AUTHORITY TO DRILL A WELL

Office national
de l'énergie

Exploratory X | Delineation n
Development n | Service n

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: AEC (West) Renaissance Carcajou D-07
Operator: AEC OIL & GAS
Contractor: Akita Drilling Ltd.
Drilling Rig or Unit: Rig #14
Location-Unit: D Section: 7
Coordinates: Lat.: 65 36' 10.08405"
Area: Carcajou (Ft. Good Hope/ Norman Wells)
Elevation-KB/RT: 87.20m (ASL)
Approx. Spud Date: February 22.,2000
Anticipated Total Depth: 875m

Drilling Program No.:
Interest identifier:
Estimated Well Cost: $ 975,000
Grid Area: 65 40', 128 30'
Long.: 128 31' 49".84003
Field / Pool: Exploratory
GL / Seafloor: 83.20m
Est. Days on Location: 10
Target Horizons: Kee Scarp

EVALUATION PROGRAM

Ten-metre sample intervals
Five-metre sample intervals: Base of surface casing to TD, 2 sets of 7 ml vials
Canned sample intervals: None
Conventional cores at: Possible Kee Scarp
Logs and Tests: DLTE/MSFL/LDTD/CNTH/SGTL/BHC/GR; 580m to TD, 1-DST, Kee Scarp

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing Program
244.5	53.57	J-55	170m	Arctic Set
177.8	34.2	J-55	640m	RFC + add.
114.3	14.14	J-55	875m	RFC + add.

B.O.P. Equipment: 9" 3000psi Shaffer Annular Preventer, 9" 3000psi Shaffer LWS Blind Ram Preventer, Spool, 9" 3000psi Shaffer LWS Pipe Ram Preventer, Spool,

Other Information:

Signed: *Responsible Officer*
Name: Ken Woldum
Date: 2000/01/07

Title: Senior Vice President South West Business Unit
Company: AEC Oil & Gas
Phone: (403) 213-2629

APPROVAL

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

Date: Feb 11/2000
File 9211-A061-2-3
WID: 1890
UWI: 300D07654012830

Signed: *Chief Conservation Officer*

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

Telephone/Téléphone : (403) 292-4800
Facsimile/Télécopieur : (403) 292-5876
http://www.neb.gc.ca

WELL TERMINATION RECORD (with attachment)

Office national
de l'énergie

WELL TERMINATION RECORD

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

Well Name: AEC (West) Renaissance Carcajou D-07 Area: Carcajou (Ft.Good Hope)

Field / Pool: Exploratory

Grid Area: 65 40', 128 30'

Interest Identifier: Final Coordinates: Lat: 65 36' 10.08405" Long: 128 31' 49".84003

Drilling Unit: Rig #14 Elevations-KB/RT: 87.2m (ASL) GL/Seafloor: 83.2m

Spud Date: March 2 /00 R.R.: March 19/00 Total Depth: 860m

O.D. (mm)	Weight (kg/m)	Grade	Depth Set (m KB)	Cement (m³)
406.4			32.9	3
244.5	53.57	J-55	167.6	12.5
177.8	34.2	J-55	627	11.1
114.3	14.1	J-55	860	10.2

PLUGGING PROGRAM

Approval of the following program was obtained by (person) Stephen J. Holyoake

from (person) Andy Graw of the National Energy Board

by means of a written request on March 22, 2000.

Type of Plug	Interval (m KB)	Felt	Cement (m³)
Single	10m – 0m	Not required	.2

Lost Circulation/Overpressure Zones:

Equipment left on Seafloor (Describe):

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

Cores: Type: Intervals:

Other Downhole Completion/Suspension Equipment:

CERTIFICATION

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

Signed: Steve Holyoak Title: Operations Engineer

Name: Stephen J. Holyoake Date: April 6, 2000

Company: AEC West

Acknowledged by: D M Baker

Chief Conservation Officer

Date: June 27/00

File: 9211-A61-2-3

Well Status

Suspended ☐

Completed ☐

Abandoned ☒

UWI: 300D076540128300 WID: 1890

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

Telephone/Téléphone : (403) 292-4800
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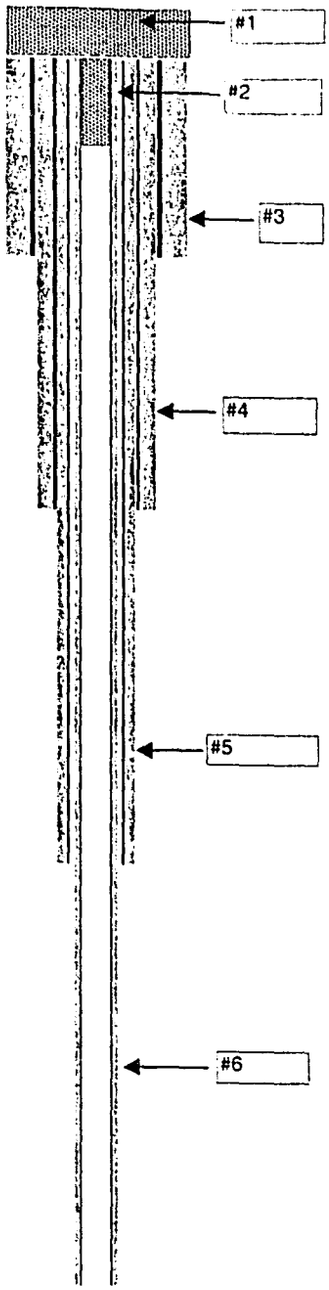

Downhole Well Profile

WELL NAME:	AEC (West) Renaissance Carcajou D-07	DATE	May 16/00

ELEVATIONS (meters)

KB ELEV	GL ELEV	KB TO THF	KB TO SCF	KB TO GL	PBTD
	83.2				

CASING DESCRIPTION	OD (mm)	LANDED DEPTH	WEIGHT (kg/m)	TOP OF (mKB)
Conductor casing	406.4	32.9		
Surface Casing	244.5	167.6	53.57	
Intermediate Casing	177.8	627	34.2	
Production Casing	114.3	860	14.1	

Perf Date	Zones	Top Shot	Bottom Shot	Status	Gun Data

DOWNHOLE DESCRIPTION

ITEM #	DESCRIPTION	LENGTH	TOP OF (mKB)
1	1.5m from ground level to the top of the cut off casing filled with cement	1.50	
2	10m cement plug inside production casing	10.00	
3	406.4mm Conductor casing set at 32.90m	32.90	
4	244.5mm Surface casing set at 167.60m	167.60	
5	177.8mm Intermediate casing set at 627m	627.00	
6	114.3mm Production casing set at 860m	860.00	

REMARKS

FINAL WELL REPORT

N.E.B. COPY

FINAL WELL REPORT

AEC OIL & GAS

AEC (WEST) Renaissance Carcajou D-07

Grid #65 40', 128 30'

DATE: 04/07/00

COMPANY REPRESENTATIVE: Stephen Holyoake

NATIONAL ENERGY BOARD
LIBRARY
OCT - 5 2000

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1. Stratigraphic column.
2. Geological Prognosis
3. Synthetic Seismograms
4. Well Licence
5. Directional Survey
6. Summary of Drilling Costs

A. INTRODUCTION

AEC Oil & Gas Company Ltd. drilled a 860 metre exploratory well spudded on March 2/00 and finishing on March 18/00 to evaluate oil potential in the Kee Scarp formation at a depth of 469mKB.

The drilling contractor was Akita Drilling based out of Nisku, Alberta. The drilling rig used was a land rig rated for 1600 m. The rig had a 32 m^3 mud system and was equipped with two boilers.

The well was drilled on Exploration License No 387 in which AEC West has a 60% working interest and Renaissance 40%. Operating License No. 1890 was issued to AEC on 2000/01/07.

The exact co-ordinates of the well are as follows:

Latitude:	65 36' 10.08405"
Longitude:	128 31' 49.84003"

The surface hole rig was moved onto the location March1/00 and the well spudded on March 2/00 at 7:30 hours to air drill the 406.5 mm conductor barrel to a depth of 32 m. The conductor pipe was cemented with good mud returns throughout. The diverter was nippled up and we ran in with 311mm bit to drill the surface hole.

The conductor shoe was then drilled out and the 311 mm surface hole was drilled ahead to 171 m.

The 2445 mm X 53.57 kg/m X J-55 LT&C casing was run with no problems and cemented with 18 tonnes of Arctic set Cement + 12 % BWOW + 0.2% D-46 + 0.8 % D-13 + 0.5% D-65. There was good mud returns reported throughout the cement job with .3 m^3 cement returns. The plug was bumped with 3,500 kPa and the pressure held. The plug was down at 00:25 hours on March 5/00. The surface casing was set at 167.6 m. The surface hole rig was then released and moved to the D-07 location.

Once the Akita rig arrived the BOP's were installed and pressure tested. The annular preventor was pressure tested to 1,400 kPa low and 7,000 kPa high. The pipe rams, kelly cock, stabbing valve and downhole BOP valve were tested to 1,400 kPa low and 7,000 kPa high. The accumulator precharge bottles were checked and the accumulator function tested prior to drilling out.

The float collar and shoe were drilled out on March 14/00. A formation leak off test was done and the gradient was taken to 18.1 kPa/m without breaking down the formation. The 222 mm intermediate hole was drilled ahead to 627 m.

The BOP's were installed and pressure tested. The annular preventor was pressure tested to 1,400 kPa low and 10,000 kPa high. The pipe rams, kelly cock, stabbing valve and downhole BOP valve were tested to 1,400 kPa low and 10,000 kPa high. The accumulator precharge bottles were checked and the accumulator function tested prior to drilling out. The float collar and shoe were drilled out on March 17/00. The 156mm hole was drilled to a depth of 860m in the Hare Indian Formation.

After total depth had been reached the open hole was logged by Schlumberger. Log run # 1 was a DLL/MSFL/LDT/CNL/DAC/GR from total depth to the surface casing. Log run # 2 was a BHCS/GR/DAC from total depth to surface casing.

After the logs were evaluated it was decided to case the well and wait on the evaluation of the Carcajou O-74 well. The rig was then rigged out and released at 13:00 hours on March 19, 2000. After the evaluation of the O-74 well it was decided to abandon the well.

Casing was cut off 1m below surface with a 10m cement plug inside the innermost casing string, a steel plate was welded over both conductor and surface casing. A surface marker was installed and site cleaned up.

B. GENERAL DATA

1. Well Name: AEC (West) Renaissance Carcajou D-07

   Authority to Drill a Well No: 1890

   Exploration Agreement Number: 9211-A-061-2-3

   Location Unit: D

   Section: 07

   Grid Area: 65 40', 128 30'

   Classification: Exploratory

2. Well Location: Carcajou (FT. Good Hope/Norman Wells)
   Coordinates: Latitude: 65 36' 10".08405
   Longitude: 128 31' 49.84003"

3. Unique Well Identifier: 300D07654012830

4. Operator: AEC Oil and Gas

5. Contractor: Akita Drilling Ltd.

6. Drilling Unit: Rig # 14
Land Rig

7. Position Keeping: Not Applicable, Land Rig

8. Support Craft (Helicopter): .....Helicopter/Plane

9. Drilling Unit Performance: .....Good

10. Difficulties and Delays: .....

11. Total Well Cost: .....$875,200 (See attachment)

12. Horizontal Deviated Wells Require Bottom Hole Co-ordinates:
Latitude: .....N/A
Longitude: .....N/A

C. SUMMARY OF DRILLING OPERATIONS

1. Elevations:
Ground: 83.2(m above sea level)
KB: 87.5 (m above sea level)
KB To Casing Flange: 4m (KB to CF)

2. Total Depth:
FTD: 860mKB
TVD: 860mKB

3. Date and Hour Spudded: 03/02/00 @ 07:30

4. Date Drilling Completed: 03/18/00 @ 13:30

5. Date of Rig Release: 03/19/00 @ 13:00

6. Well status: Dry and Abandoned

7. Hole Sizes and Depths:
Conductor Hole: 406.4 mm to 32.9 mKB
Surface Hole: 311 mm to 167.6 mKB

Intermediate Hole:	222 mm to 627 mKB
Main Hole:	156 mm to 860 mKB

8. Casing and Cementing Record:

Conductor Hole:

Casing Size:	406.4 mm
Casing Weight:	81.1 kg/m
Casing Grade:	
Casing Make:	
Number of Joints:	5.5
Thread:	Welded
Depth Set:	32.9 m (KB)
Cut Height:	At Surface KB
Cut off Depth:	After abandonment 1m below ground level
Date Set:	March 1, 2000
Cement Volume:	5 Tonne
Cement Type:	Arctic Set Cement
Additives:	12% D-44
	0.5% D-65
	0.8% D-13
	0.2% D-46

Surface Hole:

Casing Size:	244.5 mm
Casing Weight:	53.57 kg/m
Casing Grade:	J-55
Casing Make:	Ipsco
Number of Joints:	13
Thread:	ST&C
Depth Set:	167.6 m (KB)
Cut Height:	At Surface (KB)
Date Set:	March 4, 2000
Cement Volume:	18 Tonnes
Float Shoe Depth:	167.3m
Float Collar Depth:	160.24 m
Cut Off Depth:	1m below ground level, after abandonment
Cement Type:	Arctic Set Cement
Additives:	12% D-44
	0.5% D-65
	0.8% D-13
	0.2% D-46
Cement Top:	Surface (mKB)
Casing Bowl Size:	279 mm X 244.5 mm X 21 mpa

Casing Bowl Make: Cameron

Intermediate Hole:

Casing Size:	177.8 mm
Casing Weight:	34.2 kg/m
Casing Grade:	J-55
Casing Make:	Ipsco
Number of Joints:	50
Thread:	ST&C
Depth Set:	626 m (KB)
Cut Height:	At Surface (KB)
Date Set:	March 16, 2000
Cement Volume:	15.1 Tonnes
Float Shoe Depth:	625.6 m
Float Collar Depth:	613.03 m
Cut Off Depth:	1m below ground level, after abandonment
Cement Type:	Arctic Set Cement
Additives:	12% D-44
	0.5% D-65
	0.8% D-13
	0.2% D-46
Cement Top:	Surface (mKB)
Casing Bowl Size:	279 mm X 177.8 mm X 21 mpa
Casing Bowl Make:	Cameron

Main Hole:

Casing Size:	114.3 mm
Casing Weight:	14.14 kg/m
Casing Grade:	J-55
Casing Make:	Ipsco
Number of Joints:	69
Thread:	ST&C
Depth Set:	860 m (KB)
Cut Height:	At Surface (KB)
Date Set:	March 19, 2000
Cement Volume:	11.2 Tonnes
Float Shoe Depth:	859.8 m
Float Collar Depth:	847.77 m
Cut Off Depth:	1m below ground level, after abandonment
Cement Type:	Arctic Set Cement
Additives:	12% D-44
	0.5% D-65
	0.8% D-13
	0.2% D-46
Cement Top:	Surface (mKB)

Casing Bowl Size:
Casing Bowl Make:

9. Sidetracked Hole: Not Applicable

10. Drilling Fluid:

Conductor Hole:	Air	
Surface Hole:	Gel - Chemical	
Properties:	Viscosity:	65 sec/L
	Weight:	1180 kg/m^3
	PH:	9.0
Intermediate:	Water	
Properties:	Viscosity:	29 sec/L
	Weight:	1020 kg/m^3
	PH:	9.0
Main:	Gel - Chemical	
Properties:	Viscosity:	45 sec/L
	Weight:	1080 kg/m^3
	PH:	9
	Water loss:	8.5 cc
	Filter Cake:	1

11. Fishing Operations: **n/a**

12. Well Kicks and Well Control Operations: **n/a**

13. Formation Leak Off Tests:

Depth:	170 m
Fluid Density:	1000 kg/m^3
Applied Pressure:	3077 kPa
Hydrostatic Press.	1668 kPa
Mud Weight Equi.	1845 kg/m^3
Casing Setting Depth:	167.6 mKB

The leak-off test was taken to a gradient of 18.1 kPa /m without breaking down the formation.

14.Time Distribution: **Example of time distribution:** ***Can be modified to suit well e.g., time increments can be longer to shorten table.***

tour_start_date	tour_event_start_time	tour_event_end_time	tour_event_type_name	tour_event_duration	tour_event_remarks
2/29/00	17:00:00	20:00:00	Rig Move	3	
2/29/00	20:00:00	23:59:00	Rig up	3.98	
3/1/00	00:00:00	03:00:00	Rig Move	3	
3/1/00	03:00:00	07:00:00	Rig up	4	Rig up to drill with air
3/1/00	07:00:00	07:30:00	Safety meeting	0.5	
3/1/00	07:30:00	19:00:00	Drilling	11.5	
3/1/00	19:00:00	22:00:00	Drilling	3	
3/1/00	22:00:00	23:00:00	P.O.O.H	1	
3/1/00	23:00:00	23:59:00	Rig Service	0.98	Weld on cement swedge on conductor casing
3/2/00	00:00:00	01:00:00	Cement casing	1	Cement conductor
3/2/00	01:00:00	07:00:00	Rig up	6	Rig to drill with mud on surface hole
3/2/00	07:00:00	11:00:00	Repair Rig	4	Boiler down wait on hot water from akita
3/2/00	11:00:00	11:30:00	Safety meeting	0.5	
3/2/00	11:30:00	13:00:00	Repair Rig	1.5	
3/2/00	13:00:00	14:00:00	RIH	1	
3/2/00	14:00:00	16:00:00	Drill out cement	2	
3/2/00	16:00:00	17:00:00	Cond mud	1	
3/2/00	17:00:00	18:00:00	Drilling	1	
3/2/00	18:00:00	19:00:00	Cond mud	1	
3/2/00	19:00:00	19:15:00	Safety meeting	0.25	
3/2/00	19:15:00	23:59:00	Drilling	4.73	
3/3/00	00:00:00	01:00:00	Drilling	1	
3/3/00	01:00:00	02:00:00	Cond mud	1	
3/3/00	02:00:00	03:30:00	Repair Rig	1.5	
3/3/00	03:30:00	05:30:00	Drilling	2	
3/3/00	05:30:00	07:00:00	Wait on Trucks	1.5	Wait on hot water from Akita #14
3/3/00	07:00:00	09:00:00	Cond mud	2	
3/3/00	09:00:00	09:30:00	Repair Rig	0.5	
3/3/00	09:30:00	18:00:00	Drilling	8.5	
3/3/00	18:00:00	19:00:00	Cond mud	1	
3/3/00	19:00:00	19:15:00	Safety meeting	0.25	
3/3/00	19:15:00	21:30:00	Drilling	2.25	
3/3/00	21:30:00	22:00:00	Survey	0.5	
3/3/00	22:00:00	23:59:00	Drilling	1.98	
3/4/00	02:00:00	02:30:00	Cond mud	0.5	
3/4/00	02:30:00	03:30:00	Drilling	1	
3/4/00	03:30:00	07:00:00	Wiper trip	3.5	
3/4/00	07:00:00	12:00:00	Wiper trip	5	
3/4/00	12:00:00	13:30:00	Drilling	1.5	
3/4/00	13:30:00	15:00:00	P.O.O.H	1.5	
3/4/00	15:00:00	15:30:00	Rig Service	0.5	

3/4/00	15:30:00	16:00:00	Safety meeting	0.5	
3/4/00	16:00:00	17:00:00	Rig up	1	Rig to run casing
3/4/00	17:00:00	19:00:00	Run casing	2	
3/4/00	19:00:00	19:15:00	Safety meeting	0.25	
3/4/00	19:15:00	23:00:00	Run casing	3.75	
3/4/00	23:00:00	23:59:00	Cement casing	0.98	
3/4/00		02:00:00	Drilling	2	
3/12/00	08:00:00	18:00:00	Rig Move	10	RIG MOVE AND RIG UP
3/12/00	18:00:00	23:00:00	Rig up	5	RIG UP W/ CREW AND JACKHAMMER CEMENT IN CELLAR.
3/12/00	23:00:00	23:59:00	Drill rathole	0.98	DRLG RATHOLE W/ RIG
3/13/00	00:00:00	02:00:00	Drill rathole	2	DRLG RATHOLE
3/13/00	02:00:00	12:00:00	Nipple up BOP's	10	SCREW CSG BOWL ON,HEAD UP
3/13/00	12:00:00	17:00:00	Pressure Test	5	PRES TEST MANIFOLD AND WINTERIZE
3/13/00	17:00:00	19:30:00	Make up BHA	2.5	MAKE UP AND RIH BHA TO 150 M
3/13/00	19:30:00	22:30:00	Pressure test BOP	3	PRESS TEST BOPS AND FLOOR VALVES
3/13/00	22:30:00	22:45:00	B.O.P. drill	0.25	BOP DRILL W/ CREW
3/13/00	22:45:00	23:00:00	Rig Service	0.25	RS AND FUNCTION MOTOR KILLS
3/13/00	23:00:00	23:59:00	Drill out cement	0.98	DRLG OUT PLUG AND CEMENT
3/14/00	00:00:00	00:45:00	Drill out cement	0.75	DRLG OUT
3/14/00	00:45:00	01:00:00	Pressure Test	0.25	RUN FORMATION INTEGRITY TEST
3/14/00	01:00:00	01:15:00	B.O.P. drill	0.25	BOP DRILL
3/14/00	01:15:00	01:30:00	Rig Service	0.25	RS AND FUNCTION HYDRIL
3/14/00	01:30:00	06:45:00	Directional Work	5.25	MOTOR DRLG AHEAD F/ 170 - 277M
3/14/00	06:45:00	08:00:00	Accumulated surveys	1.25	TOUR SURVEY TIME
3/14/00	08:00:00	08:15:00	Rig Service	0.25	RS
3/14/00	08:15:00	15:00:00	Directional Work	6.75	MOTOR DRLG AHEAD F/ 277 - 422 M
3/14/00	15:00:00	16:00:00	Accumulated surveys	1	TOUR CUMM SURVEY TIME
3/14/00	16:00:00	16:15:00	Rig Service	0.25	RS AND FUNCTION PIPE RAMS
3/14/00	16:15:00	23:00:00	Directional Work	6.75	DIR DRLG AHEAD F/ 422 - 509 M
3/14/00	23:00:00	23:59:00	Accumulated surveys	0.98	TOUR CUMM SURVEY TIME
3/15/00	00:00:00	00:15:00	Rig Service	0.25	RS AND FUNCTION HYDRIL
3/15/00	00:15:00	07:15:00	Directional Work	7	DIR DRLG AHEAD F/ 509 - 577M
3/15/00	07:15:00	08:00:00	Accumulated surveys	0.75	TOUR CUMM SURVEY TIME
3/15/00	08:00:00	08:15:00	Rig Service	0.25	RS
3/15/00	08:15:00	11:00:00	Directional Work	2.75	DIR DRLG AHEAD F/ 577 - 605 M
3/15/00	11:00:00	11:30:00	Circulate sample	0.5	CIRC SAMPLE FOR GEOLOGIST
3/15/00	11:30:00	12:45:00	Directional Work	1.25	DRLG F/ 605 - 616 M
3/15/00	12:45:00	13:15:00	Circulate sample	0.5	CIRC BTMS UP SAMPLE
3/15/00	13:15:00	16:00:00	Wiper trip	2.75	WIPER TRIP CHECK HOLE COND
3/15/00	16:00:00	17:00:00	Directional Work	1	MOTOR DRLG TO 626 M
3/15/00	17:00:00	17:30:00	Circulate	0.5	CIRC BTMS UP, COND HOLE

3/15/00	17:30:00	19:45:00	Tripping	2.25	CHECK FLOWS AND TOH FOR CSG
3/15/00	19:45:00	20:30:00	Handle tools	0.75	BREAK AND LD DIR TOOLS
3/15/00	20:30:00	23:59:00	Run casing	3.48	RIG TO AND RUN 177.8 MM CSG
3/16/00	00:00:00	00:45:00	Run casing	0.75	RUN CSG
3/16/00	00:45:00	01:30:00	Circulate	0.75	BREAK CIRC, WASH TO BTM,CIRC
3/16/00	01:30:00	03:00:00	Cement casing	1.5	RIG TO AND CEMENT CSG
3/16/00	03:00:00	07:00:00	W.O.C.	4	WOC
3/16/00	07:00:00	07:15:00	Handle tools	0.25	BREAK AND LD LANDING JT
3/16/00	07:15:00	08:00:00	Handle tools	0.75	MAKE UP BHA W/ PDC BIT
3/16/00	08:00:00	09:30:00	RIH	1.5	RIH TO 600M
3/16/00	09:30:00	11:00:00	W.O.C.	1.5	WOC
3/16/00	11:00:00	11:15:00	Pressure test BOP	0.25	PRESS TEST PIPE RANS AND CSG
3/16/00	11:15:00	15:00:00	W.O.C.	3.75	WOC
3/16/00	15:00:00	15:30:00	Drill out cement	0.5	DRLG OUT PLUG,CEMENT AND SHOE
3/16/00	15:30:00	16:00:00	Directional Work	0.5	MOTOR DRLG AHEAD F/626 - 634 M
3/16/00	16:00:00	16:15:00	Rig Service	0.25	RS AND FUNCTION HYDRIL
3/16/00	16:15:00	19:00:00	Directional Work	2.75	MOTOR DRLG W/ PDC BIT TO 642 M
3/16/00	19:00:00	21:15:00	Tripping	2.25	FLOW CHECKS AND TOH W/ PDC BIT
3/16/00	21:15:00	22:45:00	Handle tools	1.5	CHGE BIT, SERVICE AND CHECK MWD
3/16/00	22:45:00	23:30:00	Handle tools	0.75	PICK UP 10 120 MM DCS
3/16/00	23:30:00	23:59:00	RIH	0.48	RIH W/ TRICONE BIT AND MUD MOTOR
3/17/00	00:00:00	01:00:00	RIH	1	RIH W/ TRICONE BIT, CHECK FLOWS.
3/17/00	01:00:00	01:15:00	Rig Service	0.25	RS AND FUNCTION HYDRIL
3/17/00	01:15:00	07:30:00	Directional Work	6.25	MOTOR DRLG F/ 624 - 692 M
3/17/00	07:30:00	08:00:00	Accumulated surveys	0.5	TOUR CUMM SURVEY TIME
3/17/00	08:00:00	08:15:00	Rig Service	0.25	RS AND FUNCTION REMOTE CHOKE
3/17/00	08:15:00	15:30:00	Directional Work	7.25	MOTOR DRLG F/ 692 - 739 M
3/17/00	15:30:00	16:00:00	Accumulated surveys	0.5	TOUR CUMM SURVEY TIME
3/17/00	16:00:00	17:00:00	Directional Work	1	MOTOR DRLG F/ 739- 742 M
3/17/00	17:00:00	17:15:00	Rig Service	0.25	RS AND FUNCTION PIPE RAMS
3/17/00	17:15:00	23:30:00	Directional Work	6.25	MOTOR DRLG F/ 742 - 779M
3/17/00	23:30:00	23:59:00	Accumulated surveys	0.48	TOUR CUMM SURVEY TIME
3/18/00	00:15:00	07:45:00	Drilling	7.5	
3/18/00	07:45:00	08:00:00	Survey	0.25	
3/18/00	08:00:00	08:15:00	Rig Service	0.25	
3/18/00	08:15:00	13:30:00	Drilling	5.25	
3/18/00	13:30:00	13:45:00	Survey	0.25	
3/18/00	13:45:00	14:15:00	Circulate	0.5	
3/18/00	14:15:00	15:45:00	Wiper trip	1.5	
3/18/00	15:45:00	16:30:00	Circulate	0.75	
3/18/00	16:30:00	19:00:00	Hoist to log	2.5	Lay down d.c's.
3/18/00	19:00:00	19:30:00	Handle tools	0.5	Directional tools.
3/18/00	19:30:00		Logging	4.5	

3/18/00		00:15:00	Rig Service	0.25	
3/19/00	01:45:00	02:45:00	Lay down drill string	1	
3/19/00	02:45:00	06:30:00	Run casing	3.75	
3/19/00	06:30:00	07:15:00	Circulate casing	0.75	
3/19/00	07:15:00	08:45:00	Cement casing	1.5	
3/19/00	08:45:00	13:00:00	Tear out rig.	4.25	
3/19/00		01:45:00	Logging	1.75	

Time Break Down

Activity	Hours
Drilling:	78
Surveying:	2
Circulating:	22
Cementing:	7
WOC:	15.25
Rig Service:	1
Rig Repair:	51
Tripping, Reaming:	49.75
Running casing:	15.25

15. Deviation Survey: **See section 128 of the *Canada Oil and Gas Drilling Regulations.***

16. Abandonment Plugs:

	Plug 1
Date	00-03-24
Interval	0m – 10m
Formation Name	
Formation Depth (KB)	
Tonnes of Cement	.2
Additives	0.2% D46, 0.4% D13, 0.5% D65
Volume of H_2O Ahead	$0m^3$
Displacement	$.2m^3$
Slurry Density	$1900kg/m^3$
Calculated Plug Depth	-1.5m GL
Felt Plug Depth (KB)	Not felt
Fluid Between Plugs	Gel-Chem mud

17. Composite Well Record: **See attached Well Logs and give an explanation.**

18. Completion Record: No Completion, Well abandoned

Start Date: .....

Finish Date: .....

Contractor: .....

Completion Summary: No Completion, Well abandoned

Date:

Perf / OH Interval:

Swab / Flow Results:

Stimulation / Comments:

Final Well Configuration: Attach Stick Diagram. (See Attachment 1B)

D: GEOLOGY

Summary of tops

Formation	Prognosis		Samples		Logs	
	Depth (m)	Subsea (m)	MD (m)	Subsea (m)	MD (m)	Subsea (m)
Cretaceous	25.5	62.0	np	np	np	np
Devonian						
Imperial	396.5	-309.0	402.0	-312.5	401.0	-313.5
Canol	637.5	-550.0	630.0	-542.5	632.5	-545.0
Kee Scarp	640.5	-553.0	633.0	-545.5	633.5	-546.0
Hare Indian	804.5	-717.0	830.0	-742.5	833.0	-745.5
Total Depth	874.5	-787.0	860.0	-772.5	860.3	-772.8

Geological Summary for Carcajou D-07

This well was drilled to evaluate oil potential of the Middle to Upper Devonian Kee Scarp Formation. Samples were caught from 172m to TD of 860m. A gas detector was run over this interval. Tops came in 5 to 7m above prognosis. Mud up was done at 638m upon penetration of the Kee Scarp Formation. No economical oil shows were encountered in the Kee Scarp Formation and the well was abandoned.

Formation summary:

Cretaceous (above 401m)
Surface casing was set at 172m. Lithology was shale and siltstone, with minor siderite interbeds. Shales are carbonaceous, and slightly pyritic. Traces of glauconite are present.
Background gas was 10-50 units. The highest reading was 120 units at 263-267m

Imperial (402m)
The formation contained sandstone, siltstone and shale. The sandstone was very fine to fine grained, light grey to brownish grey, with slightly dolomitic cement and sometimes siliceous. Some oil stain with fast white cut was noted.
The siltstone is like the sandstone, with occasional white cut present.
The shale is dark grey to black, is often silty and micromicaceous.
Gas readings in the Imperial range from 30 to 100 units, with peaks at 478m (488 units), increasing to around 800 units at 525-500m and 2602 units at 601m, opposite and oil-stained sandstone bed.

Canol (630m)
Black, fissile, bituminous and silty shales showing fast, white streaming cut.

Kee Scarp (633m)
Limestone with minor chert interbeds. The limestone is light brown through dark brown to black, fossiliferous, and medium to coarse grained. Porosity was chalky and up to 3%. Fracture porosity was also present. Dead oil and minor live oil shows throughout.
The chert was dark brown, opaline and calcareous, and occurred as beds and scattered.

Hare Indian (830m)
Limestone with siltstone interbeds and shale laminae. Gradual contact with Kee Scarp

Penetration rate and total gas readings

DEPTH m	ROP min/m	TG units	DEPTH m	ROP min/m	TG units	DEPTH m	ROP min/m	TG units
170.5	0.1	1	400.5	4	106	630.5	5.6	66
171.5	0.1	1	401.5	4.2	99	631.5	5.7	150
172.5	2.4	1	402.5	3.2	163	632.5	8.1	183
173.5	2	19	403.5	3.3	162	633.5	17.7	250
174.5	2.1	48	404.5	2.9	102	634.5	26.2	198
175.5	1.6	38	405.5	3.3	91	635.5	21.3	70
176.5	2	28	406.5	2.2	100	636.5	24	42
177.5	3.2	29	407.5	1.8	108	637.5	11	66
178.5	3.1	30	408.5	2.8	105	638.5	12.8	40
179.5	4.3	20	409.5	4.3	113	639.5	15.4	45
180.5	3.5	13	410.5	3.8	104	640.5	21.2	48
181.5	1.8	37	411.5	4	75	641.5	31.8	30
182.5	2.3	38	412.5	4.7	91	642.5	13.2	21
183.5	2.2	30	413.5	3	93	643.5	9.8	87
184.5	2	23	414.5	2.7	96	644.5	10.3	91
185.5	1.8	15	415.5	2.7	94	645.5	8.1	128
186.5	1.8	13	416.5	2.6	79	646.5	8.1	103
187.5	1.9	11	417.5	4.4	79	647.5	7	106
188.5	2.1	9	418.5	2.5	81	648.5	7.3	206
189.5	2.7	9	419.5	1.8	129	649.5	6.2	236
190.5	1.3	21	420.5	1.7	132	650.5	6.4	334
191.5	1.9	15	421.5	1.7	132	651.5	5.6	344
192.5	2.2	14	422.5	2.7	112	652.5	6	246
193.5	2	10	423.5	4.7	70	653.5	7.7	267
194.5	1.8	10	424.5	5.8	79	654.5	8	221
195.5	2	10	425.5	4.8	87	655.5	8.1	175
196.5	1.9	9	426.5	4.3	75	656.5	8.2	173
197.5	1.9	8	427.5	4.3	127	657.5	6.3	140
198.5	2.3	7	428.5	5.8	138	658.5	7.2	144
199.5	4.3	7	429.5	5.4	140	659.5	7.5	143
200.5	4	31	430.5	5	115	660.5	7.1	141
201.5	3.8	33	431.5	3.3	125	661.5	5.6	153
202.5	2.4	32	432.5	5.1	127	662.5	7.4	302
203.5	4.4	27	433.5	4.6	133	663.5	6.8	314
204.5	2.6	25	434.5	4.5	160	664.5	5.7	941
205.5	1.7	24	435.5	2.3	158	665.5	5.8	798
206.5	1.6	21	436.5	1.8	158	666.5	5	1022
207.5	2.1	39	437.5	1.8	158	667.5	4.8	402
208.5	2.3	22	438.5	2.3	135	668.5	4.9	303
209.5	3.8	30	439.5	3.4	121	669.5	4.6	219
210.5	3.5	32	440.5	3.4	231	670.5	4.6	336
211.5	3.5	31	441.5	3.1	268	671.5	6	349
212.5	4.6	38	442.5	3.1	243	672.5	5.1	286

213.5	2.8	38	443.5	2.8	202	673.5	9.2	157
214.5	2.3	33	444.5	2.9	198	674.5	12.8	213
215.5	2.5	32	445.5	3.1	144	675.5	9.1	99
216.5	2.3	28	446.5	3	129	676.5	7.3	106
217.5	1.8	25	447.5	2.6	158	677.5	7.6	166
218.5	2.9	26	448.5	2.4	124	678.5	7.8	182
219.5	3.1	35	449.5	2.7	173	679.5	7.9	186
220.5	3.5	49	450.5	2.9	180	680.5	6.3	113
221.5	3.6	49	451.5	3.9	166	681.5	6.4	131
222.5	3.4	36	452.5	2.4	142	682.5	7.5	338
223.5	3	39	453.5	2.2	47	683.5	8.7	157
224.5	2.4	39	454.5	3.5	46	684.5	7.8	293
225.5	2.1	39	455.5	3.2	40	685.5	7.7	190
226.5	1.9	24	456.5	3	47	686.5	7.3	4104
227.5	2.4	23	457.5	2.9	57	687.5	7.1	1161
228.5	3.1	39	458.5	3	66	688.5	5.6	2305
229.5	2	41	459.5	2.8	156	689.5	5.9	1130
230.5	2	43	460.5	3.9	156	690.5	5.9	997
231.5	1.5	44	461.5	4.3	154	691.5	6.2	916
232.5	1.5	17	462.5	5.6	109	692.5	8.8	824
233.5	1.5	17	463.5	11	109	693.5	5.5	401
234.5	1.8	20	464.5	11.3	104	694.5	5.4	411
235.5	1.9	13	465.5	7	125	695.5	6	697
236.5	1.8	10	466.5	7.7	196	696.5	5.8	697
237.5	2.3	9	467.5	5.1	194	697.5	6.3	391
238.5	3.2	20	468.5	5	211	698.5	6	284
239.5	1.6	38	469.5	3	197	699.5	6.2	292
240.5	1.6	30	470.5	4.4	168	700.5	5.9	298
241.5	1.6	16	471.5	7.7	204	701.5	7.7	350
242.5	1.6	11	472.5	11.9	111	702.5	9.7	323
243.5	2.1	10	473.5	12	104	703.5	8.7	405
244.5	2.1	15	474.5	6	133	704.5	9.8	426
245.5	1.8	25	475.5	5.3	138	705.5	10.3	431
246.5	1.8	27	476.5	3.5	225	706.5	9.2	324
247.5	3.2	26	477.5	2.7	235	707.5	8.9	322
248.5	1.8	60	478.5	2.3	214	708.5	8.2	226
249.5	1.8	76	479.5	2.8	213	709.5	9.8	222
250.5	2.4	74	480.5	4.8	183	710.5	9.3	239
251.5	1.7	68	481.5	15	165	711.5	9.8	272
252.5	1.6	51	482.5	24.8	62	712.5	8.1	265
253.5	1.5	20	483.5	12.5	61	713.5	8.5	308
254.5	1.4	26	484.5	2.5	250	714.5	7.8	273
255.5	1.5	33	485.5	2.8	232	715.5	8.4	326
256.5	2.1	35	486.5	2.9	196	716.5	8.3	250
257.5	2.3	20	487.5	2.9	174	717.5	7.8	247
258.5	1.5	88	488.5	2.3	202	718.5	8.1	247
259.5	1.9	89	489.5	3	189	719.5	8.2	234

260.5	2.8	69	490.5	6.5	172	720.5	9.1	229
261.5	2.8	64	491.5	2.3	164	721.5	10.3	202
262.5	2.8	69	492.5	3.2	137	722.5	7.5	186
263.5	1.8	103	493.5	3.3	138	723.5	9.5	194
264.5	1.1	117	494.5	3.4	131	724.5	8.9	91
265.5	1.3	77	495.5	3.1	124	725.5	8.4	93
266.5	1.6	121	496.5	3.1	119	726.5	7.8	238
267.5	2	109	497.5	3.5	91	727.5	7.9	151
268.5	1.4	68	498.5	4	120	728.5	8.7	295
269.5	1.6	52	499.5	6.3	114	729.5	8.7	221
270.5	2.2	47	500.5	3.8	124	730.5	8.7	394
271.5	1.9	42	501.5	3.4	144	731.5	10.3	352
272.5	1.7	37	502.5	2.4	184	732.5	8.9	277
273.5	1.4	30	503.5	2.2	186	733.5	10.2	331
274.5	1.3	33	504.5	2.3	193	734.5	13.4	249
275.5	1.3	53	505.5	1.8	233	735.5	13.1	242
276.5	1.8	60	506.5	1.8	249	736.5	10.3	216
277.5	2.1	60	507.5	1.7	259	737.5	9.6	253
278.5	1.8	59	508.5	1.8	242	738.5	8.3	368
279.5	2.4	20	509.5	4.3	155	739.5	9.3	279
280.5	1.7	8	510.5	2.3	104	740.5	9.3	234
281.5	1.5	8	511.5	2.6	91	741.5	9.9	229
282.5	1.8	13	512.5	3.4	121	742.5	12.3	218
283.5	1.7	12	513.5	3.2	135	743.5	9	191
284.5	1.7	8	514.5	3.1	153	744.5	9.3	167
285.5	1.8	8	515.5	3.3	155	745.5	9	157
286.5	4	7	516.5	3.1	159	746.5	9.2	132
287.5	3.7	58	517.5	3	179	747.5	9.2	124
288.5	3.3	28	518.5	4.1	178	748.5	9	122
289.5	3.3	32	519.5	5.3	164	749.5	9.6	125
290.5	3.1	52	520.5	6.9	100	750.5	10.5	112
291.5	2.8	56	521.5	7.8	100	751.5	9.2	134
292.5	1.9	55	522.5	5	122	752.5	9.6	133
293.5	5	70	523.5	5.4	120	753.5	10.6	140
294.5	1.6	72	524.5	5.8	170	754.5	9.9	123
295.5	1.9	66	525.5	3.3	223	755.5	10	127
296.5	3.7	34	526.5	2.2	233	756.5	10.1	122
297.5	3.8	75	527.5	4.8	221	757.5	10	109
298.5	3.7	35	528.5	4.5	272	758.5	10.3	105
299.5	2.2	57	529.5	22	211	759.5	9.8	105
300.5	2.3	74	530.5	14.9	87	760.5	12.3	103
301.5	2.3	75	531.5	19.1	91	761.5	10.7	121
302.5	1.8	72	532.5	8.3	107	762.5	10.9	147
303.5	1.8	62	533.5	9.9	91	763.5	10.3	141
304.5	1.7	16	534.5	9.1	71	764.5	10.9	108
305.5	1.8	61	535.5	6.9	89	765.5	9.1	93
306.5	2	88	536.5	3.8	111	766.5	8.8	110

307.5	1.3	88	537.5	3.5	113	767.5	11	98
308.5	2.3	61	538.5	7.7	112	768.5	11.5	94
309.5	1.4	60	539.5	11.3	64	769.5	12.1	86
310.5	1.3	76	540.5	16.9	104	770.5	15	86
311.5	1.3	69	541.5	18.8	82	771.5	11.7	87
312.5	1.2	61	542.5	3.2	234	772.5	11.5	105
313.5	2.1	54	543.5	3.5	275	773.5	11.6	88
314.5	1.8	48	544.5	3.2	273	774.5	11.2	81
315.5	2.1	46	545.5	3.3	170	775.5	10.6	87
316.5	1.8	57	546.5	5	192	776.5	10.2	100
317.5	1.8	64	547.5	4.5	184	777.5	10.7	99
318.5	1.5	67	548.5	7.8	146	778.5	10.8	120
319.5	1.5	57	549.5	3.3	184	779.5	10.5	139
320.5	1.5	29	550.5	4.1	185	780.5	8.3	150
321.5	1.4	14	551.5	4.3	174	781.5	8.1	660
322.5	1.3	14	552.5	4.4	151	782.5	10.8	711
323.5	1.3	10	553.5	4.3	177	783.5	10	381
324.5	1.7	22	554.5	4.8	168	784.5	10.3	383
325.5	2.4	56	555.5	4.4	119	785.5	15	273
326.5	1.3	90	556.5	4.5	140	786.5	13.3	238
327.5	1.5	80	557.5	4.6	144	787.5	12.4	194
328.5	1.8	82	558.5	3.1	132	788.5	11.7	190
329.5	1.6	47	559.5	2.4	125	789.5	11	185
330.5	1.3	30	560.5	3.3	111	790.5	10.3	185
331.5	1.4	24	561.5	3.7	111	791.5	9.8	228
332.5	1.2	40	562.5	3.7	133	792.5	9.9	884
333.5	1.2	22	563.5	3.6	122	793.5	11.8	385
334.5	1.9	64	564.5	3.4	156	794.5	11.4	330
335.5	2	80	565.5	3.4	187	795.5	10.3	246
336.5	2.3	115	566.5	3.8	181	796.5	11.5	269
337.5	3.3	85	567.5	4.8	136	797.5	11.6	205
338.5	2.3	85	568.5	4.5	121	798.5	11.5	170
339.5	2.3	76	569.5	5.1	112	799.5	11.6	162
340.5	1.7	83	570.5	4.7	121	800.5	6.9	305
341.5	2.1	85	571.5	5.6	120	801.5	6.7	229
342.5	1.5	80	572.5	5.2	106	802.5	7.6	301
343.5	1.4	50	573.5	5.1	111	803.5	7.3	229
344.5	2.4	40	574.5	4.7	126	804.5	6.5	1241
345.5	2.9	77	575.5	4.3	126	805.5	10.8	874
346.5	2.7	75	576.5	8.6	141	806.5	8.2	329
347.5	2.3	71	577.5	7.1	150	807.5	9.5	256
348.5	2.1	79	578.5	5.4	87	808.5	11	139
349.5	1.5	93	579.5	7.4	78	809.5	8.8	153
350.5	1.5	95	580.5	6	265	810.5	8.8	141
351.5	1.5	65	581.5	6.3	248	811.5	8.5	176
352.5	1.5	58	582.5	7	202	812.5	8.7	181
353.5	2.1	112	583.5	7.3	190	813.5	9.3	104

354.5	2.1	112	584.5	6	190	814.5	9	71
355.5	1.3	93	585.5	6.6	176	815.5	9.2	67
356.5	1.6	74	586.5	6.8	158	816.5	9.5	55
357.5	1.8	73	587.5	6	176	817.5	9.1	48
358.5	2	62	588.5	5	161	818.5	15	49
359.5	1.7	80	589.5	6.7	157	819.5	7.6	50
360.5	1.8	60	590.5	6.8	121	820.5	7.8	130
361.5	1.6	61	591.5	6.1	154	821.5	8.4	137
362.5	1.3	140	592.5	6.5	146	822.5	8.9	76
363.5	1.8	155	593.5	6.3	147	823.5	9.4	81
364.5	2.1	152	594.5	5.3	147	824.5	9.3	78
365.5	1.4	129	595.5	6.3	142	825.5	10.6	73
366.5	3.7	64	596.5	6.4	143	826.5	9.5	67
367.5	3.8	58	597.5	4.3	183	827.5	9.3	245
368.5	2.8	35	598.5	4.1	180	828.5	15	136
369.5	1.4	72	599.5	5.6	152	829.5	15.1	87
370.5	1.3	39	600.5	5.4	217	830.5	10.1	128
371.5	1.5	92	601.5	5.7	2602	831.5	9.5	157
372.5	1.8	149	602.5	6.3	876	832.5	7.7	120
373.5	2	168	603.5	6.5	167	833.5	7.5	123
374.5	2.2	181	604.5	6.3	185	834.5	7.9	193
375.5	1.7	158	605.5	6.3	152	835.5	8.3	139
376.5	2.6	67	606.5	9.1	133	836.5	8.4	134
377.5	2.8	55	607.5	6.8	172	837.5	9.7	125
378.5	2.4	32	608.5	7.5	112	838.5	16	128
379.5	2.8	49	609.5	3.4	169	839.5	9.3	184
380.5	2.7	66	610.5	3.1	175	840.5	9.8	169
381.5	2.3	50	611.5	3.3	172	841.5	9.3	256
382.5	1.7	181	612.5	5.5	139	842.5	8.3	256
383.5	2.9	195	613.5	5.1	140	843.5	8.1	266
384.5	1.8	195	614.5	4.1	295	844.5	7.3	1563
385.5	2.3	142	615.5	7.5	174	845.5	6.3	266
386.5	1.7	142	616.5	3.1	137	846.5	7.3	279
387.5	1.5	134	617.5	3	214	847.5	7.9	350
388.5	1.5	134	618.5	4.3	164	848.5	7.8	285
389.5	1.3	129	619.5	5.3	149	849.5	8.1	148
390.5	1.8	80	620.5	6	166	850.5	7.4	152
391.5	2.1	121	621.5	7.2	176	851.5	7.2	163
392.5	2.8	142	622.5	3.8	237	852.5	6.9	170
393.5	2.8	140	623.5	3.8	172	853.5	7.2	161
394.5	1.8	148	624.5	6.2	152	854.5	6.1	237
395.5	3.3	52	625.5	5.9	145	855.5	6.3	260
396.5	2.8	34	626.5	6	133	856.5	6.6	175
397.5	2.5	69	627.5	4	51	857.5	5.7	222
398.5	3.3	85	628.5	6.8	48	858.5	5.2	206
399.5	3.5	111	629.5	9.3	47	859.5	5.3	237
						860.5	0.1	274

SAMPLE DESCRIPTIONS

172 - 199 m	Shale with minor Siltstone interbeds. SHALE - dark grey, subfissile to fissile, silty, carbonaceous flakes, pyritic in part, micromicaceous. SILTSTONE - dark grey brown, blocky, argillaceous to highly argillaceous, sandy, trace glauconite, micromicaceous. Minor Siderite stringers.
199 - 213 m	Siltstone with Shale interbeds. SILTSTONE - medium to dark grey to grey brown, blocky, very slightly calcareous, argillaceous to highly argillaceous, trace glauconite, micromicaceous. SHALE - dark grey to black, subfissile to subblocky, silty to sandy, micromicaceous.
213 - 235 m	Interbedded & interlaminated Shale & Siltstone. SHALE - dark grey, subfissile to fissile, silty to highly silty grading to Siltstone, carbonaceous, micromicaceous, pyritic in part. SILTSTONE - dark grey to grey brown, well cemented, calcareous to sideritic cement, argillaceous to highly argillaceous grading to Shale, becoming sandy in part.
235 - 260 m	Shale with Siltstone interbeds. SHALE - dark grey to black, fissile to subfissile, platy, silty, carbonaceous, minor disseminated pyrite. SILTSTONE - dark grey to grey brown, well cemented, calcareous, carbonaceous, argillaceous to highly argillaceous, sandy in part.
260 - 286 m	Shale with minor Siltstone interbeds. SHALE - dark grey, fissile to subfissile, silty to highly silty grading to Siltstone in part, trace carbonaceous, micromicaceous, disseminated pyrite.
286 - 299 m	Siltstone with Shale interbeds. SILTSTONE - medium to dark grey to grey brown, argillaceous to highly argillaceous, slightly carbonaceous, very slightly calcareous. SHALE - dark grey, fissile to subfissile, silty to highly silty grading to Siltstone in part, trace carbonaceous, micromicaceous, disseminated pyrite.
299 - 315 m	Shale with Siltstone & Siderite stringers. SHALE - dark grey, fissile to subfissile, silty grading to Siltstone in part, micromicaceous, trace pyrite.

315 - 334 m SHALE - dark grey to black, fissile to subfissile, carbonaceous, silty, micromicaceous.
Minor Siderite interbeds.

334 - 355 m SHALE - dark grey to black, fissile to subfissile, platy to splintery in part, carbonaceous, silty to sandy, trace glauconite, micromicaceous, disseminated pyrite.
Minor Siderite interbeds.

355 - 380 m Interbedded Siltstone & Shale.
SILTSTONE - medium to dark brown to grey brown, well cemented, argillaceous, slightly calcareous in part, sandy grading to very fine Sandstone in part, trace glauconitic, trace carbonaceous, micromicaceous, disseminated pyrite, tight, fast white cut.
SHALE - dark grey, fissile to subfissile, platy, carbonaceous, silty to sandy, micromicaceous.

380 - 398 m Shale with Siltstone interbeds & laminae.
SHALE - dark grey to brown grey, fissile to subfissile, silty grading to Siltstone, carbonaceous, micromicaceous, disseminated pyrite.
SILTSTONE - dark grey brown, well cemented, argillaceous, calcareous in part, slightly sandy, micromicaceous, ? cut.

398 - 402 m SANDSTONE - light grey to off white, very fine to fine grained. angular to subangular, well sorted, moderately to well cemented, dolomitic & silica cement, trace poor porosity to tight, fast white cut.

402 - 423 m Siltstone with Shale interbeds.
(Imperial) SILTSTONE - grey to grey brown, siliceous, slightly calcareous in part, sandy grading to very fine Sandstone in part, argillaceous, ? to no shows.
SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

423 - 435 m SANDSTONE - grey brown, very fine, subangular, well sorted, well cemented, silica cement, slightly dolomitic, silty, slightly carbonaceous, tight, fast white cut.

435 - 460 m Interbedded Siltstone & Shale.
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous.
SHALE - dark grey, fissile , silty, micromicaceous, trace carbonaceous.

460 - 480 m Shale with Siltstone interbeds.
SHALE - dark grey, fissile to subfissile, blocky , silty, micromicaceous, trace carbonaceous.

460 - 480 m SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine

(Cont'd)	Sandstone in part, argillaceous.
480 - 500 m	Interbedded & interlaminated Shale & Siltstone. SHALE - dark grey, fissile to subfissile, blocky , silty, micromicaceous, trace carbonaceous. SILTSTONE - grey to grey brown, siliceous, very slightly dolomitic, sandy grading to very fine Sandstone in part, trace carbonaceous, argillaceous.
500 - 527 m	Shale with Siltstone stringers. SHALE - dark grey, fissile, silty grading to Siltstone in part, micromicaceous, trace carbonaceous.
527 - 535 m	SANDSTONE - light grey, silt to very fine Sandstone, subangular, well sorted, well cemented, dolomitic cement, siliceous, trace carbonaceous, tight to trace poor porosity, fast white cut.
535 - 546 m	SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut.
546 - 576 m	Interbedded Siltstone, Sandstone & Shale. SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut. SANDSTONE - light to medium grey, very fine grained, subangular, well sorted, moderately cemented, silica cement, silty to highly silty, argillaceous, trace carbonaceous, tight to rare poor porosity, no florescence, fast white cut. SHALE - dark grey, subfissile to subblocky, silty to highly silty, micromicaceous.
576 - 590 m	Siltstone with minor Shale interbeds. SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut. SHALE - dark grey, subfissile to subblocky, silty to very silty, micromicaceous.
590 - 609 m	Siltstone grading to Sandstone. SILTSTONE - light to medium grey, moderately to well cemented, silica cement, trace dolomitic, sandy to highly sandy, argillaceous, moderate to fast white cut. SANDSTONE - light grey, very fine to trace fine grained, subangular, well sorted, moderately to well cemented, dolomitic cement, argillaceous, slightly carbonaceous, poor fracture porosity to tight, weak white florescence, fast white cut.
609 - 630 m	Interbedded Shale & Siltstone. SHALE - dark grey to black, fissile to subfissile, silty to very silty,

micromicaceous.
SILTSTONE - light to medium grey, moderately to well cemented, silica cement, trace dolomitic, sandy to highly sandy, argillaceous.

630 - 633 m ***(Canol)***
SHALE - black, fissile, silty, minor pyrite, bituminous, fast white streaming cut.

633 - 642 m ***(Kee Scarp)***
Limestone with minor Chert interbed.
LIMESTONE - light brown tan to dark brown, very fine calcarenite, biopelmicrite to biopelsparite, fossil debris, crinoids, argillaceous in part, siliceous grading to Chert in part, tight, dead to spotty shows.
CHERT - dark brown, opalline, calcareous, bedded, hard.

642 - 653 m
Interbedded Limestone & Chert.
LIMESTONE - dark brown to black, light brown, micrite to biomicrite, mudstone to wackestone, argillaceous, resinous in part, dense, siliceous grading to Chert in part, trace pyrite, tight to trace fracture porosity, trace pyrobitumen, fast white cut.
CHERT - dark brown to black, opalline in part, calcareous, bedded, hard, fractured with euhedral calcite on rare faces, minor pyrobitumen on calcite crystals.

653 - 670 m
LIMESTONE - dark brown to black, light brown (allochems?) , micrite to biomicrite, mudstone to wackestone to rudstone? , argillaceous to highly argillaceous, dense, minor pyrobitumen, bituminous, tight to minor fracture porosity, trace poor (3%) chalky porosity, spotty florescence on fracture faces, fast white cut.
Fine to medium euhedral calcite crystals on occasional chips.

670 - 687 m
LIMESTONE - dark brown to black, light brown (allochems?), micrite to biomicrite, mudstone to wackestone to rudstone?, argillaceous to highly argillaceous grading to Shale in part, dense, minor pyrobitumen, bituminous, tight to fair to good fracture porosity, trace poor (3%) chalky porosity, spotty florescence on fracture faces, fast white cut.
Common loose fine to very coarse euhedral calcite crystals.

687 - 706 m
Limestone grading to Marlstone to Shale.
LIMESTONE - dark brown to black, light brown (allochems?), micrite to biomicrite, mudstone to wackestone to rudstone?, argillaceous to highly argillaceous grading to Shale in part, dense, minor pyrobitumen, bituminous, tight to minor fracture porosity, spotty florescence on fracture faces, fast white cut.

687 - 706 m (Cont'd)
MARLSTONE - black, highly argillaceous, highly calcareous, well indurated, bituminous.
SHALE - black to dark brown, fissile to subblocky, calcareous, bituminous,

firm.

706 - 720 m LIMESTONE - light to dark brown, micrite to biomicrite, wackestone to rudstone, stromatoporoids, fossil debris, argillaceous, bituminous, tight to poor (3%) chalky porosity, no florescence, fast white streaming cut.

720 - 735 m LIMESTONE - light to dark grey brown, micrite to biomicrite, wackestone to rudstone, stromatoporoids, crinoids, fossil debris, argillaceous, bituminous, tight to poor to fair (3-6%) chalky porosity, no florescence, fast white streaming cut.

735 - 747 m Limestone with minor Marlstone.
LIMESTONE - medium grey brown to dark brown, micrite to biomicrite, rudstone, stromatoporoids, fossil debris, argillaceous to highly argillaceous in part, bituminous, tight to minor poor 3% chalky porosity, poor to fast streaming white cut.

747 - 760 m LIMESTONE - light to medium brown to dark brown, calcilutite to medium calcarenite, micrite to biopelmicrite, mudstone to wackestone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, slightly argillaceous, slightly bituminous, tight to minor poor porosity, poor to fast streaming white cut.

760 - 780 m LIMESTONE - light to medium brown to dark brown, calcilutite to medium calcarenite, micrite to biopelmicrite, mudstone to wackestone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, slightly argillaceous, slightly bituminous, tight to minor poor porosity, poor to fast streaming white cut.

780 - 793 m Interbedded Shale & Limestone.
SHALE - dark grey to black, blocky to subfissile, highly calcareous to Marlstone, firm, bituminous.
LIMESTONE - medium to dark brown, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, minor fossil debris, slightly bituminous, tight, fast white cut, ? shows.

793 - 813 m Limestone with Shale interbeds.
LIMESTONE - light to medium brown, calcarenite, biopelmicrite, wackestone to packstone, fossil debris, slightly dolomitic, silty in part, slightly argillaceous, tight, white cut, ? shows.
SHALE - dark grey to black, blocky, silty, highly calcareous, bituminous.

813 - 830 m LIMESTONE - light to medium brown to brown grey, calcarenite to calcirudite, biopelmicrite, wackestone to packstone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, silty, silt content increasing downward, argillaceous in part, tight, ? shows.

830 - 847 m Limestone with Siltstone interbeds & Shale laminae.
(Hare Indian) LIMESTONE - light to medium grey brown to brown grey, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, argillaceous, silty to highly silty grading to Siltstone in part, tight to minor poor (<3%) chalky porosity, trace fracture porosity, minor pyrobitumen in pores, fast streaming white cut.

847 - 860 m Interbedded Siltstone & Shale.
SILTSTONE - medium to dark brown, well cemented, calcareous grading to Limestone in part, argillaceous to highly argillaceous, micaceous, trace disseminated pyrite, dead oil stain, fast white streaming cut.
SHALE - dark grey to black, blocky, highly calcareous grading to Marlstone, firm, silty, micromicaceous, bituminous.

Total Depth: Driller – 860.0 meters
Logger – 860.3 meters

DRILL STEM TESTS

None run

OPEN HOLE LOG SUMMARY

RUN 1

Logging Company: Schlumberger

Engineer: Sean McConkey

District: Norman Wells

Truck No.: 8416

Circulation Ended: 1615 Hrs. 00/03/18

Finish Trip: 2000 Hrs. 00/03/18

On Location: 1230 Hrs. 00/03/18

Off Location: 0300 Hrs. 00/03/19

Rig Up: 2000 Hrs. 00/03/18

Rig Down: 0145 Hrs. 00/03/19

Mud Properties:

Mud Type: Gel Chem
Density: 1100
Viscosity: 59
WL: 10.0
pH: 9.0

BHT: 38.0°C
Rmf: 1.69 @ 22.0 °C

Services:

Log	*Interval Logged*	*Meters Logged*	*Comments*
CNL-LDT-DLL	855.7 to 626.0	229.7	1:240 & 1:600
BHCS-GR	858.7 to 626.0	232.7	1:240 & 1:600

Times:

Tool Combo	*Date*	*Start In*	*First on Bottom*	*Last on Bottom*	*Clear Hole*	*Total Hours*
CNL-LDT-DLL	00/03/18	2100	2130	2145	2315	2.25
BHCS-GR	00/03/19	0000	0030	0045	0115	1.25

Logging Time: 3.50 Hours

Rig Up/Down: 2.25 Hours

Time Losses: 0 Hours

Total Logging Time: 7.75 Hours

Remarks: Compensated Neutron logged to surface. Arrived on location early to ensure satellite communication. Good job. Fast, friendly & proficient service.

MUD RECORD

Mud up @ 638 meters

Date	Depth (m)	Density (kg/m3)	Viscosity (s/l)	pH	Water Loss
3/16/00	642	1030	42	9.0	14.0
3/17/00	779	1080	43	9.5	10.0
3/18/00	800	1080	45	9.0	8.5
3/19/00	860	1100	59	9.0	10.0

E. ENVIRONMENTAL WELL ANALYSIS

F. APPENDICES TO WELL HISTORY

(See Table of Contents)

Insert 5 year data here

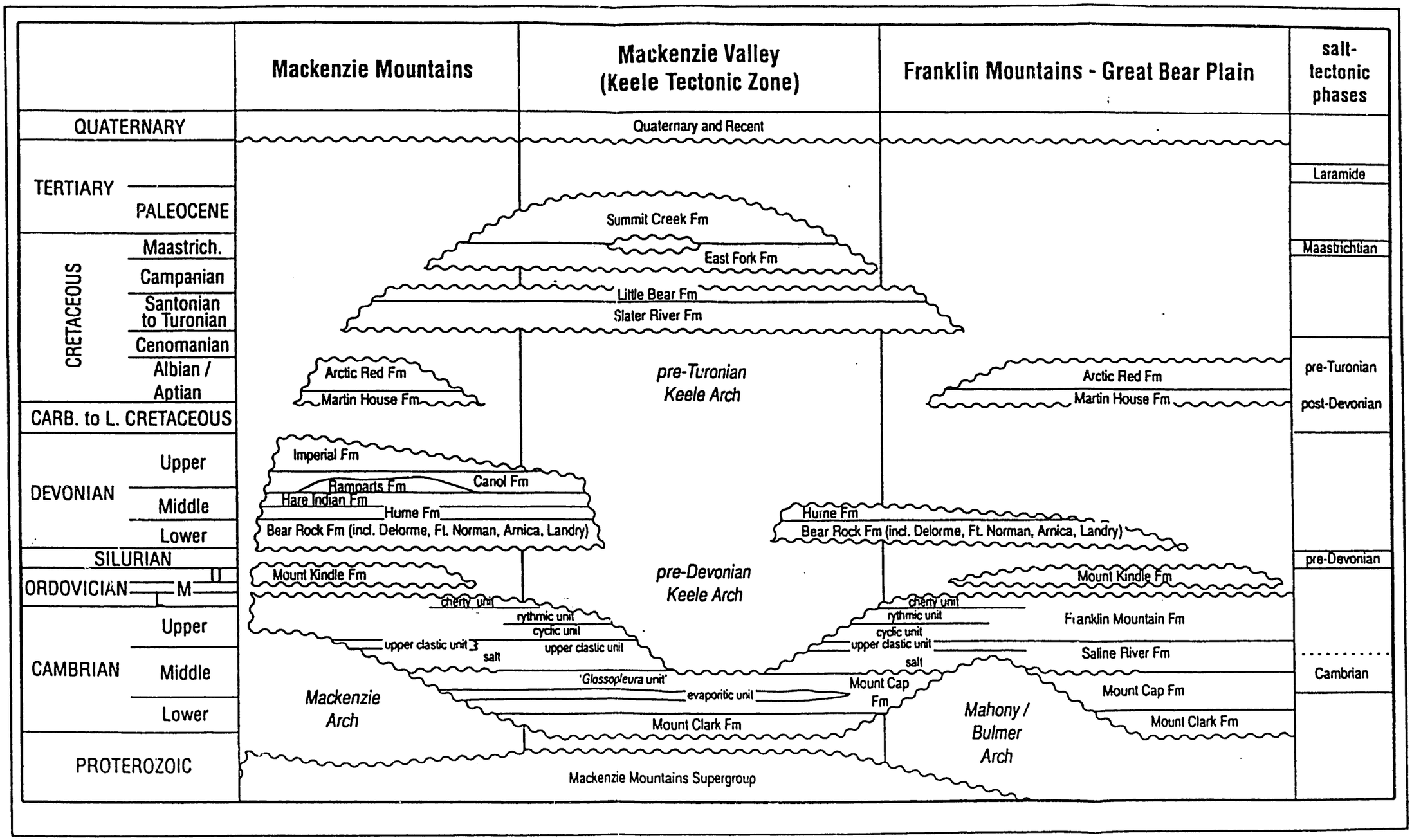


Fig. 5. Regional stratigraphic and tectonic relationships chart including salt tectonic phases in the study area.
From: B.C. Maclean and D.G. Cook, 1999; Bull. Cdn. Petr. Geol., vol. 47.

Office national
de l'énergie

Exploratory X
Development n
Delineation n
Service n

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: AEC (West) Renaissance Carcajou D-07
Operator: AEC OIL & GAS
Contractor: Akita Drilling Ltd.
Drilling Rig or Unit: Rig #14
Location-Unit: D
Section: 7
Coordinates: Lat.: 65 36' 10.08405"
Area: Carcajou (Ft. Good Hope/ Norman Wells)
Elevation-KB/RT: 87.20m (ASL)
Approx. Spud Date: February 22.,2000
Anticipated Total Depth: 875m

Drilling Program No.:
Interest identifier:
Estimated Well Cost: $ 975,000
Grid Area: 65 40', 128 30'
Long.: 128 31' 49".84003
Field / Pool: Exploratory
GL / Seafloor: 83.20m
Est. Days on Location: 10
Target Horizons: Kee Scarp

EVALUATION PROGRAM

Ten-metre sample intervals
Five-metre sample intervals: Base of surface casing to TD, 2 sets of 7 ml vials
Canned sample intervals: None
Conventional cores at: Possible Kee Scarp
Logs and Tests: DLTE/MSFL/LDTD/CNTH/SGTL/BHC/GR; 580m to TD, 1-DST, Kee Scarp

CASING AND CEMENTING PROGRAM

O.D. (mm)	Weight (kg/m)	Grade	Setting Depth (m KB)	Cementing Program
244.5	53.57	J-55	170m	Arctic Set
177.8	34.2	J-55	640m	RFC + add.
114.3	14.14	J-55	875m	RFC + add.

B.O.P. Equipment: 9" 3000psi Shaffer Annular Preventer, 9" 3000psi Shaffer LWS Blind Ram Preventer, Spool, 9" 3000psi Shaffer LWS Pipe Ram Preventer, Spool,

Other Information:

Signed: *Responsible Officer*
Name: Ken Woldum
Date: 2000/01/07

Title: Senior Vice President
South West Business Unit
Company: AEC Oil & Gas
Phone: (403) 213-2629

APPROVAL

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

Date: Feb 11/2000
File: 9211-A061-2-3
WID: 1890
UWI: 300D07654012830

Signed: *Chief Conservation Officer*

Canada
444 Seventh Avenue SW
Calgary, Alberta T2P 0X8

444 Septième Avenue S.-O.

Telephone/Téléphone : (403) 292-4800
Facsimile/Télécopieur : (403) 292-5876
http://www.neb.gc.ca

GEOLOGICAL PROGNOSIS

AEC(West) Renaissance Carcajou D-7

location: 65° 36'10.08405" N, 128° 31'49.84003"W NAD1927

Line 99CAR99-01 shot point 1951

Formation	Drill Depth(TVD)	Subsea depth	interval	Lithology
KB	0	+88m	0	
Surface GL	4m	+84m	4m	air
Pliestocene	4m	+84m	20m	Tundra,Gravel/ sands/silty-shale
Cretaceous	24m	+62m	373m	Shale/silt/sand//Basal sand thin
Devonian Imperial	397m	-309m	241m	Shale slightly silty dk.Grey
Mid Devonian Canol	638m	-550m	3m	Shale Black(source rock)
Kee Scarp *	641m	-553m	164m	Limestone(tight/porous) *objective
Hare Indian	805m	-717m	70m	Shale-silty dk.grey/green
Total Depth projected	875m	-787m		

Objective: Kee Scarp

Core 9m in Objective if porous

AEC (WEST) RENAISSANCE CARCAJOU D-07

DEVIATION RECORD

Survey No.	Depth (meters)	Deviation (degrees)	Interval (meters)	Survey No.	Depth (meters)	Deviation (degrees)	Interval (meters)
1	195	5.500	195	26	525	2.100	10
2	205	4.600	10	27	534	1.800	9
3	215	3.300	10	28	544	1.700	10
4	224	2.500	9	29	554	1.400	10
5	234	2.100	10	30	573	1.300	19
6	244	1.200	10	31	592	1.100	19
7	253	2.400	9	32	612	1.100	20
8	263	2.500	10	33	641	1.000	29
9	273	2.500	10	34	651	1.200	10
10	283	2.700	10	35	660	1.700	9
11	292	2.300	9	36	670	2.100	10
12	302	1.500	10	37	680	1.300	10
13	312	1.400	10	38	699	1.100	19
14	321	1.600	9	39	718	2.000	19
15	331	1.500	10	40	728	1.800	10
16	341	1.100	10	41	738	1.100	10
17	370	1.100	29	42	757	0.600	19
18	389	1.100	19	43	767	0.500	10
19	418	1.500	29	44	777	0.800	10
20	447	1.800	29	45	786	0.800	9
21	457	2.000	10	46	796	1.100	10
22	466	1.700	9	47	815	2.200	19
23	476	1.400	10	48	825	2.300	10
24	505	2.200	29	49	835	1.600	10
25	515	2.400	10	50	847	1.200	12

Summary of Drilling Costs
Alberta Energy Company Ltd.

Wellbore Name	AEC (WEST) REN CARCAJOU D-07	AFE Numbers	5000047	Supervisor	LYNN SANDQUIST
Spud Date	Mar 13, 2000	Rig Release Date	Mar 19, 2000		

Major Code	Minor Code	Cost Description	02/29/00	03/01/00	03/02/00	03/03/00	03/04/00	03/12/00	03/13/00	03/14/00	03/15/00	03/16/00	03/17/00	03/18/00	03/19/00		Accum. Total	AFE Est.	Var.
9210	308	LOCATION PREP/ROAD						240,000									$240,000	$35,000	-205,000
9210	312	CLEANUP/ABANDON						1,200	1,200	1,200	1,200		1,200	1,200	1,200		$8,400	$25,000	16,600
9210	314	CONDUCTOR/RAT/MOUSEHOLE		8,000	17,399												$25,399	$30,000	4,601
9210	316	RIG/CAMP MOVE IN/OUT		19,825				20,000				18,755					$58,580	$50,000	-8,580
9210	320	DIRECTIONAL SERVICES							7,000	8,825	8,000	8,000	8,825	16,000			$56,650	$0	-56,650
9210	324	DAYWORK	10,000	10,000	10,000	10,000	10,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000	15,000		$170,000	$208,000	38,000
9210	328	STEAMER					1,000	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500		$13,000	$33,000	20,000
9210	330	TRAVL/SUBSISTANCE/CAMP	1,800	1,800	1,800	1,800	1,800	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000		$49,000	$83,000	34,000
9210	334	MUD/FLUIDS/LUBRICATION							1	1	1	890		581	500		$1,974	$25,000	23,026
9210	336	BITS			1,200				5,000		1	10,000					$16,201	$29,000	12,799
9210	340	EQUIPMENT RENTAL	520	520	485	1,600	1,600	1,250	1,250	1,250	1,235	1,235	1,235	1,235	1,210		$14,625	$39,000	24,375
9210	346	WATER ACCESS/HAULING		600	1,000	1,000	1,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	1,200		$18,800	$21,000	2,200
9210	348	TRANSPORT/TRUCKING										1,000	1,000				$2,000	$22,000	20,000
9210	356	LOG/PERF/ANALYSIS												30,000			$30,000	$70,000	40,000
9210	370	SUPERVISION/VEHICLE/TELEPHONE	800	800	800	800	800	1,700	1,700	1,700	1,700	1,700	1,700	1,700	1,700		$17,600	$22,000	4,400
9210	372	COMMUNICATION/TELEPHONE						100	100	100	100	100	100	100	100		$800	$4,000	3,200
9210	378	SAFETY/ENVIRONMENT	600	600	600	600	600	800	800	800	800	800	800	800	800		$9,400	$11,000	1,600
9210	391	SURFACE CASING					9,478										$9,478	$8,000	-1,478
9210	392	SURFACE CASE-CEMENT					43,828										$43,828	$27,000	-16,828
9210	394	SURFACE CASE-ACC/WELD/TONGS					3,128										$3,128	$3,000	-128
9210	395	INTERMEDIATE CASING									22,800						$22,800	$16,000	-6,800
9210	396	INTERMEDIATE CASING - CEMENTING									16,737						$16,737	$20,000	3,263
9210	397	INTERMEDIATE CASE-ACC/WELD/TONGS									4,000						$4,000	$8,000	4,000
9210	400	PRODUCTION CASING													19,800		$19,800	$19,000	-800
9210	402	PRODUCTION CASING-CEMENT													22,000		$22,000	$22,000	0
9210	404	PRODUCTION CASING-ACC/WELD/TONGS													1,000		$1,000	$9,000	8,000
9210	300	CONSULTING/EVALUATION/DESIGN															$0	$7,000	7,000
9210	302	SURFACE RIGHTS/SURVEY/EASEMENTS															$0	$35,000	35,000
9210	350	INSPECTION/SERVICE															$0	$3,000	3,000
9210	352	CONTRACT SERVICE/LABOR															$0	$15,000	15,000
9210	354	CORING/ANALYSIS															$0	$35,000	35,000
9210	358	DRILL STEM TEST/ANALYSIS															$0	$8,000	8,000
9210	386	OVERHEAD															$0	$13,000	13,000
9210	390	CASING BOWL															$0	$2,500	2,500
Cumulative Well Cost to Date			13,720	42,145	33,284	15,800	73,234	288,550	40,551	37,376	80,074	65,980	38,360	75,116	71,010		875,200	957,500	82,300

Prepared: - 10/3/00

Report Produced by Well Point Systems

AEC (WEST) RENAISSANCE CARCAJOU D-07

WELL DATA SUMMARY

Company:	AEC (West)
Well Name:	AEC (West) Renaissance Carcajou D-07
Surface Location:	65°36'10.22905", 128°31'56.88474"
Surface Co-ordinates:	Northing: 7275722.848, Easting: 521548.995
Elevations:	***Ground:*** 83.2 meters ***Kelly Bushing:*** 87.5 meters ***K.B. to Ground:*** 4.3 meters
Unique Well I.D.:	300D07654012830
Field:	Exploratory
Classification:	NPW
Objectives:	***Primary*** – Kee Scarp
Terminating Zone:	Hare Indian
Security:	Tight
AFE Number:	5000047
Licence Number:	1890
Spud Date:	0030 Hrs., March 14, 2000
Total Depth:	860.0 meters @ 1345 Hrs, March 18, 2000

AEC (WEST) RENAISSANCE CARCAJOU D-07

Sampled Interval: ***AEC/Ren:*** 172 to T.D. meters (5 & 2.5 meter intervals)
Gov't: 172 to T.D. meters (5 & 2.5 meter intervals)

Contractor: Akita Drilling # 14

Drilling Supervision: Lyn Sandquist

Geological Supervision: Glen MacIntosh

Hole Size: ***Surface:*** 311.2 mm
Intermediate: 222 mm
Main: 156 mm

Surface Casing: ***Size:*** 244.5 mm
Type: 15 joints of 53.57 kg/m J-55
Landed @ 172.0 meters.
Cement: 18.0 Tonnes Arctic Set + additives
Plug down @ 2400 Hrs March 4, 2000

Intermediate Casing: ***Size:*** 177.8 mm
Type: 51 joints of 34.2 kg/m J-55
Landed @ 626.0 meters
Cement: 15.1 Tonnes RFC + additives
Plug down @ 0300 Hrs March 16, 2000

Production Casing: ***Size:*** 114.3 mm
Type: 70 joints 14.1 kg/m J-55 ST-C
Landed @ 860.0 meters
Cement: 11.3 Tonnes RFC + additives
Plug down @ 0845 Hrs March 19, 2000

Open Hole Logs: Schlumberger

Log	***Interval Logged***	***Scale***
CNL-LDT-DLL	855.7 to 626 meters	1:240 & 1:600
BHCS-GR	858.7 to 626 meters	1:240 & 1:600

Final Status: Casing ran / abandoned

Rig Release: 1300 Hrs, March 19, 2000

AEC (WEST) RENAISSANCE CARCAJOU D-07

GEOLOGICAL MARKERS

K.B. 87.5 meters

Formation	Prognosis		Samples		Logs	
	Depth (m)	Subsea (m)	MD (m)	Subsea (m)	MD (m)	Subsea (m)
Cretaceous	25.5	62.0	np	np	np	np
Devonian						
Imperial	396.5	-309.0	402.0	-312.5	401.0	-313.5
Canol	637.5	-550.0	630.0	-542.5	632.5	-545.0
Kee Scarp	640.5	-553.0	633.0	-545.5	633.5	-546.0
Hare Indian	804.5	-717.0	830.0	-742.5	833.0	-745.5
Total Depth	874.5	-787.0	860.0	-772.5	860.3	-772.8

AEC (WEST) RENAISSANCE CARCAJOU D-07

DAILY PROGRESS SUMMARY

Date	Costs	Depth @ 2400 Hrs.	Progress (meters)	ROP	Formation	Operation	Operations Summary
3/12/00	$470,634					Drill rathole	Move rig from P-16 location & rig up. Surface set ahead of time with Layne Christensen rig @ 172m. Drill rathole
3/13/00	$511,185	170	0		Cretaceous	Drill out	Drill rathole. Head up & pressure test. Make up BHA & run in hole with bit #1. Drill out cement @ 2300 hrs.
3/14/00	$548,561	509	339	18.1	Imperial	Drill	Drill out cement. Run Formation integrity test. Spud well @ 0030 Hrs. Drill ahead & survey.
3/15/00	$628,635	626	117	9.8	Imperial	Run casing	Drill ahead & survey to 605m. Circulate Sample. Drill to 616m. Circulate. Wiper trip. Drill to 626m. Circulate. Pull out of hole. Lay down directional tools. Rig to & run 177.8mm casing.
3/16/00	$694,615	642	16	4.9	Kee Scarp	Run in hole	Run casing. Circulate. Rig to & cement casing. Plug down & 0300 Hrs. Wait on cement. Make up BHA & bit #2. Run in hole. Pressure test. Polish plug. Drill out cement @ 1500 Hrs. Drill ahead & survey. Circulate. Trip for bit #3. Pick up drill collars. Run in hole.
3/17/00	$733,975	779	137	6.6	Kee Scarp	Drill	Run in hole. Drill ahead & survey.
3/18/00	$809,091	860	81	6.4	Hare Indian	Log	Drill ahead & survey to T.D. of 860m @ 1345 Hrs. Circulate. Wiper trip. Pull out of hole. Rig in & log with Schlumberger.
3/19/00	$880,101	860	0	0.0	Hare Indian	Rig release	Log. Lay down drill string. Run casing. Circulate. Cement casing. Tear out rig. Release rig 1300 Hrs.

AEC (WEST) RENAISSANCE CARCAJOU D-07

MUD RECORD

Mud up @ 638 meters

Date	Depth (m)	Density (kg/m3)	Viscosity (s/l)	pH	Water Loss
3/16/00	642	1030	42	9.0	14.0
3/17/00	779	1080	43	9.5	10.0
3/18/00	800	1080	45	9.0	8.5
3/19/00	860	1100	59	9.0	10.0

AEC (WEST) RENAISSANCE CARCAJOU D-07

BIT RECORD

Bit No.	Type	Size (mm)	Depth Out(m)	Interval Cut(m)	Hrs	FOB (daN)	RPM	Cond'n T	B	G	ROP (m/hr)	Comments
1	66L-PDC	222	626	454	30.8	3000	150	GOOD			14.8	Int. casing pt.
2	S-T47	156	642	16	3.3	2000	140	POOR			4.9	Trip ROP
3	XR20T	156	860	218	33.5	10000	150	4	E	I	6.5	Trip T.D.

AEC (WEST) RENAISSANCE CARCAJOU D-07

OPEN HOLE LOG SUMMARY

RUN 1

Logging Company:	Schlumberger	***Engineer:***	Sean McConkey
District:	Norman Wells	***Truck No.:***	8416
Circulation Ended:	1615 Hrs. 00/03/18	***Finish Trip:***	2000 Hrs. 00/03/18
On Location:	1230 Hrs. 00/03/18	***Off Location:***	0300 Hrs. 00/03/19
Rig Up:	2000 Hrs. 00/03/18	***Rig Down:***	0145 Hrs. 00/03/19
Mud Properties:	***Mud Type:*** Gel Chem ***Density:*** 1100 ***Viscosity:*** 59 ***WL:*** 10.0 ***pH:*** 9.0	***BHT:*** ***Rmf:***	38.0°C 1.69 @ 22.0 °C

Services:

Log	*Interval Logged*	*Meters Logged*	*Comments*
CNL-LDT-DLL	855.7 to 626.0	229.7	1:240 & 1:600
BHCS-GR	858.7 to 626.0	232.7	1:240 & 1:600

Times:

Tool Combo	*Date*	*Start In*	*First on Bottom*	*Last on Bottom*	*Clear Hole*	*Total Hours*
CNL-LDT-DLL	00/03/18	2100	2130	2145	2315	2.25
BHCS-GR	00/03/19	0000	0030	0045	0115	1.25

Logging Time:	3.50 Hours	***Rig Up/Down:***	2.25 Hours
Time Losses:	0 Hours	***Total Logging Time:***	7.75 Hours

Remarks: Compensated Neutron logged to surface. Arrived on location early to ensure satellite communication. Good job. Fast, friendly & proficient service.

POST WELL ANALYSIS REPORT

NATIONAL ENERGY BOARD
ENGINEERING BRANCH
MAY 2 9 2000

525 - 3rd Avenue S.W.
Calgary, Alberta
Canada T2P 0G4
Bus (403) 509 4000
Bus (403) 509 4300

Schlumberger

40004630

AEC OIL & GAS CO. LTD.

POST WELL ANALYSIS REPORT FOR

AEC RENAISSNCE CARCAJOU

D-07-A/104-N-16

Job Identification

Alberta Energy Corp

Project ID:	AEC Rennaissance Carcajou D-07
Pad ID:	Single well
Well ID:	AEC Rennaissance Carcajou D-07
Unique ID:	200/ D-07-A/ 104-N-16/ 00

Operator:	Alberta Energy Corp
Address:	3700, 707-8th AVE SW Calgary, Alberta T2P-1H5
Co Rep:	Allan Anger

Contractor:	Akita Drilling
Rig ID:	Akita #14
Pusher:	Mel Zerr

Service Co:	Anadrill - Schlumberger
District:	Calgary, Alberta
DD Eng(s):	Eric Erickson
DD Eng(s):	
MWD Eng(s):	Barry Timmerman
MWD Eng(s):	

Start Date:	Sunday March 12 ,2000
Release Date:	Sunday March 19,2000
Total Days:	8

Well Specifications

Alberta Energy Corp

Well Name:	AEC Rennaissance Carcajou D-07
Well Number:	200/ D-07-A/ 104-N-16/ 00

Field Name:	Carcajou
Area:	Fort Good Hope

KB level (above sea):	88.00 m	**Magnetic Declination**
Ground Level (above sea):	83.20 m	31.6
KB to Ground level :	4.80 m	

Surface Location

N/S Coord:

E/W Coord:

Target Loc: Planned **(Ref: Kelly Bushing)** **Final Bottom Hole Loc:**

N/-S Coord:	vertical	**N/-S Coord:**	14.80m
E/-W Coord:		**E/-W Coord:**	3.30m
TVD:		**TVD:**	859.65m
Target Radius:	vertical		

Project Description: Proposed

This well is to be drilled to an approximate depth of 875M, with intermediate casing being set at about 625m, then 156mm hole to TD
Anadrill was called in to help with hole deviation problems
The hole is a tight location

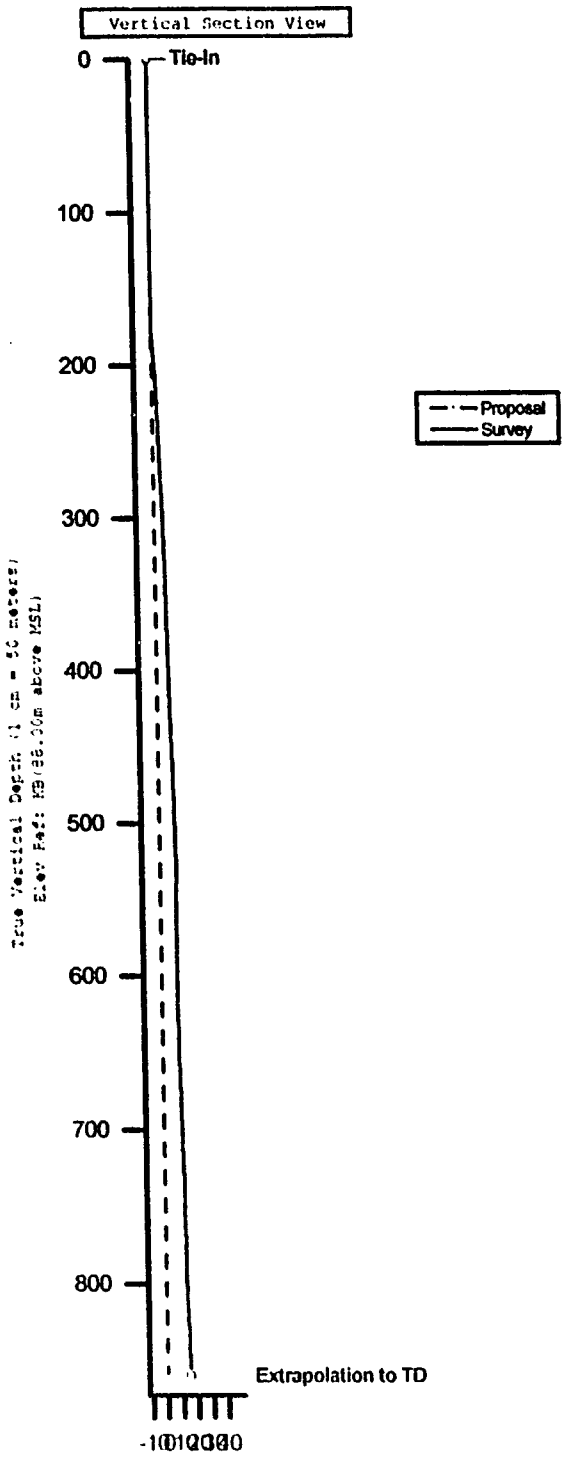
Project Description: Actual

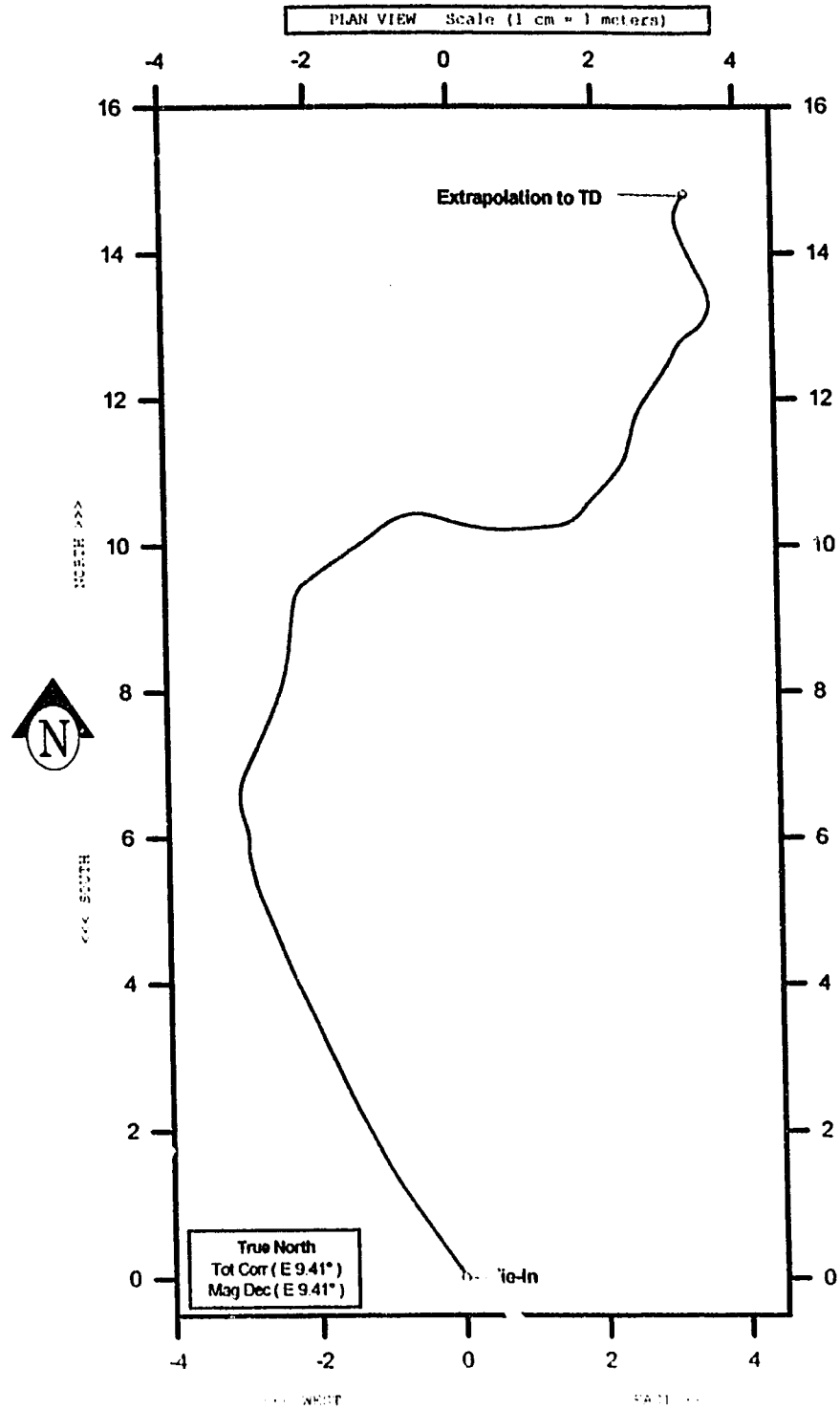
The surface hole was already drilled and casing was set to a depth of 175m.
A 6.75 motor was picked up with a PDC bit and used to drill out the shoe, the surface casing was set at 5.5 degrees, a few slides got the hole back to under 1.5 degrees
The PDC bit worked very well in this formation, 50 m of slide was required on this upper section of the well, with an average ROP of 16.4m/ph.
Intermediate casing was set and 4.75 " tools were picked up and run in the hole with a PDC bit, and used to drill ahead. The PDC bit drilled at only 2 to 2.5 m/hr. . It was promptly pulled and a tricone was run in and averaged 6.6m/ph and was used to TD the well.

Schlumberger **Alberta Energy Company**

WELL	FIELD	STRUCTURE
AEC CARCAJOU D-07-A/104-N-16	CARCAJOU (CDN)	AEC / D-07-A/104-N-16
Magnetic Parameters Model: BGGM 1999 Dip: 8.818° Mag Dec: 9.413° Date: April 05, 2000 FS: 31247.2 nT	Surface Location Lat: N0 0 0.000 Lon: W121 29 19.478 North: 0.00 m East: 0.00 m Grid Conv: 0.0000° Scale Fact: 1.0027	Miscellaneous Slot: Slot #1 Elev Ref: KB(88.00m above MSL) Date Drawn: 09:03:57AM 17-May-2000

COMPLETION DRAWING





Proposal
Survey

Schlumberger

Final Survey

Client:	Alberta Energy Company	Survey Computation Method:	Minimum Curvature
Field:	CARCAJOU (CDN)	DLS Computation Method:	Lubinski
Structure:	AEC / D-07-A/104-N-16	Vertical Section Azimuth:	0.000°
Well:	AEC CARCAJOU D-07-A/104-N-16	Vertical Section Origin:	N 0.000 m, E 0.000 m
Borehole:	Job# 40004630	TVD Reference:	KB
UWI/API#:			88.0 m above MSL
Date:	May 17, 2000	Magnetic Declination:	9.413°
Grid Convergence:	0.00000000°	Total Field Strength:	31247.196 nT
Scale Factor:	1.00269630	Dip:	8.818°
		Declination Date:	April 05, 2000
Location:	N 0 0 0.000, W 121 29 19.478	Magnetic Declination Model:	BGGM 1999
:	N 0.000 m, E 0.000 m	North Reference:	True North
Coordinate System:	NAD83 UTM Zone 11N	Coordinate Reference To:	Well Head

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N/-S (m)	E/-W (m)	Closure (m)	at Azim (°)	DLS (°/30m)	TF (°)
Tie-In	0.00	0.00	0.0	0.00	0.00	0.00	0.00	0.00	0.0		0.0 M
	172.00	0.00	0.0	172.00	0.00	0.00	0.00	0.00	0.0	0.00	-35.2 M
	195.20	5.50	324.8	195.16	0.91	0.91	-0.64	1.11	324.8	7.11	151.5 G
	204.90	4.60	331.1	204.83	1.63	1.63	-1.10	1.96	326.0	3.27	-28.9 M
	214.60	3.30	331.1	214.50	2.21	2.21	-1.42	2.63	327.3	4.02	-24.6 M
	224.30	2.50	335.4	224.19	2.65	2.65	-1.64	3.12	328.2	2.56	-26.1 M
	233.90	2.10	333.9	233.78	3.00	3.00	-1.81	3.50	328.9	1.26	-23.2 M
	243.80	1.20	336.8	243.68	3.26	3.26	-1.93	3.79	329.4	2.74	-24.6 M
	253.40	2.40	335.4	253.27	3.53	3.53	-2.05	4.09	329.9	3.75	-25.4 M
	263.10	2.50	334.6	262.97	3.91	3.91	-2.23	4.50	330.3	0.33	-21.8 M
	272.80	2.50	338.2	272.66	4.30	4.30	-2.40	4.92	330.8	0.49	-21.8 M
	282.50	2.70	338.2	282.35	4.70	4.70	-2.56	5.36	331.5	0.62	-23.9 M
	292.20	2.30	336.1	292.04	5.09	5.09	-2.72	5.78	331.9	1.27	-14.1 M
	301.90	1.50	345.9	301.73	5.40	5.40	-2.83	6.09	332.3	2.66	-13.4 M
	311.60	1.40	346.6	311.43	5.63	5.63	-2.89	6.33	332.8	0.31	1.4 M
	321.30	1.60	1.4	321.12	5.89	5.89	-2.92	6.57	333.6	1.34	-19.0 M
	331.00	1.50	341.0	330.82	6.14	6.14	-2.95	6.81	334.3	1.72	-12.7 M
	340.70	1.10	347.3	340.52	6.35	6.35	-3.02	7.03	334.6	1.31	26.0 M
	369.70	1.10	26.0	369.51	6.87	6.87	-2.95	7.48	336.7	0.75	27.4 M
	389.00	1.10	27.4	388.81	7.20	7.20	-2.79	7.72	338.8	0.04	22.5 M
	418.10	1.50	22.5	417.90	7.80	7.80	-2.51	8.20	342.1	0.43	6.3 M
	447.20	1.80	6.3	446.99	8.61	8.61	-2.32	8.92	344.9	0.57	5.6 M
	456.80	2.00	5.6	456.59	8.93	8.93	-2.29	9.21	345.6	0.63	13.3 M
	466.50	1.70	13.3	466.28	9.24	9.24	-2.24	9.50	346.4	1.20	51.3 M
	476.20	1.40	51.3	475.98	9.45	9.45	-2.11	9.68	347.4	3.24	58.3 M
	505.30	2.20	58.3	505.06	9.97	9.97	-1.36	10.06	352.2	0.85	51.3 M
	515.00	2.40	51.3	514.75	10.19	10.19	-1.04	10.24	354.2	1.07	72.4 M
	524.70	2.10	72.4	524.45	10.37	10.37	-0.71	10.40	356.1	2.71	100.5 M

Station ID	MD (m)	Incl (°)	Azim (°)	TVD (m)	VSec (m)	N/-S (m)	E/-W (m)	Closure (m)	at Azim (°)	DLS (°/30m)	TF (°)
	534.40	1.80	100.5	534.14	10.40	10.40	-0.39	10.40	357.8	3.06	108.2 M
	544.10	1.70	108.2	543.84	10.32	10.32	-0.11	10.32	359.4	0.79	102.6 M
	553.80	1.40	102.6	553.53	10.25	10.25	0.15	10.25	0.8	1.04	91.4 M
	573.10	1.30	91.4	572.83	10.20	10.20	0.59	10.21	3.3	0.44	85.0 M
	592.50	1.10	85.0	592.22	10.21	10.21	1.00	10.26	5.6	0.37	84.3 M
	612.00	1.10	84.3	611.72	10.24	10.24	1.37	10.33	7.6	0.02	37.2 M
	640.90	1.00	37.2	640.62	10.47	10.47	1.80	10.62	9.8	0.88	44.3 M
	650.60	1.20	44.3	650.31	10.61	10.61	1.92	10.78	10.3	0.75	47.1 M
	660.30	1.70	47.1	660.01	10.78	10.78	2.10	10.98	11.0	1.56	36.5 M
	670.00	2.10	36.5	669.71	11.02	11.02	2.31	11.26	11.8	1.64	14.0 M
	679.60	1.30	14.0	679.30	11.27	11.27	2.44	11.53	12.2	3.21	15.6 M
	699.00	1.10	15.6	698.70	11.66	11.66	2.55	11.94	12.3	0.31	36.5 M
	718.40	2.00	36.5	718.09	12.11	12.11	2.80	12.43	13.0	1.62	33.7 M
	728.10	1.80	33.7	727.79	12.38	12.38	2.98	12.73	13.5	0.68	24.6 M
	737.80	1.10	24.6	737.48	12.59	12.59	3.11	12.97	13.9	2.27	52.0 M
	757.10	0.60	52.0	756.78	12.82	12.82	3.26	13.23	14.3	0.98	59.0 M
	766.80	0.50	59.0	766.48	12.87	12.87	3.34	13.30	14.5	0.37	54.8 M
	776.50	0.80	54.8	776.18	12.93	12.93	3.43	13.38	14.9	0.94	35.1 M
	786.30	0.80	35.1	785.98	13.03	13.03	3.52	13.50	15.1	0.84	22.5 M
	796.00	1.10	22.5	795.68	13.17	13.17	3.60	13.65	15.3	1.13	-28.9 M
	815.40	2.20	331.1	815.07	13.67	13.67	3.49	14.11	14.3	2.69	-25.4 M
	825.10	2.30	334.6	824.76	14.01	14.01	3.32	14.39	13.3	0.53	-20.4 M
	834.70	1.60	339.6	834.36	14.31	14.31	3.19	14.66	12.6	2.25	23.2 M
	847.00	1.20	23.2	846.65	14.58	14.58	3.18	14.93	12.3	2.69	35.0 M
Extrapolation to TD	860.00	1.00	35.0	859.65	14.80	14.80	3.30	15.17	12.6	0.70	---

Survey Program:

Measured Depth	Tool (Wolff & deWardt Error Model)
0.00	None
860.00	None

Schlumberger

Alberta Energy Corp

JSO#	40004630	Hole Size	222 mm	Depth in:	172 m	Depth out:	626 m	Mtr. Drlg	454 m	BHA # 1	
Well	AEC Renaissance Carcajou	Last cas.@	172.0m	Date In	Mar 13 00	Date Out	Mar 15 00	Days	3.0	SPP Off	4000.0 MPa
LSD	200/ D-07-A/ 104-N-16/ 00	Bit to Svy.	14.0 m	PDM Run #	1	Drlg hrs	30.75 hrs	Circ. Hrs	7.3 hrs	SPP On	5500.0 MPa
Pad ID	Single well	React. Torq.	60	Mot. Vend.	Vector	Avg. ROP	14.76 m/hr	Tot. D&C	30.0 hrs	Differential	1500.0 MPa
Field	Carcajou	Rot. Torq	300	R/S conf.	7:8 3.0	Reverse ROP	4.1 min/m	Pump #	1	Pump #	
Prov.	N W T	Inc. In	5.5 deg	ABH Svy	1.5	Slide Dist.	50.0 m	Pump Man.	Emsco	Pump Man.	
Rig	Akita #14	Azm. In	322.0 deg	Motor RPM	100	Rotate Dist.	404.0 m	Pump Type	F-500	Pump Type	
Co.Rep	Allan Anger	Inc. Out	1.1 deg	Rot. RPM	50	Slide Hrs.	3.39 hrs	Tri /Dup	Triplex	Tri /Dup	
Rig Man	Mel Zerr	Azm. Out	84.3 deg	Avg. WOB	4/5	Rot. Hrs	27.36 hrs	Stroke	191 mm	Stroke	
DD	Eric Erickson	MWD	Barry Timmerma	BHA Wt.	14 maN	Slide ROP	14.75 m/hr	Liner	152 mm	Liner	
DD		MWD		String Wt	26 maN	Rot. ROP	16.59 m/hr	Strks / min	120	Strks / min	
DD		MWD		P/U Wt.	26 maN	Steering	11.0%	Vol(strk)	.0104cu. m	Vol(strk)	
DD		MWD		S/O Wt.	26 maN	Rotate	89.0%	Volume	1.25 m3	Volume	

Mud	Floc	Mud Vis	28 sec/L	Sand		Chlorides		YP		PH	9.0
Mud Wt	1000 kg/cu. m	WL		Solid cont		Oil/Water		PV		MWD BHT	27.0 deg./C

Item.	#	Description	Vendor	Serial #	Max OD	OD	ID	B. Conn	T. Conn	Length	Cum Len
1	1	SS66L 4x11.1 1x12.7	BR	196252OA		222			4.5Reg	0.25	0.25
2	1	6.75 Motor 7:8 3.0 @1.50	Vector	3109-67198	193	171		4.5Reg	4.5H90	7.06	7.31
3	1	Float Sub	Anadrill	1316580		165	75	4.5H90	4.5H90	0.77	8.08
4	1	UBHO Sub	Anadrill	1416562		161	72	4.5H90	4.5H90	0.63	8.71
5	1	NMDC	Anadrill	1916539		170	72	4.5H90	4.5H90	9.21	17.92
6	1	X/Over	Anadrill	1216576		171	69	4.5H90	4.5XH	0.62	18.54
7	13	DC,S	Akita					4.5XH	4.5XH	120.50	139.04
8	1	X/Over	Akita					4.5XH	4.FH	0.92	139.96
9		Drill Pipe to Surface	Akita					4FH	4FH		
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Exp. :

Act. :

Com.:

Bit condition

IADC code	Cutting structure Inner rows	Outer rows	MDC	LOC	B BRG	G GAUG 1/16	Remarks ODC	REASON PULLED
PDC								

Make-up Torque ALL TORQUE'S ARE FOR STEEL, USE 80% FOR MONEL'S; (Divide all torque values by length of tong arm)

Drill Collars		Hevi-Wate drill pipe		Motor Nut - Anadrill's Motors	
4.5 H90	23000 ft lb / 31200 N-m	2.9 AOH	3500 ft lb /4700 Nlm	2.38	890 ft lb / 1200 N-m
4 IF/4.5XH/NC46	22200 ft lb / 30100 N-m	2.9 H90	4600 ft lb /6200 Nlm	2.87	1650 ft lb / 2200 N-m
4.5 FH	19800 ft lb / 26900 N-m	3.5 IF / NC38	9900 ft lb /13400 Nlm	3.38	3600 ft lb / 4900 N-m
3.5 IF / NC38	9900 ft lb / 13400 N-m	4 FH / NC40	13250 ft lb /18000 Nlm	4.75	10000 ft lb / 13600 N-m
2.9 AOH	3500 ft lb / 4700 N-m	4 IF / 4.5 XH / NC46	21800 ft lb /29600 N-m	6.25	20000 ft lb / 27100 N-m
2.9 H90	4600 ft lb / 6200 N-m	4.5 IF / 5 XH / NC50	29400 ft lb /39900 N-m	6.75	25000 ft lb / 33900 N-m
PH6	5500 ft lb / 7500 N-m	5.5 FH	33200 ft lb /45000 N-m	8	35000 ft lb / 47500 N-m
VO55	3750 ft lb / 5100 N-m	6.635 FH	46900 ft lb /63600 N-m	9.62	60 ft lb / 81300 N-m

Schlumberger

Alberta Energy Corp

JSO#	40004(0)0	Hole Size: 156 mm	Depth in: 626 m	Depth out: 642 m	Mtr. Drlg 16 m	BHA # 2

Well	AEC Renna:sance Carcajou	Last cas.@	626.0m	Date In	Mar 16 00	Date Out	Mar 16 00	Days	1.0	SPP Off	7000.0 MPa
LSD	200/ D-07-A/ 104-N-16/ 00	Bit to Svy.	13 0 m	PDM Run #	2	Drlg hrs	3.75 hrs	Circ. Hrs	0.5 hrs	SPP On	8000.0 MPa
Pad ID	Single well	React. Torq.		Mot. Vend.	Anadrill	Avg. ROP	4.27 hrs	Tot. D&C	4.3 hrs	Differential	1000 0 MPa
Field	Carcajou	Rot. Torq		R/S conf.	7:8 2.2	Inverse ROP	14.06 m/hr	Pump #	1	Pump #	
Prov.	N W T	Inc. In	1.1 deg	ABH Set	1.15	Slide Dist.		Pump Man.	Emsco	Pump Man.	
Rig	Akita #14	Azm. In	84.3 deg	Motor RPM	140	Rotate Dist.	16	Pump Type	F-500	Pump Type	
Co.Rep	Allan Anger	Inc. Out	1.1 deg	Rot. RPM	40	Slide Hrs.		Tri /Dup	Triplex	Tri /Dup	
Rig Man	Mel Zerr	Azm. Out	84.3 deg	Avg. WOB	2/3	Rot. Hrs.	3.75 hrs	Stroke	191 mm	Stroke	
DD	Eric Erickson	MWD	Barry Timmerma	BHA Wt.	6 maN	Slide ROP		Liner	152 mm	Liner	
DD		MWD		String Wt	24 maN	Rot. ROP	4.27 m/hr	Strks / min	90	Strks / min	
DD		MWD		P/U Wt.	24 maN	Steering		Vol(strk)	.0104cu. m	Vol(strk)	
DD		MWD		S/O Wt.	24 maN	Rotate	100.0%	Volume	0.94 m3	Volume	

Mud	Floc	Mud Vis	28 sec/L	Sand		Chlorides		YP		PH	9.0
Mud Wt	1000 kg/cu. m	WL		Solid cont		Oil/Water		PV		MWD BHT	

Item	#	Description	Vendor	Serial #	Max OD	OD	ID	B. Conn	T. Conn	Length	Cum Len
1	1	S-T47 PDC 3X22	DPI	R-482-GN		156			3.5 Reg	0.25	0.25
2	1	4.75 MotoR 7:8 ,2.2@1.15	Anadrill	475-14-1026	136	121		3.5 Reg	3.5 IF	5.51	5.76
3	1	Float Sub	Anadrill	1312104		119	0.53	3.5 IF	3.5 IF	0.88	6.64
4	1	UBHO Sub	Anadrill	1412193		120	0.59	3.5 IF	3.5 IF	0.66	7.30
5	1	NMDC	Anadrill	2112111		120	0.58	3.5 IF	3.5 IF	9.47	16.77
6	1	NMDC	Anadrill	46300035		121	0.58	3.5 IF	3.5 IF	9.48	26.25
7	10	DC's	Akita			121	0.58	3.5 IF	3.5 IF	94.77	121.02
8	1	X/Over	Akita			121	0.58	3.5 IF	4 FH	0.47	121.49
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Exp. :

Act. :

Com.: The PDC bit did not preform well in this formation

Bit condition

IADC code	Cutting structure Inner rows	Outer rows	MDC	LOC	B BRG	G GAUG 1/16	Remarks ODC	REASON PULLED
S333								

Make-up Torque ALL TORQUE'S ARE FOR STEEL, USE 60% FOR MONEL'S; (Divide all torque values by length of tong arm)

Drill Collars		Hevi-Wate drill pipe		Motor Nut - Anadrill's Motors	
4.5 H90	23000 ft lb / 31200 N-m	2.9 AOH	3500 ft lb /4700 Nlm	2.38	890 ft lb / 1200 N-m
4 IF/4.5XH/NC46	22200 ft lb / 30100 N-m	2.9 H90	4600 ft lb /6200 Nlm	2.87	1650 ft lb / 2200 N-m
4.5 FH	19800 ft lb / 26800 N-m	3.5 IF / NC38	9900 ft lb /13400 Nlm	3.38	3600 ft lb / 4900 N-m
3.5 IF / NC38	9900 ft lb / 13400 N-m	4 FH / NC40	13250 ft lb /18000 Nlm	4.75	10000 ft lb / 13600 N-m
2.9 AOH	3500 ft lb / 4700 N-m	4 IF / 4.5 XH / NC46	21800 ft lb /29600 N-m	6.25	20000 ft lb / 27100 N-m
2.9 H90	4600 ft lb / 6200 N-m	4.5 IF / 5 XH / NC50	29400 ft lb /39900 N-m	6.75	25000 ft lb / 33900 N-m
PH6	5500 ft lb / 7500 N-m	5.5 FH	33200 ft lb /45000 N-m	8	35000 ft lb / 47500 N-m
VO55	3750 ft lb / 5100 N-m	6.625 FH	46900 ft lb /63600 N-m	9.62	0 ft lb / 81300 N-m

Schlumberger

Alberta Energy Corp

JSO#	40004630	Hole Size. 156 mm	Depth in. 642 m	Depth out. 660 m	Mtr. Drlg 218 m	BHA # 3

Well	AEC Rennaissance Carcajou	Last cas.@	626.0m	Date In	Mar 17 00	Date Out	Mar 18 00	Days	2.0	SPP Off	7500.0 MPa
LSD	200/ D-07-A/ 104-N-16/ 00	Bit to Svy.	13 0 m	PDM Run #	3	Drlg hrs	33.5 hrs	Circ. Hrs	3.3 hrs	SPP On	10000.0 MPa
Pad ID	Single well	React. Torq.	40	Mot. Vend.	Anadrill	Avg. ROP	6.51 m/hr	Tot. D&C	36.8 hrs	Differential	2500.0 MPa
Field	Carcajou	Rot. Torq	100	R/S conf.	7.6 2 2	Reverse ROP	9.22018349	Pump #	1	Pump #	
Prov.	N W T	Inc. In	1.1 deg	ABH Set	1.15	Slide Dist.	23.5 m	Pump Man.	Emsco	Pump Man.	
Rig	Akita #14	Azm. In	84.3 deg	Motor RPM	100	Rotate Dist.	194.5	Pump Type	F-500	Pump Type	
Co.Rep	Allan Anger	Inc. Out	1.0 deg	Rot. RPM	40	Slide Hrs.	3.61 hrs	Tri /Dup	Triplex	Tri /Dup	
Rig Man	Mel Zerr	Azm. Out	35.0 deg	Avg. WOB	8/10	Rot. Hrs.	29.89 hrs	Stroke	191 mm	Stroke	
DD	Eric Erickson	MWD	Barry Timmerma	BHA Wt.	12 maN	Slide ROP	6.51 m/hr	Liner	152 mm	Liner	
DD		MWD		String Wt	25 maN	Rot. ROP	6.51 m/hr	Strks / min	90	Strks / min	
DD		MWD		P/U Wt.	25 maN	Steering	10.8%	Vol(strk)	.0104cu. m	Vol(strk)	
DD		MWD		S/O Wt.	25 maN	Rotate	89.2%	Volume	0.94 m3	Volume	

Mud	Gel	Mud Vis	50 sec/L	Sand		Chlorides		YP		PH	9.5
Mud Wt	1080 kg/cu. m	WL	10.0 cc's	Solid cont		Oil/Water		PV		MWD BHT	

Item	#	Description	Vendor	Serial #	Max OD	OD	ID	B. Conn	T. Conn	Length	Cum Len
1	1	XR20T open	Smith	LX3365		156			3.5 Reg	0.25	0.25
2	1	4.75 MotoR 7:8 ,2.2@1.15	Anadrill	475-14-1028	136	121		3.5 Reg	3.5 IF	5.51	5.76
3	1	Float Sub	Anadrill	1312104		119	0.53	3.5 IF	3.5 IF	0.88	6.64
4	1	UBHO Sub	Anadrill	1412193		120	0.59	3.5 IF	3.5 IF	0.66	7.30
5	1	NMDC	Anadrill	2112111		120	0.58	3.5 IF	3.5 IF	9.47	16.77
6	1	NMDC	Anadrill	46300035		121	0.58	3.5 IF	3.5 IF	9.48	26.25
7	20	DC's	Akita			121	0.58	3.5 IF	3.5 IF	189.74	215.99
8	1	X/Over	Akita			121	0.58	3.5 IF	4 FH	0.47	216.46
9											
10											
11											
12											
13											
14											
15											
16											
17											
18											
19											
20											

Exp. :

Act. :

Com.:

Bit condition

IADC code	Cutting structure Inner rows	Outer rows	MDC	LOC	B BRG	G GAUG 1/16	Remarks ODC	REASON PULLED
517								

Make-up Torque ALL TORQUE'S ARE FOR STEEL, USE 80% FOR MONEL'S; (Divide all torque values by length of tong arm)

Drill Collars		Hevi-Wate drill pipe		Motor Nut - Anadrill's Motors	
4.5 H90	23000 ft lb / 31200 N-m	2.9 AOH	3500 ft lb /4700 Nim	2.38	890 ft lb / 1200 N-m
4 IF/4.5XH/NC46	22200 ft lb / 30100 N-m	2.9 H90	4600 ft lb /6200 Nim	2.87	1650 ft lb / 2200 N-m
4.5 FH	19800 ft lb / 26800 N-m	3.5 IF / NC38	9900 ft lb /13400 Nim	3.38	3600 ft lb / 4900 N-m
3.5 IF / NC38	9900 ft lb / 13400 N-m	4 FH / NC40	13250 ft lb /18000 Nim	4.75	10000 ft lb / 13600 N-m
2.9 AOH	3500 ft lb / 4700 N-m	4 IF / 4.5 XH / NC46	21800 ft lb /29600 N-m	6.25	20000 ft lb / 27100 N-m
2.9 H90	4600 ft lb / 6200 N-m	4.5 IF / 5 XH / NC50	29400 ft lb /39900 N-m	6.75	25000 ft lb / 33900 N-m
PH6	5500 ft lb / 7500 N-m	5.5 FH	33200 ft lb /45000 N-m	8	35000 ft lb / 47500 N-m
VO55	3750 ft lb / 5100 N-m	6.635 FH	46900 ft lb /63600 N-m	9.62	0 ft lb / 81300 N-m

07/04/49/82 4/14/11

Schlumberger

Day 1

JOB NUMBER	DATE	COMPANY	WELL NAME
40004630	SUN MARCH 12,2000	Alberta Energy Corp	AEC Renaissance Carcajou D-007
COMPANY REPRESENTATIVE		RIG NAME	LOCATION
Lynn Sandquest		Akita #14	200/ D-007-A/ 104-N-16/ 00

DRILLING RECORD

BIT NUMBER	
BIT SIZE	24.00
BIT TYPE	
JETS (mm)	
DEPTH IN	
DEPTH OUT	
METERS	
HOURS	
ROP (m/hr)	
RPM	
WOB	
PP ON	
PP OFF	
STG WT	
P/U WT	
S/O WT	
PUMP DATA	
PUMP MAN.	
PUMP MOD.	
Triplex/Duplex	
LINER	
STROKE	
CUL M/STRK	
STRKS/Min.	
VOLUME	
MUD REPORT	
MUD TYPE (Gel,ect.)	
MUD WEIGHT	
VISCOSITY (sec/L)	
WATER LOSS	
pH	
SAND	
TEMPERATURE (°C)	24.00

TOUR RECORD

TIME	FROM	TO	DESCRIPTION
		0:00	Stand by on rig move
TOTAL			

COST ESTIMATE

LIST SUPPLIER (If not Anadrill)			COST
SUPERVISION	1 @	700.00	$ ~~700.00~~ 750
FLAT RATE			
MOTOR HAS		200.00	
MOTOR DAILY			
MOTOR STBY			
JARS			
S. SHOT KIT		125.00	
URIHO SUB		25.00	
MONEL		125.00	
STABILIZERS			
TB REAMER			
MWD SUPER.	1 @	500.00	$ ~~500.00~~ 550
MWD SYSTEMS		2000.00	
GAMMA RAY			
GAMMA RAY (STDBY)			
CMPTR & WELL FILE		350.00	
MWD STANDBY	1	1000.00	$ 1,000.00
SUBSISTENCE (Camp?)			
No camp		75.00	
MILEAGE			
VEH. LIC. #	KM TDY	KM ACC	
KM TODAY		0.75	$ -
KM ACCUM.			
DAILY TOTAL		$	2,200.00 2300.-
ACCUMULATED		$	2,200.00 2300.-

DOWNHOLE MOTORS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	Total Drill	Total Circ	Total D+C	FAILURE? (Yes / No)

BHA

ITEM	VENDER	SERIAL#	LENGTH	ITEM	VENDER	SERIAL#	LENGTH
TOTAL LENGTH				TOTAL LENGTH			

DOWNHOLE JARS

RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?

MWD

RUN	COMP.	HRS tdy	HRS ttl	COMMENTS	FAILURE?

COMMENTS

Code - 9210-320

TARGET TVD @ TIME

PERSONNEL

DD:	Eric Erickson	MWD:	Barry Timmerman
DD:		MWD:	
DD:		MWD:	
DD:		MWD:	

AFE NUMBER 6000047 CONTRACT NUMBER

FIELD CELL # CO. MAN'S CELL #

SIGNATURE OF COMPANY'S REPRESENTATIVE

L Sandquest

Schlumberger Anadrill

Day 2

JOB NUMBER	DATE	COMPANY	WELL NAME
40004630	MON MARCH, 13, 2000	Alberta Energy Corp	AEC Renaissance Carcajou D-007
COMPANY REPRESENTATIVE		RIG NAME	LOCATION
Lynn Sandquest		Akita #14	200/ D-007-A/ 104-N-16/ 00

DRILLING RECORD

BIT NUMBER	1
BIT SIZE	222.0
BIT TYPE	PDC
JETS (mm)	
DEPTH IN	172 m
DEPTH OUT	
METERS	
HOURS	
ROP (m/hr)	
RPM	
W/OB	1/2
PP ON	5500
PP OFF	3700
G/O WT	18
P/U WT	18
S/O WT	18

PUMP DATA

PUMP MAN.	Emsco
PUMP MOD.	F-500
Triplex/Duplex	Triplex
LINER	152mm
STROKE	191mm
CU. M/STRK	0.0104
STRKS/Min.	120
VOLUME	1.25

MUD REPORT

MUD TYPE (Gel, wcL)	Floc
MUD WEIGHT	1000
VISCOSITY (sec/L)	28
WATER LOSS	
pH	
SAND	
TEMPERATURE (°C)	

TIME RECORD

TIME	FROM	TO	DESCRIPTION
17.00		17:00	Stand by to Pick up Dir Tools
1.50	17:00	18:30	Pick up Directional Tools
1.00	18:30	19:30	Pick up Drill Collars
3.00	19:30	22:30	Pressure Test
0.25	22:30	22:45	BOP Drill
0.25	22:45	23:00	Rig Service
1.00	23:00	0:00	Drill out Shoe
24.00	TOTAL		

COST ESTIMATE

LIST SUPPLIER (if not Anadrill)			COST
SUPERVISION	1 @	700.00	$ 700.00
FLAT RATE		2117	
MOTOR HRS	1.00 @	200.00	$ 200.00
MOTOR DAILY			
MOTOR STBY			
JARS			
S. SHOT KIT		125.00	
FLOAT SUB	1.00 @	25.00	$ 25.00
MONEL	1.00 @	125.00	$ 125.00
X/Over		25.00	
STABILIZERS			
TB REAMER			
MWD SUPER.	1.00 @	500.00	$ 500.00
MWD SYSTEMS	1.00 @	2900.00	$ 2,900.00
GAMMA RAY			
GAMMA RAY (STDBY)			
CRPTR & WELL PLAN		350.00	$ 350.00
EQUIPMENT STANDBY			
SUBSISTENCE (Camp?)			
camp			
KM TODAY		0.75	$ -
KM ACCUM.			
DAILY TOTAL			$ 4,800.00
ACCUMULATED			$ 7,600.00

750
210
25
125
500
2900
350
5015.
7315.

MILEAGE

VEH. LIC. #	KM TDY	KM ACC

DOWNHOLE MOTORS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	Total Drill	Total Circ	Total D+C	FAILURE? (Yes / No)
1	Vector	3"09-67108-10		1.00	1.00		1.00	1.00		1.00	1.00		1.00	51.25	N

BHA

ITEM	VENDER	SERIAL#	LENGTH
Bit			0.25
Motor	Vector	3109-10	7.06
Float	Anadrill	1318580	0.77
UBHO	Anadrill	1416562	0.63
Monel	Anadrill	1916539	9.21
X/Over	Anadrill	DKR-460	0.62
13DC's	Akita		120.50
X/Over	Akita		0.92
TOTAL LENGTH			139.56

ACCELERATORS

ITEM	VENDER	SERIAL#	LENGTH
TOTAL LENGTH			

DOWNHOLE JARS

RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?

MWD

RUN	COMP.	HRS tdy	HRS ttl	COMMENTS	FAILURE?
1	SMA084	8.00	0.00		N
1	SEA158	8.00	8.00		N
1	SGA#157	8.00	8.00		N

Comments

TARGET TVD @ TIME

PERSONNEL

DD:	Eric Erickson	MWD:	Barry Timperman
DD:		MWD:	
DD:		MWD:	
DD:		MWD:	

AFE NUMBER 6000047

CONTRACT NUMBER

FIELD CELL #

CO. MAN'S CELL #

SIGNATURE OF COMPANY'S REPRESENTATIVE

L. Sandquest

Schlumberger

Day 3

JOB NUMBER	DATE	COMPANY	WELL NAME
40004630	TUE MARCH, 14, 2000	Alberta Energy Corp	AEC Renaissance Carcajou D-007
COMPANY REPRESENTATIVE		RIG NAME	LOCATION
Lynn Sandquist		Akita #14	200/ D-007-A/ 104-N-16/ 00

DRILLING RECORD

BIT NUMBER	1
BIT SIZE	222.0
BIT TYPE	PDC
JETS (mm)	
DEPTH IN	172 m
DEPTH OUT	
METERS	337 m
HOURS	18.75
ROP (m/hr)	18.0
RPM	50/100
WOB	3/4
PP ON	6500
PP OFF	4500
STG WT	24
P/U WT	24
S/O WT	24

PUMP DATA

PUMP MAN.	Emsco
PUMP MOD.	F-500
Triplex/Duplex	Triplex
LINER	152mm
STROKE	191mm
CU. M./STRK	0.0104
STRKS/Min.	120
VOLUME	1.25

MUD REPORT

MUD TYPE (Gel,ect.)	Flac
MUD WEIGHT	1000
VISCOSITY (sec/L)	28
WATER LOSS	
pH	9
SAND	
TEMPERATURE (°C)	

TIME READER

TIME	FROM	TO	DESCRIPTION
0.75		0:45	Drill Out Cement
0.25	0:45	1:00	Leak off Test
0.25	1:00	1:15	BOP Drill
0.25	1:15	1:30	Rig Service
5.25	1:30	6:45	(Directional) Drill
1.25	6:45	8:00	Accumulated Surveys
2.75	8:00	10:45	Directional Drill
0.25	10:45	11:00	Rig Service
4.00	11:00	15:00	Directional Drill
1.00	15:00	16:00	Accumulated Surveys
4.00	16:00	20:00	Directional Drill
0.25	20:00	20:15	Rig Service
2.75	20:15	23:00	Directional Drill
1.00	23:00	0:00	Accumulated Surveys
24.00	TOTAL		

COST ESTIMATE

LIST SUPPLIER (If not Anadrill)			COST	
SUPERVISION	1 @	700.00	$ 700.00	750
FLAT RATE			210	
MOTOR HRS	22.75 @	200.00	$ 4,550.00	4777.50
MOTOR DAILY				
MOTOR STBY				
JARS				
S. SHOT KIT		125.00		
FLOAT SUB	1.00 @	25.00	$ 25.00	30
MONEL	1.00 @	125.00	$ 125.00	
X/Over	1.00 @	25.00	$ 25.00	30
STABILIZERS				
TB REAMER				
MWD SUPER.	1.00 @	500.00	$ 500.00	550
MWD SYSTEMS	1.00 @	2900.00	$ 2,900.00	3,050
GAMMA RAY				
GAMMA RAY (STDBY)				
CMPTR & WELL PLAN				
EQUIPMENT STANDBY				
SUBSISTENCE (Camp?)				
camp				

MILEAGE

VEH. LIC. #	KM TDY	KM ACC

KM TODAY	0.75	$ -
KM ACCUM.		
DAILY TOTAL		$ 8,825.00
ACCUMULATED		$ 13,825.00

9262.50

16587.50

DOWNHOLE MOTORS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	T. W. Drill	T. W. Circ	T. W. D+C	FAILURE? (Yes / No)
1	Vector	3109-67198-10	18.75	4.00	22.75	18.75	5.00	23.75	18.75	5.00	23.75	18.75	5.00	74.00	N

BHA

ITEM	VENDER	SERIAL#	LENGTH
Bit	BR	S966L	0.25
Motor	Vector	3109-10	7.06
Float	Anadrill	1316560	0.77
UBHO	Anadrill	1416562	0.63
Monel	Anadrill	1916539	9.21
X/Over	Anadrill	DKR-460	0.62
13DC's	Akita		120.50
X/Over	Akita		0.92
TOTAL LENGTH			139.96

BHA

ITEM	VENDER	SERIAL#	LENGTH
TOTAL LENGTH			

DAYNIGHT JARS

RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?

JAR

RUN	COMP.	HRS IN	HRS OUT	COMMENTS	FAILURE?
1	BMA084	24.00	32.00		N
1	BEA156	24.00	[illegible]		N
1	SBA457	24.00	32.00		N

COMMENTS

The jets in the PDC bit are 4x11.1 & 1x12.7

TARGET TVD @ TIME

PERSONNEL

DD:	Eric Erickson	MWD:	Barry Timmerman
DD:		MWD:	
DD:		MWD:	
DD:		MWD:	

AFE NUMBER	6000047
CONTRACT NUMBER	
FIELD CELL #	
CO. MAN'S CELL #	

SIGNATURE OF COMPANY'S REPRESENTATIVE

L. Sandquist

Schlumberger

Day 4

JOB NUMBER	DATE	COMPANY	WELL NAME
4000 1630	WED MARCH, 15, 2000	Alberta Energy Corp	AEC Rennaissance Carcajou D-007
COMPANY REPRESENTATIVE		RIG NAME	LOCATION
Lynn Sandquist		Akita #14	200/ D-007-A/ 104-N-16/ 00

BIT NUMBER	1	TIME	FROM	TO	DESCRIPTION	LIST SUPPLIER (if not Anadrill)		COST	
BIT SIZE	222.0	0.25		0:15	Rig Service	SUPERVISION	1 @ 700.00	$ 700.00	750
BIT TYPE	PDC	7.00	0:15	7:15	Directional Drill	FLAT RATE	210		
JETS (mm)		0.75	7:15	8:00	Accumulated Surveys	MOTOR HRS	14.25 @ 200.00	$ 2,850.00	2992.50
DEPTH IN	172 m	0.25	8:00	8:15	Rig Service	MOTOR DAILY			
DEPTH OUT	626 m	2.75	8:15	11:00	Directional Drill	MOTOR STBY			
METERS	454 m	0.50	11:00	11:30	Circulate	JARS			
HOURS	30.75	1.25	11:30	12:45	Directional Drill	S. SHOT KIT	125.00		
ROP (m/hr)	14.8	0.50	12:45	13:15	Circulate	FLOAT SUB	1.00 @ 25.00	$ 25.00	210
RPM	50/100	2.75	13:15	16:00	Wiper Trip	MONEL	1.00 @ 125.00	$ 125.00	
WOB	3/4	1.00	16:00	17:00	Directional Drill	X/Over	1.00 @ 25.00	$ 25.00	310
PP ON	6500	0.50	17:00	17:30	Circulate	STABILIZERS			
PP OFF	4500	2.25	17:30	19:45	POOH	TB REAMER			
STG WT	24	0.75	19:45	20:30	Lay out Directional tools	MWD SUPER.	1.00 @ 500.00	$ 500.00	650
P/U WT	24	0.50	20:30	21:00	Rig to Run Casing	MWD SYSTEMS	1.00 @ 2900.00	$ 2,900.00	3000
S/O WT	24	3.00	21:00	0:00	Run Casing	GAMMA RAY			
PUMP DATA						GAMMA RAY (STDBY)			
PUMP MAN.	Emsco					CMPTR & WELL PLAN			
PUMP MOD.	F-500					EQUIPMENT STANDBY			
Triplex/Duplex	Triplex								
LINER	152mm								
STROKE	191mm					SUBSISTENCE (Camp?)			
CU. M/STRK	0.0104					camp			
STRKS/Min.	120					**TRUCKS**			
VOLUME	1.25					VEH. LIC. #	KM TDY	KM ACC	
MUD REPORT									
MUD TYPE (Gel,ect.)	Floc								
MUD WEIGHT	1000								
VISCOSITY (sec/L)	28								
WATER LOSS						KM TODAY	0.75	$ -	
pH	9					KM ACCUM.			
SAND						DAILY TOTAL		$ 7,125.00	7147.50
TEMPERATURE (°C)		24.00	TOTAL			ACCUMULATED		$ 21,650.00	24005.

BOTTOMHOLE MOTORS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	Total Drill	Total Circ	Total D+C	FAILURE? (Yes / No)
1	Vector	3109 87198-10	12.00	2.25	14.25	30.75	7.25	38.00	30.75	7.25	38.00	30.75	7.25	38.25	N

BHA

ITEM	VENDER	SERIAL#	LENGTH	ITEM	VENDER	SERIAL#	LENGTH
Bit	BR	SS66L	0.25				
Motor	Vector	3109-10	7.08				
Float	Anadrill	1318580	0.77				
UBHO	Anadrill	1416562	0.63				
Monel	Anadrill	1916539	9.21				
X/Over	Anadrill	DKR-460	0.62				
13DC's	Akita		120.90				
X/Over	Akita		0.92				
TOTAL LENGTH			139.90	TOTAL LENGTH			

DRILL STRING

RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?

MWD

RUN	COMP.	HRS to	HRS till	COMMENTS	FAILURE?
1	SMA084	21.00	53.00		N
1	SEA168	21.00	53.00		N
1	6BM557	21.00	53.00		N

COMMENTS

The jets in the PDC bit are 4x11.1 & 1x12.7

TARGET TVD @ TIME

PERSONNEL			
DD: Eric Erickson	MWD: Barry Timmerman	AFE NUMBER 5008047	CONTRACT NUMBER
DD:	MWD:	FIELD CELL #	CO. MAN'S CELL #
DD:	MWD:	SIGNATURE OF COMPANY'S REPRESENTATIVE	
DD:	MWD:	L. Sandquist	

Schlumberger

Day 5

JOB NUMBER	DATE	COMPANY	WELL NAME
40004630	THUR MARCH, 16, 2000	Alberta Energy Corp	AEC Renaissance Carcajou D-007
COMPANY REPRESENTATIVE		**RIG NAME**	**LOCATION**
Lynn Sandquist		Akita #14	200/ D-007-A/ 104-N-16/ 00

DRILLING RECORD

BIT NUMBER	2
BIT SIZE	158.0
BIT TYPE	PDC
JETS (mm)	3x22
DEPTH IN	628 m
DEPTH OUT	642 m
METERS	16 m
HOURS	3.25
ROP (m/hr)	4.9
RPM	50/100
WOB	2/3
PP ON	8000
PP OFF	7000
STG WT	20
P/U WT	20
S/O WT	20
PUMP DATA	
PUMP MAN.	Emsco
PUMP MODEL	F-500
Triplex/Duplex	Triplex
LINER	152mm
STROKE	191mm
CU. M/STRK	0.0104
STRKS/Min.	90
VOLUME	0.94
MUD REPORT	
MUD TYPE (Gel,ect.)	Floc
MUD WEIGHT	1000
VISCOSITY (sec/L)	28
WATER LOSS	
pH	9
SAND	
TEMPERATURE (°C)	

TIME RECORD

TIME	FROM	TO	DESCRIPTION	
0.75		0:45	Run Casing	
0.75	0:45	1:30	Circulate	
1.50	1:30	3:00	Cement Casing	
4.00	3:00	7:00	W O C	
0.25	7:00	7:15	Back off Landing Joint	
0.75	7:15	8:00	Pick up Directional Tools	
1.50	8:00	9:30	RIH	
1.50	9:30	11:00	W O C	
0.25	11:00	11:15	Pressure Test	
3.75	11:15	15:00	W O C	
0.50	15:00	15:30	Drillout Shoe	
0.50	15:30	16:00	Directional Drill 628 m	to 634 m
0.25	16:00	16:15	Rig Service	
2.75	16:15	19:00	Directional Drill 634 m	to 642 m
2.25	19:00	21:15	POOH	
1.50	21:15	22:45	Handle BHA	
0.75	22:45	23:30	Pick up 10 Drill Collars	
0.50	23:30	0:00	RIH	
24.00	TOTAL			

COSTS WITH

LIST SUPPLIER (If not Anadrill)		COST
SUPERVISION	1 @ 700.00	$ 700.00
FLAT RATE		
MOTOR HRS	3.75 @ 200.00	$ 750.00
MOTOR DAILY		
MOTOR STBY		
JARS		
S. SHOT KIT	125.00	
FLOAT SUB	1.00 @ 25.00	$ 25.00
MONEL	1.00 @ 125.00	$ 125.00
X/Over	1.00 @ 25.00	$ 25.00
STABILIZERS		
TB REAMER		
MWD SUPER.	1.00 @ 500.00	$ 500.00
MWD SYSTEMS	1.00 @ 2900.00	$ 2,900.00
GAMMA RAY		
GAMMA RAY (STBY)		
CMPTR & WELL PLAN		
EQUIPMENT STANDBY		
SUBSISTENCE (Camp?)		
camp		

MILEAGE

VEH. LIC. #	KM TDY	KM ACC

KM TODAY	0.75	$ -
KM ACCUM.		
DAILY TOTAL		$ 5,028.00
ACCUMULATED		$ 27,915.00

750
787.50
25
25
550
2900
5271.50
29,337.50

DOWNHOLE MOTORS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	Total Drill	Total Circ	Total D+C	FAILURE? (Yes / No)
2	Anadrill	475-14-1028	3.25	0.50	3.75	3.25	0.50	3.75	3.25	0.50	3.75	3.25	0.50	56.00	N

BHA

ITEM	VENDER	SERIAL#	LENGTH
Bit	DPI	R-482-GN	0.25
Motor	Anadrill	475-14-1028	5.51
Float	Anadrill	1312104	0.60
UBHO	Anadrill	1412193	0.66
Monel	Anadrill	2112111	9.47
Monel	Anadrill	483000035	9.48
10DC's	Akita		189.74
X/Over	Akita		0.47
TOTAL LENGTH			216.43

BHA

VENDER	SERIAL#	LENGTH
TOTAL LENGTH		

DOWNHOLE JARS

RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?

MWD

RUN	COMP.	HRS tdy	HRS ttl	COMMENTS	FAILURE?
1	EMA323	15.00	68.00		N
1	SEA158	15.00	68.00		N
1	SBA4544	15.00	68.00		N
2	EMA323	2.00	70.00		N
2	SEA158	2.00	70.00		N
2	SBA4544	2.00	70.00		N

COMMENTS

TARGET TVD @ TIME

PERSONNEL

DD:	Eric Erickson	MWD:	Barry Timmerman
DD:		MWD:	
DD:		MWD:	
DD:		MWD:	

AFE NUMBER	5000047
FIELD CELL #	
CONTRACT NUMBER	
CO. MAN'S CELL #	

SIGNATURE OF COMPANY'S REPRESENTATIVE

L. Sandquist

Schlumberger

JOB NUMBER	DATE	COMPANY	WELL NAME
40004030	FRI MARCH, 17, 2000	Alberta Energy Corp	AEC Renaissance Carcajou D-007
COMPANY REPRESENTATIVE		RIG NAME	LOCATION
Lynn Sandquist		Akita #14	200/ D-007-A/ 104-N-16/ 00

Day 8

DRILLING RECORD

BIT NUMBER	3
BIT SIZE	156.0
BIT TYPE	XL20T
JETS (mm)	OPEN
DEPTH IN	642.5 m
DEPTH OUT	
METERS	137 m
HOURS	20.75
ROP (m/hr)	6.6
RPM	50/90
WOB	8/10
PP ON	8500
PP OFF	7000
STG WT	28
P/U WT	28
S/O WT	28

PUMP DATA

PUMP MAN.	Emsco
PUMP MOD.	F-500
Triplex/Duplex	Triplex
LINER	152mm
STROKE	191mm
CU. M./STRK	0.0104
STRKS/Min.	90
VOLUME	0.94

MUD REPORT

MUD TYPE (Gel,ect.)	Gel
MUD WEIGHT	1060
VISCOSITY (sec/L)	43
WATER LOSS	10
pH	8.5
SAND	
TEMPERATURE (°C)	24.00

TIME RECORD

TIME	FROM	TO	DESCRIPTION
1.00		1:00	RIH
0.25	1:00	1:15	Rig Service
6.25	1:15	7:30	Directional Drill
0.50	7:30	8:00	Accumulated Surveys
0.25	8:00	8:15	Rig Service
7.25	8:15	15:30	Directional Drill
0.50	15:30	16:00	Accumulated Surveys
1.00	16:00	17:00	Directional Drill
0.25	17:00	17:15	Rig Service
6.25	17:15	23:30	Directional Drill
0.50	23:30	0:00	Accumulated Surveys
TOTAL			

COST ESTIMATE

LIST SUPPLIER (if not Anadrill)		COST	
SUPERVISION	1 @ 700.00	$ 700.00	750
FLAT RATE			
MOTOR HRS	22.25 @ 209.00	$ 4,650.00	4672.50
MOTOR DAILY			
MOTOR STBY			
JARS			
S. SHOT KIT	125.00		
FLOAT SUB	1.00 @ 25.00	$ 25.00	210
MONEL	2.00 @ 125.00	$ 250.00	
X/Over	25.00		
STABILIZERS			
TB REAMER			
MWD SUPER.	1.00 @ 500.00	$ 500.00	550
MWD SYSTEMS	1.00 @ 2900.00	$ 2,900.00	3000.
GAMMA RAY			
GAMMA RAY (STDBY)			
CMPTR & WELL PLAN			
EQUIPMENT STANDBY			
SUBSISTENCE (Camp?)			
camp			
KM TODAY	0.75	$ -	
KM ACCUM.			
DAILY TOTAL		$ 8,925.00	9252.50
ACCUMULATED		$ 36,800.00	38520.-

MILEAGE

VEH. LIC. #	KM TDY	KM ACC

DOWNHOLE MOTOR STATS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	Total Drill	Total Circ	Total D+C	FAILURE? (Yes / No)
3	Anadrill	475-14-1028	20.75	1.50	22.25	20.75	1.50	22.25	24.00	2.00	26.00	24.00	2.00	78.25	N

BHA

ITEM	VENDER	SERIAL#	LENGTH
Bit	Smith	LX3365	0.25
Motor	Anadrill	475-14-1028	5.51
Float	Anadrill	1312104	0.88
UBHO	Anadrill	1412193	0.66
Monel	Anadrill	2112111	9.47
Monel	Anadrill	463000035	9.48
10DC's	Akita		189.74
X/Over	Akita		0.47
TOTAL LENGTH			216.46

DOWNHOLE PROBLEMS

RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?

MWD

RUN	COMP.	HRS tdy	HRS tot	COMMENTS	FAILURE?
3	SMA323	24.00	94.00		N
3	SEA158	24.00	94.00		N
3	SBA4544	24.00	94.00		N

COMMENTS

TOTAL LENGTH

TARGET TVD @ TIME

PERSONNEL

DD: Eric Erickson	MWD: Barry Timmerman
DD:	MWD:
DD:	MWD:
DD:	MWD:

AFE NUMBER 5000047-3218-320

CONTRACT NUMBER

FIELD CELL #

CO. MAN'S CELL #

SIGNATURE OF COMPANY'S REPRESENTATIVE

L. Sandquist

Schlumberger — Daily Report

Day 7

JOB NUMBER	DATE	COMPANY	WELL NAME
40004830	SAT MARCH, 18, 2000	Alberta Energy Corp	AEC Renaissance Carcajou D-007
COMPANY REPRESENTATIVE		**RIG NAME**	**LOCATION**
Allan Anger		Akita #14	200/ D-007-A/ 104-N-18/ 00

BIT RECORD

BIT NUMBER	3
BIT SIZE	156.0
BIT TYPE	XR20T
JETS (mm)	OPEN
DEPTH IN	642 m
DEPTH OUT	860 m
METERS	234 m
HOURS	28.25
ROP (m/hr)	8.3
RPM	50/90
WOB	8/10
PP ON	6500
PP OFF	7400
STG WT	27
P/U WT	27
S/O WT	27

PUMPS

PUMP MAN.	Emsco
PUMP MOD.	F-500
Triplex/Duplex	Triplex
LINER	152mm
STROKE	191mm
CU. M./STRK	0.0104
STRKS/Min.	20
VOLUME	0.94

MUD REPORT

MUD TYPE (Gel,ect.)	Gel
MUD WEIGHT	1090
VISCOSITY (sec/L)	45
WATER LOSS	9
pH	9
SAND	
TEMPERATURE (°C)	

TIME RECORD

TIME	FROM	TO	DESCRIPTION
0.25		0:15	Rig Service
7.50	0:15	7:45	Directional Drill
0.25	7:45	8:00	Accumulated Surveys
0.25	8:00	8:15	Rig Service
5.25	8:15	13:30	Directional Drill
0.25	13:30	13:45	Accumulated Surveys
0.50	13:45	14:15	Circulate
1.50	14:15	15:45	Wiper Trip
0.75	15:45	16:30	Circulate
3.50	16:30	20:00	POOH To Log
0.75	20:00	20:45	Lay out Directional Tools
3.25	20:45	0:00	Run Casing
24.00	TOTAL		

MATERIAL & EQUIPMENT

LIST SUPPLIER (if not Anadrill)		COST
SUPERVISION	1 @ 700.00	$ 700.00
FLAT RATE		
MOTOR HRS	14.50 @ 205.00	$ 2,900.00
MOTOR DAILY		
MOTOR STBY		
JARS		
S. SHOT KIT	125.00	
FLOAT SUB	1.00 @ 25.00	$ 25.00
MONEL	1.00 @ 125.00	$ 250.00
X/Over	20.00	
STABILIZERS		
TB REAMER		
MWD SUPER.	1.00 @ 500.00	$ 500.00
MWD SYSTEMS	1.00 @ 2500.00	$ 2,500.00
GAMMA RAY		
GAMMA RAY (STDBY)		
CMPTR & WELL PLAN		
EQUIPMENT STANDBY		
SUBSISTENCE (Camp?)		
camp		

VEHICLE USAGE

VEH. LIC. #	KM TDY	KM ACC

KM TODAY	0.75	$ -
KM ACCUM.		
DAILY TOTAL		$ 7,275.00
ACCUMULATED		$44,675.00

DOWNHOLE MOTORS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	Total Drill	Total Circ	Total D+C	FAILURE? (Yes / No)
3	Anadrill	475-14-1028	12.75	1.75	14.50	33.50	3.25	36.75	36.75	3.75	40.50	36.75	3.75	92.75	N

BHA

ITEM	VENDER	SERIAL#	LENGTH
Bit	Smith	LX3385	0.25
Motor	Anadrill	475-14-1028	5.51
Float	Anadrill	1312104----	0.88
UBHO	Anadrill	1412193	0.66
Monel	Anadrill	2112111	9.47
Monel	Anadrill	463000035	9.48
20DC's	Akita		189.74
X/Over	Akita		0.47
TOTAL LENGTH			216.46

DOWNHOLE JARS

RUN	MAKE	SER. #	Drill	Circ	D+C	FAILURE?

JAR HOURS

RUN	COMP.	HRS to	HRS to	COMMENTS	FAILURE?
3	8NA323	20.00	124.00		N
3	8EA158	20.00	124.00		N
3	0644544	20.00	124.00		N

Comments

TARGET TVD @ TIME

PERSONNEL

DD:	Eric Erickson	MWD:	Barry Timmerman
DD:		MWD:	
DD:		MWD:	
DD:		MWD:	

AFE NUMBER 5000047-0210-310 CONTRACT NUMBER

FIELD CELL # CO. MAN'S CELL #

SIGNATURE OF COMPANY'S REPRESENTATIVE

Allan Anger

Schlumberger

Day 8

JOB NUMBER	DATE	COMPANY	WELL NAME
40004030	SUN MARCH, 19, 2000	Alberta Energy Corp	AEC Renaissance Carcajou D-007
COMPANY REPRESENTATIVE		RIG NAME	LOCATION
Allan Anger		Akita #14	200/ D-007-A/ 104-N-16/ 00

DRILLING DATA			TIME SEQ			
BIT NUMBER			TIME	FROM	TO	DESCRIPTION
BIT SIZE			24.00		0:00	Standby for r/g move
BIT TYPE						
JETS (mm)						
DEPTH IN						
DEPTH OUT						
METERS						
HOURS						
ROP (m/hr)						
RPM						
WOB						
PP ON						
PP OFF						
STG WT						
P/U WT						
S/O WT						
PUMP DATA						
PUMP MAN.						
PUMP MOD.						
Triplex/Duplex						
LINER						
STROKE						
CU. M./STRK						
STRKS/min.						
VOLUME						
MUD REPORT						
MUD TYPE (Gel,etc.)						
MUD WEIGHT						
VISCOSITY (sec/L)						
WATER LOSS						
pH						
SAND						
TEMPERATURE (°C)			24.00	TOTAL		

COST ESTIMATE			
LIST SUPPLIER (If not Anadrill)			COST
SUPERVISION	1 @	700.00	$ 700.00
FLAT RATE			
MOTOR HRS		200.00	
MOTOR DAILY			
MOTOR STBY			
JARS			
S. SHOT KIT		125.00	
FLOAT SUB		25.00	
MONEL		125.00	
X/Over		25.00	
STABILIZERS			
TB REAMER			
MWD SUPER.	1.00 @	500.00	$ 500.00
MWD SYSTEMS		2900.00	
MWD STANDBY	1.00 @	1000.00	$ 1,000.00
GAMMA RAY (STDBY)			
CMPTR & WELL PLAN			
EQUIPMENT STANDBY			
SUBSISTENCE (Camp?)			
camp			
MILEAGE			
VEH. LIC. #	KM TDY	KM ACC	
KM TODAY		0.75	$ -
KM ACCUM.			
DAILY TOTAL			$ 2,209.00
ACCUMULATED			$ 48,275.00

DOWNHOLE MOTORS

RUN	MAKE	SER. NO.	Daily Drill	Daily Circ	Daily D+C	Run Drill	Run Circ	Run D+C	Well Drill	Well Circ	Well D+C	Total Drill	Total Circ	Total D+C	FAILURE? (Yes / No)

BHA

BITS

DOWNHOLE TOOLS

Comments

TOTAL LENGTH	TOTAL LENGTH	TARGET TVD @ TIME

PERSONNEL

DD: Eric Erickson	MWD: Barry Timmerman	AFE NUMBER 6008047-8210-320	CONTRACT NUMBER
DD:	MWD:	FIELD CELL #	CO. MAN'S CELL #
DD:	MWD:	SIGNATURE OF COMPANY'S REPRESENTATIVE	
DD:	MWD:	Allan Anger	

250

500

2200.

48505.

SURVEY PLAN

OVERSIZED

DOCUMENT

FILMED

ON

35mm

RESISTIVITY/ CONDUCTIVITY

N.E.B. COPY

COMPANY: AEC OIL & GAS

WELL: AEC WEST RENAISSANCE CARCAJOU D-07

FIELD: EXPLORATORY

PROVINCE: NWT

PROVINCE: NWT
Field: EXPLORATORY
Location: UWI: 300D07654012830
Well: AEC WEST RENAISSANCE CAR
Company: AEC OIL & GAS

Schlumberger **DUAL LATEROLOG MSFL**

LOCATION			
UWI: 300D07654012830	Elev.:	K.B.	87.5 m
N 7275722.848		G.L.	83.2 m
E 521548.995		D.F.	
Permanent Datum: GROUND LEVEL	Elev.: 83.2 m		
Log Measured From: KELLY BUSHING	4.3 m above Perm. Datum		
Drilling Measured From: KELLY BUSHING			

API Serial No.	LATITUDE	LONGITUDE	RANGE
WID 1890	65 36 10.22905	128 31 56.88474	

Logging Date	18-MAR-2000		
Run Number	1		
Depth Driller	860 m		
Schlumberger Depth	860.3 m		
Bottom Log Interval	855.7 m		
Top Log Interval	626 m		
Casing Driller Size @ Depth	177.800 mm @ 626 m	@	
Casing Schlumberger	626 m		
Bit Size	156.000 mm		
Type Fluid In Hole	GEL CHEM		
MUD Density / Viscosity	1100 kg/m3	59 s	
Fluid Loss / PH	10 cm3	9	
Source Of Sample	RIG		
RM @ Measured Temperature	1.890 ohm.m @ 21 degC	@	
RMF @ Measured Temperature	1.690 ohm.m @ 22 degC	@	
RMC @ Measured Temperature	1.010 ohm.m @ 20 degC	@	
Source RMF / RMC	RIG	RIG	
RM @ MRT / RMF @ MRT	1.350 @ 38	1.236 @ 38	@ / @
Maximum Recorded Temperatures	38 degC		
Circulation Stopped / Time	18-MAR-2000	16:15	
Logger On Bottom / Time	18-MAR-2000	21:45	
Unit Number / Location	8416	6864	
Recorded By	SEAN MCCONKEY		
Witnessed By	GLEN MACINTOSH		

	Run 1	Run 2	Run 3	Run 4
Logging Date				
Run Number				
Depth Driller				
Schlumberger Depth				
Bottom Log Interval				
Top Log Interval				
Casing Driller Size @ Depth		@		@
Casing Schlumberger				
Bit Size				
Type Fluid In Hole				
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				

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATIONS, AND WE SHALL NOT, EXCEPT IN THE CASE OF GROSS OR WILLFUL NEGLIGENCE ON OUR PART, BE LIABLE OR RESPONSIBLE FOR ANY LOSS, COSTS, DAMAGES OR EXPENSES INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO CLAUSE 4 OF OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE.

OTHER SERVICES1
OS1: DUAL
OS2: LATEROLOG
OS3: SONIC
OS4: CNL-LDT
OS5: MSFL

REMARKS: RUN NUMBER 1
NO SECONDARY DEPTH CONTROL
STRETCH NOT ADDED, DUE TO ABOVE CONDITION
SURFACE CASING EXPECTED AT 626M,
SURFACE CASING FOUND AT 625.5MKB
TOOLS RUN SLICK, RAN MSFL ABOVE CNL TO AID
IN OFFSETING CNL
DIFFICULT TO DETERMINE SURFACE CASING FROM CALIPER

OTHER SERVICES2
OS1:
OS2:
OS3:
OS4:
OS5:

REMARKS: RUN NUMBER 2

	RUN 1	RUN 2
SERVICE ORDER #:	632042	
PROGRAM VERSION:	9C0-413	
FLUID LEVEL:	5 m	
LOGGED INTERVAL	START / STOP	START / STOP

EQUIPMENT DESCRIPTION

RUN 1

SURFACE EQUIPMENT
LCM-AA GSR-U/Y
NCT-B WITM (CTS)-A
CNB-AB
NCS-VB

DOWNHOLE EQUIPMENT

Tool	Sensor	Offset	Length
BSP BRT-S	SP SPARC	33.64	54.70
PEH-A			30.31
AH-64			29.77
TCC-B ECH-KC	TelStatus CTEM	28.44	29.36
SGT-L SGH-K 530 SGC-SA 1048	Gamma Ray	28.17	28.44
PCD-B PCH-A 1371 PCC-H PCM-A	PCDB Data	25.09	26.77
AH-107			24.17
AH-107			23.56
SRT-C SRE-D ECH-KQ DRS-C SRA-A	MSFL CALIPER I1	17.81 17.79 17.77	22.95
CNT-H CND-A NLS-KL NSR-FA 1491	CFTC CNTC	15.56 15.41	16.90
LDT-D GSR-J 2043 PGD-G 2721 NSC-E 785 ECH-MKA 787 DRS-C 3926 PDH-L 2980	Caliper LS SS	10.22 10.20 10.05	14.69
AH-169			9.41
DLT-E DLH-CB DLC-D DLS-F DLE-E	LLD LLS	4.62	9.00
BNS-CCS	PCDB Stat HV Tension	0.00 (TOOL ZERO)	0.14

MAXIMUM STRING DIAMETER 148 MM
MEASUREMENTS RELATIVE TO TOOL ZERO
ALL LENGTHS IN METERS

Input DLIS Files

DEFAULT DLTE .009 FN:8 PRODUCER 18-Mar-2000 21:53

Output DLIS Files

DEFAULT DLTE .004 FN:3 PRODUCER 18-Mar-2000 22:14 860.3 M 598.0 M

OP System Version: 9C0-413

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	OP9-KP1	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

MCM

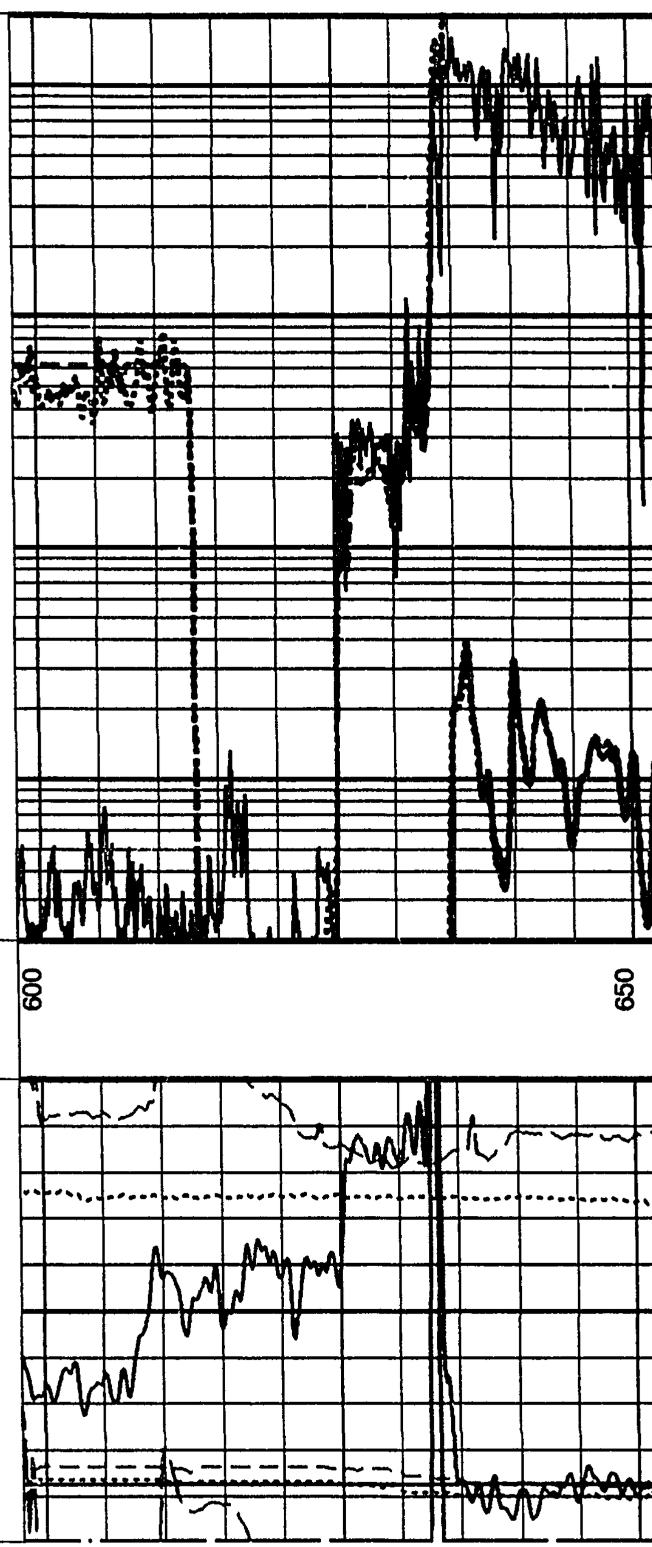
PIP SUMMARY

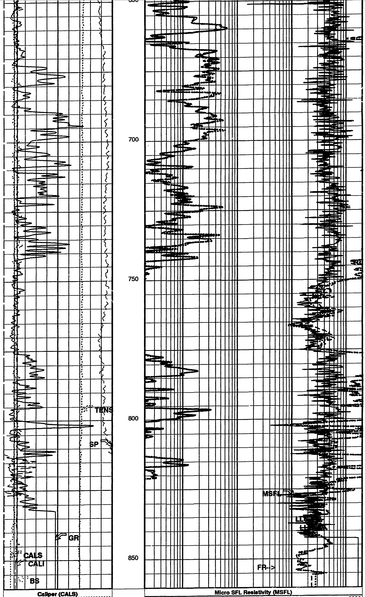
Time Mark Every 60 S

Tension (TENS) (N) 20000 — 0
SP (SP) (MV) -80 — 20
Gamma Ray (GR) (GAPI) 0 — 150
Caliper (CALI) (MM) 125 — 375
Bit Size (BS) (MM) 125 — 375
Caliper (CALS) (MM) 125 — 375

Micro SFL Resistivity (MSFL) (OHMM) 2000 — 200000
Laterolog Shallow Resistivity (LLS) (OHMM) 2000 — 200000
Laterolog Deep Resistivity (LLD) (OHMM) 2000 — 200000
Laterolog Shallow Resistivity (LLS) (OHMM) 0.2 — 2000
Laterolog Deep Resistivity (LLD) (OHMM) 0.2 — 2000
Micro SFL Resistivity (MSFL) (OHMM) 0.2 — 2000

MAIN PASS





PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BS	Bit Size	159.000 MM
CO	Depth Offset	0.0 M
GPRF	DEEP REFERENCE POWER	50 HW
LLCO	LL3 Offset	SCHO
LLOC	LATERLOG LOOP	OFF
OMR	Origin of Mud Resistivity	CONS
PLRM	POWER LOOP REFERENCE MODE	DEEP
PR	Playback Processing	NORM
RMUD	Resistivity of Mud Sample	0 OHMM
SPNV	SP Null Value	0 MV
SPRF	SHALLOW REFERENCE POWER	50 HW
SPT	SRT Pad Type	SLIM

Format: DLT_MSFL_600 Vertical Scale: 1:600 Graphics File Created: 18-Mar-2000 22:14

OP System Version: 9C0-413

MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	CPS-P21	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

Input DLIS Files

DEFAULT	DLTE .009	FN:8	PRODUCER	18-Mar-2000 21:53	

Output DLIS Files

DEFAULT	DLTE .004	FN:3	PRODUCER	18-Mar-2000 22:14	860.3 M	598.0 M

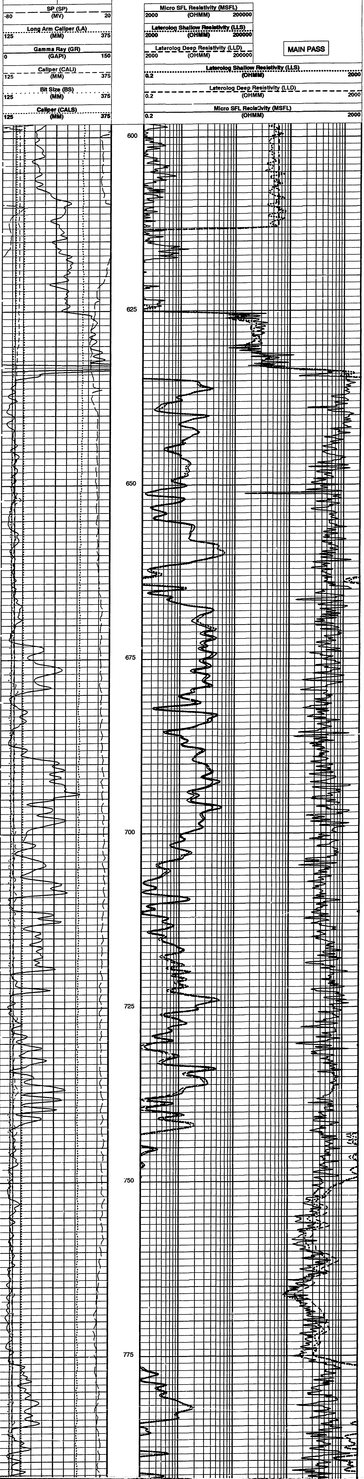
OP System Version: 9C0-413

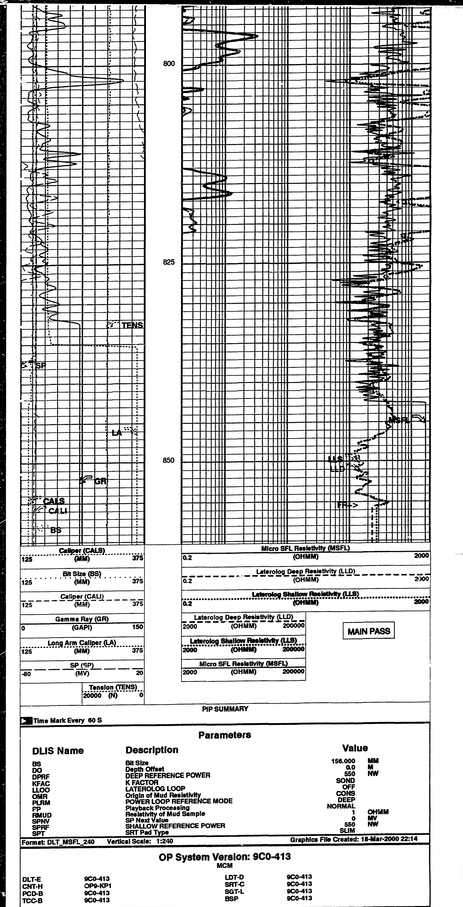
MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	CPS-P21	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

PIP SUMMARY

Time Mark Every 60 S





Parameters

DLIS Name	Description	Value	
BS	Bit Size	156.000	MM
DO	Depth Offset	0.0	M
DPRF	DEEP REFERENCE POWER	550	NW
KFAC	K FACTOR	SOND	
LLOG	LATEROLOG LOOP	OFF	
OMR	Origin of Mud Resistivity	CORS	
PLRM	POWER LOOP REFERENCE MODE	DEEP	
PP	Playback Processing	NORMAL	
RMUD	Resistivity of Mud Sample	1	OHMM
SPNV	SP Nxst Value	5	MV
SPRF	SHALLOW REFERENCE POWER	550	NW
SPT	SRT Pad Type	SLIM	

Format: DLT_MSFL_240 Vertical Scale: 1:240 Graphics File Created: 18-Mar-2000 22:14

OP System Version: 9C0-413

MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	OPI-KP1	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

Input DLIS Files

DEFAULT	DLTE .009	FN:8	PRODUCER	18-Mar-2000 21:53

Output DLIS Files

DEFAULT	DLTE .004	FN:3	PRODUCER	18-Mar-2000 22:14

Input DLIS Files

DEFAULT	DLTE .007	FN:6	PRODUCER	18-Mar-2000 21:36	861.7 M	781.4 M

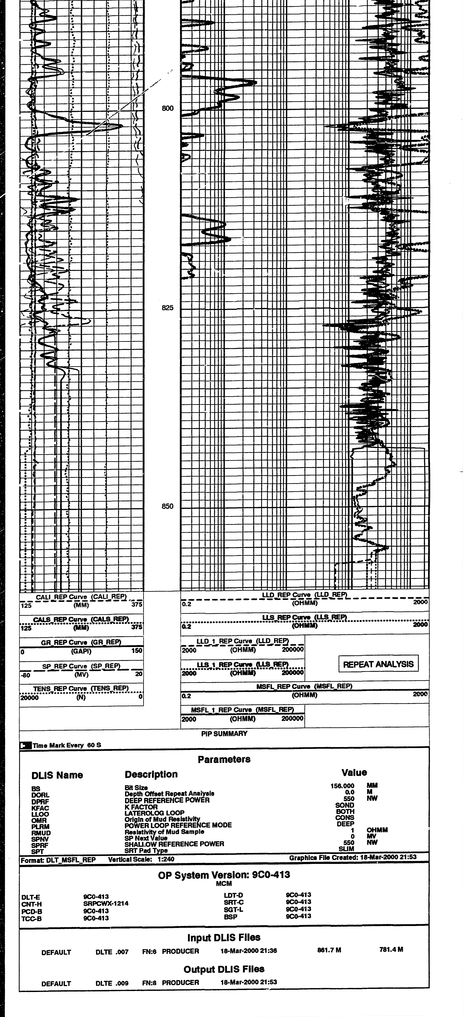
Output DLIS Files

DEFAULT	DLTE .009	FN:8	PRODUCER	18-Mar-2000 21:53

OP System Version: 9C0-413

MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	SRPCWX-1214	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413



Parameters

DLIS Name	Description	Value	
BS	Bit Size	156.000	MM
DOFL	Depth Offset Repeat Analysis	0.0	M
DPRF	DEEP REFERENCE POWER	550	NW
KFAC	K FACTOR	SOND	
LLOG	LATEROLOG LOOP	BOTH	
OMR	Origin of Mud Resistivity	CORS	
PLRM	POWER LOOP REFERENCE MODE	DEEP	
RMUD	Resistivity of Mud Sample	1	OHMM
SPNV	SP Nxst Value	5	MV
SPRF	SHALLOW REFERENCE POWER	550	NW
SPT	SRT Pad Type	SLIM	

Format: DLT_MSFL_REP Vertical Scale: 1:240 Graphics File Created: 18-Mar-2000 21:53

OP System Version: 9C0-413

MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	SRPCWX-1214	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

Input DLIS Files

DEFAULT	DLTE .007	FN:6	PRODUCER	18-Mar-2000 21:36	861.7 M	781.4 M

Output DLIS Files

DEFAULT	DLTE .009	FN:8	PRODUCER	18-Mar-2000 21:53

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
DUAL LATEROLOG - E Website Calibration - DLT ELECTRONICS CALIBRATION Laterolog Measurement							
Before: 18-MAR-2000 21:11							
MEASURED LLD	31.62	N/A	32.18	N/A	N/A	0.9000	OHMM
MEASURED LLS	31.62	N/A	32.21	N/A	N/A	0.9000	OHMM
Litho Density - D Website Calibration - Background Measurement							
Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24							
LL Background	20.00	19.17	19.09	N/A	N/A	1.000	CPS
LU Background	76.00	73.25	73.13	N/A	N/A	1.000	CPS
LS Background	57.00	55.80	55.85	N/A	N/A	1.000	CPS
LITH Background	5.500	5.316	5.318	N/A	N/A	0.3000	CPS
SS1 Background	16.00	12.29	12.35	N/A	N/A	0.5000	CPS
SS2 Background	11.00	8.480	8.491	N/A	N/A	0.5000	CPS
Litho Density - D Website Calibration - Tool Quality Control Information HV							
Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24							
LSHV Background	1500	1339	1344	N/A	N/A	N/A	V
SSHV Background	1500	1339	1351	N/A	N/A	N/A	V
Litho Density - D Website Calibration - Detectors Resolution From BKG Measurements							
Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24							
LS Resolution Background	6.000	8.449	8.475	N/A	N/A	N/A	
SS Resolution Background	8.000	8.631	8.667	N/A	N/A	N/A	
Litho Density - D Website Calibration - Caliper Calibration							
Before: 16-MAR-2000 17:27							
Caliper Small Ring	203.2	N/A	178.4	N/A	N/A	N/A	MM
Caliper Large Ring	304.8	N/A	268.5	N/A	N/A	N/A	MM
Litho Density - D Master Calibration - Aluminum Measurement							
Master: 27-FEB-2000 16:43							
LL Aluminum	90.00	91.00	--	--	--	--	CPS
LU Aluminum	135.0	136.7	--	--	--	--	CPS

LU Aluminum	135.0	136.7	-	-	-	-	CPS
LS Aluminum	155.0	159.4	-	-	-	-	CPS
LITH Aluminum	50.00	55.57	-	-	-	-	CPS
SS1 Aluminum	175.0	178.3	-	-	-	-	CPS
SS2 Aluminum	260.0	260.3	-	-	-	-	CPS
Litho Density - D Master Calibration - Litholog Measurement							
Master: 27-FEB-2000 16:38							
LL Iron	80.00	86.87	-	-	-	-	CPS
LU Iron	120.0	130.5	-	-	-	-	CPS
LS Iron	135.0	152.1	-	-	-	-	CPS
LITH Iron	30.00	37.73	-	-	-	-	CPS
SS1 Iron	155.0	172.6	-	-	-	-	CPS
SS2 Iron	245.0	250.0	-	-	-	-	CPS
Litho Density - D Master Calibration - Spectrum Quality Ratios							
Master: 27-FEB-2000 16:43							
QRLS Calculated	0.6500	0.6656	-	-	-	-	
QRSS Calculated	0.7200	0.6848	-	-	-	-	
QRLI Calculated	0.3900	0.3487	-	-	-	-	
QLIR Calculated	1.390	1.406	-	-	-	-	
QR Calculated	1.000	1.014	-	-	-	-	
Compensated Neutron - H Wellsite Calibration - Zero Measurement							
Master: 27-FEB-2000 14:21 Before: 16-MAR-2000 17:40							
CNTC Background	27.85	27.85	28.66	N/A	N/A	4.178	CPS
CFTC Background	34.74	34.74	37.80	N/A	N/A	5.211	CPS
Compensated Neutron - H Master Calibration - Tank Measurement							
Master: 27-FEB-2000 14:32							
Thermal Near Corr. (Tank)	6031	5839	-	-	-	-	CPS
Thermal Far Corr. (Tank)	2793	2542	-	-	-	-	CPS
CNTC/CFTC (Tank)	2.159	2.297	-	-	-	-	
Spherical Resistivity - C Wellsite Calibration - Electronics Calibration							
Before: 16-MAR-2000 20:59							
MSFL Conductivity Zero	1.000	N/A	1.052	N/A	N/A	2.000	MM/M
MSFL Bucking Current Zero	0.2000	N/A	0.3214	N/A	N/A	2.000	MM/M
MSFL Conductivity Plus	500.0	N/A	498.9	N/A	N/A	20.00	MM/M
MSFL Bucking Current Plus	100.0	N/A	96.45	N/A	N/A	20.00	MM/M
Spherical Resistivity - C Wellsite Calibration - Caliper Downhole Calibration							
Before: Calibration not done							
CALIPER Downhole	414.2	N/A	N/A	N/A	N/A	8.283	MM
Powered Caliper Device - B Wellsite Calibration - Large Arm Calibration							
Before: 16-MAR-2000 17:22							
Large Arm Small Ring	203.2	N/A	169.5	N/A	N/A	N/A	MM
Large Arm Large Ring	304.8	N/A	306.6	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Small Arm Calibration							
Before: 16-MAR-2000 17:25							
Small Arm Small Gauge	25.40	N/A	172.7	N/A	N/A	N/A	MM
Small Arm Large Gauge	127.0	N/A	234.7	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Micro Inverse Calibration							
Before: 16-MAR-2000 17:27							
Micro Inverse Zero	0	N/A	5.937	N/A	N/A	0.1000	OHMM
Micro Inverse Plus	5.000	N/A	5.937	N/A	N/A	0.2000	OHMM
Powered Caliper Device - B Wellsite Calibration - Micro Normal Calibration							
Before: 16-MAR-2000 17:27							
Micro Normal Zero	0	N/A	5.937	N/A	N/A	0.1000	OHMM
Micro Normal Plus	5.000	N/A	5.937	N/A	N/A	0.2000	OHMM
Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration							
Before: 16-MAR-2000 17:23							
Gamma Ray Background	30.00	N/A	31.29	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	161.4	N/A	161.4	N/A	N/A	14.68	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

The CNT Master Calibration Was Done With The Following Parameters :

NCT-B Water Temperature 10.0 DEGC.
Thermal Housing Size 85.725 MM.

DUAL LATEROLOG - E / Equipment Identification

Primary Equipment:

Auxiliary Equipment:

Dual Laterolog Electrode	DLE - E
Dual Laterolog Sonde	DLS - F
Dual Laterolog Housing	DLH - CB
Dual Laterolog Cartridge	DLC - D
Laterolog Control Module	LCM - AA

DUAL LATEROLOG - E Wellsite Calibration
DLT ELECTRONICS CALIBRATION Laterolog Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	MEASURED LLD OHMM	29.00	31.62	40.00	32.18
Before	MEASURED LLS OHMM	29.00	31.62	40.00	32.21

Before: 16-MAR-2000 21:11

DUAL LATEROLOG - E Wellsite Calibration
DLT Electronics Calibration Plus Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Deep Current Plus UA	317.5	342.5	367.5	340.5
Before	Deep Voltage Plus MV	9.830	10.83	11.83	10.96
Before	Groningen Voltage Plus MV	9.830	10.83	11.83	10.92
Before	Shallow Current Plus UA	317.5	342.5	367.5	340.4
Before	Shallow Voltage Plus MV	9.830	10.83	11.83	10.97

Before: 16-MAR-2000 21:11

DUAL LATEROLOG - E Wellsite Calibration
DLT Electronics Calibration Zero Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Deep Current Zero UA	-1.000	0	1.000	0
Before	Deep Voltage Zero MV	-0.1000	0	0.1000	0.003849
Before	Groningen Voltage Zero MV	-0.1000	0	0.1000	2.566E-00
Before	Shallow Current Zero UA	-1.000	0	1.000	-0.09301
Before	Shallow Voltage Zero MV	-0.1000	0	0.1000	-0.007897

Before: 16-MAR-2000 21:10

Litho Density - D / Equipment Identification

Primary Equipment:

Nuclear Services Cartridge	NSC - E	785
Powered Gamma Detector	PGD - G	2721
Gamma Source Radioactive	GSR - J	2043

Auxiliary Equipment:

Density Resistivity Sonde	DRS - C	3926
Electronics Cartridge Housing	ECH - MKA	787
Powered Detector Housing	PDH - L	2980

Litho Density - D Wellsite Calibration
Background Measurement

Measurement	Minimum	Nominal	Maximum	Master	Before
LL Background CPS	15.00	20.00	25.00	19.17	19.09
LU Background CPS	58.00	76.00	94.00	73.25	73.13
LS Background CPS	43.00	57.00	72.00	55.80	55.65
LITH Background CPS	4.000	5.500	7.000	5.316	5.318
SS1 Background CPS	12.00	16.00	19.50	12.29	12.35
SS2 Background CPS	8.000	11.00	13.50	8.480	8.491

Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24

Litho Density - D Wellsite Calibration
Detectors Resolution From BKG Measurements

Measurement	Minimum	Nominal	Maximum	Master	Before
LS Resolution Background	5.000	8.000	11.50	8.449	8.475
SS Resolution Background	5.000	8.000	11.50	8.631	8.667

Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24

Litho Density - D Master Calibration
Aluminum Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	LL Aluminum CPS	70.00	90.00	125.0	91.00
Master	LU Aluminum CPS	100.0	135.0	194.0	136.7
Master	LS Aluminum CPS	120.0	155.0	217.0	159.4
Master	LITH Aluminum CPS	35.00	50.00	74.00	55.57
Master	SS1 Aluminum CPS	125.0	175.0	256.0	178.3
Master	SS2 Aluminum CPS	210.0	260.0	353.0	260.3

Master: 27-FEB-2000 16:43

Litho Density - D Master Calibration
Litholog Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	LL Iron CPS	60.00	80.00	114.0	86.87
Master	LU Iron CPS	85.00	120.0	177.0	130.5
Master	LS Iron CPS	100.0	135.0	193.0	152.1
Master	LITH Iron CPS	15.00	30.00	51.00	37.73
Master	SS1 Iron CPS	105.0	155.0	234.0	172.6
Master	SS2 Iron CPS	190.0	245.0	325.0	250.0

Master: 27-FEB-2000 16:38

Litho Density - D Master Calibration
Spectrum Quality Ratios

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	QRLS Calculated	0.6000	0.6500	0.7000	0.6656
Master	QRSS Calculated	0.6200	0.7200	0.8200	0.6848
Master	QRLI Calculated	0.2900	0.3900	0.4500	0.3487
Master	QLIR Calculated	1.290	1.390	1.450	1.406
Master	QR Calculated	0.9800	1.000	1.020	1.014

Master: 27-FEB-2000 16:43

Compensated Neutron - H / Equipment Identification

Primary Equipment:

Compensated Neutron Cartridge	CNC - HA	1247
Neutron Logging Source	NLS - KL	
Neutron Source Radioactive	NSR - FA	1491
Neutron Detector with Alpha Source	CND - A	
Compensated Neutron Box	CNB - AB	

Auxiliary Equipment:

Compensated Neutron Housing	CNH - A	4465
Neutron Calibration Tank	NCT - B	

Compensated Neutron - H Wellsite Calibration
Zero Measurement

Measurement	Minimum	Nominal	Maximum	Master	Before
CNTC Background CPS	5.000	27.85	40.00	27.85	28.66
CFTC Background CPS	5.000	34.74	40.00	34.74	37.80

Master: 27-FEB-2000 14:21 Before: 16-MAR-2000 17:40

Compensated Neutron - H Master Calibration
Tank Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	Thermal Near Corr. (Tank) CPS	5000	6031	7200	5839
Master	Thermal Far Corr. (Tank) CPS	2075	2793	3125	2542
Master	CNTC/CFTC (Tank)	2.120	2.159	2.540	2.297

Master: 27-FEB-2000 14:32

Spherical Resistivity - C / Equipment Identification

Primary Equipment:

Density Resistivity Sonde	DRS - C
Spherical Resistivity Electronics	SRE - D

Auxiliary Equipment:

Spherical Resistivity Adapter	SRA - A
Electronics Cartridge Housing	ECH - KQ

Spherical Resistivