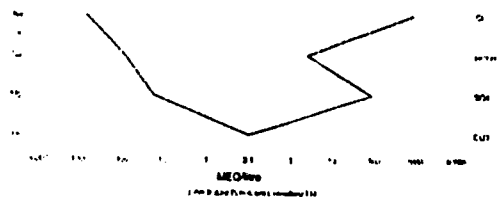
DST #4 (TOP OF TOOL)
8500.0 8250.0 /
04/Apr/1972 20/Apr/1972

1.0397 15.6
7.6

| | | | | | |
|----|---------|-------|------|---------|-------|
| Na | 18798.0 | 817.7 | Cl | 29808.0 | 840.8 |
| K | | | Br | | |
| Ca | 1857.0 | 82.7 | I | | |
| Mg | 211.0 | 17.4 | HCO3 | 151.0 | 2.5 |
| Ba | 0.0 | 0.0 | SO4 | 4048.0 | 84.3 |
| Sr | | | CO3 | 0.0 | 0.0 |
| Fe | | | OH | 0.0 | |
| Bo | | | H2S | ABSENT | |

NAME TOWN THAT'S IN THE AREA OF THE WELL IN THE LOCATION

NO. 10000



GEOFLUIDS WATER ANALYSIS FILE

Core Labs Inc
300 B-45-6450-12530-00
EAST HADKAY B-45
PALEODIC
HCWW 5574

SALT WATER 1048 XW

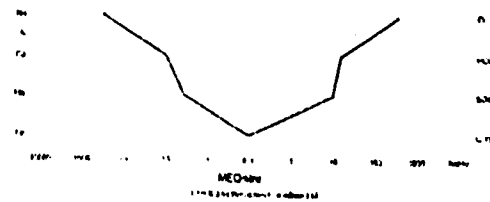
TOP OF TOOL
4042.0 4196.0 /
25/Feb/1971

1.0171 60.0
8.3

| | | | | | |
|----|--------|-------|------|---------|-------|
| Na | 8114.0 | 352.9 | Cl | 12158.0 | 342.9 |
| K | 8114.0 | 207.5 | Br | | |
| Ca | 217.0 | 10.8 | I | | |
| Mg | 49.0 | 4.0 | HCO3 | 922.0 | 15.1 |
| Ba | | | SO4 | 462.0 | 9.6 |
| Sr | | | CO3 | | |
| Fe | TRACE | | OH | | |
| Bo | | | H2S | | |

NAME

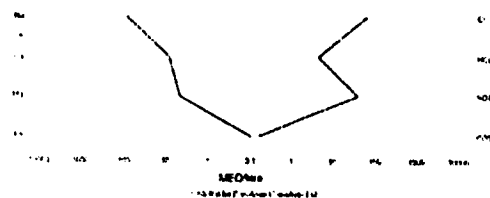
NO. 10000



GEOFLUIDS WATER ANALYSIS

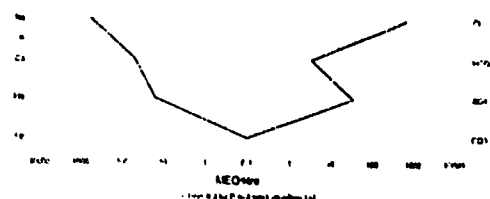
| GEOFLUIDS WATER ANALYSIS FILE | | | | | |
|--------------------------------------|--------|-------------|-----------------------------|-------------|------|
| Chemical and Geological Laboratories | | | Chemical and Geological Lab | | |
| 300 G 22 640-12315 00 | | | LOSH LAKE G-22 | | |
| | | | HCWW 3346 | | |
| 830' SALT WATER | | | | | |
| 1160 0 1230 0 | | DST 1 | | 293.2 289 0 | |
| 22/Mar/1975 | | 23/Apr/1975 | | E75-7574 | |
| 7000 0 | | 5690 0 | | PRESENT FT | |
| 1 0060 | | 1 334 | | 6524 0 | |
| 8.4 | | 21 1 | | 1 210 | |
| Na | 2046 0 | 89 0 | Cl | 2130 0 | 60 1 |
| K | | | Br | | |
| Ca | 180 0 | 9 0 | I | | |
| Mg | 58 0 | 4 8 | HCO3 | 271 0 | 4 4 |
| Ba | | | SO4 | 1834 0 | 38 2 |
| Sr | | | CO3 | 5 0 | 0 2 |
| Fe | | | OH | 0 0 | |
| Ba | | | H2S | NIL | |

PRESENT IN FIELD: THE SAMPLE CONSISTED OF CLEAR, COLORLESS WATER WITH A THICK, WHITE, CRYSTALLINE DEPOSIT.



| GEOFLUIDS WATER ANALYSIS FILE | | | | | |
|-------------------------------------|---------|-------|---------------|---------|-------|
| Core Labs Inc | | | Core Labs Inc | | |
| 300 J-45-6430-12515 00 | | | TATE J-65 | | |
| | | | HCWW 5583 | | |
| TOOL RECOVERY 3000 CC'S MUDDY WATER | | | | | |
| DST #10 (BJ TOOL #108) | | | 607.5 601 1 | | |
| 25/Feb/1972 | | | | | |
| 1 0296 | | | 41361 0 | | |
| 6.4 | | | 22.2 | | |
| | | | 21.7 | | |
| Na | 14672 0 | 638 2 | Cl | 23552 0 | 664 3 |
| K | | | Br | | |
| Ca | 1006 0 | 50 2 | I | | |
| Mg | 188 0 | 15 5 | HCO3 | 210 0 | 3 4 |
| Ba | | | SO4 | 1733 0 | 36 1 |
| Sr | | | CO3 | 0 0 | 0 0 |
| Fe | | | OH | 0 0 | |
| Ba | | | H2S | ABSENT | |

PRESENT IN FIELD: THE SAMPLE CONSISTED OF CLEAR, COLORLESS WATER WITH A THICK, WHITE, CRYSTALLINE DEPOSIT.



GEOFLUIDS WATER ANALYSIS

Core Labs Inc
3004-65-8430-1251500
TATE J-85
BEAR ROCK
HCWW 5562

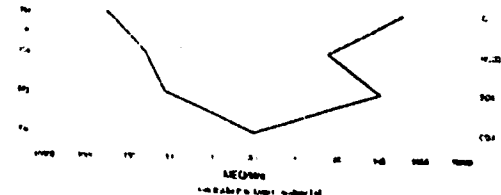
TOOL RECOVERY 3000 CC'S MUDDY WATER
DST #6 (BJ TOOL #109)
607.5 601.1
25/Feb/1972
27280.0
1.0213 15.6 1.3379 23.3
7.4 0.269
Na 9251.0 402.4 Cl 15088.0 425.6
K 1006.0 50.2 Br
Ca 117.0 9.8 I
Mg HCO3 283.0 4.6
Ba SO4 1535.0 32.0
Sr CO3 0.0 0.0
Fe OH 0.0
Bo H2S ABSENT

DATA ART LINES IN FIELD FE IN IN FIELD CO3 ON



Core Labs Inc
3004-65-8430-1254500
DODO CANYON K-03
BEAR ROCK
HCWW 5575

1620' LIQUID
TOP OF TOOL
7320.0 7600.0
17/Jun/1972
1.0215 60.0 1.3377 27678.0
6.7 0.280
Na 9145.0 397.8 Cl 12270.0 346.1
K 9145.0 233.8 Br
Ca 851.0 42.5 I
Mg 164.0 13.5 HCO3 342.0 5.6
Ba SO4 4906.0 102.1
Sr CO3
Fe OH
Bo H2S



GEOFLUIDS WATER ANALYSIS

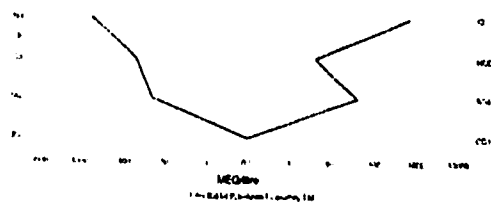
Core Labs Inc
300 L-46-4450-12510-00
POLICE ISLAND L-46
CRETACEOUS
795' KW
2610' WATER
ABOVE TOOL
2985.0 2960.0
21/4/1971
1.0270
60.0
7.2

Core Labs Inc
300 N-42-4430-12415-00
KEELE N-42
BEAR ROCK
501' SALT WATER
TOP OF TOOL
2895.0 2853.0
02/Oct/1973
1.0218
7.7

DST 2
148.1 144.2
633-1360
40212.0
1.34
71.0
0.175
71.0

Na 13989.0 608.5
K 13989.0 357.8
Ca 1094.0 54.6
Mg 258.0 21.2
Ba
Sr
Fe TRACE
Bt

Cl 22678.0 639.6
Br
I
HCO3 259.0 4.2
SO4 1936.0 40.3
CO3
OH
H2S

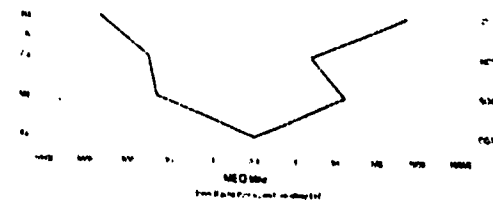


Core Labs Inc
300 N-42-4430-12415-00
KEELE N-42
BEAR ROCK
501' SALT WATER
TOP OF TOOL
2895.0 2853.0
02/Oct/1973
1.0218
7.7

DST 3
225.8 222.2
7021-31523
30623.0
1.3371
23.0
0.225
25.0

Na 10663.0 472.5
K 844.0 32.1
Ca 243.0 20.0
Mg
Ba
Sr
Fe
Bt

Cl 17902.0 506.0
Br
I
HCO3 151.0 2.5
SO4 820.0 17.1
CO3 0.0 0.0
OH 0.0
H2S





F). LOGS, ANALYSIS AND PERTINENT REPORTS

- 1). OPEN HOLE LOGS HAVE BEEN SUBMITTED PREVIOUSLY**
- 2). NO ANALYSIS PERFORMED ON THE WELL**
- 3). GEOLOGICAL STRIP LOGS SUBMITTED WITH WELL ABANDONMENT PROGRAM**
- 4). PROGNOSIS SUMMARY SUBMITTED WITH WELL ABANDONMENT PROGRAM**

GEOLOGICAL REPORT

ENCANA



GEOLOGICAL REPORT

**ENCANA ET AL BEGADÉH J-66
64°40', 125 00'
NORTHWEST TERRITORIES**

Cabra
CONSULTING

A DIVISION OF CABRA ENTERPRISES LTD.

N.E.B. COPY

ENCANA CORPORATION

GEOLOGICAL REPORT

ENCANA ET AL BEGADÉH J-66

SURFACE LOCATION: 64°40', 125 00'

NORTHWEST TERRITORIES

PREPARED BY: GLEN MACINTOSH, P.GEOL.

REPORTED TO: EVA DRIVET LEGAULT



A DIVISION OF CABRA ENTERPRISES LTD

1623 48TH AVE. S.W.

T2T 2S9

(403) 243-5022

TABLE OF CONTENTS

| | |
|--|----|
| WELL DATA SUMMARY..... | 1 |
| WELL HISTORY & GEOLOGICAL SUMMARY..... | 3 |
| GEOLOGICAL MARKERS | 5 |
| DAILY PROGRESS SUMMARY | 6 |
| DFS VS DEPTH, PROGRESS & COSTS CHART | 9 |
| MUD RECORD..... | 10 |
| BIT RECORD..... | 11 |
| DEVIATION SURVEYS | 12 |
| DIRECTIONAL SURVEYS | 13 |
| PLAN VIEW..... | 15 |
| VERTICAL SECTION..... | 16 |
| OPEN HOLE LOG SUMMARY..... | 17 |
| SAMPLE DESCRIPTIONS..... | 19 |
| PHOTO DESCRIPTIONS | 35 |
| LITHOLOGY LOG POCKET..... | 37 |

ECA ET AL BEGADÉH J-66

WELL DATA SUMMARY

Company: Encana Corporation

Well Name: ECA et al Begadéh J-66

Surface Location: Unit: J Section: 66 Grid: 64-40, 125-00, NWT

Surface Co-ordinates: Lat: 64-35' 30.68", Long: 125-11' 52.05"

Elevations: *Ground:* 190.60 meters
Kelly Bushing: 195.60 meters
K.B. to Ground: 5.0 meters

Unique Well ID: 300J666440125000

Field: Undefined

Classification: Exploratory Outpost

Objectives: *Primary* – Hume, Arnica, Landry
Secondary – Mount Kindle, Franklin Mountain

Terminating Zone: Franklin Mountain

Security: Tight

AFE Number: 325167

Well Authorisation: 1996

Spud Date: 0100 Hrs., January 28, 2004

Total Depth: 1425 meters @ 1600 Hrs, February 10, 2004

Sampled Interval: 5 meter intervals - vialled
Encana & Husky: 5m to 1425m
NEB: 565m to 1425m
10 meter intervals – canned
NEB: 570m to 1420m

Contractor: Akita Drilling Rig #55

ECA ET AL BEGADÉH J-66

Drilling Supervision: Mike Maddison/Darren Wesley

Geological Supervision: Glen MacIntosh

Mudlogging: Datalog
Operators: Davor Tulik
Zander Cherny

Directional Services: Newsco

Hole Size: *Conductor:* 444.5 mm
Surface: 311.1 mm
Main: 222.2 mm

Conductor: *Size:* 339.7 mm
Type: 5 joints of 81.10 kg/m J-55
Landed @ 66.63 meters
Cement: 11.0 tonnes Permafrost C
Plug down @ 2248 Hrs January 28, 2004

Surface Casing: *Size:* 244.5 mm
Type: 43 jts 53.57 kg/m J-55
Landed @ 464.4 meters
Cement: 10.8 m3 Permafrost C + 10.8m3 0-1-0 G
Plug down 1452 Hrs February 3, 2004

Main Hole: Plugged

Open Hole Logs: Schlumberger Wireline Services
Log *Interval Logged* *Scale*
AIT-CNT-LDT-BCS 1423.1 to 66.6 meters 1:240 & 1:600

Final Status: Dry & Abandoned

Rig Release: 2359 Hrs, February 15, 2004

Final Costs: \$6,000,000 (est)

WELL HISTORY & GEOLOGICAL SUMMARY

This well spudded on January 28, 2004 . It was drilled to evaluate the oil potential of the Middle Devonian Upper Hume Formation. The Lower Devonian Arnica, Silurian Mount Kindle and Ordovician Franklin Mountain were secondary targets. Samples were collected from surface to the T.D. of 1425 meters. A gas chromatograph was rigged in and ran by Datalog from 66.6m to T.D. Surface hole was drilled to 564m and logged by Schlumberger, then cased. . No evidence for hydrocarbons were found. However, an indication that formation tops may be higher were seen. Casing was ran and drilling re-commenced. Formations started coming in high in the Cretaceous section where the Little Bear formation was 70 meters high. Slater River was not seen in samples and as prognosed, Lower Slater River was absent. The Subcretaceous Unconformity was encountered 203m high. At 1007m. Underlying the unconformity is believed to be Silurian Mount Kindle. However this interpretation is questioned and it may be Ordovician. The entire Devonian section is absent at this location. Seismic data was re-interpreted to account for this change & a new prognosis developed. The well was mudded up at 1034m and drilling continued into the Franklin Mountain which was encountered 23 m high. A depth of 1425m was chosen for T.D. based on re-interpretation of seismic data and a lack of any hydrocarbon indicators. Gas readings were extremely low through all formations and may be wet. No live shows were encountered in this well and it was abandoned with four plugs which essentially fills the wellbore. A brief summary of all formations encountered follows. An accompanying CD contains photos of samples throughout the well.

East Fork Formation – Late Cretaceous

Surface casing was set at 564m in the East Fork Formation. Lithology was unconsolidated Sands, Shales and Siltstones. No shows were noted.

Little Bear Formation – Late Cretaceous

Formation top is at 836m. (Log 836.5m). This formation is composed of variable cemented sands with Shale. The quartz sandstones were moderately cemented to unconsolidated with porosity ranging from 3 to 12%. No significant shows seen through this portion of the well.

Devonian Formations

Not present in this well.

Mount Kindle – Lower Silurian

This formation directly underlies the Subcretaceous Unconformity @ 1007m. (1007.0m Log). The upper portion, to approximately 1100m consists of Dolostone, Shale, Chert & minor Sandstone. Porosity is streaky ranging from 3-18+% and seems related to the Chert, possibly fractured. Samples show common euhedral quartz crystals indicating open fractures/vugs as well as some intercrystalline porosity. No shows evidenced. The lower portion consists of predominantly tight Dolostone with lesser Shale interbeds. No evidence of hydrocarbons present.

ECA ET AL BEGADÉH J-66

Franklin Mountain – Ordovician

This top is picked at 1317m (Logs 1317m). The top is marked by a thinly interbedded Shale and Limestone unit 13m thick. Lithology for remainder of formation consists of grey, red & green shale & generally light brown to yellowish colored limestone with minor wackestone probably lagoonal deposits. No hydrocarbons present. TD is called at 1425 meters in this formation.

ECA ET AL BEGADÉH J-66

GEOLOGICAL MARKERS

| Formation | Prognosis | | Samples | | Logs | |
|-----------------------|-----------|------------|---------|------------|--------|------------|
| | Depth (m) | Subsea (m) | MD (m) | Subsea (m) | MD (m) | Subsea (m) |
| Pleistocene | -0.4 | 196.0 | | | | |
| Cretaceous | | | | | | |
| East Fork | 59.6 | 136.0 | 45.0 | 150.6 | cased | cased |
| Little Bear | 906.6 | -711.0 | 836.0 | -640.4 | 836.5 | -640.9 |
| Slater River | 1170.6 | -975.0 | Absent | Absent | Absent | Absent |
| L. Slater River | Absent | Absent | Absent | Absent | Absent | Absent |
| Subcret. U/C | 1210.6 | -1015.0 | Absent | Absent | Absent | Absent |
| Upper Devonian | | | | | | |
| Canol | 1210.6 | -1015.0 | Absent | Absent | Absent | Absent |
| Middle | | | | | | |
| Hare Indian | 1291.6 | -1096.0 | Absent | Absent | Absent | Absent |
| Bluefish | 1391.6 | -1196.0 | Absent | Absent | Absent | Absent |
| Upper Hume | 1428.6 | -1233.0 | Absent | Absent | Absent | Absent |
| Lower Hume | 1483.6 | -1288.0 | Absent | Absent | Absent | Absent |
| Lower Devonian | | | | | | |
| Landry | 1566.6 | -1371.0 | Absent | Absent | Absent | Absent |
| Arnica | 1603.6 | -1408.0 | Absent | Absent | Absent | Absent |
| Bear Rock | 1643.6 | -1448.0 | Absent | Absent | Absent | Absent |
| Devonian Marker | 1650.6 | -1455.0 | No pick | No pick | Absent | Absent |
| Lower Silurian | | | | | | |
| Mount Kindle | 1774.6 | -1579.0 | 1006.9 | -811.3 | 1007.0 | -811.4 |
| Ordivician | | | | | | |
| Franklin Mtn | 1886.6 | -1691.0 | 1316.9 | -1121.3 | 1317.2 | -1121.6 |
| Cambrian | | | | | | |
| Saline River | 2150.6 | -1955.0 | NA | NA | NA | NA |
| Total Depth | 2150.6 | -1955.0 | 1425.0 | -1229.4 | 1425.5 | -1229.9 |

ECA ET AL BEGADÉH J-66

DAILY PROGRESS SUMMARY

| Date | DFS | Costs (\$) | Depth @
2400 Hrs. | Progress
(meters) | Drilling
(Hrs.) | Formation | Operation | Operations Summary |
|----------|-----|-------------|----------------------|----------------------|--------------------|-----------|-----------------------|---|
| 01/27/04 | 0 | \$1,592,795 | 0 | 0 | 0 | | Rig repair | Rig up floor. Rig to spud. Drill mouse hole/Rathole. Install rathole. Repair rig - grind bushings to fit table. |
| 01/28/04 | 1 | \$1,639,904 | 66 | 66 | 7.5 | East Fork | WOC | Make up BHA. Spud well @ 0100 Hrs. Drill from 5mKB to 9m. Drill & work on trash pumps to 24m. Drill ahead & survey to 66.63m. Circulate. Strap out of hole. Rig to & run 339.7mm casing. Rig to & cement casing. Circulate casing. Wait on cement |
| 01/29/04 | 2 | \$3,342,222 | 66 | 0 | 0.00 | East Fork | Nipple up | WOC. Weld & modify diverter flange. Cut conductor casing & weld flange. Nipple up diverter & modify flow tee. Thaw out mudlines, centrifuges, continue nipple up. |
| 01/30/04 | 3 | \$3,559,678 | 121 | 55 | 4.25 | East Fork | Change shaker screens | Thaw mudlines. Repair rig. Make up BHA & run in hole. Rig repair. Tag cement @ 62.7m. Drill out @ 1615 Hrs. Drill 311mm surface hole & survey. Clean flow line/change shaker screens. |
| 01/31/04 | 4 | \$3,613,565 | 348 | 227 | 10.75 | East Fork | Trip | Drill ahead & survey to 348m. Circulate. Trip for bit. Run in hole with bit #3. |

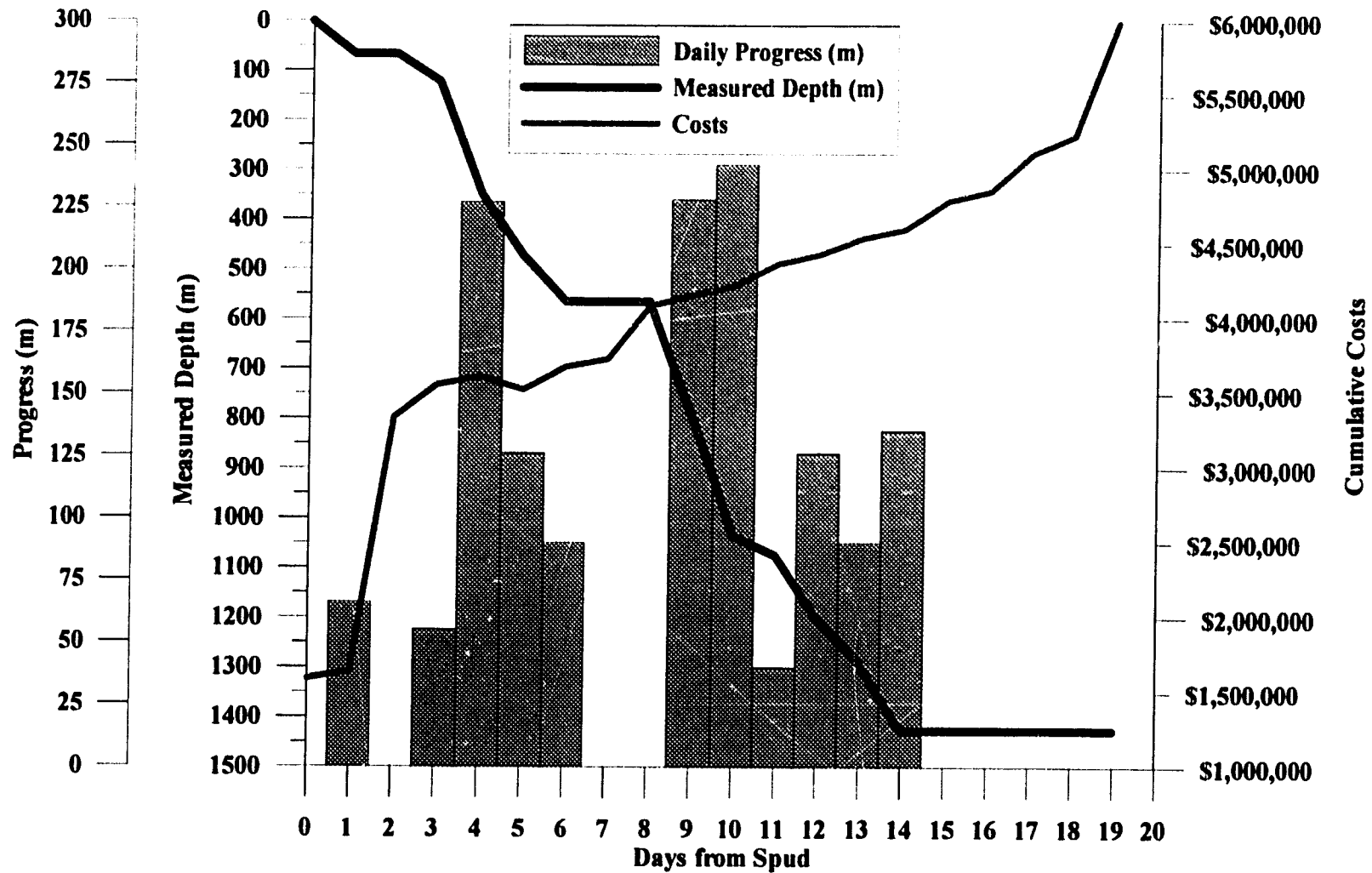
ECA ET AL BEGADÉH J-66

| Date | DFS | Costs (\$) | Depth @
2400 Hrs. | Progress
(meters) | Drilling
(Hrs.) | Formation | Operation | Operations Summary |
|----------|-----|-------------|----------------------|----------------------|--------------------|------------|-------------|---|
| 02/01/04 | 5 | \$3,527,175 | 474 | 126 | 6.50 | East Fork | Drill | Trip in hole. Wash to bottom. Drill ahead & survey. Clean out mud ring/flow tee. Trip for mud ring @ 455m. Run in hole. Ream form 291 to 455m. Drill ahead. |
| 02/02/04 | 6 | \$3,679,631 | 564 | 90 | 9.75 | East Fork | Log | Drill ahead & survey to 563.5m. Wiper trip. Circulate. Pull out of hole for logs. Lay down drill collars. Rig to & log with Schlumberger. |
| 02/03/04 | 7 | \$3,732,098 | 564 | 0 | 0.00 | East Fork | Nipple down | Log Platform-sonic. Rig up power tongs. WOO. Run 244.5mm surface casing. Circulate. Rig to & cement casing. WOC. Nipple down. |
| 02/04/04 | 8 | \$4,086,485 | 564 | 0 | 0.00 | East Fork | Nipple down | Weld casing bowl. Nipple up. Pressure test. Pick up directional tools & make up BHA. Nipple down- grind out excess weld from casing. |
| 02/05/04 | 9 | \$4,162,080 | 792 | 228 | 9.75 | Cretaceous | Drill | Nipple up. Pressure test. Pick up dir tools & make up BHA. Run in hole. Tag cement @ 471m. Wash & drill cement to 564m. Drill out @ 1030 Hrs. Circulate. Perform Leak off test. Drill to 610m. Repair mud line. Drill ahead & survey. |
| 02/06/04 | 10 | \$4,226,038 | 1034 | 242 | 20.00 | Mt Kindle | Test MWD | Drill ahead & survey to 1034m. Circulate. Mud up. Pull out of hole. Change bits. Run in hole. Check MWD @ 51m. |
| 02/07/04 | 11 | \$4,374,408 | 1074 | 40 | 6.00 | Mt Kindle | Drill | Run in hole. Trip for pipe screen. Run in hole. Wash to bottom. Drill ahead & survey to 1071m. Circulate. Trip for bit. Handle directional tools. Check MWD. Run in hole. Circulate on bottom. Drill ahead. |
| 02/08/04 | 12 | \$4,435,384 | 1200 | 126 | 20.50 | Mt Kindle | Drill | Drill ahead & survey. |

ECA ET AL BEGADÉH J-66

| Date | DFS | Costs (\$) | Depth @
2400 Hrs. | Progress
(meters) | Drilling
(Hrs.) | Formation | Operation | Operations Summary |
|----------|-----|-------------|----------------------|----------------------|--------------------|-------------------|----------------|--|
| 02/09/04 | 13 | \$4,545,147 | 1290 | 90 | 14.50 | Mt Kindle | Run in hole | Drill ahead & survey to 1290m. Circulate. Trip for bit. Run in hole. |
| 02/10/04 | 14 | \$4,603,866 | 1425 | 135 | 10.75 | Franklin Mountain | Lay down tools | Run in hole. Wash to bottom. Drill ahead & survey to TD of 1425m. Circulate. Wiper trip. Circulate. Trip for logs. Lay down directional tools. |
| 02/11/04 | 15 | \$4,796,510 | 1425 | 0 | 0.00 | Franklin Mountain | Circulate | Handle tools. Rig to & log with Schlumberger. Rig out loggers. Run in hole & lay down drill collars. Run in hole. Circulate & work pipe. |
| 02/12/04 | 16 | \$4,861,257 | 1425 | 0 | 0.00 | Franklin Mountain | Circulate | Circulate & work pipe while waiting on cementers. Pull out of hole. Laydown drill collars. Run in hole. Circulate. |
| 02/13/04 | 17 | \$5,113,543 | 1425 | 0 | 0.00 | Franklin Mountain | Run plugs | Circulate. Rig up cementers. Run plugs. |
| 02/14/04 | 18 | \$5,234,987 | 1425 | 0 | 0.00 | Franklin Mountain | Tear out | Run plugs. WOC. Test cement. Nipple down. Tear out rig. |
| 02/15/04 | 19 | \$6,000,000 | 1425 | 0 | 0.00 | Franklin Mountain | Rig release | Tear out rig. Release rig 2359 Hrs. |
| | | | | | | | | |

DFS VS DEPTH, PROGRESS & COSTS CHART



ECA ET AL BEGADÉH J-66

MUD RECORD

| Depth
(m) | Density
(kg/m3) | Viscosity
(sec/lit) | WL
(ml) | FC
(mm) | pH | Gel 0/10
(Pa) | P.V.
(mPa*s) | Y. Point
(Pa) | Solids
(%) | Oil (%) | CL-
(g/l) | Ca++
(g/l) |
|--|--------------------|------------------------|------------|------------|------|------------------|-----------------|------------------|---------------|---------|--------------|---------------|
| 445mm Conductor Hole - Gel | | | | | | | | | | | | |
| 0-66 | 1220 | 47 | | | 8.5 | | | | | | 100 | |
| | | | | | | | | | | | | |
| 311mm Surface Hole - Gel Chem | | | | | | | | | | | | |
| 66-121 | 1140 | 42 | | | 9.0 | 4/10 | 10 | 6 | 9 | 0 | 320 | 300 |
| 121-348 | 1220 | 59 | | | 8.5 | 4/9 | 12 | 8 | 13 | 0 | 300 | 120 |
| 348-474 | 1125 | 57 | | | 8.0 | 7/14 | 12 | 9 | 11 | 0 | 300 | 100 |
| 474-564 | 1175 | 96 | | | 9.0 | 6/16 | 16 | 10.0 | 11.0 | 0 | 300 | 0 |
| | | | | | | | | | | | | |
| 222mm Main Hole - Water/Gel Polymer mud | | | | | | | | | | | | |
| 564-792 | 1005 | 29 | | | 11.5 | | | | 0.1 | 0 | 530 | 120 |
| 792-1034 | 1075 | 52 | 7.0 | 1.0 | 8.0 | 7/10 | 15 | 8.0 | 5.0 | 0 | 300 | 150 |
| 1034-1074 | 1080 | 46 | 8.0 | 1.0 | 10.5 | 4/8 | 13 | 5.0 | 5.0 | 0 | 300 | 100 |
| 1074-1200 | 1080 | 48 | 7.5 | 1.0 | 10.5 | 4/8 | 13 | 5.0 | 0.0 | 0 | 300 | 60 |
| 1200-1290 | 1080 | 50 | 7.0 | 1.0 | 10.0 | 3/8 | 10 | 5.5 | 5.0 | 0 | 300 | 40 |
| 1290-1425 | 1085 | 85 | 7.0 | 2.0 | 11.0 | 8/15 | 28 | 12.0 | 7.0 | 0 | 300 | 40 |
| | | | | | | | | | | | | |

ECA ET AL BEGADÉH J-66

BIT RECORD

| Bit No. | Type | Size (mm) | Depth Out(m) | Interval Cut(m) | Hrs | FOB (daN) | RPM | Condition | | | | | | | | ROP (m/hr) | Comments |
|---------|----------|-----------|--------------|-----------------|-------|-----------|-----|-----------|----|-----|-----|---|---|-----|----|------------|----------------|
| | | | | | | | | IR | OR | MDC | LOC | B | G | ODC | RP | | |
| 1 | S33SG | 444.5 | 66 | 66 | 7.50 | 7000 | 130 | 3 | 3 | FC | A | E | 0 | NO | TD | 8.80 | Conductor pipe |
| 2 | S44SC | 311.0 | 348 | 282 | 20.50 | 10000 | 180 | 5 | 4 | FC | A | E | 0 | NO | PR | 13.76 | Trip ROP |
| 3 | M11 | 311.0 | 564 | 216 | 18.00 | 10000 | 160 | 3 | 3 | FC | A | 6 | 0 | NO | TD | 12.00 | Surface casing |
| 4 | FMX563C2 | 222.2 | 1034 | 470 | 20.00 | 4000 | 150 | 6 | 8 | FC | A | N | 0 | WT | PR | 23.50 | Trip Fm/ROP |
| 5 | FMX543B2 | 222.2 | 1071 | 37 | 6.00 | 17000 | 130 | 7 | 8 | FC | A | N | 0 | BT | PR | 6.17 | Trip ROP |
| 6 | HRS 35 | 222.2 | 1290 | 219 | 35.25 | 17000 | 130 | 4 | 4 | FC | A | 5 | 2 | BT | HR | 6.21 | Trip Hours |
| 7 | F37HY | 222.2 | 1425 | 135 | 10.75 | 20000 | 130 | 1 | 2 | WT | A | E | 1 | CT | TD | 12.56 | Trip T.D. |
| | | | | | | | | | | | | | | | | | |

ECA ET AL BEGADÉH J-66

DEVIATION SURVEYS

| Survey No. | Depth (meters) | Deviation (degrees) | Interval (meters) | Survey No. | Depth (meters) | Deviation (degrees) | Interval (meters) |
|------------|----------------|---------------------|-------------------|------------|----------------|---------------------|-------------------|
| 1 | 11 | 1.000 | 11 | 12 | 278 | 0.250 | 59 |
| 2 | 21 | 1.000 | 10 | 13 | 307 | 1.000 | 29 |
| 3 | 31 | 1.000 | 10 | 14 | 336 | 1.250 | 48 |
| 4 | 42 | 1.000 | 11 | 15 | 363 | 1.000 | 27 |
| 5 | 58 | 0.500 | 16 | 16 | 393 | 0.500 | 30 |
| 6 | 77 | 0.250 | 19 | 17 | 422 | 0.250 | 29 |
| 7 | 107 | 0.500 | 30 | 18 | 452 | 1.000 | 30 |
| 8 | 138 | 1.500 | 31 | 19 | 466 | 1.000 | 14 |
| 9 | 166 | 0.750 | 28 | 20 | 509 | 0.250 | 43 |
| 10 | 193 | 0.500 | 27 | 21 | 539 | 1.250 | 30 |
| 11 | 219 | 0.750 | 26 | | | | |
| | | | | | | | |

ECA ET AL BEGADÉH J-66

DIRECTIONAL SURVEYS

Directional Company: Newsco

Vertical section @ 0.00°

Directional Driller: Michael Demaggio

| Survey No. | Measured Depth (m) | Drift (degrees) | Direction (degrees) | TVD (m) | Subsea (m) | Latitude +N/-S (m) | Departure +E/-W (m) | Vertical Section (m) | DLS (deg/30 m) |
|-------------------|---------------------------|------------------------|----------------------------|----------------|-------------------|---------------------------|----------------------------|-----------------------------|-----------------------|
| 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | Tie in |
| 1 | 564.36 | 0.00 | 0.00 | 564.36 | -368.79 | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | 575.10 | 0.80 | 65.60 | 575.10 | -379.53 | 0.03 | 0.07 | 0.03 | 2.23 |
| 3 | 603.90 | 0.80 | 62.70 | 603.90 | -408.33 | 0.21 | 0.43 | 0.21 | 0.04 |
| 4 | 632.60 | 0.90 | 89.60 | 632.59 | -437.02 | 0.30 | 0.83 | 0.30 | 0.43 |
| 5 | 661.40 | 1.20 | 104.90 | 661.39 | -465.82 | 0.22 | 1.35 | 0.22 | 0.43 |
| 6 | 690.20 | 1.30 | 92.60 | 690.18 | -494.61 | 0.13 | 1.97 | 0.13 | 0.30 |
| 7 | 719.10 | 1.50 | 93.20 | 719.07 | -523.50 | 0.10 | 2.67 | 0.10 | 0.21 |
| 8 | 748.00 | 1.50 | 99.20 | 747.96 | -552.39 | 0.01 | 3.43 | 0.01 | 0.16 |
| 9 | 776.90 | 0.80 | 125.70 | 776.86 | -581.29 | -0.16 | 3.96 | -0.16 | 0.89 |
| 10 | 805.80 | 1.00 | 122.80 | 805.75 | -610.18 | -0.42 | 4.34 | -0.42 | 0.21 |
| 11 | 834.50 | 1.20 | 112.10 | 834.45 | -638.88 | -0.67 | 4.83 | -0.67 | 0.30 |
| 12 | 863.49 | 1.70 | 110.60 | 863.43 | -667.86 | -0.93 | 5.51 | -0.93 | 0.52 |
| 13 | 892.30 | 1.50 | 122.80 | 892.23 | -696.66 | -1.29 | 6.23 | -1.29 | 0.41 |
| 14 | 921.20 | 1.20 | 150.80 | 921.12 | -725.55 | -1.76 | 6.69 | -1.76 | 0.74 |
| 15 | 950.10 | 0.80 | 149.20 | 950.01 | -754.44 | -2.19 | 6.94 | -2.19 | 0.42 |
| 16 | 979.07 | 1.10 | 141.10 | 978.98 | -783.41 | -2.58 | 7.22 | -2.58 | 0.34 |
| 17 | 1007.90 | 0.60 | 138.10 | 1007.81 | -812.24 | -2.91 | 7.50 | -2.91 | 0.52 |
| 18 | 1036.80 | 0.60 | 104.00 | 1036.71 | -841.14 | -3.06 | 7.75 | -3.06 | 0.37 |
| 19 | 1065.60 | 1.00 | 95.00 | 1065.50 | -869.93 | -3.12 | 8.14 | -3.12 | 0.44 |

ECA ET AL BEGADEH J-66

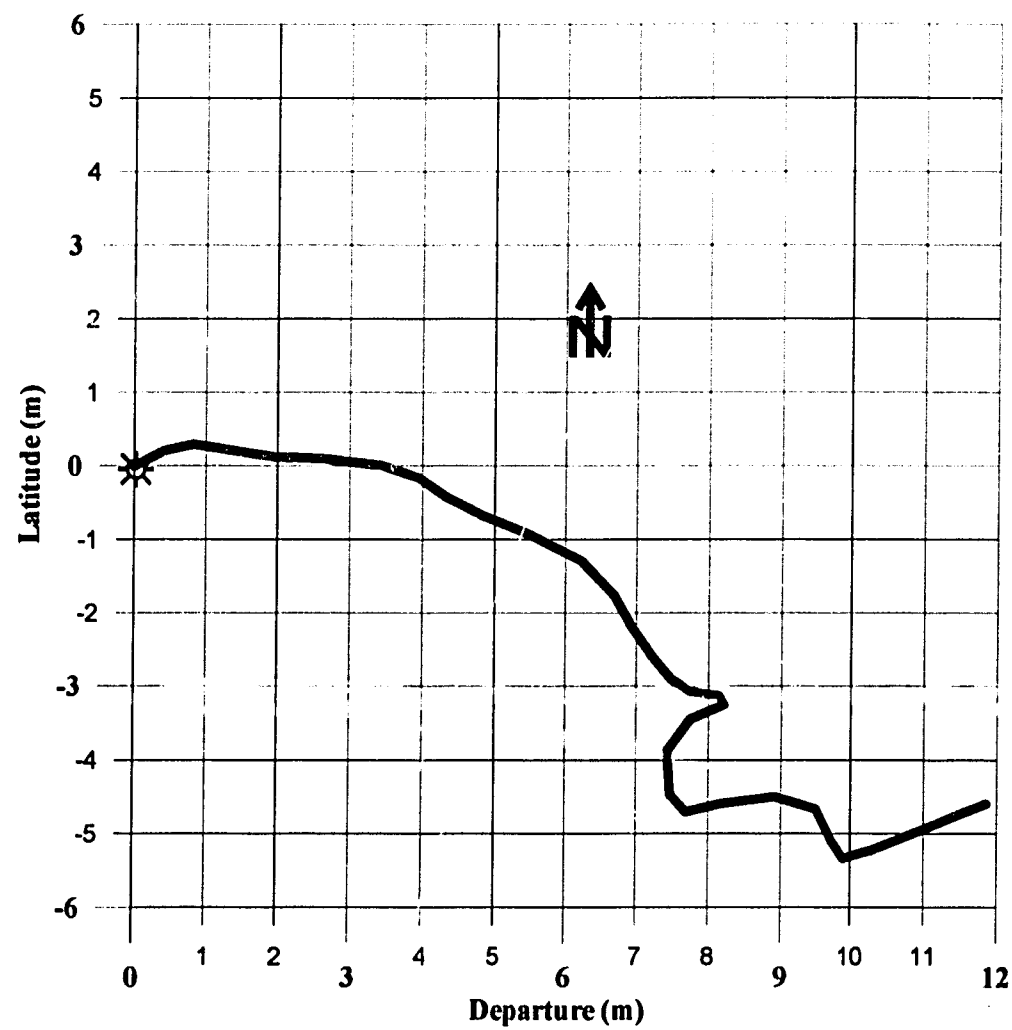
| Survey No. | Measured Depth (m) | Drift (degrees) | Direction (degrees) | TVD (m) | Subsea (m) | Latitude +N/-S (m) | Departure +E/-W (m) | Vertical Section (m) | DLS (deg/30 m) |
|------------|--------------------|-----------------|---------------------|---------|------------|--------------------|---------------------|----------------------|----------------|
| 20 | 1094.40 | 0.80 | 239.40 | 1094.30 | -898.73 | -3.24 | 8.22 | -3.24 | 1.79 |
| 21 | 1123.10 | 1.20 | 250.80 | 1122.99 | -927.42 | -3.44 | 7.76 | -3.44 | 0.46 |
| 22 | 1151.90 | 1.30 | 186.80 | 1151.79 | -956.22 | -3.87 | 7.44 | -3.87 | 1.38 |
| 23 | 1180.90 | 1.10 | 164.30 | 1180.78 | -985.21 | -4.46 | 7.48 | -4.46 | 0.53 |
| 24 | 1209.60 | 0.60 | 79.00 | 1209.48 | -1013.91 | -4.70 | 7.70 | -4.70 | 1.26 |
| 25 | 1238.50 | 1.30 | 76.10 | 1238.37 | -1042.80 | -4.59 | 8.16 | -4.59 | 0.73 |
| 26 | 1267.40 | 1.70 | 86.90 | 1267.26 | -1071.69 | -4.49 | 8.91 | -4.49 | 0.51 |
| 27 | 1296.10 | 1.00 | 139.40 | 1295.95 | -1100.38 | -4.66 | 9.50 | -4.66 | 1.41 |
| 28 | 1325.00 | 1.00 | 163.90 | 1324.85 | -1129.28 | -5.09 | 9.73 | -5.09 | 0.44 |
| 29 | 1353.40 | 0.40 | 90.60 | 1353.25 | -1157.68 | -5.33 | 9.90 | -5.33 | 1.02 |
| 30 | 1382.80 | 1.20 | 68.10 | 1382.64 | -1187.07 | -5.22 | 10.29 | -5.22 | 0.86 |
| 31 | 1409.00 | 2.80 | 68.20 | 1408.83 | -1213.26 | -4.88 | 11.14 | -4.88 | 1.83 |
| *32 | 1425.00 | 2.80 | 68.20 | 1424.81 | -1229.24 | -4.59 | 11.86 | -4.59 | 0.00 |
| | | | | | | | | | |

* Denotes Extrapolated survey

Note: This was not a directional well. Mud motor & MWD surveys were ran to maintain hole to vertical.

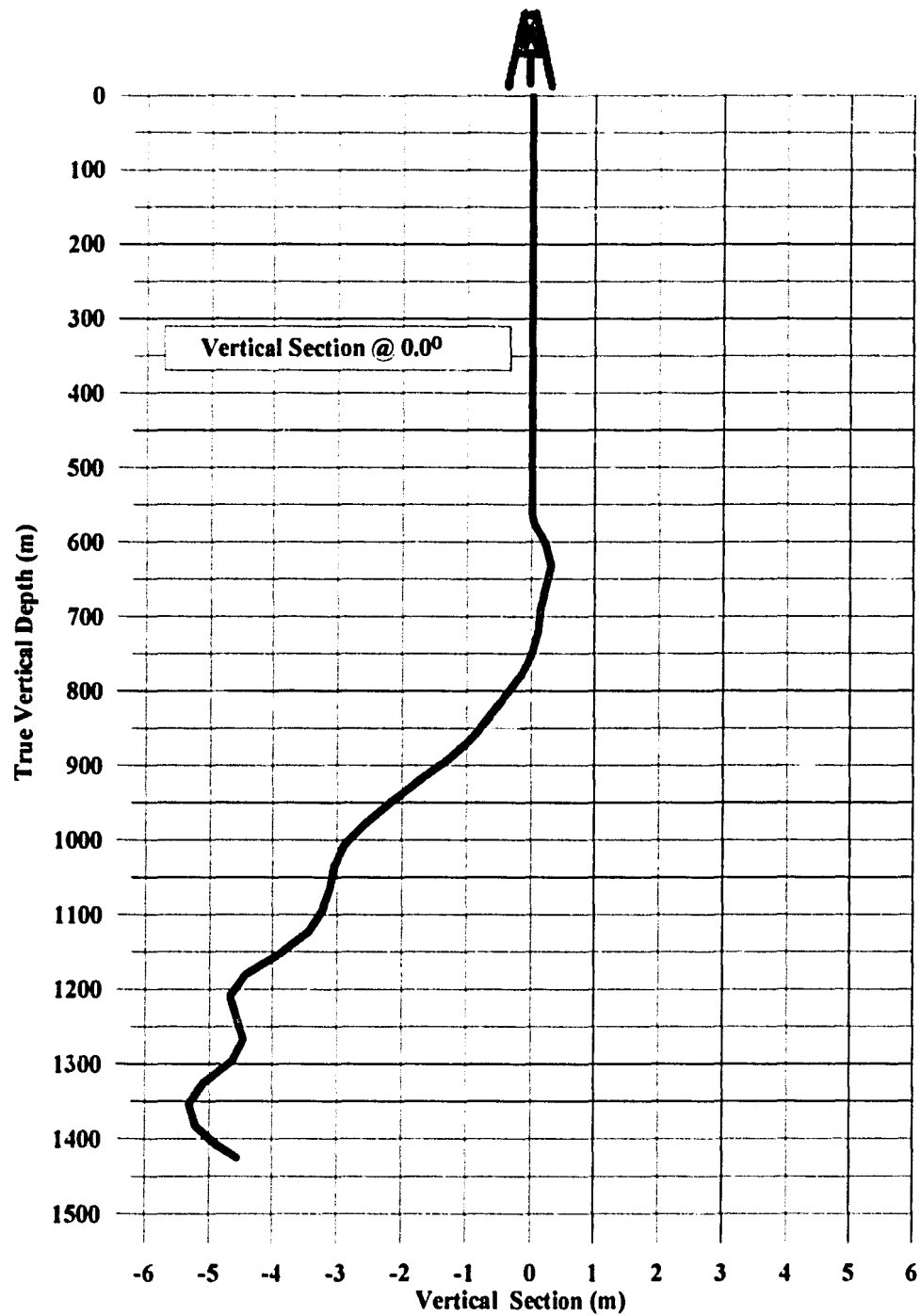
PLAN VIEW

Latitude vs Departure



VERTICAL SECTION

TVD vs Vertical Section



ECA ET AL BEGADEH J-66

OPEN HOLE LOG SUMMARY

RUN 1

Logging Company: Schlumberger Engineer: Roncin/Santos
District: Norman Wells Truck No.: 3052
Circulation Ended: 1530 Hrs. 02/02/2004 Finish Trip: 2030 Hrs. 02/02/2004
On Location: 1730 Hrs. 02/02/2004 Off Location: 0500 Hrs. 03/02/2004
Rig Up: 2030 Hrs. 02/02/2004 Rig Down: 0330 Hrs. 03/02/2004
Mud Properties: Mud Type: Gel Polymer BHT: 32°C
 Density: 1175 Rmf: 3.697 @ 11.0 °C
 Viscosity: 96
 WL: 12.0
 pH: 8.0

Services:

| <u>Log</u> | <u>Interval Logged</u> | <u>Meters Logged</u> | <u>Comments</u> |
|------------------|------------------------|----------------------|-----------------|
| AIT-BHCS-CNL-LDT | 564 to 66.6 | 497.4m | 1:240 & 1:600 |

Times:

| <u>Tool Combo</u> | <u>Date</u> | <u>Start In</u> | <u>First on Bottom</u> | <u>Last on Bottom</u> | <u>Clear Hole</u> | <u>Total Hours</u> |
|-------------------|-------------|-----------------|------------------------|-----------------------|-------------------|--------------------|
| AIT-BHCS-CNL-LDT | 02/02/04 | 2230 | 0000 | 0020 | 0100 | 2.5 |

Logging Time: 2.5 Hrs Rig Up/Down: 4.5 Hrs
Time Losses: 0 Hrs Total Logging Time: 7.00 Hrs
Remarks: Fast, proficient logging job.

ECA ET AL BEGADÉH J-66

RUN 2

Logging Company: Schlumberger **Engineer:** Roncin/Santos
District: Norman Wells **Truck No.:** 3052
Circulation Ended: 1600 Hrs. 10/02/2004 **Finish Trip:** 0045 Hrs. 10/02/2004
On Location: 2130 Hrs. 10/02/2004 **Off Location:** 1400 Hrs. 11/02/2004
Rig Up: 0100 Hrs. 11/02/2004 **Rig Down:** 0700 Hrs. 11/02/2004
Mud Properties: **Mud Type:** Gel Chem **BHT:** 49°C
 Density: 1115 **Rmf:** 2.750 @ 15.0 °C
 Viscosity: 85
 WL: 7.0
 pH: 10.0

Services:

| <i>Log</i> | <i>Interval Logged</i> | <i>Meters Logged</i> | <i>Comments</i> |
|-----------------|------------------------|----------------------|-----------------|
| AIT-CNT-LDT-BCS | 1423m to 564m | 859m | 1:240 & 1:600 |

Times:

| <i>Tool Combo</i> | <i>Date</i> | <i>Start In</i> | <i>First on Bottom</i> | <i>Last on Bottom</i> | <i>Clear Hole</i> | <i>Total Hours</i> |
|-------------------|-------------|-----------------|------------------------|-----------------------|-------------------|--------------------|
| AIT-CNL-LDT-BCS | 11/02/04 | 0215 | 0330 | 0345 | 0530 | 3.25 |

Logging Time: 3.25 Hrs **Rig Up/Down:** 2.75 Hrs
Time Losses: 0 Hrs **Total Logging Time:** 6.00 Hrs
Remarks: Fast proficient job. Loggers waited on orders on location until released @ 1330 Hrs.

SAMPLE DESCRIPTIONS

- 5 - 21m Siltstone grading to gravel.
SILTSTONE - light grey to grey tan, quartz, well cemented, calcareous to sideritic cement, friable, 6-8% porosity, no shows.
SANDSTONE to GRAVEL - varicolored quartz, chert, mafics?, Siltstone & Shale clasts, very fine to pebbles (not seen in samples), fining upward in general, rounded to angular, poorly sorted, unconsolidated loose grains, trace pyrite, 25+% porosity, no shows.
Interval is capped by 0.5 to 1m (estimate) of peat/muskeg @ surface.
- 21 - 31m Shale to Coal.
SHALE - black to dark grey brown, white specks in part, subfissile to blocky, carbonaceous to highly carbonaceous grading to Coal.
COAL - black to dark brown, blocky to splintery, subbituminous to bituminous, minor anthracite, argillaceous.
- 31 - 45 m Shale to Coal with minor Sandstone interbeds.
SHALE - black to dark grey brown, white specks in part, subfissile to blocky, carbonaceous to highly carbonaceous grading to Coal.
COAL - black to dark brown, blocky to splintery, subbituminous to bituminous, minor anthracite, argillaceous.
SANDSTONE - varicolored quartz, chert, Siltstone & Shale clasts, very fine to medium, rounded to angular, poorly sorted, unconsolidated loose grains. trace pyrite, 20+% porosity, no shows.
Abundant LCM
- East Fork - 45.0m (150.6m SS)
- 45 - 66 m SANDSTONE - dark grey chert & white quartz, minor Sandstone clasts, very fine to coarse with very coarse grains to pebbles near base, subround to angular grains, poorly sorted, unconsolidated, trace micaceous, 25+% porosity, no shows.
Sand grains are most likely cavings, being over-represented in samples.
- Set 339.7mm Conductor pipe @ 66.6m
- 67 - 75 m CONGLOMERATE to GRAVEL - dark chert & light quartz grains, minor Sandstone clasts, fine to very coarse with large fragments indicating pebble to granule size, clast supported, round to angular, poorly sorted, unconsolidated, trace micaceous, 25+% porosity, no shows.
Possible Shale clasts or interbeds?.

ECA ET AL BEGADÉH J-66

- 75 – 90 m SHALE - black, blocky, brittle, hard, minor pyrite siliceous?
SANDSTONE to GRAVEL -(as cavings?) - dark chert & light quartz grains, minor Sandstone clasts, fine to very coarse with large fragments indicating pebble to granule size, clast supported, round to angular, poorly sorted, unconsolidated, trace micaceous, 25+% porosity, no shows.
Common LCM.
Questionable interpretation. Abundant cavings likely.
- 90 – 105 m Sandstone with Shale interbeds.
SANDSTONE - dark chert & light quartz, light brown Sandstone clasts, Shale clasts?, very fine to coarse grading to Gravel @ base, minor very coarse to pebble, subround to angular, poorly sorted, unconsolidated, 25+% porosity, no shows.
SHALE - dark grey to black, fissile to blocky, brittle, hard.
Abundant LCM in 105 sample.
- 105 – 120 m Sandstone with Shale interbeds.
SANDSTONE to GRAVEL - dark chert & light quartz, light brown Sandstone clasts, Shale clasts?, very fine to coarse grading to Gravel, minor very coarse to pebble, subround to angular, poorly sorted, unconsolidated, 25+% porosity, no shows.
SHALE - dark grey to black, fissile to blocky, brittle, hard.
Sample quality poor.
Common LCM.
- 120 – 145 m Interbedded Sandstone & Shale.
SANDSTONE - dark chert with minor light quartz, light brown Sandstone clasts, Shale clasts?, predominantly coarse to very coarse, minor medium & pebbles, angular to subangular, moderately sorted, unconsolidated, 25 % porosity, no shows.
SHALE - dark grey to black, fissile to blocky, brittle, hard.
Shale quantity increasing.
- 145 – 157 m Interbedded Sandstone & Shale.
SANDSTONE - as above, also, very fine light brown, subangular, well cemented, silica cemented, silty, tight (thinly bedded?).
SHALE - dark grey to black to light brown tan to light green, soft to firm, slightly silty.
- 157 – 175 m Shale with Siltstone interbeds.
SHALE - dark grey to black, minor light grey brown to greyish green, fissile to blocky, waxy in part, firm to soft, slightly silty, trace carbonaceous material.
SILTSTONE - light brown to yellowish brown, quartz, well cemented, siliceous cement, argillaceous, tight.

ECA ET AL BEGADEH J-66

- 175 – 195 m Shale with minor Siltstone & Sandstone interbeds & stringers.
SHALE - medium to light grey to grey tan, greenish in part, black, subblocky, moderately firm to soft, carbonaceous flakes, slightly silty.
SILTSTONE - light brown tan, quartz, moderately cemented, siliceous cement, very slightly calcareous, sandy, trace carbonaceous, tight, no shows.
- 195 – 216 m Shale with Siltstone & Sandstone interbeds.
SHALE - medium to light grey to grey tan, greenish in part, black, subblocky, moderately firm to soft, carbonaceous flakes, slightly silty.
SANDSTONE - white with dark specks, quartz, chert & lithics, very fine to fine grained, subangular, well sorted, well cemented, siliceous cement, poorly to moderately consolidated, silty, micaceous, 10-15% porosity, no shows.
SILTSTONE - light brown tan, quartz, moderately cemented, siliceous cement, very slightly calcareous, sandy, trace carbonaceous, tight, no shows.
- 216 – 230 m Shale with Siltstone & Sandstone interbeds.
SHALE - medium to light grey to grey tan, greenish in part, black, subblocky, moderately firm to soft, carbonaceous flakes, slightly silty.
SANDSTONE - white with dark specks, quartz, chert & lithics, very fine to fine grained, subangular, well sorted, well cemented, siliceous cement, poorly to moderately consolidated, silty, micaceous, 10-15% porosity, no shows
Abundant LCM.
- 230 – 243 m Conglomerate/Gravel to Sandstone with Shale interbeds..
GRAVEL - dark chert with lesser light quartz, medium to coarse minor very coarse, becoming finer grained downward, subround, unconsolidated, 20-25+% porosity, no shows.
SHALE - light grey to grey tan, subfissile to subblocky, moderately firm to soft, minor carbonaceous material, silty.
- 243 – 254 m Interbedded & interlaminated Sandstone & Shale.
SANDSTONE - mottled black & white, dark chert & lithics with light quartz, very fine to medium, minor coarse, subangular to subround, moderately sorted, unconsolidated to very poorly cemented, siliceous cement, 15-20% porosity, no shows.
SHALE - light grey to grey tan, subfissile to subblocky, moderately firm to soft, minor carbonaceous material, silty.
- 254 – 269 m Shale with minor Sandstone interbeds.
SHALE - light grey to grey tan, subfissile to subblocky, moderately firm to soft, minor carbonaceous material, silty.
SANDSTONE - mottled black & white, dark chert & lithics with light quartz, very fine to medium, minor coarse, subangular to subround, moderately sorted, moderately to well cemented, up to 10% porosity, no shows.

ECA ET AL BEGADÉH J-66

- 269 – 282 m Interbedded Sandstone & Shale.
SANDSTONE - light grey to off white, quartz with minor chert & lithics, very fine to fine, minor medium, subangular, well sorted, well cemented, calcareous cement, tight to 6% porosity, no shows.
SHALE - light grey to grey brown, light green, subfissile to subblocky, waxy in part, carbonaceous material, slightly silty.
- 282 – 299 m Shale with Sandstone interbeds & stringers.
SHALE - light grey to grey brown, trace light green, subfissile to subblocky, waxy in part, carbonaceous material, slightly silty.
- 299 – 316 m Shale with interbeds & stringers of Sandstone & Siltstone.
SHALE - light grey to grey brown, trace light green, subfissile to subblocky, waxy in part, carbonaceous material, slightly silty.
SANDSTONE - light grey to off white, quartz with minor chert & lithics, very fine to fine, minor medium, subangular, well sorted, poorly to well cemented, siliceous cement, tight to 6% porosity, no shows.
- 316 – 320 m SANDSTONE - light grey, mottled black, dark chert with light quartz, fine to medium grading to very coarse, subround to round, poorly sorted, moderately cemented to unconsolidated, siliceous cement, 6-20% porosity, no shows.
- 320 – 337 m Interbedded & interlaminated Shale & Siltstone.
SHALE - light grey to grey tan, white specks, subblocky to subfissile, carbonaceous flakes, silty grading to Siltstone.
SILTSTONE - light brown to grey brown, quartz & feldspar?, well cemented, siliceous & minor calcareous cement, argillaceous, sandy, tight, no shows.
- 337 – 351 m Shale with Siltstone & Sandstone interbeds.
SHALE - light grey to grey tan, white specks, subblocky to subfissile, carbonaceous flakes, silty grading to Siltstone.
SILTSTONE - light brown to grey brown, quartz & feldspar?, well cemented, siliceous & minor calcareous cement, argillaceous, sandy in part to Sandstone, tight, no shows.
- 351 – 369 m Sandstone with Shale interbeds.
SANDSTONE - light grey to white with black specks, quartz & chert, minor lithics, very fine to fine, subangular, well sorted, moderately cemented, siliceous & calcareous cement, poorly to well consolidated, silty to Siltstone in part, trace glauconite?, tight to 6%, minor 9% porosity, no shows.
SHALE - light grey to grey tan, greenish grey, subblocky, slightly carbonaceous, silty to highly silty, soft to moderately firm.

ECA ET AL BEGADEH J-66

- 369 – 385 m Interbedded & interlaminated Sandstone, Siltstone & Shale with trace Coal stringers.
SANDSTONE - light grey to white with black specks, quartz & chert, minor lithics, very fine to fine, minor coarse chert grains, subround to angular, well to poorly, sorted, moderately cemented, siliceous & calcareous cement, poorly to well consolidated, silty to Siltstone in part, trace glauconite?, tight to 6%, minor 9% porosity, no shows.
SILTSTONE - light to medium grey brown, quartz, moderately cemented, siliceous cement, slightly calcareous, trace carbonaceous, tight.
SHALE - light grey brown to dark brown, trace light green, white specks in part, fissile, soft to mod. firm, carbonaceous in part.
Soft Shale being washed out?
- 396 – 412 m Interbedded Siltstone & Shale with minor Sandstone.
SILTSTONE - light to medium grey brown, quartz, moderately cemented, siliceous & calcareous cement, trace carbonaceous, sandy to Sandstone in part, argillaceous, tight.
SHALE - light grey brown, white specks in part, subfissile, soft to mod. firm, carbonaceous in part, silty to Siltstone.
Minor loose coarse chert grains.
- 412 – 425 m Interbedded Shale & Siltstone
SHALE - light grey brown, white specks in part, subfissile, soft to mod. firm, carbonaceous in part, silty to Siltstone.
SILTSTONE - light to medium grey brown, quartz, moderately cemented, siliceous & calcareous cement, trace carbonaceous, sandy to Sandstone in part, argillaceous, tight.
Sandstone stringers.
Abundant LCM.
- 425 – 445 m Interbedded Shale & Sandstone.
SHALE - light grey to grey brown, white specks, rare light green, subfissile to subblocky, soft to moderately firm, slightly calcareous, carbonaceous, silty to Siltstone.
SANDSTONE - white to light grey with black specks, quartz & feldspar?, chert with minor lithics, silt to fine grained, subangular to angular, well sorted, well cemented, calcareous cement, siliceous in part, tight to trace porosity, no shows.
Minor coarse chert grains.
Abundant LCM.
- 445 – 470 m Interbedded & interlaminated Shale & Siltstone.
SHALE - light grey to grey brown, white specks, rare light green, subfissile to subblocky, soft to moderately firm, slightly calcareous, carbonaceous, silty to Siltstone.

ECA ET AL BEGADEH J-66

- 445 – 470 m (Cont'd) SILTSTONE - light to medium grey, quartz & feldspar?, moderately cemented, siliceous cement, slightly calcareous in part, argillaceous in part, trace carbonaceous, tight, no shows.
Sandstone stringers.
Common to abundant LCM
LCM (sawdust) is being added to limit/control mud rings.
- 470 – 515 m Samples are overwhelmingly contaminated with sawdust.
Minor amount of rock in sample.
Few returns indicate Shale, Siltstone & Sandstone as above.
Several collecting/washing methods employed to reduce relative sawdust to cutting ratio in samples...not working.
Possibly soft shale being washed away?
- 515 – 541 m Shale with Siltstone interbeds.
SHALE - light grey to grey brown, minor greenish grey, subfissile to subblocky, bentonitic, minor carbonaceous material, slightly silty, trace pyrite.
SILTSTONE - grey brown, quartz, moderately cemented, siliceous cement, calcareous, argillaceous, slightly sandy, moderately consolidated, tight.
Abundant LCM. Minimal returns.
- 541 - 563.5 m Shale with Siltstone & Sandstone interbeds & stringers.
SHALE - light grey to grey brown, white, greenish in part, subfissile, soft, bentonitic, trace carbonaceous, slightly silty, minor calcite veining?, trace Inoceramus, trace pyrite.
SILTSTONE - as above.
SANDSTONE - white with dark specks, silt to very fine grained, quartz with lithics, subangular, well sorted, moderately cemented, calcareous cement, tight to poor porosity, no shows.
- 563.5 – 570 m Cement
- 570 – 590 m Shale with minor Sandstone & Siltstone interbeds & stringers.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous.
Minor loose quartz grains.
Common cement cavings.
Samples finely ground. Poor quality.
- 590 – 614 m Shale with minor Sandstone & Siltstone stringers.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous, rare Inoceramus prisms, rare pyritized burrow casts.
Minor loose quartz & chert grains/nodules.

ECA ET AL BEGADEH J-66

- 614 – 625 m Shale with minor Siltstone interbeds.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous, rare Inoceramus prisms, minor pyrite.
SILTSTONE - medium grey brown, quartz, minor lithics, poorly cemented, argillaceous, sandy to Sandstone in part, tight, no shows.
- 625 – 639 m Interbedded Sandstone & Shale.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous, rare Inoceramus prisms, pyrite nodules.
SANDSTONE - medium grey, quartz & lithics, silt to very fine grained, subangular to subround, well sorted, well cemented, calcareous cement, tight to trace poor porosity, no shows.
- 639 – 655 m Shale with Siltstone & Sandstone laminae.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous, rare Inoceramus prisms, minor floating sand grains, pyrite nodules.
SILTSTONE - medium grey brown, quartz, minor lithics, moderately cemented, calcareous cement, argillaceous, tight
- 655 – 676 m Shale with Siltstone & Sandstone laminae.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous, rare Inoceramus prisms, minor floating sand grains, pyrite nodules.
SILTSTONE - medium grey brown, quartz, minor lithics, moderately cemented, calcareous cement, argillaceous, Sandy to Sandstone in part, tight.
Minor Siderite stringers.
- 676 – 695 m Shale with Sandstone interbeds & laminae.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous, minor floating sand grains, common pyrite nodules.
Trace Siderite.
Soft Shale is being washed out. More competent chips are being preserved in samples.
- 695 – 715 m Shale with minor Siltstone laminae.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty, very slightly calcareous, minor floating sand grains, minor pyrite nodules.

ECA ET AL BEGADÉH J-66

- 715 – 735 m Shale with Siltstone & Sandstone.
SHALE - medium grey to brown grey, subfissile, soft to moderately firm, bentonitic, slightly carbonaceous, silty to highly silty grading to argillaceous Siltstone, very slightly calcareous, minor floating sand grains, minor pyrite.
SANDSTONE - light grey, dark specks, quartz, chert & lithics, silt to very fine, minor fine grained, subangular, well sorted, well cemented, calcareous cement, tight to trace poor porosity, no shows.
Common loose sand.
- 735 – 752 m Interbedded & interlaminated Shale, Siltstone & Sandstone.
SHALE - medium grey to brown grey, light green, subfissile, waxy in part, soft to moderately firm, bentonitic, slightly carbonaceous, silty to highly silty grading to argillaceous Siltstone, very slightly calcareous.
SANDSTONE - lt to med grey, dark specks, quartz, chert & lithics, silt to very fine, minor fine grained, subangular, well sorted, well cemented, calcareous cement, arg, tight to trace poor porosity, no shows.
Loose fine to coarse chert grains.
- 752 – 770 m Interbedded & interlaminated Shale & Siltstone.
SHALE - medium grey to brown grey, subfissile to subblocky, soft to moderately firm, bentonitic, slightly carbonaceous, silty to highly silty grading to argillaceous Siltstone, very slightly calcareous, pyrite nodules.
SILTSTONE - medium brown to grey brown, quartz & lithics, well cemented, calcareous to siliceous cement, argillaceous, sandy to Sandstone, tight, no shows
- 770 – 787 m Interbedded & interlaminated Shale & Siltstone.
SHALE - medium grey to brown grey, subfissile to subblocky, soft to moderately firm, bentonitic, slightly carbonaceous, silty to highly silty grading to argillaceous Siltstone, very slightly calcareous, pyrite nodules.
SILTSTONE - medium brown to grey brown, quartz & lithics, well cemented, calcareous to siliceous cement, argillaceous, sandy to Sandstone, tight, no shows
Common loose Chert nodules.
- 787 – 805 m Interbedded Shale & Sandstone.
SHALE - medium grey to brown grey, subfissile to subblocky, soft to moderately firm, bentonitic, slightly carbonaceous, silty to highly silty grading to argillaceous Siltstone, very slightly calcareous, pyrite nodules..
SANDSTONE - light & dark quartz & chert, fine to coarse, subround to subangular, poorly sorted, loose, excellent porosity, no shows.
Abundant loose chert & quartz grains throughout section.
Softer Shale not preserved in samples.

ECA ET AL BEGADEH J-66

- 805 – 825 m Shale & Siltstone.
SHALE - medium grey to brown grey, light green, subfissile, waxy in part, soft to moderately firm, slightly bentonitic? (swells less than before), slightly carbonaceous, silty to highly silty grading to argillaceous Siltstone, very slightly calcareous, common pyrite nodules.
SILTSTONE - medium brown to grey brown, quartz & lithics, well cemented, calcareous to siliceous cement, argillaceous, sandy to Sandstone, tight, no shows Common loose sand /grains
- 825 – 836 m Shale with Sandstone stringers
SHALE - medium grey to brown grey, light green, subfissile, waxy in part, soft to moderately firm, slightly bentonitic, slightly carbonaceous, silty to highly silty grading to argillaceous Siltstone, very slightly calcareous, common pyrite nodules, sandy.
Abundant loose quartz & chert grains.

Little Bear - 836.0m (-640.4m SS)
- 836 – 855 m SANDSTONE - light grey with black specks to light brown tan, quartz & lithics, very fine to fine, minor coarse chert grains near top (lag? or conglomeratic) angular to subround, well sorted, poorly cemented to loose grains, siliceous cement, poorly to moderately well consolidated, silty, trace glauc, tight to fair porosity (up to 9%), no fluorescence or cut.
Scattered coarse chert grains.
Abundant Silt/Shale cavings.
Trace waxy green Shale.
- 855 – 875 m Interbedded Sandstone & Shale
SANDSTONE - light grey with black specks to light brown tan, quartz & lithics, silt to very fine minor fine, angular to subround, well sorted, poorly cemented to loose grains, siliceous cement, poorly consolidated, slightly argillaceous, minor pyrite, tight to poor porosity (3-6%), no shows.
SHALE - medium to dark grey, blocky to subblocky, silty, carbonaceous, firm, micromicaceous, rare fossil remains.
- 875 – 890 m Sandstone to Siltstone with minor Shale.
SANDSTONE - light grey to light brown, quartz & lithics, silt to very fine, minor fine grained, subangular, well sorted, poorly cemented, siliceous cement, poor to moderately consolidated, argillaceous, silty to Siltstone, tight to poor porosity (3%), no shows.
SHALE - medium to dark grey, blocky to subblocky, silty, carbonaceous, firm, micromicaceous, rare fossil remains.
Poor samples.

ECA ET AL BEGADÉH J-66

- 890 – 906 m Interbedded & interlaminated Siltstone, Shale & Sandstone.
SILTSTONE - medium grey to grey brown, quartz, moderately cemented, siliceous cement, poorly to well consolidated, argillaceous grading to Shale in part, minor pyrite, grades to Sandstone in part, tight, no shows.
SHALE - medium to dark grey, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite.
- 906 – 922 m Sandstone to Siltstone with Shale interbeds & laminae.
SANDSTONE - light grey, mottled dark specks, quartz & minor lithics, silt to very fine grained, well sorted, moderate cement, siliceous cement, moderately consolidated to loose, tight to minor poor porosity, no shows.
SILTSTONE - medium grey to grey brown, quartz, moderately cemented, siliceous cement, poorly to well consolidated, argillaceous grading to Shale in part, minor pyrite, grades to Sandstone in part, tight, no shows.
SHALE - medium to dark grey, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite.
Trace coarse chert grains.
- 922 – 934 m Sandstone with Siltstone interbeds & Shale laminae.
SANDSTONE - light grey, mottled dark specks, quartz & minor lithics, silt to very fine grained, minor coarse chert grains, generally well sorted, moderate cement, siliceous cement, moderately consolidated to loose, trace pyrite, tight to minor poor porosity, no shows.
SHALE - medium to dark grey, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite.
- 934 – 944 m Interbedded & interlaminated Siltstone & Shale.
SILTSTONE - medium to dark grey to grey brown, quartz, minor lithics, moderately cemented, siliceous cement, trace clay, moderately consolidated, Sandy to very fine Sandstone, argillaceous to Shale in part, tight, no shows.
SHALE - medium to dark grey, trace green, waxy, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite, trace Inoceramus prisms.
- 944 – 962 m Sandstone with Siltstone & Shale interbeds
SANDSTONE - light grey, mottled dark specks, quartz & minor lithics, subangular to subround, silt to very fine grained, minor coarse chert grains, well sorted, moderate cement, siliceous cement, trace clay, moderately consolidated to loose, trace calcareous, Silty to Siltstone, trace pyrite, tight to fair porosity (6%), no shows.
SHALE - medium to dark grey, trace green, waxy, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite, trace Inoceramus prisms.

ECA ET AL BEGADEH J-66

- 962 – 981 m Interbedded & interlaminated Siltstone, Sandstone & minor Shale.
SILTSTONE - medium to dark grey to grey brown, quartz, minor lithics, moderately cemented, siliceous cement, trace clay, moderately consolidated, Sandy to very fine Sandstone, argillaceous to Shale in part, tight, no shows.
SANDSTONE - light grey, mottled dark specks, quartz & minor lithics, subangular to subround, silt to very fine grained, minor coarse chert grains, well sorted, moderate cement, siliceous cement, trace clay, moderately consolidated to loose, trace calcareous, Silty to Siltstone, trace pyrite, tight to fair porosity (6%), no shows.
- 981 – 1007 m Interbedded & interlaminated Siltstone & Shale.
SILTSTONE - medium to dark grey to grey brown, quartz, minor lithics, moderately cemented, siliceous cement, trace clay, moderately consolidated, Sandy to very fine Sandstone, argillaceous to Shale in part, tight, no shows
SHALE - medium to dark grey, trace green, waxy, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite, trace Inoceramus prisms.
- Sub Cret. U/C - 1007.0m (-811.4m SS)
- Silurian/Ordovician
Mt. Kindle - 1007.0m (-811.4m SS)
- 1007 – 1020 m Dolostone with Shale laminae & interbeds.
DOLOSTONE - off white to tan, pinkish hues, micro to cryptocrystalline, arenaceous to highly arenaceous grades to dolomitic Sandstone to Siltstone in part, very dense in part, siliceous to trace cherty, minor pyrite, tight, no shows.
SHALE - off white to light green, subfissile, dolomitic, firm, brittle, silty, pyritic in part.
Trace Chert nodules
- 1025 – 1035 m Dolostone with Shale laminae & interbeds.
DOLOSTONE - off white to light tan to rusty red, crypto to microcrystalline, silty to sandy, common to abundant rounded floating quartz grains, argillaceous in part, tight, no shows.
SHALE - light green to rusty red to purple, fissile, dolomitic, slightly silty.
Abundant Cret. cavings.
- 1035 – 1053 m Dolostone with Sandstone stringers & Shale interbeds.
DOLOSTONE - off white to pink to rusty red to brown tan, light green, microcrystalline to aphanocrystalline, very highly arenaceous to dolomitic Sandstone, subangular to very well rounded silt to coarse quartz grains, minor chert, trace pyrite veining/nodules, tight, no shows.
SHALE - light green to rusty red, fissile, dolomitic, silty

ECA ET AL BEGADEH J-66

- 1035 – 1053 m SANDSTONE - clear quartz to light brown to pink, silt to medium grained,
(Cont'd) subround to well rounded, well cemented, dolomitic cement, well to moderately
well consolidated, tight, no shows.
Abundant loose quartz grains.
- 1053 - 1065 m Dolostone with Chert stringers.
DOLOSTONE - white to buff tan, crypto to microcrystalline, silty in part,
siliceous, cherty, trace vuggy to fracture porosity, euhedral quartz & lesser
dolomite crystals lining pore spaces, tight to locally good porosity, no shows.
CHERT - light brown to off white, mottled in part, fossil ghosts, bedded?, hard.
- 1065 – 1086 m Dolostone & Chert.
DOLOSTONE - off white to buff tan, aphanic to cryptocrystalline, minor fine to
medium crystalline, siliceous to Chert, very slightly calcareous, trace pyrite
nodules, possible vuggy to fracture porosity, trace euhedral quartz lining pore
spaces, tight to locally good porosity, no shows.
CHERT - snow white to buff tan, slightly dolomitic, bedded, fossil ghosts?,
hard.
- 1086 – 1095 m DOLOSTONE - off white to tan, pinkish red to trace green, micro to fine
crystalline, mosaic fabric, slightly calcareous in part, very slightly silty, trace
pyritic, tight to minor intercrystalline porosity, trace possible fracture porosity,
no shows.
Trace greenish Shale.
- 1095 – 1116 m Dolostone with Chert interbeds.
DOLOSTONE - off white to buff tan, crypto to fine crystalline, slightly
siliceous, minor fine to medium saddle dolomite crystals, trace pyrite, possible
minor vugs/frac indicated by subhedral to euhedral quartz & calcite crystals, no
shows.
CHERT - white to mottled brown tan, ooid-like ghost structures in part, bedded,
hard, fractured
Trace green Shale.
- 1116 – 1132 m DOLOSTONE - white to light buff, brownish grey, trace red & greenish hues,
cryptocrystalline to very fine crystalline, compact to semisucrosic, very slightly
siliceous, trace pyrite, tight to possible microporosity (none visible), no shows.
- 1132 – 1146 m DOLOSTONE - buff to light brown to brownish grey, trace greenish hues,
microcrystalline to very fine crystalline, compact dense to semisucrosic, trace
calcite cement, trace pyrite, tight to trace microporosity?, no shows.
Trace euhedral quartz & dolomite crystals.

ECA ET AL BEGADEH J-66

- 1146 – 1161 m Dolostone with minor Shale laminae.
DOLOSTONE - white to buff to brownish grey, crypto to microcrystalline, compact dense to minor semisucrosic, minor rounded floating quartz grains, slightly argillaceous?, trace pyrite, tight to trace microporosity, no shows.
Trace Chert.
Trace euhedral quartz crystals lining rare chips.
- 1161 – 1170 m Dolostone with Chert interbeds & minor Shale laminae.
DOLOSTONE - white to buff, crypto to microcrystalline, minor very fine, compact dense to minor semisucrosic, trace rounded floating quartz grains, trace pyrite, tight to trace microporosity, no shows.
CHERT - white to translucent, mottled light brown, oolitic?, bedded, trace pyrite, possible fracture porosity, hard.
SHALE - light green, fissile, dolomitic.
Trace loose euhedral dolomite crystals.
- 1170 – 1182 m DOLOSTONE - light brown to grey brown, micro to very fine crystalline, compact crystalline, siliceous to slightly silty, trace pyrite, tight, no shows.
- 1182 – 1195 m Dolostone with Shale interbeds.
DOLOSTONE - light to medium brown to grey brown, microcrystalline to very fine crystalline, mosaic fabric in part, slightly siliceous, trace pyrite, tight to minor porosity, no shows.
SHALE - light green, fissile, dolomitic.
Rare coarse euhedral dolomite crystals.
- 1195 – 1210 m DOLOSTONE - off white to buff, medium brown to grey brown, greenish, microcrystalline, compact crystalline, slightly siliceous, tight, trace pyrite, no shows.
Trace euhedral Dolomite crystals.
Trace Chert.
- 1210 – 1226 m Dolostone with Shale interbeds.
DOLOSTONE - off white to buff to light brown to yellow orange, micro to very fine crystalline, slightly silty to siliceous, ferruginous, tight to trace frac/vuggy porosity indicated by medium to coarse euhedral Dolomite crystal 'clusters' found freely in sample, no shows.
SHALE - light greenish grey to dark grey to grey brown, fissile, dolomitic, slightly silty, micromicaceous.
Trace Chert

ECA ET AL BEGADÉH J-66

- 1226 – 1240 m Dolostone with Shale laminae.
DOLOSTONE - off white to buff to light brown to yellow orange, micro to very fine crystalline, silty to siliceous, ferruginous, tight to trace porosity, no shows.
SHALE - light greenish grey to dark grey to grey brown, fissile, dolomitic, slightly silty, micromicaceous.
Trace Chert stringers.
- 1240 – 1250 m DOLOSTONE - white to light brown, micro to very fine crystalline, silty, slightly ferruginous, tight to trace streaky intercrystalline porosity, no shows.
Trace Chert stringers & grey to green Shale laminae.
- 1250 – 1260 m Dolostone with Shale interbeds.
DOLOSTONE - buff tan to medium brown to yellow brown, green in part, micro to very fine crystalline, silty, slightly argillaceous, tight, no shows.
SHALE - light green to medium grey, fissile, dolomitic.
- 1260 – 1275 m Interbedded Dolostone & Shale.
DOLOSTONE - red to green, buff tan to medium brown to yellow brown, micro to very fine crystalline, silty, slightly argillaceous, ferruginous, tight trace sucrosic dolomite as pore fill/lining, no shows.
SHALE - light to dark green, fissile, medium hard, dolomitic, silty.
- 1275 – 1300 m Dolostone with minor Shale laminae.
DOLOSTONE - light to medium brown to deep yellow brown, reddish in part, microcrystalline to minor very fine crystalline, ferruginous, silty, slightly argillaceous, tight to trace euhedral pore filling/lining Dolomite & calcite, no shows.
Trace light green Shale.
- 1300 – 1317 m Dolostone with Shale interbeds.
DOLOSTONE - light to medium brown to deep yellow brown, grey green to reddish in part, microcrystalline to minor very fine crystalline, ferruginous, silty, slightly argillaceous, tight to trace euhedral pore filling/lining Dolomite, no shows.
SHALE - light green, fissile, waxy, medium hard, dolomitic.
- Franklin Mountain 1317.0m (-1121.4m SS)**
- 1317 – 1330 m Interbedded Dolostone, Limestone & Shale.
DOLOSTONE - light yellow to orange brown to off white, microcrystalline, calcareous, slightly silty tight, no shows.
LIMESTONE - white to off white grey mottled yellow to light brown, microcrystalline, mudstone, chalky in part, partially dolomitized, silty, tight, no shows

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- 1317 – 1330 m SHALE - dark grey to grey brown to light green, fissile, waxy in part, dolomitic, slightly silty, firm.
- 1330 – 1349 m Limestone with Shale & Dolostone interbeds.
LIMESTONE - off white, buff tan to dark brown, mottled in part, mudstone, chalky in part, slightly argillaceous, silty, dolomitic in part, dense, trace pyrite veining & nodules, trace clear void filling calcite, tight.
SHALE - dark grey to grey brown, trace green, fissile to subfissile, calcareous, silty.
DOLOSTONE - medium to dark grey brown, light to dark green, microcrystalline, calcareous, slightly silty, no shows.
- 1349 – 1360 m Limestone with minor Shale laminae.
LIMESTONE - white to buff tan, microcrystalline, dense, chalky in part, clean to slightly argillaceous, slightly silty, dolomitic in part, trace pyrite, tight to nonvisible porosity in chalky portions?, no shows.
SHALE - light to dark green to medium brown, fissile, waxy in part, firm, silty, calcareous.
Dolostone stringers.
- 1360 – 1373 m Limestone with Shale interbeds & Dolostone stringers.
LIMESTONE - white to buff tan to medium brown, mudstone to thin beds of *Amphipora* wackestone, microcrystalline to cryptocrystalline in part, dense, chalky in part, clean to argillaceous in part, slightly silty, dolomitic in part, trace pyrite, tight to trace vuggy porosity, possible nonvisible porosity in chalky portions?, no shows.
SHALE - light to dark green to medium brown, fissile, waxy in part, firm, silty, calcareous.
- 1373 – 1398 m Interbedded Shale & Limestone.
SHALE - light to dark green to medium brown to dark reddish brown, subfissile to blocky, firm, silty, calcareous to dolomitic.
LIMESTONE - off white to buff tan minor medium brown, microcrystalline, mudstone to locally wackestone, *Amphipora*, calcispheres?, slightly argillaceous in part, trace dolomitic in part, chalky in part, tight to traces of vuggy or fracture porosity lined/filled with euhedral calcite crystals, no shows.
Trace Dolostone stringers.

ECA ET AL BEGADÉH J-66

1398 – 1425 m Interbedded Shale, Limestone & minor Dolostone.

SHALE - light to dark green to medium brown to dark reddish brown, subfissile to blocky, firm, silty, calcareous to dolomitic.

LIMESTONE - off white to buff tan minor medium brown, microcrystalline, mudstone to locally wackestone, Amphipora, slightly argillaceous in part, trace dolomitic in part, chalky in part, tight to traces of vuggy or fracture porosity lined/filled with euhedral calcite crystals, no shows.

DOLOSTONE - light to medium brown to yellowish tan, microcrystalline, calcareous, ferruginous in part, tight, no shows.

Visible calcite-healed microfractures.

Trace white chert @ base.

Total Depth: Drillers – 1425.0 meters

Loggers – 1425.5 meters

ECA ET AL BEGADEH J-66

PHOTO DESCRIPTIONS

Photos from selected depths have been taken for reference on future wells. These photos are available on the CD accompanying this well report. The photo label is in the form: well name-measured depth-photo number.. All photos are taken of dry sample unless otherwise specified.

| Photo | Mag | Description/Comments |
|--------------|-----|---|
| J-66-945m-1 | 20X | Little Bear Sandstone |
| J-66-1000m-1 | 20X | Cretaceous Siltstone & Shale |
| J-66-1005m-1 | 20X | Top Silurian/Ordovician below Subcretaceous U/C |
| J-66-1010m-1 | 20X | Mt Kindle Dolostone/Green Shale w/ Cret. Shale. |
| J-66-1015m-1 | 20X | Dolostone/Shale note Chert |
| J-66-1020m-1 | 20X | Sandy/silty Dolostone with green Shale & trace Chert |
| J-66-1030m-1 | 20X | Red Shale/Dolostone with green & white Dolostone |
| J-66-1035m-1 | 20X | As above trace Chert. |
| J-66-1050m-1 | 30X | Chert fragments indicating increasing Chert quantity |
| J-66-1060m-1 | 30X | Ooid-like structures within Chert |
| J-66-1060m-2 | 30X | Subhedral quartz lining fractures/vugs |
| J-66-1065m-1 | 30X | Saddle Dolomite |
| J-66-1075m-1 | 20X | Light Dolostone & Chert note fracture indicators |
| J-66-1080m-1 | 20X | Euhedral quartz crystals – fracture lining |
| J-66-1090m-1 | 20X | Pink Dolostone – coarser Dolostone crystals – mosaic fabric |
| J-66-1100m-1 | 20X | Light Dolostone & Chert |
| J-66-1110m-1 | 20X | As above, trace green Shale |
| J-66-1120m-1 | 20X | Light brown & pink Dolostone |
| J-66-1130m-1 | 25X | Vf crystalline possible microporosity |
| J-66-1140m-1 | 20X | Note crystallinity |
| J-66-1150m-1 | 20X | Sandy Dolostone & Chert |
| J-66-1155m-1 | 40X | Zoom on quartz grains in Dolostone |
| J-66-1165m-1 | 20X | Oolitic Chert, Shale & Dolostone |
| J-66-1165m-2 | 40X | Zoom on oolites |
| J-66-1175m-1 | 20X | Grey brown dolostone - dense |
| J-66-1180m-1 | 20X | Light brown Dolostone - dense |
| J-66-1200m-1 | 20X | Light brown, greenish Dolostone |
| J-66-1215m-1 | 20X | Reddish Dolostone & grey Shale |
| J-66-1220m-1 | 20X | As above -silty |
| J-66-1230m-1 | 20X | Varicolored dense Dolostone |
| J-66-1250m-1 | 20X | Dolostone/Chert/green Shale |
| J-66-1260m-1 | 20X | Varicolored Dolostone |
| J-66-1275m-1 | 20X | Dolostone as above w/ Saddle Dolomite |
| J-66-1280m-1 | 10X | Deep yellow/red & green Dolostone |
| J-66-1290m-1 | 20X | Minor Crystalline Dolostone & Shale |

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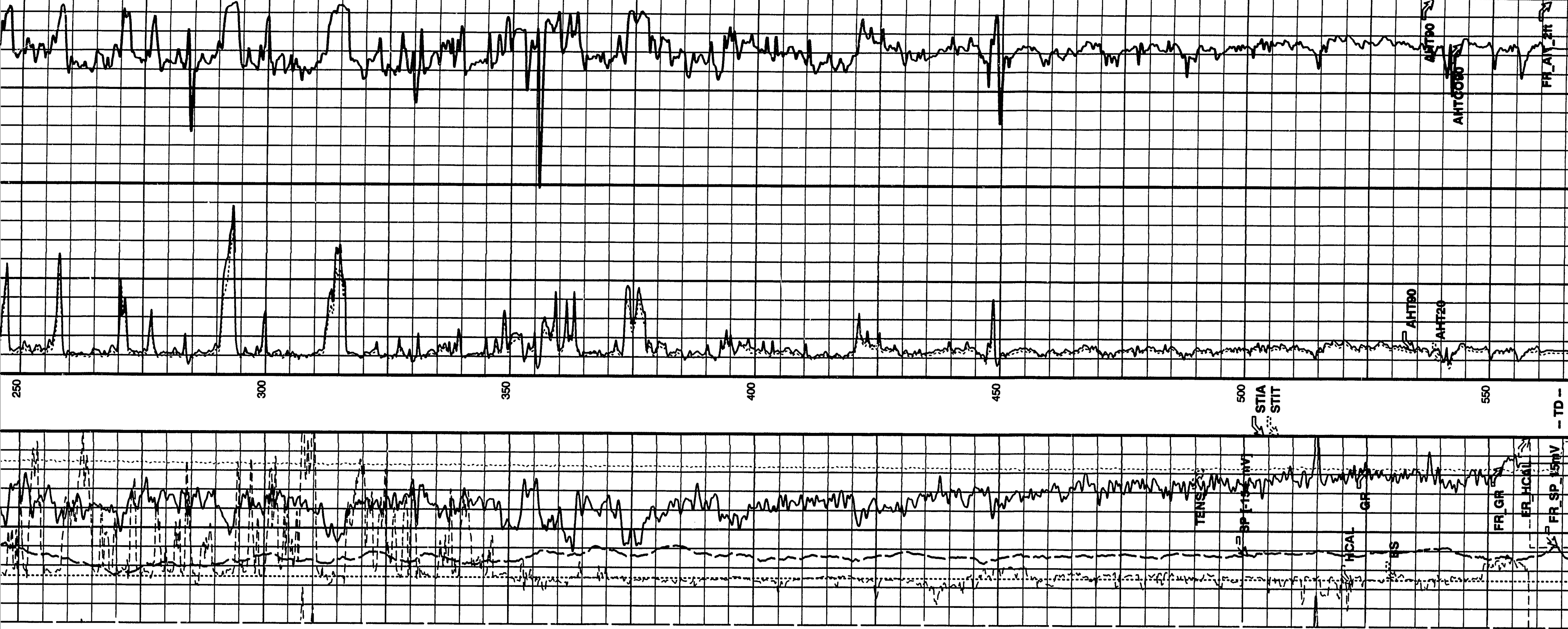
| Photo | Mag | Description/Comments |
|--------------|-----|---|
| J-66-1300m-1 | 20X | As above |
| J-66-1320m-1 | 20X | Dark brown Limestone – Franklin Mountain |
| J-66-1320m-2 | 20X | Sample in Alizarin Red. |
| J-66-1330m-1 | 20X | Mottled Limestone & green Shale |
| J-66-1340m-1 | 20X | Limestone – note coarser calcite crystal |
| J-66-1350m-1 | 20X | Chalky Limestone |
| J-66-1360m-1 | 20X | Dense Limestone with abundant Shale |
| J-66-1365m-1 | 20X | (Wet) Amhipora |
| J-66-1370m-1 | 20X | Limestone note microfracture & calcite crystal |
| J-66-1375m-1 | 20X | Limestone with colored Shale |
| J-66-1385m-1 | 20X | Limestone & Shale note Amhipora |
| J-66-1390m-1 | 20X | Limestone - chalky |
| J-66-1400m-1 | 20X | Yellowish Limestone with minor Dolomite & Shale |
| J-66-1410m-1 | 20X | Dense Limestone |
| J-66-1420m-1 | 20X | Dark Limestone – note Amhipora |
| J-66-1425m-1 | 20X | TD – Limestone as above note trace white Chert |
| | | |

ECA ET AL BEGADÉH J-66

LITHOLOGY LOG POCKET

**Logs from this
section can be found
in the log section
of the fiche**

**RESISTIVITY/
CONDUCTIVITY**



MAIN PASS: *** PLATFORM EXPRESS - ARRAY INDUCTION ***

| | | | | | | | | |
|------|-----|--------------------|--------|-----|-----|---|--------|----|
| 250 | --- | HILT Caliper (HCL) | (MM) | 500 | --- | AIT-H 90 Inch Investigation Conductivity (AHTC90) | (MM/M) | 0 |
| 250 | --- | BIT Size (BS) | (MM) | 500 | --- | AIT-H 20 Inch Investigation (AHT20) | (OHMM) | 50 |
| 0 | --- | Gamma Ray (GR) | (GAPI) | 150 | --- | AIT-H 90 Inch Investigation (AHT90) | (OHMM) | 80 |
| -120 | --- | SP (15+ mV) (AHS) | (MV) | 30 | --- | | | |
| | --- | Tension (TENS) | (N) | 0 | --- | | | |

Time Mark Every 60 S

AIT-H Answer Product Processing Summary. Data taken with Tool # 214 (AHTNO)

Acquired data from HIL/HAIT

Effective Tool Standoff computed. Borehole diameter and mud res. taken as input (see GCSE and GRSE parameters)

Tool is run in ECCENTERED mode with a tool stand-off of 38.10 MM. BIT Size is 31.00 MM.

Caliper (GCSE): HCL Mud Resistivity (GRSE): AHMF Temperature (GTSE): HTEM Porosity (FPHI): DPHZ

Form Factor Exponent (FEXP) 2.000

Mud Filtrate Sample Resistivity (RMFS) 3.697 OHMM

Form Factor Numerator (FNUM) 1.000

Realivity Connate Water (RW) 1.000 OHMM

Playback Mode: NORMAL

Parameters

| DLS Name | Description | Value |
|----------|---|--------------------|
| HLTB-FTB | High resolution Integrated Logging Tool-DTS | |
| AHBM | Array Induction Basic Mode | 2 ComputeStandoff |
| AHBLM | Array Induction Basic Mode | 6 One_Two_and_Four |
| AHBLV | Array Induction Basic Mode | 108 |
| AHBLN | Array Induction Basic Mode | Yes |
| AHFRSV | Array Induction Basic Mode | Eccentered |
| AHFRSV | Array Induction Basic Mode | 40.70.24.21 |
| AHFRSV | Array Induction Basic Mode | 700 |
| AHFRSV | Array Induction Basic Mode | 223 |
| AHFRSV | Array Induction Basic Mode | 351 |
| AHFRSV | Array Induction Basic Mode | 40.70.24.32 |
| AHFRSV | Array Induction Basic Mode | 2 |
| AHFRSV | Array Induction Basic Mode | 1 |
| AHFRSV | Array Induction Basic Mode | HCAL |
| AHFRSV | Array Induction Basic Mode | 0.018227 |
| AHFRSV | Array Induction Basic Mode | AIT-H RESIST |
| AHFRSV | Array Induction Basic Mode | HSTS_HTEM |
| AHFRSV | Array Induction Basic Mode | 20 |
| AHFRSV | Array Induction Basic Mode | DEGC |
| AHFRSV | Array Induction Basic Mode | TDL |
| AHFRSV | Array Induction Basic Mode | 1.524 |
| AHFRSV | Array Induction Basic Mode | 563.50 |
| AHFRSV | Array Induction Basic Mode | 564.00 |
| AHFRSV | Array Induction Basic Mode | M |
| AHFRSV | Array Induction Basic Mode | MM |
| AHFRSV | Array Induction Basic Mode | 311.000 |
| AHFRSV | Array Induction Basic Mode | 1175.00 |
| AHFRSV | Array Induction Basic Mode | 0.0 |
| AHFRSV | Array Induction Basic Mode | 0.0 |
| AHFRSV | Array Induction Basic Mode | 11.00 |
| AHFRSV | Array Induction Basic Mode | NORMAL |
| AHFRSV | Array Induction Basic Mode | 563.5 |
| AHFRSV | Array Induction Basic Mode | M |

Format: AHT2_S2 Vertical Scale: 1:500

OP System Version: 11CO-305

| | | | |
|----------|---------------|-------|----------|
| HLTB-FTB | 11CO-305 | EMS-B | 11CO-305 |
| DSL-FTB | SRPC-2472-STP | DTC-H | 11CO-305 |

Input DLS Files

| | | | | |
|------|----------|-------------------|---------|--------|
| FN14 | PRODUCER | 02-Feb-2004 23:57 | 566.9 M | 16.0 M |
|------|----------|-------------------|---------|--------|

Output DLS Files

| | | | | |
|------|----------|-------------------|---------|--------|
| FN20 | PRODUCER | 03-Feb-2004 01:22 | 566.9 M | -6.2 M |
| FN21 | PRODUCER | 03-Feb-2004 01:27 | 566.9 M | -4.2 M |

Input DLS Files

| | | | | |
|------|----------|-------------------|---------|--------|
| FN14 | PRODUCER | 02-Feb-2004 23:57 | 566.9 M | 16.0 M |
|------|----------|-------------------|---------|--------|

Output DLS Files

| | | | | |
|------|----------|-------------------|---------|--------|
| FN20 | PRODUCER | 03-Feb-2004 01:22 | 566.9 M | -6.2 M |
| FN21 | PRODUCER | 03-Feb-2004 01:27 | 566.9 M | -4.2 M |

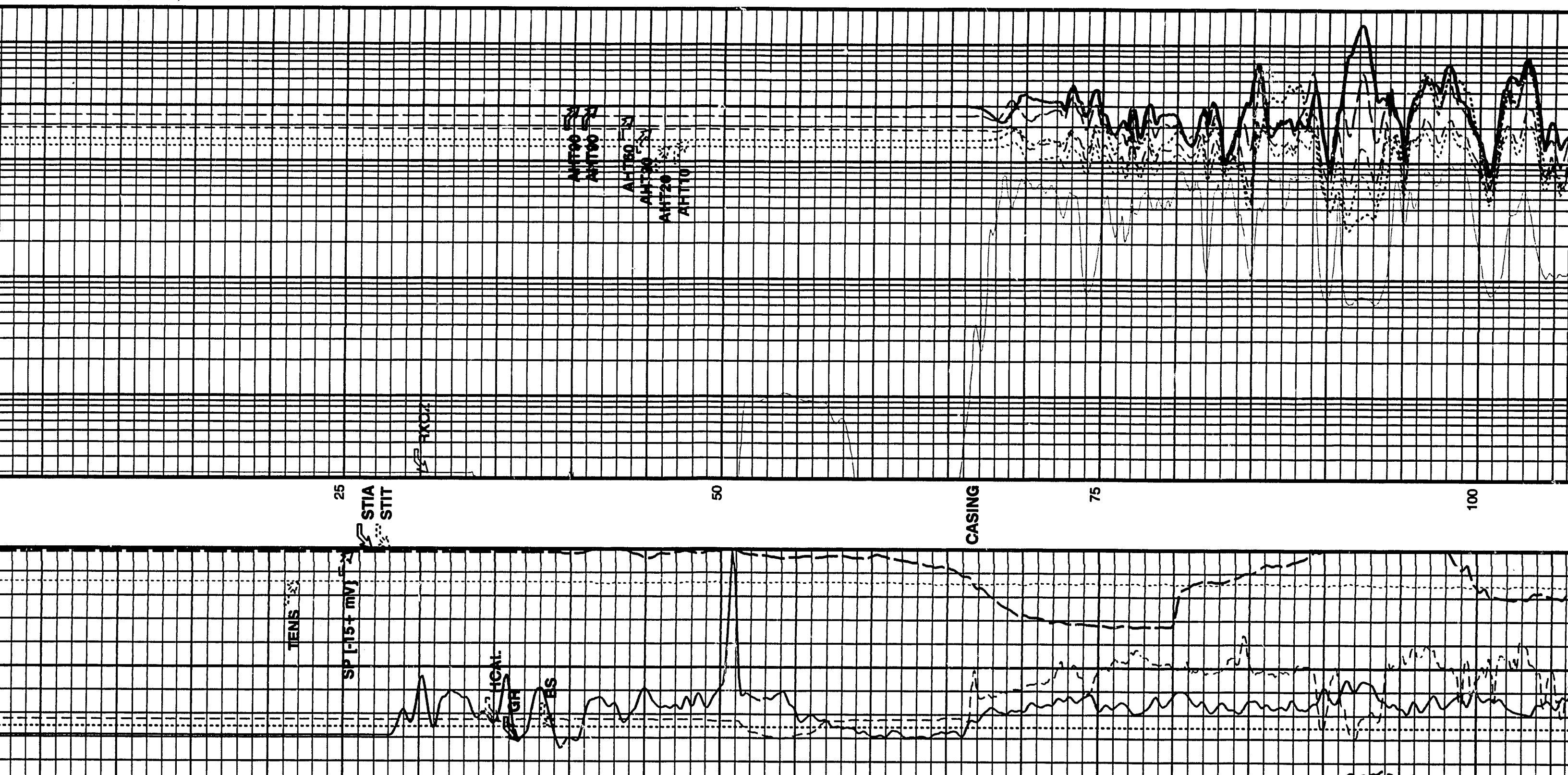
OP System Version: 11CO-305

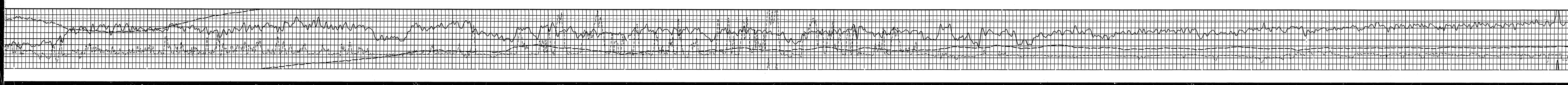
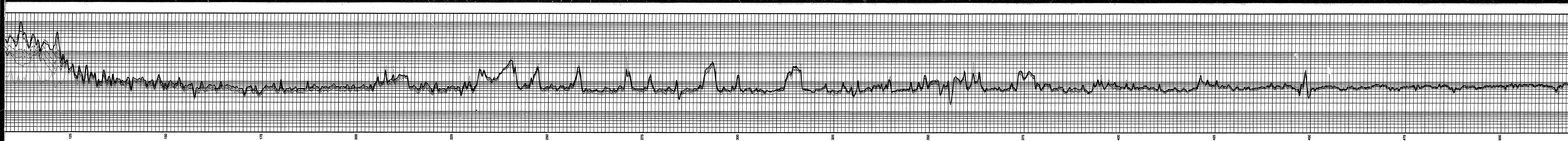
| | | | |
|----------|---------------|-------|----------|
| HLTB-FTB | 11CO-305 | EMS-B | 11CO-305 |
| DSL-FTB | SRPC-2472-STP | DTC-H | 11CO-305 |

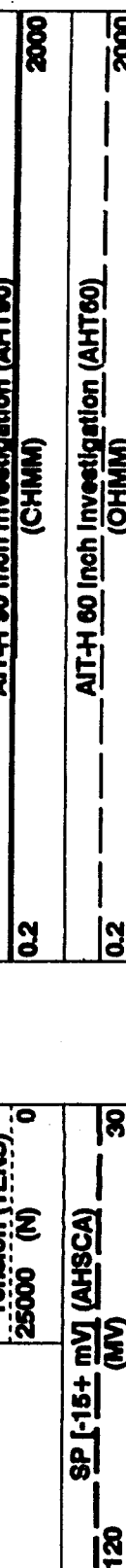
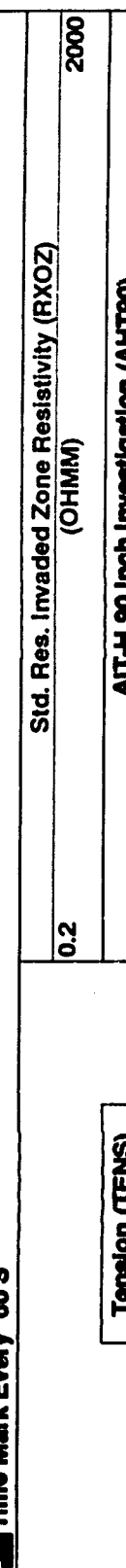
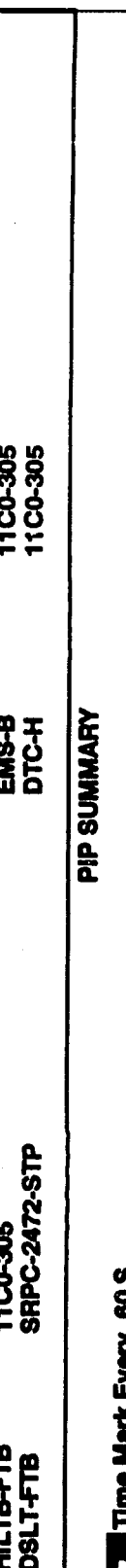
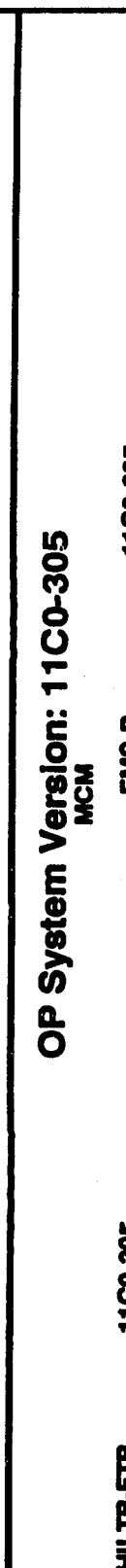
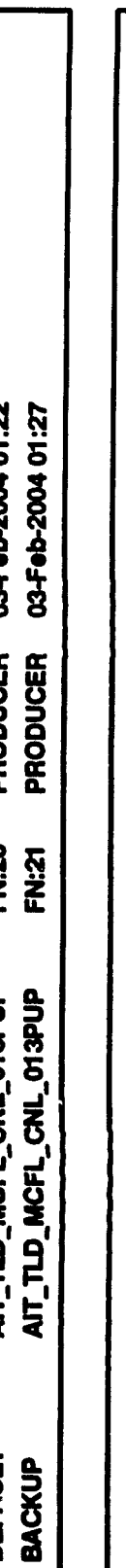
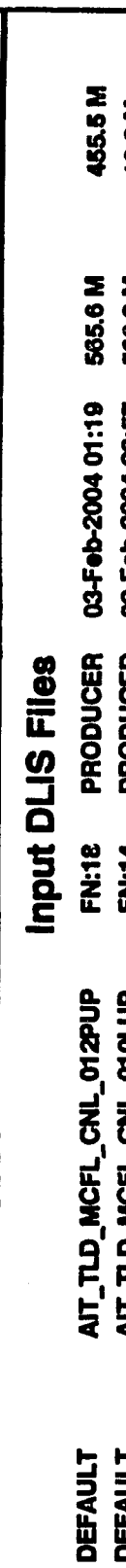
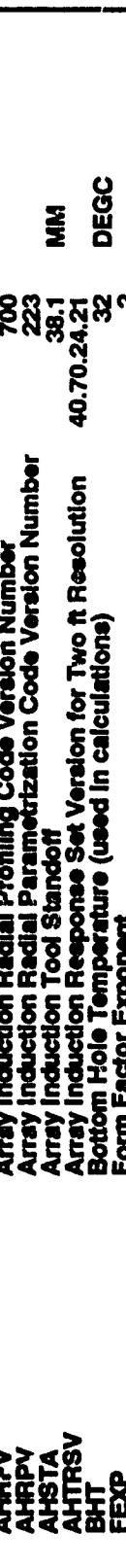
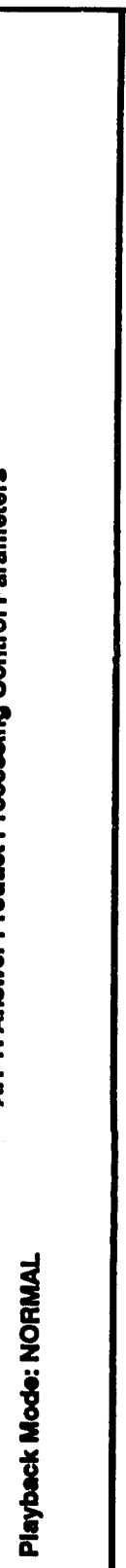
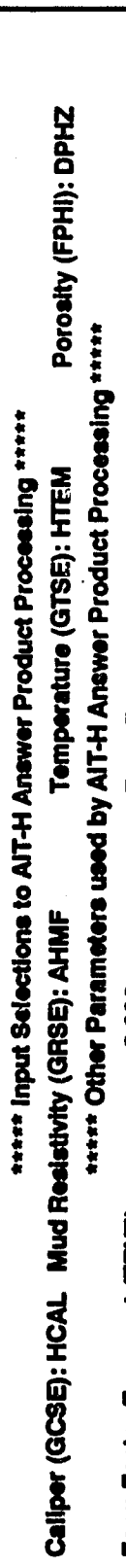
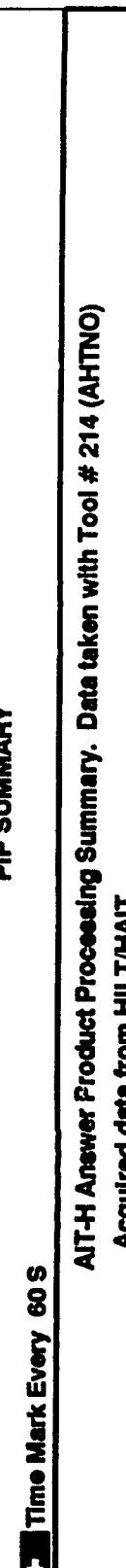
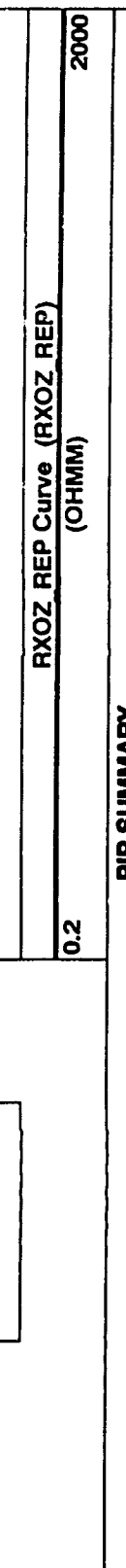
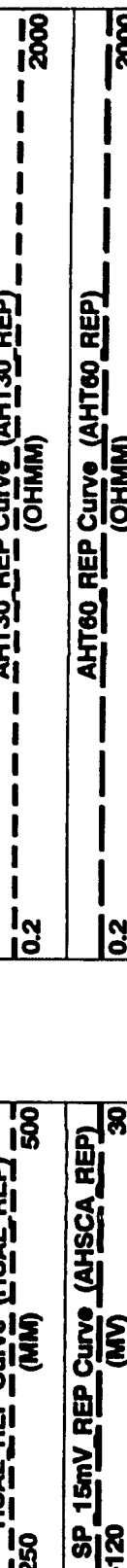
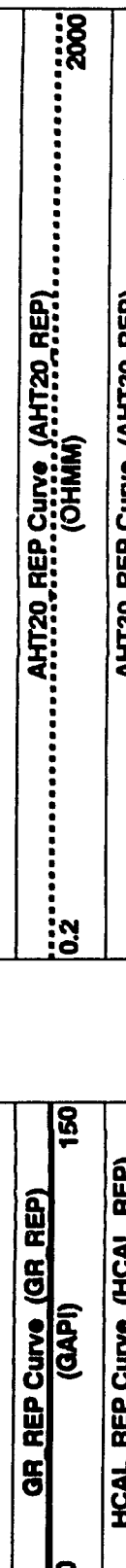
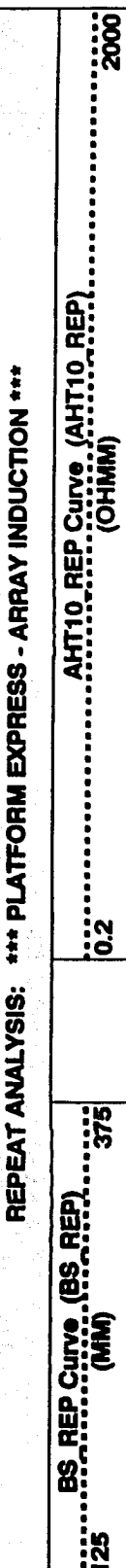
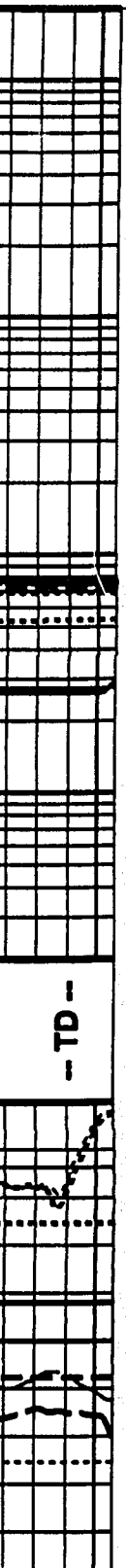
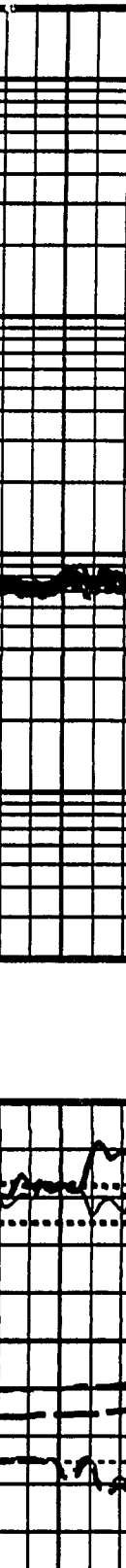
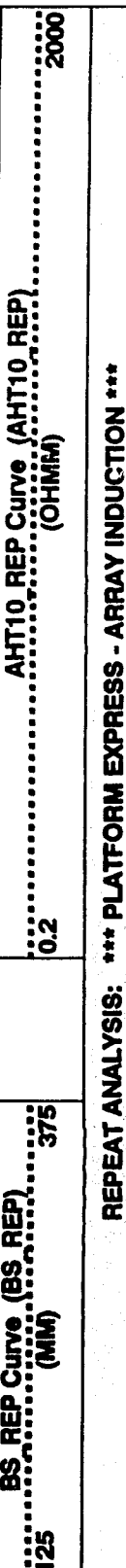
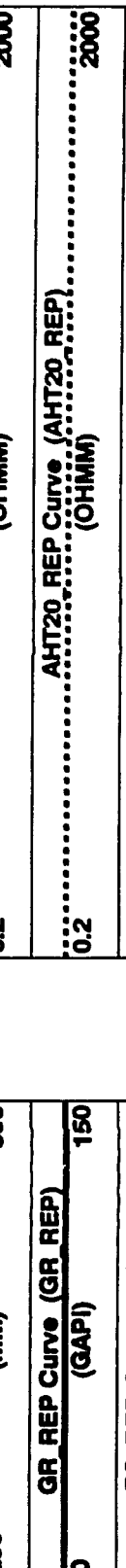
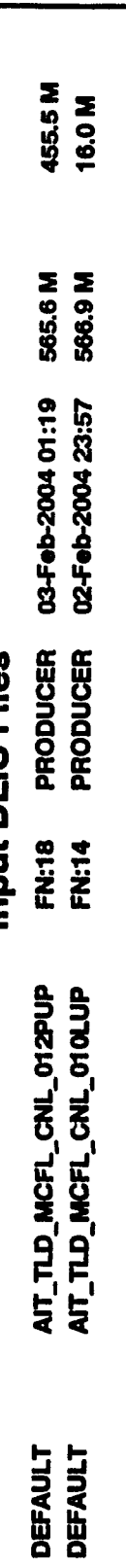
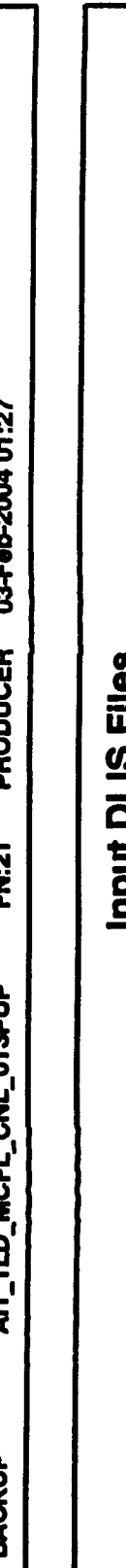
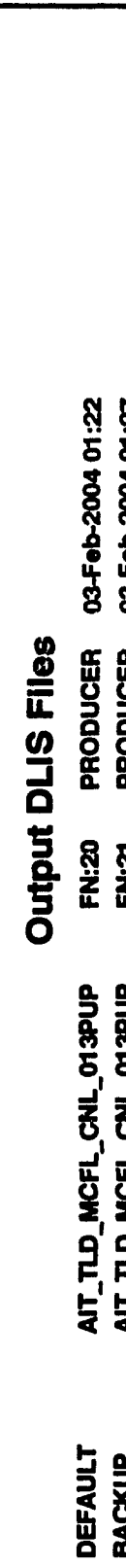
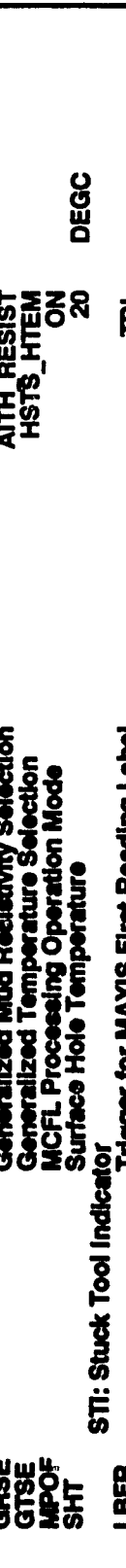
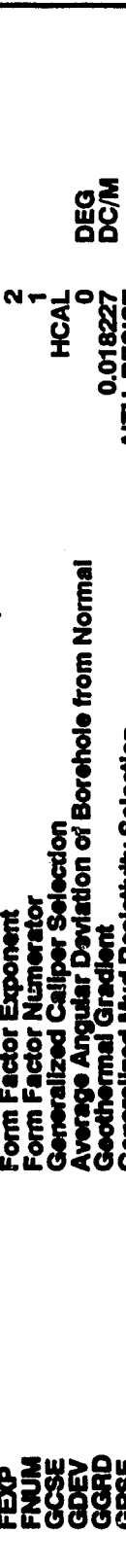
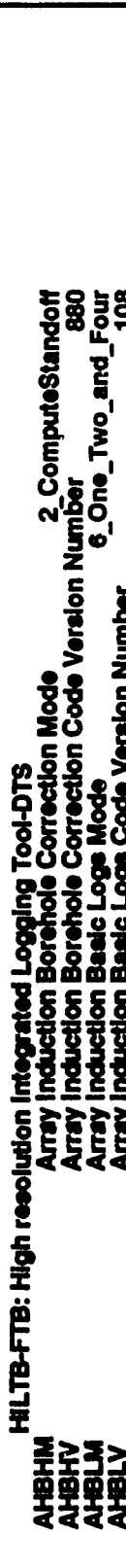
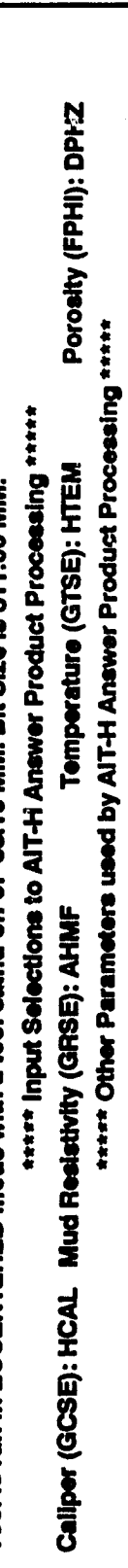
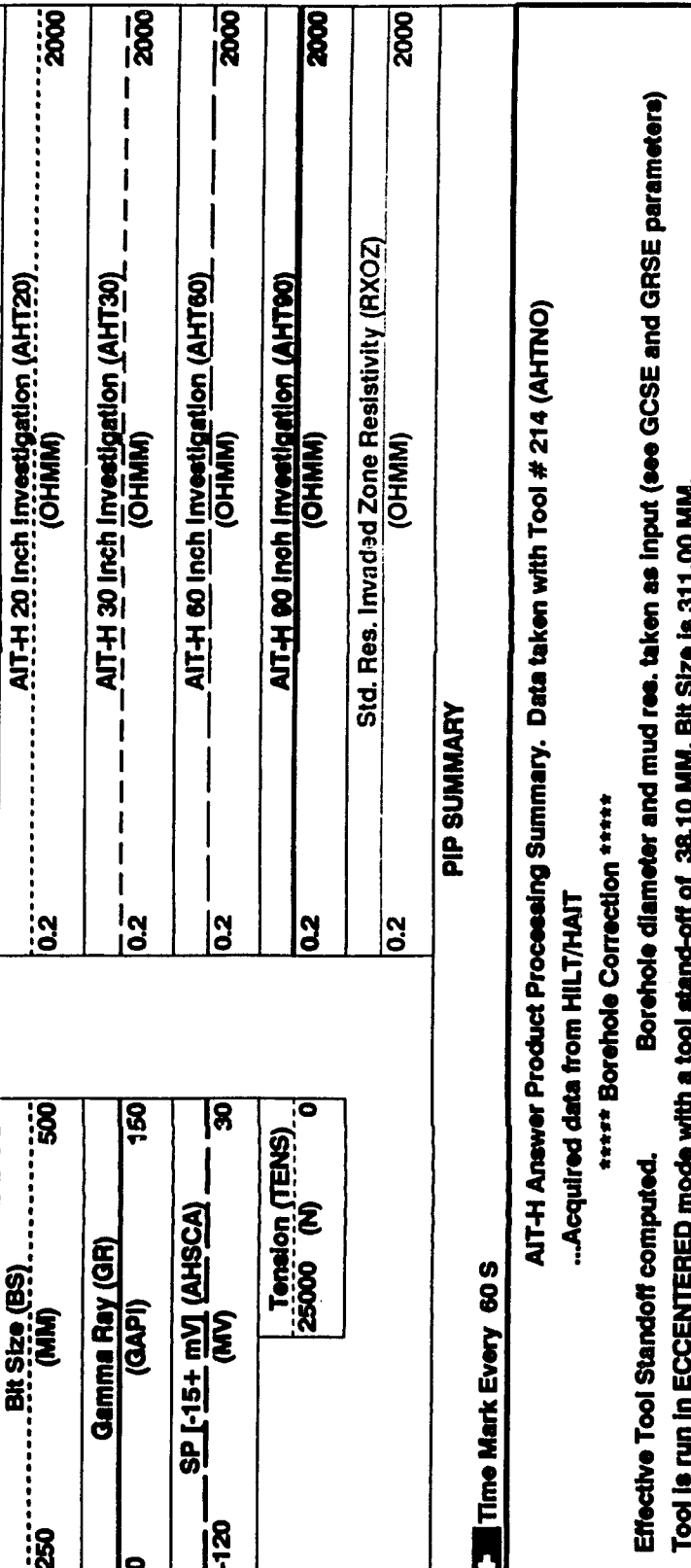
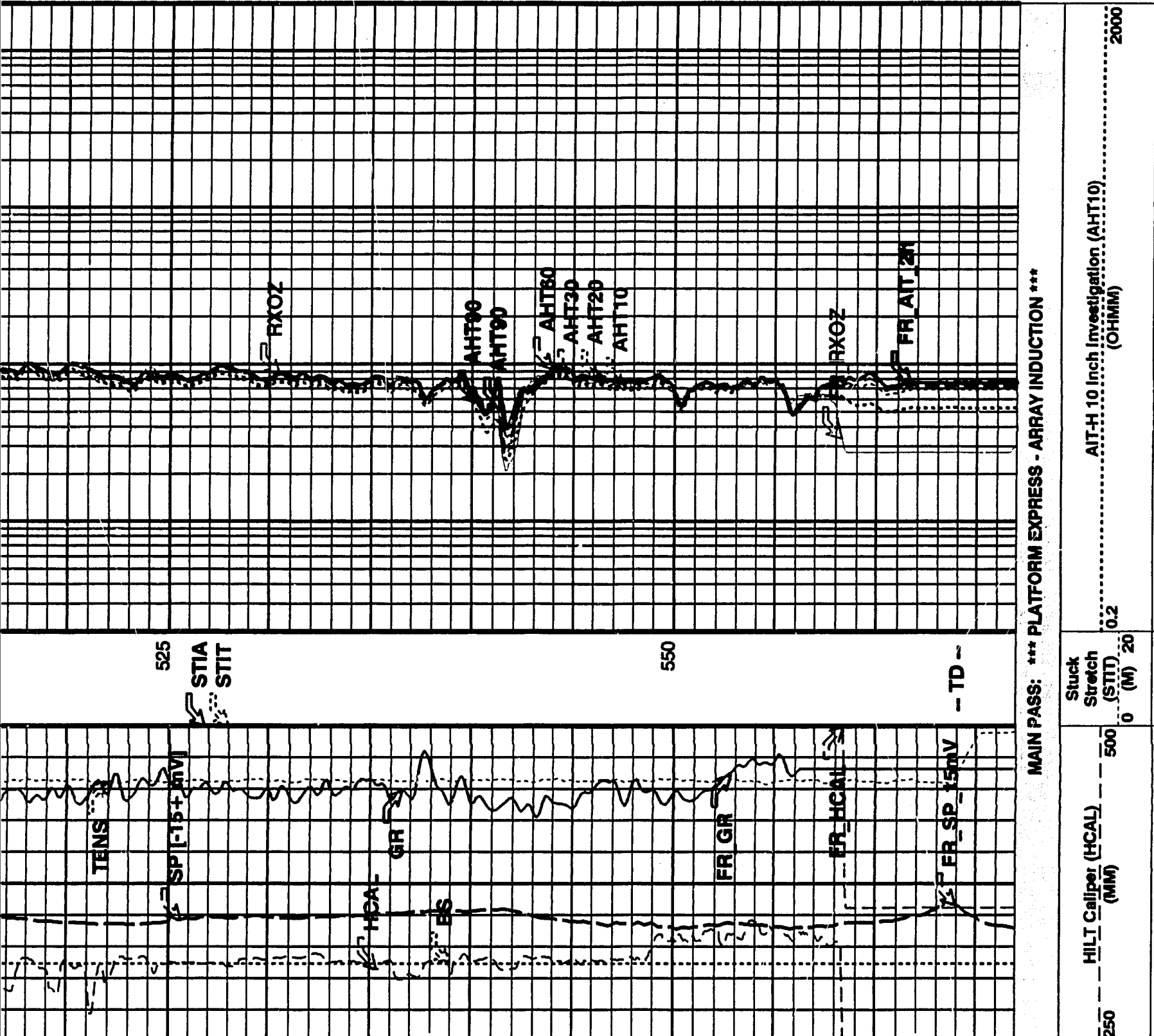
Time Mark Every 60 S

| | | | | | | | | |
|------|-----|--------------------|--------|-----|-----|-------------------------------------|--------|------|
| 250 | --- | HILT Caliper (HCL) | (MM) | 500 | --- | AIT-H 90 Inch Investigation (AHT90) | (OHMM) | 2000 |
| 250 | --- | BIT Size (BS) | (MM) | 500 | --- | AIT-H 20 Inch Investigation (AHT20) | (OHMM) | 2000 |
| 0 | --- | Gamma Ray (GR) | (GAPI) | 150 | --- | AIT-H 90 Inch Investigation (AHT90) | (OHMM) | 2000 |
| -120 | --- | SP (15+ mV) (AHS) | (MV) | 30 | --- | AIT-H 30 Inch Investigation (AHT30) | (OHMM) | 2000 |
| | --- | Tension (TENS) | (N) | 0 | --- | AIT-H 20 Inch Investigation (AHT20) | (OHMM) | 2000 |

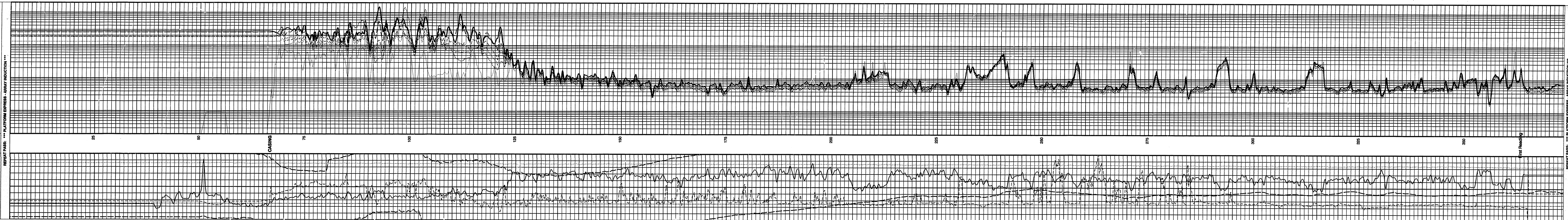
MAIN PASS: *** PLATFORM EXPRESS - ARRAY INDUCTION ***







250 500 2000 2000
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0.2
AT-H 10 Inch Investigation (AHT10) (OHMM)
0.2
Stuck Stretch (STT) 20 (N) 0
HIL Caliper (HICAL) (MM)
250 500
Bit Size (BS) (MM)
250 500



REPEAT PASS: *** PLATFORM EXPRESS - ARRAY INDUCTION ***

| | |
|----------------------------------|---|
| Stuck Stretch (STT) 20 (N) 0 | AT-H 10 Inch Investigation (AHT10) (OHMM) 0.2 |
| HIL Caliper (HICAL) (MM) 250 500 | AT-H 20 Inch Investigation (AHT20) (OHMM) 0.2 |
| Bit Size (BS) (MM) 250 500 | AT-H 30 Inch Investigation (AHT30) (OHMM) 0.2 |
| Gamma Ray (GR) (GAPI) 150 | AT-H 60 Inch Investigation (AHT60) (OHMM) 0.2 |
| SP 15+ mV (ASCA) (MV) 30 | AT-H 90 Inch Investigation (AHT90) (OHMM) 0.2 |
| Tension (TENS) 2500 (N) 0 | Std. Res. Invaded Zone Resistivity (RIZ) (OHMM) 0.2 |

PIP SUMMARY

Time Mark Every 50 S

AT-H Answer Product Processing Summary. Data taken with Tool # 214 (AHTNO)

Acquired data from HIL/HAIT

***** Borehole Correction *****

Effective Tool Standoff computed.

Tool is in ECCENTRIC mode with a tool stand-off of 38.10 MM. Bit Size is 311.00 MM.

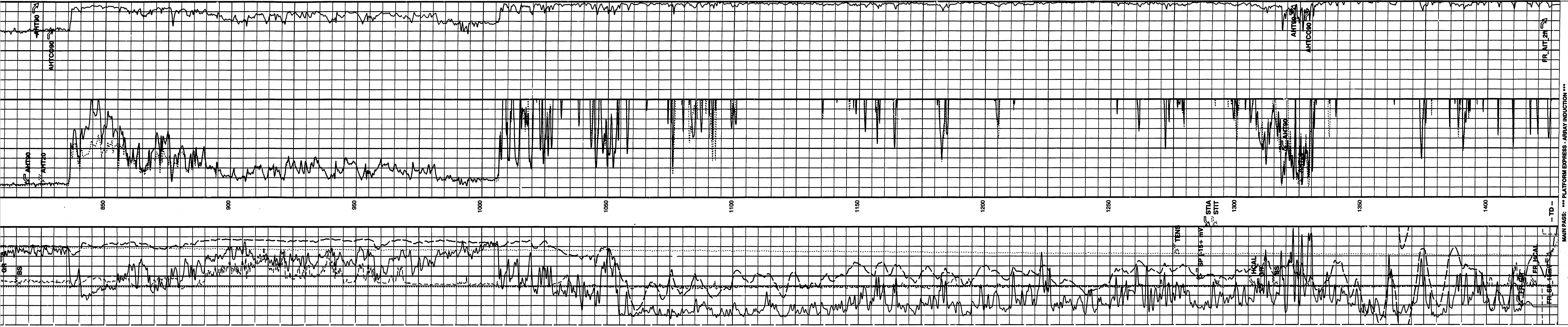
***** Input Selections to AT-H Answer Product Processing *****

Caliper (GCSE): HICAL Mud Resistivity (GRSE): AHMF Temperature (GTSE): HTEM Porosity (FPHI): DPZH

Form Factor Empirical (FEFF) 2.000

Form Factor Empirical (FEFF) 2.000

**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**



| | | | | | | | | |
|-----|-----------------------------|-----|---------------------------|---|----|------|--|----|
| 125 | HILT Caliper (HCAL)
(MM) | 375 | Stuck
Stretch
(STT) | 0 | 25 | 1000 | AIT-H 90 inch Investigation Conductivity (AHTCO90)
(MM/M) | 0 |
| 125 | Bit Size (BS)
(MM) | 375 | | | | | AIT-H 20 inch Investigation (AHT20)
(OHMM) | 50 |
| 0 | Gamma Ray (GR)
(GAPI) | 150 | | | | | AIT-H 90 inch Investigation (AHT90)
(OHMM) | 50 |

| SP [-15+ mV] (SP) | 30 |
|-------------------|----------------|
| -120 (MV) | |
| | Tension (TENS) |

Time Mark Every 60 S

| PIP SUMMARY | |
|-------------|---|
| 25000 (N) | 0 |

AIT-H Answer Product Processing Summary. Data taken with Tool # 214 (AHTNO)
 ...Acquired data from HILT/HAIT
 ***** Borehole Correction *****

Effective Tool Standoff computed.
Tool is run in ECCENTERED mode with a tool stand-off of 38.10 MM. Bit Size is 222.00 MM.
 ***** [Input Selections to AIT-H Answer Product Processing] *****
 ***** Borehole Correction *****
 Borehole diameter and mud res. taken as input (see GCSE and GRSE parameters)

Celliper (GCSE): HCAL Mud Relativity (GRSE): AHMF Temperature (GTSE): HTEM Porosity (FPH): DPHZ
***** Input Selections to AIT-H Answer Product Processing *****
***** Other Parameters used by AIT-H Answer Product Processing *****
***** AIT-H Answer Product Processing Control Parameters *****

```
***** All-H Answer Product Processing Control Parameters *****
(AHAPL): 2_BholeCorr_BasicLogs
(AHBHM): 2_ComputeStandoff (AHBLM): 6_One_Two_and_Four
```

| Parameters |
|------------|
|------------|

| DLIS Name | Description | Value |
|-----------|--|--------------------|
| HLTB-FTB: | High resolution Integrated Logging Tool-DTS Array Induction Borehole Correction Mode | 2. ComputeStandoff |
| ARHBM | | |

| | | |
|------|---|--------------------|
| | Array Induction Borehole Correction Mode | 2_ComputeSanborn |
| AH8V | Array Induction Borehole Correction Code | 880 |
| AH9M | Array Induction Basic Log Mode | 6_One_Two_and_Four |
| AHBL | Array Induction Basic Log Code | 108 |
| AHDE | Array Induction Casing Detection Enable | Yes |
| AHCN | Array Induction Tool Centering Flag (in Borehole) | Encentered |

| | | |
|--------|---|-------------|
| AKEN | Array Induction Tool Centering Flag (in Borehole) | 40.70.24.21 |
| AHRSV | Array Induction Response Set Version for Four ft Resolution | 40.70.24.21 |
| AHMR | Array Induction Mud Resistivity Factor | 1 |
| AHORSV | Array Induction Response Set Version for One ft Resolution | 40.70.24.21 |
| AHVF | Array Induction: Radial Profiling Code Version Number | 700 |
| ALFV | | |

| | MM | DEGC |
|---|-------------|------|
| Array Induction Radial Parameterization Code | 223 | 2 |
| Array Induction Tool Standard | 38.1 | |
| Array Induction Response Set Version for Two R Resolution | 40.70.24.21 | |
| Bottom Hole Temperature (used in calculations) | 48 | |
| Form Factor Exponent | | |

| Form Factor Exponent | Form Factor Numerator | Average Angular Deviation of Borehole from Normal | Geothermal Gradient | Generalized Mud Resistivity Selection | Generalized Mud Resistivity | DEG
DC/M |
|----------------------|-----------------------|---|---------------------|---------------------------------------|-----------------------------|-------------|
| FNUM | 2 | HCAL | 0 | 0.018227 | ATL RESIST | |
| GCSE | 1 | | | | | |
| GDEV | | | | | | |
| GGRD | | | | | | |
| GRSE | | | | | | |

| STI: Stuck Tool Indicator | SP Next Value | Surface Hole Temperature | Generalized Temperature Selection | Generalized Mud Resistivity Selection | ATHS_RESIST | ATHS_HTEM | DEGC |
|---------------------------|---------------|--------------------------|-----------------------------------|---------------------------------------|-------------|-----------|------|
| SPNV | SHT | GTSE | GRSE | IBED | | | MV |
| | | | | | | | 20 |
| | | | | | | | 0 |

| | |
|---------------------------------|---------|
| TDL | M |
| Total Depth - Drifter | 1425.00 |
| Total Depth - Logger | 1425.50 |
| System and Miscellaneous | |
| TDL | M |
| TDD | M |
| STKT | M |
| LBRF | M |

| Offshore and Miscellaneous | |
|----------------------------|----------------------------------|
| BS | Bit Size |
| DFD | Drilling Fluid Density |
| DORL | Depth Offset for Repeat Analysis |
| MST | Mud Sample Temperature |
| TD | Total Depth |
| | 222,000 MM |
| | 1115.00 K/M3 |
| | 1.4 M |
| | 15.00 DEGC |
| | 1495.5 M |

| | |
|--|-----------------------|
| ID | Total Depth |
| Format: ATH2_S2 | Vertical Scale: 1:600 |
| Graphics File Created: 11-Feb-2004 03:41 | |
| 1425.5 M | |

OP System Version: 11C0-305

| | | | |
|-----------|----------|---------|---------------|
| HILTB-FTB | 11CO-305 | LOT-D | 11CO-305 |
| DTA-A | OPT1-KP1 | DSL-FTB | SRPC-2M72-STP |
| NTC-H | 11CO-205 | | |

| DTC-H | 11C0-305 |
|----------|-------------------|
| DESCRIPT | APR 27 1987 |
| FILE NO. | 11C0-305 |
| REVISION | 1 |
| DATE | 11C0-305 |
| BY | 11C0-305 |
| CHECKED | 11C0-305 |
| APPROVED | 11C0-305 |
| SIGNED | 11C0-305 |
| TITLE | Output DLIS Files |

| DEFAULT | AT_TLD_MCFL_CNL_007LUP | FN:9 | PRODUCER | 11-Feb-2004 03:41 |
|---------|------------------------|-------|----------|-------------------|
| BACKUP | AT_TLD_MCFL_CNL_007LUP | FN:10 | PRODUCER | 11-Feb-2004 03:56 |

| Output DLIS Files | | | |
|-------------------|-------------------------|---------------|---------------------------|
| DEFAULT | ATT_TLD_MCFL_CNL_007LUP | FN:9 PRODUCER | 11-Feb-2004 03:41 492.7 M |
| | | | 1428.3 M |

| | | | | | | |
|--------|-------------------------|-------|----------|-------------------|----------|---------|
| BACKUP | AIT_TLD_MCFL_CNL_007LUP | FN:10 | PRODUCER | 11-Feb-2004 03:56 | 1428.3 M | 492.7 M |
|--------|-------------------------|-------|----------|-------------------|----------|---------|

| S. System Version: 1103-305 | |
|-----------------------------|---------------|
| MCM | |
| HILTB-FTB | 11CO-305 |
| DTA-A | LOT-D |
| OP11-KP1 | DSLTFB |
| NTC-H | SRPC-2M72-STP |
| 11CO-305 | |

| | |
|--|----------|
| DTC-H | 11CO-305 |
| PIP SUMMARY | |
| ☒ Time Mark Every 60 S | |

| | |
|----------------|--|
| Tension (TENS) | |
| 0.2 | Std. Res. Invaded Zone Res: 1111 / (R)OZ
(OHMM) |
| | 2000 |
| | AIT-H 90 Inch Investigation (AHT90) |

| | | |
|-------------------------------------|-----------|------|
| SP [-15+ mV] (SP) | 25000 (N) | 0 |
| -120 (MV) | | |
| AIT-H 60 Inch Investigation (AIT60) | | |
| 0.2 | (OHMM) | 2000 |

| | | | | | |
|---|--------------------------|-----|-----|---|------|
| 0 | Gamma Ray (GR)
(GAPI) | 150 | 0.2 | AIT-H 30 Inch Investigation (AIT30)
(OHMM) | 2000 |
|---|--------------------------|-----|-----|---|------|

| | | | | | | |
|-----------------------------|-----|--|--|--|---|-------|
| | | | | | AIT-H 20 Inch Investigation (AHT20)
(OHMM) | 2000 |
| | | | | | 0.2 | |
| BH Size (BS)
125
(mm) | 375 | | | | | |
| | | | | | | Stuck |

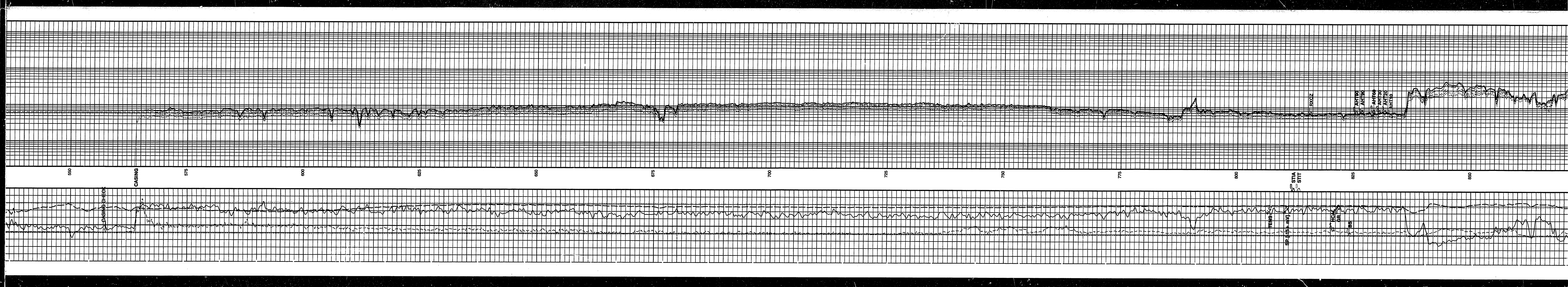
| HILT Calliper (HCAL)
(MM) | STRETCH
(STT) | STRETCH
(N) | 20 | 0.2 | 2000 |
|------------------------------|------------------|----------------|----|-----|------|
| 125 | 375 | 0 | | | |

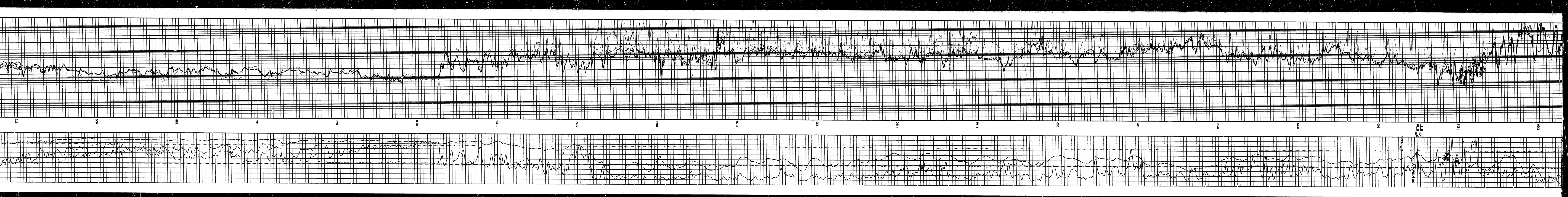
[illegible][illegible]

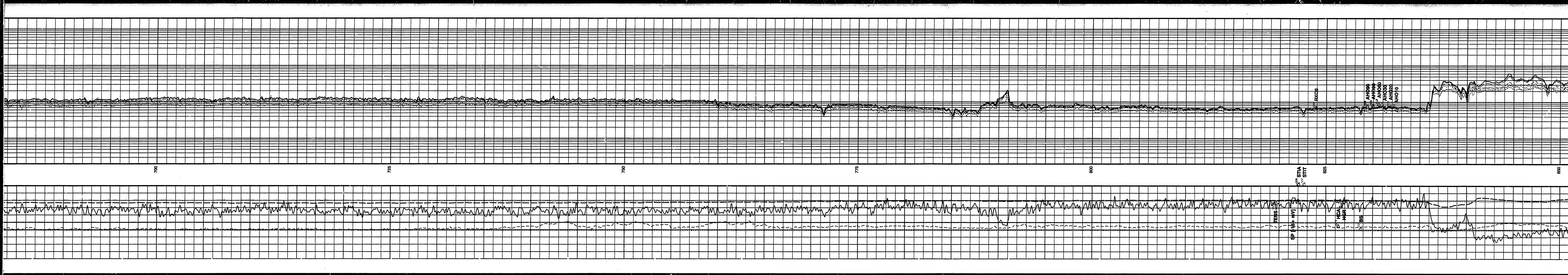
A vertical rectangular sheet of white paper featuring a black grid pattern. The grid consists of small squares, typical of standard graph paper used for mathematics or engineering. There are no margins, text, or other markings on the page.

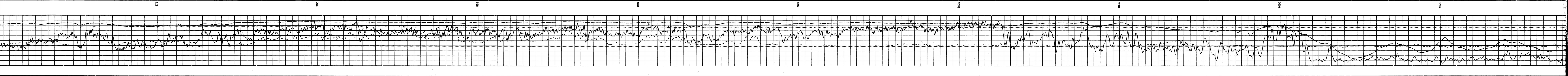
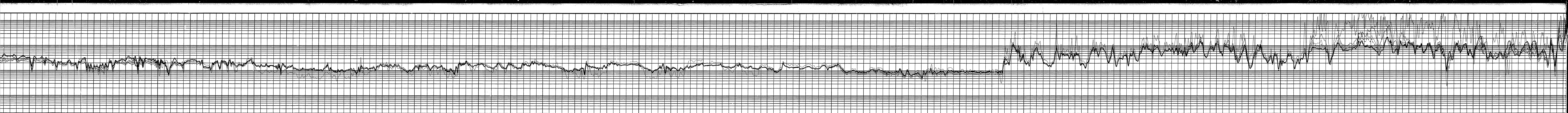
A vertical rectangular sheet of white paper featuring a black grid pattern. The grid consists of small squares, typical of standard graph paper used for technical drawing or mathematics. There are no margins, text, or other markings on the page.

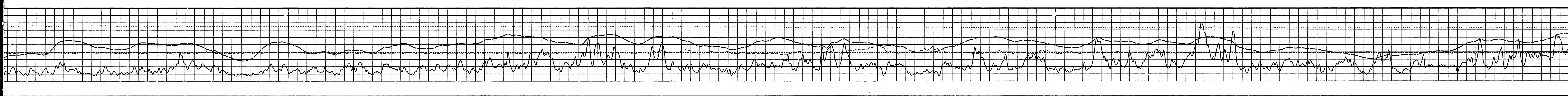
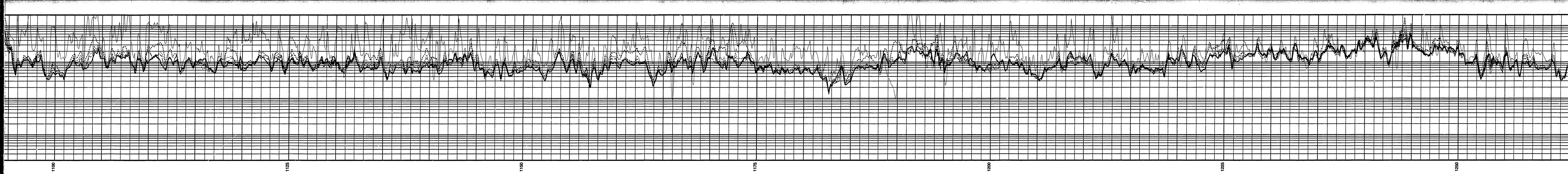
[illegible]

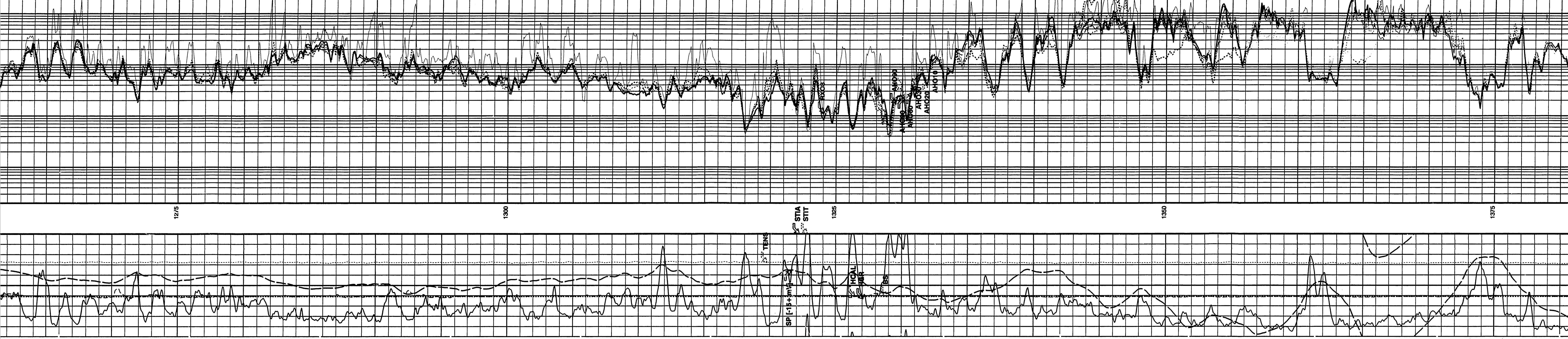












| Condition | Control (%) | Mild (%) | Severe (%) |
|-----------|-------------|----------|------------|
| 1 | 85 | 65 | 35 |
| 2 | 80 | 60 | 30 |
| 3 | 85 | 65 | 35 |
| 4 | 80 | 60 | 25 |
| 5 | 85 | 65 | 35 |

| MRES SECTION: *** PLATFORM EXPRESS - ARRAY INDUCTION *** | | AIT-H 10 Inch Investigation (AHO10) | |
|--|---------------------|-------------------------------------|--------|
| | | Shuck
Stretch
(STTT) | (OHMM) |
| 125 | MILT Caliper (HCAL) | 375 | 0 |
| | (MM) | (N) | 20 |

| Beam Size (BS)
(mm) | Beam Size (BS)
(mm) | Beam Size (BS)
(mm) | Beam Size (BS)
(mm) |
|------------------------|------------------------|------------------------|------------------------|
| 125 | 125 | 375 | 375 |
| 0 | 0 | 150 | 150 |

| SP (-15 + sV) (SP) | Tension (TENS) | AIT-H 60 Inch Investigation (AHO60) | 2000 |
|--------------------|----------------|-------------------------------------|------|
| (MV) | 25000 (N) | (CHMM) | |
| -120 | 0 | 0.2 | 2000 |
| | | AIT-H 90 Inch Investigation (AHO90) | 2000 |
| | | (CHMM) | |

| PIP SUMMARY | |
|-------------|---|
| 0.2 | H. Res. Invaded ZONE Head: 11' (HX-36)
(CHIMM) |

...Acquired data from HILT/HAIT
 ***** Borehole's Correction *****
 Effective Tool Standoff computed. Borehole diameter and mud res. taken as input (see GCSE and GRSE parameters)
 Tool is run in ECENTERED mode with a tool stand-off of 38-10 MM. Bit Size is 222.00 MM.
 ***** Input Selections to AIT-H Answer Product *****
 Customer (GCSE, UCAI) Mud Description (AIT-H)

```

Compiler (C compiler, Fortran compiler) .....
Number of processors used by AIT-H Answer Product Processing .....
***** AIT-H Answer Product Processing Control Parameters *****
(AIAPPL): 2, BholeCort_BasicLoge
(AIHBMM): 2, ComputeStandoff (AIHBMM): 6, One_Two_and_Four

```

| Parameters | | Value |
|------------|--|-------|
| DLIS Name | Description | |
| HILTB-FTTB | High resolution Interfered Tension Tooltubes | |

| | Array induction | Borehole Correction Code | 2. ComputeStandoff |
|------|--|--------------------------|--------------------|
| ABHM | Array induction Borehole Correction Code | Version Number | 880 |
| ABHY | Array induction Basic Logic Mode | Version Number | 6_One_Two_and_Four |
| ABHL | Array induction Logging Mode | Version Number | Yes |
| ABHE | Array induction Casing Detection Enable | Version Number | Yes |
| ABHD | Array induction Tool Centering Flag (in Borehole) | Version Number | Yes |
| ABHN | Array induction Tool Centering Flag (in Borehole) | Version Number | Yes |
| ABHE | Array induction Response Set, Version for Four ft Resolution | Version Number | 407.024.21 |
| ABHE | Array induction Response Set, Version for Four ft Resolution | Version Number | 407.024.21 |

| | | |
|--------|--|-------------|
| AHORSV | Array Induction Response Set Version for One ft Resolution | 40.70.24.21 |
| ARFV | Array Induction Radial Profiling Code Version Number | 700 |
| ASV | Array Induction Radial Profiling Code Version Number | 223 |
| AUSTA | Array Induction Parameterization Code Version Number | 223 |
| ASV | Array Induction Response Set Version for Two ft Resolution | MM |
| ATRSV | Array Induction Response Set Version for Two ft Resolution | 40.70.23.31 |
| BHT | Bottom Hole Temperature (used in calculations) | 49 |
| EXP | Form Factor Exponent | 2 |
| FLM | Form Factor Multiplier | 2 |

| | DEG | DC/M | DEGC |
|---|-----------|------|------|
| HCAL | 0 | | |
| Average Angular Deviation of Borehole from Normal | 0.016227 | | |
| Generalized Caliper Selection | 0.016227 | | |
| Generalized Mud Resistivity Selection | ATU5_HTEM | | |
| Generalized Temperature Selection | HCAL | | |
| MCFL Processing Operation Mode | 20 | | |
| MCFL Process Hole Temperature | 20 | | |
| SD | 20 | | |
| SPV | 20 | | |
| GCSE | | | |
| ODSV | | | |
| GRSE | | | |
| MPDF | | | |
| SPV | | | |

| STI: Stuck Tool Indicator | | Trigger for MAXIS First Reading | Label | U | MM |
|---------------------------|-----|---------------------------------|---------|----|----|
| BFR | TDL | Total Back | 1.524 | M | |
| TKT | TDD | Total Depth - Logger | 1435.50 | M | |
| TDL | TDS | Total Depth - Sticks | 1435.50 | M | |
| BS | BS | System and Miscellaneous | 222.000 | MM | |
| DFD | DFD | Drilling Fluid Density | | | |

| | | | | | |
|--|-----------------|-------------|--------|---|--|
| DORL | | DRMS | M | | |
| NST | | M | M | | |
| ID | | 1.4 | M | | |
| | | 15.00 | DEGC | | |
| | | Total Depth | 1425.5 | M | |
| Format:ATH1 S10 | Vertical Scale: | 1:1720 | | | |
| <hr/> | | | | | |
| OP System Version: 11C0-305 | | | | | |
| <hr/> | | | | | |
| Graphics File Created: 11-Feb-2004 03:41 | | | | | |

| Output DLIS Files | |
|-------------------|---------------|
| | INCM |
| HILTB-FTB | 11C0-305 |
| DATA-A | OPT1-40PI |
| DTCH-I | 11C0-305 |
| | LDT-D |
| | DSL-FTB |
| | 11C0-305 |
| | SAPC-2472-STP |

| Output DLIS Files | | | |
|-------------------|------------------------|-------------------|-------------------|
| DEFAULT
BACKUP | AT_TLD_MCFI_CNL_007LUP | FN-9
PRODUCER | 11-Feb-2004 03:41 |
| | AT_TLD_MCFI_CNL_007LUP | FN-10
PRODUCER | 11-Feb-2004 03:56 |

| DEFAULT
BACKUP | AT_TLD_MCFE_ONL_007LUP
AT_TLD_MCFE_ONL_007LUP | FLAG
FLAG | PRODUCER
PRODUCER | 11-Feb-2004 03:41
11-Feb-2004 03:56 | 1428.3 M
1428.3 M | 492.7 M
492.7 M |
|--|--|--------------|----------------------|--|----------------------|--------------------|
| HRDD Processing Flags Statistical Analysis: | | | | | | |
| Processes completed on 11-Feb-2004 03:56 | | | | | | |

Percentages computed on 1188781 40x32 to 1800x5 ft (1415.2 to 567.1 m)

| | | |
|------------------|-------|-----------|
| Per Flags Up | 1.0 % | Windows 1 |
| Density Flags Up | 0.0 % | Windows 2 |
| | | Windows 3 |
| | | Windows 4 |

| | Window 1 | Window 2 | Window 3 | Window 4 |
|---------------------------------|----------|----------|----------|----------|
| SS Average Reconstruction Error | 1.47 % | 0.80 % | -0.35 % | |
| SS Average Reconstruction Error | -0.15 % | -0.07 % | -0.16 % | -0.01 % |
| LS Average Reconstruction Error | -0.01 % | 1.17 % | 0.38 % | -0.28 % |

| | |
|-----------|---------------|
| HALTB-FTB | 11C0-305 |
| DTA-A | 0911-KP1 |
| DTCH-I | 11C0-305 |
| LOT-D | 11C0-305 |
| DSL-FTB | SRPC-2472-3TP |

| | |
|--|---|
| Time Mark Every 60 S | PIP SUMMARY |
| AIT-H Mud Full Cal (AHMF)
0 5
(OHMF) | AIT-H QC Fully Calibrated A8 Signal
ILLI T Cellar (HPC 01) |

| | | |
|--------|------------------------------------|---------|
| 125 | --- | U.S.-H. |
| (RM) | --- | 376 |
| <hr/> | | |
| -5 | HMS Deviation (GDEV) | |
| | (DEG) | 45 |
| <hr/> | | |
| 2 | AT-H QC Fully Calibrated A7 Signal | |
| (NM/M) | --- | 20000 |
| <hr/> | | |
| 2 | (A)OASIN(T) | |
| (NM/M) | --- | 20000 |

[illegible]

| | | | | | | | |
|--|----------------------|------------------------------------|---|----------------------------------|---|---------------------------------|------|
| 125 | BN Size (BS)
(mm) | 375 | 2 | 20000 | 2 | 20000 | 4400 |
| AT-H QC Fully Calibrated A4 Signal
(A4-CMBN(3)) | | AT-H QC Fully Calibrated A3 Signal | | Density Correction (HDBR)
450 | | Density Correction (HDBR)
50 | |
| AT-H Whole/Form Signal Ratio (AHBFR) | | | | | | | |

[illegible]

| | | |
|---------------------------------------|------|---------|
| Std. Res. Resistivity Standoff (RSDZ) | 65 | (MIL) |
| Tension (TENS) | 0 | (PSI) |
| | 2000 | |
| | 2000 | |
| AT-H QC Fully Calibrated A1 Signal | | |
| (A-HOZEN)(U) | 2 | 20000 |
| | | (MIL/M) |
| GR Borehole Correction Factor (CFGR) | 0.5 | (--) |
| | | 1.5 |

LOG QUALITY: *** PLATFORM EXPRESS ***

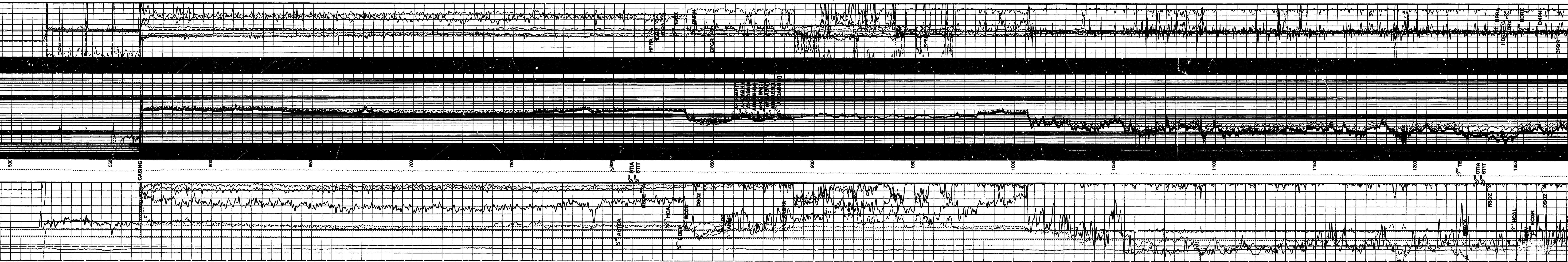
*** Flag Tracks ***
 White = Absent Green = Good Yellow = Warn Red = Bad

RESISTIVITY TRACK :

- 1. MCFL Hardware
- 2. RXO Processing
- 3. HAIT Hardware
- 4. HAIT Array[1-2]
- 5. HAIT Array[3-4]
- 6. HAIT Array[5-6]
- 7. HAIT Array[7-8]

NUCLEAR TRACK :

- 1. Accelerometer
- 2. Density Detector
- 3. Neutron Porosity
- 4. Density Computation
- 5. Por Computation



| | | | | | | |
|---|--------|-----------|-----------|-----------|-----------|-----------|
| 1 | 1.100 | (Nominal) | (Maximum) | 1.150 | (Nominal) | (Maximum) |
| | 0.8000 | (Nominal) | 1.200 | (Nominal) | 0.8000 | (Nominal) |
| 2 | 1.100 | (Nominal) | 1.150 | (Nominal) | 1.000 | (Nominal) |
| | 0.8000 | (Nominal) | 1.200 | (Nominal) | 0.8000 | (Nominal) |
| 3 | 1.100 | (Nominal) | 1.150 | (Nominal) | 1.000 | (Nominal) |
| | 0.8000 | (Nominal) | 1.200 | (Nominal) | 0.8000 | (Nominal) |

Master: 11-Feb-2004 2:38

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|-------------------|-----------|--------------------------|-------------------|-----------|--------------------------|-------------------|-----------|--------------------------|
| SAS Measurement Summary | | | | | | | | | |
| Phase | BS Window Ratio | Value | Phase | SS Window Ratio | Value | Phase | LS Window Ratio | Value | Phase |
| Before | 0.745 | 0.7501 | Before | 0.481 | 0.4828 | Before | 0.247 | 0.2517 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| Phase | BS Window Sum CPS | Value | Phase | SS Window Sum CPS | Value | Phase | LS Window Sum CPS | Value | Phase |
| Before | 11250 | 11150 | Before | 11250 | 11120 | Before | 11250 | 11248 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 10980 | | | 10810 | | | 10740 | | | 10670 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 |

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|------------------------------|-----------|--------------------------|-----------|------------------------------|--------------------------|-----------|-----------|------------------------------|
| Photo-multiplier High Voltage Calibration | | | | | | | | | |
| Phase | BS PM High Voltage (Command) | V | Value | Phase | BS PM High Voltage (Command) | V | Value | Phase | LS PM High Voltage (Command) |
| Before | 1848 | 1848 | 1819 | Before | 1848 | 1819 | 1844 | Before | 1844 |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 1748 | | | 1748 | | | 1748 | | | 1748 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 |

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|-------------------------|-----------|--------------------------|-------------------------|-----------|--------------------------|-------------------------|-----------|--------------------------|
| Crystal Quality Resolutions Calibration | | | | | | | | | |
| Phase | BS Crystal Resolution % | Value | Phase | SS Crystal Resolution % | Value | Phase | LS Crystal Resolution % | Value | Phase |
| Before | 10.41 | 11.41 | Before | 9.85 | 10.08 | Before | 8.010 | 8.010 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 10.41 | | | 9.85 | | | 8.010 | | | 8.010 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 | | | Before: 8-Feb-2004 14:27 |

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|-------------------------|-----------|--------------------------|-------------------------|-----------|--------------------------|-------------------------|-----------|--------------------------|
| MCFL Calibration | | | | | | | | | |
| Phase | Raw B0 Resistivity OHMM | Value | Phase | Raw B1 Resistivity OHMM | Value | Phase | Raw B2 Resistivity OHMM | Value | Phase |
| Before | 3565 | 3575 | Before | 3564 | 3530 | Before | 3564 | 3530 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 3565 | | | 3564 | | | 3564 | | | 3564 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 8-Feb-2004 14:28 | | | Before: 8-Feb-2004 14:28 | | | Before: 8-Feb-2004 14:28 | | | Before: 8-Feb-2004 14:28 |

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|----------------------------------|-----------|--------------------------|----------------------------------|-----------|--------------------------|-------------------------|-----------|--------------------------|
| PILT Caliper Calibration | | | | | | | | | |
| Phase | PILT Caliper Zero Measurement MM | Value | Phase | PILT Caliper Plus Measurement MM | Value | Phase | Raw B2 Resistivity OHMM | Value | Phase |
| Before | 195.2 | 195.4 | Before | 195.4 | 195.4 | Before | 301.9 | 301.9 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 195.2 | | | 195.4 | | | 301.9 | | | 301.9 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 8-Feb-2004 14:28 | | | Before: 8-Feb-2004 14:28 | | | Before: 8-Feb-2004 14:28 | | | Before: 8-Feb-2004 14:28 |

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|---------------------------|-----------|--------------------------|----------------------------|-----------|--------------------------|-----------------------------|-----------|--------------------------|
| Detector Calibration Check - Thru Cal Mag, & Phase | | | | | | | | | |
| Phase | Gamma Ray Background GAPI | Value | Phase | Gamma Ray (J/g - Bkg) GAPI | Value | Phase | Gamma Ray (Calibrated) GAPI | Value | Phase |
| Before | 0 | 20.78 | Before | 150.2 | 180.2 | Before | 150.0 | 180.0 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 0 | | | 150.2 | | | 150.0 | | | 150.0 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 8-Feb-2004 14:21 | | | Before: 8-Feb-2004 14:21 | | | Before: 8-Feb-2004 14:21 | | | Before: 8-Feb-2004 14:21 |

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|---------------------|-----------|--------------------------|---------------------|-----------|--------------------------|-------------------------|-----------|--------------------------|
| Zero Measurement | | | | | | | | | |
| Phase | CNTG Background CPS | Value | Phase | CFTG Background CPS | Value | Phase | Raw B2 Resistivity OHMM | Value | Phase |
| Master | 28.04 | 28.04 | Master | 27.25 | 27.25 | Master | 31.33 | 31.33 | Master |
| Before | 28.04 | 28.04 | Before | 27.25 | 27.25 | Before | 31.33 | 31.33 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 28.04 | | | 27.25 | | | 31.33 | | | 31.33 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 8-Feb-2004 11:28 | | | Before: 8-Feb-2004 11:28 | | | Before: 8-Feb-2004 11:28 | | | Before: 8-Feb-2004 11:28 |

| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
|---|---------------------------|-----------|--------------------------|---------------------------|-----------|--------------------------|---------------------------|-----------|--------------------------|
| Wellsite Calibration | | | | | | | | | |
| Phase | Accelerometer Calibration | Value | Phase | Accelerometer Calibration | Value | Phase | Accelerometer Calibration | Value | Phase |
| Before | 9.810 | 9.813 | Before | 9.810 | 9.813 | Before | 9.810 | 9.813 | Before |
| (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) | (Minimum) |
| 9.810 | | | 9.810 | | | 9.810 | | | 9.810 |
| (Nominal) | | | (Nominal) | | | (Nominal) | | | (Nominal) |
| Before: 11-Feb-2004 2:37 | | | Before: 11-Feb-2004 2:37 | | | Before: 11-Feb-2004 2:37 | | | Before: 11-Feb-2004 2:37 |

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | |
|--|--------|----------------------|--------|----------------------|----------------------|-----------|--------|---------------------------|--------|
| Electronics Calibration Check - Thru Cal Mag, & Phase | | | | | | | | | |
| Idx | Phase | Thru Cal Magnitude V | Value | Phase | Thru Cal Magnitude V | Value | Phase | Thru Cal Magnitude V | Value |
| 0 | Master | 0.6159 | 0.494 | Master | 0.6159 | 0.494 | Master | 0.6159 | 0.494 |
| 1 | Master | 1.263 | 1.270 | Master | 1.263 | 1.270 | Master | 1.263 | 1.270 |
| 2 | Master | 0.6267 | 0.6260 | Master | 0.6267 | 0.6260 | Master | 0.6267 | 0.6260 |
| 3 | Master | 0.7081 | 0.7040 | Master | 0.7081 | 0.7040 | Master | 0.7081 | 0.7040 |
| 4 | Master | 1.329 | 1.337 | Master | 1.329 | 1.337 | Master | 1.329 | 1.337 |
| 5 | Master | 1.919 | 1.955 | Master | 1.919 | 1.955 | Master | 1.919 | 1.955 |
| 6 | Master | 1.922 | 1.955 | Master | 1.922 | 1.955 | Master | 1.922 | 1.955 |
| 7 | Master | 1.377 | 1.415 | Master | 1.377 | 1.415 | Master | 1.377 | 1.415 |
| | | | | 60.00 %
(Minimum) | | (Nominal) | | Norm + 50.00
(Maximum) | |
| Master: 11-Jan-2004 18:19 | | | | | | | | | |

**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**

SONIC

Province: NORTHWEST TERRITORIES
Field: UNDEFINED
Location: 300J8664401250
Well: ECA ET AL BEGADEH J-66
Company: ENCANACORPORATION

Logging Date: 2-Feb-2004
Run Number: ONE
Depth Driller: 563.5 m
Schlumberger Depth: 564 m
Bottom Log Interval: 546.7 m
Top Log Interval: 66.6 m
Casing Driller Size @ Depth: 339.700 mm @ 66.6 m
Casing Schlumberger: 66.6 m
Bit Size: 311.000 mm
Type Fluid In Hole: GEL CHEM
Density: 1175 kg/m3
Fluid Loss: 12 cm3
Source Of Sample: FLOWLINE
RM @ Measured Temperature: 4.930 ohm.m @ 11 degC
RMF @ Measured Temperature: 3.697 ohm.m @ 11 degC
RMC @ Measured Temperature: 7.395 ohm.m @ 11 degC
Source RMT: PRESSED
RM @ MRT: 2.996 @ 32
Maximum Recorded Temperatures: 32 degC
Circulation Stopped: 2-Feb-2004 15:30
Logger On Bottom: 2-Feb-2004 23:50
Unit Number: 3052
Recorded By: N. SANTOS K. RONCIN
Witnessed By: GLEN MACINTOSH

Logging Date: 2-Feb-2004
Run Number: ONE
Depth Driller: 563.5 m
Schlumberger Depth: 564 m
Bottom Log Interval: 546.7 m
Top Log Interval: 66.6 m
Casing Driller Size @ Depth: 339.700 mm @ 66.6 m
Casing Schlumberger: 66.6 m
Bit Size: 311.000 mm
Type Fluid In Hole: GEL CHEM
Density: 1175 kg/m3
Fluid Loss: 12 cm3
Source Of Sample: FLOWLINE
RM @ Measured Temperature: 4.930 ohm.m @ 11 degC
RMF @ Measured Temperature: 3.697 ohm.m @ 11 degC
RMC @ Measured Temperature: 7.395 ohm.m @ 11 degC
Source RMT: PRESSED
RM @ MRT: 2.996 @ 32
Maximum Recorded Temperatures: 32 degC
Circulation Stopped: 2-Feb-2004 15:30
Logger On Bottom: 2-Feb-2004 23:50
Unit Number: 3052
Recorded By: N. SANTOS K. RONCIN
Witnessed By: GLEN MACINTOSH

ENCANA CORPORATION
ECA ET AL BEGADEH J-66
UNDEFINED
NORTHWEST TERRITORIES

BOREHOLE COMPENSATED SONIC LOG
N.E.B. COPY

UWID: 300J866440125000
LSD: J-66
Elev.: K.B. 195.6 m
G.L. 190.6 m
D.F. 195.3 m
Permanent Datum: GROUND LEVEL
Log Measured From: KELLY BUSHING
Drilling Measured From: KELLY BUSHING
API Serial No. N0004060
Latitude: 64 DEG 39' N
Longitude: 125 DEG 11' W

Run 1
Run 2
Run 3
Run 4

DEPTH SUMMARY LISTING

Date Created: 3-FEB-2004 1:43:42

Depth System Equipment

Depth Measuring Device

Depth Control Parameters

Depth Control Remarks

1. CALIBRATED IDW WHEELS USED FOR PRIMARY DEPTH CONTROL

2.

3.

4.

5.

6.

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
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Rig Up Length Correction: 0.00 M
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Stretch Correction: 0.40 M
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Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
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Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
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Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

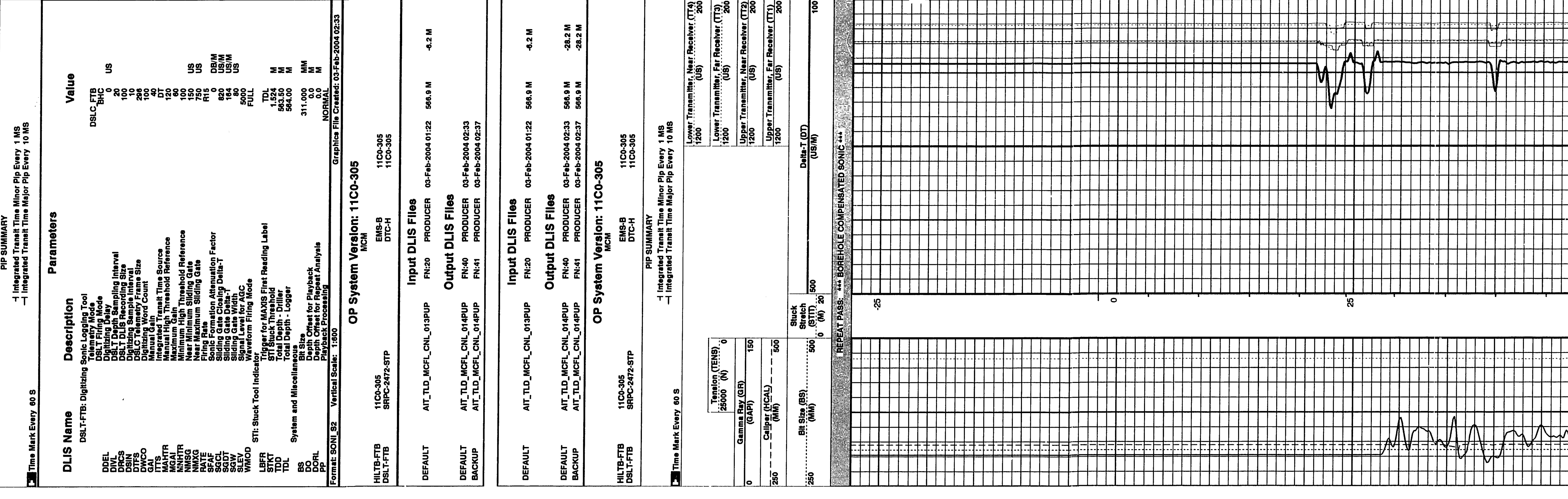
Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

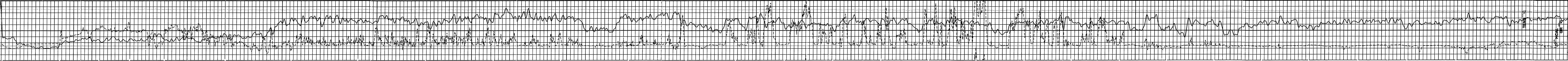
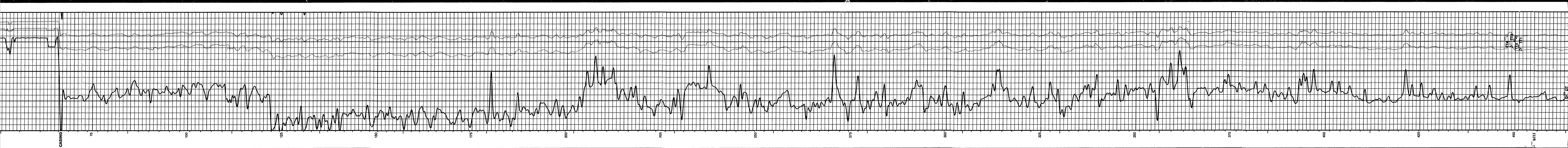
Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

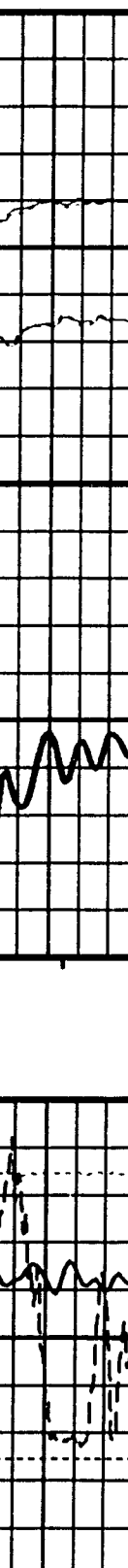
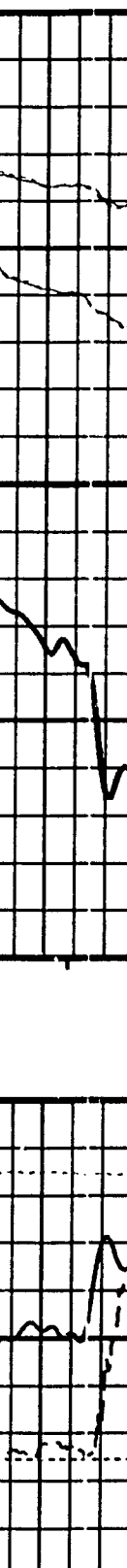
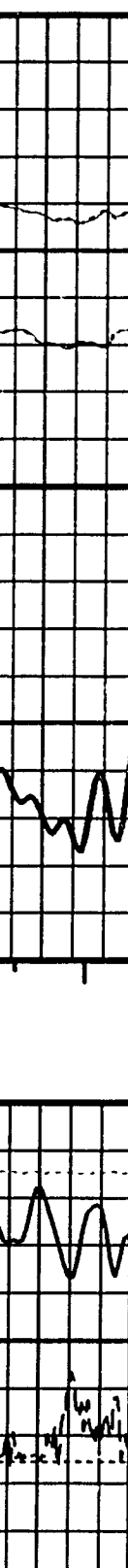
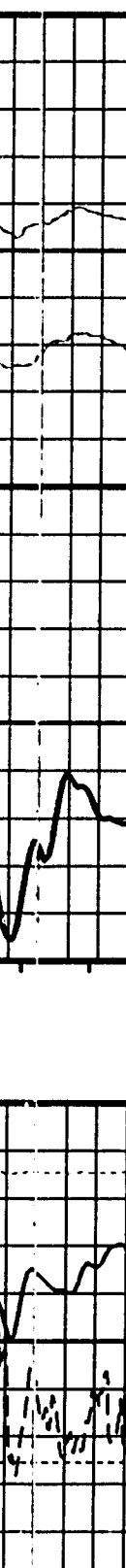
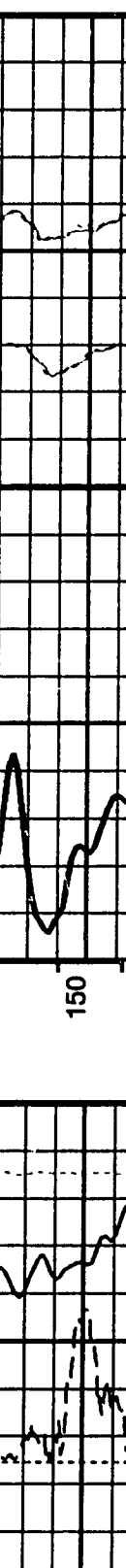
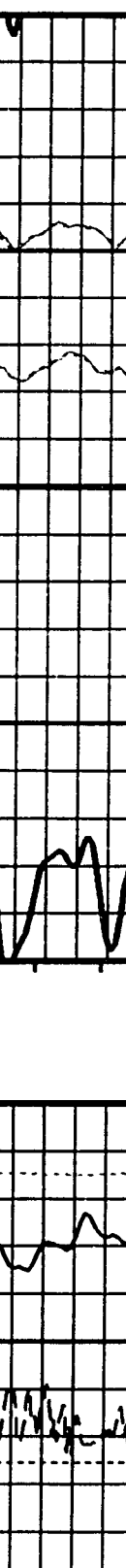
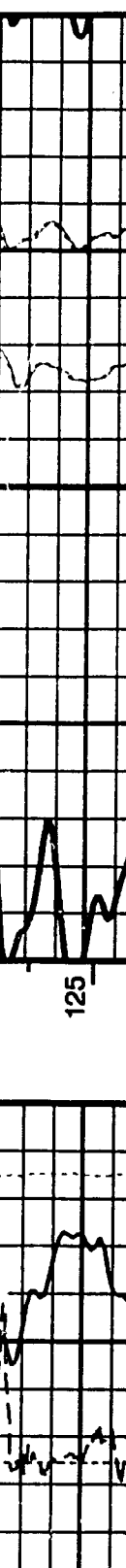
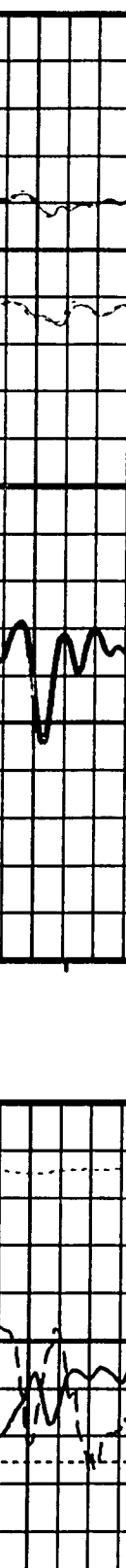
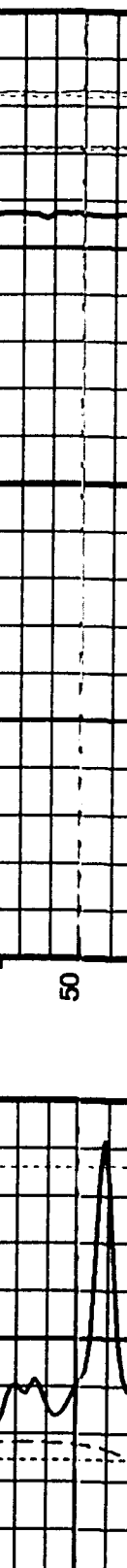
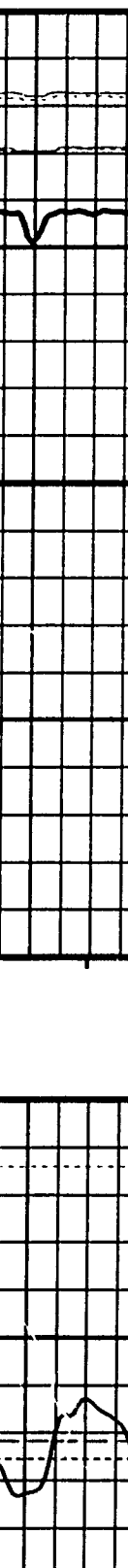
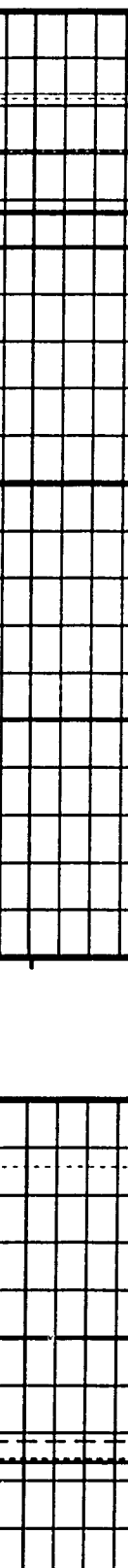
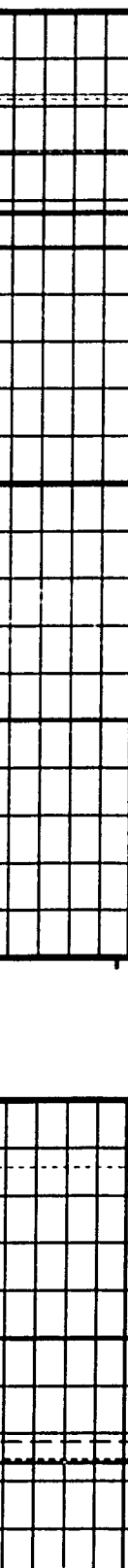
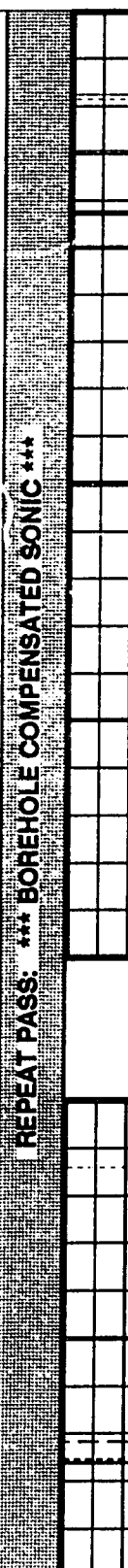
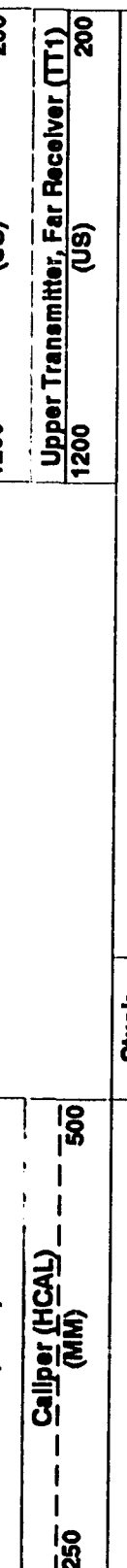
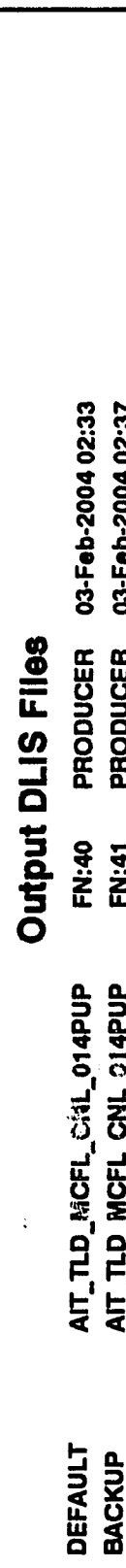
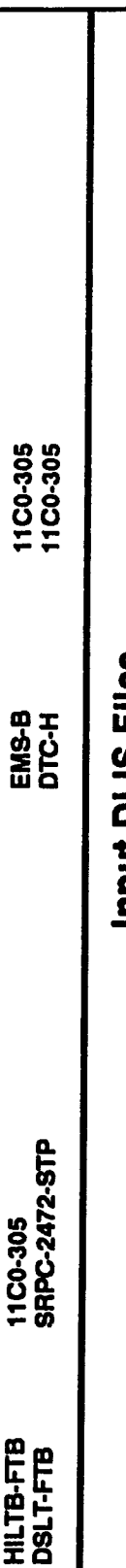
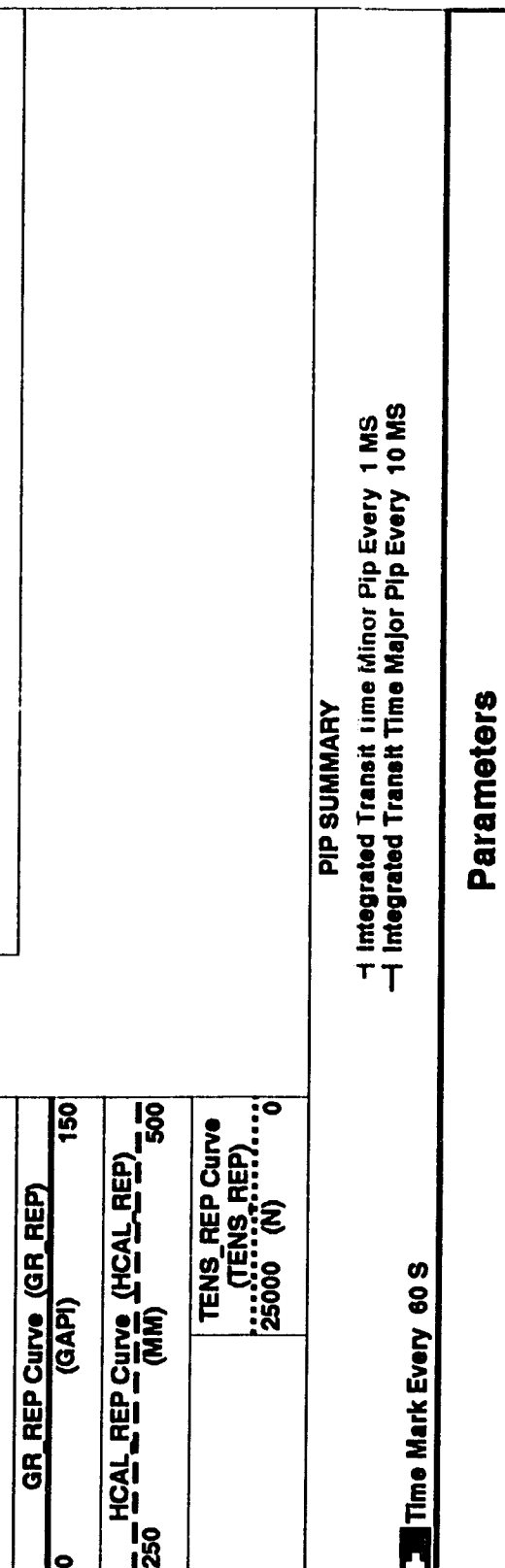
Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

Log Sequence:
First Log In the Well
Rig Up Length At Surface: 63.00 M
Rig Up Length At Bottom: 63.00 M
Rig Up Length Correction: 0.00 M
Stretch Correction: 0.40 M
Tool Zero Check At Surface: 0.00 M

[illegible]





| | | | | | | | | | |
|--|--------|-----|--------|-----|-----|--------|-----|-----|------|
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Sub Measurement Summary | | | | | | | | | |
| Before: 23-Jan-2004 17:07 | | | | | | | | | |
| BS Window Ratio | 0.7521 | N/A | 0.7524 | N/A | N/A | 0.7524 | N/A | N/A | CPS |
| SS Window Sum | 11250 | N/A | 11270 | N/A | N/A | 11270 | N/A | N/A | CPS |
| SS Min Window | 0.4801 | N/A | 0.4809 | N/A | N/A | 0.4809 | N/A | N/A | CPS |
| SS Window Ratio | 0.2382 | N/A | 0.2382 | N/A | N/A | 0.2382 | N/A | N/A | CPS |
| LS Window Sum | 1247 | N/A | 1249 | N/A | N/A | 1249 | N/A | N/A | CPS |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations | | | | | | | | | |
| Before: 23-Jan-2004 17:07 | | | | | | | | | |
| BS PM High Voltage (Command) | 1849 | N/A | 1818 | N/A | N/A | 1818 | N/A | N/A | V |
| SS PM High Voltage (Command) | 1919 | N/A | 1855 | N/A | N/A | 1855 | N/A | N/A | V |
| LS PM High Voltage (Command) | 1944 | N/A | 1982 | N/A | N/A | 1982 | N/A | N/A | V |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration | | | | | | | | | |
| Before: 23-Jan-2004 17:07 | | | | | | | | | |
| BS Crystal Resolution | 11.41 | N/A | 11.18 | N/A | N/A | 11.18 | N/A | N/A | % |
| SS Crystal Resolution | 10.08 | N/A | 10.18 | N/A | N/A | 10.18 | N/A | N/A | % |
| LS Crystal Resolution | 8.010 | N/A | 8.619 | N/A | N/A | 8.619 | N/A | N/A | % |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration | | | | | | | | | |
| Before: 23-Jan-2004 17:08 | | | | | | | | | |
| Raw B0 Resistivity | 3875 | N/A | 3857 | N/A | N/A | 3857 | N/A | N/A | OHMM |
| Raw B1 Resistivity | 3830 | N/A | 3833 | N/A | N/A | 3833 | N/A | N/A | OHMM |
| Raw B2 Resistivity | 3830 | N/A | 3845 | N/A | N/A | 3845 | N/A | N/A | OHMM |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration | | | | | | | | | |
| Before: 23-Jan-2004 17:27 | | | | | | | | | |
| HILT Caliper Zero Measurement | 203.2 | N/A | 197.3 | N/A | N/A | 197.3 | N/A | N/A | MM |
| HILT Caliper Plus Measurement | 304.5 | N/A | 305.5 | N/A | N/A | 305.5 | N/A | N/A | MM |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Detector Calibration | | | | | | | | | |
| Before: 23-Jan-2004 17:11 | | | | | | | | | |
| Gamma Ray Background | 30.00 | N/A | 26.40 | N/A | N/A | 26.40 | N/A | N/A | GAPI |
| Gamma Ray (Jig - Bg) | 164.7 | N/A | 164.7 | N/A | N/A | 164.7 | N/A | N/A | GAPI |
| Gamma Ray (Calibrated) | 165.0 | N/A | 165.0 | N/A | N/A | 165.0 | N/A | N/A | GAPI |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Zero Measurement | | | | | | | | | |
| Before: 23-Jan-2004 17:15 | | | | | | | | | |
| CNTC Background | 26.04 | N/A | 26.35 | N/A | N/A | 26.35 | N/A | N/A | CPS |
| CFTC Background | 27.25 | N/A | 28.84 | N/A | N/A | 28.84 | N/A | N/A | CPS |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Accelerometer Calibration | | | | | | | | | |
| Before: 2-Feb-2004 23:02 | | | | | | | | | |
| Z-Axis Acceleration | 9.810 | N/A | 9.810 | N/A | N/A | 9.810 | N/A | N/A | M/S2 |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Inversion results | | | | | | | | | |
| Master: 15-Jan-2004 17:37 | | | | | | | | | |
| Rho Aluminum | 2598 | -- | 2598 | -- | -- | 2598 | -- | -- | KMG |
| Rho Magnesium | 2570 | -- | 2559 | -- | -- | 2559 | -- | -- | KMG |
| Pe Magnesium | 2.650 | -- | 2.827 | -- | -- | 2.827 | -- | -- | -- |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Deviation Summary | | | | | | | | | |
| Master: 15-Jan-2004 17:37 | | | | | | | | | |
| SS Average Deviation | 0 | -- | 0.3931 | -- | -- | 0.3931 | -- | -- | % |
| SS Max Deviation | 0 | -- | 1.278 | -- | -- | 1.278 | -- | -- | % |
| SS Angle Deviation | 0 | -- | 0.3009 | -- | -- | 0.3009 | -- | -- | % |
| SS Max Deviation | 0 | -- | 0.853 | -- | -- | 0.853 | -- | -- | % |
| LS Average Deviation | 0 | -- | 1.483 | -- | -- | 1.483 | -- | -- | % |
| LS Max Deviation | 0 | -- | 1.483 | -- | -- | 1.483 | -- | -- | % |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Tank Measurement | | | | | | | | | |
| Master: 16-Jan-2004 11:48 | | | | | | | | | |
| Thermal Near Corr. (Tank) | 6031 | -- | 6037 | -- | -- | 6037 | -- | -- | CPS |
| Thermal Far Corr. (Tank) | 2793 | -- | 2542 | -- | -- | 2542 | -- | -- | CPS |
| CNTC/CFTC (Tank) | 2.159 | -- | 2.375 | -- | -- | 2.375 | -- | -- | CPS |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Tank Measurement | | | | | | | | | |
| Master: 16-Jan-2004 11:48 | | | | | | | | | |
| Thermal Near Corr. (Tank) | 6031 | -- | 6037 | -- | -- | 6037 | -- | -- | CPS |
| Thermal Far Corr. (Tank) | 2793 | -- | 2542 | -- | -- | 2542 | -- | -- | CPS |
| CNTC/CFTC (Tank) | 2.159 | -- | 2.375 | -- | -- | 2.375 | -- | -- | CPS |
| Environment Measurement Sonde Wellsite Calibration - EMS Caliper Calibration | | | | | | | | | |
| Before: 28-Jan-2004 15:55 | | | | | | | | | |
| Radius 1 Short Radius | 191.6 | N/A | 88.40 | N/A | N/A | 88.40 | N/A | N/A | MM |
| Radius 1 Long Radius | 203.2 | N/A | 180.4 | N/A | N/A | 180.4 | N/A | N/A | MM |
| Radius 2 Short Radius | 101.6 | N/A | 82.18 | N/A | N/A | 82.18 | N/A | N/A | MM |
| Radius 2 Long Radius | 203.2 | N/A | 199.5 | N/A | N/A | 199.5 | N/A | N/A | MM |
| Radius 3 Short Radius | 101.6 | N/A | 91.7 | N/A | N/A | 91.7 | N/A | N/A | MM |
| Radius 3 Long Radius | 203.2 | N/A | 84.48 | N/A | N/A | 84.48 | N/A | N/A | MM |
| Radius 4 Short Radius | 101.6 | N/A | 169.2 | N/A | N/A | 169.2 | N/A | N/A | MM |
| Radius 4 Long Radius | 203.2 | N/A | 79.14 | N/A | N/A | 79.14 | N/A | N/A | MM |
| Radius 5 Short Radius | 203.2 | N/A | 185.7 | N/A | N/A | 185.7 | N/A | N/A | MM |
| Radius 5 Long Radius | 101.6 | N/A | 77.37 | N/A | N/A | 77.37 | N/A | N/A | MM |
| Radius 6 Short Radius | 203.2 | N/A | 185.5 | N/A | N/A | 185.5 | N/A | N/A | MM |
| The GLS-VU source activity is acceptable. | | | | | | | | | |
| The HGNS Neutron Master Calibration was done with the following parameters: | | | | | | | | | |
| NCT-B Water Temperature 20.2 DEG.C. | | | | | | | | | |
| Thermal Housing Size 65.700 MM. | | | | | | | | | |

| | |
|--|--|
| Auxiliary Equipment: | |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration | |
| Electronics Calibration Check - Thru Cal Mag. & Phase | |

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | |
|--|---------------------|-------------------------------|------------------------|------------------------|---------------------|-------------------------------|--------------------|
| Sonde Error Correction | | | | | | | |
| Idx | Value | R Sonde Error Correction MM/M | | | Value | X Sonde Error Correction MM/M | |
| 0 | -37.90 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | -38.81 | <div><div></div></div> | |
| | -231.0
(Minimum) | -58.00
(Nominal) | 119.0
(Maximum) | | -2250
(Minimum) | 0
(Nominal) | 2250
(Maximum) |
| 1 | 168.0 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | 132.9 | <div><div></div></div> | |
| | 114.0
(Minimum) | 158.0
(Nominal) | 204.0
(Maximum) | | -625.0
(Minimum) | 0
(Nominal) | 625.0
(Maximum) |
| 2 | 111.8 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | 68.86 | <div><div></div></div> | |
| | 68.00
(Minimum) | 111.0
(Nominal) | 158.0
(Maximum) | | -350.0
(Minimum) | 0
(Nominal) | 350.0
(Maximum) |
| 3 | 64.01 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | 140.6 | <div><div></div></div> | |
| | 39.00
(Minimum) | 64.00
(Nominal) | 89.00
(Maximum) | | -250.0
(Minimum) | 0
(Nominal) | 250.0
(Maximum) |
| 4 | 23.15 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | -41.23 | <div><div></div></div> | |
| | 15.00
(Minimum) | 25.00
(Nominal) | 35.00
(Maximum) | | -63.00
(Minimum) | 0
(Nominal) | 63.00
(Maximum) |
| 5 | 13.62 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | -8.873 | <div><div></div></div> | |
| | 4.000
(Minimum) | 14.00
(Nominal) | 24.00
(Maximum) | | -50.00
(Minimum) | 0
(Nominal) | 50.00
(Maximum) |
| 6 | 8.867 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | 4.019 | <div><div></div></div> | |
| | 5.000
(Minimum) | 10.00
(Nominal) | 15.00
(Maximum) | | -30.00
(Minimum) | 0
(Nominal) | 30.00
(Maximum) |
| 7 | -0.5818 | <div><div></div></div> | <div><div></div></div> | <div><div></div></div> | -2.271 | <div><div></div></div> | |
| | -5.000
(Minimum) | 0
(Nominal) | 5.000
(Maximum) | | -30.00
(Minimum) | 0
(Nominal) | 30.00
(Maximum) |
| Master: 11-Jan-2004 18:19 | | | | | | | |

Master: 11-Jan-2004 18:19

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | |
|--|-------|---|--------------------|--------------------|-------|---|--|
| Mud Gain Correction | | | | | | | |
| Idx | Value | Coarse - mag, real, imag | | | Value | Fine - mag, real, imag | |
| 0 | 1.000 |  | | | 1.000 |  | |
| | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) | | 0.8000
(Minimum) | 1.000
(Nominal)
1.200
(Maximum) |
| 1 | 1.000 |  | | | 1.000 |  | |
| | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) | | 0.8000
(Minimum) | 1.000
(Nominal)
1.200
(Maximum) |
| 2 | 1.000 |  | | | 1.000 |  | |
| | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) | | 0.8000
(Minimum) | 1.000
(Nominal)
1.200
(Maximum) |

Master: 11-Jan-2004 18:19

Master: 11-Jan-2004 18:19

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | |
|--|---|--------------------|--------------------|-------|--------|---|--------------------|--------------------|-------|
| Inversion results | | | | | | | | | |
| Phase | Rho Aluminum K/M3 | | | Value | Phase | Rho Magnesium K/M3 | | | Value |
| Master |  | | | 2598 | Master |  | | | 1688 |
| | 2588
(Minimum) | 2598
(Nominal) | 2608
(Maximum) | | | 1678
(Minimum) | 1688
(Nominal) | 1698
(Maximum) | |
| Phase | Pe Aluminum | | | Value | Phase | Pe Magnesium | | | Value |
| Master |  | | | 2.558 | Master |  | | | 2.627 |
| | 2.470
(Minimum) | 2.570
(Nominal) | 2.670
(Maximum) | | | 2.550
(Minimum) | 2.650
(Nominal) | 2.750
(Maximum) | |
| Master: 15-Jan-2004 17:57 | | | | | | | | | |

Master: 15-Jan-2004 17:57

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | |
|--|------------------------|----------------|---------------------|--------|--------|------------------------|----------------|--------------------|--------|
| Deviation Summary | | | | | | | | | |
| Phase | BS Average Deviation % | | | Value | Phase | SS Average Deviation % | | | Value |
| Master | | | | 0.3931 | Master | | | | 0.3008 |
| | -0.8000
(Minimum) | 0
(Nominal) | 0.8000
(Maximum) | | | -1.000
(Minimum) | 0
(Nominal) | 1.000
(Maximum) | |
| Phase | BS Max Deviation % | | | Value | Phase | SS Max Deviation % | | | Value |
| Master | | | | 1.276 | Master | | | | 0.6483 |
| | -1.800
(Minimum) | 0
(Nominal) | 1.800
(Maximum) | | | -2.500
(Minimum) | 0
(Nominal) | 2.500
(Maximum) | |
| Phase | LS Average Deviation % | | | Value | Phase | LS Max Deviation % | | | Value |
| Master | | | | 0.8285 | Master | | | | 1.483 |
| | -1.500
(Minimum) | 0
(Nominal) | 1.500
(Maximum) | | | -3.500
(Minimum) | 0
(Nominal) | 3.500
(Maximum) | |

Master: 15-Jan-2004 17:57

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | |
|--|-------------------------------|--------------------|--------------------|-------|--------|------------------------------|--------------------|--------------------|-------|
| Tank Measurement | | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | | | Value | Phase | Thermal Far Corr. (Tank) CPS | | | Value |
| Master | | | | 6037 | Master | | | | 2542 |
| | 5000
(Minimum) | 6031
(Nominal) | 7200
(Maximum) | | | 2075
(Minimum) | 2783
(Nominal) | 3125
(Maximum) | |
| Phase | CNTC/CFTC (Tank) | | | Value | Phase | CNTC/CFTC (Tank) | | | Value |
| Master | | | | 2.375 | Master | | | | 2.375 |
| | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | | | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | |

Master: 16-Jan-2004 11:48

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | |
|--|-------------------------------|--------------------|--------------------|-------|--------|------------------------------|--------------------|--------------------|-------|
| Tank Measurement | | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | | | Value | Phase | Thermal Far Corr. (Tank) CPS | | | Value |
| Master | | | | 6037 | Master | | | | 2542 |
| | 5000
(Minimum) | 6031
(Nominal) | 7200
(Maximum) | | | 2075
(Minimum) | 2783
(Nominal) | 3125
(Maximum) | |
| Phase | CNTC/CFTC (Tank) | | | Value | Phase | CNTC/CFTC (Tank) | | | Value |
| Master | | | | 2.375 | Master | | | | 2.375 |
| | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | | | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | |

Master: 16-Jan-2004 11:48

Environment Measurement Sonde / Equipment Identification

Primary Equipment:

EMS Mechanical
EMS Cartridge

EMM - B
EMC - B

8062
8067

Auxiliary Equipment:

Electronics Cartridge Housing

ECH - KH

8550

| Environment Measurement Sonde Wellsite Calibration | | | | | | | | | |
|--|--------------------------|--------------------|--|--------------------|--------------------|-------------------------|--------------------|--|--------------------|
| EMS Caliper Calibration | | | | | | | | | |
| Phase | Radius 1 Short Radius MM | | | Value | Phase | Radius 1 Long Radius MM | | | Value |
| Before | <div></div> | | | 86.40 | Before | <div></div> | | | 190.4 |
| 78.20
(Minimum) | | 101.6
(Nominal) | | 127.0
(Maximum) | 177.8
(Minimum) | | 203.2
(Nominal) | | 228.6
(Maximum) |
| Phase | Radius 2 Short Radius MM | | | Value | Phase | Radius 2 Long Radius MM | | | Value |
| Before | <div></div> | | | 82.16 | Before | <div></div> | | | 186.5 |
| 78.20
(Minimum) | | 101.6
(Nominal) | | 127.0
(Maximum) | 177.8
(Minimum) | | 203.2
(Nominal) | | 228.6
(Maximum) |
| Phase | Radius 3 Short Radius MM | | | Value | Phase | Radius 3 Long Radius MM | | | Value |
| Before | <div></div> | | | 81.70 | Before | <div></div> | | | 186.2 |
| 78.20
(Minimum) | | 101.6
(Nominal) | | 127.0
(Maximum) | 177.8
(Minimum) | | 203.2
(Nominal) | | 228.6
(Maximum) |
| Phase | Radius 4 Short Radius MM | | | Value | Phase | Radius 4 Long Radius MM | | | Value |
| Before | <div></div> | | | 84.49 | Before | <div></div> | | | 188.2 |
| 78.20
(Minimum) | | 101.6
(Nominal) | | 127.0
(Maximum) | 177.8
(Minimum) | | 203.2
(Nominal) | | 228.6
(Maximum) |
| Phase | Radius 5 Short Radius MM | | | Value | Phase | Radius 5 Long Radius MM | | | Value |
| Before | <div></div> | | | 79.14 | Before | <div></div> | | | 185.7 |
| 78.20
(Minimum) | | 101.6
(Nominal) | | 127.0
(Maximum) | 177.8
(Minimum) | | 203.2
(Nominal) | | 228.6
(Maximum) |
| Phase | Radius 6 Short Radius MM | | | Value | Phase | Radius 6 Long Radius MM | | | Value |
| Before | <div></div> | | | 77.37 | Before | <div></div> | | | 182.5 |
| 78.20
(Minimum) | | 101.6
(Nominal) | | 127.0
(Maximum) | 177.8
(Minimum) | | 203.2
(Nominal) | | 228.6
(Maximum) |

Before: 28-Jan-2004 15:55

Before: 26-Jan-2004 15:55

Company: ENCANA CORPORATION

Well: ECA ET AL BEGADEH J-66

Field: UNDEFINED

Province: NORTHWEST TERRITORIES

BOREHOLE COMPENSATED SONIC LOG

Schlumberger

| Schlumberger | | | | | | | | | | Run 1 | Run 2 | Run 3 | Run 4 |
|---|--|--|--|--|--|--|--|--|--|-------|-------|-------|-------|
| ENCANA CORPORATION

ECA ET AL BEGADEH J-66
UNDEFINED
NORTHWEST TERRITORIES | | | | | | | | | | | | | |
| BOREHOLE COMPENSATED
SONIC LOG
<div style="text-align: center; font-size: 1.5em; font-weight: bold;">N.E.B. COPY</div> | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> UWID: 300J66644011250
 LSD: J-66 </div> <div style="width: 30%;"> Elev.: K.B. 195.6 m
 G.L. 190.6 m
 D.F. 195.3 m </div> </div> | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 30%;"> Permanent Datum: <u>GROUND LEVEL</u>
 Log Measured From: <u>KELLY BUSHING</u>
 Drilling Measured From: <u>KELLY BUSHING</u> </div> <div style="width: 30%;"> Elev.: 190.6 m
 5.0 m above Perm. Datum </div> </div> | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 20%;">API Spec. No.
WD 1996</div> <div style="width: 15%;">Latitude:
64 DEG 35' N</div> <div style="width: 15%;">Longitude
125 DEG 11' W</div> </div> | | | | | | | | | | | | | |
| <div style="display: flex;"> <div style="width: 45%;"> Logging Date 11-Feb-2004
 Run Number TWO
 Depth Driller 1425 m
 Schlumberger Depth 1425.5 m
 Bottom Log Interval 1404.7 m
 Top Log Interval 564 m
 Casing Driller Size @ Depth 244.500 mm @ 564 m
 Casing Schlumberger 564 m
 Bit Size 222.000 mm
 Type Fluid In Hole GEL CHEM </div> <div style="width: 5%;">@</div> <div style="width: 45%;"> 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 </div> </div> | | | | | | | | | | | | | |
| <div style="display: flex;"> <div style="width: 45%;"> MUD
 Density 1115 kg/m³
 Viscosity 65 c
 Fluid Loss 7 cm³
 PH 10
 Source Of Sample FLOWLINE
 RM @ Measured Temperature 3.620 ohm.m @ 15 degC @
 RMF @ Measured Temperature 2.750 ohm.m @ 15 degC @
 RMC @ Measured Temperature 4.530 ohm.m @ 15 degC @
 Source RMF RMC PRESSED CALCULATED
 RM @ MRT RMF @ MRT 1.875 @ 49 1.424 @ 49 @ @
 Maximum Recorded Temperatures 49 degC
 Circulation Stopped Time 10-Feb-2004 16:00
 Logger On Bottom Time 11-Feb-2004 3:30
 Unit Number 3052 NORMAN WELLS
 Recorded By N. SANTOS/ K. RC/NCIN
 Witnessed By GLEN MACINTOSH </div> <div style="width: 5%;">@</div> <div style="width: 45%;"> MUD
 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 </div> </div> | | | | | | | | | | | | | |

DEPTH SUMMARY LISTING Date Created: 11-FEB-2004 3:51:25

Depth System Equipment

| Depth Measuring Device | | | Tension Device | | Logging Cable | |
|---------------------------|-------------|--|---------------------------|-------------|--------------------|-----------|
| Type: | IDW-B | | Type: | GMTD-B/A | Type: | 7-39P |
| Serial Number: | 1976 | | Serial Number: | 52 | Serial Number: | 2073 |
| Calibration Date: | 16-OCT-2003 | | Calibration Date: | 22-JAN-2004 | Length: | 4999.94 M |
| Calibrator Serial Number: | 4 | | Calibrator Serial Number: | 3052 | Conveyance Method: | Wireline |
| Calibration Cable Type: | 7-39P | | Calibration Gain: | 1.16 | Rig Type: | LAND |
| Wheel Correction 1: | -3 | | Calibration Offset: | -38.00 | | |
| Wheel Correction 2: | -3 | | | | | |

| Depth Control Parameters | |
|--------------------------------------|--------------------------------|
| Log Sequence: | Subsequent Trip To the Well |
| Reference Log Name: | BOREHOLE COMPENSATED SONIC LOG |
| Reference Log Run Number: | ONE |
| Reference Log Date: | 2-FEB-2004 |
| Subsequent Trip Down Log Correction: | -50000.00 M |

| Depth Control Remarks | |
|-----------------------|--|
| 1. | CALIBRATED IDW WHEELS USED FOR PRIMARY DEPTH CONTROL |
| 2. | |
| 3. | |
| 4. | |
| 5. | |
| 6. | |

DISCLAIMER

THE USE OF AND RELIANCE UPON THIS RECORDED DATA BY THE HEREIN NAMED COMPANY (AND ANY OF ITS AFFILIATES, PARTNERS, REPRESENTATIVES, AGENTS, CONSULTANTS AND EMPLOYEES) IS SUBJECT TO THE TERMS AND CONDITIONS SET FORTH ON BEHIND SHEET NUMBER EIGHT AND THE COMPANY, INCLUDING: (a) RESTRICTIONS ON THE USE OF THE INFORMATION CONTAINED THEREIN; (b) LIMITATIONS ON LIABILITY FOR NEGLIGENCE OR OTHER Torts; AND (c) A RELEASE OF THE COMPANY'S USE OF AND RELIANCE UPON THE RECORDED DATA, AND (d) CUSTOMERS FULL AND SOLE RESPONSIBILITY FOR ANY INFERENCE DRAWN OR DECISION MADE IN CONNECTION WITH THE USE OF THIS RECORDABLE DATA.

| | |
|--|-----------------------|
| OTHER SERVICES 1 | OTHER SERVICES 2 |
| OS1: FEX-AITH-LDT-BHC | OS1: |
| OS2: | OS2: |
| OS3: | OS3: |
| OS4: | OS4: |
| OS5: | OS5: |
| REMARKS: RUN NUMBER 1 | REMARKS: RUN NUMBER 2 |
| <p>AT PAN WITH 38.1MM STANDOFF IN COMPUTE STANDOFF MODE</p> <p>AT VERTICAL RESOLUTION = 2 FOOT FOR MAIN PASS / 1 FOOT FOR</p> <p>CNIL PAN ECCENTERED USING 90 DEG OFFSET BOWSPRINGS.</p> <p>SONIC PAN CENTERED USING TWO CM/EZ CENTRALIZERS</p> <p>CYL COMPUTED USING HCAU/CAU W/ FOD = 0 MM</p> <p>CLIENT REQUESTED HIRES PASS PAN TD-CASING</p> <p>CLIENT REQUESTED DOLOMITE PLAYBACK TD-975 M</p> <p>CLIENT REQUESTED SANDSTONE PLAYBACK 1005-CASING</p> <p>SONIC SCALE CHANGED TO 100-500 FROM 1005-CASING</p> | <p>HIRES PASS</p> |
| FIG. AKITA 55 | |
| PRINTS: 2 FIELD / 5 FINAL | |
| CREW: BRENT O'CONNELL / RANDAL PROSSER / FRANK MACEACHERN | |

[illegible]

| EQUIPMENT DESCRIPTION | | RUN 1 | RUN 2 |
|--|-----------------------------------|-------|-------|
| CSRLUY 1073
NCT-B 286
CNB-AB
NCS-VB | SURFACE EQUIPMENT
WITH (DTS)-A | | |

| DOWNHOLE EQUIPMENT | |
|--------------------|-------|
| LEH-QT | 27.85 |

| LEH-Q1 190R | | | |
|--------------|------------|-------|-------|
| DTC-H | CTEM | 26.68 | 26.96 |
| ECH-KC 91435 | Tel>Status | 26.05 | |
| DSLI-FTB | ToolStatus | | 26.05 |
| ESCH-B 8408 | | | |
| ESCH-K 8507 | | | |
| SW-SW 1483 | | | |

| | | |
|------|--------|--------|
| 2025 | 22.25 | 22.50 | 22.75 | 23.00 | 23.25 | 23.50 | 23.75 | 24.00 | 24.25 | 24.50 | 24.75 | 25.00 | 25.25 | 25.50 | 25.75 | 26.00 | 26.25 | 26.50 | 26.75 | 27.00 | 27.25 | 27.50 | 27.75 | 28.00 | 28.25 | 28.50 | 28.75 | 29.00 | 29.25 | 29.50 | 29.75 | 30.00 | 30.25 | 30.50 | 30.75 | 31.00 | 31.25 | 31.50 | 31.75 | 32.00 | 32.25 | 32.50 | 32.75 | 33.00 | 33.25 | 33.50 | 33.75 | 34.00 | 34.25 | 34.50 | 34.75 | 35.00 | 35.25 | 35.50 | 35.75 | 36.00 | 36.25 | 36.50 | 36.75 | 37.00 | 37.25 | 37.50 | 37.75 | 38.00 | 38.25 | 38.50 | 38.75 | 39.00 | 39.25 | 39.50 | 39.75 | 40.00 | 40.25 | 40.50 | 40.75 | 41.00 | 41.25 | 41.50 | 41.75 | 42.00 | 42.25 | 42.50 | 42.75 | 43.00 | 43.25 | 43.50 | 43.75 | 44.00 | 44.25 | 44.50 | 44.75 | 45.00 | 45.25 | 45.50 | 45.75 | 46.00 | 46.25 | 46.50 | 46.75 | 47.00 | 47.25 | 47.50 | 47.75 | 48.00 | 48.25 | 48.50 | 48.75 | 49.00 | 49.25 | 49.50 | 49.75 | 50.00 | 50.25 | 50.50 | 50.75 | 51.00 | 51.25 | 51.50 | 51.75 | 52.00 | 52.25 | 52.50 | 52.75 | 53.00 | 53.25 | 53.50 | 53.75 | 54.00 | 54.25 | 54.50 | 54.75 | 55.00 | 55.25 | 55.50 | 55.75 | 56.00 | 56.25 | 56.50 | 56.75 | 57.00 | 57.25 | 57.50 | 57.75 | 58.00 | 58.25 | 58.50 | 58.75 | 59.00 | 59.25 | 59.50 | 59.75 | 60.00 | 60.25 | 60.50 | 60.75 | 61.00 | 61.25 | 61.50 | 61.75 | 62.00 | 62.25 | 62.50 | 62.75 | 63.00 | 63.25 | 63.50 | 63.75 | 64.00 | 64.25 | 64.50 | 64.75 | 65.00 | 65.25 | 65.50 | 65.75 | 66.00 | 66.25 | 66.50 | 66.75 | 67.00 | 67.25 | 67.50 | 67.75 | 68.00 | 68.25 | 68.50 | 68.75 | 69.00 | 69.25 | 69.50 | 69.75 | 70.00 | 70.25 | 70.50 | 70.75 | 71.00 | 71.25 | 71.50 | 71.75 | 72.00 | 72.25 | 72.50 | 72.75 | 73.00 | 73.25 | 73.50 | 73.75 | 74.00 | 74.25 | 74.50 | 74.75 | 75.00 | 75.25 | 75.50 | 75.75 | 76.00 | 76.25 | 76.50 | 76.75 | 77.00 | 77.25 | 77.50 | 77.75 | 78.00 | 78.25 | 78.50 | 78.75 | 79.00 | 79.25 | 79.50 | 79.75 | 80.00 | 80.25 | 80.50 | 80.75 | 81.00 | 81.25 | 81.50 | 81.75 | 82.00 | 82.25 | 82.50 | 82.75 | 83.00 | 83.25 | 83.50 | 83.75 | 84.00 | 84.25 | 84.50 | 84.75 | 85.00 | 85.25 | 85.50 | 85.75 | 86.00 | 86.25 | 86.50 | 86.75 | 87.00 | 87.25 | 87.50 | 87.75 | 88.00 | 88.25 | 88.50 | 88.75 | 89.00 | 89.25 | 89.50 | 89.75 | 90.00 | 90.25 | 90.50 | 90.75 | 91.00 | 91.25 | 91.50 | 91.75 | 92.00 | 92.25 | 92.50 | 92.75 | 93.00 | 93.25 | 93.50 | 93.75 | 94.00 | 94.25 | 94.50 | 94.75 | 95.00 | 95.25 | 95.50 | 95.75 | 96.00 | 96.25 | 96.50 | 96.75 | 97.00 | 97.25 | 97.50 | 97.75 | 98.00 | 98.25 | 98.50 | 98.75 | 99.00 | 99.25 | 99.50 | 99.75 | 100.00 | 100.25 | 100.50 | 100.75 | 101.00 | 101.25 | 101.50 | 101.75 | 102.00 | 102.25 | 102.50 | 102.75 | 103.00 | 103.25 | 103.50 | 103.75 | 104.00 | 104.25 | 104.50 | 104.75 | 105.00 | 105.25 | 105.50 | 105.75 | 106.00 | 106.25 | 106.50 | 106.75 | 107.00 | 107.25 | 107.50 | 107.75 | 108.00 | 108.25 | 108.50 | 108.75 | 109.00 | 109.25 | 109.50 | 109.75 | 110.00 | 110.25 | 110.50 | 110.75 | 111.00 | 111.25 | 111.50 | 111.75 | 112.00 | 112.25 | 112.50 | 112.75 | 113.00 | 113.25 | 113.50 | 113.75 | 114.00 | 114.25 | 114.50 | 114.75 | 115.00 | 115.25 | 115.50 | 115.75 | 116.00 | 116.25 | 116.50 | 116.75 | 117.00 | 117.25 | 117.50 | 117.75 | 118.00 | 118.25 | 118.50 | 118.75 | 119.00 | 119.25 | 119.50 | 119.75 | 120.00 | 120.25 | 120.50 | 120.75 | 121.00 | 121.25 | 121.50 | 121.75 | 122.00 | 122.25 | 122.50 | 122.75 | 123.00 | 123.25 | 123.50 | 123.75 | 124.00 | 124.25 | 124.50 | 124.75 | 125.00 | 125.25 | 125.50 | 125.75 | 126.00 | 126.25 | 126.50 | 126.75 | 127.00 | 127.25 | 127.50 | 127.75 | 128.00 | 128.25 | 128.50 | 128.75 | 129.00 | 129.25 | 129.50 | 129.75 | 130.00 | 130.25 | 130.50 | 130.75 | 131.00 | 131.25 | 131.50 | 131.75 | 132.00 | 132.25 | 132.50 | 132.75 | 133.00 | 133.25 | 133.50 | 133.75 | 134.00 | 134.25 | 134.50 | 134.75 | 135.00 | 135.25 | 135.50 | 135.75 | 136.00 | 136.25 | 136.50 | 136.75 | 137.00 | 137.25 | 137.50 | 137.75 | 138.00 | 138.25 | 138.50 | 138.75 | 139.00 | 139.25 | 139.50 | 139.75 | 140.00 | 140.25 | 140.50 | 140.75 | 141.00 | 141.25 | 141.50 | 141.75 | 142.00 | 142.25 | 142.50 | 142.75 | 143.00 | 143.25 | 143.50 | 143.75 | 144.00 | 144.25 | 144.50 | 144.75 | 145.00 | 145.25 | 145.50 | 145.75 | 146.00 | 146.25 | 146.50 | 146.75 | 147.00 | 147.25 | 147.50 | 147.75 | 148.00 | 148.25 | 148.50 | 148.75 | 149.00 | 149.25 | 149.50 | 149.75 | 150.00 | 150.25 | 150.50 | 150.75 | 151.00 | 151.25 | 151.50 | 151.75 | 152.00 | 152.25 | 152.50 | 152.75 | 153.00 | 153.25 | 153.50 | 153.75 | 154.00 | 154.25 | 154.50 | 154.75 | 155.00 | 155.25 | 155.50 | 155.75 | 156.00 | 156.25 | 156.50 | 156.75 | 157.00 | 157.25 | 157.50 | 157.75 | 158.00 | 158.25 | 158.50 | 158.75 | 159.00 | 159.25 | 159.50 | 159.75 | 160.00 | 160.25 | 160.50 | 160.75 | 161.00 | 161.25 | 161.50 | 161.75 | 162.00 | 162.25 | 162.50 | 162.75 | 163.00 | 163.25 | 163.50 | 163.75 | 164.00 | 164.25 | 164.50 | 164.75 | 165.00 | 165.25 | 165.50 | 165.75 | 166.00 | 166.25 | 166.50 | 166.75 | 167.00 | 167.25 | 167.50 | 167.75 | 168.00 | 168.25 | 168.50 | 168.75 | 169.00 | 169.25 | 169.50 | 169.75 | 170.00 | 170.25 | 170.50 | 170.75 | 171.00 | 171.25 | 171.50 | 171.75 | 172.00 | 172.25 | 172.50 | 172.75 | 173.00 | 173.25 | 173.50 | 173.75 | 174.00 | 174.25 | 174.50 | 174.75 | 175.00 | 175.25 | 175.50 | 175.75 | 176.00 | 176.25 | 176.50 | 176.75 | 177.00 | 177.25 | 177.50 | 177.75 | 178.00 | 178.25 | 178.50 | 178.75 | 179.00 | 179.25 | 179.50 | 179.75 | 180.00 | 180.25 | 180.50 | 180.75 | 181.00 | 181.25 | 181.50 | 181.75 | 182.00 | 182.25 | 182.50 | 182.75 | 183.00 | 183.25 | 183.50 | 183.75 | 184.00 | 184.25 | 184.50 | 184.75 | 185.00 | 185.25 | 185.50 | 185.75 | 186.00 | 186.25 | 186.50 | 186.75 | 187.00 | 187.25 | 187.50 | 187.75 | 188.00 | 188.25 | 188.50 | 188.75 | 189.00 | 189.25 | 189.50 | 189.75 | 190.00 | 190.25 | 190.50 | 190.75 | 191.00 | 191.25 | 191.50 | 191.75 | 192.00 | 192.25 | 192.50 | 192.75 | 193.00 | 193.25 | 193.50 | 193.75 | 194.00 | 194.25 | 194.50 | 194.75 | 195.00 | 195.25 | 195.50 | 195.75 | 196.00 | 196.25 | 196.50 | 196.75 | 197.00 | 197.25 | 197.50 | 197.75 | 198.00 | 198.25 | 198.50 | 198.75 | 199.00 | 199.25 | 199.50 | 199.75 | 200.00 | 200.25 | 200.50 | 200.75 | 201.00 | 201.25 | 201.50 | 201.75 | 202.00 | 202.25 | 202.50 | 202.75 | 203.00 | 203.25 | 203.50 | 203.75 | 204.00 | 204.25 | 204.50 | 204.75 | 205.00 | 205.25 | 205.50 | 205.75 | 206.00 | 206.25 | 206.50 | 206.75 | 207.00 | 207.25 | 207.50 | 207.75 | 208.00 | 208.25 | 208.50 | 208.75 | 209.00 | 209.25 | 209.50 | 209.75 | 210.00 | 210.25 | 210.50 | 210.75 | 211.00 | 211.25 | 211.50 | 211.75 | 212.00 | 212.25 | 212.50 | 212.75 | 213.00 | 213.25 | 213.50 | 213.75 | 214.00 | 214.25 | 214.50 | 214.75 | 215.00 | 215.25 | 215.50 | 215.75 | 216.00 | 216.25 | 216.50 | 216.75 | 217.00 | 217.25 | 217.50 | 217.75 | 218.00 | 218.25 | 218.50 | 218.75 | 219.00 | 219.25 | 219.50 | 219.75 | 220.00 | 220.25 | 220.50 | 220.75 | 221.00 | 221.25 | 221.50 | 221.75 | 222.00 | 222.25 | 222.50 | 222.75 | 223.00 | 223.25 | 223.50 | 223.75 | 224.00 | 224.25 | 224.50 | 224.75 | 225.00 | 225.25 | 225.50 | 225.75 | 226.00 | 226.25 | 226.50 | 226.75 | 227.00 | 227.25 | 227.50 | 227.75 | 228.00 | 228.25 | 228.50 | 228.75 | 229.00 | 229.25 | 229.50 | 229.75 | 230.00 | 230.25 | 230.50 | 230.75 | 231.00 | 231.25 | 231.50 | 231.75 | 232.00 | 232.25 | 232.50 | 232.75 | 233.00 | 233.25 | 233.50 | 233.75 | 234.00 | 234.25 | 234.50 | 234.75 | 235.00 | 235.25 | 235.50 | 235.75 | 236.00 | 236.25 | 236.50 | 236.75 | 237.00 | 237.25 | 237.50 | 237.75 | 238.00 | 238.25 | 238.50 | 238.75 | 239.00 | 239.25 | 239.50 | 239.75 | 240.00 | 240.25 | 240.50 | 240.75 | 241.00 | 241.25 | 241.50 | 241.75 | 242.00 | 242.25 | 242.50 | 242.75 | 243.00 | 243.25 | 243.50 | 243.75 | 244.00 | 244.25 | 244.50 | 244.75 | 245.00 | 245.25 | 245.50 | 245.75 | 246.00 | 246.25 | 246.50 | 246.75 | 247.00 | 247.25 | 247.50 | 247.75 | 248.00 | 248.25 | 248.50 | 248.75 | 249.00 | 249.25 | 249.50 | 249.75 | 250.00 | 250.25 | 250.50 | 250.75 | 251.00 | 251.25 | 251.50 | 251.75 | 252.00 | 252.25 | 252.50 | 252.75 | 253.00 | 253.25 | 253.50 | 253.75 | 254.00 | 254.25 | 254.50 | 254.75 | 255.00 | 255.25 | 255.50 | 255.75 | 256.00 | 256.25 | 256.50 | 256.75 | 257.00 | 257.25 | 257.50 | 257.75 | 258.00 | 258.25 | 258.50 | 258.75 | 259.00 | 259.25 | 259.50 | 259.75 | 260.00 | 260.25 | 260.50 | 260.75 | 261.00 | 261.25 | 261.50 | 261.75 | 262.00 | 262.25 | 262.50 | 262.75 | 263.00 | 263.25 | 263.50 | 263.75 | 264.00 | 264.25 | 264.50 | 264.75 | 265.00 | 265.25 | 265.50 | 265.75 | 266.00 | 266.25 | 266.50 | 266.75 | 267.00 | 267.25 | 267.50 | 267.75 | 268.00 | 268.25 | 268.50 | 268.75 | 269.00 | 269.25 | 269.50 | 269.75 | 270.00 | 270.25 | 270.50 | 270.75 | 271.00 | 271.25 | 271.50 | 271.75 | 272.00 | 272.25 | 272.50 | 272.75 | 273.00 | 273.25 | 273.50 | 273.75 | 274.00 | 274.25 | 274.50 | 274.75 | 275.00 | 275.25 | 275.50 | 275.75 | 276.00 | 276.25 | 276.50 | 276.75 | 277.00 | 277.25 | 277.50 | 277.75 | 278.00 | 278.25 | 278.50 | 278.75 | 279.00 | 279.25 | 279.50 | 279.75 | 280.00 | 280.25 | 280.50 | 280.75 | 281.00 | 281.25 | 281.50 | 281.75 | 282.00 | 282.25 | 282.50 | 282.75 | 283.00 | 283.25 | 283.50 | 283.75 | 284.00 | 284.25 | 284.50 | 284.75 | 285.00 | 285.25 | 285.50 | 285.75 | 286.00 | 286.25 | 286.50 | 286.75 | 287.00 | 287.25 | 287.50 | 287.75 | 288.00 | 288.25 | 288.50 | 288.75 | 289.00 | 289.25 | 289.50 | 289.75 | 290.00 | 290.25 | 290.50 | 290.75 | 291.00 | 291.25 | 291.50 | 291.75 | 292.00 | 292.25 | 292.50 | 292.75 | 293.00 | 293.25 | 293.50 | 293.75 | 294.00 | 294.25 | 294.50 | 294.75 | 295.00 | 295.25 | 295.50 | 295.75 | 296.00 | 296.25 | 296.50 | 296.75 | 297.00 | 297.25 | 297.50 | 297.75 | 298.00 | 298.25 | 298.50 | 298.75 | 299.00 | 299.25 | 299.50 | 299.75 | 300.00 | 300.25 | 300.50 | 300.75 | 301.00 | 301.25 | 301.50 | 301.75 | 302.00 | 302.25 | 302.50 | 302.75 | 303.00 | 303.25 | 303.50 | 303.75 | 304.00 | 304.25 | 304.50 | 304.75 | 305.00 | 305.25 | 305.50 | 305.75 | 306.00 | 306.25 | 306.50 | 306.75 | 307.00 | 307.25 | 307.50 | 307.75 | 308.00 | 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| DTA-HR | 19.76 | 19.76 |
| DTA-HS | 19.76 | 19.76 |
| DTA-HT | 19.76 | 19.76 |
| DTA-HU | 19.76 | 19.76 |
| DTA-HV | 19.76 | 19.76 |
| DTA-HW | 19.76 | 19.76 |
| DTA-HX | 19.76 | 19.76 |
| DTA-HY | 19.76 | 19.76 |
| DTA-HZ | 19.76 | 19.76 |
| DTA-IA | 19.76 | 19.76 |
| DTA-IB | 19.76 | 19.76 |
| DTA-IC | 19.76 | 19.76 |
| DTA-ID | 19.76 | 19.76 |
| DTA-IE | 19.76 | 19.76 |
| DTA-IF | 19.76 | 19.76 |
| DTA-IG | 19.76 | 19.76 |
| DTA-IH | 19.76 | 19.76 |
| DTA-II | 19.76 | 19.76 |
| DTA-IL | 19.76 | 19.76 |
| DTA-IM | 19.76 | 19.76 |
| DTA-IN | 19.76 | 19.76 |
| DTA-IO | 19.76 | 19.76 |
| DTA-IP | 19.76 | 19.76 |
| DTA-IQ | 19.76 | 19.76 |
| DTA-IR | 19.76 | 19.76 |
| DTA-IS | 19.76 | 19.76 |
| DTA-IT | 19.76 | 19.76 |
| DTA-IU | 19.76 | 19.76 |
| DTA-IV | 19.76 | 19.76 |
| DTA-IW | 19.76 | 19.76 |
| DTA-IX | 19.76 | 19.76 |
| DTA-IY | 19.76 | 19.76 |
| DTA-IZ | 19.76 | 19.76 |
| DTA-JA | 19.76 | 19.76 |
| DTA-JB | 19.76 | 19.76 |
| DTA-JC | 19.76 | 19.76 |
| DTA-JD | 19.76 | 19.76 |
| DTA-JE | 19.76 | 19.76 |
| DTA-JF | 19.76 | 19.76 |
| DTA-JG | 19.76 | 19.76 |
| DTA-JH | 19.76 | 19.76 |
| DTA-JI | 19.76 | 19.76 |
| DTA-JJ | 19.76 | 19.76 |
| DTA-JL | 19.76 | 19.76 |
| DTA-JM | 19.76 | 19.76 |
| DTA-JN | 19.76 | 19.76 |
| DTA-JO | 19.76 | 19.76 |
| DTA-JP | 19.76 | 19.76 |
| DTA-JQ | 19.76 | 19.76 |
| DTA-JR | 19.76 | 19.76 |
| DTA-JS | 19.76 | 19.76 |
| DTA-JT | 19.76 | 19.76 |
| DTA-JU | 19.76 | 19.76 |
| DTA-JV | 19.76 | 19.76 |
| DTA-JW | 19.76 | 19.76 |
| DTA-JX | 19.76 | 19.76 |
| DTA-JY | 19.76 | 19.76 |
| DTA-JZ | 19.76 | 19.76 |
| DTA-KA | 19.76 | 19.76 |
| DTA-KB | 19.76 | 19.76 |
| DTA-KC | 19.76 | 19.76 |
| DTA-KD | 19.76 | 19.76 |
| DTA-KE | 19.76 | 19.76 |
| DTA-KF | 19.76 | 19.76 |
| DTA-KG | 19.76 | 19.76 |
| DTA-KH | 19.76 | 19.76 |
| DTA-KI | 19.76 | 19.76 |
| DTA-KJ | 19.76 | 19.76 |
| DTA-KL | 19.76 | 19.76 |
| DTA-KM | 19.76 | 19.76 |
| DTA-KN | 19.76 | 19.76 |
| DTA-KO | 19.76 | 19.76 |
| DTA-KP | 19.76 | 19.76 |
| DTA-KQ | 19.76 | 19.76 |
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| DTA-KS | 19.76 | 19.76 |
| DTA-KT | 19.76 | 19.76 |
| DTA-KU | 19.76 | 19.76 |
| DTA-KV | 19.76 | 19.76 |
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| DTA-KY | 19.76 | 19.76 |
| DTA-KZ | 19.76 | 19.76 |
| DTA-LA | 19.76 | 19.76 |
| DTA-LB | 19.76 | 19.76 |
| DTA-LC | 19.76 | 19.76 |
| DTA-LD | 19.76 | 19.76 |
| DTA-LE | 19.76 | 19.76 |
| DTA-LF | 19.76 | 19.76 |
| DTA-LG | 19.76 | 19.76 |
| DTA-LH | 19.76 | 19.76 |
| DTA-LI | 19.76 | 19.76 |
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| DTA-LM | 19.76 | 19.76 |
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| DTA-LQ | 19.76 | 19.76 |
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| DTA-LS | 19.76 | 19.76 |
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| DTA-MG | 19.76 | 19.76 |
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| DTA-ML | 19.76 | 19.76 |
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| DTA-MN | 19.76 | 19.76 |
| DTA-MO | 19.76 | 19.76 |
| DTA-MP | 19.76 | 19.76 |
| DTA-MQ | 19.76 | 19.76 |
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| DTA-MW | 19.76 | 19.76 |
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| DTA-NG | 19.76 | 19.76 |
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| DTA-NI | 19.76 | 19.76 |
| DTA-NJ | 19.76 | 19.76 |
| DTA-NL | 19.76 | 19.76 |
| DTA-NM | 19.76 | 19.76 |
| DTA-NO | 19.76 | 19.76 |
| DTA-NP | 19.76 | 19.76 |
| DTA-NQ | 19.76 | 19.76 |
| DTA-NR | 19.76 | 19.76 |
| DTA-NS | 19.76 | 19.76 |
| DTA-NT | 19.76 | 19.76 |
| DTA-NU | 19.76 | 19.76 |
| DTA-NV | 19.76 | 19.76 |
| DTA-NW | 19.76 | 19.76 |
| DTA-NX | 19.76 | 19.76 |
| DTA-NY | 19.76 | 19.76 |
| DTA-NZ | 19.76 | 19.76 |
| DTA-OA | 19.76 | 19.76 |
| DTA-OB | 19.76 | 19.76 |
| DTA-OC | | |

| | Caliper | LS | SS |
|------------|---------|-------|-------|
| PGD-G 3745 | 14.07 | 14.04 | 13.89 |
| NSCE 1868 | | | |
| ECH-MKA | | | |
| DHS-C 723 | | | |
| PDH-L | | | |

| Model | Price |
|--------|-------|
| AH-90 | 13.25 |
| AH-107 | 12.97 |
| AH-107 | 12.36 |

| | 11.48 | 11.76 |
|-------|-------|-------|
| 11.25 | 11.48 | |
| 9.47 | | |
| 9.32 | | |
| 8.61 | | |

| Model | Price |
|--------------|-------|
| HRCC cart | 7.39 |
| MOFL | 5.73 |
| HILT cali | 5.59 |
| HRDD-LS | |
| HRDD-SS | |
| GLSVJ 1908 | |
| MOFL Device | |
| HILT NiCd SS | 5.47 |
| HILT NiCd LS | |
| HRCC-B 915 | |
| HRMS-B 908 | |
| HRGD-BC 1860 | |
| GLSVJ 1908 | |
| MOFL Device | |
| HILT NiCd SS | |
| HILT NiCd LS | |

Induction
Temperature
Power SUP
SP SENSOR
HTEN HMAS
UV
Accelerom

HILTI NUCI
BS
AIT-H 214
AHS-BA 214
AHRM-A
BOW-SPR
NPV-N

38 MM
Standoff
2.41
0.03

Diagram illustrating the Mud Resist Tension Gauge setup. The gauge measures string diameter relative to tool zero. The maximum string diameter is 175 mm. All measurements are relative to tool zero, and all lengths are in meters.

| | |
|--|--|
| | |
|--|--|

Input DLIS Files

| Output DLIS Files | | | | | |
|-------------------|-------------------------|-------|----------|-------------------|----------|
| DEFAULT | AIT_TLD_MCFE_CNL_007LUP | FN:9 | PRODUCER | 11-Feb-2004 03:41 | 1428.3 M |
| DEFAULT
BACKUP | AIT_TLD_MCFE_CNL_014PUP | FN:20 | PRODUCER | 11-Feb-2004 05:43 | 1428.3 M |
| | AIT_TLD_MCFE_CNL_014PUP | FN:21 | PRODUCER | 11-Feb-2004 05:58 | 1428.3 M |
| | | | | | 474.1 M |
| | | | | | 474.1 M |

| | | |
|------------------------------------|---------|---------------|
| HILTB-FTB | | 11C0-305 |
| DTA-A | | OP11-KP1 |
| DTC-H | | 11C0-305 |
| <hr/> | | |
| OP System Version: 11C0-305 | | |
| MCM | LDT-D | 11C0-305 |
| | DSL-TFB | SRPC-247Z-STP |

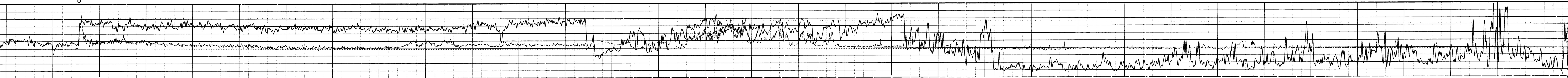
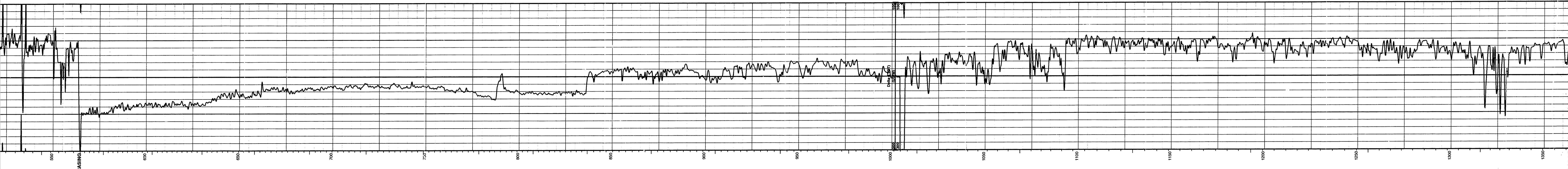
PIP SUMMARY
 — Integrated Transitt Time Minor Pip Every 1 MS
 — Integrated Transitt Time Major Pip Every 10 MS
 — Time Mark Every 60 S
 Tension (TENS)
 25000 (N)
 0

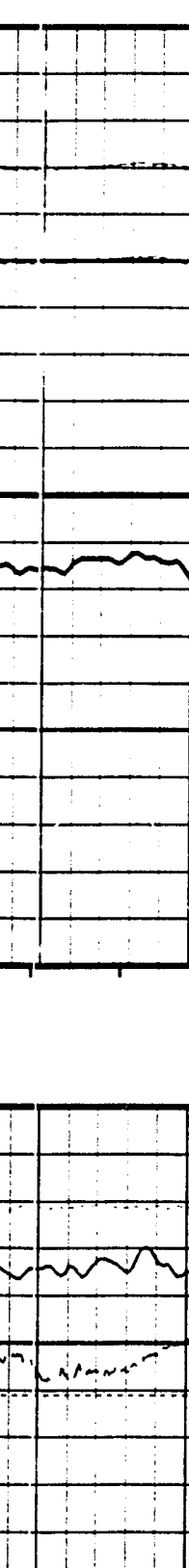
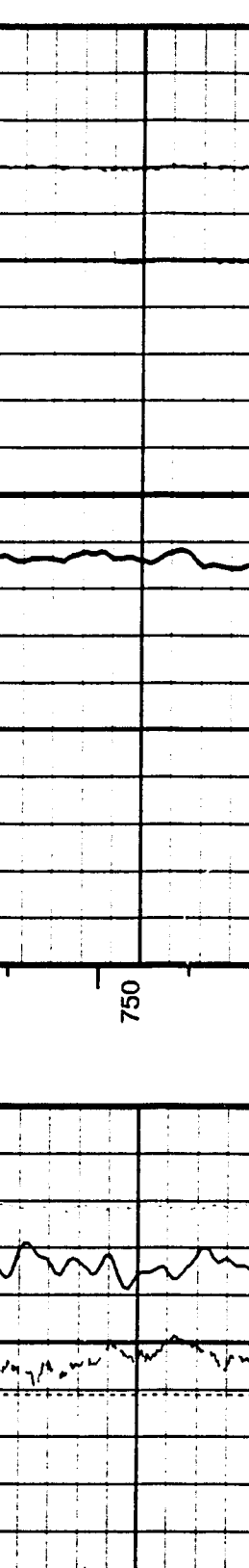
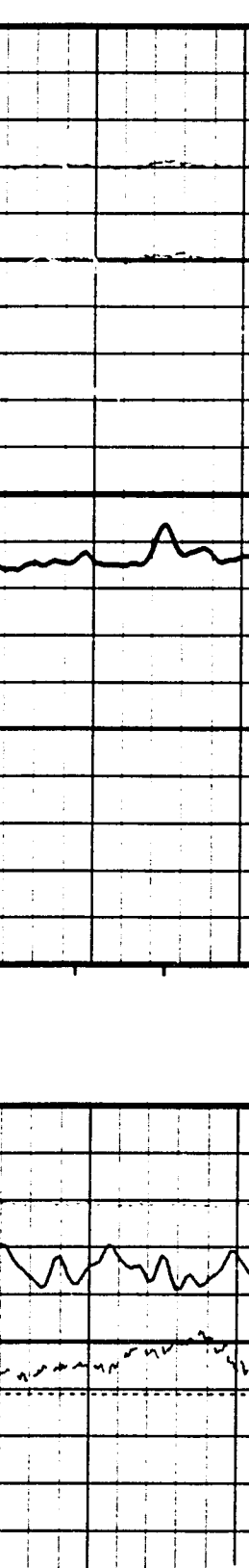
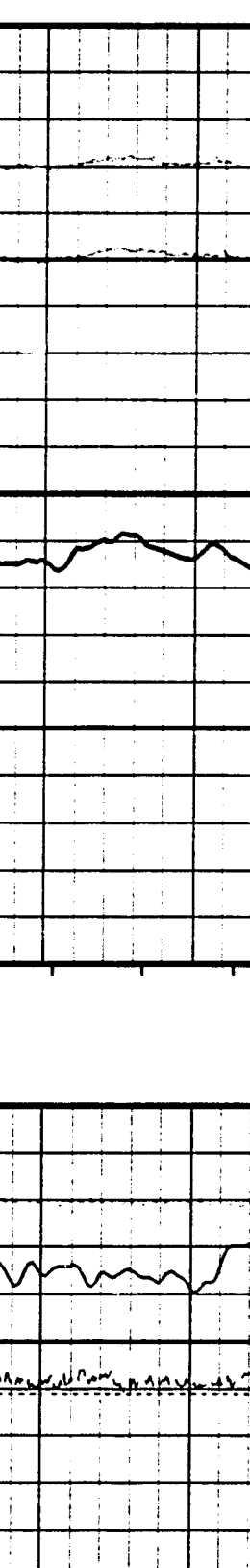
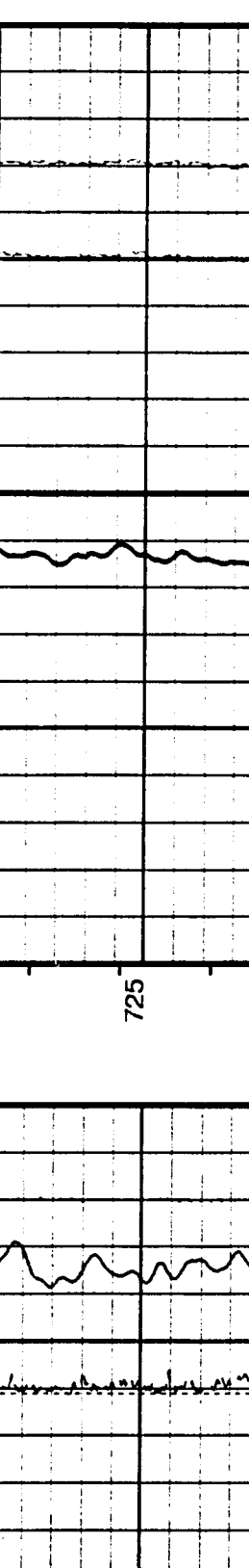
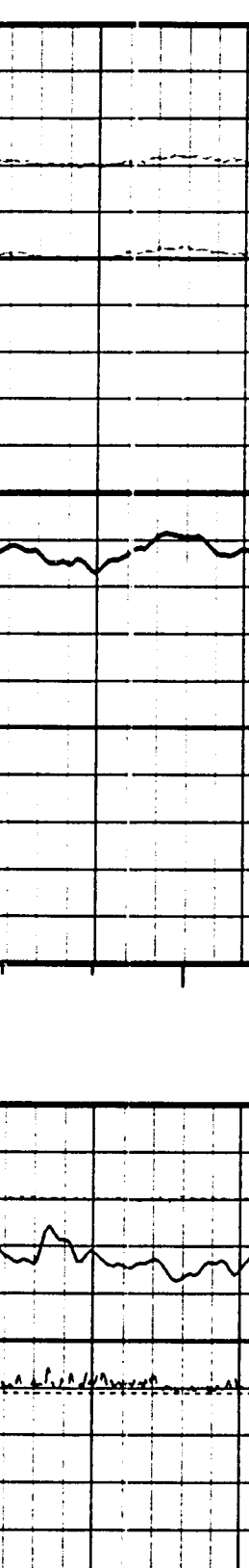
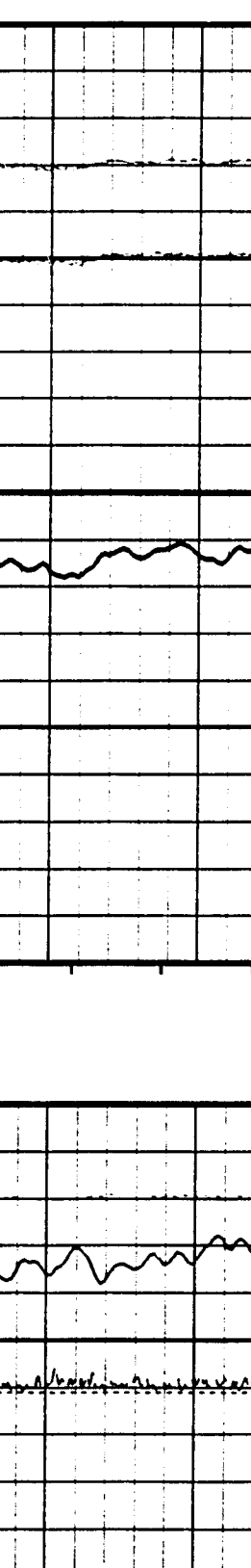
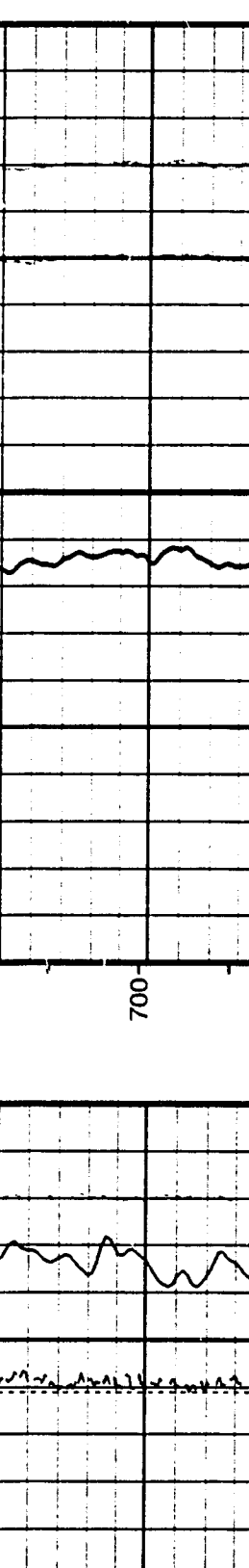
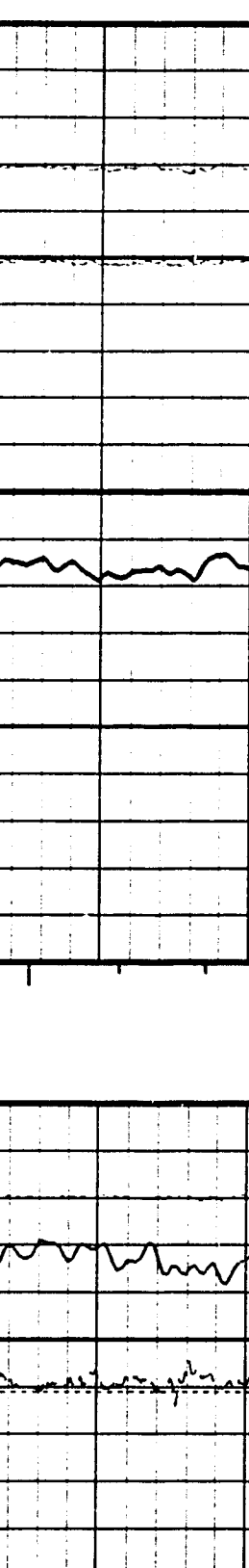
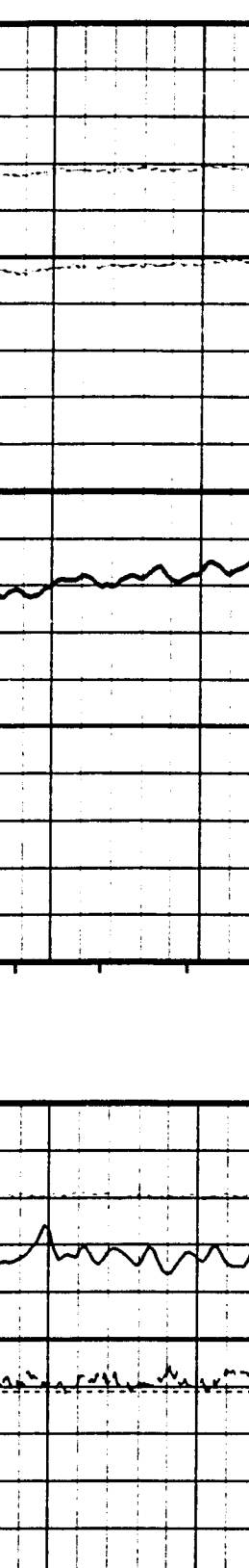
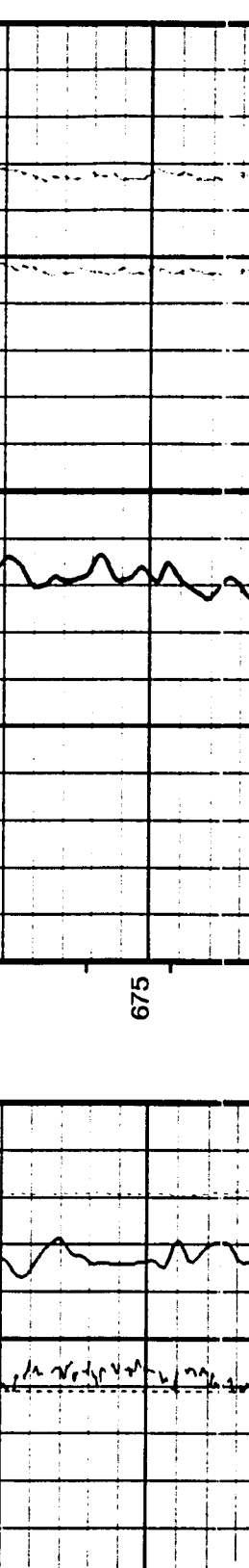
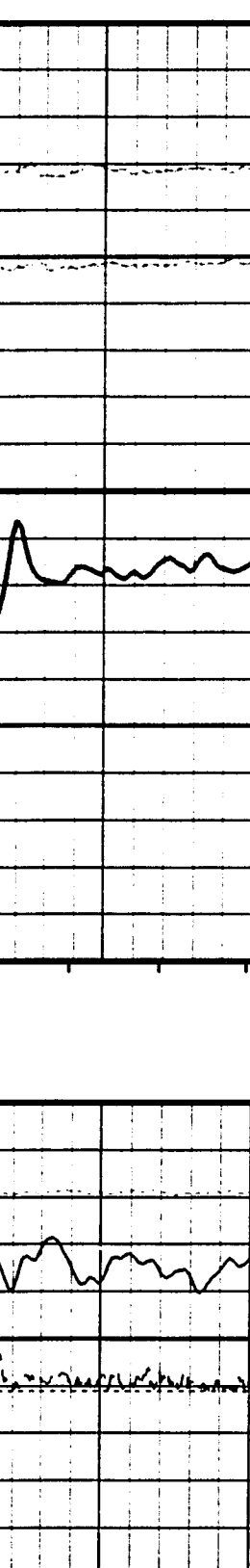
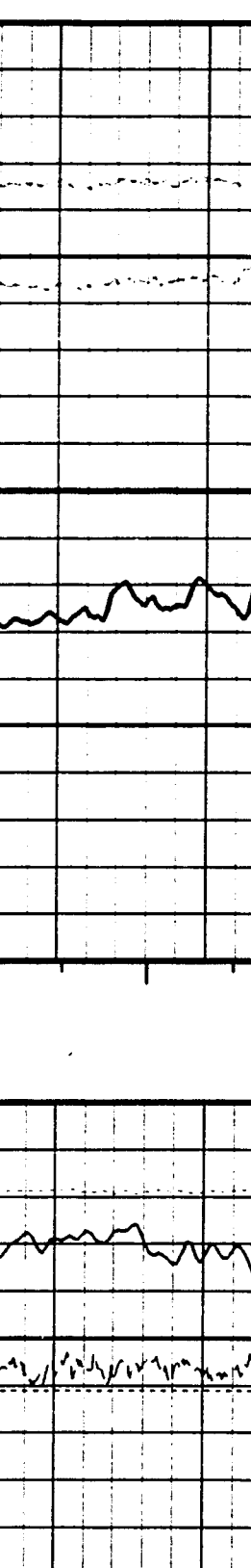
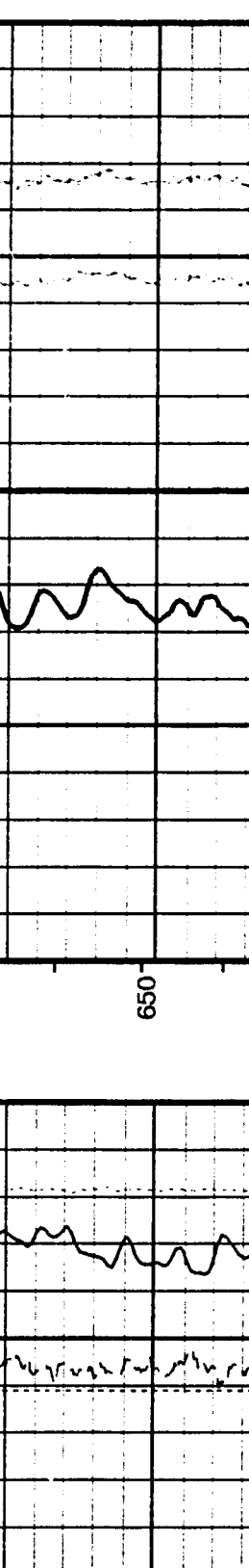
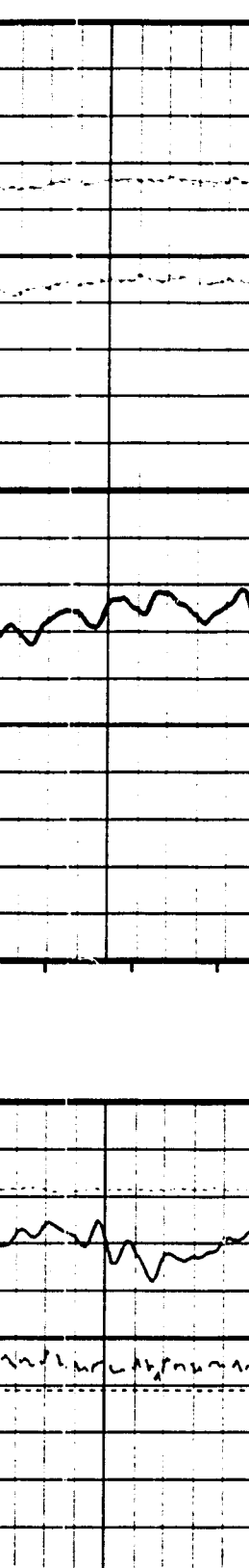
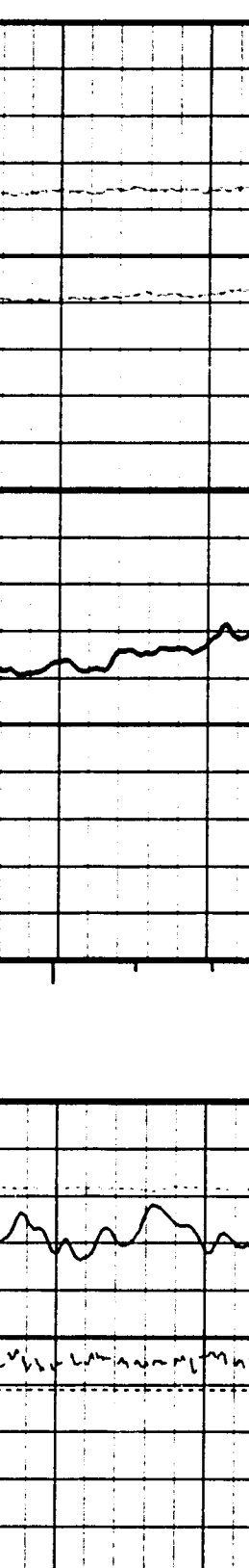
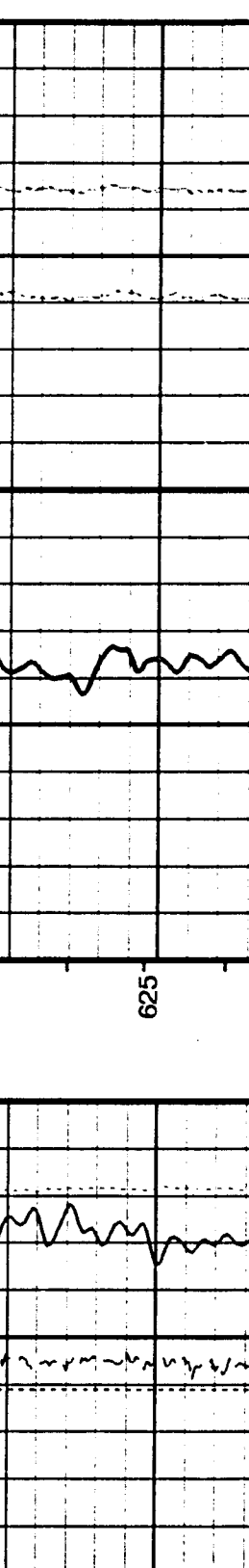
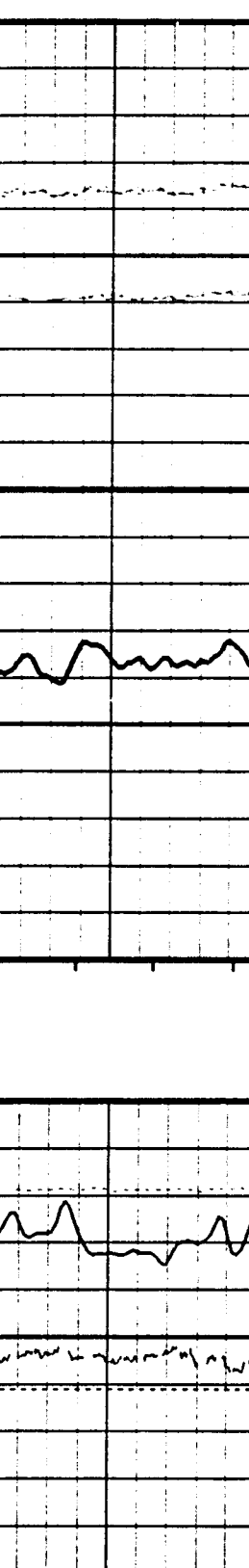
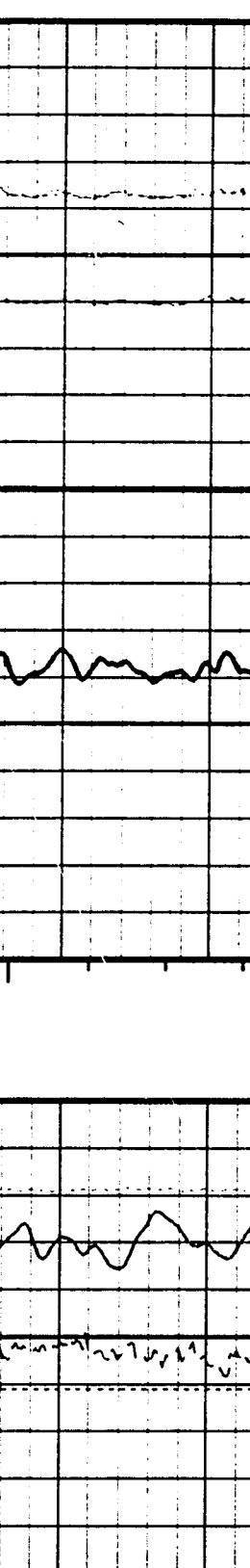
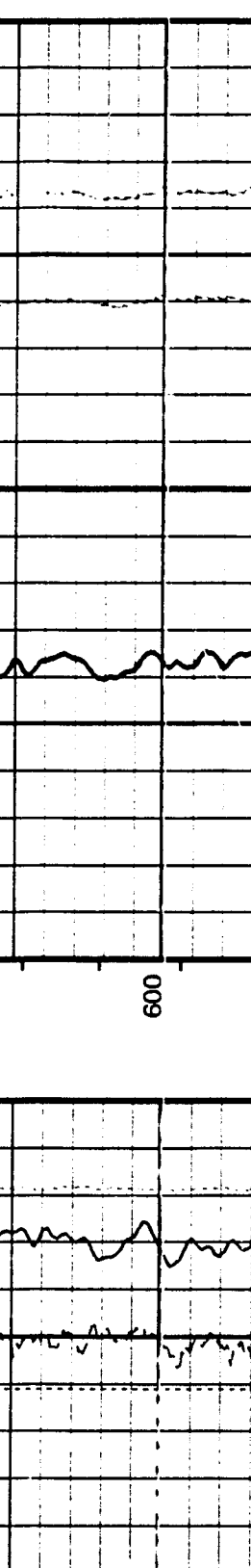
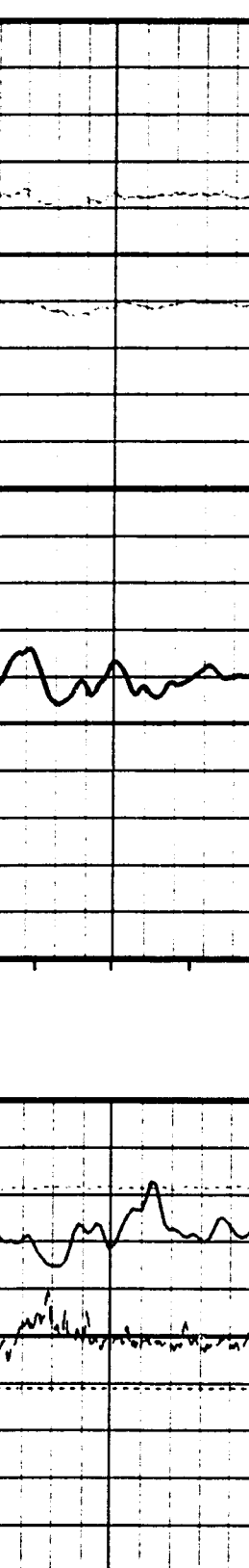
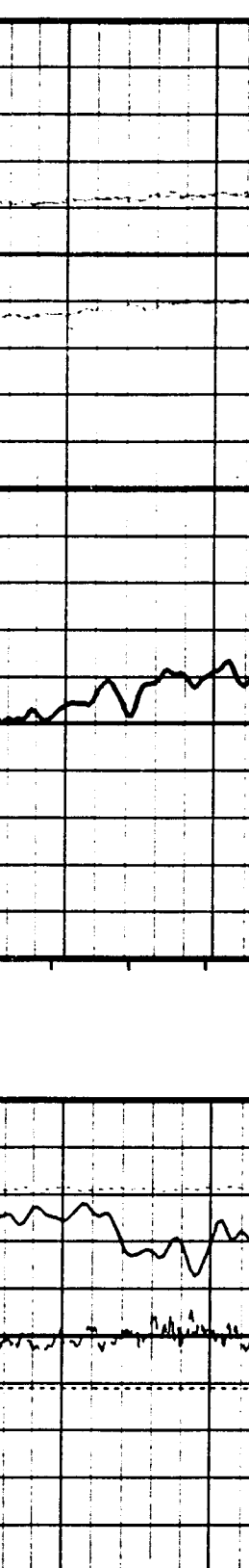
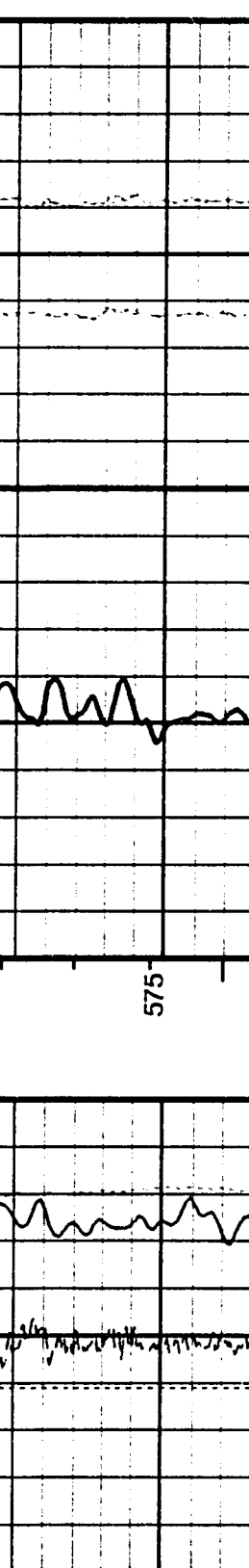
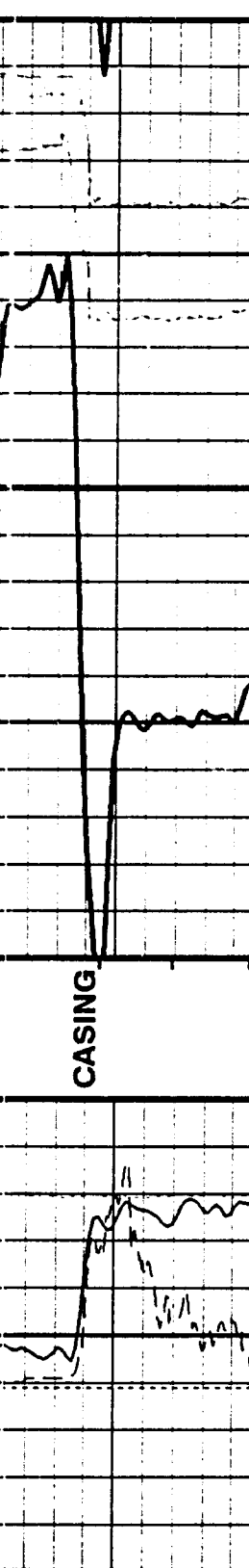
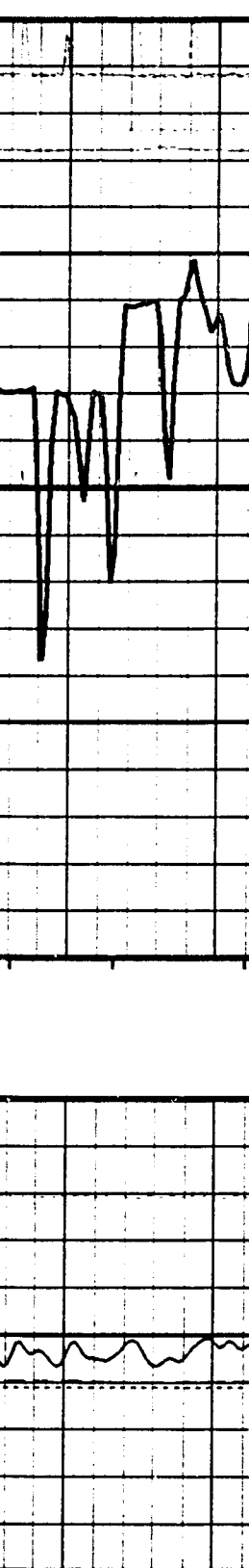
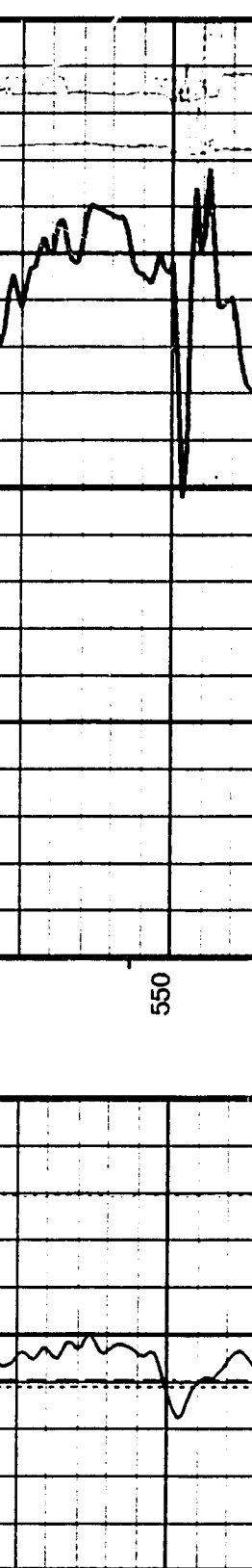
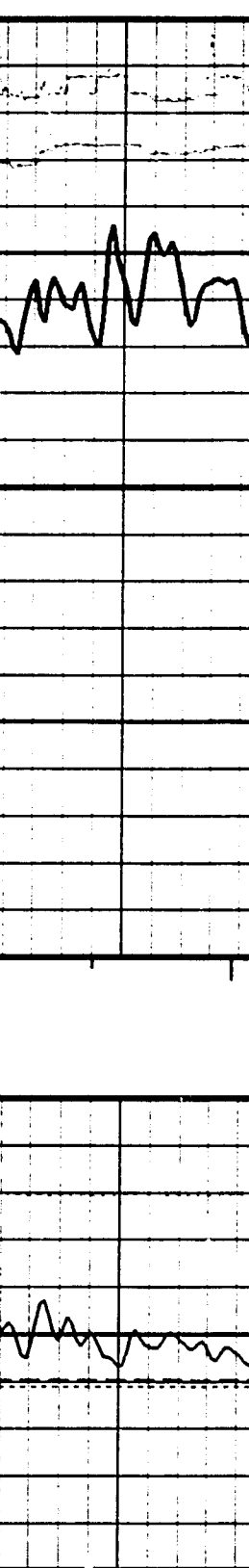
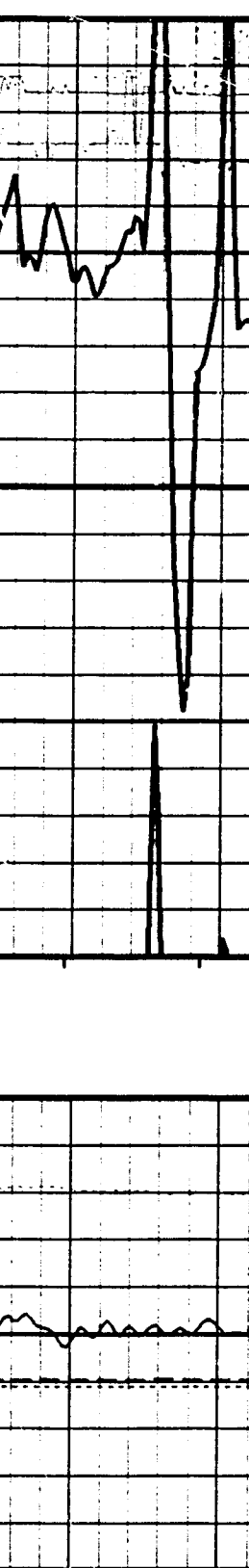
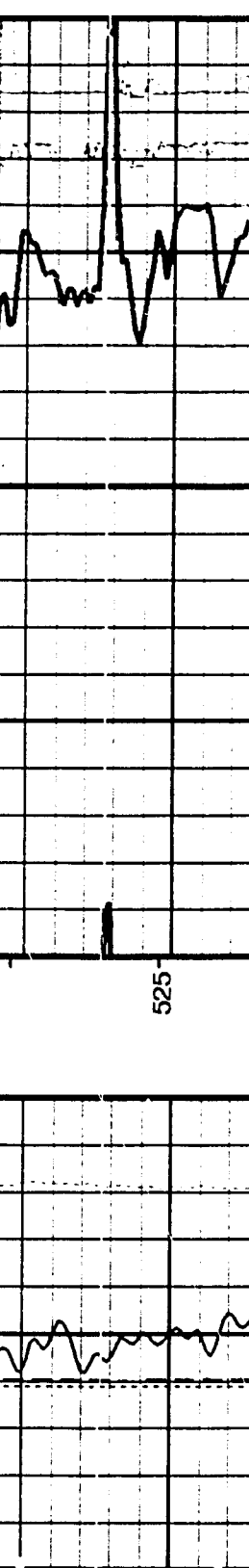
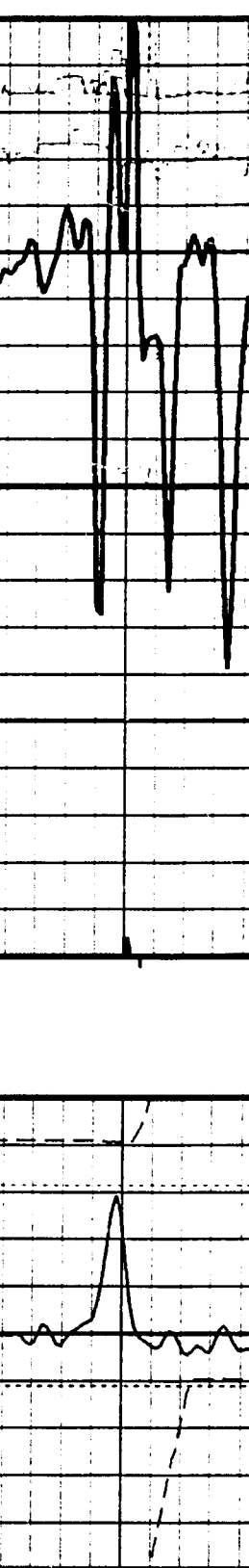
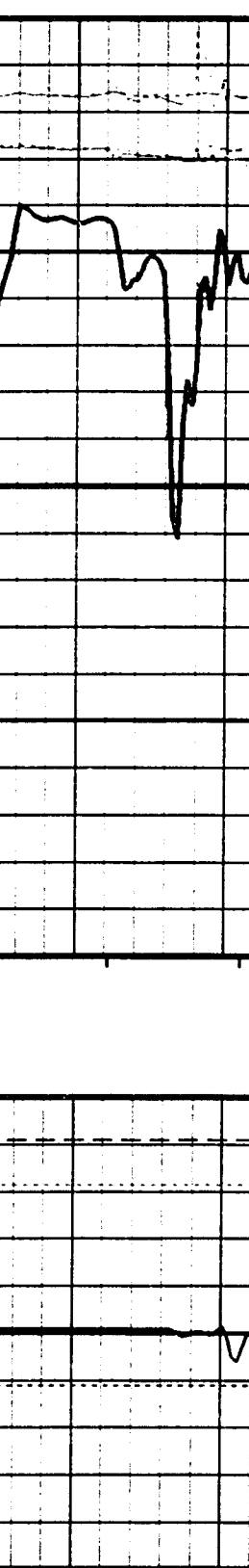
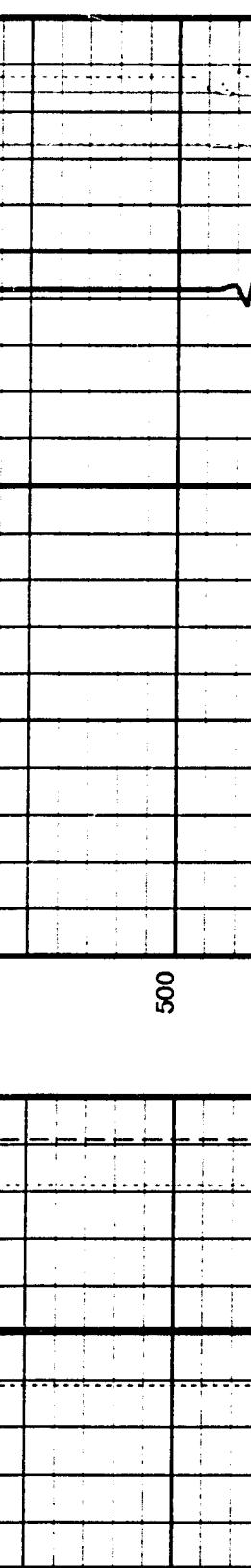
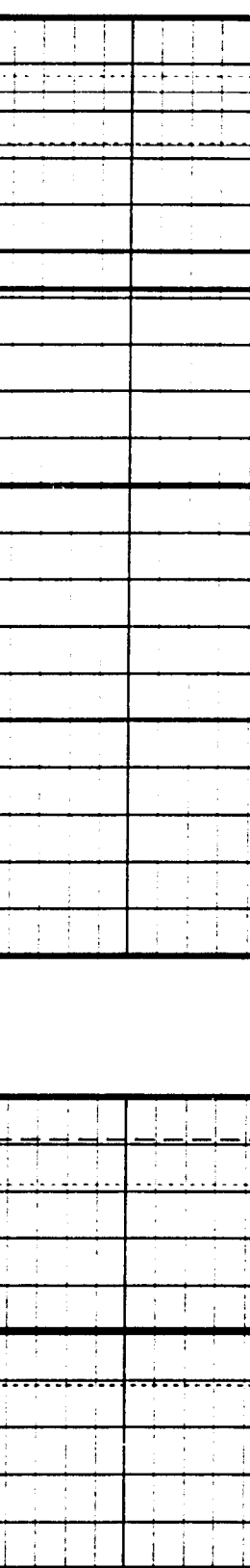
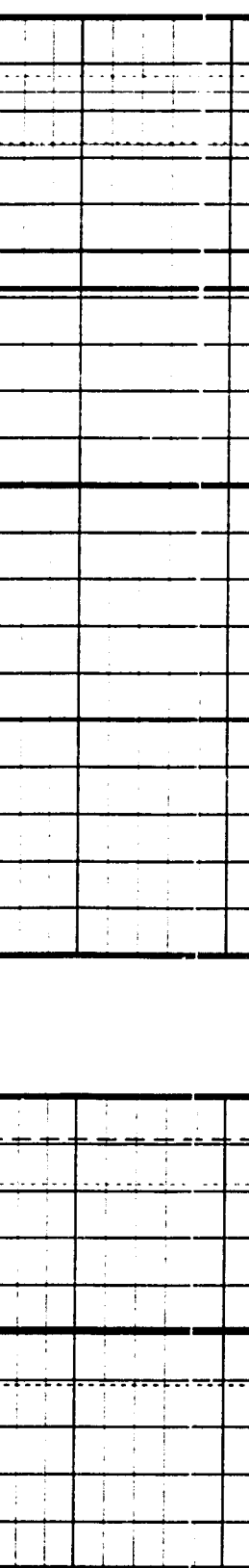
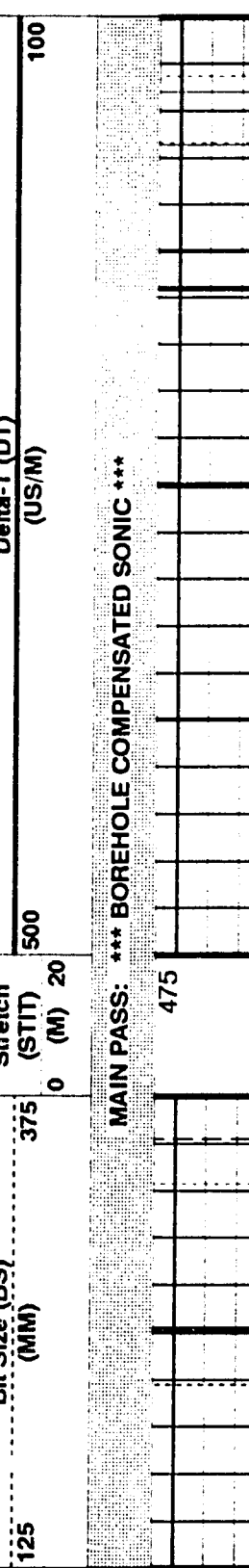
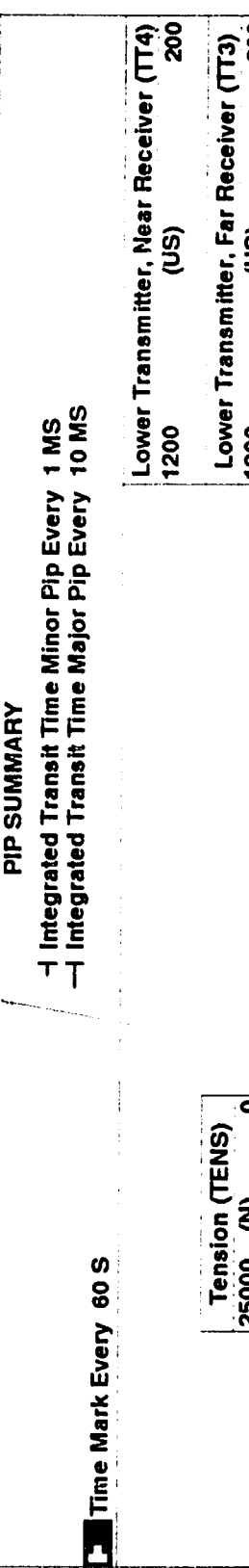
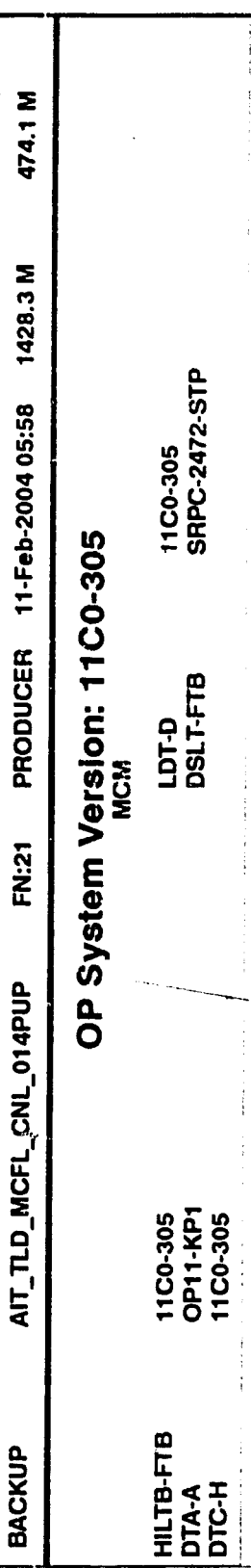
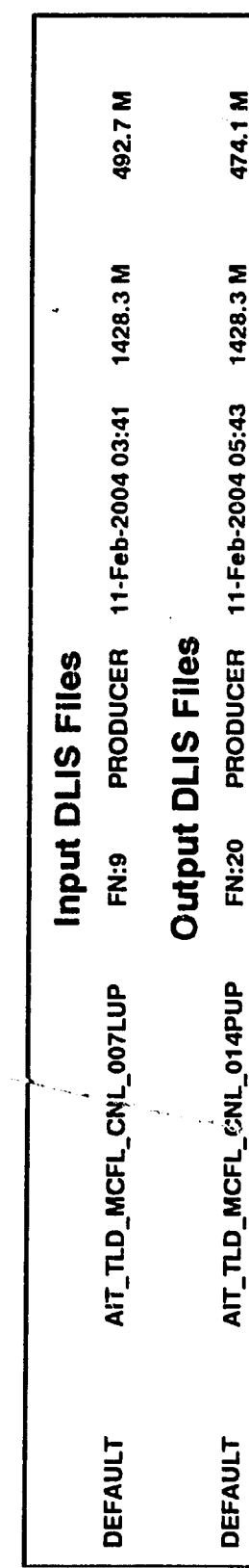
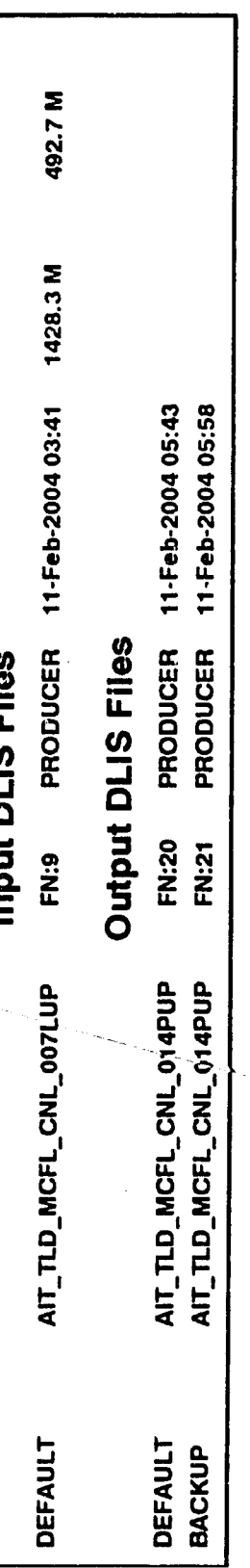
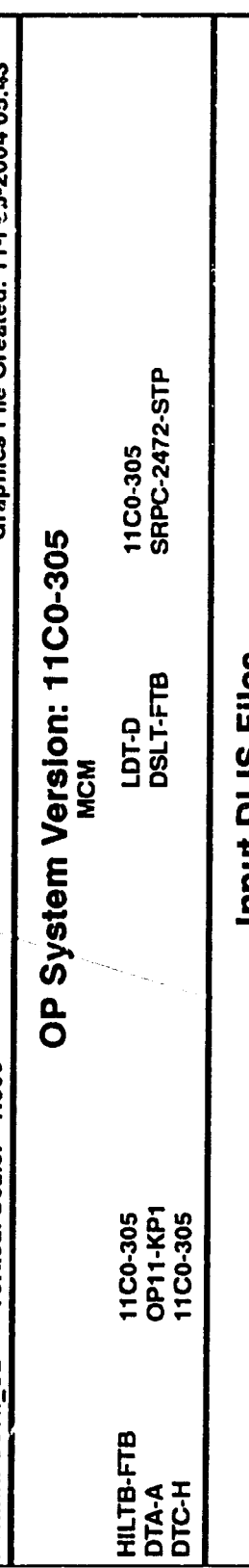
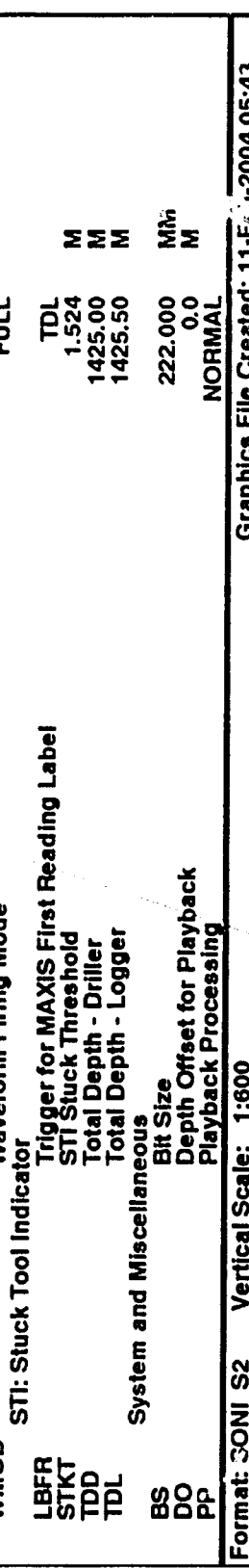
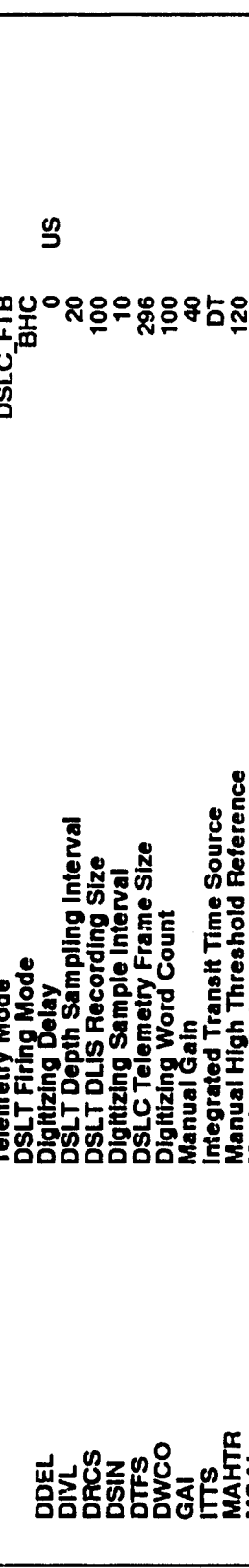
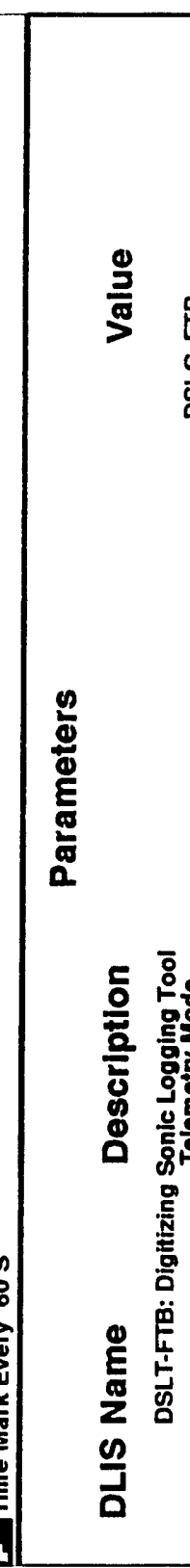
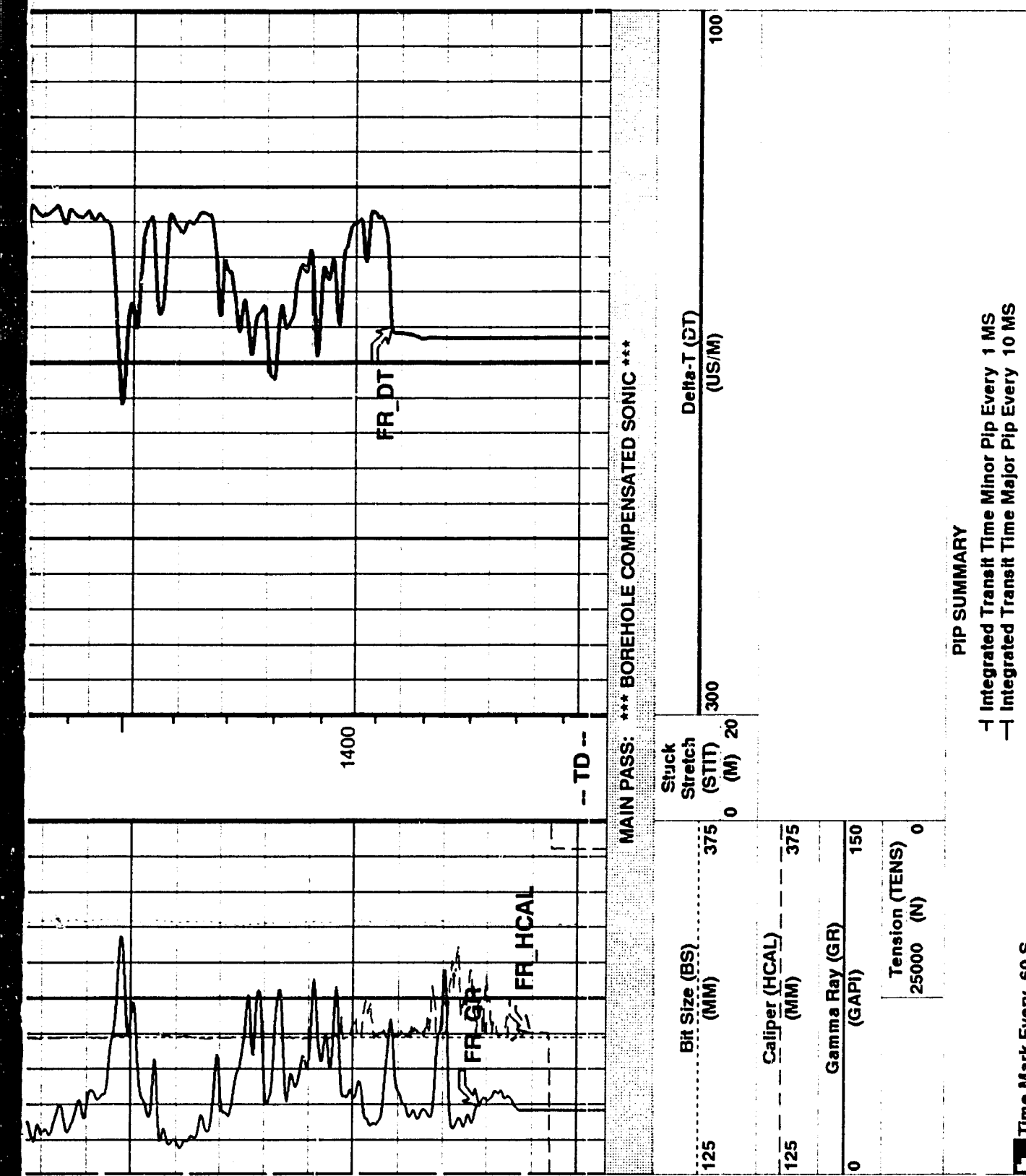
| Gamma Ray (GR) | Gamma Ray (GRI) | Caliper (HCAL) | Caliper (MM) | Stuck |
|----------------|-----------------|----------------|--------------|-------|
| 0 | 150 | | | |
| 125 | | 375 | | |

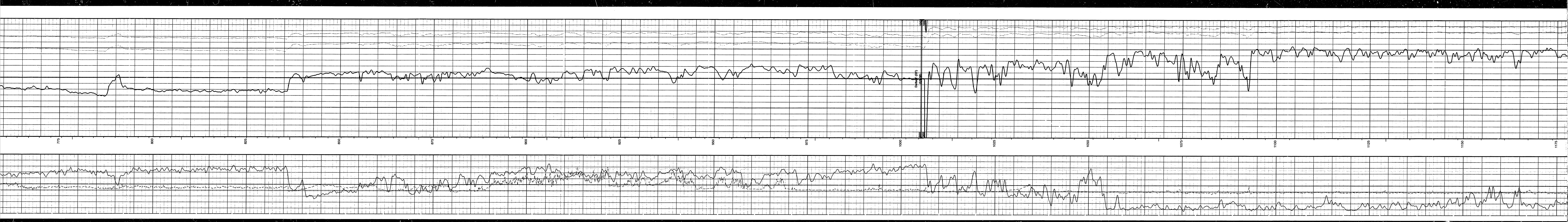
| Bit Size (BS)
(MM) | Stretch
(S/T/T) | Delta-T (DT)
(US/M) |
|-----------------------|--------------------|------------------------|
| 125 | 375 | 500 |
| 0 | (M) | 20 |

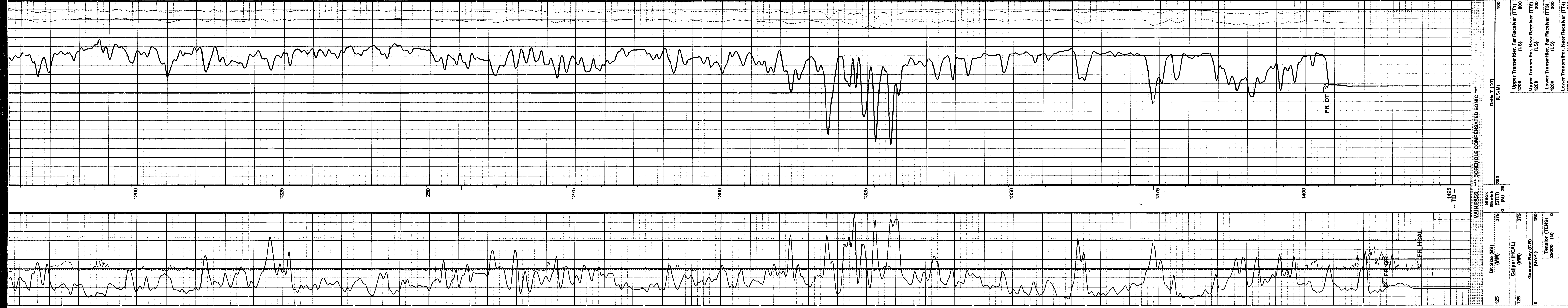
MAIN PASS: *** BOREHOLE COMPENSATED SONIC ***

[illegible]









| Item | Phase | Value | Thru Cal Magnitude V | Nominal | Phase DEG | Nominal |
|------|--------|--------|----------------------|---------|-----------|---------|
| 0 | Master | 0.6159 | | 0.6050 | 63.97 | 71.00 |
| | Before | 0.6214 | | 65.44 | | |
| 1 | Master | 1.263 | | 1.270 | 64.84 | 70.00 |
| | Before | 1.275 | | 65.40 | | |
| 2 | Master | 0.6357 | | 0.6230 | 61.10 | 66.00 |
| | Before | 0.6400 | | 61.11 | | |
| 3 | Master | 0.7091 | | 0.7040 | 60.30 | 65.00 |
| | Before | 0.7147 | | 60.73 | | |
| 4 | Master | 1.329 | | 1.337 | 53.78 | 59.00 |
| | Before | 1.341 | | 54.18 | | |
| 5 | Master | 1.919 | | 1.905 | 51.96 | 57.00 |
| | Before | 1.935 | | 52.30 | | |
| 6 | Master | 1.922 | | 1.905 | 51.92 | 57.00 |
| | Before | 1.939 | | 52.26 | | |
| 7 | Master | 1.377 | | 1.415 | 48.48 | 53.00 |
| | Before | 1.385 | | 48.50 | | |

60.00 % (Minimum) 140.0 % (Maximum) Non-50.00 (Minimum) 70.00 (Maximum)

Master: 11-Jan-2004 18:19 Before: 11-Feb-2004 2:41

| Phase | Array Induction SPA Plus MW | Value | Phase | Array Induction SPA zero MV | Value |
|--------|-----------------------------|-------|--------|-----------------------------|--------|
| Master | | 997.5 | Master | | 0.2905 |
| Before | | 996.9 | Before | | 0.1138 |

High resolution Integrated Logging Tool-DTS Wellsite Calibration
Electronics Calibration Check-Auxiliary

[illegible]

| Id | Value | R-Square Error Correction | Score Error Correction | Value | X-Square Error Correction | MMAN |
|----|--------|---------------------------|------------------------|--------|---------------------------|-------|
| 0 | -37.90 | -231.0 | -56.00 | -39.61 | 0 | 2250 |
| 1 | 168.0 | 114.0 | 159.0 | 132.9 | -426.0 | 625.0 |
| 2 | 111.8 | 66.00 | 111.0 | 68.86 | -350.0 | 300.0 |
| 3 | 24.21 | | | 140.0 | | |

| Master: 11-Jun-2004-18:19 | | | | | | | | | |
|---|-------|--------------------------|---------------------|---------|------------------------|--|--|--|--|
| High resolution Integrated Logging Tool-DTS Website Calibration | | | | | | | | | |
| ck | Value | Coarse - Mag. Real. Imag | Mud Gain Connection | Value | Fine - Mag. Real. Imag | | | | |
| 0 | 1100 | Maximum | 1,000 | Maximum | 1,000 | | | | |
| 1 | 1100 | Maximum | 1,000 | Maximum | 1,000 | | | | |
| 2 | 1100 | Maximum | 1,000 | Maximum | 1,000 | | | | |
| Master: 11-Jun-2004-2:38 | | | | | | | | | |
| High resolution Integrated Logging Tool-DTS Well Site Measurement Summary | | | | | | | | | |

| Before | | | After | | |
|------------------------------|--------|--------|------------------------------|--------|--------|
| Parameter | Mean | StdDev | Parameter | Mean | StdDev |
| BS Crystal Resolution | 0.7145 | 0.0000 | BS Crystal Resolution | 0.7321 | 0.0000 |
| SS Window Sum CPS | 10850 | 11250 | SS Window Sum CPS | 11250 | 11810 |
| Phase | Before | After | Phase | Before | After |
| BS PM High Voltage (Command) | 1749 | 1849 | BS PM High Voltage (Command) | 1830 | 1949 |
| SS PM High Voltage (Command) | 1819 | 1919 | SS PM High Voltage (Command) | 1819 | 1919 |
| Phase | Before | After | Phase | Before | After |
| BS Crystal Resolution % | 10.41 | 11.41 | BS Crystal Resolution % | 11.26 | 12.41 |
| SS Crystal Resolution % | 10.08 | 10.08 | SS Crystal Resolution % | 9.93 | 10.08 |
| Phase | Before | After | Phase | Before | After |

Before: 8-Feb-2004 11:47

After: 8-Feb-2004 11:47

High resolution Integrated Logging Tool-DTS Well

Photoacoustic High Voltage Calibration

High resolution Integrated Logging Tool-DTS Well

BS Crystal Resolution Calibration

SS Crystal Resolution Calibration

High resolution Integrated Logging Tool-DTS Well

| High resolution Integrated Logging Tool DTS WetSite Calibration | | | |
|---|--------------------|-------------------------------------|------------------|
| HILT Caliper Calibration | | | |
| Phase-HILT Caliper Zero Measurement | Value | Phase-HILT Caliper Plus Measurement | Value |
| Before | 152.6
Minimum | Before | 301.9
Minimum |
| 3000 | 203.2
Minimum | 228.6
Minimum | 381.0
Minimum |
| 3000 | 254.0
Minimum | 304.6
Minimum | |
| 3000 | 305.0
Minimum | | |
| 3000 | 355.0
Minimum | | |
| 3000 | 405.0
Minimum | | |
| 3000 | 455.0
Minimum | | |
| 3000 | 505.0
Minimum | | |
| 3000 | 555.0
Minimum | | |
| 3000 | 605.0
Minimum | | |
| 3000 | 655.0
Minimum | | |
| 3000 | 705.0
Minimum | | |
| 3000 | 755.0
Minimum | | |
| 3000 | 805.0
Minimum | | |
| 3000 | 855.0
Minimum | | |
| 3000 | 905.0
Minimum | | |
| 3000 | 955.0
Minimum | | |
| 3000 | 1005.0
Minimum | | |
| 3000 | 1055.0
Minimum | | |
| 3000 | 1105.0
Minimum | | |
| 3000 | 1155.0
Minimum | | |
| 3000 | 1205.0
Minimum | | |
| 3000 | 1255.0
Minimum | | |
| 3000 | 1305.0
Minimum | | |
| 3000 | 1355.0
Minimum | | |
| 3000 | 1405.0
Minimum | | |
| 3000 | 1455.0
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| 3000 | 1505.0
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| 3000 | 1805.0
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| 3000 | 1855.0
Minimum | | |
| 3000 | 1905.0
Minimum | | |
| 3000 | 1955.0
Minimum | | |
| 3000 | 2005.0
Minimum | | |
| 3000 | 2055.0
Minimum | | |
| 3000 | 2105.0
Minimum | | |
| 3000 | 2155.0
Minimum | | |
| 3000 | 2205.0
Minimum | | |
| 3000 | 2255.0
Minimum | | |
| 3000 | 2305.0
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| 3000 | 2355.0
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| 3000 | 2405.0
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| 3000 | 2455.0
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| 3000 | 2505.0
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| 3000 | 2555.0
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| 3000 | 2605.0
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| 3000 | 2655.0
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| 3000 | 2705.0
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| 3000 | 2755.0
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| 3000 | 2805.0
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| 3000 | 2855.0
Minimum | | |
| 3000 | 2905.0
Minimum | | |
| 3000 | 2955.0
Minimum | | |
| 3000 | 3005.0
Minimum | | |
| 3000 | 3055.0
Minimum | | |
| 3000 | 3105.0
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| 3000 | 3155.0
Minimum | | |
| 3000 | 3205.0
Minimum | | |
| 3000 | 3255.0
Minimum | | |
| 3000 | 3305.0
Minimum | | |
| 3000 | 3355.0
Minimum | | |
| 3000 | 3405.0
Minimum | | |
| 3000 | 3455.0
Minimum | | |
| 3000 | 3505.0
Minimum | | |
| 3000 | 3555.0
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| 3000 | 3605.0
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| 3000 | 3655.0
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| 3000 | 3705.0
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| 3000 | 3755.0
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| 3000 | 3805.0
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| 3000 | 3855.0
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| 3000 | 3905.0
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| 3000 | 3955.0
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| 3000 | 4005.0
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| 3000 | 4055.0
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| 3000 | 4105.0
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| 3000 | 4705.0
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| 3000 | 4805.0
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| 3000 | 16455.0
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| 3000 | 16905.0
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| 3000 | 17255.0
Minimum | | |
| 3000 | 17305.0
Minimum | | |
| 3000 | 17355.0
Minimum | | |
| 3000 | 17405.0
Minimum | | |
| 3000 | 17455.0
Minimum | | |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | | | |
|--|---------------------|-------|----------------------|---------------------|-------|----------------------|----------------------|-------|----------------------|----------------------|-------|
| Zero Measurement | | | | | | | | | | | |
| Phase | CNTC Background CPS | Value | Phase | CFTC Background CPS | Value | Phase | Gamma Ray J/g - Bq/g | Value | Phase | Gamma Ray J/g - Bq/g | Value |
| Before | 0 | 120.0 | Before | 0 | 150.2 | Before | 163.2 | 180.2 | Before | 163.2 | 180.2 |
| After | 300 | 120.0 | After | 300 | 150.2 | After | 163.2 | 180.2 | After | 163.2 | 180.2 |
| Gamma Ray Background | 300 | 120.0 | Gamma Ray Background | 300 | 150.2 | Gamma Ray Background | 163.2 | 180.2 | Gamma Ray Background | 163.2 | 180.2 |

[illegible]

| Id | Phase | Value | Thi Cal Magnitude V | Normal | Value | Phase DEG |
|----|--------|--------|---------------------|--------|-------|-----------|
| 0 | Master | 0.6159 | | 0.6050 | 65.97 | |
| 1 | Master | 1.263 | | 1.270 | 64.94 | |
| 2 | Master | 0.6267 | | 0.6230 | 61.10 | |
| 3 | Master | 0.7081 | | 0.7040 | 60.30 | |
| 4 | Master | 1.329 | | 1.337 | 53.79 | |
| 5 | Master | 1.919 | | 1.995 | 51.96 | |
| 6 | Master | 1.922 | | 1.995 | 51.92 | |
| 7 | Master | 1.377 | | 1.415 | 48.48 | |

| High resolution Integrated Loading Tool-DTS Master Calibration | | | | | | | | | |
|--|--|--------|-----------|--|-----------|--------------------------|-----------|-----------|-----------|
| Electronics Calibration Check - Auxiliary | | | | | | | | | |
| Phase | Array Induction SPA MV | | Value | Phase | Master | Array Induction SPA Zero | MV | Value | |
| | Master | 993.50 | 1940 | | -50.00 | 0 | 50.00 | 0.2305 | |
| | 941.0 | | | | | Actual | Desired | | |
| Phase | Phase-Array Induction Temperature Plus | | Value | Phase-Array Induction Temperature Zero | Value | | | | |
| | Master | 0.8150 | 0.9600 | Master | -0.05000 | 0 | 0.05000 | 0.000223 | |
| | 0.8700 | | (desired) | | (desired) | (desired) | (desired) | (desired) | (desired) |

Master: 11-Jun-2004 13:19

| id | Value | Test Loop Gain Magnitude V | Value | Phase DEG |
|----|-------|----------------------------|----------|-----------|
| 0 | 1.019 | | 0.4254 | |
| 1 | 1.017 | | 0.5291 | |
| 2 | 1.015 | | 0.005682 | |
| 3 | 1.014 | | 0.0172 | |

| Master | 11-Jan-2004 | 18-19 | High resolution | Interpreted | Logos | Tool | DTS | Master | Calibration |
|--------|-------------|--------|-----------------|-------------|--------|--------|--------|--------|-------------|
| 5 | 0.9905 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9905 | 0.9905 | 0.9905 | 0.9905 |
| 6 | 0.9997 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 0.9997 | 0.9997 | 0.9997 | 0.9997 |
| 7 | 1.006 | 1.0000 | 1.0000 | 1.0000 | 1.0000 | 1.006 | 1.006 | 1.006 | 1.006 |

| Index | Value | IR Sende Error Correction | MMT | X Sende Error Correction | MMT |
|-------|--------|---------------------------|-----------------------|--------------------------|------------------------|
| 0 | -37.90 | -231.0
(Ausschnitt) | -50.0
(Ausschnitt) | -38.91 | -220.0
(Ausschnitt) |
| 1 | 169.0 | 114.0
(Ausschnitt) | 130.0
(Ausschnitt) | 132.9 | 628.0
(Ausschnitt) |
| 2 | 111.8 | 59.0
(Ausschnitt) | 11.0
(Ausschnitt) | 68.86 | 350.0
(Ausschnitt) |
| 3 | 64.01 | 31.0
(Ausschnitt) | 6.0
(Ausschnitt) | 140.6 | -260.0
(Ausschnitt) |
| 4 | 231.5 | - | - | -41.23 | - |

| Master: 11-Jan-2024 18:19 | | | | | | | | | |
|---|---------|---------|---------|---------|---------|---------|---------|---------|--------|
| | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum | |
| 5 | 13.62 | 4,000 | 14,000 | 24,000 | -6.873 | 0 | 30,000 | 0 | 50,000 |
| 6 | 8.887 | 5,000 | 10,000 | 15,000 | 4.019 | 0 | 30,000 | 0 | 30,000 |
| 7 | -0.5816 | -5,000 | 0 | 5,000 | -5.271 | 0 | 30,000 | 0 | 30,000 |
| High resolution Integrated Logging Tool-QTS Master Calibration, Mud Gain Correction | | | | | | | | | |

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | |
|--|-------|------------------|-----------------|-----------------|-------|------------------|-----------------|-----------------|-------|
| Inversion results | | | | | | | | | |
| Phase | Rho | Aluminum | K/M3 | Value | Phase | Rho | Magnesium | K/M3 | Value |
| 0 | 1.100 | 0.8000 (Maximum) | 1.000 (Minimum) | 1.200 (Maximum) | 1.150 | 0.8000 (Maximum) | 1.000 (Minimum) | 1.200 (Maximum) | |
| 1 | 1.100 | 0.8000 (Maximum) | 1.000 (Minimum) | 1.200 (Maximum) | 1.150 | 0.8000 (Maximum) | 1.000 (Minimum) | 1.200 (Maximum) | |
| 2 | 1.100 | 0.8000 (Maximum) | 1.000 (Minimum) | 1.200 (Maximum) | 1.150 | 0.8000 (Maximum) | 1.000 (Minimum) | 1.200 (Maximum) | |

Master: 11-FEB-2004, 2:38

[illegible]

| Phase | Thermal Near Cor. | (Tank) | CPS | Value | Phase | Thermal Far Cor. | (Tank) | CPS | Value |
|---------|-------------------|--------|------|-------|---------|------------------|--------|------|-------|
| Master | 5000 | 6031 | 7200 | 6037 | Master | 2075 | 2793 | 3125 | 2542 |
| Minimum | 4800 | 5800 | 7000 | 5800 | Minimum | 1900 | 2600 | 3000 | 2400 |
| Maximum | 5200 | 6262 | 7400 | 6354 | Maximum | 2250 | 2986 | 3250 | 2684 |

Master: 15-Jun-2024.11.48

High resolution Integrated Logging Tool-DTS Master Calibration

| Phase | Thermal Near Cor. | (Tank) | CPS | Value | Phase | Thermal Far Cor. | (Tank) | CPS | Value |
|---------|-------------------|--------|------|-------|---------|------------------|--------|------|--------|
| Master | -1600 | 0 | 1500 | 1275 | Master | -2500 | 0 | 2500 | 0.8493 |
| Minimum | -1800 | -100 | 1300 | 1075 | Minimum | -2700 | -100 | 2300 | 0.8093 |
| Maximum | -1400 | 100 | 1700 | 1475 | Maximum | -2300 | 100 | 2700 | 0.8893 |

Master: 15-Jun-2024.17.57

| Phase | Minimum Value | (Mean) | CHS | Value | Phase | Minimum Value | (Mean) | CHS | Value |
|--------|---------------|---------|---------|-------|--------|---------------|---------|---------|-------|
| | Minimum | #/month | | | | Minimum | #/month | | |
| Master | 5000 | | 7200 | 6037 | Master | 2075 | | 2793 | 2542 |
| | Minimum | | Minimum | | | Minimum | | Minimum | |

Master: 15-Jan-2004 11:48

Primary Equipment

MS-1000 Cartridge

Powered Gamma Detector

Gamma Source Radioactive

Auxiliary Equipment

Density Readlight Source

Litho Density - D / Equipment Identification

NSC - E

PG - G

GSR - J

NSC - C

[illegible]

| Litho Density: D-Weltchle Calibration | | | | | | | | | |
|---|--------------------|---------------|--------------------|------------|--------------------|--------|--------------------|---------------|--------------------|
| Detector Resolution from BKG Measurements | | | | | | | | | |
| Phase | | LS Resolution | | Background | | Value | | SS Resolution | |
| Master | 25-Jan-2024 12:21 | Master | 25-Jan-2024 12:21 | Master | 25-Jan-2024 12:21 | Master | 25-Jan-2024 12:21 | Master | 25-Jan-2024 12:21 |
| Before | 0.750
(assumed) | Before | 0.459
(assumed) | Before | 0.000
(assumed) | Before | 0.000
(assumed) | Before | 0.503
(assumed) |
| Master | 0.750
(assumed) | Master | 0.459
(assumed) | Master | 0.000
(assumed) | Master | 0.000
(assumed) | Master | 0.503
(assumed) |
| After | 0.750
(assumed) | After | 0.459
(assumed) | After | 0.000
(assumed) | After | 0.000
(assumed) | After | 0.503
(assumed) |
| Before | 0.750
(assumed) | Before | 0.459
(assumed) | Before | 0.000
(assumed) | Before | 0.000
(assumed) | Before | 0.503
(assumed) |
| Master | 0.750
(assumed) | Master | 0.459
(assumed) | Master | 0.000
(assumed) | Master | 0.000
(assumed) | Master | 0.503
(assumed) |
| After | 0.750
(assumed) | After | 0.459
(assumed) | After | 0.000
(assumed) | After | 0.000
(assumed) | After | 0.503
(assumed) |
| Before | 0.750
(assumed) | Before | 0.459
(assumed) | Before | 0.000
(assumed) | Before | 0.000
(assumed) | Before | 0.503
(assumed) |
| Master | 0.750
(assumed) | Master | 0.459
(assumed) | Master | 0.000
(assumed) | Master | 0.000
(assumed) | Master | 0.503
(assumed) |
| After | 0.750
(assumed) | After | 0.459
(assumed) | After | 0.000
(assumed) | After | 0.000
(assumed) | After | 0.503
(assumed) |

| Litho Density - D Master Calibration | | | |
|--------------------------------------|-------|--------|-------|
| Litho LSP Measurement | | | |
| Phase | Value | Phase | Value |
| Master | 92.19 | Master | 122.9 |

[illegible]

| Minimum | Maximum | Minimum | Maximum | Minimum | Maximum | Minimum | Maximum |
|---------------------------|---------|---------|---------|---------|---------|---------|---------|
| Master: 23-Jan-2004 13:59 | | | | | | | |

Field: UNDEFINED
Province: NORTHWEST TERRITORIES

BOREHOLE COMPENSATED
SONIC LOG

| REG | Nominal |
|-----|--------------|
| | 71.00 |
| | 70.00 |
| | 66.00 |
| | 65.00 |
| | 59.00 |
| | 57.00 |
| | 57.00 |
| | 53.00 |
| | Nom. : 60.00 |
| | per semester |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|-----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 | 105 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | 116 | 117 | 118 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 | 129 | 130 | 131 | 132 | 133 | 134 | 135 | 136 | 137 | 138 | 139 | 140 | 141 | 142 | 143 | 144 | 145 | 146 | 147 | 148 | 149 | 150 | 151 | 152 | 153 | 154 | 155 | 156 | 157 | 158 | 159 | 160 | 161 | 162 | 163 | 164 | 165 | 166 | 167 | 168 | 169 | 170 | 171 | 172 | 173 | 174 | 175 | 176 | 177 | 178 | 179 | 180 | 181 | 182 | 183 | 184 | 185 | 186 | 187 | 188 | 189 | 190 | 191 | 192 | 193 | 194 | 195 | 196 | 197 | 198 | 199 | 200 | 201 | 202 | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 | 213 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 | 225 | 226 | 227 | 228 | 229 | 230 | 231 | 232 | 233 | 234 | 235 | 236 | 237 | 238 | 239 | 240 | 241 | 242 | 243 | 244 | 245 | 246 | 247 | 248 | 249 | 250 | 251 | 252 | 253 | 254 | 255 | 256 | 257 | 258 | 259 | 260 | 261 | 262 | 263 | 264 | 265 | 266 | 267 | 268 | 269 | 270 | 271 | 272 | 273 | 274 | 275 | 276 | 277 | 278 | 279 | 280 | 281 | 282 | 283 | 284 | 285 | 286 | 287 | 288 | 289 | 290 | 291 | 292 | 293 | 294 | 295 | 296 | 297 | 298 | 299 | 300 | 301 | 302 | 303 | 304 | 305 | 306 | 307 | 308 | 309 | 310 | 311 | 312 | 313 | 314 | 315 | 316 | 317 | 318 | 319 | 320 | 321 | 322 | 323 | 324 | 325 | 326 | 327 | 328 | 329 | 330 | 331 | 332 | 333 | 334 | 335 | 336 | 337 | 338 | 339 | 340 | 341 | 342 | 343 | 344 | 345 | 346 | 347 | 348 | 349 | 350 | 351 | 352 | 353 | 354 | 355 | 356 | 357 | 358 | 359 | 360 | 361 | 362 | 363 | 364 | 365 | 366 | 367 | 368 | 369 | 370 | 371 | 372 | 373 | 374 | 375 | 376 | 377 | 378 | 379 | 380 | 381 | 382 | 383 | 384 | 385 | 386 | 387 | 388 | 389 | 390 | 391 | 392 | 393 | 394 | 395 | 396 | 397 | 398 | 399 | 400 | 401 | 402 | 403 | 404 | 405 | 406 | 407 | 408 | 409 | 410 | 411 | 412 | 413 | 414 | 415 | 416 | 417 | 418 | 419 | 420 | 421 | 422 | 423 | 424 | 425 | 426 | 427 | 428 | 429 | 430 | 431 | 432 | 433 | 434 | 435 | 436 | 437 | 438 | 439 | 440 | 441 | 442 | 443 | 444 | 445 | 446 | 447 | 448 | 449 | 450 | 451 | 452 | 453 | 454 | 455 | 456 | 457 | 458 | 459 | 460 | 461 | 462 | 463 | 464 | 465 | 466 |
|---|---|---|---|---|---|---|---|---|-----|-----|

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|--|-------------------|--------------------|
| | Before | 0.237
[Maximum] |
| | Phase I | 0.262
[Maximum] |
| | LS Window Gum CPS | |
| | Before | 1.40
[Maximum] |
| | After | 1.309
[Maximum] |
| | All ranges | |

| | | |
|--|---------------------------------------|-------------------|
| | Phase II LS PM High Voltage Command V | Value |
| | Before | 1902
[Maximum] |
| | After | 2044
[Maximum] |
| | All ranges | |

| | | |
|--|-----------------------------------|--------------------|
| | Phase III LS Crystal Resolution % | Value |
| | Before | 8.00
[Maximum] |
| | After | 9.00
[Maximum] |
| | All ranges | 10.00
[Maximum] |

| | | |
|---------|------|------|
| Before | 3524 | 3045 |
| Minimum | 3330 | 4135 |
| Maximum | 3400 | 4100 |

| Phase | Gamma Ray (Calibrated) GAPI | Value |
|--------|-----------------------------|-------|
| Before | 150.0
(Arbitrary) | 165.0 |
| | 175.0
(Arbitrary) | |

| DEG | Nominal |
|-----|---------|
| | 71.00 |
| | 70.00 |
| | 66.00 |
| | 65.00 |
| | 59.00 |
| | 57.00 |
| | 52.00 |
| | 53.00 |

| | |
|---|-----|
| • | • |
| 5 | 323 |

| | Phase | LS Average Deviation % | Value |
|---|----------|------------------------|---------|
| 9 | Master | -1.500 | 0.6085 |
| 9 | diagrams | 0 | 1.500 |
| | | | Maximum |

| Phase | CMTC/CFC (Tons) | Value |
|--------|-------------------|-------|
| Winter | 2120
(Million) | 2375 |
| Summer | 2159
(Million) | 2340 |

| Phase | Value |
|--------|-----------------|
| Master | 21.50 (Minimum) |
| Slave | 21.50 (Minimum) |
| Slave | 23.75 (Maximum) |

| Phase | LS Background CPS | Value | Phase | SSZ Background CPS | Value |
|--------|--------------------|-------|--------|--------------------|-------|
| Master | | 46.09 | Master | | 9.98 |
| Before | | 45.77 | Before | | 9.977 |
| | 43.00
(Minimum) | | | 72.00
(Maximum) | |

[illegible]

| Phase | Master | 120.0
aluminum | 155.0
aluminum | 217.0
aluminum | 141.1 |
|-------|--------|-------------------|-------------------|-------------------|-------|
| • | Phase | Master | SS2 Aluminum OPS | Value | 239.4 |
| | | 210.0
aluminum | 350.0
aluminum | Value | 143.6 |
| | | | | LS Inn OPS | |
| • | Phase | Master | | Value | 143.6 |

| e | Phase | Value | SS2 Iron CPS | Value |
|---|--------|--------------------|--------------------|--------------------|
| | Master | 190.0
(Minimum) | 245.0
(Maximum) | 237.0
(Maximum) |

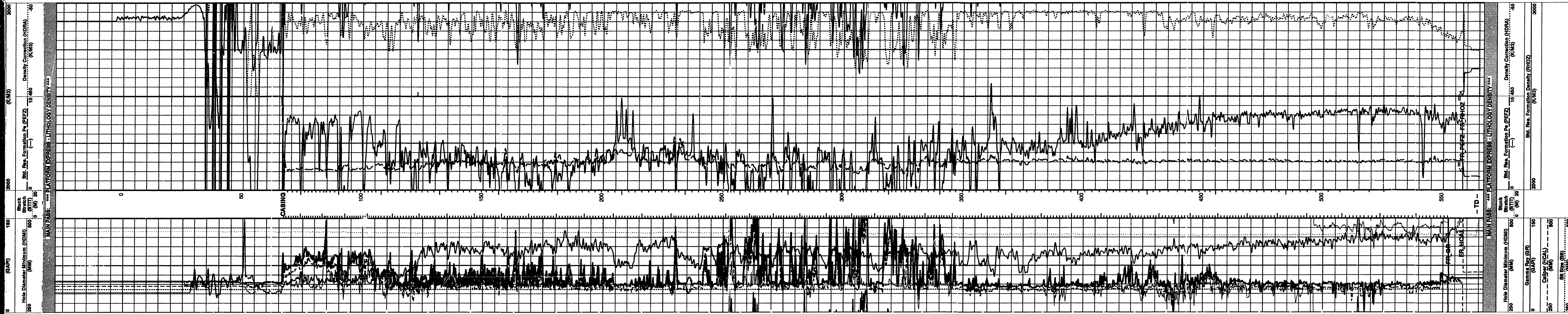
| e | Phase | Calculated | Value |
|---|--------|--------------------|--------------------|
| 7 | Master | 0.300
(Minimum) | 0.364
(Maximum) |



Schlumberger



DENSITY



| | | |
|-------------------------------------|------|-----------|
| 400 | (mm) | 500 |
| Hole Diameter Maximum (HDMX) | | |
| 250 | (MM) | 500 |
| Tension (TENS) | | |
| | | 0 |
| | | 25000 (N) |

| PIP SUMMARY | |
|-------------|---|
| ┐ | Integrated Hole Volume Minor Pip Every 0.1 M3 |
| ┐ | Integrated Hole Volume Major Pip Every 1 M3 |

| Time Mark Every 60 S | Parameters |
|----------------------|---|
| — | Integrated Cement Volume Minor Pip Every 0.1 M3 |
| — | Integrated Cement Volume Major Pip Every 1 M3 |

| DLIS Name | Description | Value |
|------------|---|-------|
| HILTB-FTB: | High resolution Integrated Logging Tool-DTS | 22 |
| DWC | | |

| | B8 |
|--------------------------------|----------|
| Density Hole Correction | OFF |
| HROD APS Activation Correction | NOBARITE |
| HROD APS Mud Type | HIRex |
| HILT Nuclear Processing Mode | 23.4 |
| HROD Depth Sampling Rate | MM |
| Measurement Bands | |
| EHS-B: Environment | |
| MTC | |
| NAAC | |
| NMT | |
| NPRM | |
| NSAR | |

| | Unit |
|------|-------------|
| ECOF | MM |
| ERC | 55.8 |
| FCD | OFF |
| HVCS | 244.5 |
| | MM |
| | ENS_Calpers |

| Item | Quantity | Unit | Material | Part Number | Manufacturer | Notes |
|------|----------|------|--|-------------|--------------|-------|
| FCD | 1 | mm | Future Casing (Outer) Diameter | 244.5 | MM | |
| HVCS | 1 | mm | Integrated Hole Volume Caliper Selection | 244.5 | MM | |
| STI | 1 | mm | STI Stuck Tool Indicator | 244.5 | MM | |
| LBFR | 1 | mm | Trigger for MAXIS First Reading Label | 244.5 | MM | |
| STRT | 1 | mm | STI Stuck Threshold | 244.5 | MM | |

| | System and Miscellaneous | Bit Size | Drilling Fluid Density |
|-----|--------------------------|----------|------------------------|
| TDD | Total Depth - Driller | | |
| TDL | Total Depth - Logger | | |
| B8 | | 88 | MM |
| DFD | | 1175.00 | K/M3 |
| | | 593.50 | M |
| | | 594.00 | M |
| | | 311.000 | MM |

| | | | |
|------------------|----------------------------------|-----------------------|--|
| DO | Depth Offset for Playback | 0.0 | M |
| DORL | Depth Offset for Repeat Analysis | 0.0 | M |
| PP | Playback Processing | NORMAL | |
| TD | Total Depth | 563.5 | M |
| Format: DENIS_S2 | | Vertical Scale: 1:600 | Graphics File Created: 03-Feb-2004 02:57 |

| | | | |
|--|----------|--------|----------|
| MI, TR, FTR | 11C0-305 | ENG, B | 11C0-305 |
| <p>OP System Version: 11C0-305</p> <p>MCN</p> | | | |

| Input DLIS Files | |
|------------------|---------------|
| DSLT-FTB | SAPC-2472-STP |
| CMO-D | DTC-H |
| 11CO-306 | 11CO-306 |
| 11CO-306 | 11CO-306 |

| | | | | | | |
|---------|-------------------------|-------|----------|-------------------|---------|--------|
| DEFAULT | AIT_TLD_MCFE_CNL_013PUP | FN:20 | PRODUCER | 03-Feb-2004 01:22 | 566.9 M | -6.2 M |
|---------|-------------------------|-------|----------|-------------------|---------|--------|

| | | | | |
|---------|-------------------------|-------|----------|-------------------|
| DEFAULT | ATT_TLD_MCFE_CNL_018PUP | FN:48 | PRODUCER | 03-Feb-2004 02:57 |
| BACKUP | ATT_TLD_MCFE_CNL_018PUP | FN:49 | PRODUCER | 03-Feb-2004 03:02 |

| Input DLIS Files | | | |
|------------------|-------------------------|-------|---|
| DEFAULT | AIT_TLD_MCFL_CNL_013PUP | FN:20 | PRODUCER 03-Feb-2004 01:22 566.9 M -6.2 M |

| Output DLIS Files | | | | | |
|-------------------|------------------------|-------|----------|-------------------|---------|
| DEFAULT | ATT_TLD_MCFI_CML_CISUP | FN:48 | PRODUCER | 03-Feb-2004 02:57 | 560.9 M |
| BACKUP | ATT_TLD_MCFI_CML_CISUP | FN:48 | PRODUCER | 03-Feb-2004 02:57 | -28.2 M |

| | | | | | | |
|--------|-------------------------|-------|----------|------------------|---------|---------|
| BACKUP | AIT_ILD_INCL_CAT_018PUP | FN:49 | PRODUCER | 03-16-2004 03:02 | 566.9 M | -28.2 M |
|--------|-------------------------|-------|----------|------------------|---------|---------|

Integrated Hole/Cement Volume Summary

Hole Volume = 41.72 M3

Cement Volume = 18.40 M3 (assuming 244.50 MM casing O.D.)
Computed from 563.4 M to 66.8 M using data channel(s) RD1 RD2 RD3 RD4 RD5 RD6

| OP System Version: 11CO-305 | | |
|-----------------------------|----------|----------|
| MCM | | |
| HILTB-FTB | 11CO-305 | ENR-B |
| NOI T FTS | 11CO-305 | 11CO-305 |

| USL1-FID | SNPC-24/2512 | DIC-H | 11C0-305 |
|--|--------------|-------|----------|
| PIP SUMMARY | | | |
| + Integrated Hole Volume Minor Pip Every 0.1 M3
— Integrated Hole Volume Major Pip Every 4 M3 | | | |

| | |
|----------------------|---------------|
| Time Mark Every 60 S | Cable Tension |
|----------------------|---------------|

| | |
|------------------------------|-------------|
| | (TENS) |
| | 25000 (N) 0 |
| Hole Diameter Maximum (HDMX) | |

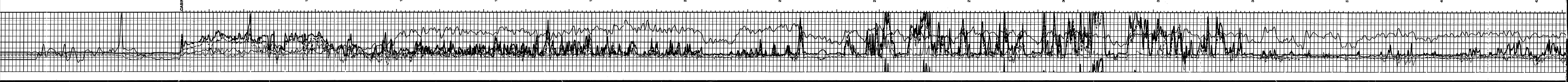
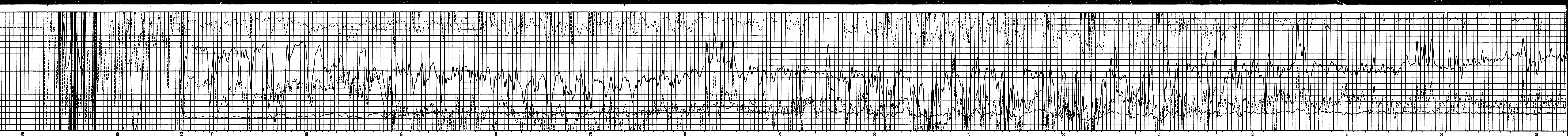
| 250 | 500 |
|-------------|-------|
| (MHz) | (MHz) |
| BH 81a (BS) | |
| 250 | 500 |
| (MHz) | (MHz) |

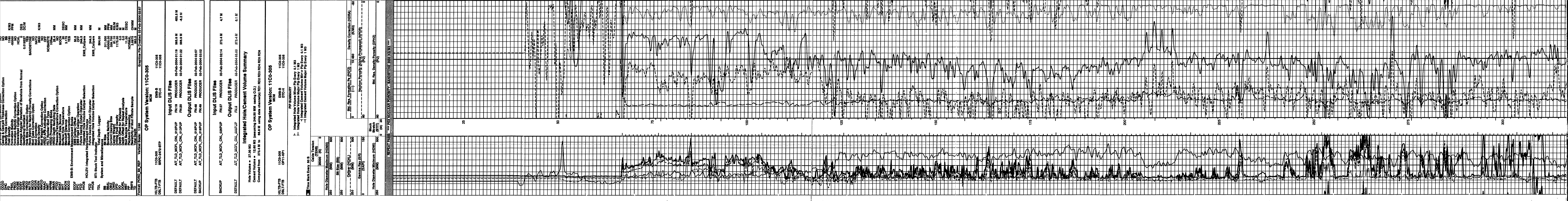
| | | | | | |
|--|---|-----|-----|-----|--------|
| | Caliper (ICAL)
(MM) | 250 | --- | --- | 600 |
| | Std. Res. Formation Ps (PEFZ)
(---) | 0 | --- | --- | 10 480 |
| | Density Correction (HDRA)
(K/Mg) | | | | -50 |
| | Neutron Porosity (Alpha-Processed) (NPOR) | | | | |
| | Gamma Ray (GR) | | | | |

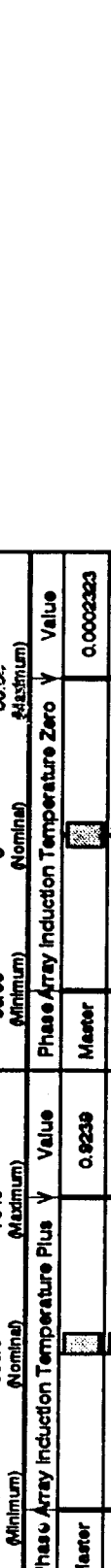
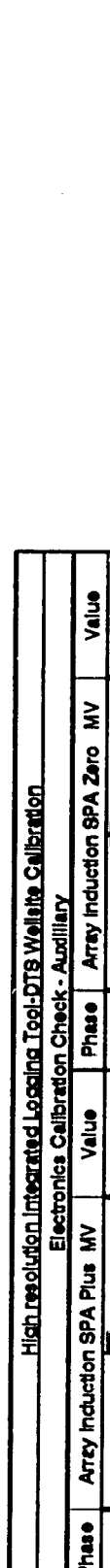
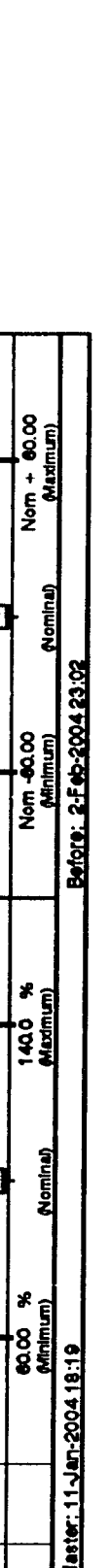
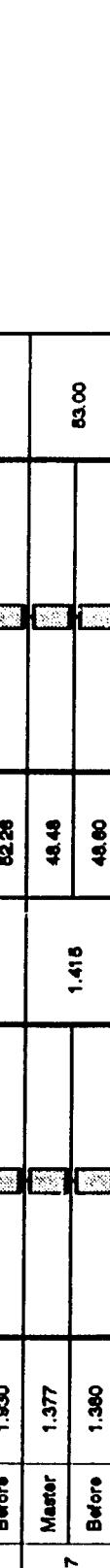
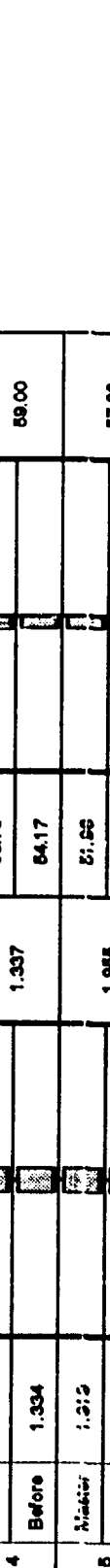
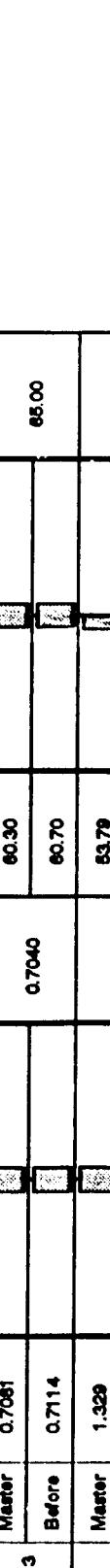
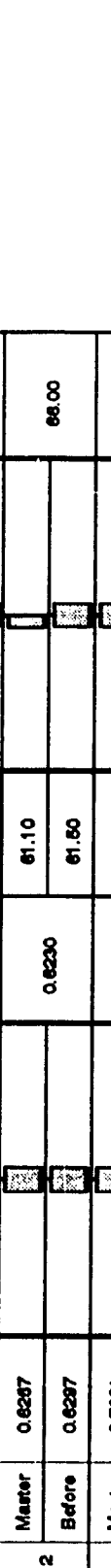
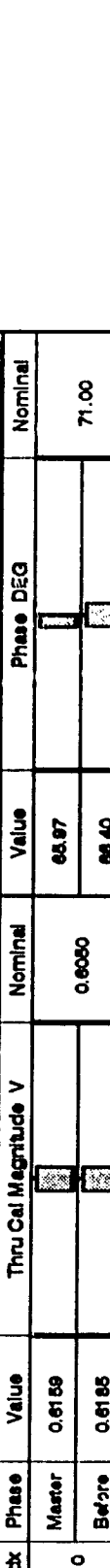
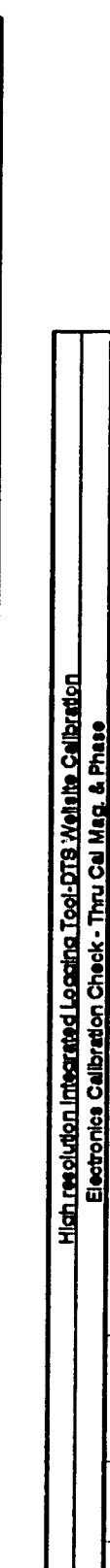
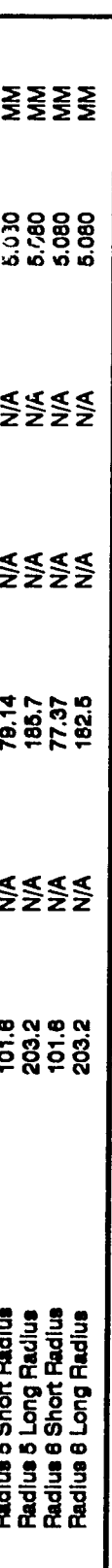
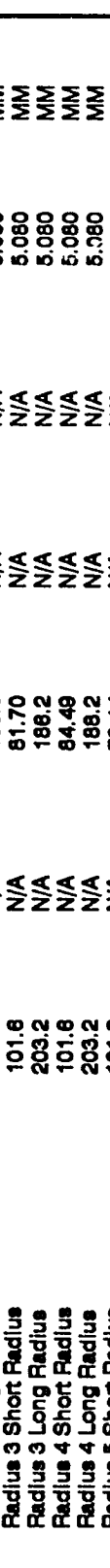
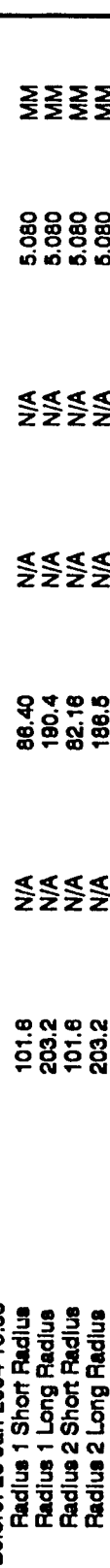
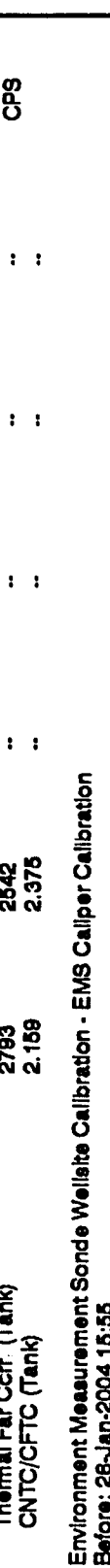
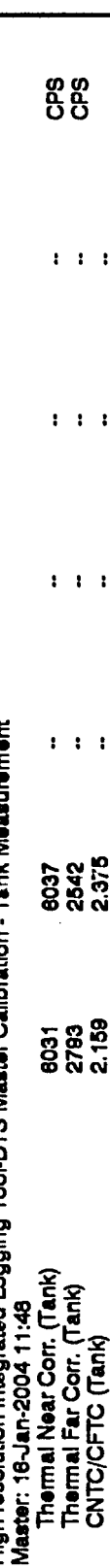
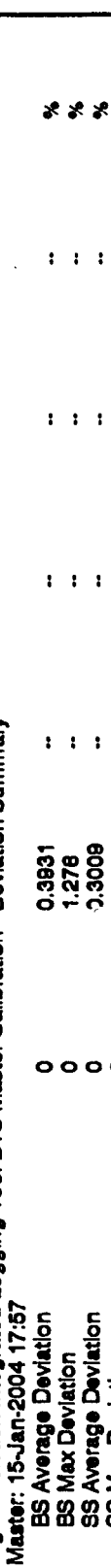
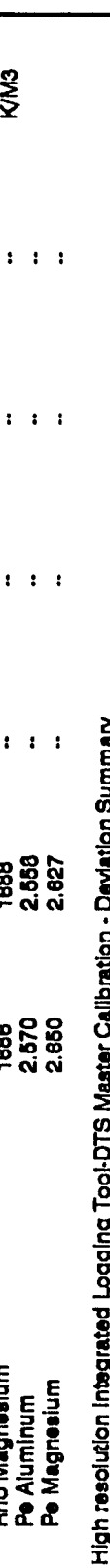
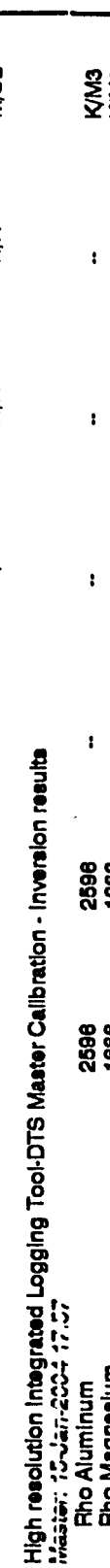
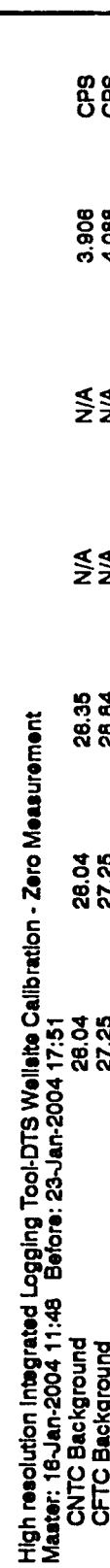
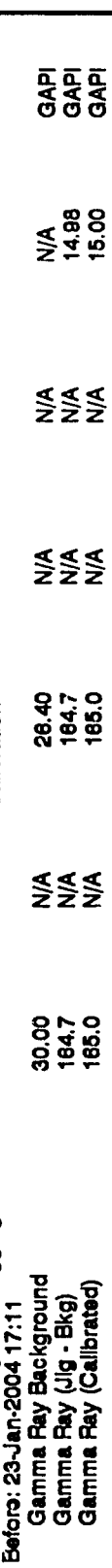
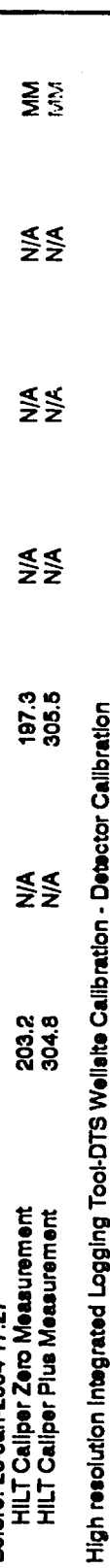
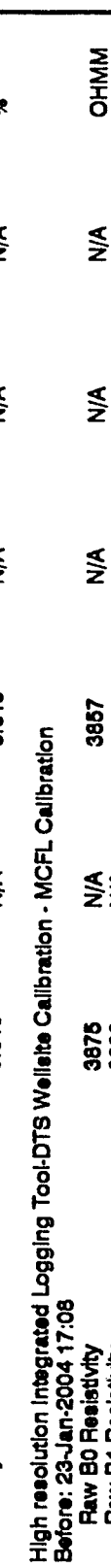
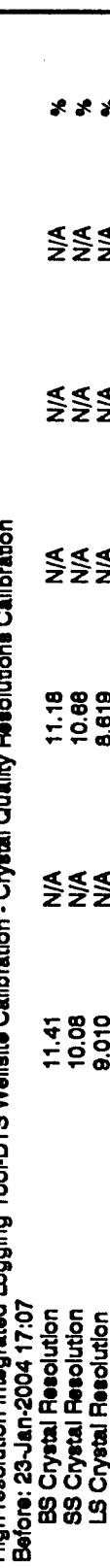
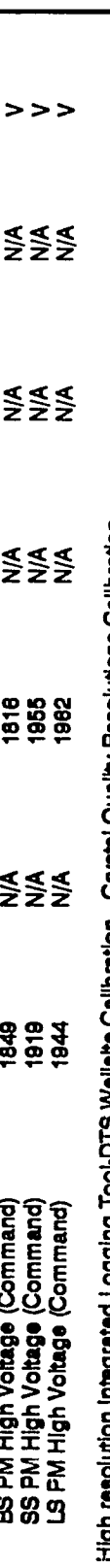
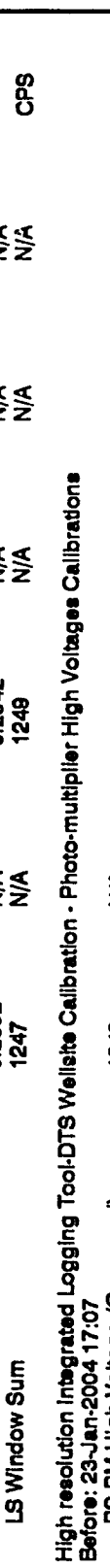
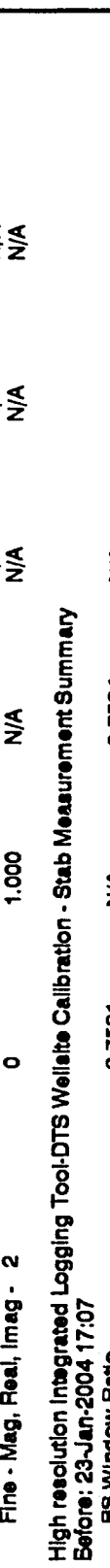
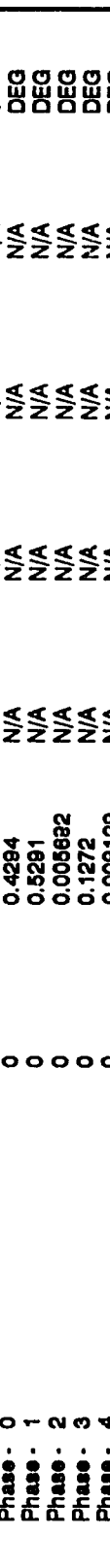
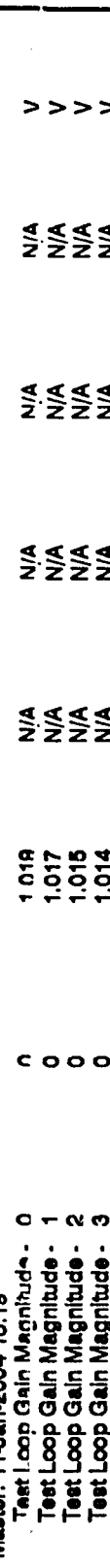
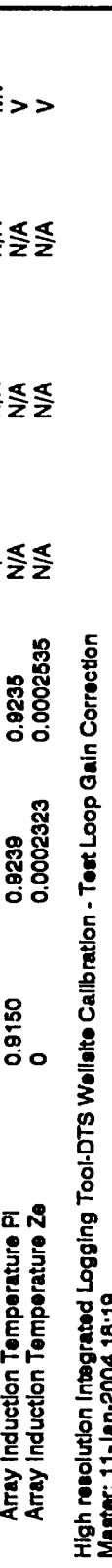
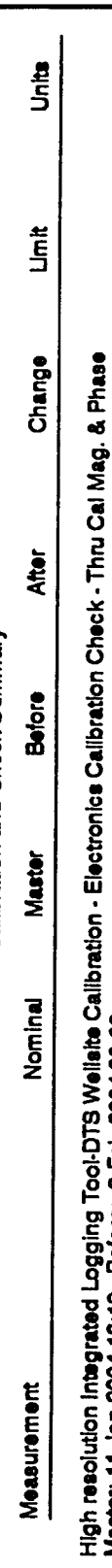
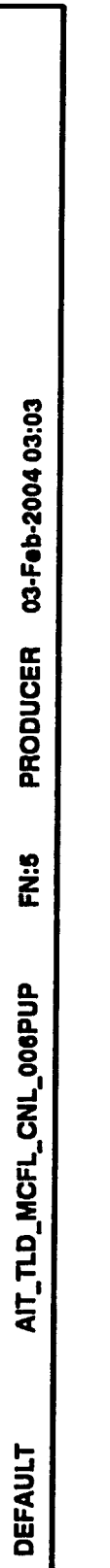
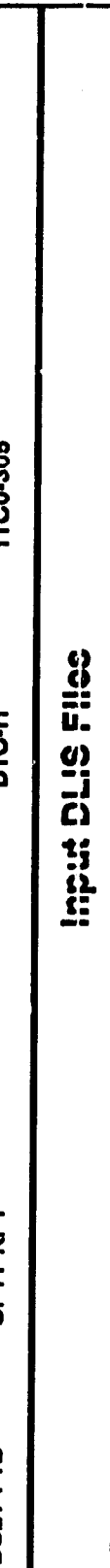
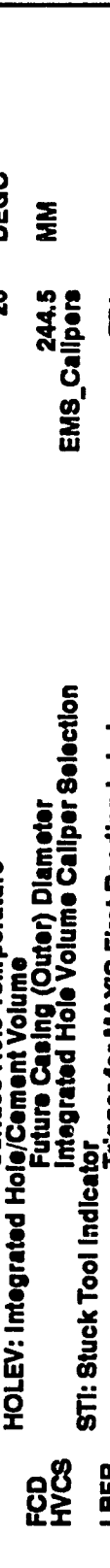
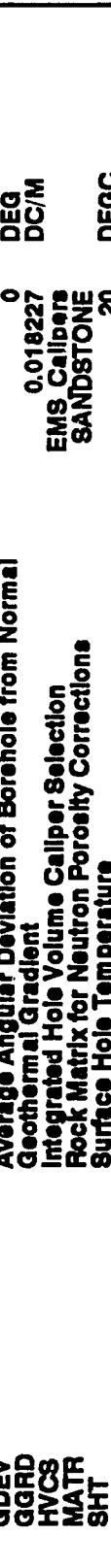
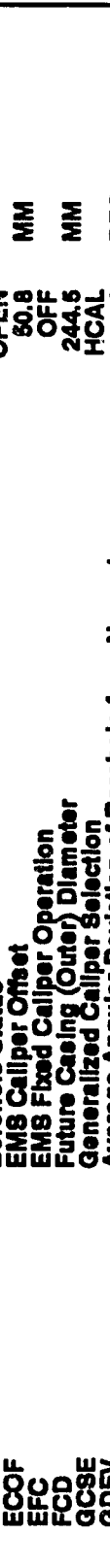
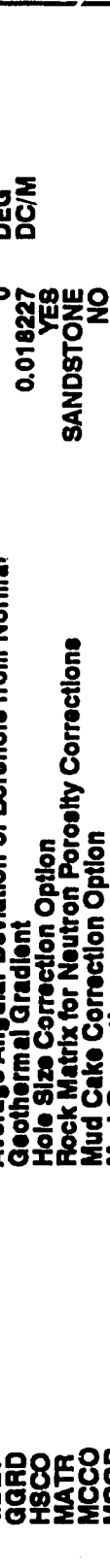
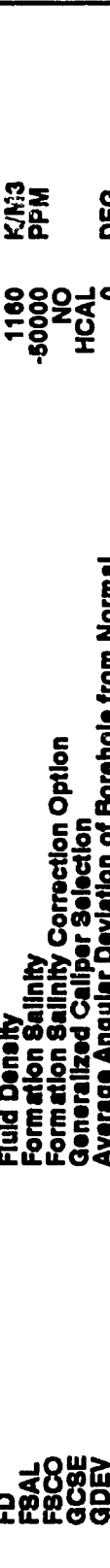
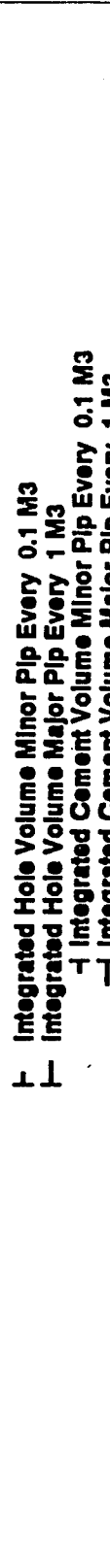
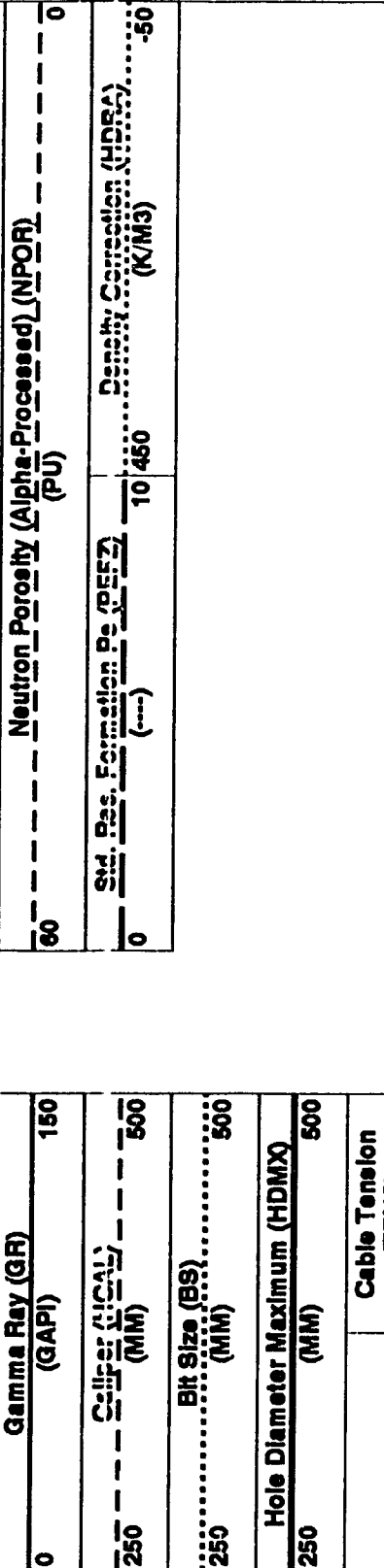
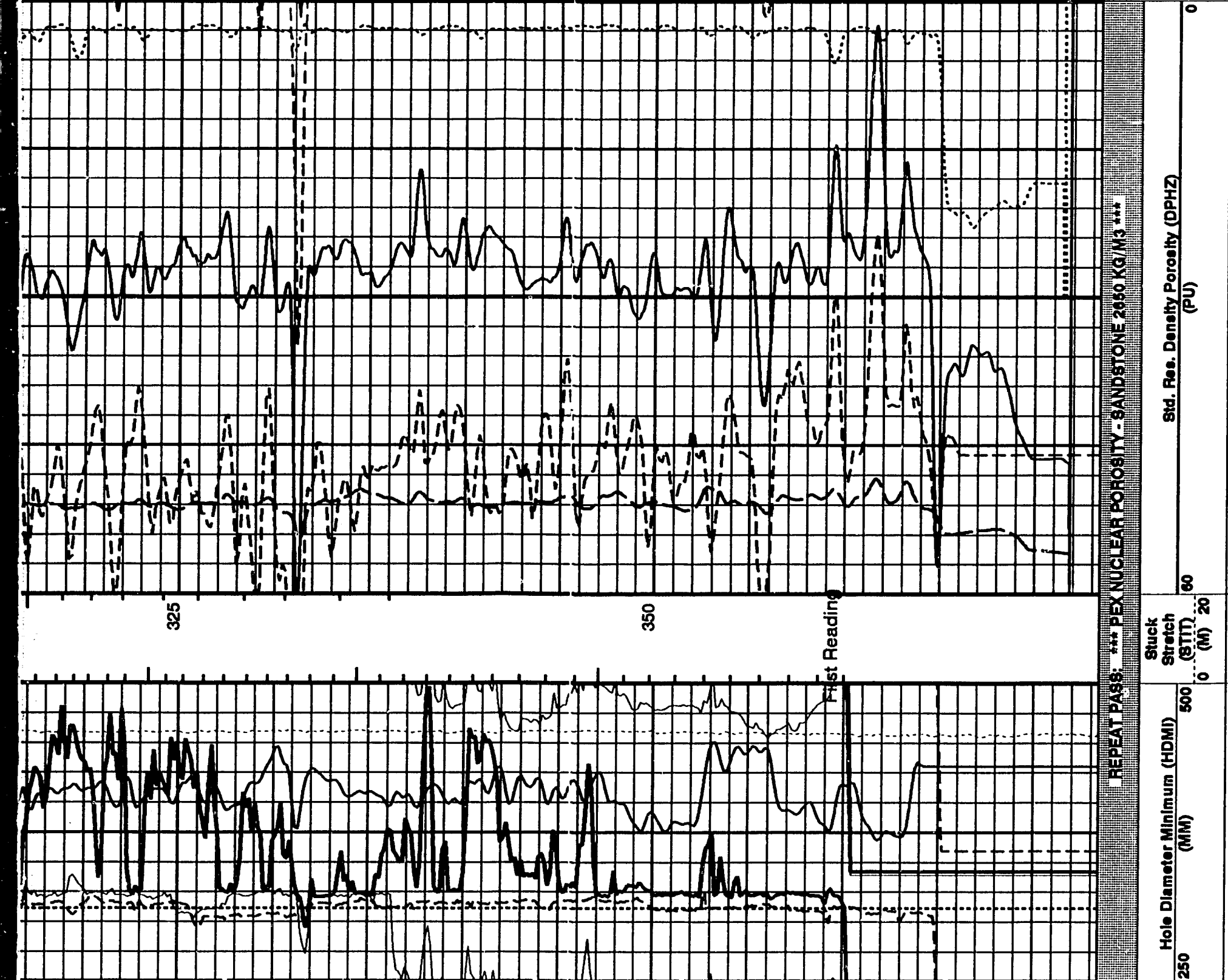
| | | | | |
|-----------------------------|-------|-----|-----------------------------------|---|
| 0 | (GPI) | 150 | 60 | 0 |
| Hole Diameter Minimum (HDM) | | | Std. Res. Density Porosity (DPH2) | |
| Stuck Stretch | | | | |

| (mm) | (in) | (ft) |
|------|--------|-------|
| 0 | 0 | 0 |
| 20 | 0.787 | 0.066 |
| 40 | 1.574 | 0.132 |
| 60 | 2.362 | 0.198 |
| 80 | 3.150 | 0.264 |
| 100 | 3.937 | 0.330 |
| 120 | 4.724 | 0.396 |
| 140 | 5.512 | 0.462 |
| 160 | 6.300 | 0.528 |
| 180 | 7.087 | 0.594 |
| 200 | 7.875 | 0.660 |
| 220 | 8.662 | 0.726 |
| 240 | 9.450 | 0.792 |
| 260 | 10.237 | 0.858 |
| 280 | 11.024 | 0.924 |
| 300 | 11.812 | 0.990 |
| 320 | 12.600 | 1.056 |
| 340 | 13.387 | 1.122 |
| 360 | 14.175 | 1.188 |
| 380 | 14.962 | 1.254 |
| 400 | 15.750 | 1.320 |
| 420 | 16.537 | 1.386 |
| 440 | 17.324 | 1.452 |
| 460 | 18.112 | 1.518 |
| 480 | 18.900 | 1.584 |
| 500 | 19.687 | 1.650 |
| 520 | 20.475 | 1.716 |
| 540 | 21.262 | 1.782 |
| 560 | 22.050 | 1.848 |
| 580 | 22.837 | 1.914 |
| 600 | 23.625 | 1.980 |
| 620 | 24.412 | 2.046 |
| 640 | 25.200 | 2.112 |
| 660 | 25.987 | 2.178 |
| 680 | 26.775 | 2.244 |
| 700 | 27.562 | 2.310 |
| 720 | 28.350 | 2.376 |
| 740 | 29.137 | 2.442 |
| 760 | 29.924 | 2.508 |
| 780 | 30.712 | 2.574 |
| 800 | 31.500 | 2.640 |
| 820 | 32.287 | 2.706 |
| 840 | 33.075 | 2.772 |
| 860 | 33.862 | 2.838 |
| 880 | 34.650 | 2.904 |
| 900 | 35.437 | 2.970 |
| 920 | 36.224 | 3.036 |
| 940 | 37.012 | 3.102 |
| 960 | 37.800 | 3.168 |
| 980 | 38.587 | 3.234 |
| 1000 | 39.375 | 3.300 |

[illegible][illegible][illegible][illegible][illegible][illegible][illegible]







Output DLIS Files

| | | | | |
|-------------------|----------------------------------|-------------------------------|----------------------|--------------------|
| DEFAULT
BACKUP | ATT_TLD_MCFL_CNL_007LUP
FN:10 | PRODUCER
11-Feb-2004 03:41 | 1428.3 M
1428.3 M | 492.7 M
492.7 M |
|-------------------|----------------------------------|-------------------------------|----------------------|--------------------|

Integrated Hole/Cement Volume Summary

Hole Volume = 41.34 M3
Cement Volume = 41.34 M3 (assuming 0.00 MM casing O.D.)
Computed from 1425.4 M to 524.1 M using data channel(e) CALI HCAL

OP System Version: 11CO-305

| | | | | |
|------------------------------|-----------------------------------|-----|--------------------|---------------------------|
| HILT-B-FTB
DTA-A
DTC-H | 11CO-305
OPT-I-KP1
11CO-305 | MCM | LDT-D
DSL-T-FTB | 11CO-305
SRPC-2472-STP |
|------------------------------|-----------------------------------|-----|--------------------|---------------------------|

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 40 S

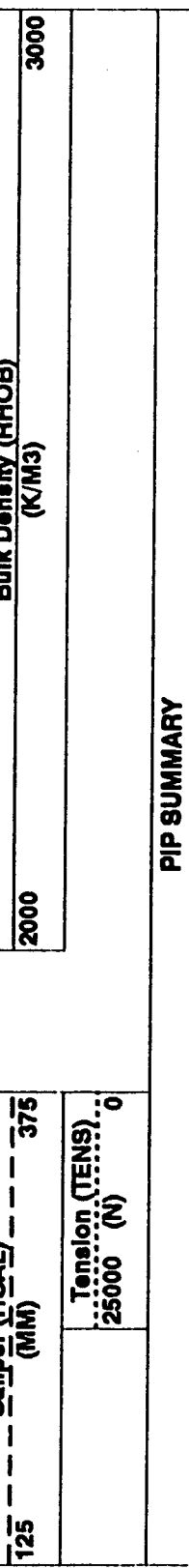
| | |
|-----------------------------|-----|
| Tension (TENS)
25000 (N) | 0 |
| Caliper (HCAL)
(MM) | 375 |
| Gamma Ray (GR)
(GAPI) | 150 |
| Bit Size (BS)
(MM) | 375 |
| Caliper (CALI)
(MM) | 375 |

Main Passes: PIP & LUT - DUAL DENSITY ***

The log displays three primary curves against depth (M):

- PhotoElectric Factor (PEF):** Represented by a dotted line, ranging from 0 to 10.
- Bulk Density Correction (DRHO):** Represented by a solid line, ranging from 0 to 3000 K/M3.
- Bulk Density (RHOB):** Represented by a solid line, ranging from 0 to 3000 K/M3.

A vertical dashed line at 524.1 M indicates the casing location. The plot also shows integrated hole volume (minor and major pips) and cement volume (minor and major pips) as indicated in the summary.



| Time Mark Every 60 S | Parameters |
|---|------------|
| ┐ 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 | |

| DLIS Name | Description | Value |
|-----------|---|-------|
| | HLTB-FTB: High resolution Integrated Logging Tool-DTS | |
| DHC | Density Hole Correction | BS |
| DPDM | Density Porosity Processing Mode | HIRS |
| FD | Fluid Density | 1000 |
| | | K/M3 |

| | | | |
|--------------------------|--------------------------------|----------|------|
| MDEN | Matrix Density | 2710 | K/m3 |
| NRDD | NRDD APS Activation Correction | OFF | |
| NHNT | HILT Nuclear Mud Type | NOBARITE | |
| NPM | NRDD Processing Mode | HISes | |
| NSAR | NRDD Depth Sampling Rate | 25.4 | MM |
| LDT-D: Litho Density - D | | | |
| BFM | Borehole Fluid Medium | LIQUID | |
| DHC | Density Hole Correction | RS | |

| | |
|--------|--|
| DPPM | Density Porosity Processing Mode |
| FD | Fluid Density |
| MDEN | Mud Weight |
| WNWD | Mud Weight |
| HOLEV: | Integrated Hole/Content Volume |
| FCD | Future Casing (Outer) Diameter |
| NVCS | Integrated Hole Volume Caliper Selection |
| STI: | Stuck Tool Indicator |
| HIRS | 0 |
| K/M3 | CALI/HCAL |
| K/M3 | |
| K/M3 | |
| K/M3 | |
| 1115 | |
| MM | |

| System and Miscellaneous | |
|---------------------------------------|---------|
| Trigger for MAXIS First Reading Label | TDL |
| Total Depth - Driller | 1425.00 |
| Total Depth - Logger | 1425.50 |
| Bt Size | |
| Drilling Fluid Density | MM |
| Depth Offset for Repeat Analysis | KM3 |
| Total Depth | 1.4 |
| | 420 |
| BS | |
| DFD | 222.000 |
| DORL | 1115.00 |
| TD | 1.4 |

| Format: DENS | Vertical Scale: 1:800 | 1423.5 | in |
|--|-----------------------|--------|----------|
| <p align="center">OP System Version: 11C0-305</p> <p align="center">MCM</p> | | | |
| HILTB-FTB | 11C0-305 | LDT-D | 11C0-305 |

| | | |
|------------|-------------------------|-----------------------------------|
| DLIS Files | DLIS-FTB | SRPC-2472-STP |
| DEFAULT | AIT_TLD_MCFE_CNL_007LUP | FN:9 PRODUCER 11-Feb-2004 03:41 |
| BACKUP | AIT_TLD_MCFE_CNL_007LUB | EN410 SPRODUCER 44-Feb-2004 00:24 |

| PROPERTY | ATTN: MCFP_CNL_007LUP | FN:10 | PRODUCER | 11-Feb-2004 03:55 |
|--------------|---------------------------|-------|----------|-------------------|
| DEFAULT | ATTN: TLD_MCFP_CNL_007LUP | FN:9 | PRODUCER | 11-Feb-2004 03:41 |
| NO. OF LINES | | | | 1428.3 M |
| | | | | 492.7 M |

| BACKUP | PRODUCER | 11-Feb-2004 03:56 | 1428.3 M | 492.7 M |
|--|----------|-------------------|----------|---------|
| <p>Integrated Hole/Cement Volume Summary</p> <p>Hole Volume = 41.34 M3</p> <p>Cement Volume = 41.34 M3 (assuming 0.00 MM casing O.D.)</p> | | | | |

| | | |
|--|--|-----------------|
| <p>Computed from 1425.4 M to 524.1 M using data channel(s) CALI HCAL</p> | <p>OP System Version: 11C0-305
MCH</p> | <p>11C0-305</p> |
| <p>HILTB-FTB</p> | <p>11C0-305</p> | <p>LDT-D</p> |
| | | <p>11C0-305</p> |

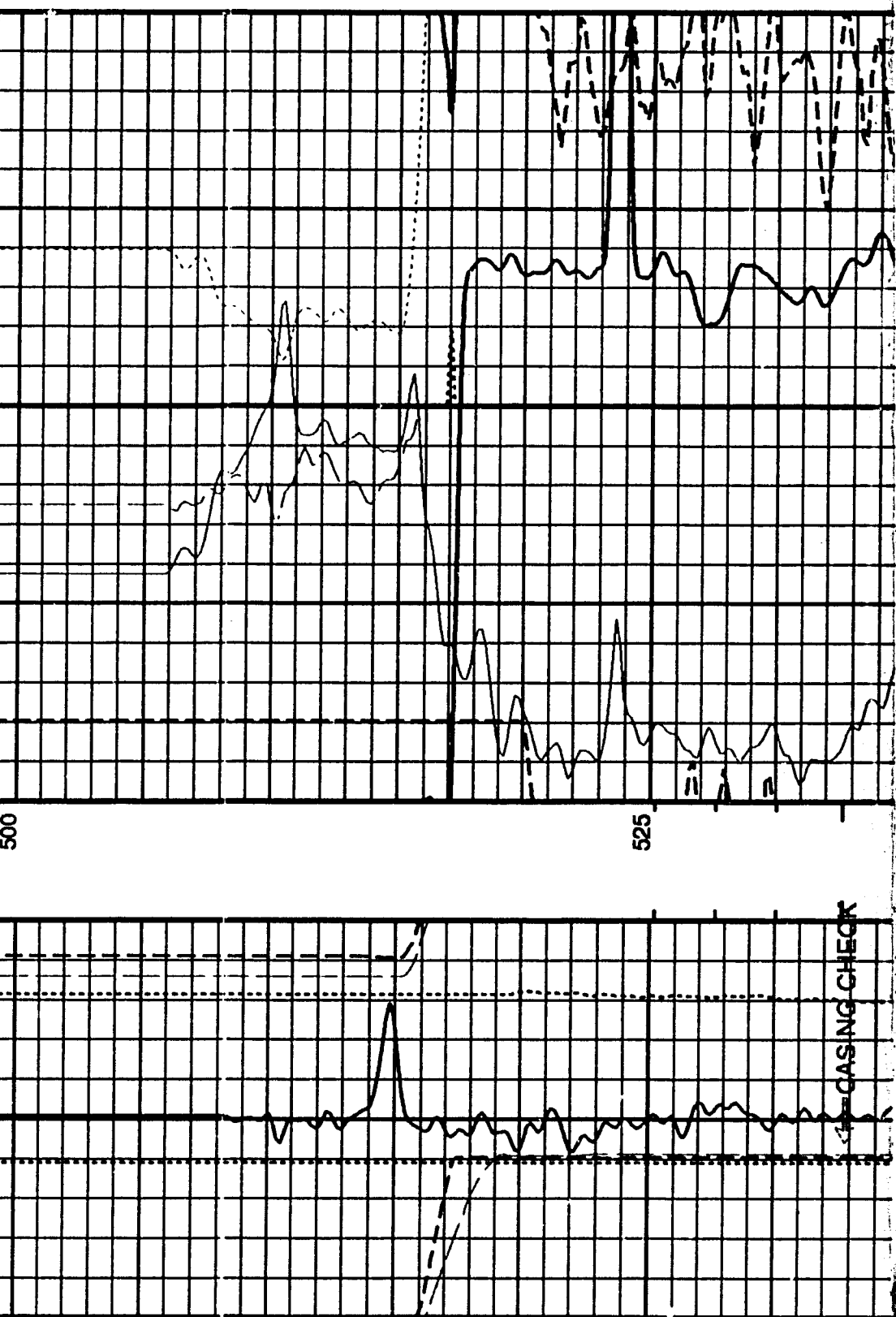
| DTA-A | OP11-KP1 | D8LT-FTB | SRPC-2472-STP |
|---|----------|----------|---------------|
| DTC-H | 11C0-305 | | |
| PIP SUMMARY | | | |
| ┐ Integrated Hole Volume Minor Pip Every 0.1 M3 | | | |
| ┐ Integrated Hole Volume Major Pip Every 1 M3 | | | |
| ┐ Integrated Cement Volume Minor Pip Every 0.1 M3 | | | |

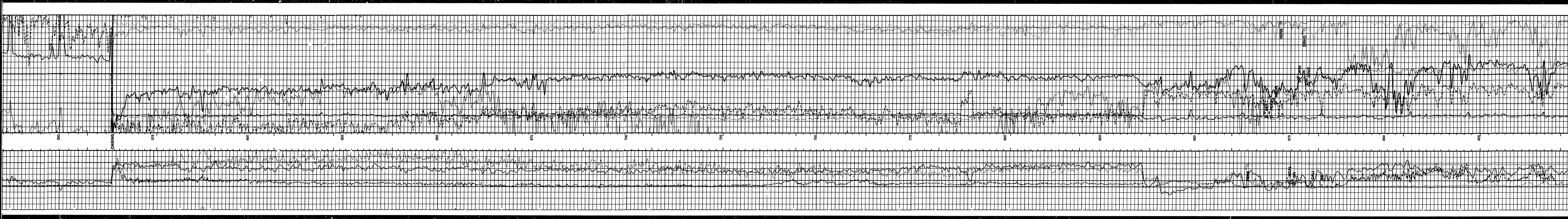
| | | | |
|----------------------|------------------------------------|-------------------------------------|--------------------------------|
| Time Mark Every 60 S | Tension (TENS)..... | PhotoElectric Factor (PEF)..... | Density Correction (HDRA)..... |
| | 25000 (N) | (---) 10 460 | (K/M3) -50 |
| Caliper (HCAL)..... | Std. Res. Formation Pz (PEFZ)..... | Bulk Density Correction (DRHO)..... | |

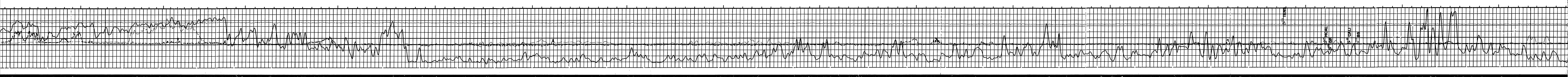
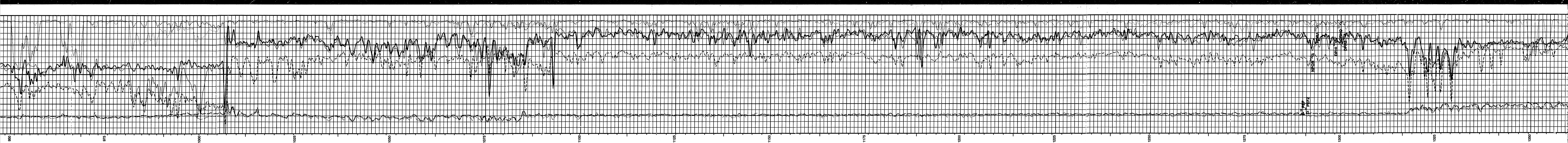
| 125 | (nm) | 375 | (nm) | 0 | (---) | 10 460 | (K/M3) | -50 |
|-----|----------------|-----|------|------|-------|-----------------------------------|--------|-------|
| 0 | Gamma Ray (GR) | 150 | | 0.45 | | Density Porosity (DPH) | | -0.15 |
| | (GAPI) | | | | | (N/V) | | |
| 125 | BH 81m (BS) | 375 | | 0.45 | | Std. Res. Density Porosity (DPH2) | | -0.15 |
| | (NM) | | | | | (N/V) | | |

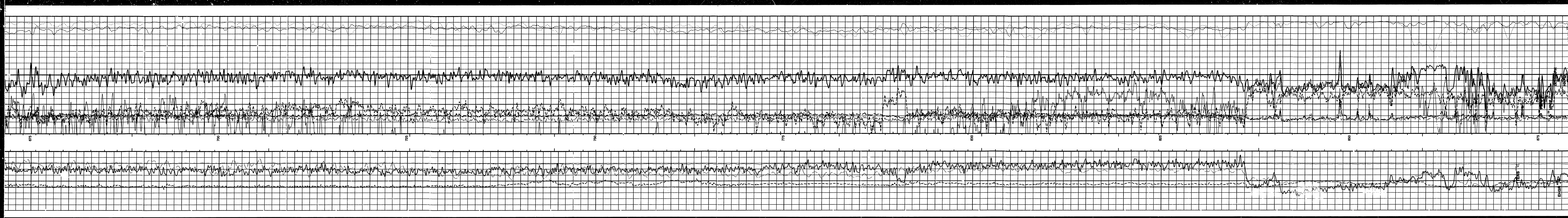
| | | | | | |
|--|-----------------------|-----|--|------|-------|
| 125 | Caliper (CAL)
(MM) | 375 | Alpha Processed Neutron Porosity (NPOR)
(V/V) | 0.45 | -0.15 |
| MAIN PASS: *** PEX & LDT: LIMESTONE 2770 KQ/H3 *** | | | | | |

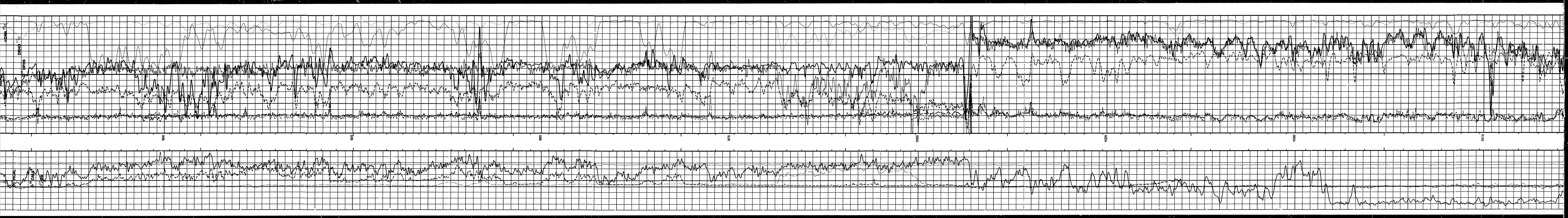
A large grid of graph paper with a dashed horizontal line across the middle.

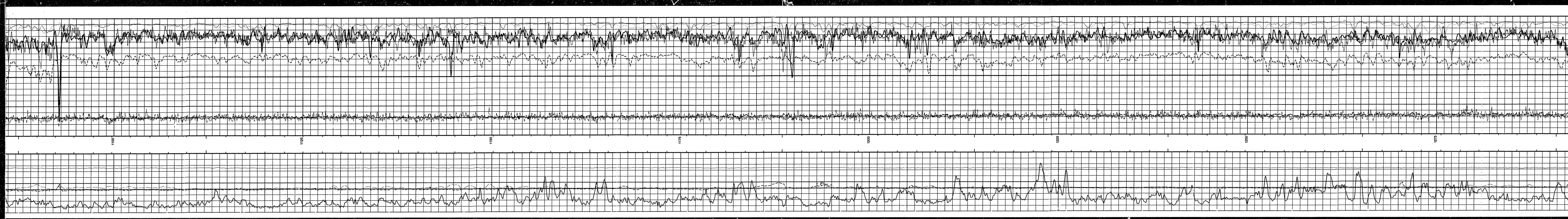














| | | | | | | |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 7 | 1.00E | 1.00E | 1.00E | -1.42E | 0 | 3.93E |
| | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) |
| Master: 11-Jan-2004 18:19 | | | | | | |

| High resolution Integrated Loadcell Tool-DTS Master Calibration | | | | | | |
|---|------------------------|-------------------------------|-----------------|-------------------------------|-------------|-------------------------------|
| Id# | Sense Error Correction | | | X Sense Error Correction MM/M | | |
| | Value | R Sense Error Correction MM/M | Value | X Sense Error Correction MM/M | Value | X Sense Error Correction MM/M |
| 0 | -37.90 | -37.90 (Minimum) | 111.0 (Nominal) | -38.81 | 0 (Nominal) | 225.0 (Maximum) |
| 1 | 1.890 | 1.890 (Minimum) | 111.0 (Nominal) | 129.9 | 0 (Nominal) | 240.0 (Maximum) |
| 2 | 111.8 | 111.8 (Minimum) | 111.0 (Nominal) | 68.88 | 0 (Nominal) | 240.0 (Maximum) |
| 3 | 64.01 | 64.01 (Minimum) | 111.0 (Nominal) | 140.8 | 0 (Nominal) | 240.0 (Maximum) |
| 4 | 23.18 | 23.18 (Minimum) | 111.0 (Nominal) | -41.23 | 0 (Nominal) | 240.0 (Maximum) |
| | | | | | | 241.5 (Maximum) |

| | | | | | | |
|---------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 7 | 1.00E | 1.00E | 1.00E | -1.42E | 0 | 3.93E |
| | (Minimum) | (Nominal) | (Maximum) | (Minimum) | (Nominal) | (Maximum) |
| Master: 11-Jan-2004 18:19 | | | | | | |

| High resolution Integrated Loadcell Tool-DTS Master Calibration | | | | | | |
|---|------------------------|-------------------------------|-----------|-------------------------------|-----------|-------------------------------|
| Id# | Sense Error Correction | | | X Sense Error Correction MM/M | | |
| | Value | R Sense Error Correction MM/M | Value | X Sense Error Correction MM/M | Value | X Sense Error Correction MM/M |
| 0 | -37.90 | -37.90 (Minimum) | 118.0 | -38.81 | 0 | 225.0 (Maximum) |
| | | (Maximum) | (Nominal) | | (Nominal) | |
| 1 | 1.890 | 1.890 (Minimum) | 122.9 | 122.9 | 0 | 240.0 (Maximum) |
| | | (Maximum) | (Nominal) | | (Nominal) | |
| 2 | 111.8 | 111.8 (Minimum) | 68.88 | 68.88 | 0 | 240.0 (Maximum) |
| | | (Maximum) | (Nominal) | | (Nominal) | |
| 3 | 64.01 | 64.01 (Minimum) | 140.8 | 140.8 | 0 | 240.0 (Maximum) |
| | | (Maximum) | (Nominal) | | (Nominal) | |
| 4 | 23.18 | 23.18 (Minimum) | -41.23 | -41.23 | 0 | 240.0 (Maximum) |
| | | (Maximum) | (Nominal) | | (Nominal) | |
| | 15.00 | 15.00 (Minimum) | 48.13 | 48.13 | 0 | 241.0 (Maximum) |
| | | (Maximum) | (Nominal) | | (Nominal) | |

| | | | | | | |
|---|---------------------|--------------------|--------------------|---------------------|----------------|--------------------|
| 6 | 13.62 | | | -4.673 | | |
| | 4.000
(Minimum) | 14.00
(Nominal) | 24.00
(Maximum) | -50.00
(Minimum) | 0
(Nominal) | 50.00
(Maximum) |
| 6 | 8.867 | | | 4.019 | | |
| | 5.000
(Minimum) | 10.00
(Nominal) | 15.00
(Maximum) | -30.00
(Minimum) | 0
(Nominal) | 30.00
(Maximum) |
| 7 | -0.5818 | | | -2.271 | | |
| | -5.000
(Minimum) | 0
(Nominal) | 5.000
(Maximum) | -30.00
(Minimum) | 0
(Nominal) | 30.00
(Maximum) |

Master: 11-Jan-2004 18:19

| High resolution integrated Logging Tool-DTS Master Calibration | | | | | | | | |
|--|-------|--------------------------|--------------------|--------------------|-------|------------------------|--------------------|--------------------|
| Mud Gain Correction | | | | | | | | |
| Idx | Value | Coarse - Mag, Real, Imag | | | Value | Fine - Mag, Real, Imag | | |
| 0 | 1.100 | | | | 1.180 | | | |
| | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) |
| 1 | 1.100 | | | | 1.180 | | | |
| | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) |
| 2 | 1.100 | | | | 1.180 | | | |
| | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) | | 0.8000
(Minimum) | 1.000
(Nominal) | 1.200
(Maximum) |

Master: 11-Feb-2004 2:38

| High resolution integrated Logging Tool-DTS Master Calibration | | | | | | |
|--|--------------------|--------------------|--------------------|--------|--------------------|--------------------|
| Inversion results | | | | | | |
| Phase | Rho Aluminum K/M3 | | Value | Phase | Rho Magnesium K/M3 | |
| Master | | | 2598 | Master | | 1688 |
| | 2393
(Minimum) | 2698
(Nominal) | 2803
(Maximum) | | 1678
(Minimum) | 1698
(Nominal) |
| Phase | Pe Aluminum | | Value | Phase | Pe Magnesium | |
| Master | | | 2.558 | Master | | 2.627 |
| | 2.470
(Minimum) | 2.570
(Nominal) | 2.670
(Maximum) | | 2.580
(Minimum) | 2.680
(Nominal) |

Master: 15-Jan-2004 17:57

| High resolution integrated Logging Tool-DTS Master Calibration | | | | | | | | |
|--|------------------------|----------------|---------------------|--------|------------------------|----------------|--------------------|--------|
| Deviation Summary | | | | | | | | |
| Phase | SS Average Deviation % | | Value | Phase | SS Average Deviation % | | Value | Phase |
| Master | | | 0.3631 | Master | | | 0.3008 | Master |
| | -0.8000
(Minimum) | 0
(Nominal) | 0.8000
(Maximum) | | -1.000
(Minimum) | 0
(Nominal) | 1.000
(Maximum) | |
| Phase | SS Max Deviation % | | Value | Phase | SS Max Deviation % | | Value | Phase |
| Master | | | 1.278 | Master | | | 0.8483 | Master |
| | -1.600
(Minimum) | 0
(Nominal) | 1.600
(Maximum) | | -2.500
(Minimum) | 0
(Nominal) | 2.500
(Maximum) | |
| Phase | LS Average Deviation % | | Value | Phase | LS Average Deviation % | | Value | Phase |
| Master | | | 0.8285 | Master | | | 0.8285 | Master |
| | -1.500
(Minimum) | 0
(Nominal) | 1.500
(Maximum) | | -1.500
(Minimum) | 0
(Nominal) | 1.500
(Maximum) | |
| Phase | LS Max Deviation % | | Value | Phase | LS Max Deviation % | | Value | Phase |
| Master | | | 1.483 | Master | | | 1.483 | Master |
| | -3.500
(Minimum) | 0
(Nominal) | 3.500
(Maximum) | | -3.500
(Minimum) | 0
(Nominal) | 3.500
(Maximum) | |

Master: 15-Jan-2004 17:57

| High resolution integrated Logging Tool-DTS Master Calibration | | | | | | | | |
|--|-------------------------------|--------------------|--------------------|--------|------------------------------|--------------------|--------------------|--------|
| Tank Measurement | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | | Value | Phase | Thermal Far Corr. (Tank) CPS | | Value | Phase |
| Master | | | 6037 | Master | | | 2542 | Master |
| | 5000
(Minimum) | 6031
(Nominal) | 7200
(Maximum) | | 2075
(Minimum) | 2793
(Nominal) | 3125
(Maximum) | |
| Phase | CNTC/CFTC (Tank) | | Value | Phase | CNTC/CFTC (Tank) | | Value | Phase |
| Master | | | 2.375 | Master | | | 2.375 | Master |
| | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | |

Master: 16-Jan-2004 11:48

| High resolution integrated Logging Tool-DTS Master Calibration | | | | | | | | |
|--|-------------------------------|--------------------|--------------------|--------|------------------------------|--------------------|--------------------|--------|
| Tank Measurement | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | | Value | Phase | Thermal Far Corr. (Tank) CPS | | Value | Phase |
| Master | | | 6037 | Master | | | 2542 | Master |
| | 5000
(Minimum) | 6031
(Nominal) | 7200
(Maximum) | | 2075
(Minimum) | 2793
(Nominal) | 3125
(Maximum) | |
| Phase | CNTC/CFTC (Tank) | | Value | Phase | CNTC/CFTC (Tank) | | Value | Phase |
| Master | | | 2.375 | Master | | | 2.375 | Master |
| | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | |

Master: 16-Jan-2004 11:48

| Litho Density - D / Equipment Identification | | | |
|--|-----------|------|--|
| Primary Equipment: | | | |
| Nuclear Services Cartridge | NSC - E | 1688 | |
| Powered Gamma Detector | PGD - G | 3745 | |
| Gamma Source Radioactive | GSR - J | 2043 | |
| Auxiliary Equipment: | | | |
| Density Resistivity Sonde | DRS - C | 723 | |
| Electronics Cartridge Housing | ECH - MKA | | |
| Powered Detector Housing | PDH - L | | |

| Litho Density - D Wellbore Calibration | | | | | | | |
|--|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------|
| Background Measurement | | | | | | | |
| Phase | LL Background CPS | | Value | Phase | LU Background CPS | | Value |
| Master | | | 15.91 | Master | | | 60.35 |
| Before | | | 15.77 | Before | | | 59.09 |
| | 15.00
(Minimum) | 20.00
(Nominal) | 25.00
(Maximum) | | 58.00
(Minimum) | 78.00
(Nominal) | 94.00
(Maximum) |
| Phase | LTH Background CPS | | Value | Phase | SS1 Background CPS | | Value |
| Master | | | 4.497 | Master | | | 14.79 |
| Before | | | 4.561 | Before | | | 14.63 |
| | 4.000
(Minimum) | 5.500
(Nominal) | 7.000
(Maximum) | | 12.00
(Minimum) | 16.00
(Nominal) | 19.50
(Maximum) |
| Phase | SS2 Background CPS | | Value | Phase | SS2 Background CPS | | Value |
| Master | | | 9.968 | Master | | | 9.968 |
| Before | | | 9.877 | Before | | | 9.877 |
| | 8.000
(Minimum) | 11.00
(Nominal) | 13.50
(Maximum) | | 8.000
(Minimum) | 11.00
(Nominal) | 13.50
(Maximum) |

Master: 23-Jan-2004 12:21

Before: 8-Feb-2004 14:46

| Litho Density - D Wellbore Calibration | | | | |
|--|--------------------------|--------------------|--------------------|--------|
| Detectors Resolution From BKG Measurements | | | | |
| Phase | LS Resolution Background | | Value | Phase |
| Master | | | 8.482 | Master |
| Before | | | 8.459 | Before |
| | 5.000
(Minimum) | 8.000
(Nominal) | 11.50
(Maximum) | |
| Phase | SS Resolution Background | | Value | Phase |
| Master | | | 8.538 | Master |
| Before | | | 8.563 | Before |
| | 5.000
(Minimum) | 8.000
(Nominal) | 11.50
(Maximum) | |

Master: 23-Jan-2004 12:21

Before: 8-Feb-2004 14:46

| Litho Density - D Master Calibration | | | | | | | |
|--------------------------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------|
| Aluminum Measurement | | | | | | | |
| Phase | LL Aluminum CPS | | Value | Phase | LU Aluminum CPS | | Value |
| Master | | | 83.18 | Master | | | 123.7 |
| | 70.00
(Minimum) | 90.00
(Nominal) | 125.0
(Maximum) | | 100.0
(Minimum) | 135.0
(Nominal) | 194.0
(Maximum) |
| Phase | LTH Aluminum CPS | | Value | Phase | SS1 Aluminum CPS | | Value |
| Master | | | 50.24 | Master | | | 171.3 |
| | 35.00
(Minimum) | 50.00
(Nominal) | 74.00
(Maximum) | | 125.0
(Minimum) | 175.0
(Nominal) | 255.0
(Maximum) |
| Phase | SS2 Aluminum CPS | | Value | Phase | SS2 Aluminum CPS | | Value |
| Master | | | 238.4 | Master | | | 238.4 |
| | 210.0
(Minimum) | 260.0
(Nominal) | 353.0
(Maximum) | | 210.0
(Minimum) | 260.0
(Nominal) | 353.0
(Maximum) |

Master: 23-Jan-2004 13:08

| Litho Density - D Master Calibration | | | | | | | |
|--------------------------------------|--------------------|--------------------|--------------------|--------|--------------------|--------------------|--------------------|
| Litholog Measurement | | | | | | | |
| Phase | LL Iron CPS | | Value | Phase | LU Iron CPS | | Value |
| Master | | | 82.18 | Master | | | 122.9 |
| | 60.00
(Minimum) | 80.00
(Nominal) | 114.0
(Maximum) | | 85.00
(Minimum) | 120.0
(Nominal) | 177.0
(Maximum) |
| Phase | LTH Iron CPS | | Value | Phase | SS1 Iron CPS | | Value |
| Master | | | 35.77 | Master | | | 172.8 |
| | 15.00
(Minimum) | 35.00
(Nominal) | 51.00
(Maximum) | | 145.0
(Minimum) | 175.0
(Nominal) | 234.0
(Maximum) |
| Phase | SS2 Iron CPS | | Value | Phase | SS2 Iron CPS | | Value |
| Master | | | 237.0 | Master | | | 237.0 |
| | 195.0
(Minimum) | 245.0
(Nominal) | 325.0
(Maximum) | | 195.0
(Minimum) | 245.0
(Nominal) | 325.0
(Maximum) |

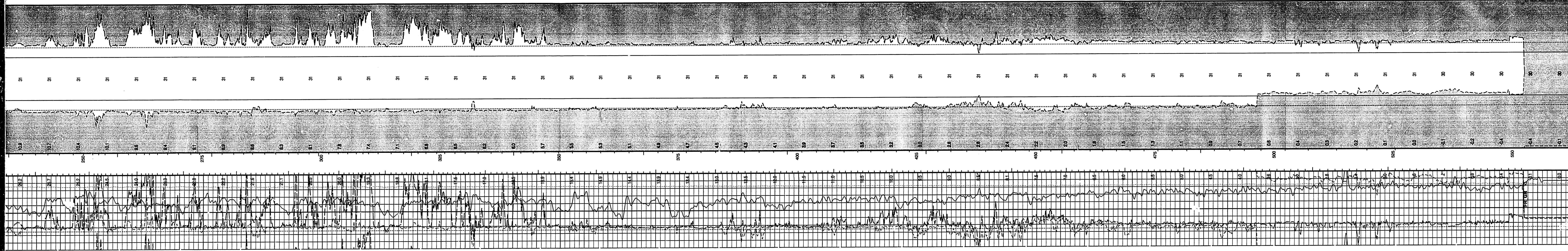
Master: 23-Jan-2004 12:48

| Litho Density - D Master Calibration | | | | | | | |
|--------------------------------------|---------------------|---------------------|---------------------|--------|---------------------|---------------------|---------------------|
| Spectrum Quality Ratios | | | | | | | |
| Phase | QRLS Calculated | | Value | Phase | QRSS Calculated | | Value |
| Master | | | 0.6722 | Master | | | 0.7157 |
| | 0.6000
(Minimum) | 0.6500
(Nominal) | 0.7000
(Maximum) | | 0.6200
(Minimum) | 0.7200
(Nominal) | 0.8200
(Maximum) |
| Phase | QLIR Calculated | | Value | Phase | QR Calculated | | Value |
| Master | | | 1.391 | Master | | | 1.019 |
| | 1.290
(Minimum) | 1.390
(Nominal) | 1.450
(Maximum) | | 0.9500
(Minimum) | 1.000
(Nominal) | 1.020
(Maximum) |

Master: 23-Jan-2004 13:09

| | | |
|---------------------|------------------------|--------------|
| Company | ENCANA CORPORATION | Schlumberger |
| Well | ECA ET AL BEGADEH J-66 | |
| Field | UNDEFINED | |
| Province | NORTHWEST TERRITORIES | |
| PLATFORM EXPRESS: | | |
| COMPENSATED NEUTRON | | |
| DUAL DENSITY LOG | | |

MISCELLANEOUS



*** CEMENT VOLUME LOG ***

| | |
|--------------------------------------|--------------------------------------|
| BR Size (BS)
(MM) | 500 |
| BR Size (BS)
(MM) | 100 100 |
| FC22 (FCD)
(MM) | 100 100 |
| FC23 (FCD)
(MM) | 100 100 |
| Hole Diameter Minimum (HDM)
(MM) | 100 100 |
| Hole Diameter Maximum (HDMX)
(MM) | 600 |
| Future Casing | |
| Annulus
From BS2 to FCD2 | Annulus
From FCD3 to BS3 |
| Tight Spot
From BS2 to HDM1_1 | Tight Spot
From HDMX_1 to BS3 |
| Washout
From HDM1_1 to BS2 | Washout
From BS3 to HDMX_1 |
| Formation
Between LIT2 and HDM1_1 | Formation
Between HDMX_1 and BHT3 |

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

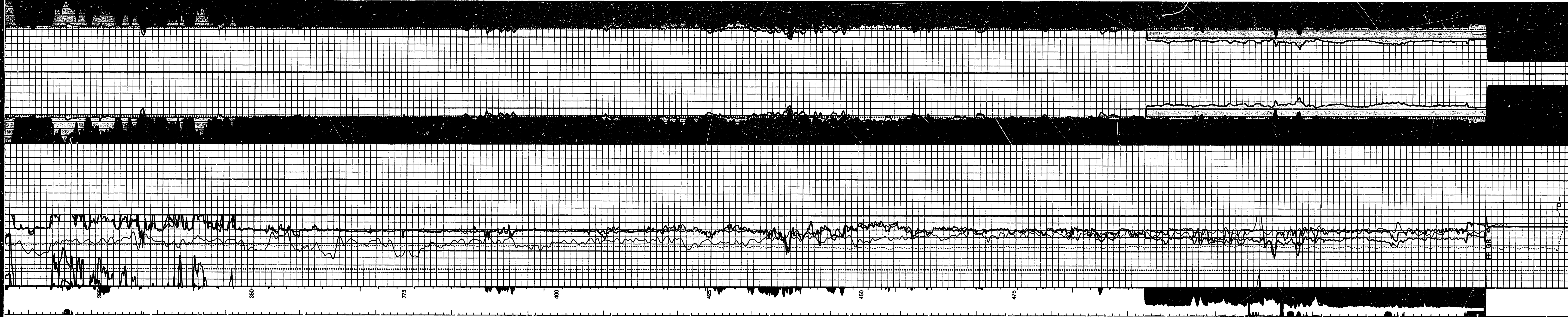
| DLIS Name | Description | Value |
|-----------|--|-----------|
| BSOF | EMS-B: Environment Measurement Sonde | 50.8 MM |
| FC22 | EMS Caliper Offset | 244.5 MM |
| FC23 | EMS Caliper Offset | 244.5 MM |
| HDMX | Future Casing (Outer) Diameter | 244.5 MM |
| HDM1 | HOLEV: Integrated Hole/Cement Volume | 244.5 MM |
| HDM2 | Future Casing (Outer) Diameter | 244.5 MM |
| HDM3 | Integrated Hole Volume Caliper Selection | TOL |
| HDM4 | Trigger for MAGIS First Reading Label | 583.50 M |
| HDM5 | Total Depth - Driller | 584.00 M |
| HDM6 | System and Miscellaneous | 311.000 M |
| HDM7 | Bit Size | 0.0 M |
| HDM8 | Depth Offset for Playback | 0.0 M |
| HDM9 | Depth Offset for Repeat Analysis | NORMAL M |
| HDM10 | Depth Offset for Processing | BSLS M |
| HDM11 | Total Depth | |

Time Mark Every 60 S
Format: CVL Vertical Scale: 1240
Graphics File Created: 03-Feb-2004 02:57

OP System Version: 11C0-305
11C0-305
SRPC-2472-STP

Input DLIS Files
Output DLIS Files
DEFAULT AIT_TLD_MCFI_CNL_013PUP FN-20 PRODUCER 03-Feb-2004 01:22 586.9 M -6.2 M
DEFAULT AIT_TLD_MCFI_CNL_018PUP FN-46 PRODUCER 03-Feb-2004 02:57
BACKUP AIT_TLD_MCFI_CNL_018PUP FN-46 PRODUCER 03-Feb-2004 03:02

Input DLIS Files
Output DLIS Files
DEFAULT AIT_TLD_MCFI_CNL_013PUP FN-20 PRODUCER 03-Feb-2004 01:22 586.9 M -6.2 M
DEFAULT AIT_TLD_MCFI_CNL_018PUP FN-46 PRODUCER 03-Feb-2004 02:57
BACKUP AIT_TLD_MCFI_CNL_018PUP FN-46 PRODUCER 03-Feb-2004 03:02

[illegible]

| | | |
|--------------------------------|---------------------------------|-------|
| EWS Fixed Collier | BK Size (BS) | 500 |
| Fing (EFCF) | (MM) | 250 |
| 0 0 20 | | |
| Stuck | Gamma Ray (GR) | 150 |
| Stretch | (GAPI) | 0 |
| 0 (M) 20 | | |
| Cable Drag From DAT | Hole Diameter from Area (HDAIR) | 375 |
| From DAT to STA | (MM) | 125 |
| Twd/Trd From DAT to STA | Hole Diameter 1 (HD1) | 375 |
| | (MM) | 125 |
| Oval Standard Deviation (OSDV) | Tension (TENS) | 0 |
| 23 0 3 | (N) | 20000 |

| | | | | |
|--|----------------------|-----|--|-----|
| 500 | BH Size (BS)
(MM) | 0 0 | BH Size (BS)
(MM) | 500 |
| Hole Diameter Maximum
(HDMAX) | | 0 0 | Hole Diameter Maximum
(HDMAX) | 500 |
| 500 | | 0 0 | | 500 |
| Hole Diameter Minimum
(HDMI) | | | Hole Diameter Minimum
(HDMI) | 500 |
| 500 | | 0 0 | | 500 |
| HD difference
From HDMI_1 to HDMI_1 | | | HD difference
From HDMI_2 to HDMI_2 | |
| Formation
From F1 to F100X_1 | | | Formation
From F100X_2 to F4 | |

PIP SUMMARY

| DLUS Name | Description | Parameters |
|-----------|--|------------|
| ECOF | EMS-B: Environment Measurement Sonde | |
| ECF | EMS Caliper Offset | |
| ESCL | EMS Synthetic Caliper Operation | |
| ECF | EMS Synthetic Caliper Log | |
| HVCS | Future Casing (Outer) Diameter | |
| DSLT-FTB: | Integrated Hole Volume Caliper Selection | |
| ITTS | Sonic Logging Tool Time Source | |
| FCD | HOLEV: Integrated Hole/Cement Volume | |
| HVCS | Future Casing (Outer) Diameter | |
| LBFR | Integrated Hole Volume Caliper Selection | |
| STKT | Trigger for MAXIS First Reading Label | |
| TDD | STI Stuck Threshold | |
| TDL | Total Depth - Driller | |
| | Total Depth - Logger | |
| | System and Miscellaneous | |
| BS | Bit Size | |
| DO | Depth Offset for Playback | |

| | Value |
|-------------|--------|
| MM | 50.8 |
| OFF | OFF |
| MM | 244.5 |
| EMS Callers | 244.5 |
| DT | 244.5 |
| MM | 244.5 |
| EMS Callers | 244.5 |
| TDL | 1,524 |
| M | 593.50 |
| M | 594.00 |
| MM | 311.00 |
| M | 0.0 |

Depth Offset for Repeat Analysis Playback Processing

| TD | Format: EMS_HoleDiameter | Total Depth | Vertical Scale: 1:240 |
|---|--------------------------|-------------|-----------------------|
| <p>OP System Version: 1
 MCMI</p> | | | |
| HILTB-FTB | 11CD-305 | EMS-B | |
| DSL1-FTB | SRPC-2472-STP | DTC-H | |
| <p>Input DLIS File</p> | | | |
| DEFAULT | AIT_TLD_MCFL_CNL_013PUP | FN:20 | PRODUCT |
| <p>Output DLIS File</p> | | | |
| DEFAULT | AIT_TLD_MCFL_CNL_018PUP | FN:48 | PRODUCT |
| BACKUP | AIT_TLD_MCFL_CNL_018PUP | FN:49 | PRODUCT |

| | | | |
|-------------|-------------------|--|--------|
| NO. 583 E M | | Graphics File Created: 03-Feb-2004 02:57 | |
| 11C0-305 | | | |
| 3 | 11C0-305 | | |
| 4 | 11C0-305 | | |
| Files | | | -8.2 M |
| UCER | 03-Feb-2004 01:22 | 566.9 M | |
| Files | | | |
| UCER | 03-Feb-2004 02:57 | | |
| UCER | 03-Feb-2004 03:02 | | |

Input DLIS Files

| Input DLIS File | | Output DLIS File | |
|-------------------|--|------------------|------------------------|
| DEFAULT | AIT_TLD_MCFL_CNL_013PUP | FN:20 | PRODUCTUC |
| DEFAULT
BACKUP | AIT_TLD_MCFL_CNL_018PUP
AIT_TLD_MCFL_CNL_018PUP | FN:48
FN:49 | PRODUCTUC
PRODUCTUC |

| Integrated Hole/Cement Volume | |
|-------------------------------|---|
| Hole Volume = | 41.72 M3 |
| Cement Volume = | 18.40 M3 (assuming 244.50 MM casing O.D.) |
| Computed from | 593.4 M to 66.8 M using data channel(e) RD1 |

| OP System Version: 1 | |
|----------------------|---------------|
| HILLTB-FTB | 11C0-305 |
| DSI-LFTR | SBCO-2872-STB |
| | ENS-B |
| | PRC-H |
| | MCM |

| Files | | |
|---------------------------|-------------------|--------------------|
| UCER | 03-Feb-2004 01:22 | 566.9 M
-6.2 M |
| Files | | |
| UCER | 03-Feb-2004 02:57 | 566.9 M
-28.2 M |
| UCER | 03-Feb-2004 03:02 | 566.9 M
-28.2 M |
| Volume Summary | | |
| D1 | | |
| D1 D1 RD2 RD3 RD4 RD5 RD6 | | |
| : 11C0-305 | | |
| B 11C0-305 | | |
| 11 | | |

U.S. DEPARTMENT OF JUSTICE

| | |
|--|---|
| 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 |
| Standard deviation
for HDAR
From
OSDV to
DAT | Probability
Angle for
HDMI
(CHAM)
(DEG) |

| | | |
|--|---|--|
| | Integrated Transit Time Minor Pip Every 1 MS | |
| | Integrated Transit Time Major Pip Every 13 MS | |

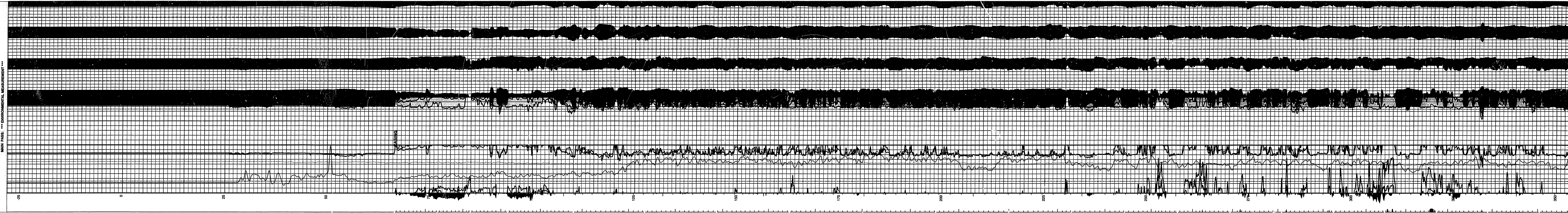
Probably
single for
HDMI
From D4T
to CHAM

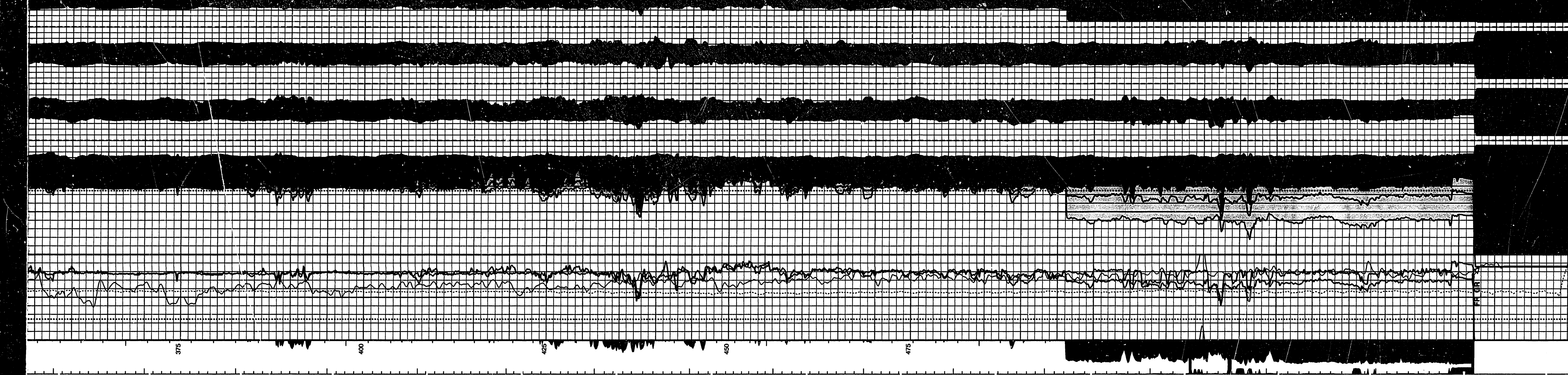
Used
caliber
flag
From D4T
to EPCF

Formation
From HDNPK to F2

100

| | | | | | |
|--|--------------------------------|--|--|--|--|
| Oval
Standard
Deviation
(USD)
23 0 3 | Tension (TENS)
(N)
20000 | HD Difference
From HDN1 to HDN2
(MM) | | Formation
From BHT2 to BHT3
From BHT2 to BHT3
From BHT2 to BHT3 | |
| | | Hole Diameter from Area
(HDAF)
(MM) | | Formation
From BHT2 to BHT3
From BHT2 to BHT3
From BHT2 to BHT3 | |
| Tool/Tot
Drilling
From STA
to STA | 125 | Hole Diameter 1 (HD1)
(MM) | | Formation
From BHT2 to BHT3
From BHT2 to BHT3
From BHT2 to BHT3 | |
| Cable
Drilling
From STA
to STA | 125 | Hole Diameter 2 (HD2)
(MM) | | Formation
From BHT2 to BHT3
From BHT2 to BHT3
From BHT2 to BHT3 | |
| Stuck
Stretch
(STT)
0 (M) 20 | 0 | Gamma Ray (GR)
(GAP)
(MM) | | Formation
From BHT2 to BHT3
From BHT2 to BHT3
From BHT2 to BHT3 | |
| EMS Fixed
Caliper
Rig (EFCR)
0 0 20 | 0 | Bit Size (BS)
(MM) | | Formation
From BHT2 to BHT3
From BHT2 to BHT3
From BHT2 to BHT3 | |





| MAIN PASS: *** ENVIRONMENTAL MEASUREMENT *** | | | | | |
|--|--|---|--|--|--|
| EMS Fixed Flag (EFCF) | BK Size (BS)
(MM) | BK Size (BS)
(MM) | EMS Tool Center
(ETC1) -250 (MM)
-250 (MM) | EMS Tool Center
(ETC2) -250 (MM)
-250 (MM) | EMS Tool Center
(ETC3) -250 (MM)
-250 (MM) |
| 0 Stuck | | Hole Diameter Maximum
(HDMX)
(MM) | Radius 1 (RD1)
(MM) | Radius 2 (RD2)
(MM) | Radius 3 (RD3)
(MM) |
| 0 Stretch | Gamma Ray (GR)
(GAPI) | 150
125 | 250
375 | -250
250 | -250
250 |
| 0 (STIT) | | Hole Diameter Minimum
(HDMN)
(MM) | Radius 4 (RD4)
(MM) | Radius 5 (RD5)
(MM) | Radius 6 (RD6)
(MM) |
| Cable Drag Flag (CDGF) to STIT | Hole Diameter 1 (HD1)
(MM) | 375
125 | 250
375 | -250
250 | -250
250 |
| Tool/Flag From D4T To STA | Hole Diameter from Area (HDA5)
(MM) | 375
125 | Hole Diameter from Area (HDA5)
(MM) | Formation From LHTS to RPT-From HPS to LHTS | Formation From HPS to LHTS |
| Oval Standard Deviation (OSDV) | Tension (TENS)
(N) | 0 | RD Difference From HDM1 to HDMX | Formation From RD4 to RH72 | Formation From RH72 to RH78 |
| 23 0 3 | | | | | |
| Used tool over flag From D4T | | | | | |

| | | | |
|--|---|---|--------|
| to ECFE | Probability
y angle for
HDMI
From DAT
to CHAM | Probability
Angle for
HDMI
(CHAM)
(DEG) | 90 240 |
| Standard
deviation
for HDAR
element
CSOV to
DAT | | | |

| PIP SUMMARY | |
|---|---|
| Integrated Hole Volume Minor Pip Every 0.1 M3 | Integrated Transit Time Minor Pip Every 1 MS |
| Integrated Hole Volume Major Pip Every 1 M3 | Integrated Transit Time Major Pip Every 10 MS |
| Integrated Cement Volume Minor Pip Every 0.1 M3 | |
| Integrated Cement Volume Major Pip Every 1 M3 | |
| Time Mark Every 60 S | |

| DLIS Name | Description | Parameters |
|--|--|------------|
| EMS-B: Environment Measurement Sonde | | |
| ECOF | EMS Caliper Offset | |
| ECOF | EMS Caliper Offset | |
| ESCL | EMS Synthetic Caliper Log | |
| FCO | Future Casing (Outer) Diameter | |
| HWCS | Future Casing (Outer) Diameter | |
| DLST-FTB: Digitizing Shift/Feed/Thrust | Integrated Hole Volume Caliper Selection | |
| ITTS | Shift/Feed/Thrust Time Source | |
| HOLEV: Integrated Hole/Content Volume | | |
| FCO | Future Casing (Outer) Diameter | |
| HWCS | Future Casing (Outer) Diameter | |
| STI: Stuck Tool Indicator | Integrated Hole Volume Caliper Selection | |
| LBRR | Trigger for MAXIS First Reading Label | |
| STKT | STI Stuck Threshold | |
| TTD | Total Depth - Driller | |
| TDL | Total Depth - Logger | |
| System and Miscellaneous | | |
| BS | Bit Size | |
| DO | Depth | |
| DOFL | Depth Offset for Playback | |
| PP | Depth Offset for Data Analysis | |
| PP | Playback Processing | |

[illegible]

| Input DLIS Files | | | |
|-------------------|-------------------------|----------------|---------------------------|
| DEFAULT | AIT_TLD_MCFL_CNL_018PUP | FN:20 PRODUCER | 03-Feb-2004 01:22 566.9 M |
| Output DLIS Files | | | |
| DEFAULT | AIT_TLD_MCFL_CNL_018PUP | FN:48 PRODUCER | 03-Feb-2004 02:57 |
| BACKUP | AIT_TLD_MCFL_CNL_018PUP | | |

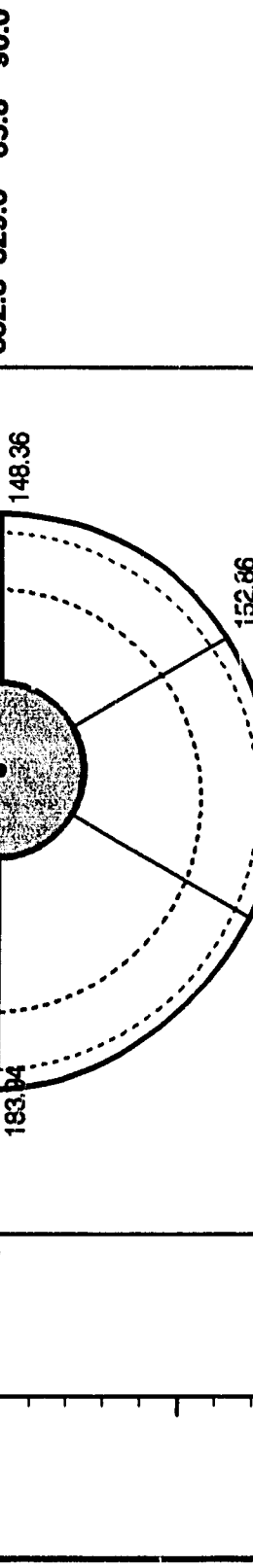
| | | | | |
|--|------------------------|-------|----------|--|
| BACKUP | AT_11D_1MCP_CNL_018RUP | FN:39 | PRODUCER | 03-Feb-2004 03:02 |
| Graphics File Name: BORE GRAPHIC 14.LPOS | | | | Graphics File Created: 03-Feb-2004 02:57 |
| Borehole Cross Section | | | | |

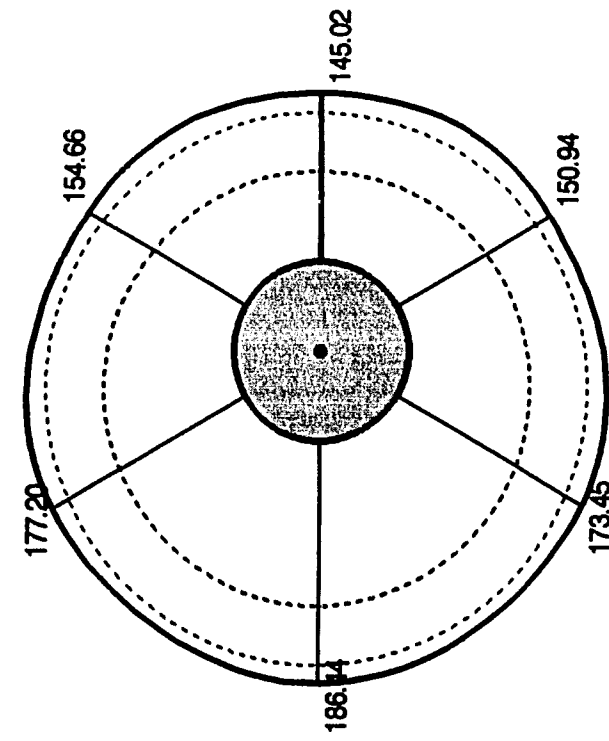
| DLIS Name | Description | Parameters | Value |
|-----------|---------------------------------|------------|------------------------|
| BGV5 | Borehole Graphic Vertical Scale | | D200, Metric |
| B3DI | Borehole Graphic Depth Interval | | 25, M |
| B3DM | Borehole Graphic Display Mode | | Xsec, Tool, Call, Data |

| | Borehole Graphic Horizontal Width | 500_MM | |
|------|-----------------------------------|--------|--|
| | Borehole Graphic Angle Index | NONE | |
| | Borehole Graphic Unit | METRIC | |
| BGHW | | | |
| BGAI | | | |
| BGUN | | | |

| Depth
(M) | Future Casing Diameter (FCD)
(MM) | Borehole Data | | | |
|--------------|--------------------------------------|---------------|----------|--------------|---------------|
| | | DIA. Max | DIA. Min | Conf. Factor | Orient. Angle |
| -250.0 | | 250.0 | | | |

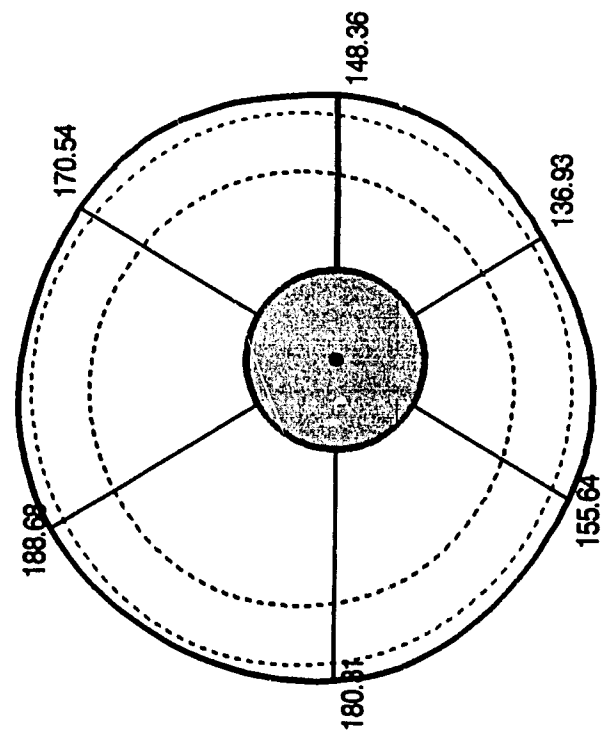
| Bit Size (BS)
(MM) | (MM)(MM) (DEG) (DEG) |
|-----------------------|----------------------|
| 250.0 | 250.0 |





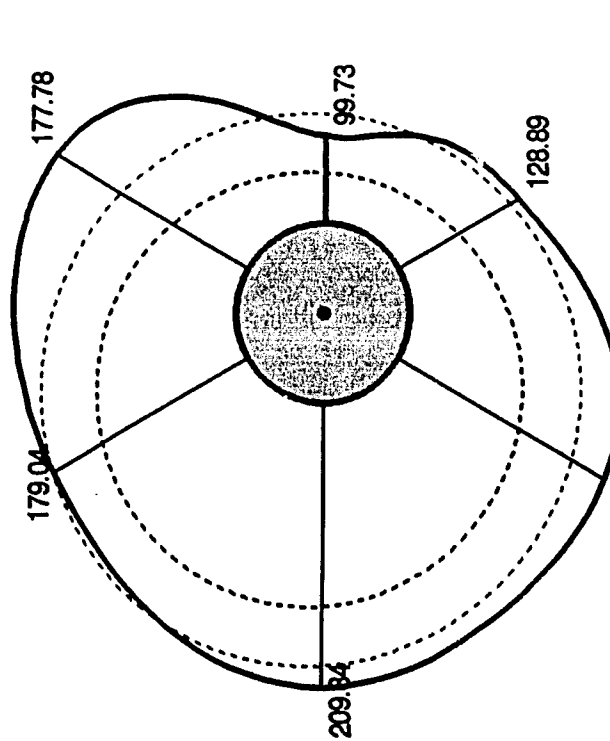
39.9

50



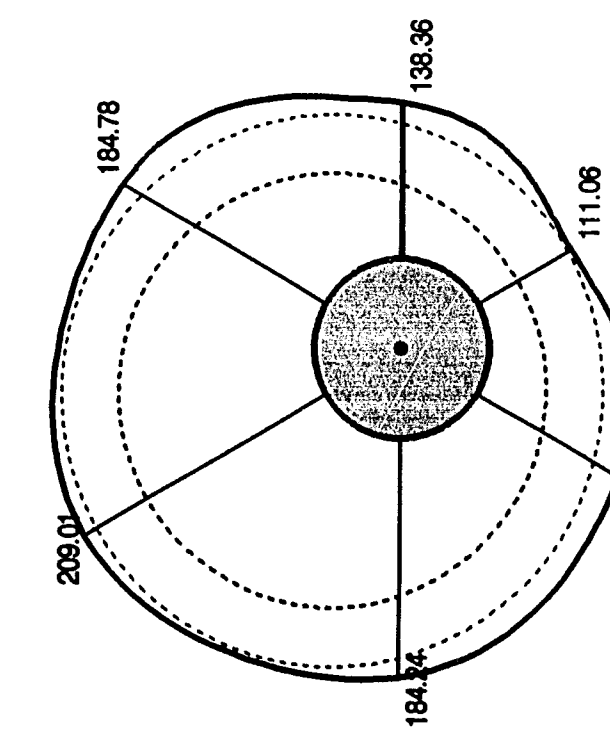
64.9

75



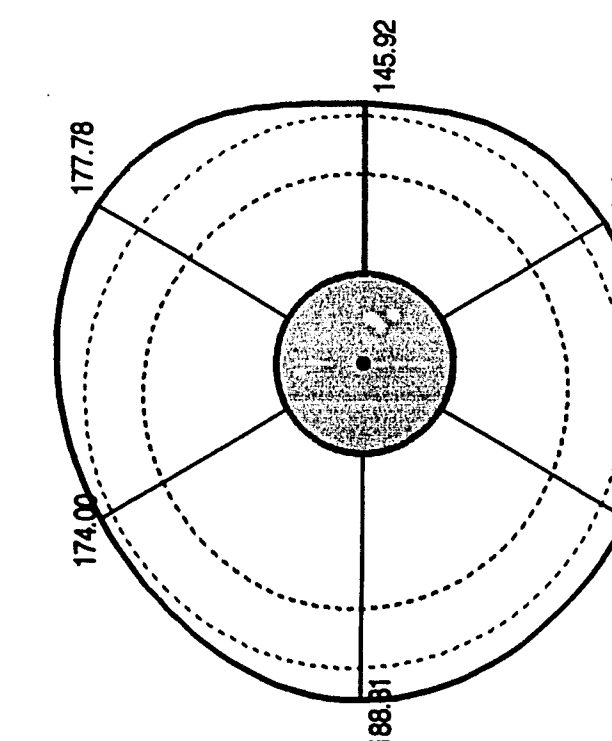
88.9

100



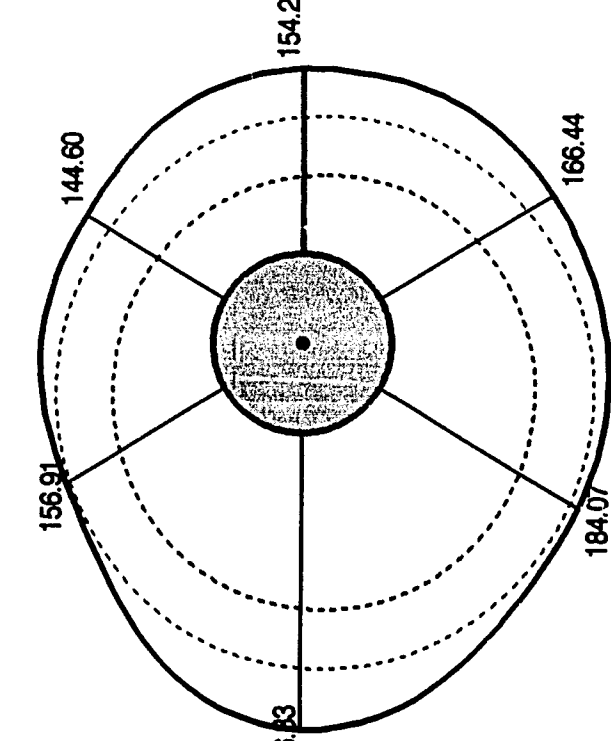
114.9

125



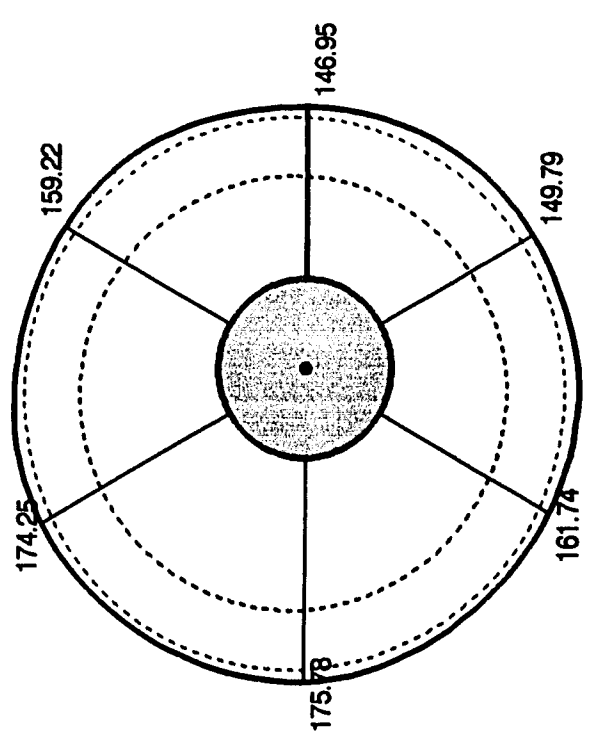
139.9

150



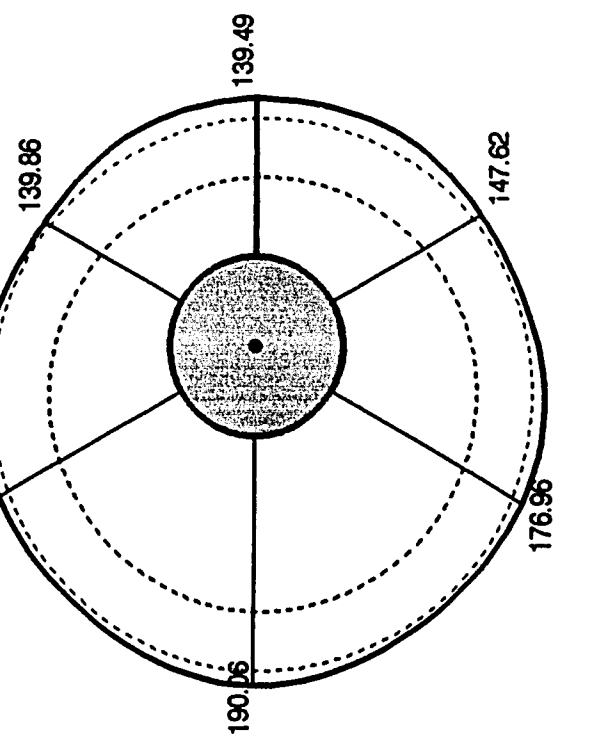
164.9

175



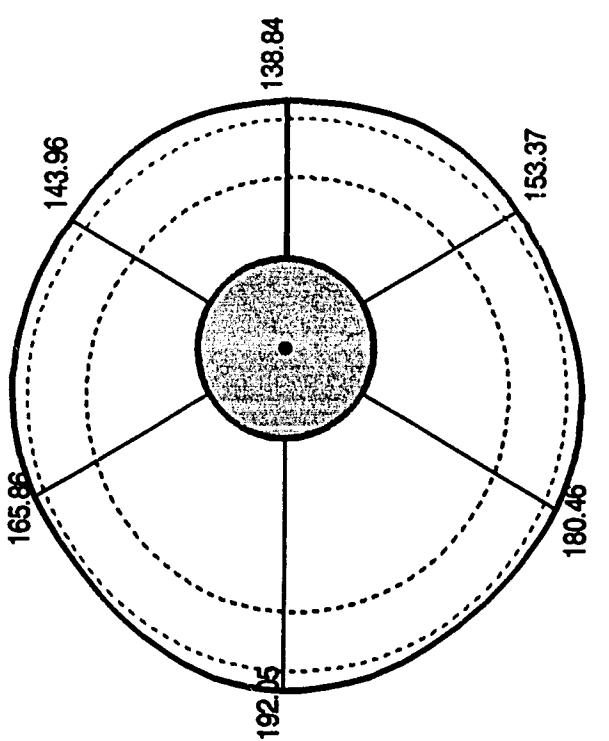
189.9

200



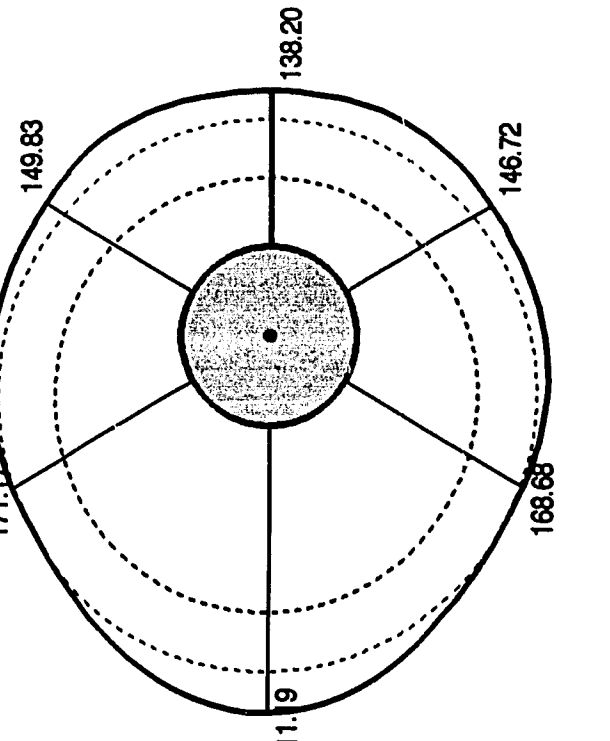
214.9

225



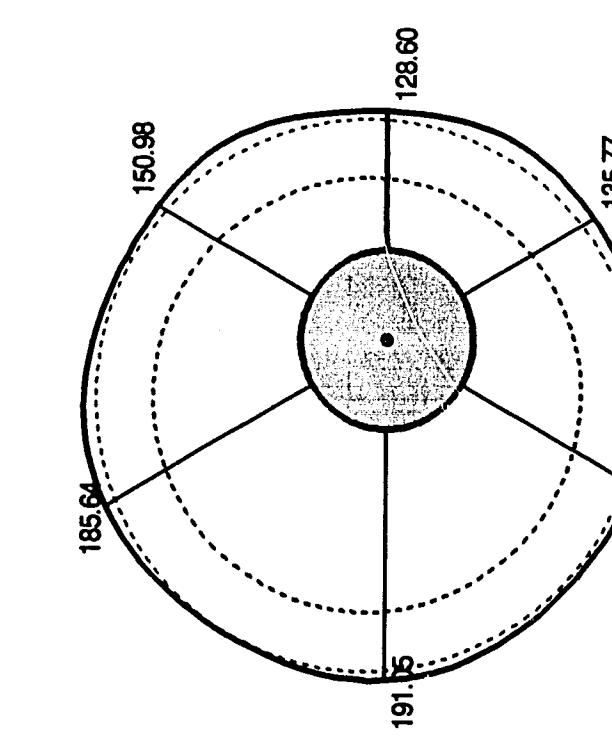
239.9

250



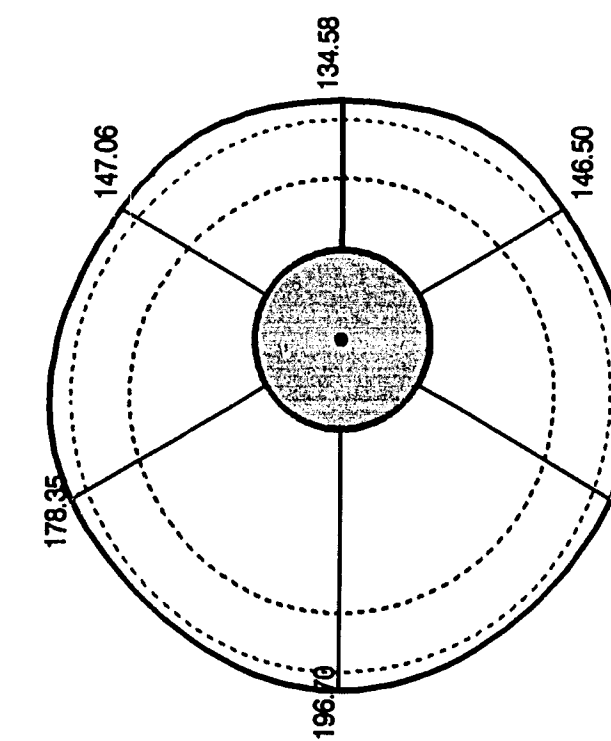
264.9

275



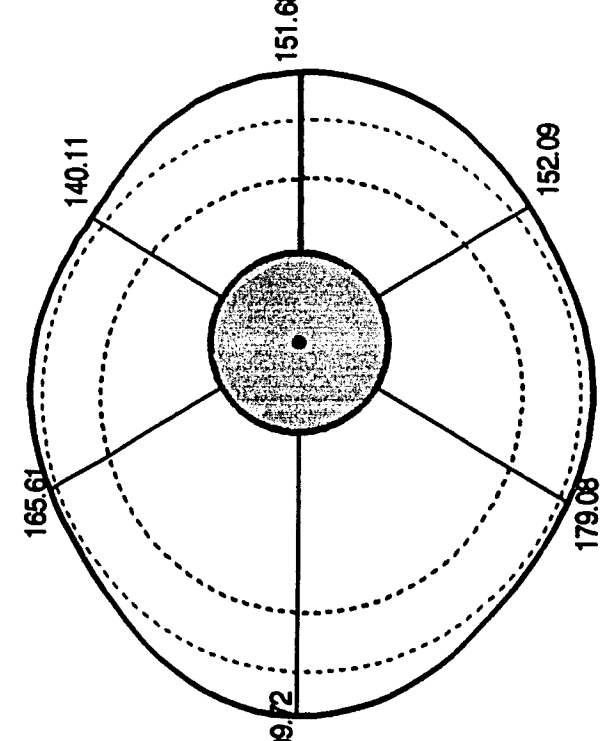
289.9

300



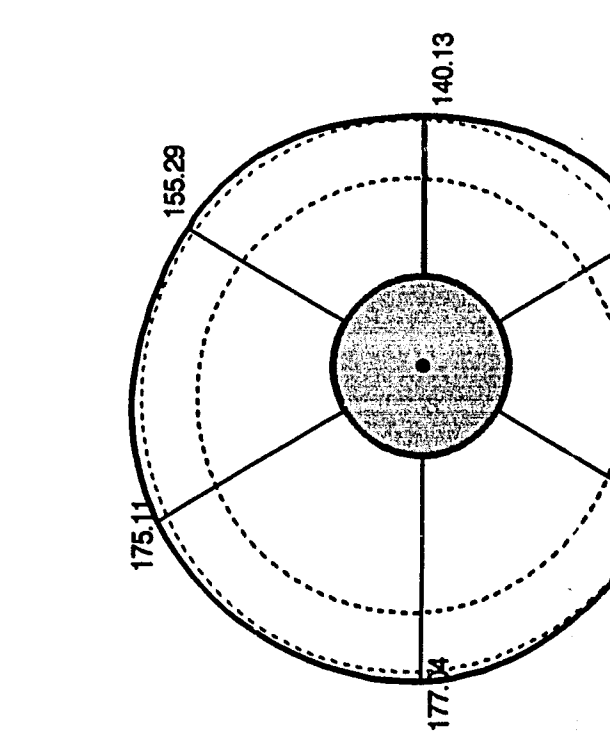
315.0

325



340.0

350



365.0

331.5 329.5 66.9 90.0

328.7 325.9 69.0 90.0

364.0 310.3 79.8 90.0

328.7 320.3 76.4 90.0

352.4 330.8 65.9 90.0

370.6 326.2 66.6 90.0

324.0 322.5 65.7 90.0

329.5 320.4 70.0 90.0

330.9 323.6 69.3 90.0

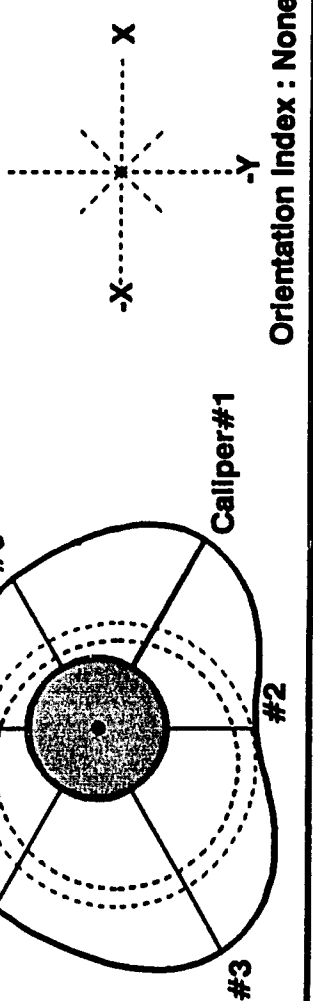
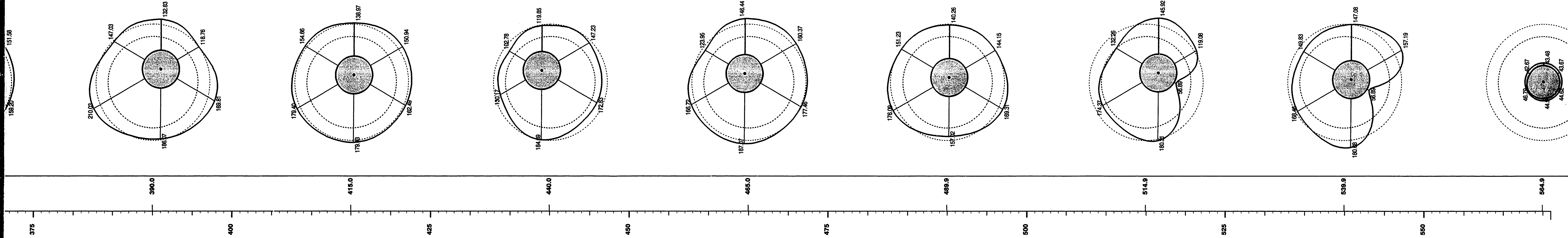
349.4 320.0 67.0 90.0

321.4 320.4 71.6 90.0

331.3 329.5 69.7 90.0

361.4 321.5 69.2 90.0

326.7 317.1 67.4 90.0

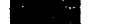


| DLIS Name | Description | Parameters | Value |
|-----------|-----------------------------------|------------|-----------------------|
| BGVS | Borehole Graphic Vertical Scale | | D200_Metric |
| BGDI | Borehole Graphic Depth Interval | | 25_M |
| BGDM | Borehole Graphic Display Mode | | Xsec_Tool_CalAll_Data |
| BGHW | Borehole Graphic Horizontal Width | | 500_MM |
| BGAI | Borehole Graphic Angle Index | | None |
| BGUN | Borehole Graphic Unit | | METRIC |

Graphics File Name: BORE_GRAPHIC_14.DWG

Graphics File Created: 03-Feb-2004 02:37

| Measurement | Nominal | Master | Before | After | Change | Limit | Units |
|--|---------|-----------|---------|-------|--------|-------|-------|
| Calibration and Check Summary | | | | | | | |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Electronics Calibration Check - Thru Cal Mag. & Phase | | | | | | | |
| Master: 11-Jan-2004 18:19 Before: 2-Feb-2004 23:02 | | | | | | | |
| Thru Cal Magnitude - 0 | 0 | 0.6159 | 0.6185 | N/A | N/A | N/A | V |
| Thru Cal Magnitude - 1 | 0 | 0.6289 | 0.6289 | N/A | N/A | N/A | V |
| Thru Cal Magnitude - 2 | 0 | 0.6267 | 0.6267 | N/A | N/A | N/A | V |
| Thru Cal Magnitude - 3 | 0 | 0.7091 | 0.7114 | N/A | N/A | N/A | V |
| Thru Cal Magnitude - 4 | 0 | 1.329 | 1.334 | N/A | N/A | N/A | V |
| Thru Cal Magnitude - 5 | 0 | 1.919 | 1.925 | N/A | N/A | N/A | V |
| Thru Cal Magnitude - 6 | 0 | 1.922 | 1.930 | N/A | N/A | N/A | V |
| Thru Cal Magnitude - 7 | 0 | 1.377 | 1.380 | N/A | N/A | N/A | V |
| Phase - 0 | 0 | 68.47 | 68.40 | N/A | N/A | N/A | DEG |
| Phase - 1 | 0 | 64.94 | 65.50 | N/A | N/A | N/A | DEG |
| Phase - 2 | 0 | 61.10 | 61.70 | N/A | N/A | N/A | DEG |
| Phase - 3 | 0 | 60.30 | 60.70 | N/A | N/A | N/A | DEG |
| Phase - 4 | 0 | 53.79 | 54.17 | N/A | N/A | N/A | DEG |
| Phase - 5 | 0 | 51.96 | 52.30 | N/A | N/A | N/A | DEG |
| Phase - 6 | 0 | 51.92 | 52.26 | N/A | N/A | N/A | DEG |
| Phase - 7 | 0 | 48.48 | 48.90 | N/A | N/A | N/A | DEG |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Electronics Calibration Check - Auxiliary | | | | | | | |
| Master: 11-Jan-2004 18:19 Before: 2-Feb-2004 23:02 | | | | | | | |
| Array Induction SPA Zero | 990.5 | 997.5 | 997.0 | N/A | N/A | N/A | MV |
| Array Induction Temperature PI | 0 | 0.2305 | 0.2450 | N/A | N/A | N/A | MV |
| Array Induction Temperature Z6 | 0 | 0.002329 | 0.00235 | N/A | N/A | N/A | V |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Test Loop Gain Correction | | | | | | | |
| Master: 11-Jan-2004 18:19 | | | | | | | |
| Test Loop Gain Magnitude - 0 | 0 | 1.019 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 1 | 0 | 1.017 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 2 | 0 | 1.015 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 3 | 0 | 0.981 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 4 | 0 | 0.9841 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 5 | 0 | 0.9868 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 6 | 0 | 0.9997 | N/A | N/A | N/A | N/A | V |
| Test Loop Gain Magnitude - 7 | 0 | 1.006 | N/A | N/A | N/A | N/A | V |
| Phase - 0 | 0 | 0.4294 | N/A | N/A | N/A | N/A | DEG |
| Phase - 1 | 0 | 0.5291 | N/A | N/A | N/A | N/A | DEG |
| Phase - 2 | 0 | 0.4652 | N/A | N/A | N/A | N/A | DEG |
| Phase - 3 | 0 | 0.5771 | N/A | N/A | N/A | N/A | DEG |
| Phase - 4 | 0 | -0.069129 | N/A | N/A | N/A | N/A | DEG |
| Phase - 5 | 0 | -0.1061 | N/A | N/A | N/A | N/A | DEG |
| Phase - 6 | 0 | 0.3198 | N/A | N/A | N/A | N/A | DEG |
| Phase - 7 | 0 | -0.1423 | N/A | N/A | N/A | N/A | DEG |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Sonde Error Correction | | | | | | | |
| Master: 11-Jan-2004 18:19 | | | | | | | |
| R Sonde Error Correction - 0 | 0 | -37.90 | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction - 1 | 0 | 168.0 | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction - 2 | 0 | 111.8 | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction - 3 | 0 | 84.01 | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction - 4 | 0 | 23.15 | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction - 5 | 0 | 8.82 | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction - 6 | 0 | 3.87 | N/A | N/A | N/A | N/A | MM/M |
| R Sonde Error Correction - 7 | 0 | -0.3816 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 0 | 0 | 132.9 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 1 | 0 | 68.86 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 2 | 0 | 140.8 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 3 | 0 | 140.8 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 4 | 0 | 8.923 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 5 | 0 | -6.923 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 6 | 0 | 4.919 | N/A | N/A | N/A | N/A | MM/M |
| X Sonde Error Correction - 7 | 0 | -2.271 | N/A | N/A | N/A | N/A | MM/M |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Mud Gain Correction | | | | | | | |
| Master: 11-Jan-2004 18:19 | | | | | | | |
| Coarse - Mag. Real. Imag. - 0 | 0 | 1.000 | N/A | N/A | N/A | N/A | N/A |
| Coarse - Mag. Real. Imag. - 1 | 0 | 1.000 | N/A | N/A | N/A | N/A | N/A |
| Coarse - Mag. Real. Imag. - 2 | 0 | 1.000 | N/A | N/A | N/A | N/A | N/A |
| Fine - Mag. Real. Imag. - 0 | 0 | 1.000 | N/A | N/A | N/A | N/A | N/A |
| Fine - Mag. Real. Imag. - 1 | 0 | 1.000 | N/A | N/A | N/A | N/A | N/A |
| Fine - Mag. Real. Imag. - 2 | 0 | 1.000 | N/A | N/A | N/A | N/A | N/A |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Slab Measurement Summary | | | | | | | |
| Before: 23-Jan-2004 17:07 | | | | | | | |
| BS Window Ratio | 0.7521 | N/A | 0.7524 | N/A | N/A | N/A | CPS |
| SS Window Sum | 11250 | N/A | 11270 | N/A | N/A | N/A | CPS |
| SS Window Ratio | 0.4801 | N/A | 0.4809 | N/A | N/A | N/A | CPS |
| SS Window Sum | 11170 | N/A | 11120 | N/A | N/A | N/A | CPS |
| LS Window Ratio | 0.2862 | N/A | 0.2942 | N/A | N/A | N/A | CPS |
| LS Window Sum | 1247 | N/A | 1249 | N/A | N/A | N/A | CPS |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Photo-multiplier High Voltages Calibrations | | | | | | | |
| Before: 23-Jan-2004 17:07 | | | | | | | |
| BS PM High Voltage (Command) | 1849 | N/A | 1816 | N/A | N/A | N/A | V |
| SS PM High Voltage (Command) | 1919 | N/A | 1955 | N/A | N/A | N/A | V |
| LS PM High Voltage (Command) | 1944 | N/A | 1992 | N/A | N/A | N/A | V |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Crystal Quality Resolutions Calibration | | | | | | | |
| Before: 23-Jan-2004 17:07 | | | | | | | |
| BS Crystal Resolution | 11.41 | N/A | 11.18 | N/A | N/A | N/A | % |
| SS Crystal Resolution | 10.08 | N/A | 10.66 | N/A | N/A | N/A | % |
| LS Crystal Resolution | 9.010 | N/A | 8.619 | N/A | N/A | N/A | % |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - MCFL Calibration | | | | | | | |
| Before: 23-Jan-2004 17:08 | | | | | | | |
| Raw B0 Resistivity | 3875 | N/A | 3857 | N/A | N/A | N/A | OHMM |
| Raw B1 Resistivity | 3830 | N/A | 3833 | N/A | N/A | N/A | OHMM |
| Raw B2 Resistivity | 3830 | N/A | 3845 | N/A | N/A | N/A | OHMM |
| High resolution Integrated Logging Tool-DTS Wellsite Calibration - HILT Caliper Calibration | | | | | | | |
| Before: 23-Jan-2004 17:27 | | | | | | | |
| HILT Caliper Zero Measurement | 203.2 | N/A | 197.3 | N/A | N/A | N/A | MM |

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | | | |
|--|---|--|----------------|---------------------|---|--|---------------------|--------|---|----------------|--------------------|
| Deviation Summary | | | | | | | | | | | |
| Phase | BS Average Deviation % | | Value | Phase | SS Average Deviation % | | Value | Phase | LS Average Deviation % | | Value |
| Master |  | | 0.3831 | Master |  | | 0.3009 | Master |  | | 0.6295 |
| -0.6000
(Minimum) | | | 0
(Nominal) | 0.6000
(Maximum) | | | -1.000
(Minimum) | | | 0
(Nominal) | 1.000
(Maximum) |
| Phase | BS Max Deviation % | | Value | Phase | SS Max Deviation % | | Value | Phase | LS Max Deviation % | | Value |
| Master |  | | 1.276 | Master |  | | 0.8493 | Master |  | | 1.483 |
| -1.600
(Minimum) | | | 0
(Nominal) | 1.600
(Maximum) | | | -2.500
(Minimum) | | | 0
(Nominal) | 2.500
(Maximum) |
| -3.500
(Minimum) | | | 0
(Nominal) | 3.500
(Maximum) | | | | | | | |
| Master: 15-Jan-2004 17:57 | | | | | | | | | | | |

Master: 15-Jan-2004 17:57

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | | | | | |
|--|---|-------------------|-------------------|-------|-------------------|---|-------------------|--|-------|--------------------|---|--------------------|-------|
| Tank Measurement | | | | | | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | | | Value | Phase | Thermal Far Corr. (Tank) CPS | | | Value | Phase | CNTC/CFTC (Tank) | | Value |
| Master |  | | | 6037 | Master |  | | | 2542 | Master |  | | 2.375 |
| | 5000
(Minimum) | 6031
(Nominal) | 7200
(Maximum) | | 2075
(Minimum) | 2793
(Nominal) | 3125
(Maximum) | | | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) | |
| Master: 16-Jan-2004 11:48 | | | | | | | | | | | | | |

Master: 16-Jan-2004 11:48

| High resolution Integrated Logging Tool-DTS Master Calibration | | | | | | | | | | | |
|--|-------------------------------|-------------------|-------------------|--------|------------------------------|-------------------|-------------------|--------|--------------------|--------------------|--------------------|
| Tank Measurement | | | | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | | Value | Phase | Thermal Far Corr. (Tank) CPS | | Value | Phase | CNTC/CFTC (Tank) | Value | |
| Master | | | 6037 | Master | | | 2542 | Master | | 2.375 | |
| | 5000
(Minimum) | 6031
(Nominal) | 7200
(Maximum) | | 2075
(Minimum) | 2793
(Nominal) | 3125
(Maximum) | | 2.120
(Minimum) | 2.159
(Nominal) | 2.540
(Maximum) |
| Master: 16-Jan-2004 11:48 | | | | | | | | | | | |

Master: 16-Jan-2004 11:48

| Environment Measurement Sonde / Equipment Identification | | | |
|--|----------|------|--|
| Primary Equipment: | | | |
| EMS Mechanical | EMM - B | 8062 | |
| EMS Cartridge | EMC - B | 8067 | |
| Auxiliary Equipment: | | | |
| Electronics Cartridge Housing | ECH - KH | 8550 | |

| Environment Measurement Sonde Website Calibration | | | | | | | | | |
|---|---|--|--------------------|--------------------|---|--|--------------------|--------------------|--------------------|
| EMS Caliper Calibration | | | | | | | | | |
| Phase | Radius 1 Short Radius MM | | Value | Phase | Radius 1 Long Radius MM | | Value | | |
| Before |  | | 88.40 | Before |  | | 190.4 | | |
| 76.20
(Minimum) | | | 101.6
(Nominal) | 127.0
(Maximum) | | | 177.8
(Minimum) | 203.2
(Nominal) | 228.6
(Maximum) |
| Phase | Radius 2 Short Radius MM | | Value | Phase | Radius 2 Long Radius MM | | Value | | |
| Before |  | | 82.16 | Before |  | | 186.5 | | |
| 76.20
(Minimum) | | | 101.6
(Nominal) | 127.0
(Maximum) | | | 177.8
(Minimum) | 203.2
(Nominal) | 228.6
(Maximum) |
| Phase | Radius 3 Short Radius MM | | Value | Phase | Radius 3 Long Radius MM | | Value | | |
| Before |  | | 81.70 | Before |  | | 186.2 | | |
| 76.20
(Minimum) | | | 101.6
(Nominal) | 127.0
(Maximum) | | | 177.8
(Minimum) | 203.2
(Nominal) | 228.6
(Maximum) |
| Phase | Radius 4 Short Radius MM | | Value | Phase | Radius 4 Long Radius MM | | Value | | |
| Before |  | | 84.49 | Before |  | | 188.2 | | |
| 76.20
(Minimum) | | | 101.6
(Nominal) | 127.0
(Maximum) | | | 177.8
(Minimum) | 203.2
(Nominal) | 228.6
(Maximum) |
| Phase | Radius 5 Short Radius MM | | Value | Phase | Radius 5 Long Radius MM | | Value | | |
| Before |  | | 79.14 | Before |  | | 185.7 | | |
| 76.20
(Minimum) | | | 101.6
(Nominal) | 127.0
(Maximum) | | | 177.8
(Minimum) | 203.2
(Nominal) | 228.6
(Maximum) |
| Phase | Radius 6 Short Radius MM | | Value | Phase | Radius 6 Long Radius MM | | Value | | |
| Before |  | | 77.37 | Before |  | | 182.5 | | |
| 76.20
(Minimum) | | | 101.6
(Nominal) | 127.0
(Maximum) | | | 177.8
(Minimum) | 203.2
(Nominal) | 228.6
(Maximum) |

Before: 26-Jan-2004 15:55

Before: 26-Jan-2004 15:55

Company: ENCANACORPORATION

Schlumberger

Well: ECA ET AL BEGADEH J-66

Field: UNDEFINED

Province: NORTHWEST TERRITORIES

CEMENT VOLUME LOG

**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**

ENOCANA

Scale 1:240 (5"=100') Metric

Well Name: ECA et al BEGADEH J-66
Location: Unit: J Section: 66 Grid: 64-40, 125-00
Licence Number: 1996
Spud Date: Jan 28, 2004
Surface Coordinates: Lat: 64°35' 30.68" Long: 125°41' 52.05"
Bottom Hole Coordinates: As Above

Region: Tuitari/Tate Lake
Drilling Completed: Feb 10, 2004

Ground Elevation (m): 190.82
Logged Interval (m): 5
Formation: Franklin Mountain
Type of Drilling Fluid: Gel Chem

K.B. Elevation (m): 195.57
Total Depth (m): 1425

Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

Operator: EnCana Corporation
Company: 150 9th Ave. S.W.
Address: Calgary, AB T2P 2S5

OPERATOR

Name: Glen MacIntosh
Company: Cabra Consulting
Address: 1623 48th Avenue SW
Calgary, AB T2T 2S9

GEOLOGIST

DRILLING

Drilling Supervisor: Mike Maddison/Darren Wesley
Contractor: Akita Drilling Rig #55

LOGGING

AFI:325167
UWI: 300.066440125000

BIT SIZE
Conductor: 444.5 mm
Surface: 311 mm
Main: 222.2 mm

CASING SIZE
Conductor: 339.7 mm
Surface: 244.5 mm
Main: Nil

CASING DEPTH
Conductor: 66.63 m
Surface: 464.4 m
Main: Nil

COMMENTS

Formation markers not adjusted to open hole logs. Sample quality poor to 1000m, fair to good 1000-1425m.
Motor & MWD tool run from 564m to control deviation.

ROCK TYPES
Lmst
Meta
Mrst
Silt
Sh-bk
Shol
Sleeved

ACCESSORIES
Dol
Feldspar
Ferr
Glauc
Hvmin
Kaol
Marl
Mmxi
Nodule
Phos
Pyr
Salt
Sandy
Silt
Sll

OTHER SYMBOLS
SORTING
Well
Moderate
Poor
ROUNDING
Rounded
Subrnd

FOSSIL
Algae
Amph
Beim
Biolcit
Brachy
Cephal
Coral
Crin
Echin
Fish
Fossil
Gastro
Oolite
Ostra

PELEC
Pellet
Pisolith
Plant
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MINERAL
Anhyd
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Brecfrag
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Crylin
Earthy
Finexin
Lithogr
Microxin
DUNHAM
Mudst
Wackest
Grainst
Boundst

Sulphur
Tuff

DIRECTIONAL
Slide
Rotate

EVENT
Csg shoe
Rt
Sidewall

Geological Descriptions

ROP (min/m)
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174-180m shale with minor siltstone & sandstone interbeds & stringers.
SHALE - medium to light gray to gray tan, greenish in part, black, subblocky, moderately firm to soft, carbonaceous flakes, slightly silty.
SILTSTONE - light brown tan, quartz, moderately cemented, siliceous cement, very slightly calcareous, sandy, trace carbonaceous, light, no shows.

196-216m Shale with Siltstone & Sandstone Interbeds.
SHALE - medium to light gray to gray tan, greenish in part, black, subblocky, moderately firm to soft, carbonaceous flakes, slightly silty.
SANDSTONE - white with dark specks, quartz, chert & lithics, very fine to fine grained, subangular, well sorted, well cemented, siliceous cement, poorly to moderately consolidated, silty, micaceous, 10-16% porosity, no shows.

SILTSTONE - light brown tan, quartz, moderately cemented, siliceous cement, very slightly calcareous, sandy, trace carbonaceous, light, no shows.

Sample logs questionable for 210-226m

216-230m Shale with Siltstone & Sandstone Interbeds.
SHALE - medium to light gray to gray tan, greenish in part, black, subblocky, moderately firm to soft, carbonaceous flakes, slightly silty.
SANDSTONE - white with dark specks, quartz, chert & lithics, very fine to fine grained, subangular, well sorted, well cemented, siliceous cement, poorly to moderately consolidated, silty, micaceous, 10-16% porosity, no shows.

Abundant LCM.

Sample 226 is predominantly LCM.

230-243m Conglomerate/Gravel to Sandstone with Shale Interbeds.
GRAVEL - dark chert with lesser light quartz, medium to coarse minor very coarse, becoming finer grained downward, subround, unconsolidated, 20-26% porosity, no shows.

SHALE - light gray to gray tan, subfissile to subblocky, moderately firm to soft, minor carbonaceous material, silty.

243-264m Interbedded & Interlaminated Sandstone & Shale.
SANDSTONE - mottled black & white, dark chert & lithics with light quartz, very fine to medium, minor coarse, subangular to subround, moderately sorted, unconsolidated to very poorly cemented, siliceous cement, 16-20% porosity, no shows.
SHALE - as above.

264-284m Shale with minor Sandstone Interbeds.
SHALE - light gray to gray tan, subfissile to subblocky, moderately firm to soft, minor carbonaceous material, silty.
SANDSTONE - as above, moderately to well cemented, up to 10% porosity, no shows.

284-320m Interbedded Sandstone & Shale.
SANDSTONE - light gray to off white, quartz with minor chert & lithics, very fine to fine, minor medium, subangular, well sorted, well cemented, calcareous cement, light to 6% porosity, no shows.

SHALE - light gray to gray brown, light green, subfissile to subblocky, waxy in part, carbonaceous material, slightly silty.

320-329m Shale with Sandstone Interbeds & Stringers.
SHALE - light gray to gray brown, trace light green, subfissile to subblocky, waxy in part, carbonaceous material, slightly silty.

329-351m Shale with Siltstone & Sandstone Interbeds.
SHALE - light gray to gray brown, trace light green, subfissile to subblocky, waxy in part, carbonaceous material, slightly silty.

351-369m Sandstone with Shale Interbeds.
SANDSTONE - light gray to off white, quartz with minor chert & lithics, very fine to fine, minor medium, subangular, well sorted, moderately cemented, siliceous & calcareous cement, trace carbonaceous, sandy to siltstone in part, trace glauconite?, light to 6%, minor 9% porosity, no shows.

SHALE - light gray to gray tan, greenish gray, subblocky, slightly carbonaceous, silty to highly silty, soft to moderately firm.

369-386m Interbedded & Interlaminated Sandstone, Siltstone & Shale with trace coal stringers.
SANDSTONE - light gray to white with black specks, quartz & chert, minor lithics, very fine to fine, minor coarse chert grains, subround to angular, well to poorly sorted, moderately cemented, siliceous & calcareous cement, poorly to well consolidated, silty to siltstone in part, trace glauconite?, light to 6%, minor 9% porosity, no shows.

SHALE - light gray to gray tan, greenish gray, subblocky, slightly carbonaceous, silty to highly silty, soft to moderately firm.

386-412m Interbedded Siltstone & Shale with minor Sandstone.
SILTSTONE - light to medium gray brown, quartz, moderately cemented, siliceous & calcareous cement, trace carbonaceous, sandy to siltstone in part, argillaceous, light.

SHALE - light gray brown, white specks in part, subfissile, soft to mod. firm, carbonaceous in part, silty to siltstone.

Minor coarse chert grains.

412-426m Interbedded Shale & Siltstone.
SHALE - light gray brown, white specks in part, subfissile, soft to moderately firm, carbonaceous in part, silty to siltstone.

SILTSTONE - light to medium gray brown, quartz, moderately cemented, siliceous & calcareous cement, trace carbonaceous, sandy to sandstone in part, argillaceous, light.

Abundant LCM.

426-446m Interbedded Shale & Sandstone.
SHALE - light gray to gray brown, white specks, are light green, subfissile to subblocky, soft to moderately firm, slightly calcareous, carbonaceous, silty to siltstone.

SANDSTONE - white to light gray with black specks, quartz & feldspar, chert with minor lithics, silt to fine grained, subangular to angular, well sorted, well cemented, calcareous cement, siliceous in part, light to trace porosity, no shows.

Minor coarse chert grains.

Abundant LCM.

446-470m Interbedded & Interlaminated Shale & Siltstone.
SHALE - light gray to gray brown, white specks, are light green, subfissile to subblocky, soft to moderately firm, slightly calcareous, carbonaceous, silty to siltstone.

SILTSTONE - light to medium gray, quartz & feldspar?, moderately cemented, siliceous cement, slightly calcareous in part, argillaceous in part, trace carbonaceous, light, no shows.

Sandstone stringers.

Common to abundant LCM.

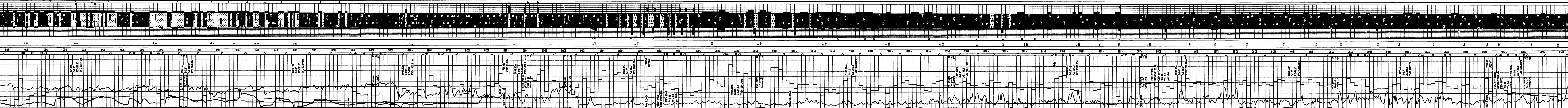
LCM (sawdust) is being added to limit/control mud rings.

470-516m Samples are overwhelmingly contaminated with sawdust. Minor amount of rock is visible.

Few returns indicate Shale, Siltstone & Sandstone as above.

Several collecting/washing methods employed to reduce relative sawdust to cutting ratio in samples...not working.

Possibly soft shale being washed away?



905-922m Sandstone with Shale interbeds & laminae. SANDSTONE - light gray, mottled dark spots, quartz & minor lithics, silt to very fine grained, well sorted, moderate cement, siliceous cement, moderately consolidated to loose, light to minor poor porosity, no shows. SHALE - medium gray to gray brown, quartz, moderately cemented, siliceous cement, poorly well consolidated, argillaceous grading to shale in part, minor pyrite, grades to Sandstone in part, light, no shows.

922-944m Sandstone with Shale interbeds & Shale laminae. SANDSTONE - light gray, mottled dark spots, quartz & minor lithics, silt to very fine grained, minor coarse chert grains, generally well sorted, moderate cement, siliceous cement, moderately consolidated to loose, trace pyrite, light to minor poor porosity, no shows. SHALE - medium to dark gray, trace green, waxy, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite, trace inocranus prisms.

944-962m Sandstone with Shale interbeds & Shale laminae. SANDSTONE - light gray, mottled dark spots, quartz & minor lithics, subangular to subround, silt to very fine grained, minor coarse chert grains, well sorted, moderate cement, siliceous cement, trace clay, moderately consolidated to loose, trace calcareous, silty to bitstone, trace pyrite, light to fair porosity (5%), no shows.

962-981m Sandstone with Shale interbeds & Shale laminae. SANDSTONE - medium to dark gray, trace green, waxy, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite, trace inocranus prisms.

981-1007m Sandstone with Shale interbeds & Shale laminae. SANDSTONE - light gray, mottled dark spots, quartz & minor lithics, silt to very fine grained, minor coarse chert grains, generally well sorted, moderate cement, siliceous cement, moderately consolidated to loose, trace pyrite, light to minor poor porosity, no shows. SHALE - medium to dark gray, trace green, waxy, subfissile to subblocky, silty, micromicaceous, minor carbonaceous flakes, trace pyrite, trace inocranus prisms.

1007-1026m Dolomite with Shale laminae. SANDSTONE - off white to tan, pinkish hues, micro to cryptocrystalline, argillaceous to highly argillaceous grades to dolomite Sandstone to dolomite in part, very dense in part, siliceous to trace cherty, minor pyrite, light to fair porosity, no shows. SHALE - off white to light green, subfissile, dolomite, fossil ghosted, hard.

1026-1040m Dolomite with Shale laminae. SANDSTONE - clear quartz to light brown to pink, silt to medium grained, subround to well rounded, well cemented, dolomite cement, well to moderately well consolidated, light, no shows. Abundant loose quartz grains.

1040-1058m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1058-1086m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1086-1106m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1106-1126m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1126-1146m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1146-1166m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1166-1186m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1186-1206m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1206-1226m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

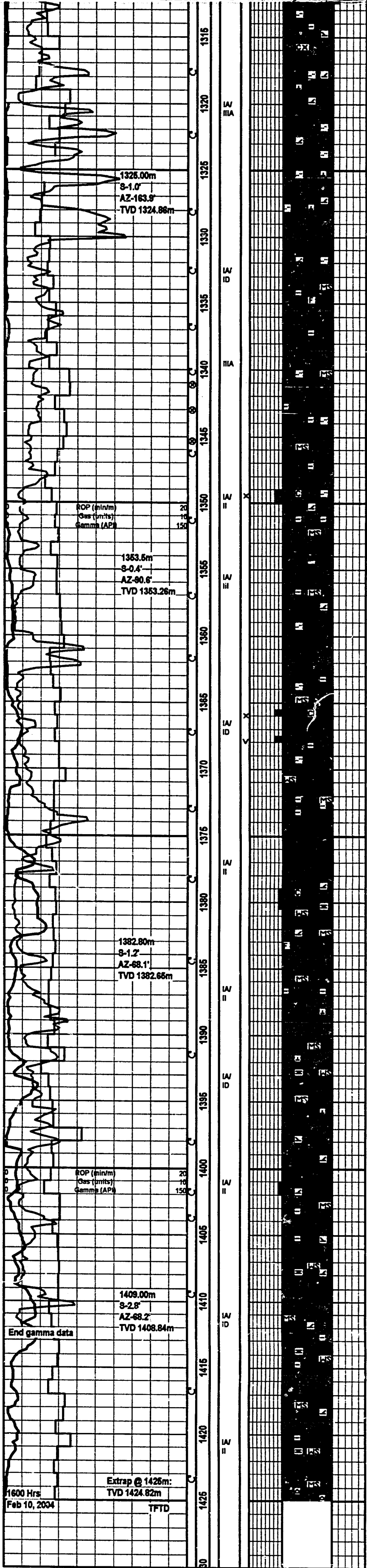
1226-1246m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1246-1266m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1266-1286m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1286-1306m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.

1306-1310m Dolomite with Shale laminae. SANDSTONE - off white to buff tan, crypto to fine crystalline, slightly argillaceous, trace calcite cement, trace pyrite, light to trace micro porosity, no shows. SHALE - light green to rusty red, fissile, dolomite, slightly bedded, hard.



Franklin Mountain 1317.0m (-1121.4m SS)

1317-1330m Interbedded Dolostone, Limestone & Shale.
DOLOSTONE - light yellow to orange brown to off white, microcrystalline, calcareous, slightly silty tight, no shows.
LIMESTONE - white to off white grey mottled yellow to light brown, microcrystalline, mudstone, chalky in part, partially dolomitized, silty, tight, no shows
SHALE - dark grey to grey brown to light green, fissile, waxy in part, dolomitic, slightly silty, firm.

1330-1349m Limestone with Shale & Dolostone Interbeds.
LIMESTONE - off white, buff tan to dark brown, mottled in part, mudstone, chalky in part, slightly argillaceous, silty, dolomitic in part, dense, trace pyrite veining & nodules, trace clear void filling calcite, tight.
SHALE - dark grey to grey brown, trace green, fissile to subfissile, calcareous, silty.
DOLOSTONE - medium to dark grey brown, light to dark green, microcrystalline, calcareous, slightly silty, no shows.

1349-1360m Limestone with minor Shale laminae.
LIMESTONE - white to buff tan, microcrystalline, dense, chalky in part, clean to slightly argillaceous, slightly silty, dolomitic in part, trace pyrite, tight to nonvisible porosity in chalky portions?, no shows.
SHALE - light to dark green to medium brown, fissile, waxy in part, firm, silty, calcareous.
Dolostone stringers.

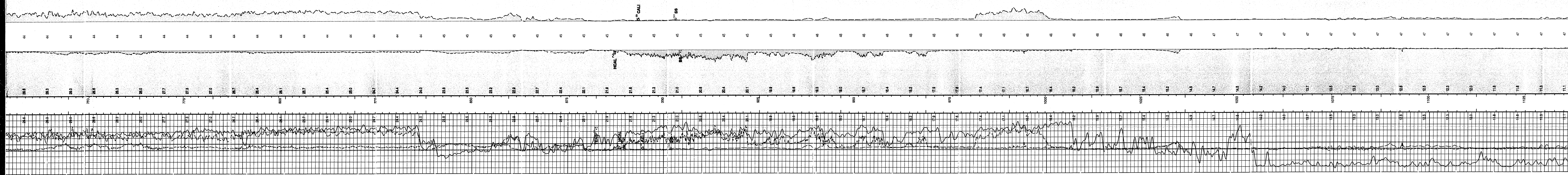
1360-1373m Limestone with Shale interbeds & Dolostone stringers.
LIMESTONE - white to buff tan to medium brown, mudstone to thin beds of amphipora wackestone, microcrystalline to cryptocrystalline in part, dense, chalky in part, clean to argillaceous in part, slightly silty, dolomitic in part, trace pyrite, tight to trace vuggy porosity, possible nonvisible porosity in chalky portions?, no shows.
SHALE - light to dark green to medium brown, fissile, waxy in part, firm, silty, calcareous.

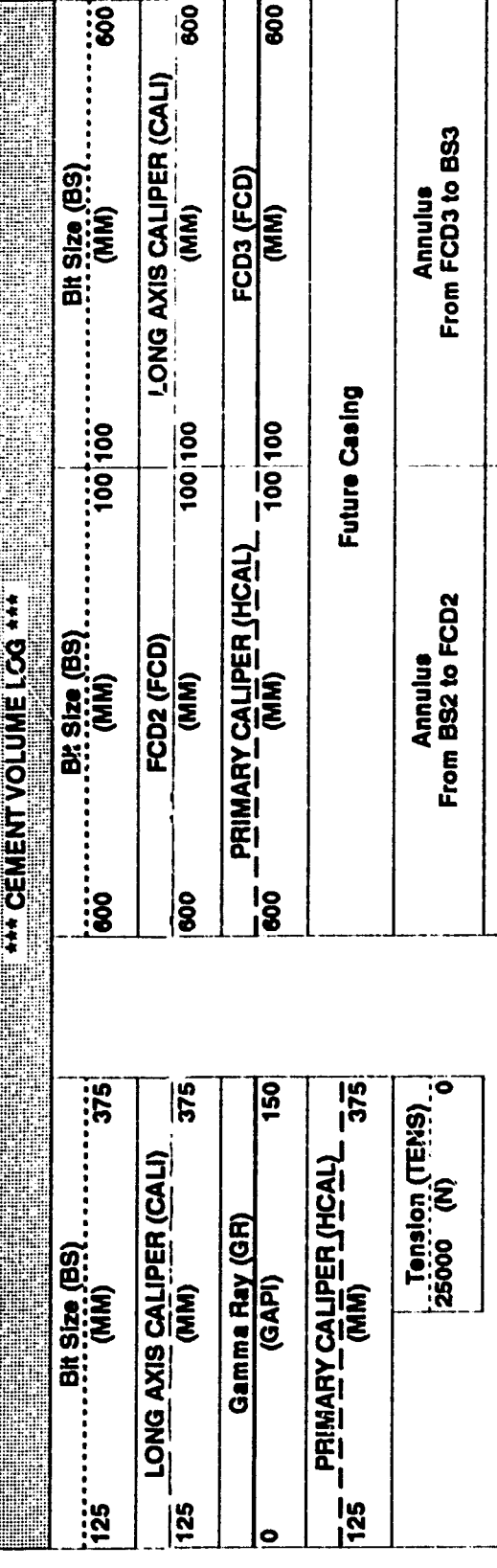
1373-1398m Interbedded Shale & Limestone.
SHALE - light to dark green to medium brown to dark reddish brown, subfissile to blocky, firm, silty, calcareous to dolomitic.
LIMESTONE - off white to buff tan minor medium brown, microcrystalline, mudstone to locally wackestone, Amphipora, calcispheres, slightly argillaceous in part, trace dolomitic in part, chalky in part, tight to traces of vuggy or fracture porosity lined/filled with euhedral calcite crystals, no shows.
Trace Dolostone stringers.

1398-1426m Interbedded Shale, Limestone & minor Dolostone.
SHALE - light to dark green to medium brown to dark reddish brown, subfissile to blocky, firm, silty, calcareous to dolomitic.
LIMESTONE - off white to buff tan minor medium brown, microcrystalline, mudstone to locally wackestone, Amphipora, slightly argillaceous in part, trace dolomitic in part, chalky in part, tight to traces of vuggy or fracture porosity lined/filled with euhedral calcite crystals, no shows.

DOLOSTONE - light to medium brown to yellowish tan, microcrystalline, calcareous, ferruginous in part, tight, no shows.
Visible calcite-healed microfractures.
Trace white chert @ base.

**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**



[illegible]

OP System Version: 11C0-305 MCM

| Output DLIS Files | | | |
|-------------------|-------------------------|-------|----------------------------|
| DEFAULT | AIT_TLD_MCFL_CNL_007LUP | FN:9 | PRODUCER 11-Feb-2004 03:41 |
| BACKUP | AIT_TLD_MCFL_CNL_007LUP | FN:10 | PRODUCER 11-Feb-2004 03:56 |

| Calibration and Check Summary | | | | | | | |
|--|---------|--------|--------|-------|--------|------|-------|
| Measurement | Nominal | Master | Before | After | Change | Unit | Units |
| High resolution Integrated Location Tool/DMS Wallplate Calibration - Electroline Calibration Check - Thru Cell Meas. & Base... | | | | | | | |

[illegible]

| High resolution Integrated Logging Tool-DTS Wellsite Calibration - Electronics Calibration Check - Auxiliary | | | |
|--|---|-------|-----|
| Master: 11-Jan-2004 18:19 Before: 11-Feb-2004 2:41 | | | |
| Phase - 6 | 0 | 51.92 | N/A |
| Phase - 7 | 0 | 49.48 | N/A |
| DEG | | | N/A |
| DEG | | | N/A |

| High resolution Integrated Logging Tool/DTS Wellbore Calibration - Test Loop Gain Correction | | | |
|--|---|-------|-----|
| Master: 11-Jan-2004 18:19 | | | |
| Test Loop Gain Magnitude - 0 | 0 | 1.019 | N/A |
| Test Loop Gain Magnitude - 1 | 0 | 1.017 | N/A |
| Test Loop Gain Magnitude - 2 | 0 | 1.015 | N/A |
| Test Loop Gain Magnitude - 3 | 0 | 1.013 | N/A |
| Test Loop Gain Magnitude - 4 | 0 | 1.011 | N/A |
| Test Loop Gain Magnitude - 5 | 0 | 1.009 | N/A |
| Test Loop Gain Magnitude - 6 | 0 | 1.007 | N/A |
| Test Loop Gain Magnitude - 7 | 0 | 1.005 | N/A |
| Test Loop Gain Magnitude - 8 | 0 | 1.003 | N/A |
| Test Loop Gain Magnitude - 9 | 0 | 1.001 | N/A |
| Test Loop Gain Magnitude - 10 | 0 | 0.999 | N/A |
| Test Loop Gain Magnitude - 11 | 0 | 0.997 | N/A |
| Test Loop Gain Magnitude - 12 | 0 | 0.995 | N/A |
| Test Loop Gain Magnitude - 13 | 0 | 0.993 | N/A |
| Test Loop Gain Magnitude - 14 | 0 | 0.991 | N/A |
| Test Loop Gain Magnitude - 15 | 0 | 0.989 | N/A |
| Test Loop Gain Magnitude - 16 | 0 | 0.987 | N/A |
| Test Loop Gain Magnitude - 17 | 0 | 0.985 | N/A |
| Test Loop Gain Magnitude - 18 | 0 | 0.983 | N/A |
| Test Loop Gain Magnitude - 19 | 0 | 0.981 | N/A |
| Test Loop Gain Magnitude - 20 | 0 | 0.979 | N/A |
| Test Loop Gain Magnitude - 21 | 0 | 0.977 | N/A |
| Test Loop Gain Magnitude - 22 | 0 | 0.975 | N/A |
| Test Loop Gain Magnitude - 23 | 0 | 0.973 | N/A |
| Test Loop Gain Magnitude - 24 | 0 | 0.971 | N/A |
| Test Loop Gain Magnitude - 25 | 0 | 0.969 | N/A |
| Test Loop Gain Magnitude - 26 | 0 | 0.967 | N/A |
| Test Loop Gain Magnitude - 27 | 0 | 0.965 | N/A |
| Test Loop Gain Magnitude - 28 | 0 | 0.963 | N/A |
| Test Loop Gain Magnitude - 29 | 0 | 0.961 | N/A |
| Test Loop Gain Magnitude - 30 | 0 | 0.959 | N/A |
| Test Loop Gain Magnitude - 31 | 0 | 0.957 | N/A |
| Test Loop Gain Magnitude - 32 | 0 | 0.955 | N/A |
| Test Loop Gain Magnitude - 33 | 0 | 0.953 | N/A |
| Test Loop Gain Magnitude - 34 | 0 | 0.951 | N/A |
| Test Loop Gain Magnitude - 35 | 0 | 0.949 | N/A |
| Test Loop Gain Magnitude - 36 | 0 | 0.947 | N/A |
| Test Loop Gain Magnitude - 37 | 0 | 0.945 | N/A |
| Test Loop Gain Magnitude - 38 | 0 | 0.943 | N/A |
| Test Loop Gain Magnitude - 39 | 0 | 0.941 | N/A |
| Test Loop Gain Magnitude - 40 | 0 | 0.939 | N/A |
| Test Loop Gain Magnitude - 41 | 0 | 0.937 | N/A |
| Test Loop Gain Magnitude - 42 | 0 | 0.935 | N/A |
| Test Loop Gain Magnitude - 43 | 0 | 0.933 | N/A |
| Test Loop Gain Magnitude - 44 | 0 | 0.931 | N/A |
| Test Loop Gain Magnitude - 45 | 0 | 0.929 | N/A |
| Test Loop Gain Magnitude - 46 | 0 | 0.927 | N/A |
| Test Loop Gain Magnitude - 47 | 0 | 0.925 | N/A |
| Test Loop Gain Magnitude - 48 | 0 | 0.923 | N/A |
| Test Loop Gain Magnitude - 49 | 0 | 0.921 | N/A |
| Test Loop Gain Magnitude - 50 | 0 | 0.919 | N/A |
| Test Loop Gain Magnitude - 51 | 0 | 0.917 | N/A |
| Test Loop Gain Magnitude - 52 | 0 | 0.915 | N/A |
| Test Loop Gain Magnitude - 53 | 0 | 0.913 | N/A |
| Test Loop Gain Magnitude - 54 | 0 | 0.911 | N/A |
| Test Loop Gain Magnitude - 55 | 0 | 0.909 | N/A |
| Test Loop Gain Magnitude - 56 | 0 | 0.907 | N/A |
| Test Loop Gain Magnitude - 57 | 0 | 0.905 | N/A |
| Test Loop Gain Magnitude - 58 | 0 | 0.903 | N/A |
| Test Loop Gain Magnitude - 59 | 0 | 0.901 | N/A |
| Test Loop Gain Magnitude - 60 | 0 | 0.899 | N/A |
| Test Loop Gain Magnitude - 61 | 0 | 0.897 | N/A |
| Test Loop Gain Magnitude - 62 | 0 | 0.895 | N/A |
| Test Loop Gain Magnitude - 63 | 0 | 0.893 | N/A |
| Test Loop Gain Magnitude - 64 | 0 | 0.891 | N/A |
| Test Loop Gain Magnitude - 65 | 0 | 0.889 | N/A |
| Test Loop Gain Magnitude - 66 | 0 | 0.887 | N/A |
| Test Loop Gain Magnitude - 67 | 0 | 0.885 | N/A |
| Test Loop Gain Magnitude - 68 | 0 | 0.883 | N/A |
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| Test Loop Gain Magnitude - 70 | 0 | 0.879 | N/A |
| Test Loop Gain Magnitude - 71 | 0 | 0.877 | N/A |
| Test Loop Gain Magnitude - 72 | 0 | 0.875 | N/A |
| Test Loop Gain Magnitude - 73 | 0 | 0.873 | N/A |
| Test Loop Gain Magnitude - 74 | 0 | 0.871 | N/A |
| Test Loop Gain Magnitude - 75 | 0 | 0.869 | N/A |
| Test Loop Gain Magnitude - 76 | 0 | 0.867 | N/A |
| Test Loop Gain Magnitude - 77 | 0 | 0.865 | N/A |
| Test Loop Gain Magnitude - 78 | 0 | 0.863 | N/A |
| Test Loop Gain Magnitude - 79 | 0 | 0.861 | N/A |
| Test Loop Gain Magnitude - 80 | 0 | 0.859 | N/A |
| Test Loop Gain Magnitude - 81 | 0 | 0.857 | N/A |
| Test Loop Gain Magnitude - 82 | 0 | 0.855 | N/A |
| Test Loop Gain Magnitude - 83 | 0 | 0.853 | N/A |
| Test Loop Gain Magnitude - 84 | 0 | 0.851 | N/A |
| Test Loop Gain Magnitude - 85 | 0 | 0.849 | N/A |
| Test Loop Gain Magnitude - 86 | 0 | 0.847 | N/A |
| Test Loop Gain Magnitude - 87 | 0 | 0.845 | N/A |
| Test Loop Gain Magnitude - 88 | 0 | 0.843 | N/A |
| Test Loop Gain Magnitude - 89 | 0 | 0.841 | N/A |
| Test Loop Gain Magnitude - 90 | 0 | 0.839 | N/A |
| Test Loop Gain Magnitude - 91 | 0 | 0.837 | N/A |
| Test Loop Gain Magnitude - 92 | 0 | 0.835 | N/A |
| Test Loop Gain Magnitude - 93 | 0 | 0.833 | N/A |
| Test Loop Gain Magnitude - 94 | 0 | 0.831 | N/A |
| Test Loop Gain Magnitude - 95 | 0 | 0.829 | N/A |
| Test Loop Gain Magnitude - 96 | 0 | 0.827 | N/A |
| Test Loop Gain Magnitude - 97 | 0 | 0.825 | N/A |
| Test Loop Gain Magnitude - 98 | 0 | 0.823 | N/A |
| Test Loop Gain Magnitude - 99 | 0 | 0.821 | N/A |
| Test Loop Gain Magnitude - 100 | 0 | 0.819 | N/A |

[illegible][illegible][illegible]

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|-------------------------|----------------|--------------------------|-------------------------|----------------|--------------------------|-------------------------|----------------|--------------------------|
| MCE Calibration | | | | | | | | | |
| Phase | Raw B0 Resistivity OHMM | Value | Phase | Raw B1 Resistivity OHMM | Value | Phase | Raw B2 Resistivity OHMM | Value | Phase |
| Before | | 377 | Before | | 352 | Before | | 352 | Before |
| Master: 8-Feb-2004 14:28 | | 4180 (Maximum) | Master: 8-Feb-2004 14:28 | | 3830 (Maximum) | Master: 8-Feb-2004 14:28 | | 4138 (Maximum) | Master: 8-Feb-2004 14:28 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|----------------------------------|-----------------|--------------------------|----------------------------------|-----------------|--------------------------|----------------------------------|-----------------|--------------------------|
| HILT Caliper Calibration | | | | | | | | | |
| Phase | HILT Caliper Zero Measurement MM | Value | Phase | HILT Caliper Plus Measurement MM | Value | Phase | HILT Caliper Plus Measurement MM | Value | Phase |
| Before | | 198.4 | Before | | 301.9 | Before | | 301.9 | Before |
| Master: 8-Feb-2004 14:23 | | 204.8 (Maximum) | Master: 8-Feb-2004 14:23 | | 304.8 (Maximum) | Master: 8-Feb-2004 14:23 | | 301.0 (Maximum) | Master: 8-Feb-2004 14:23 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|---------------------------|-----------------|--------------------------|----------------------------|-----------------|--------------------------|-----------------------------|-----------------|--------------------------|
| Detector Calibration | | | | | | | | | |
| Phase | Gamma Ray Background GAPI | Value | Phase | Gamma Ray (Log - Seg) GAPI | Value | Phase | Gamma Ray (Calibrated) GAPI | Value | Phase |
| Before | | 20.78 | Before | | 184.2 | Before | | 184.2 | Before |
| Master: 8-Feb-2004 14:21 | | 120.0 (Maximum) | Master: 8-Feb-2004 14:21 | | 180.0 (Maximum) | Master: 8-Feb-2004 14:21 | | 180.0 (Maximum) | Master: 8-Feb-2004 14:21 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|---------------------|-----------------|--------------------------|---------------------|-----------------|--------------------------|---------------------|-----------------|--------------------------|
| Zero Measurement | | | | | | | | | |
| Phase | CNTG Background CPS | Value | Phase | CFTG Background CPS | Value | Phase | CFTG Background CPS | Value | Phase |
| Master | | 26.04 | Master | | 27.25 | Master | | 27.25 | Master |
| Before | | 26.64 | Before | | 31.33 | Before | | 31.33 | Before |
| Master: 8-Feb-2004 14:25 | | 5.000 (Maximum) | Master: 8-Feb-2004 14:25 | | 40.00 (Maximum) | Master: 8-Feb-2004 14:25 | | 40.00 (Maximum) | Master: 8-Feb-2004 14:25 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|---------------------------|-----------------|--------------------------|---------------------------|-----------------|--------------------------|---------------------------|-----------------|--------------------------|
| Wellsite Calibration | | | | | | | | | |
| Phase | Accelerometer Calibration | Value | Phase | Accelerometer Calibration | Value | Phase | Accelerometer Calibration | Value | Phase |
| Before | | 9.813 | Before | | 9.813 | Before | | 9.813 | Before |
| Master: 11-Feb-2004 2:37 | | 10.00 (Maximum) | Master: 11-Feb-2004 2:37 | | 10.00 (Maximum) | Master: 11-Feb-2004 2:37 | | 10.00 (Maximum) | Master: 11-Feb-2004 2:37 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|--------|-------------------|---------------------------|--------|-------------------|---------------------------|-----------|-----------------------|---------------------------|
| Electronics Calibration Check - Thru Cal Mag. & Phase | | | | | | | | | |
| Idk | Phase | Value | Thru Cal Magnitude V | Value | Phase DEG | Value | Phase DEG | Value | Phase DEG |
| 0 | Master | 0.6169 | | 0.6060 | 66.97 | | 71.00 | | 71.00 |
| 1 | Master | 1.283 | | 1.270 | 64.94 | | 70.00 | | 70.00 |
| 2 | Master | 0.6387 | | 0.6230 | 61.10 | | 68.00 | | 68.00 |
| 3 | Master | 0.7091 | | 0.7040 | 60.33 | | 66.00 | | 66.00 |
| 4 | Master | 1.329 | | 1.337 | 53.79 | | 58.00 | | 58.00 |
| 5 | Master | 1.919 | | 1.965 | 51.96 | | 57.00 | | 57.00 |
| 6 | Master | 1.922 | | 1.955 | 51.82 | | 57.00 | | 57.00 |
| 7 | Master | 1.377 | | 1.415 | 48.48 | | 53.00 | | 53.00 |
| Master: 11-Jan-2004 18:19 | | 60.00 % (Minimum) | Master: 11-Jan-2004 18:19 | | 140.0 % (Maximum) | Master: 11-Jan-2004 18:19 | | Non - 40.00 (Minimum) | Master: 11-Jan-2004 18:19 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|-----------------------------|-----------------|---------------------------|-----------------------------|-----------------|---------------------------|-----------------------------|-----------------|---------------------------|
| Electronics Calibration Check - Auxiliary | | | | | | | | | |
| Phase | Array Induction SPA Plus MV | Value | Phase | Array Induction SPA Zero MV | Value | Phase | Array Induction SPA Zero MV | Value | Phase |
| Master | | 987.5 | Master | | 0 | Master | | 0 | Master |
| Before | | 980.5 (Maximum) | Before | | 0 | Before | | 0 | Before |
| Master: 11-Jan-2004 18:19 | | 1.000 (Maximum) | Master: 11-Jan-2004 18:19 | | 1.000 (Maximum) | Master: 11-Jan-2004 18:19 | | 1.000 (Maximum) | Master: 11-Jan-2004 18:19 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|--------|----------------------------|---------------------------|-----------|-----------------|---------------------------|-------|-----------------|---------------------------|
| Test Loop Gain Magnitude V | | | | | | | | | |
| Idk | Value | Test Loop Gain Magnitude V | Value | Phase DEG | Value | Phase DEG | Value | Phase DEG | Value |
| 0 | 1.019 | | 0.634 | | | | | | |
| 1 | 1.017 | | 0.5291 | | | | | | |
| 2 | 1.015 | | 0.00582 | | | | | | |
| 3 | 1.014 | | 0.1272 | | | | | | |
| 4 | 0.9991 | | -0.009129 | | | | | | |
| 5 | 0.9868 | | -0.1061 | | | | | | |
| 6 | 0.9697 | | 0.3188 | | | | | | |
| 7 | 1.008 | | -0.1423 | | | | | | |
| Master: 11-Jan-2004 18:19 | | 1.000 (Maximum) | Master: 11-Jan-2004 18:19 | | 1.000 (Maximum) | Master: 11-Jan-2004 18:19 | | 1.000 (Maximum) | Master: 11-Jan-2004 18:19 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|---------|-------------------------------|---------------------------|-------------------------------|-----------------|---------------------------|-------------------------------|-----------------|---------------------------|
| Sonde Error Correction | | | | | | | | | |
| Idk | Value | R Sonde Error Correction MM/M | Value | X Sonde Error Correction MM/M | Value | Phase | X Sonde Error Correction MM/M | Value | Phase |
| 0 | -37.90 | | -38.61 | | | Master | | 0.3008 | Master |
| 1 | 188.0 | | 133.9 | | | Before | | 1.850 (Maximum) | Before |
| 2 | 111.8 | | 88.86 | | | Master | | 0.8493 | Master |
| 3 | 64.01 | | 140.6 | | | Before | | 3.850 (Maximum) | Before |
| 4 | 23.15 | | -41.23 | | | Master | | 2.150 (Minimum) | Master |
| 5 | 13.62 | | -4.973 | | | Before | | 2.150 (Minimum) | Before |
| 6 | 8.867 | | 4.018 | | | Master | | 2.150 (Minimum) | Master |
| 7 | -0.5816 | | -2.271 | | | Before | | 2.150 (Minimum) | Before |
| Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|-------|--------------------------|--------------------------|-------|-----------------|--------------------------|-------|-----------------|--------------------------|
| Mod Gain Correction | | | | | | | | | |
| Idk | Value | Coarse - Mag. Real, Imag | Value | Phase | Value | Phase | Value | Phase | Value |
| 0 | 1.100 | | 1.150 | | | Master | | 0.3008 | Master |
| 1 | 1.100 | | 1.150 | | | Before | | 1.850 (Maximum) | Before |
| 2 | 1.100 | | 1.150 | | | Master | | 0.8493 | Master |
| Master: 15-Jan-2004 2:38 | | 1.000 (Maximum) | Master: 15-Jan-2004 2:38 | | 1.000 (Maximum) | Master: 15-Jan-2004 2:38 | | 1.000 (Maximum) | Master: 15-Jan-2004 2:38 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|-------------------|-----------------|---------------------------|--------------------|-----------------|---------------------------|--------------------|-----------------|---------------------------|
| Inversion results | | | | | | | | | |
| Phase | Rho Aluminum K/M3 | Value | Phase | Rho Magnesium K/M3 | Value | Phase | Rho Magnesium K/M3 | Value | Phase |
| Master | | 2598 | Master | | 1698 | Master | | 1698 | Master |
| Before | | 2598 (Maximum) | Before | | 1698 (Maximum) | Before | | 1698 (Maximum) | Before |
| Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|------------------------|------------------|---------------------------|------------------------|-----------------|---------------------------|------------------------|-----------------|---------------------------|
| Deviation Summary | | | | | | | | | |
| Phase | BS Average Deviation % | Value | Phase | SS Average Deviation % | Value | Phase | LS Average Deviation % | Value | Phase |
| Master | | 0.3631 | Master | | 0.3008 | Master | | 0.6285 | Master |
| Before | | 0.6000 (Maximum) | Before | | 1.000 (Maximum) | Before | | 1.850 (Maximum) | Before |
| Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 | | 1.000 (Maximum) | Master: 15-Jan-2004 17:57 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|-------------------------------|-----------------|---------------------------|------------------------------|-----------------|---------------------------|------------------|-----------------|---------------------------|
| Tank Measurement | | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | Value | Phase | Thermal Far Corr. (Tank) CPS | Value | Phase | CNTG/CFTG (Tank) | Value | Phase |
| Master | | 6037 | Master | | 2842 | Master | | 2.975 | Master |
| Before | | 7200 (Maximum) | Before | | 3125 (Maximum) | Before | | 2.975 (Maximum) | Before |
| Master: 15-Jan-2004 11:48 | | 1.000 (Maximum) | Master: 15-Jan-2004 11:48 | | 1.000 (Maximum) | Master: 15-Jan-2004 11:48 | | 1.000 (Maximum) | Master: 15-Jan-2004 11:48 |

| High resolution Integrated Logging Tool-DTS Wellsite Calibration | | | | | | | | | |
|--|-------------------------------|-----------------|---------------------------|------------------------------|-----------------|---------------------------|------------------|-----------------|---------------------------|
| Tank Measurement | | | | | | | | | |
| Phase | Thermal Near Corr. (Tank) CPS | Value | Phase | Thermal Far Corr. (Tank) CPS | Value | Phase | CNTG/CFTG (Tank) | Value | Phase |
| Master | | 6037 | Master | | 2842 | Master | | 2.975 | Master |
| Before | | 7200 (Maximum) | Before | | 3125 (Maximum) | Before | | 2.975 (Maximum) | Before |
| Master: 15-Jan-2004 11:48 | | 1.000 (Maximum) | Master: 15-Jan-2004 11:48 | | 1.000 (Maximum) | Master: 15-Jan-2004 11:48 | | 1.000 (Maximum) | Master: 15-Jan-2004 11:48 |

| Litho Density - D / Equipment Identification | | | | | | | | | |
|--|--|--|--|--|--|--|--|--|--|
| Primary Equipment:
Nuclear Services Cambridge
Powered Gamma Detector
Gamma Source Radioactive | | | | | | | | | |
| Auxiliary Equipment:
Density Resistivity Sonde
Electronics Cartridge Housing
Powered Detector Housing | | | | | | | | | |
| Litho Density - D / Equipment Identification | | | | | | | | | |
| NSC - E
PGD - G
GSR - J | | | | | | | | | |
| DRS - C
ECH - MKA
PDH - L | | | | | | | | | |

| Litho Density - D Wellsite Calibration | | | | | | | | | |
|--|-------------------|-----------------|---------------------------|-------------------|-----------------|---------------------------|-------------------|-----------------|---------------------------|
| Background Measurement | | | | | | | | | |
| Phase | LL Background CPS | Value | Phase | LU Background CPS | Value | Phase | LS Background CPS | Value | Phase |
| Master | | 15.91 | Master | | 60.35 | Master | | 48.09 | Master |
| Before | | 15.77 | Before | | 58.99 | Before | | 45.77 | Before |
| Master: 23-Jan-2004 12:21 | | 20.00 (Maximum) | Master: 23-Jan-2004 12:21 | | 78.00 (Maximum) | Master: 23-Jan-2004 12:21 | | 72.00 (Maximum) | Master: 23-Jan-2004 12:21 |

| Litho Density - D Wellsite Calibration | | | | | | | | | |
|--|--------------------------|-----------------|---------------------------|--------------------------|-----------------|---------------------------|---------------------------|-----------------|---------------------------|
| Detector Resolution From BKG Measurement | | | | | | | | | |
| Phase | LS Resolution Background | Value | Phase | SS Resolution Background | Value | Phase | SS2 Resolution Background | Value | Phase |
| Master | | 8.492 | Master | | 8.535 | Master | | 8.535 | Master |
| Before | | 8.498 | Before | | 8.543 | Before | | 8.543 | Before |
| Master: 23-Jan-2004 12:21 | | 11.50 (Maximum) | Master: 23-Jan-2004 12:21 | | 11.50 (Maximum) | Master: 23-Jan-2004 12:21 | | 11.50 (Maximum) | Master: 23-Jan-2004 12:21 |

| Litho Density - D Master Calibration | | | | | | | | | |
|--------------------------------------|-----------------|-----------------|---------------------------|-------------|-----------------|---------------------------|-----------------|-----------------|---------------------------|
| Aluminum Measurement | | | | | | | | | |
| Phase | LU Aluminum CPS | Value | Phase | LU Iron CPS | Value | Phase | LS Aluminum CPS | Value | Phase |
| Master | | 83.18 | Master | | 123.7 | Master | | 143.1 | Master |
| Before | | 128.0 (Maximum) | Before | | 184.0 (Maximum) | Before | | 217.0 (Maximum) | Before |
| Master: 23-Jan-2004 13:08 | | 1.000 (Maximum) | Master: 23-Jan-2004 13:08 | | 1.000 (Maximum) | Master: 23-Jan-2004 13:08 | | 1.000 (Maximum) | Master: 23-Jan-2004 13:08 |

| Litho Density - D Master Calibration | | | | | | | | | |
|--------------------------------------|-------------|-----------------|---------------------------|-------------|-----------------|---------------------------|-------------|-----------------|---------------------------|
| Litho Density - D Master Calibration | | | | | | | | | |
| Phase | LL Iron CPS | Value | Phase | LU Iron CPS | Value | Phase | LS Iron CPS | Value | Phase |
| Master | | 82.18 | Master | | 122.9 | Master | | 143.6 | Master |
| Before | | 114.0 (Maximum) | Before | | 177.0 (Maximum) | Before | | 217.0 (Maximum) | Before |
| Master: 23-Jan-2004 12:48 | | 1.000 (Maximum) | Master: 23-Jan-2004 12:48 | | 1.000 (Maximum) | Master: 23-Jan-2004 12:48 | | 1.000 (Maximum) | Master: 23-Jan-2004 12:48 |

| Litho Density - D Master Calibration | | | | | | | | | | | |
|--------------------------------------|------------------|------------------|--------|------------------|------------------|-----------------|------------------|------------------|------------------|------------------|------------------|
| Spectrum Quality Ratios | | | | | | | | | | | |
| | | | | | | | | | | | |
| Phase | QRIS Calculated | Value | Phase | QRSS Calculated | Value | Phase | QRU Calculated | Value | | | |
| Master | | 0.8722 | Master | | 0.7187 | Master | | 0.3464 | | | |
| | 0.6000 (Minimum) | 0.6800 (Nominal) | | 0.7000 (Maximum) | 0.6200 (Minimum) | | 0.7200 (Nominal) | 0.8200 (Maximum) | 0.2800 (Minimum) | 0.3800 (Nominal) | 0.4500 (Maximum) |
| | | | | | | | | | | | |
| Phase | QLR Calculated | Value | Phase | QR Calculated | Value | | | | | | |
| Master | | 1.391 | Master | | 1.019 | | | | | | |
| | 1.280 (Minimum) | 1.390 (Nominal) | | 1.450 (Maximum) | 1.020 (Minimum) | 1.020 (Nominal) | 1.020 (Maximum) | | | | |
| | | | | | | | | | | | |
| Master: 25-Jan-2004 4:3:00 | | | | | | | | | | | |



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Calgary, Alberta
(403) 243-5022 www.cabra.ca

COMPOSITE WELL HISTORY DRILLING TIME & GAS LITHOLOGY LOG

ENCANA

Scale 1:240 (5"=100') Metric

Well Name: ECA et al BEGADEH J-66
Location: Unit: J Section: 66 Grid: 64-40, 125-00
Licence Number: 1996
Spud Date: Jan 28, 2004
Surface Coordinates: Lat: 64-35' 30.68" Long: 125-11' 52.05"
Bottom Hole Coordinates: As Above
Region: Tuzi/Kai/Tate Lake
Drilling Completed:
Ground Elevation (m): 190.62 K.B. Elevation (m): 195.57
Logged Interval (m): 5 To: T.D. Total Depth (m):
Formation:
Type of Drilling Fluid: Gel Chem
Printed by WellSight Log Viewer from WellSight Systems 1-800-447-1534 www.WellSight.com

N.E.B. COPY

OPERATOR

Company: EnCana Corporation
Address: 150 9th Ave. S.W.
Calgary, AB T2P 2S5

GEOLOGIST

Name: Glen MacIntosh
Company: Cabra Consulting
Address: 1623 48th Avenue SW
Calgary, AB T2T 2S9

DRILLING

Drilling Supervision: AFE:
Contractor: UWI:

BIT SIZE

Surface: 311 mm
Intermediate: mm
Main: 200 mm

CASING SIZE

Surface: mm
Intermediate: mm
Main: 177.8 mm

CASING DEPTH

Surface: m
Intermediate: m
Main: m

LOGGING

CORES

DSTs

COMMENTS

Formation markers not adjusted to open hole logs.

ROCK TYPES

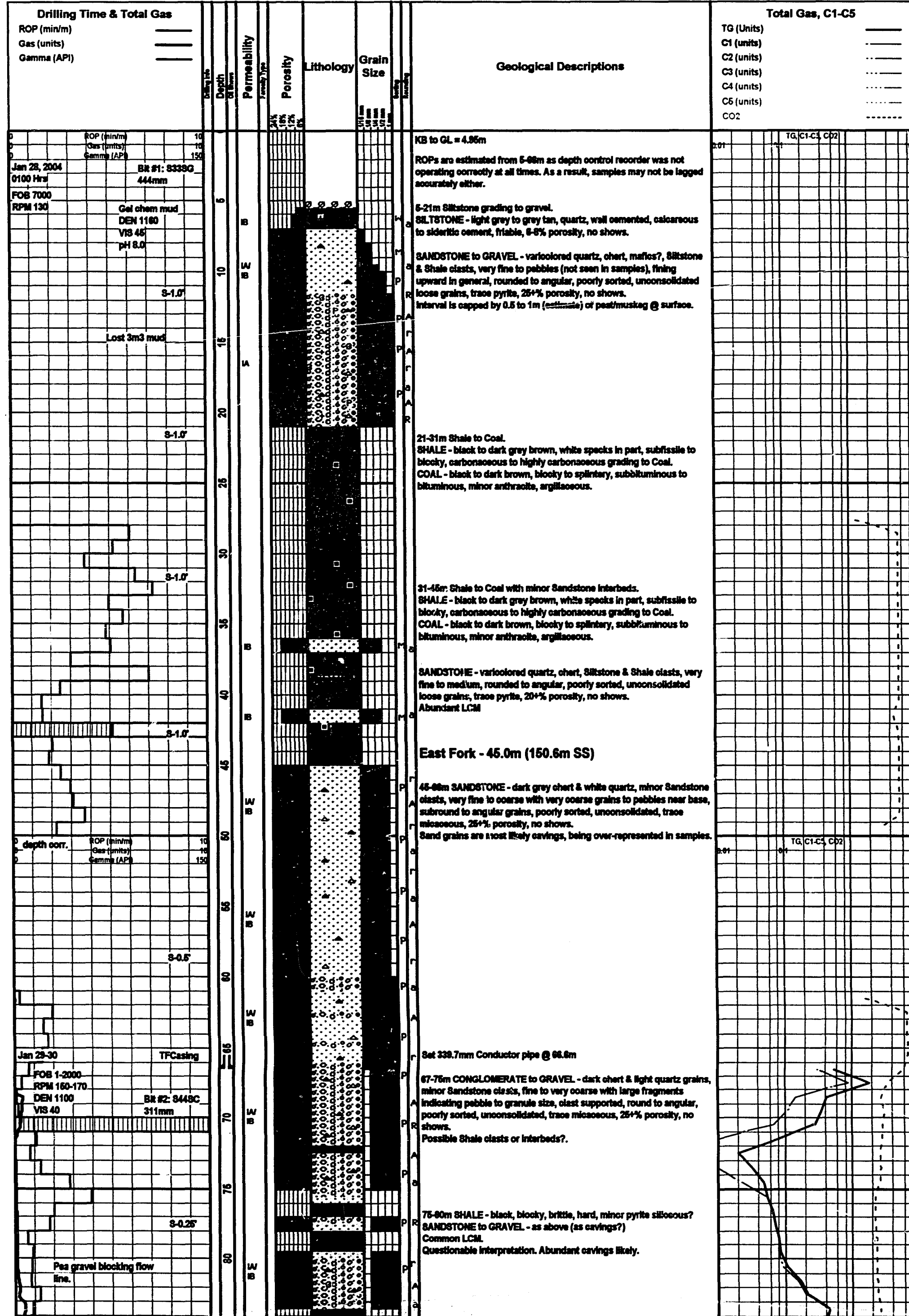
| | | | | |
|----------|----------|-------|---------|-------|
| Anhyd | Coal | Lmst | Shgy | Norec |
| Bent | Congl | Meta | Sld | Ques |
| Brec | Dol | Mrst | Sstst | |
| Cht | Dol-prim | Salt | Ss | |
| Cyst | Gyp | Sh-bk | Till | |
| Cyst-col | Igne | Shcol | Sleeved | |

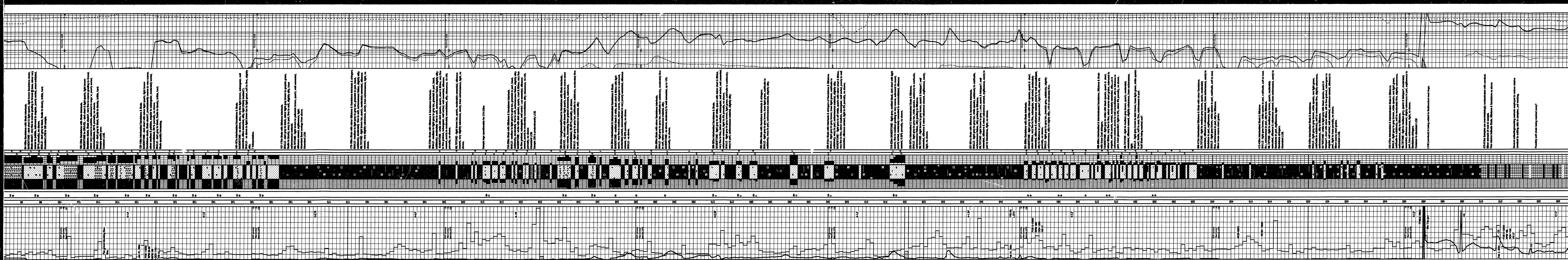
ACCESSORIES

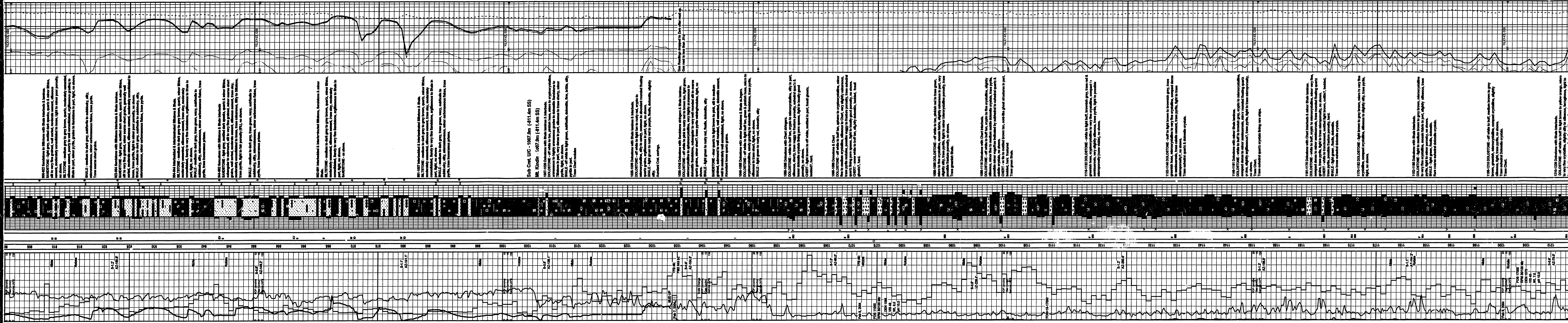
| | | | | |
|---|--|--|---|--|
| FOSSIL | ☒ Pelec | ☒ Dol | ☒ Sulphur | TEXTURE |
| ☒ Algae | ☒ Pellet | ☒ Feldspar | ☒ Tuff | ☒ Chalky |
| ☒ Amph | ☒ Pisolite | ☒ Ferrpel | | ☒ Crydn |
| ☒ Belm | ☒ Plant | ☒ Ferr | STRINGER | ☒ Earthy |
| ☒ Bioclst | ☒ Strom | ☒ Glau | ☒ Anhy | ☒ Finexin |
| ☒ Brach | | ☒ Gyp | ☒ Arg | ☒ Lithogr |
| ☒ Bryozoa | MINERAL | ☒ Hvymin | ☒ Bent | ☒ Microxin |
| ☒ Cephal | ☒ Anhy | ☒ Kaol | ☒ Coal | DUNHAM |
| ☒ Coral | ☒ Arggm | ☒ Mari | ☒ Dol | ☒ Mudst |
| ☒ Crin | ☒ Arg | ☒ Minxl | ☒ Gyp | ☒ Wackest |
| ☒ Echin | ☒ Bent | ☒ Nodule | ☒ Ls | ☒ Grainst |
| ☒ Fish | ☒ Bit | ☒ Phos | ☒ Uncon | ☒ Boundst |
| ☒ Foram | ☒ Brecfrag | ☒ Pyr | ☒ Mrst | |
| ☒ Fossil | ☒ Calc | ☒ Salt | ☒ Sststrg | |
| ☒ Gastro | ☒ Carb | ☒ Sandy | ☒ Ssstrg | |
| ☒ Oolite | ☒ Chtdk | ☒ Silt | ☒ Sid | |
| ☒ Ostra | ☒ Chtit | ☒ Sil | | |

OTHER SYMBOLS

| | | | | |
|--|---|--|---|--|
| POROSITY | ☒ Vuggy | SORTING | ☒ Subang | DIRECTIONAL |
| ☒ Earthy | | ☒ Well | ☒ Angular | ☒ Slide |
| ☒ Fenest | OIL SHOW | ☒ Moderate | | ☒ Rotate |
| ☒ Fracture | ☒ Even | ☒ Poor | INTERVAL | |
| ☒ Inter | ☒ Spotted | ROUNDING | ☒ Core | EVENT |
| ☒ Moldic | ☒ Ques | ☒ Rounded | ☒ Dst | ☒ Csg shoe |
| ☒ Organic | ☒ Dead | ☒ Submd | | ☒ Rtn |
| ☒ Pinpoint | | | | ☒ Sidewall |





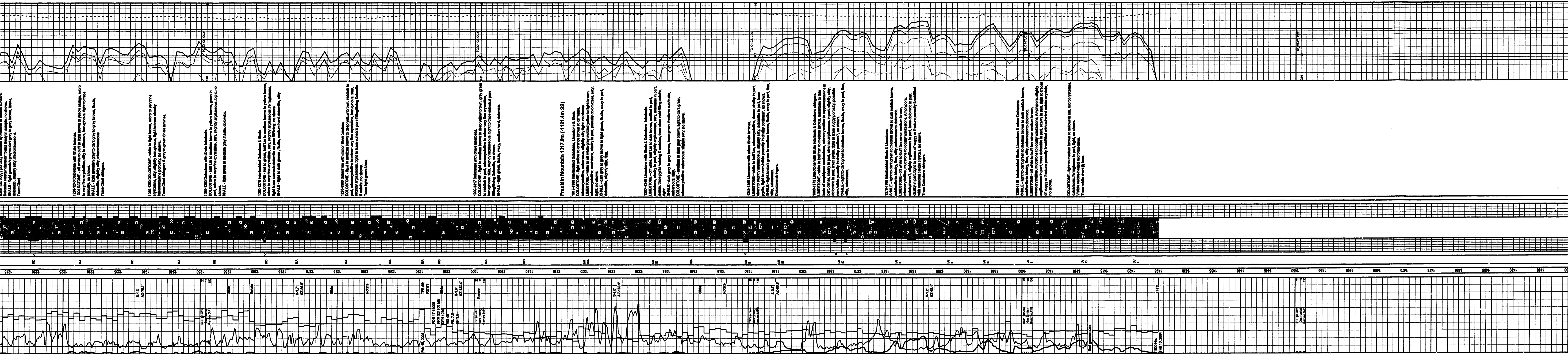


Gas read is less than .010

[illegible]

| Year | Percent |
|------|---------|
| 1950 | 7 |
| 1960 | 10 |
| 1970 | 9 |
| 1980 | 12 |

| Country | Percentage (%) |
|---------------|----------------|
| Japan | 18 |
| Germany | 15 |
| France | 14 |
| Australia | 13 |
| Italy | 12 |
| Sweden | 11 |
| Switzerland | 10 |
| United States | 9 |



**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**

**ADDITIONAL
INFORMATION**

**RECONNAISSANCE
PETROGRAPHY OF
FIVE WELLS
OFFSETTING ECAOG
ET AL J-66 LOCATION**

N.E.B. COPY

**Reconnaissance petrography of five wells offsetting
ECAOG et al. J-66 location (64-40/125-00)
Keele Arch, N.W.T.**

Report written by: Eva Drivet Legault
M.Sc. Geol.
EnCana Corporation
Northern Canada Group

Submitted to:

EnCana Corporate Library
Tower Center
115-9th Avenue S.E.
Calgary Alberta T2P-2S5

Allan Scott
Core and Sample Repository
Geological Survey of Canada (Calgary)
3303 – 33 Street NW
Calgary Alberta T2L 2A7

Rudy Klaubert
Regulatory Information Administrator
National Energy Board
444 Seventh Avenue SW
Calgary Alberta T2P 0X8

Date Submitted: March 2004

Introduction

In preparation to drilling ECA et al. Begadeh J-66 (64-40/125-00) located about 150 km south east of Norman Wells, it was decided to look at all cores available from southeast corner 64°10'/124°15' to northwest corner 65°10'/126° (Figure 1). Some of these cores were sampled for thin section preparation in November of 2003. The purpose of this study was to get familiarized with the petrography of different stratigraphic intervals in order to be best prepared for identifying the stratigraphy accurately in cuttings while drilling J-66. Of particular interest was assessing if there are lithological criteria that can be used to distinguish carbonates from the Devonian, Silurian-Ordovician, and Cambrian sections.

Methodology

Table 1 lists the cores and intervals that were sampled for thin section petrography by the author. Thin section preparation was completed by Core Laboratories using blue epoxy. Half of the thin sections were stained in the longitudinal sense with Alzarin Red S and Ferro cyanide to distinguish limestone from dolostone, and iron rich zones respectively. The thin sections were then photographed by Core Lab, and examined by the author.

Results

Table 1 provides location, depth, stratigraphic interval, and descriptions for each sample thin sectioned.

Interpretation

Examination of cores and thin sections indicated the following:

- The Cambrian carbonates can be distinguished from Devonian and Silurian-Ordovician carbonates by containing typically higher amounts of quartz rich siltstone to sandstone, clay/argillaceous material, and a characteristic deep iron stain color. This was best observed in cores (and does not show up as well in the thin section photographs included in Appendix 1)
- The Silurian-Ordovician carbonates can also display iron rich stains, but of lighter intensity when compared to the Cambrian sections.
- The lithologies of Devonian and Silurian-Ordovician carbonates can be very similar at times (e.g. compare thin section photographs for the Devonian Bear Rock equivalent in E-30 and C-21, with very similar looking lithologies in the Silurian-Ordovician B-45 and K-14). One of the distinguishing features is the presence of disseminated chert, and chert nodules in the Silurian-Ordovician, which has not been seen at the Devonian level in this area.

- There could be instances where Silurian-Ordovician intervals do not have any chert, making it difficult to establish the stratigraphy. In this case, paleontology (e.g. Dolby, 2004) or chemostratigraphy (e.g. Study by Chemostrat., 2004) may assist in making the distinction.
- As a look back with the drilling of the J-66 well, enough chert was encountered in the carbonates to establish, with a high level of confidence, that the carbonates under the Cretaceous unconformity was of Silurian-Ordovician age, and the Devonian had been completely eroded.

References

Chemostrat Inc., 2004. Chemostratigraphy of wells A-49 and C-21, Norman Wells area, Central Northwest Territories. To be submitted to the NEB and GSC by June 2004.

Dolby G., 2004. Palynological analysis of ten cutting samples from the Tate G-18 well, Northwest Territories. Submitted to the NEB and GSC in February 2004.

Appendix 1

Refer to the enclosed macro overview photography completed by Core Laboratories.

Table 1. List of samples thin sectioned and descriptions. Question marks (?) next to the stratigraphic interval indicate uncertainties in the correlations. This may be due to poor well control and/or difficulties in distinguishing certain formations from one another when similar lithological assemblages are encountered. All porosity estimates are based on qualitative visual assessment by the author. Refer to Appendix 1 for photographs of each thin section.

| Well Name | Location | Depth (ft) | Stratigraphic Interval | Descriptions |
|-----------------------------|--------------|------------|-------------------------------------|--|
| Aquit Old Fort Point E-30 | 64-50/124-45 | 835 | Cretaceous Slater River Sandstone | Well-sorted and well-rounded quartz sandstone. Excellent intergranular porosity (15 to 20%). |
| Aquit Old Fort Point E-30 | 64-50/124-45 | 911 | Devonian Bear Rock equivalent (?) | Dolomitized oolitic grainstone. Excellent preservation of primary fabric. Minor inter and intra-clast porosity (< 5%). |
| Aquit Old Fort Point E-30 | 64-50/124-45 | 915.8 | Devonian Bear Rock equivalent | Dolomudstone. Common stylolites. Minor vuggy porosity partially cemented with dolomite |
| Aquit Old Fort Point E-30 | 64-50/124-45 | 916 | Devonian Bear Rock equivalent (?) | Dolomitized oolitic grainstone. Excellent preservation of primary fabric. Good inter and intra-clast porosity (~ 7%). Local stylolite seams. |
| Aquit Old Fort Point E-30 | 64-50/124-45 | 921 | Devonian Bear Rock equivalent (?) | Dolomitized pelletoidal mudstone. Microporosity between grains (~6%). |
| Aquit Old Fort Point E-30 | 64-50/124-45 | 923 | Devonian Bear Rock equivalent (?) | Dolomitized pelletoidal mudstone with common well-rounded poorly sorted quartz sandstone grains. Partially leached allochems towards the top of the thin section resulting in poorly connected minor vuggy porosity. |
| Aquit Old Fort Point E-30 | 64-50/124-45 | 1327 | Devonian Bear Rock equivalent (?) | Mudstone with common quartz silt grains and mud clasts, alternating with clay rich siltstone interbeds. |
| Aquit Old Fort Point E-30 | 64-50/124-45 | 2574 | Silurian-Ordovician | Pelletoidal mudstone with slump textures. Poor fracture and vuggy porosity. |
| Candel et al Ft Norman K-14 | 65-00/125-15 | 2800.5 | Silurian-Ordovician or Cambrian (?) | Dolomudstone with minor vuggy porosity due to leached allochems partially cemented with iron rich dolomite crystals. Poor porosity (< 3%) |
| Candel et al Ft Norman K-14 | 65-00/125-15 | 2809 | Silurian-Ordovician or Cambrian (?) | Dolomitized pelletoidal mudstone with common angular mud clasts. Poor porosity (<2%). |

Table 1 (Cont'd). List of samples thin sectioned and descriptions. Question marks (?) next to the stratigraphic interval indicate uncertainties in the correlations. This may be due to poor well control and/or difficulties in distinguishing certain formations from one another when similar lithological assemblages are encountered. All porosity estimates are based on qualitative visual assessment by the author. Refer to Appendix 1 for photographs of each thin section.

| Well Name | Location | Depth (ft) | Stratigraphic Interval | Descriptions |
|--|--------------|------------|-------------------------------------|---|
| Candel Deckmg et al Police Island L-66 | 64-50/125-00 | 4287 | Cambrian | Brecciated argillaceous dolomudstone with abundant quartz silt fragments. |
| Candel Deckmg et al Police Island L-66 | 64-50/125-00 | 4303 | Cambrian | Tight-layered argillaceous dolomudstone alternating with thin beds of leached quartz rich dolomitized peletoidal mudstone with good porosity (8-10%). |
| Candel et al E. MacKay B-45 | 64-50/125-30 | 5276 | Silurian-Ordovician or Cambrian (?) | Dolomitized pelletoidal mudstone with minor vuggy porosity (<3%). Partial to complete cementation of vugs by dolomite and calcite crystals. |
| Candel et al E. MacKay B-45 | 64-50/125-30 | 5278.8 | Silurian-Ordovician or Cambrian | Dolomitized pelletoidal mudstone with minor vuggy porosity (<3%). Partial to complete cementation of vugs by dolomite and calcite crystals. |
| Aquit Brackett L C-21 | 65-20/125-00 | 2786.5 | Devonian Bear Rock equivalent | Highly fractured partially dolomitized pelletoidal mudstone. Chert nodules present. Good fracture and matrix porosity (~8%). |
| Aquit Brackett L C-21 | 65-20/125-00 | 2924.5 | Devonian Bear Rock equivalent | Dolomitized pelletoidal mudstone. Poor matrix porosity (~5%). |
| Aquit Brackett L C-21 | 65-20/125-00 | 2926 | Devonian Bear Rock equivalent | Dolomitized pelletoidal grainstone. Good vuggy porosity (6-7%). |
| Aquit Brackett L C-21 | 65-20/125-00 | 2930 | Devonian Bear Rock equivalent | Dolomitized pelletoidal packstone. Good vuggy and fracture porosity (7%). |
| Aquit Brackett L C-21 | 65-20/125-00 | 3885 | Silurian-Ordovician | Dolomitized pelletoidal grainstone. Minor interparticle porosity (<5%). |

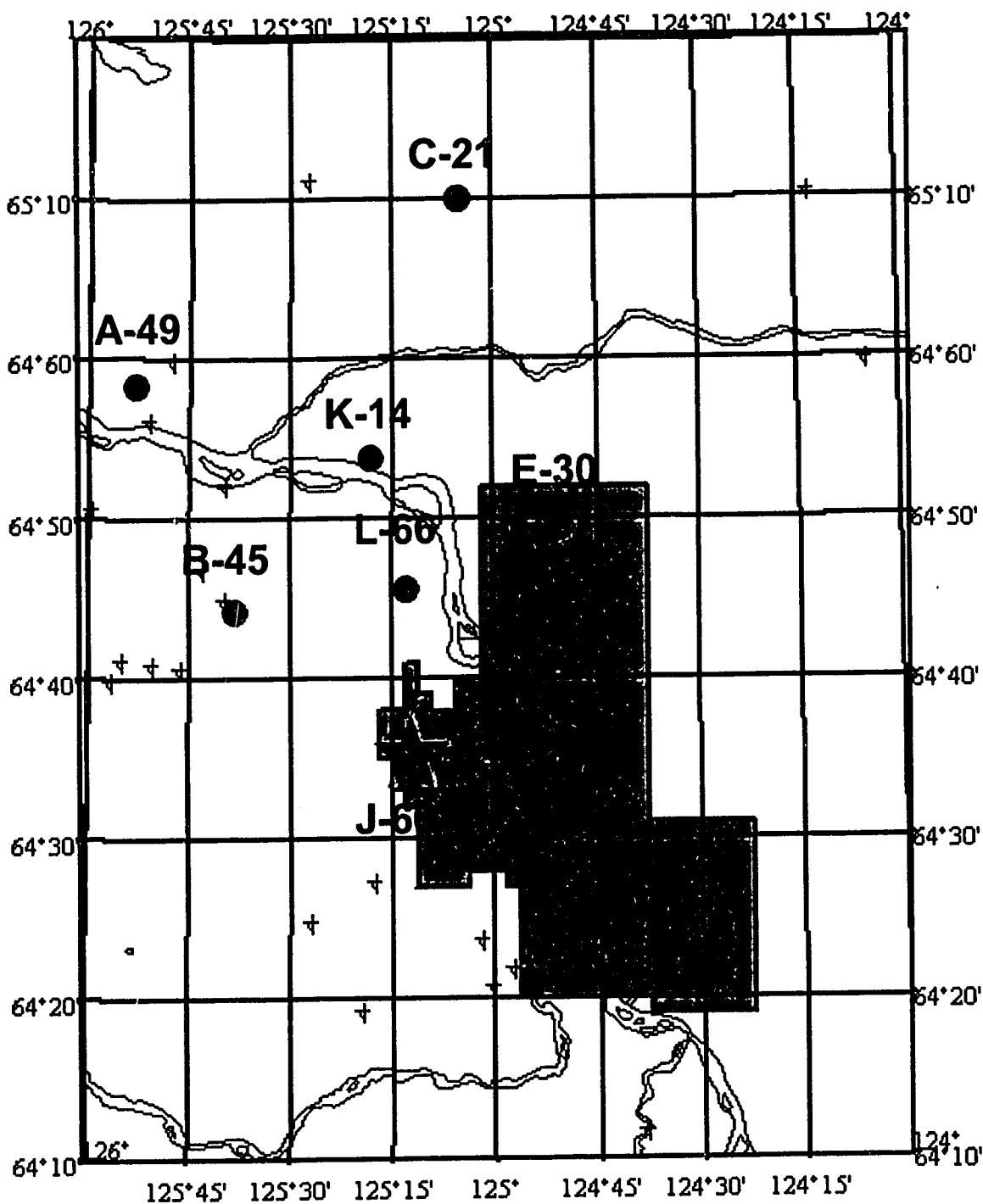


Figure 1. Map showing the location of wells from which thin sections were made (red dots). The green star illustrates the location of ECAOG et al. J-66 drilled by EnCana in Jan./Feb. 2004. The land in purple is jointly held by EnCana and Husky.

**Reconnaissance petrography of five wells offsetting
ECAOG et al. J-66 location (64-40/125-00)
Keele Arch, N.W.T.**

Appendix 1

Report by :

**Eva Drivet Legault
M.Sc. Geol.
EnCana Corporation
Northern Canada Group**

Submitted in March 2004 to:

**EnCana Corporate Library
Tower Center
115-9th Avenue S.E.
Calgary T2P 2S5**

**EnCana Well file
ECAOG et al Begadeh J-66**

**Allan Scott
Core and Sample Repository
GSC (Calgary)**

**Rudy Klaubert
Regulatory Information Administrator
National Energy Board (Calgary)**

Company: EnCana Corporation
Well: Aquit Brackett L C-21 65-20/125-00

52135-03-1230



| | |
|--------------------|--------|
| Sample: | 1 |
| Depth (ft): | 2786.5 |
| Porosity (%): | NA |
| Permeability (mD): | NA |

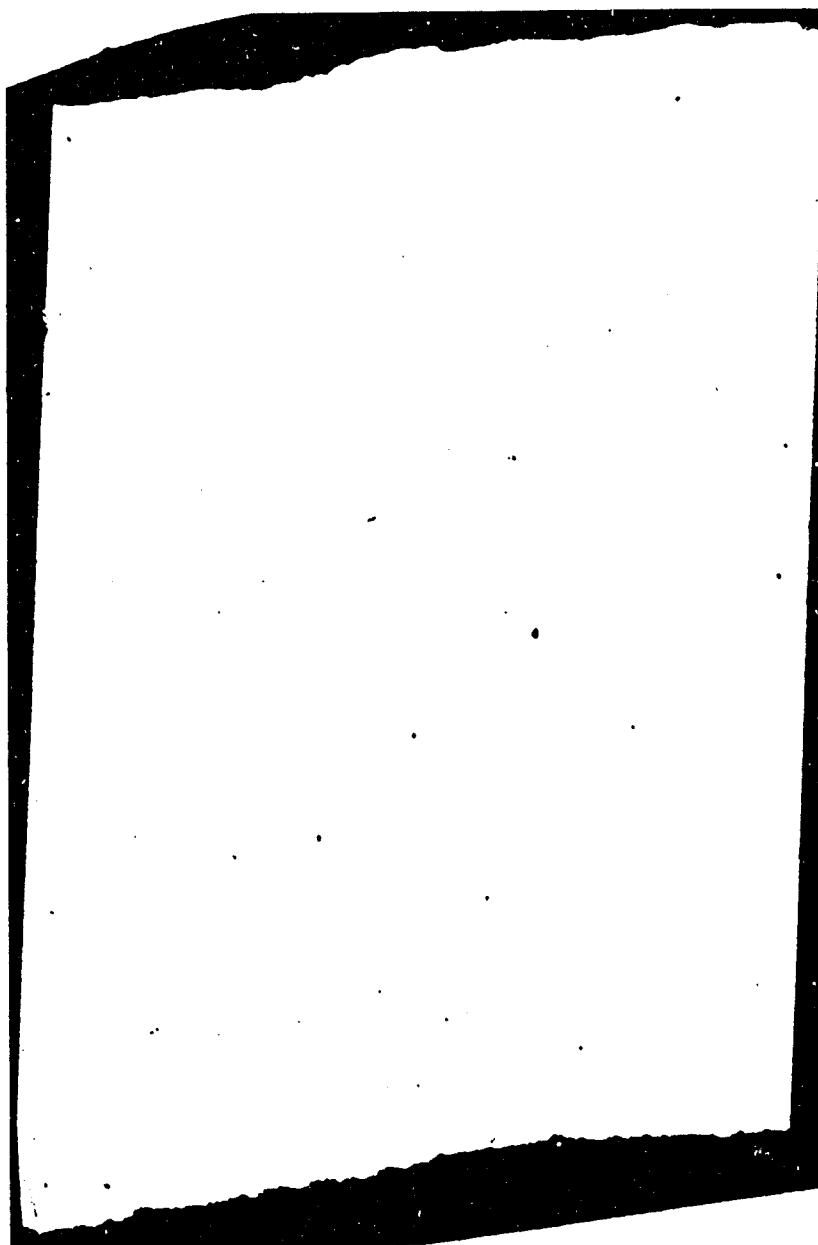
4mm



ENCANA

Company: EnCana Corporation
Well: Aquit Brackett L C-21 65-20/125-00

52135-03-1230



| | |
|---------------------------|--------|
| Sample: | 2 |
| Depth (ft): | 2924.5 |
| Porosity (%): | NA |
| Permeability (mD): | NA |

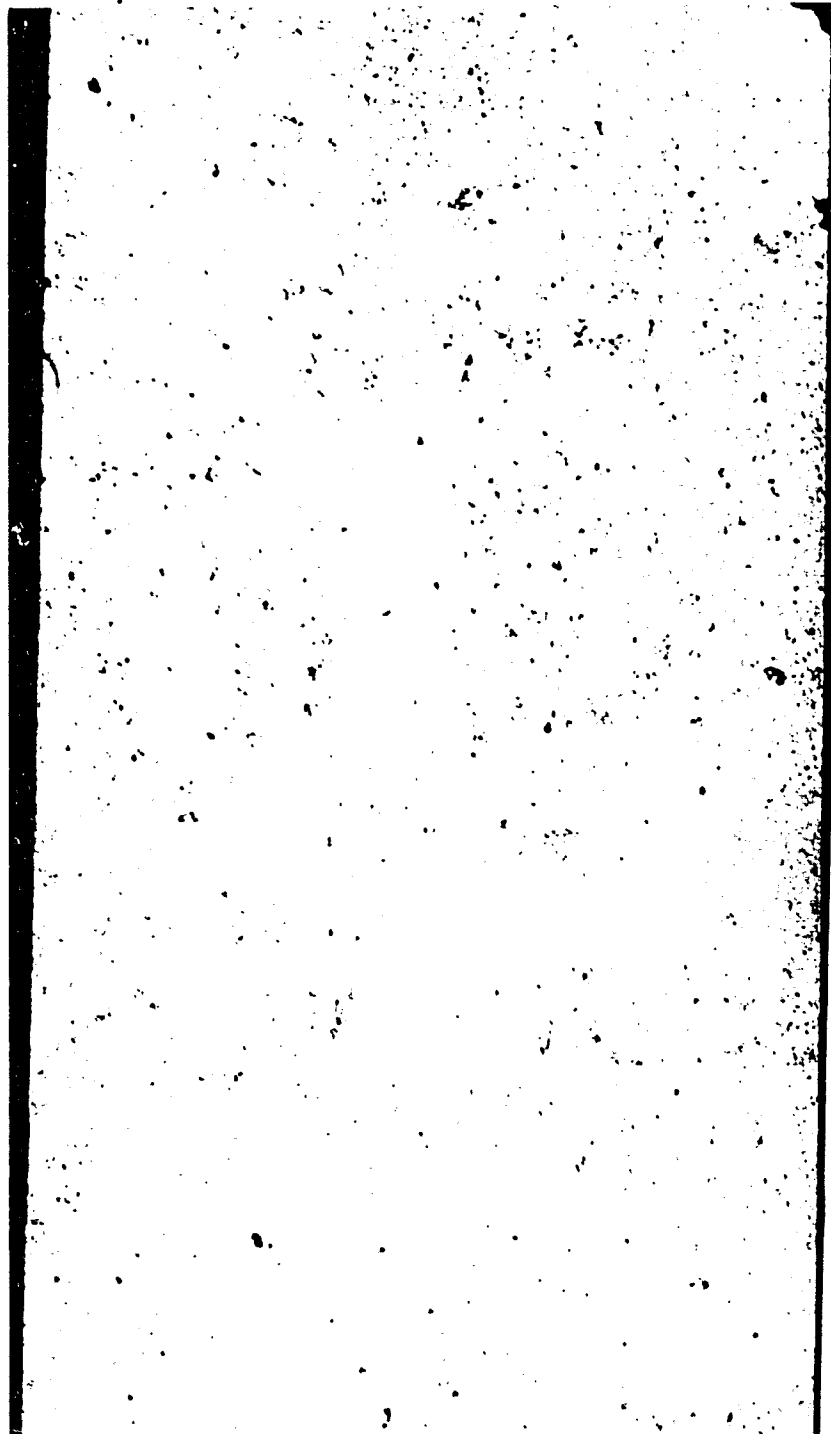


ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Aquit Brackett L C-21 65-20/125-00



| | |
|--------------------|------|
| Sample: | 3 |
| Depth (ft): | 2926 |
| Porosity (%): | NA |
| Permeability (mD): | NA |



ENCANA

Company: EnCana Corporation
Well: Aquit Brackett L C-21 65-20/125-00

52135-03-1230



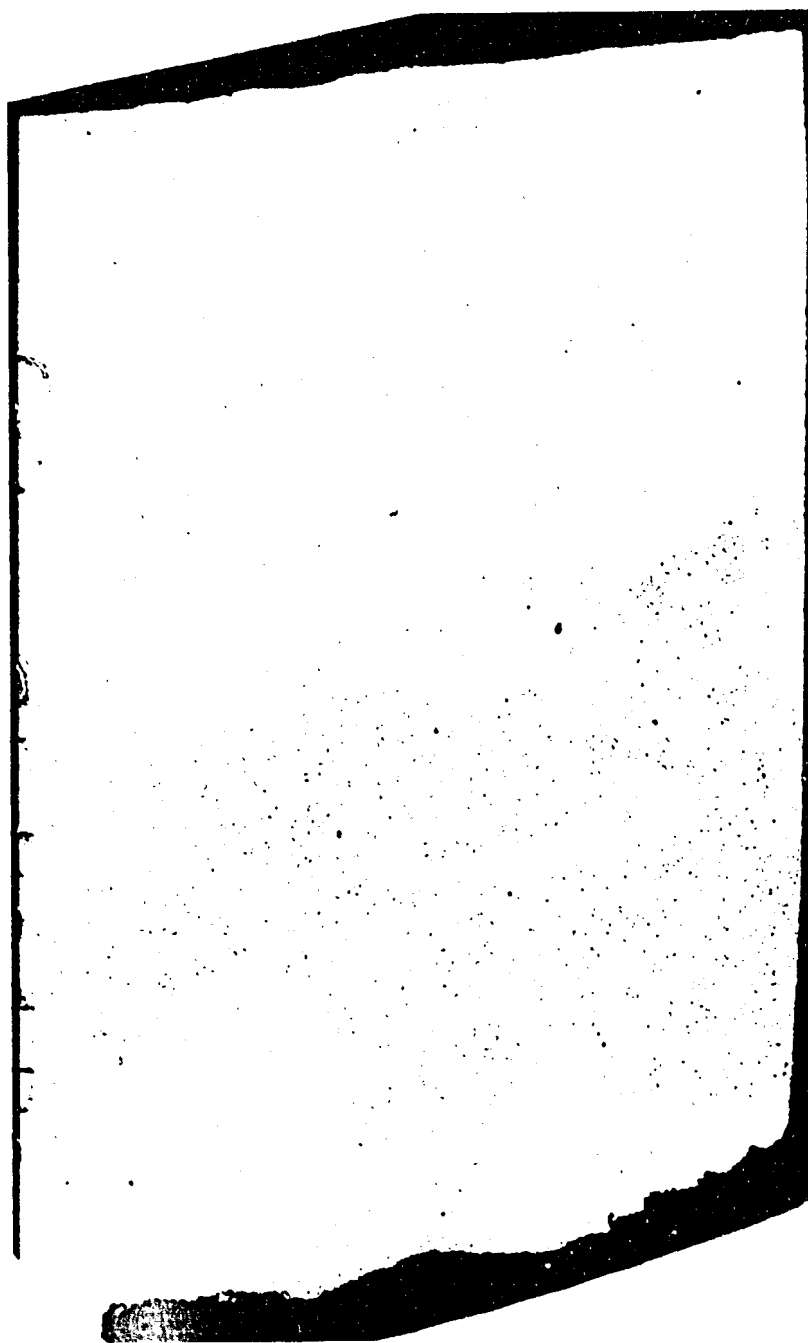
| | |
|--------------------|------|
| Sample: | 4 |
| Depth (ft): | 2930 |
| Porosity (%): | NA |
| Permeability (mD): | NA |



ENCANA

Company: EnCana Corporation
Well: Aquit Brackett L C-21 65-20/125-00

52135-03-1230



| | |
|--------------------|------|
| Sample: | 5 |
| Depth (ft): | 3885 |
| Porosity (%): | NA |
| Permeability (mD): | NA |

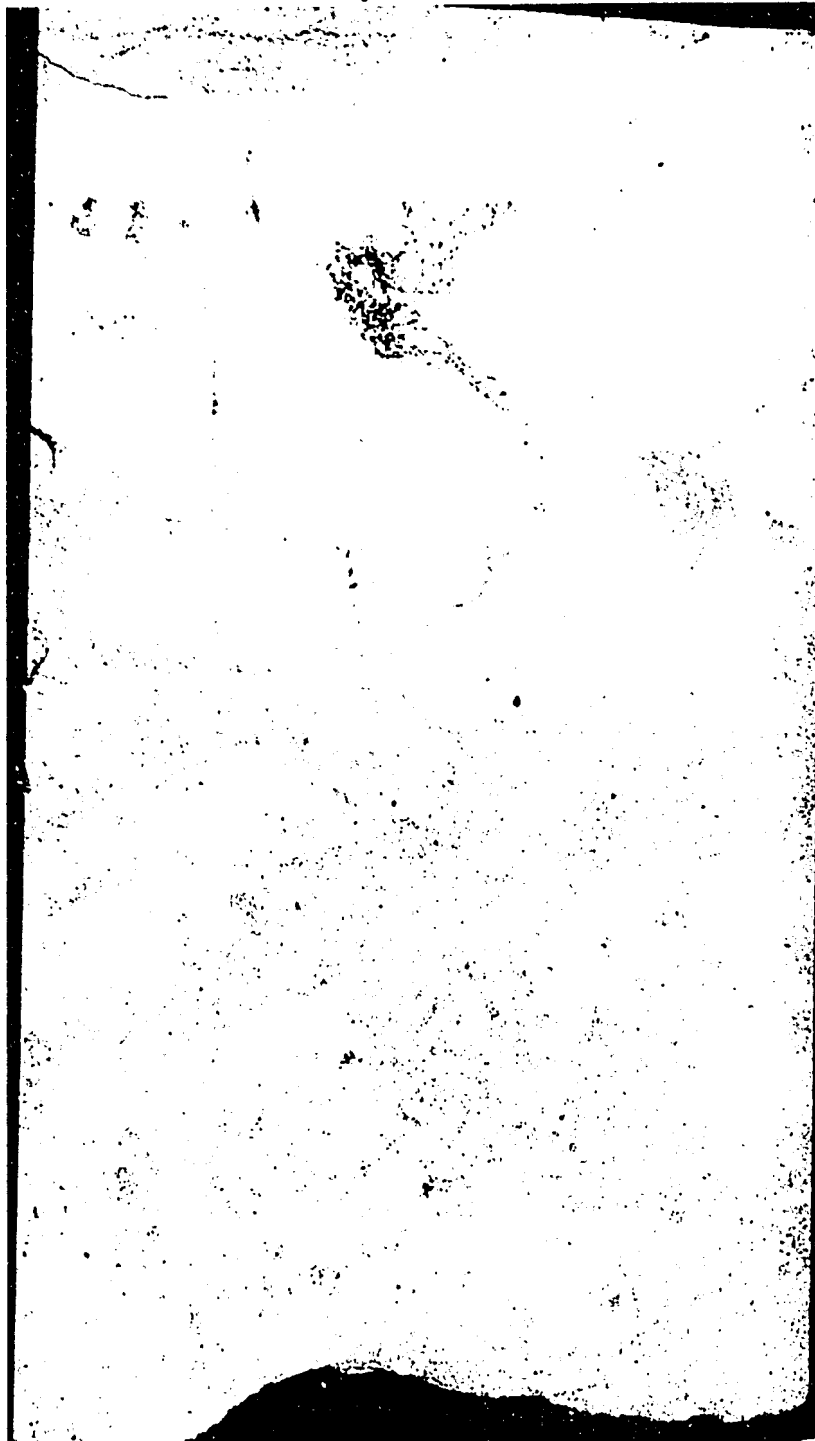


ENCANA.

Company: EnCana Corporation

52135-03-1230

Well: Candel et al E. MacKay B-45 64-50/125-30



Sample: 1
Depth (ft): 5276
Porosity (%): NA
Permeability (mD): NA

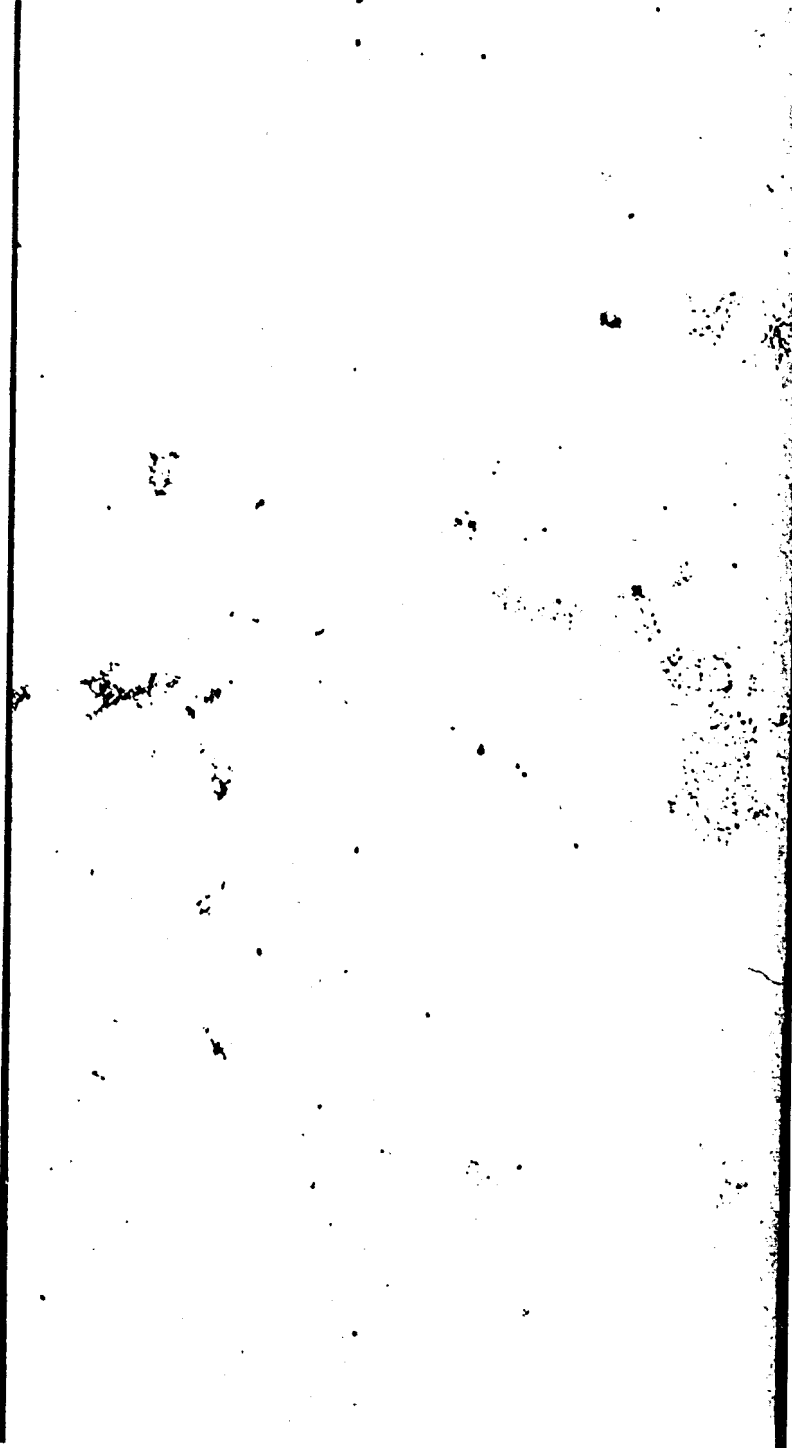


ENCANA.

Company: EnCana Corporation

52135-03-1230

Well: Candel et al E. MacKay B-45 64-50/125-30



Sample: 2
Depth (ft): 5278.8
Porosity (%): NA
Permeability (mD): NA



ENCANA.

Company: EnCana Corporation

52135-03-1230

Well: Candel Deckmg et al Police Island L-66 64-50/125-00



Sample: 1
Depth (ft): 4287
Porosity (%): NA
Permeability (mD): NA

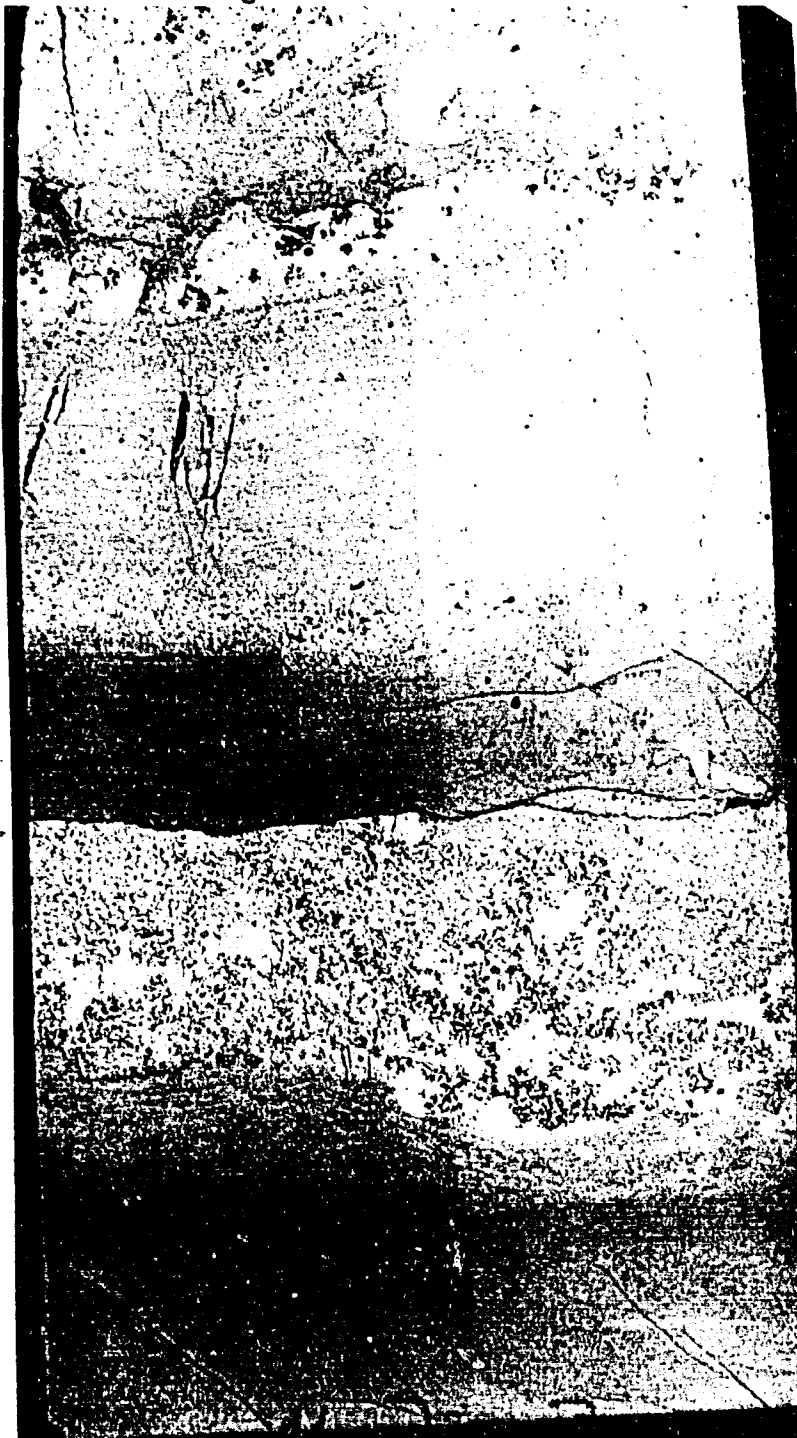


ENCANA.

Company: EnCana Corporation

52135-03-1230

Well: Candel Deckmg et al Police Island L-66 64-50/125-00



| | |
|--------------------|------|
| Sample: | 2 |
| Depth (ft): | 4303 |
| Porosity (%): | NA |
| Permeability (mD): | NA |

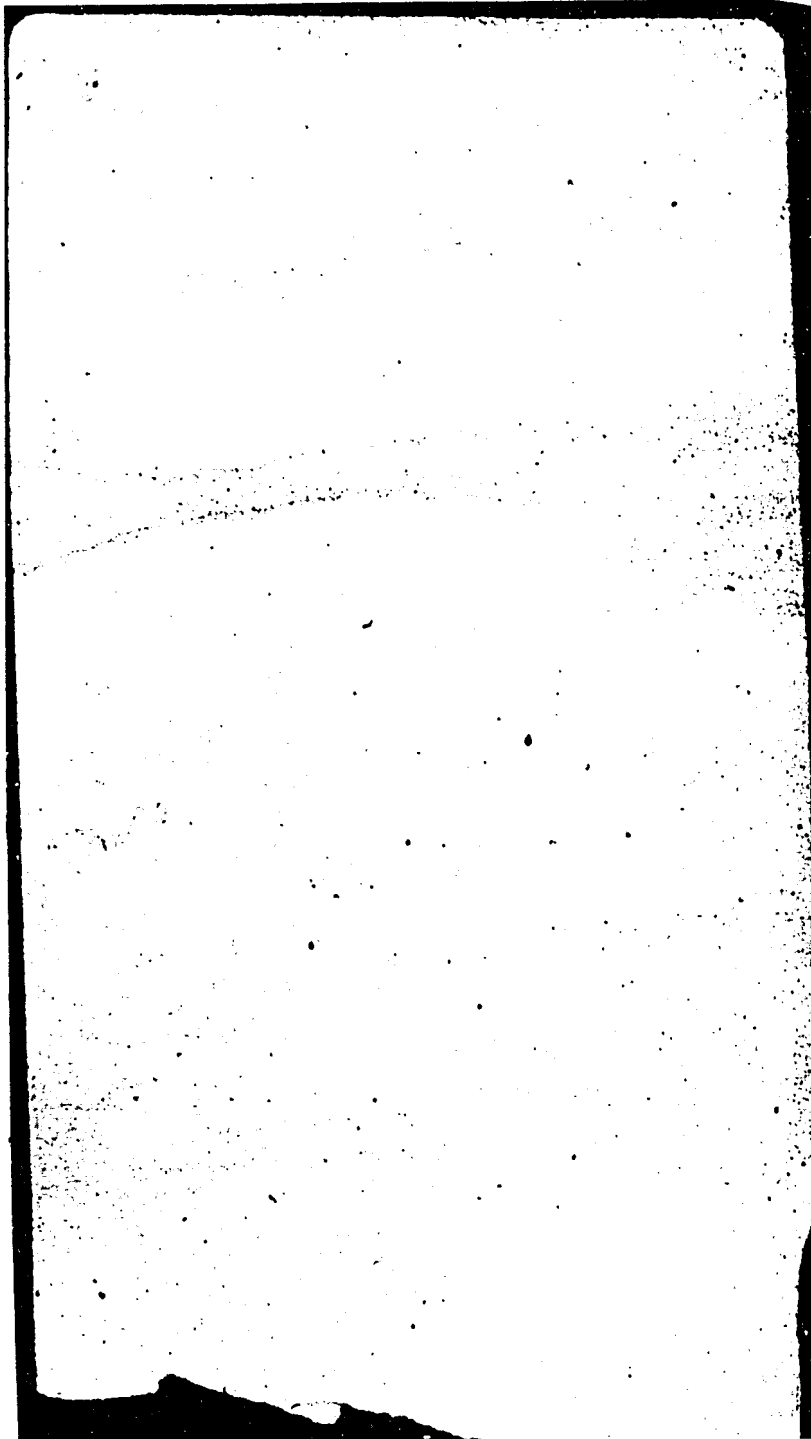


ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Candel et al Fort Norman K-14 65-00/125-15



Sample: 1
Depth (ft): 2800.5
Porosity (%): NA
Permeability (mD): NA

4mm



ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Candel et al Ft Norman K-14 65-00/125-15



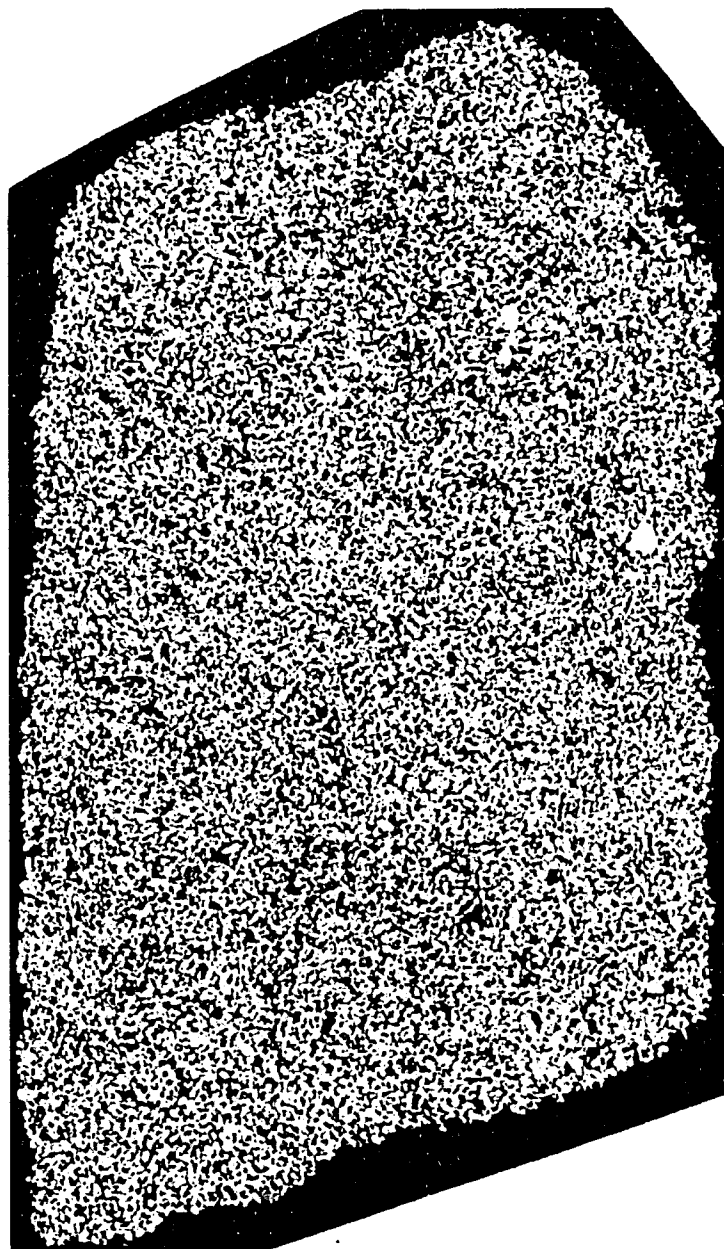
Sample: 2
Depth (ft): 2809
Porosity (%): NA
Permeability (mD): NA



ENCANA

Company: EnCana Corporation
Well: Aquit Old Fort Point E-30 64-50/124-45

52135-03-1230



| | |
|---------------------------|-----|
| Sample: | 1 |
| Depth (ft): | 835 |
| Porosity (%): | NA |
| Permeability (mD): | NA |

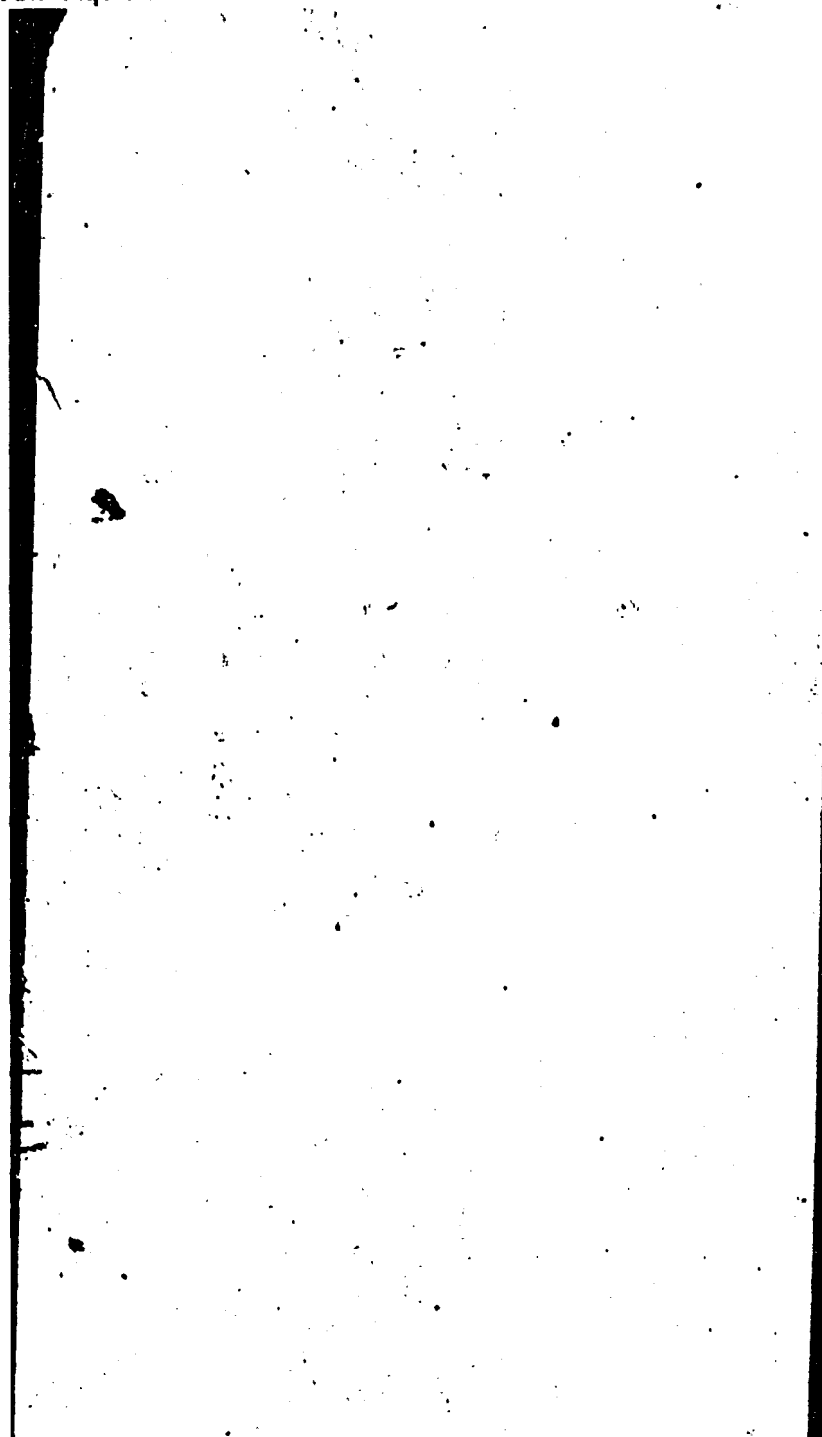


ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Aquit Old Fort Point E-30 64-50/124-45



| | |
|--------------------|-----|
| Sample: | 2 |
| Depth (ft): | 911 |
| Porosity (%): | NA |
| Permeability (mD): | NA |



ENCANA

Company: EnCana Corporation
Well: Aquit Old Fort Point E-30 64-50/124-45

52135-03-1230



| | |
|---------------------------|-------|
| Sample: | 3 |
| Depth (ft): | 915.8 |
| Porosity (%): | NA |
| Permeability (mD): | NA |



ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Aquit Old Fort Point E-30 64-50/124-45



| | |
|--------------------|-----|
| Sample: | 4 |
| Depth (ft): | 916 |
| Porosity (%): | NA |
| Permeability (mD): | NA |

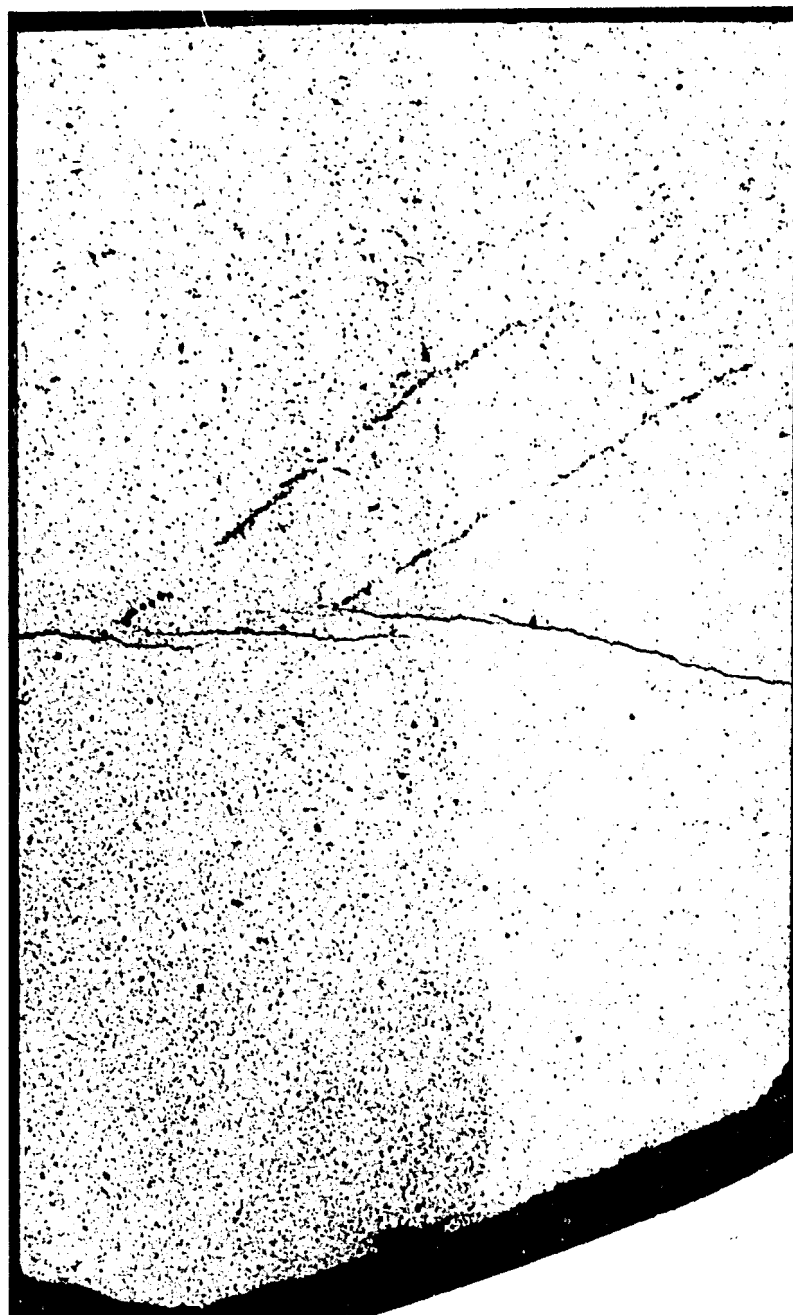


ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Aquit Old Fort Point E-30 64-50/124-45



| | |
|--------------------|-----|
| Sample: | 5 |
| Depth (ft): | 921 |
| Porosity (%): | NA |
| Permeability (mD): | NA |



ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Aquit Old Fort Point E-30 64-50/124-45



Sample: 6
Depth (ft): 923
Porosity (%): NA
Permeability (mD): NA



ENCANA

Company: EnCana Corporation
Well: Aquit Old Fort Point E-30 64-50/124-45

52135-03-1230



Sample: 7
Depth (ft): 1327
Porosity (%): NA
Permeability (mD): NA



ENCANA

Company: EnCana Corporation

52135-03-1230

Well: Aquit Old Fort Point E-30 64-50/124-45



| | |
|---------------------------|------|
| Sample: | 8 |
| Depth (ft): | 2574 |
| Porosity (%): | NA |
| Permeability (mD): | NA |



ENCANA

**PETROPHYSICAL
EVALUATION OF
BEGADEH J-66**

To: Eva Drivet-Legault
From: Dave Tivey
Subject: Petrophysical Evaluation of Begadeh J-66
CC: D.Tivey/file

Date: 12 February, 2004

Objective

Review hires petrophysical data for the above well, to quantify reservoir and hydrocarbon potential in the Cretaceous and Silurian-Ordovician age formations.

Summary

Cretaceous – Little Bear Formation

Porous sandstone is encountered from 836 to 887mKB.

Minor mud gas readings were noted throughout this interval, but no shows were observed in cuttings. The sand is described as very fine to fine grained and contains lithic components. This would explain the slightly high PEF reading and Neutron/Density separation.

Formation water salinity is unknown for this area. The SP shows very little deflection; therefore formation water is very similar to the mud filtrate salinity.

Petrophysical analysis shows that this sand has 20.1 metres of net reservoir at 19.9% ave porosity, however it is essentially wet with an average $S_w = 73\%$.

Devonian Age Formations

These formations are not present in this wellbore.

Silurian – Ordovician Age – Mt. Kindle and Franklin Mountain Formations

The Mt. Kindle Formation is a wet porous dolostone. No shows were encountered in cuttings.

Evidence of fractures is seen on the logs at 1075.8, 1082.3 and 1092.8 metres.

Petrophysical analysis shows that this formation has 39.6 metres of net reservoir at 6.0% ave porosity, however it is essentially wet with an average $S_w = 75\%$.

The Franklin Mountain Formation is primarily limestone with laminations of porous dolostone.

These dolostone laminations appear to be mostly wet, with minor gas readings encountered but no shows in cuttings.

Petrophysical analysis shows that this formation has 4.9 metres of net reservoir at 7.6% ave porosity, however it is essentially wet with an average $S_w = 48\%$.

Net pay summaries are shown on the following pages.

Interpretation Technique

The Elemental Analysis technique, ELAN, was computed with the models and parameters as shown on the attached listings.

Porosity is calculated primarily from the Neutron and Density measurements.

Water saturation is computed with the Dual Water equation and the following formation water resistivity:

Cretaceous: 2.70 @ 25 degC, 1.35 @ 50 degC and 2700 ppm NaCl.

Silurian-Ordovician: 0.27 @ 25 degC, 0.172 @ 50 degC and 22,232 ppm NaCl.

Silurian-Ordovician formation water salinity has been determined from the following offset well water chemistry analysis:

- East McKay B-45 DST#2 tested salt water at 21,922 TDS from Mt. Kindle Formation.
- Stewart B-30 DST#4 tested salt water at 54873 TDS from the Bear Rock Formation.
- Stewart B-30 DST#2 tested muddy water at 41912 TDS from the Bear Rock Formation.
- Tate J-65 DST#10 tested muddy water at 41361 TDS from the Bear Rock Formation.
- Tate J-65 DST#6 tested muddy water at 27280 TDS from the Bear Rock Formation.
- Dodo Canyon K-03 DST#1 tested liquid at 27678 TDS from the Bear Rock Formation.
- Keele N-62 DST#3 tested salt water at 30623 TDS from the Bear Rock Formation.
- Windy Island A-53 DST#4 tested salt water at 25846 TDS from the Franklin Formation.

Cretaceous formation water salinity has been determined from the following offset well water chemistry analysis:

- Losh Lake G-22 tested water at 5896 TDS.
- Losh Lake DST#1 G-22 tested water at 6524 TDS.
- Police Island L-66 DST#2 tested water at 40212 TDS.

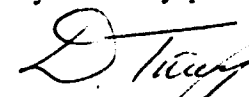
Water chemistry Stiff diagrams are attached.

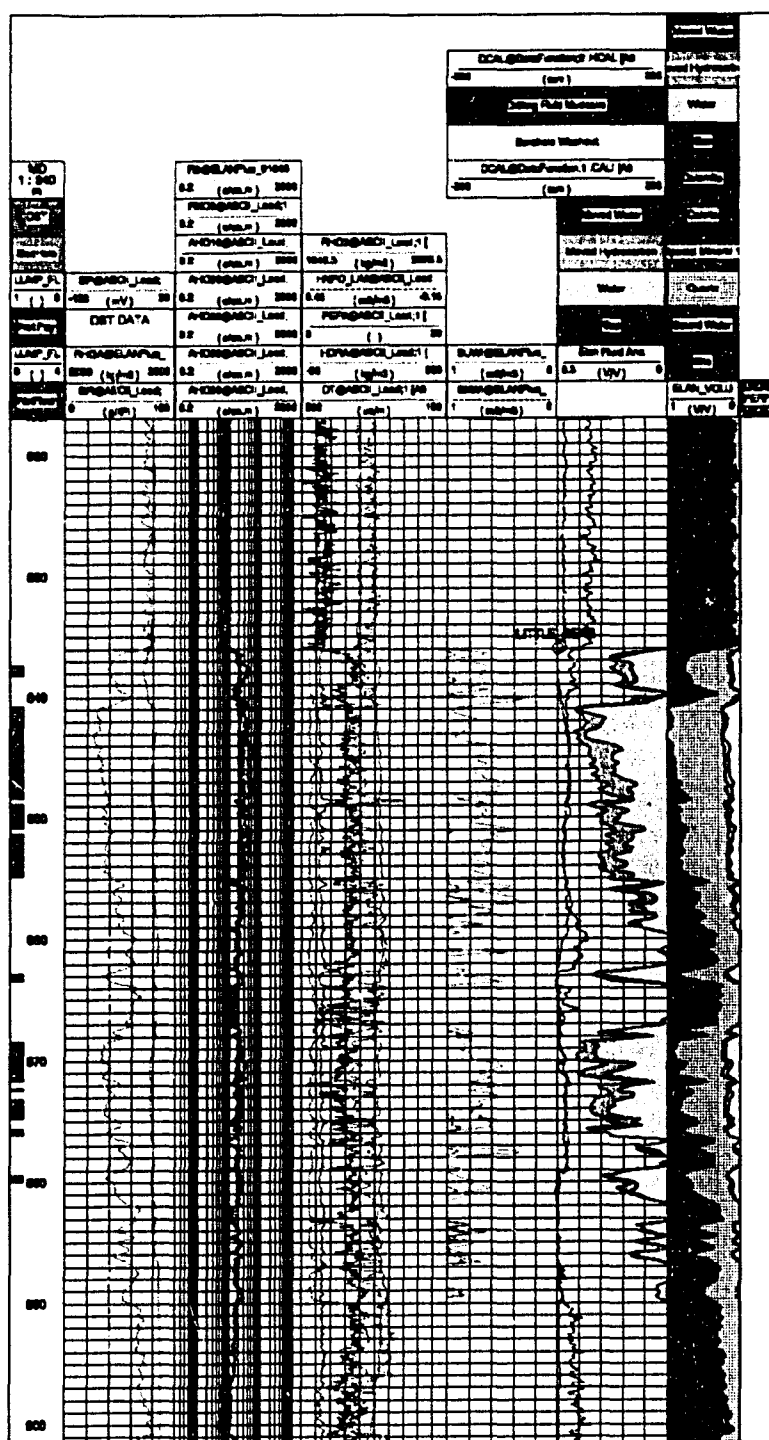
Carbonate log analysis is complicated by the fact that Archie's water saturation exponents, a, m and n are varying based on porosity type. Carbonate rocks with predominately inter-crystalline type porosity have "m" values close to 2, while vuggy type porosity will have higher "m" values, 2 to 3 and fracture type porosity will have "m" values less than 2.

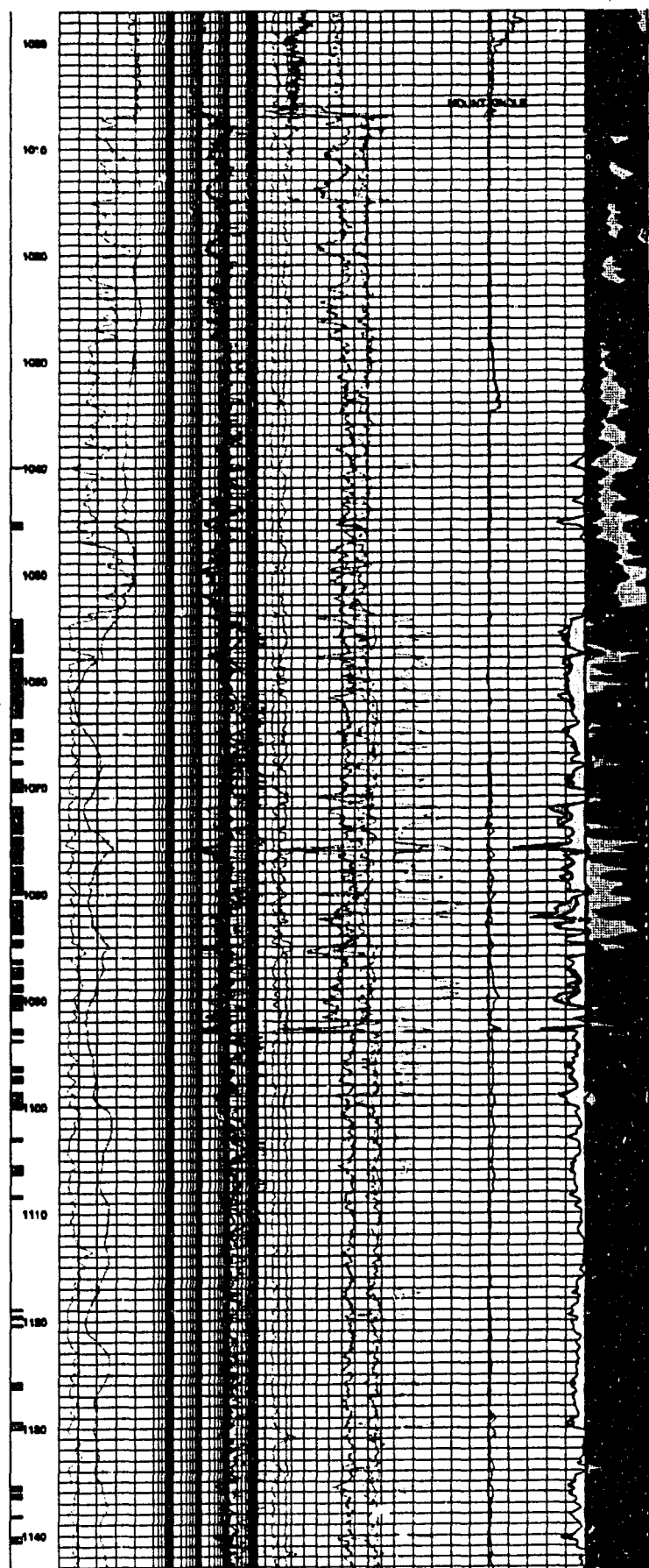
This study uses "a" "m" and "n" values of 1, 2 and 2 respectfully.

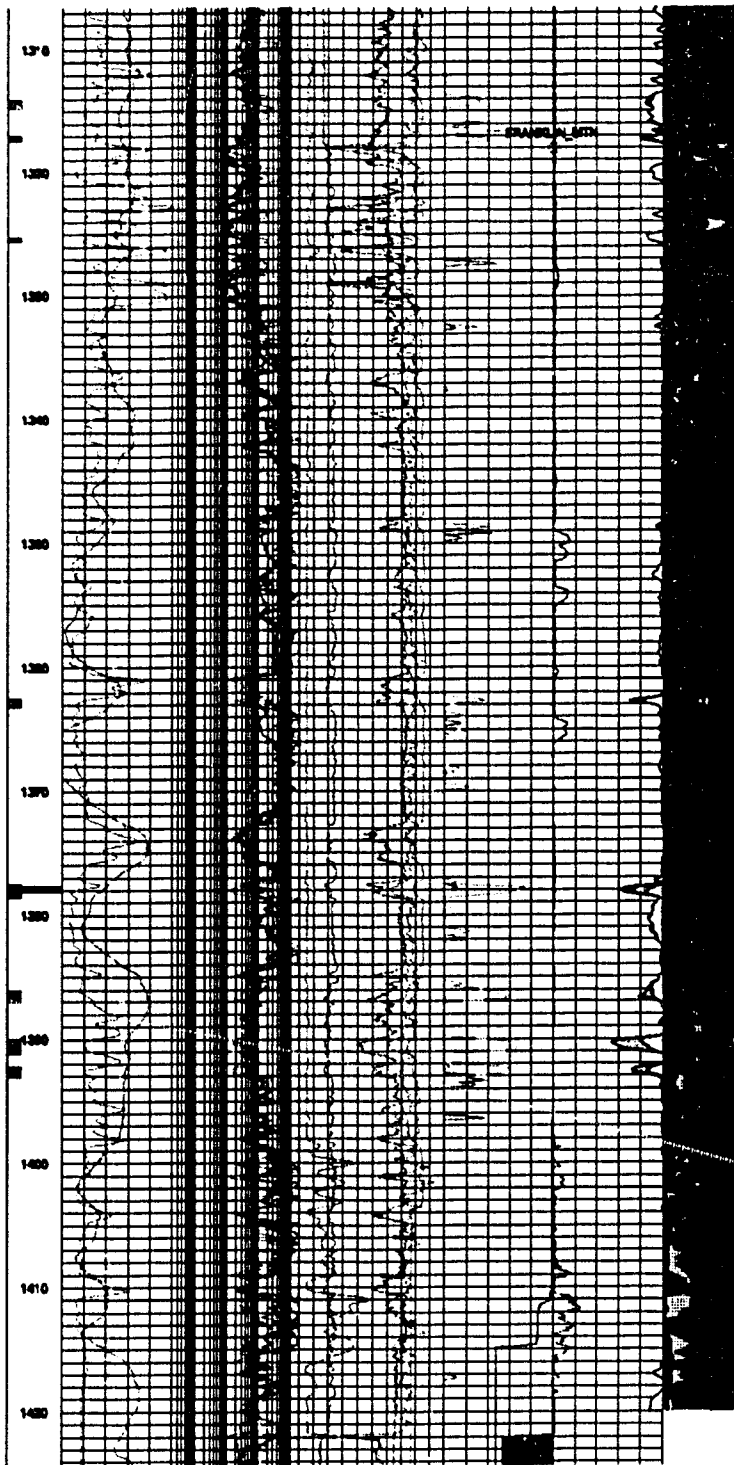
Conclusion

This well has no economic value and will be abandoned.
If you have any questions do not hesitate to ask.


David G. Tivey P.Eng







PETROPHYSICAL RESULTS

Vshale < 25%, Porosity > 4% and Water Saturation < 30%

[illegible]

LOG DATA CROSS PLOTS

Figure 1 Silurian Section – Neutron/Density cross plot

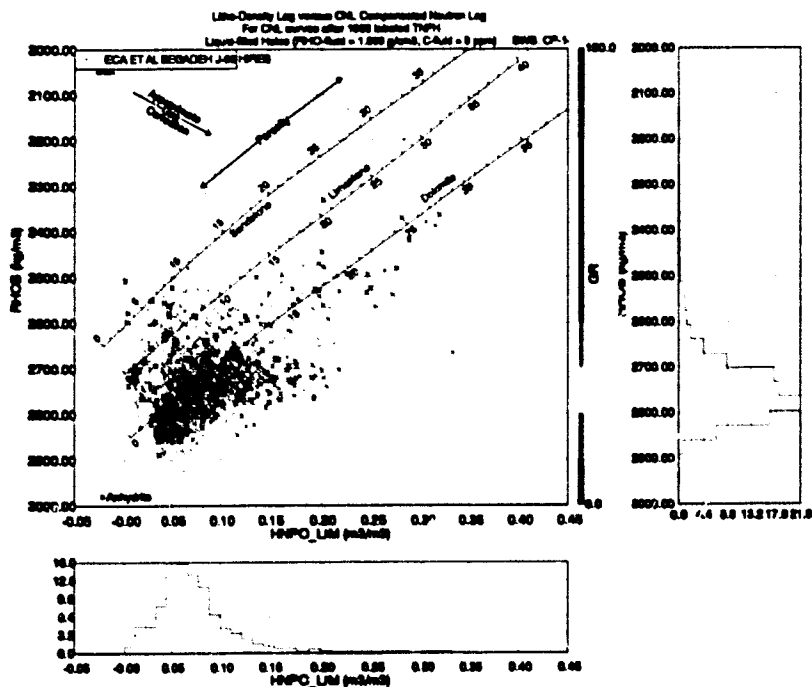
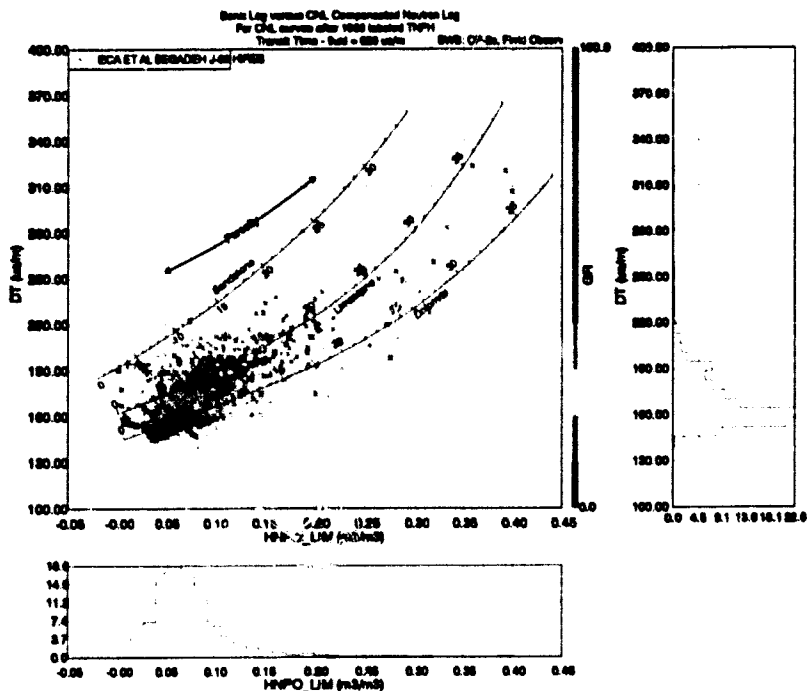
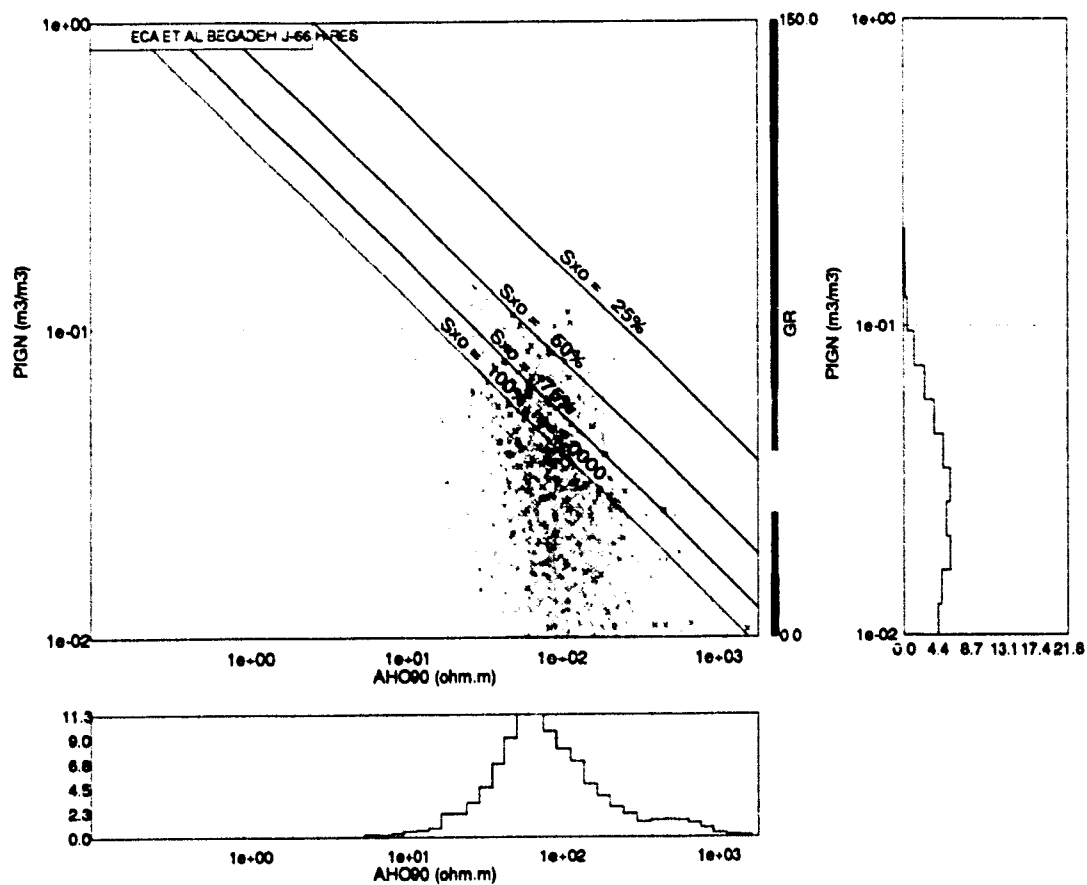


Figure 2 Silurian Section - Neutron/Sonic cross plot



LOG DATA CROSS PLOTS

Figure 3 Silurian Section - Pickett plot (Formation Water Salinity = 22,232 ppm NaCl)



LOG DATA CROSS PLOTS

Figure 4 Cretaceous Section - Neutron/Density cross plot

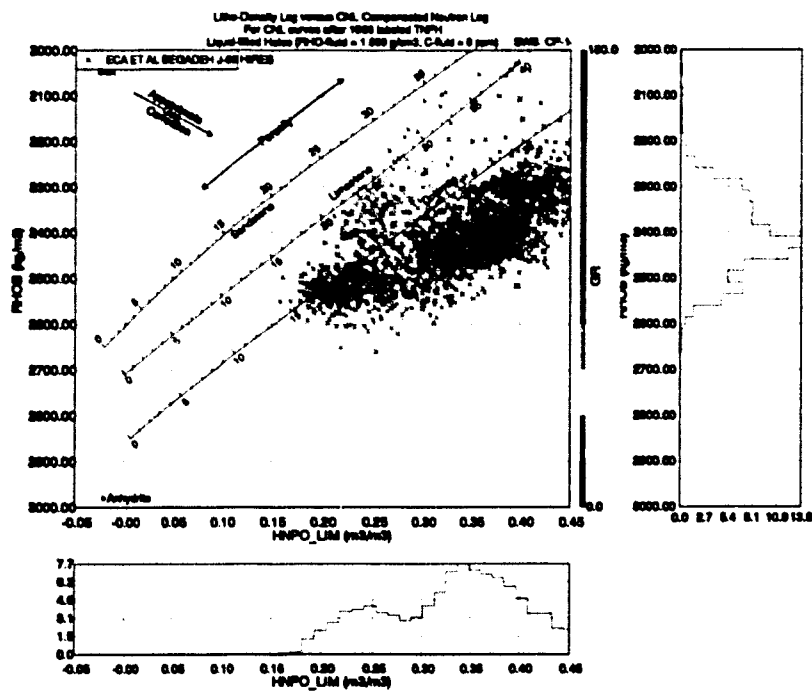
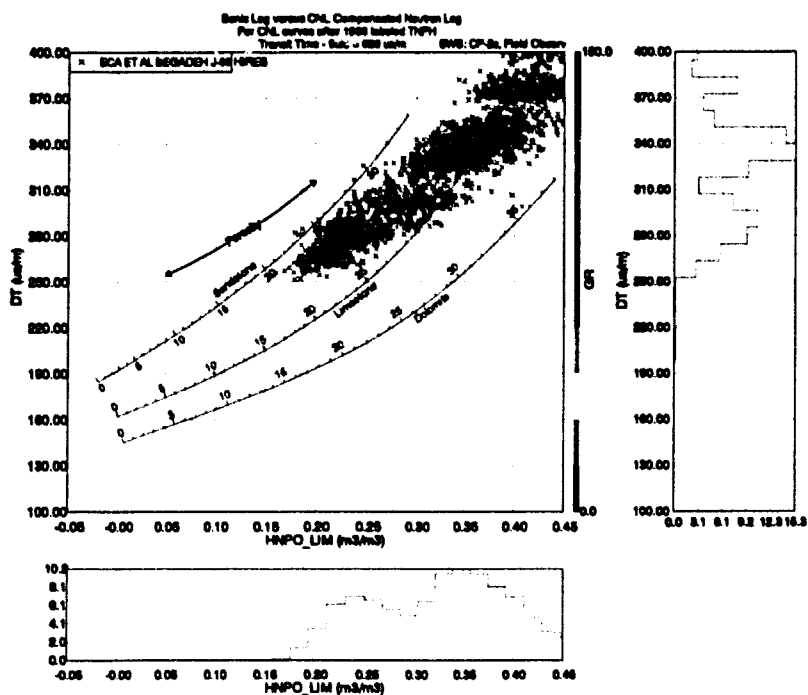
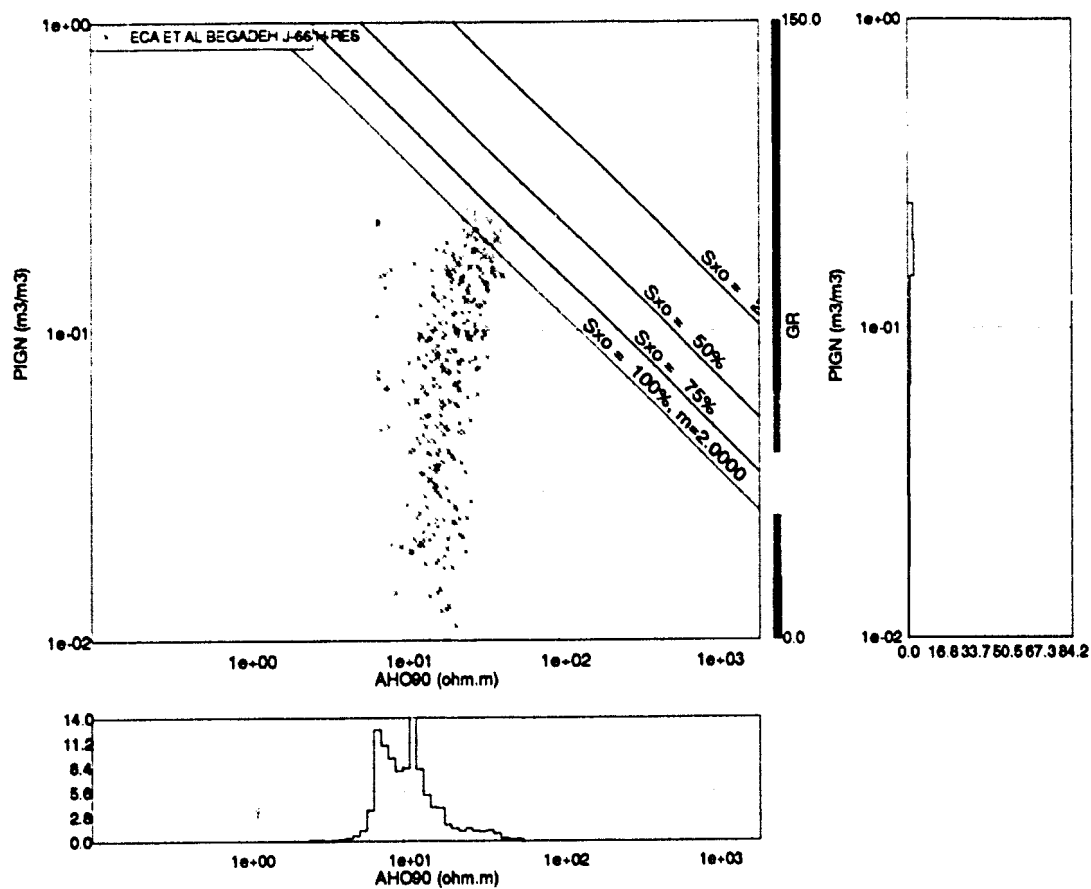


Figure 5 Cretaceous Section - Neutron/Sonic cross plot



LOG DATA CROSS PLOTS

Figure 6 Cretaceous Section - Pickett plot (Formation Water Salinity = 2700 ppm NaCl).



SALINITY DEPENDANT PARAMETERS

Figure 7 Silurian Section Salinity Parameters

| Parameter Initialization | | | | | | | | | |
|--------------------------|----------|-----------------|-----------------|---------------------|------------------------|-------------|-----------------|---------|--|
| Input Parameters | | | | | | | | | |
| RW(ohm.m) | 27 | RMF(ohm.m) | 2.75 | Zone Temp(degC) | 50 | TVD(m) | 1428.23 | Compute | |
| RWT(degC) | 25 | MST(degC) | 15 | Mud Weight(kg/m3) | 1115 | └ OBM | | | |
| SALIN_UWAT(ppk) | | SALIN_XWAT(ppk) | | Avg.Porosity(m3/m3) | .45 | | | | |
| Output Parameters | | | | | | | | | |
| Salinity Dependent @BHT | | | Clay Parameters | | Porosity/Gas Dependent | | Zones to Update | | |
| ▣ RW | 0.171796 | ▣ RWB_ILI | 0.8771567 | ▣ NPH_QUAR | -0.8339324 | └ 1886 | | | |
| ▣ RWT | 58 | ▣ WCLP_ILI | 0.119425 | ▣ NPH_DOLO | 0.8111415 | ▣ UNDEFINED | | | |
| ▣ RMF | 1.38041 | ▣ WCLP_KAOL | 0.8663984 | ▣ RHOB_UGAS | -18.3665 | | | | |
| ▣ MST | 58 | ▣ WCLP_MONT | 0.457521 | ▣ RHOB_XGAS | -18.3665 | | | | |
| ▣ SALIN_UWAT | 22.2319 | ▣ WCLP_CHLO | 0.128473 | ▣ NPH_UGAS | 0.198245 | | | | |
| ▣ SALIN_XWAT | 2.3837 | | | ▣ NPH_XGAS | 0.198245 | | | | |
| ▣ RT_UWAT | 0.171796 | | | ▣ RHOB_IFAC_ZP | 1 | | | | |
| ▣ FOCO_XWAT | 1.38041 | | | ▣ NPH_IFAC_ZP | 1 | | | | |
| ▣ RHOB_UWAT | 1882.38 | | | └ M_DWA | 2.1666 | | | | |
| ▣ RHOB_XWAT | 986.391 | | | | | | | | |
| ▣ U_XWAT | 0.483651 | | | | | | | | |
| ▣ CUDC_UNC_ZP | 72.3793 | | | | | | | | |
| ▣ CUDC_UNC_ZP | 25.5339 | | | | | | | | |

SALINITY DEPENDANT PARAMETERS

Figure 8 Cretaceous Section Salinity Parameters

Parameter Initialization

Input Parameters

RW(ohm.m)
 RMF(ohm.m)
 Zone Temp(degC)
 TVD(m)

RWT(degC)
 MST(degC)
 Mod Weight(kg/m3)
☐ OBM

SALIN_UWAT(ppk)
 SALIN_XWAT(ppk)
 Avg.Porosity(m3/m3)

Output Parameters

| Salinity Dependent @BHT | | Clay Parameters | | Porosity/Gas Dependent | | Zones to Update | |
|---|----------|---|----------|--|------------|--|--|
| ☒ RW | 1.3553 | ☒ RWB_ILI | 0.135768 | ☒ NPH_QUAR | -0.0356657 | ☒ 1006 | |
| ☒ RWT | 50 | ☒ WCLP_ILI | 0.192666 | ☒ NPH_DOLO | 0.0105631 | ☐ UNDEFINED | |
| ☒ RMF | 1.38041 | ☒ WCLP_KAOL | 0.112183 | ☒ RHOB_UGAS | -18.3665 | | |
| ☒ MST | 50 | ☒ WCLP_MONT | 0.897433 | ☒ RHOB_XGAS | -18.3665 | | |
| ☒ SALIN_UWAT | 2.4361 | ☒ WCLP_CHLO | 0.194215 | ☒ NPH_UGAS | 0.198246 | | |
| ☒ SALIN_XWAT | 2.3897 | | | ☒ NPH_XGAS | 0.198246 | | |
| ☒ RT_UWAT | 1.3553 | | | ☒ RHOB_IFAC_ZP | 1 | | |
| ☒ RHO_XWAT | 1.38041 | | | ☒ NPH_IFAC_ZP | 1 | | |
| ☒ RHOB_UWAT | 989.424 | | | ☐ M_DWA | 2.1556 | | |
| ☒ RHOB_XWAT | 988.391 | | | | | | |
| ☒ U_XWAT | 0.483651 | | | | | | |
| ☒ CUDC_UMC_ZP | 25.7633 | | | | | | |
| ☒ CQDC_UMC_ZP | 25.6339 | | | | | | |

GEOFLUIDS WATER ANALYSIS

GEOFLUIDS WATER ANALYSIS SHEET

GEOTECHNICAL RESOURCES LTD

WINDY ISLAND A-53

RONNING

GEOTECHNICAL RESOUR

HCWW 5536

7706-347-114

TOP OF TOOL 051 4 102.0 98.0

1109.0 1125.0

5114-W2

09 Feb 1985

22 Feb 1985

28 Feb 1985

25846.0

15.0

1.352

25.0

8.0

25.0

0.240

25.0

Na

8500.0 369.7

Cl

15300.0 431.6

K

68.0 1.7

Br

Ca

528.0 26.3

I

Mg

144.0 11.8

HCO3

187.0 3.1

Ba

0.1 0.0

SO4

1080.0 22.5

Sr

31.1 0.7

CO3

0.0 0.0

Fe

0.0 0.0

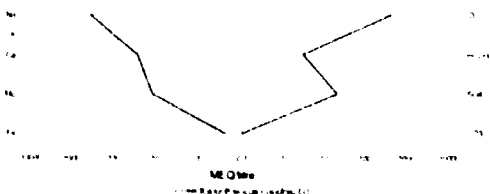
OH

0.0 0.0

B

1.4 0.4

H2S



GEOFLUIDS WATER ANALYSIS SHEET

Core Labs Inc

LUSH LAKE G-22

BASAL CRETACEOUS

Core Labs Inc

HCWW 3741

RRT WATER

TOP TO TOOL

293.2 285.0

1169.0 1233.0

7021-5517

11 Apr 1975

23 Apr 1975

FT

1.0050

15.6

1.3327

23.0

7.5

1.220

25.0

Na

1890.0 82.2

Cl

1703.0 48.0

K

161.0 8.0

Br

Ca

21.0 1.7

I

Mg

54.0 0.9

HCO3

2068.0 43.1

Ba

0.0 0.0

SO4

0.0 0.0

Sr

0.0 0.0

CO3

0.0 0.0

Fe

0.0 0.0

OH

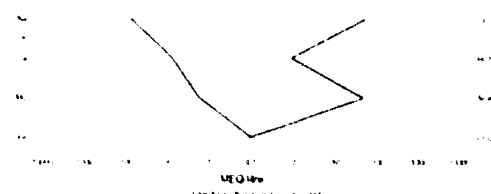
0.0 0.0

B

ND

H2S

NO DETECTED



GEOFLUIDS WATER ANALYSIS

GEOFLUIDS WATER ANALYSIS SHEET

Chemical and Geological Laboratories

WATER ANALYSIS

LOSH LAKE G 22

Chemical and Geological La

HCWW 334b

R/O SALT WATER

DATE

DST

1

293.2

289.0

1160.0 1230.0

E75-7574

22-Mar-1975

31-Mar-1975

23-Apr-1975

PRESENT

7000.0

5690.0

E524.0

1.0360

1.334

8.4

21.1

1.210

Na

2046.0

89.0

C

2130.0

60.1

K

Ca

190.0

9.0

Mg

58.0

4.8

Ba

HCO₃

271.0

4.4

Sr

SO₄

1834.0

38.2

Fe

CO₃

5.0

0.2

Bu

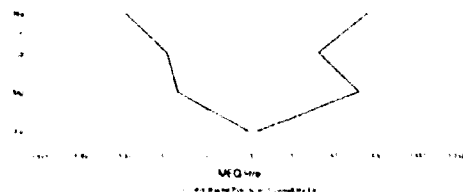
OH

0.0

H₂S

NIL

PRESENT IN RESIDUE THE SAMPLE DESCRIBED AS CLEAR COLORLESS WATER WITH A SLIGHTLY TURBIDITY



MEQ/litre

mg/l

GEOFLUIDS WATER ANALYSIS SHEET

Core Labs Inc

WATER ANALYSIS

LOSH LAKE G 22

Core Labs Inc

HCWW 3741

R/O WATER

DATE

DST

1

293.2

289.0

TOP TO TOOL

1160.0 1233.0

7021-5517

11-Apr-1975

23-Apr-1975

1.0050

15.6

1.3327

23.0

7.5

1.220

25.0

Na

1890.0

82.2

Cl

1703.0

48.0

K

Ca

161.0

8.0

Mg

21.0

1.7

Ba

HCO₃

54.0

0.9

Sr

SO₄

2068.0

43.1

Fe

CO₃

0.0

0.0

Bu

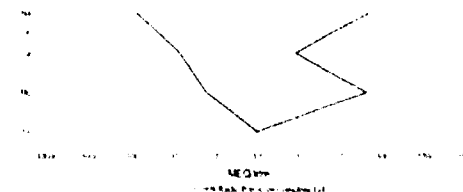
OH

0.0

H₂S

N D

WATER ANALYSIS IN RESIDUE NO DETECTED



MEQ/litre

mg/l

GEOFLUIDS WATER ANALYSIS

GEOFLUIDS WATER ANALYSIS FILE

Chemical and Geological Laboratories

3050 2246-123557

LOSH LAKE G 22

Chemical and Geological Lab

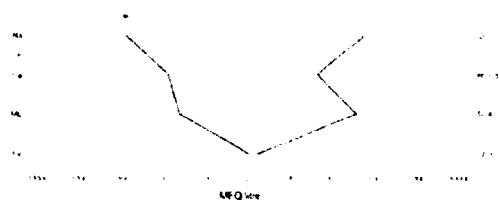
HCWW 1346

630 SALT WATER

| | | | | | |
|-------------|-------------|-------------|---------|--------|------|
| DS1 | 1 | 293.2 | 289.0 | | |
| 1180.0 | 1230.0 | E75-7574 | | | |
| 22 Mar 1975 | 31 Mar 1975 | 23 Apr 1975 | PRESENT | | |
| 7000.0 | | 5690.0 | 6524.0 | | |
| 1.0060 | | 1.334 | | | |
| 8.4 | 21.1 | 1.210 | | | |
| Na | 2046.0 | 89.0 | Cl | 2133.0 | 60.1 |
| K | | | Br | | |
| Ca | 180.0 | 9.0 | I | | |
| Mg | 58.0 | 4.8 | HCO3 | 271.0 | 4.4 |
| Ba | | | SO4 | 1834.0 | 38.2 |
| Si | | | CO3 | 5.0 | 0.2 |
| Fe | | | OH | 0.0 | |
| Bo | | | H2S | NIL | |

THE SAMPLE IS A CLEAR, COLORLESS WATER WITH A TRACE OF SEDIMENT

WATER ANALYSIS



GEOFLUIDS WATER ANALYSIS FILE

Core Labs Inc

3050 2246-123557

TATE J-65

Core Labs Inc

HCWW 5583

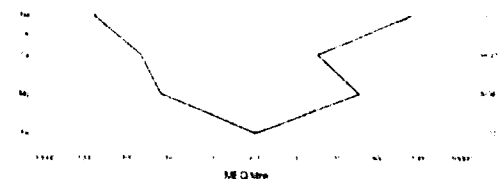
BENE ROLL

TOOL RECOVERY MUD/CCS MUDDY WATER

| | | | | | |
|----------------------|--|--|--|-------|-------|
| DST #10-BJ TOOL #108 | | | | 607 5 | 601 1 |
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THE SAMPLE IS A CLEAR, COLORLESS WATER WITH A TRACE OF SEDIMENT

WATER ANALYSIS



GEOFLUIDS WATER ANALYSIS

Core Labs Inc.
TATE J-65
GENE ROCK
MCWW 5582

TOOL RECOVERY 39% CC'S MUDDY WATER

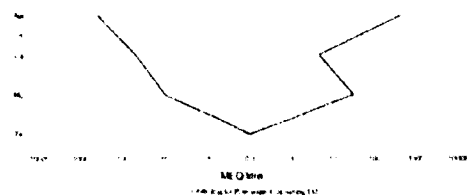
DST #6 (BJ TOOL #109) 607.5

25 Feb 1972

1.0213 15.6 1.3379 23.3
7.4 0.269

| | | | | | |
|----|--------|-------|------|---------|-------|
| Na | 9251.0 | 402.4 | Cl | 15088.0 | 425.6 |
| K | | | Br | | |
| Ca | 1006.0 | 50.1 | I | | |
| Mg | 117.0 | 9.6 | HCO3 | 283.0 | 4.6 |
| Ba | | | SO4 | 1535.0 | 32.0 |
| Si | | | CO3 | 0.0 | 0.0 |
| Fe | | | OH | 0.0 | |
| B | | | H2S | ABSENT | |

NAME AND ADDRESS OF CLIENT OR INTERESTED PARTY



Core Labs Inc.
DODD CANYON K-03
BEAR ROCK
MCWW 5575

FEET LIQUID

TOP OF TOOL DST 304.5 303.3

7320.0 7600.0 921.276

17 Jan 1972

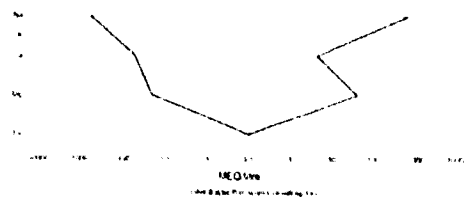
1.0215 6.0 1.3377 70.0
6.7 0.260 66.0

| | | | | | |
|----|--------|-------|------|---------|-------|
| Na | 9145.0 | 397.8 | Cl | 12270.0 | 346.1 |
| K | 9145.0 | 233.9 | Br | | |
| Ca | 851.0 | 42.5 | I | | |
| Mg | 164.0 | 13.5 | HCO3 | 342.0 | 5.6 |
| Ba | | | SO4 | 4906.0 | 102.1 |
| Si | | | CO3 | | |
| Fe | TRACE | | OH | | |
| B | | | H2S | | |



GEOFLUIDS WATER ANALYSIS

| GEOFLUIDS WATER ANALYSIS | | | | |
|--------------------------|--------------------|-------|------------------|-------------|
| Core Labs Inc | POLICE ISLAND L-66 | | Core Labs Inc | |
| 5011 6th Ave S.W. | CRETACEOUS | | MCWW 5570 | |
| 2610' WATER | 79.5' X W | | | |
| ABOVE TOOL | DST | 2 | 148.1 144.2 | |
| 2985.0 2960.0 | | | 933-1360 | |
| 21 Mar 1971 | | | 40212.0 | |
| 1.0270 | 60.0 | 1.34 | 71.0 | |
| 7.2 | | 0.175 | 71.0 | |
| Na | 13989.0 | 608.5 | Cl 22676.0 639.6 | |
| K | 13989.0 | 357.8 | Br | |
| Ca | 1094.0 | 54.6 | I | |
| Mg | 258.0 | 21.2 | HCO3 | 259.0 4.2 |
| Ra | | | SO4 | 1936.0 40.3 |
| Sr | | | CO3 | |
| Fe | TRACE | | OH | |
| Br | | | H2S | |



| GEOFLUIDS WATER ANALYSIS | | | | |
|--------------------------|-------------|-------------------|------------------|------------|
| Core Labs Inc | KEELE N 62 | Core Labs Inc | | |
| 5011 6th Ave S.W. | BEAR ROCK | 5011 6th Ave S.W. | | |
| 501 SALT WATER | 143' X W | 54' MUD | | |
| TOP OF TOOL | DST | 3 | 225.6 222.2 | |
| 2895.0 2853.0 | | | 7021-31523 | |
| 02 Oct 1973 | 16 Oct 1973 | 22 Oct 1973 | | |
| | | | 30623.0 | |
| 1.0218 | 60.0 | 1.3371 | 23.0 | |
| 7.7 | | 0.225 | 25.0 | |
| Na | 10863.0 | 472.5 | Cl 17902.0 505.0 | |
| K | | | Br | |
| Ca | 644.0 | 32.1 | I | |
| Mg | 243.0 | 20.0 | HCO3 | 151.0 2.5 |
| Ba | | | SO4 | 820.0 17.1 |
| Sr | | | CO3 | 0.0 0.0 |
| Fe | | | OH | 0.0 |
| Br | | | H2S | |



ELAN PARAMETERS

```
session elan {
    temperature ( 80.000061 , 1.000001 ) ;
    boreholeTemp ( -999.250000 , 164.041992 ) ;
    dataInterval ( 4686.000000 , 1616.667114 ) ;
    processingInterval ( 4658.792480 , 1837.270386 ) ;
    samplingRate 0.500000 ;
    uncertaintyChannel FALSE ;
    clayInput WET ;
    WetDryClayConvert WCLP ;
    bindingPrefer CODE_ONLY ;
    LCPS "Petrophysical";
    queryByCurveSet NO;
    queryByProducer NO;
    queryByCopyNumber NO;
    outputCurveSet "ELANPlus_916486";
    searchPrefer BINDING_FILE_FIRST ;
    mode RESISTIVITY ;
    referenceIndex MD ;
    visibilityLevel LOW ;
    specialFluids IMMOVABLE_HYDROCARBON ;
process Solve 1 {
    label "SOLVE" ;
    location (94, 43) ;
    solverUsed STANDARD ;
    weightPercentage LINEAR_C ;
    display AUTO ;
    reconDisplay AUTO ;
    saveOutput OFF ;
    equations RHOB NPFI U CXDC_DWA CUDC_DWA GR ;
    volumes QUAR CALC DOLO ILLI XWAT UWAT XGAS UGAS ;
    constraintZoning {
        ( "UNDEFINED" 4686.000000 -999.250000 ) ;
    constraints {
        ("UNDEFINED" MaximumPorosity )};
    constraints {
        ("UNDEFINED" IrreducibleXWater )};
    constraints {
        ("UNDEFINED" IrreducibleUWater )};
    constraints {
        ("UNDEFINED" WaterBaseMud_SXO_gt_SW )};
    };
process Solve 2 {
    label "SOLVE" ;
    location (208, 49) ;
    solverUsed STANDARD ;
    weightPercentage LINEAR_C ;
    display AUTO ;
    reconDisplay MANUAL ;
    saveOutput OFF ;
    equations RHOB NPFI U GR ;
    volumes QUAR CALC DOLO ILLI ;
    constraintZoning {
        ( "UNDEFINED" 4686.000000 -999.250000 ) ;
    constraints {
        ("UNDEFINED" MaximumPorosity )};
    constraints {
        ("UNDEFINED" IrreducibleXWater )};
    constraints {
        ("UNDEFINED" IrreducibleUWater )};
    constraints {
        ("UNDEFINED" WaterBaseMud_SXO_gt_SW )};
    };
process Solve 3 {
    label "SOLVE" ;
    location (313, 84) ;
    solverUsed STANDARD ;
    weightPercentage LINEAR_C ;
    display AUTO ;
    reconDisplay AUTO ;
    saveOutput OFF ;
    equations RHOB NPFI U CXDC_DWA CUDC_DWA GR ;
    volumes QUAR ILLI SMII XWAT UWAT XGAS UGAS ;
    constraintZoning {
        ( "UNDEFINED" 4686.000000 -999.250000 ) ;
    constraints {
        ("UNDEFINED" MaximumPorosity )};
    constraints {
        ("UNDEFINED" IrreducibleXWater )};
    constraints {
        ("UNDEFINED" IrreducibleUWater )};
    constraints {
        ("UNDEFINED" WaterBaseMud_SXO_gt_SW )};
    };
};
```

ELAN PARAMETERS

```

process Solve 4 {
    label "SOLVE" ;
    location (320, 174) ;
    solverUsed STANDARD ;
    weightPercentage LINEAR_C ;
    display MANUAL ;
    reconDisplay MANUAL ;
    saveOutput OFF ;
    equations NPHI GR ;
    volumes QUAR ILLI ;
    constraintZoning {
        ( "UNDEFINED" 4686.000000 -999.250000 ) ;
    }
    constraints {
        ( "UNDEFINED" MaximumPorosity ) ;
    }
    constraints {
        ( "UNDEFINED" IrreducibleXWater ) ;
    }
    constraints {
        ( "UNDEFINED" IrreducibleUWater ) ;
    }
    constraints {
        ( "UNDEFINED" WaterBaseMud_SXO_gt_SW ) ;
    }
};

process Combine 1 {
    label "COMBINE" ;
    location (148, 143) ;
    display MANUAL ;
    reconDisplay MANUAL ;
    saveOutput OFF ;
    combineMethod {
        ( "UNDEFINED" 4686.000000 INT_AVE ) ;
    }
    combineOrder SOL_1 SOL_2 SOL_3 SOL_4 ;
    expressions "/home/dtively/geoframe37_sun/wa_elan/CARB_with_BH_switch.prob"
    {pb = if (ILLI_VOL> .25, 1, 0) or if (DRHO_CH > 50, 1, 0)}
    prob (SOL.2,pb)
    p3 = if (TEMP_CH < 40, 1, 0)
    prob (SOL.3,p3)
    p4 = if (ILLI_VOL> .5, 1, 0) and if (TEMP_CH < 40, 1, 0)
    prob (SOL.4,p4);
};

process Function 1 {
    label "FUNCTION" ;
    location (154, 243) ;
    display AUTO ;
    geoDisplay MANUAL ;
    saveOutput OFF ;
    outputs {
        VCL
        SXWI
        SUWI
        RHGA
        R0_GEO
        PIGN
        KINT_GEO ;
    }
};

dependency {
    ( SOL_3 , COM_1 ) ,
    ( COM_1 , FUN_1 ) ,
    ( SOL_2 , COM_1 ) ,
    ( SOL_1 , COM_1 ) ,
    ( SOL_4 , COM_1 ) ;
};

zoning {
    ( "UNDEFINED" 4686.000000 123.273178 False NULL 0 G ) ,
    ( "1006" 3300.524902 104.276520 False 1 JLL 0 G ) ;
};

parameters {
    ( RHOB_QUAR "UNDEFINED" 2.650000 -999.250000 ) ,
    ( RHOB_QUAR "1006" 2.650000 -999.250000 ) ,
    ( RHOB_CALC "UNDEFINED" 2.710000 -999.250000 ) ,
    ( RHOB_CALC "1006" 2.710000 -999.250000 ) ,
    ( RHOB_DOLO "UNDEFINED" 2.847000 -999.250000 ) ,
    ( RHOB_DOLO "1006" 2.847000 -999.250000 ) ,
    ( RHOB_GLAU "UNDEFINED" 2.650000 -999.250000 ) ,
    ( RHOB_GLAU "1006" 2.650000 -999.250000 ) ,
    ( RHOB_ILLI "UNDEFINED" 2.550000 -999.250000 ) ,
    ( RHOB_ILLI "1006" 2.400000 -999.250000 ) ,
    ( RHOB_SMI1 "UNDEFINED" 4.090000 -999.250000 ) ,
    ( RHOB_SMI1 "1006" 4.090000 -999.250000 ) ,
    ( RHOB_XWAT "UNDEFINED" 0.987971 -999.250000 ) ,
    ( RHOB_XWAT "1006" 0.994239 -999.250000 ) ,
    ( RHOB_UWAT "UNDEFINED" 1.001950 -999.250000 ) ,
    ( RHOB_UWAT "1006" 0.994272 -999.250000 ) ,
    ( RHOB_XGAS "UNDEFINED" -0.019072 -999.250000 ) ,
    ( RHOB_XGAS "1006" -0.007910 -999.250000 ) ,
    ( RHOB_UGAS "UNDEFINED" -0.019072 -999.250000 ) ,
    ( RHOB_UGAS "1006" -0.007910 -999.250000 ) ,
    ( RHOB_XBWA "UNDEFINED" 1.000000 -999.250000 ) ,
    ( RHOB_XBWA "1006" 1.000000 -999.250000 ) ,
    ( NPHI_QUAR "UNDEFINED" -0.033992 -999.250000 ) ,
    ( NPHI_QUAR "1006" -0.035666 -999.250000 ) ,
    ( NPHI_CALC "UNDEFINED" 0.000000 -999.250000 ) ,
    ( NPHI_CALC "1006" 0.000000 -999.250000 ) ,
    ( NPHI_DOLO "UNDEFINED" 0.011142 -999.250000 ) ,
    ( NPHI_DOLO "1006" 0.010563 -999.250000 ) ,
    ( NPHI_GLAU "UNDEFINED" 0.410000 -999.250000 ) ,
    ( NPHI_GLAU "1006" 0.410000 -999.250000 ) ,
    ( NPHI_ILLI "UNDEFINED" 0.352000 -999.250000 ) ,
    ( NPHI_ILLI "1006" 0.400000 -999.250000 ) ,
    ( NPHI_SMI1 "UNDEFINED" -0.020000 -999.250000 ) ,
    ( NPHI_SMI1 "1006" -0.020000 -999.250000 ) ,
    ( NPHI_XWAT "UNDEFINED" 1.000000 -999.250000 ) ,
    ( NPHI_XWAT "1006" 1.000000 -999.250000 ) ,
};

```


ELAN PARAMETERS

```

(NPHI_XWAT "1006" 1.000000 -999.250000) ,
(NPHI_UWAT "UNDEFINED" 1.000000 -999.250000) ,
(NPHI_UWAT "1006" 1.000000 -999.250000) ,
(NPHI_UGAS "UNDEFINED" 0.197094 -999.250000) ,
(NPHI_UGAS "1006" 0.215261 -999.250000) ,
(NPHI_UGAS "UNDEFINED" 0.197094 -999.250000) ,
(NPHI_UGAS "1006" 0.215261 -999.250000) ,
(NPHU_QUAR "UNDEFINED" -0.020500 -999.250000) ,
(NPHU_QUAR "1006" -0.020500 -999.250000) ,
(NPHU_CALC "UNDEFINED" 0.000000 -999.250000) ,
(NPHU_CALC "1006" 0.000000 -999.250000) ,
(NPHU_DOLO "UNDEFINED" 0.006300 -999.250000) ,
(NPHU_DOLO "1006" 0.006300 -999.250000) ,
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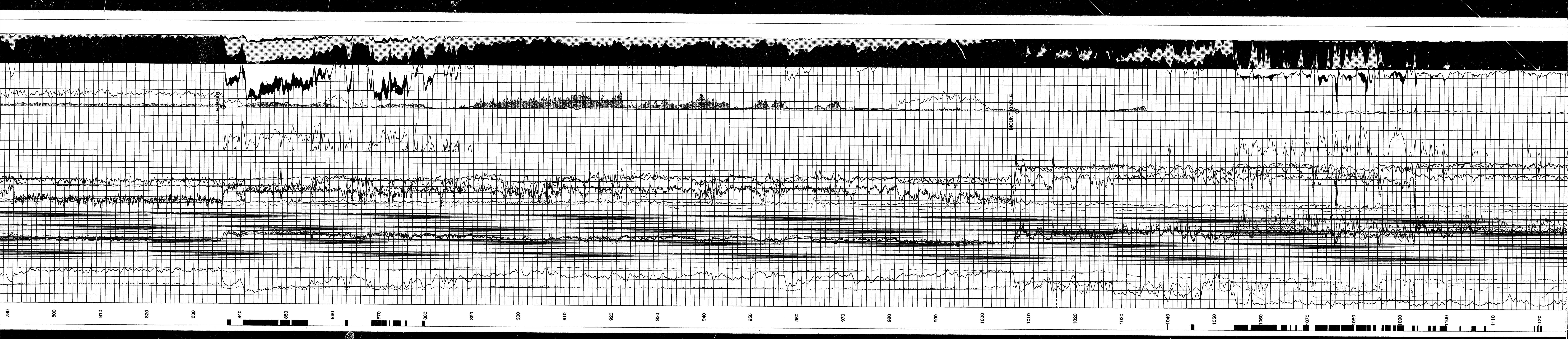
ELAN PARAMETERS

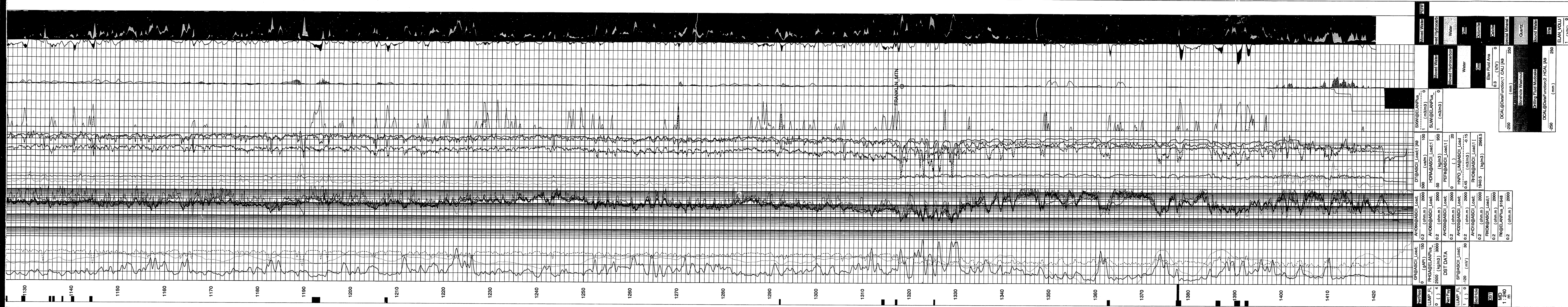
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MISCELLANEOUS





| | | |
|------------------------------|--------------------------|-----------------------------|
| Well Location: <FL> | UWI: <UWI> | Job Number: TWO |
| API Number: 11-FEB-2004 | Date Logged: 11-FEB-2004 | Date Processed: 11-FEB-2004 |
| Elevations: KB: 195.6 m | GL: <GL> | |
| COMPANY: ENCANA CORPORATION | | |
| WELL: ECA ET AL BEGADEH J-66 | | |
| FIELD: BEGADEH | | |
| STATE: | | |
| COUNTRY: | | |



**LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT**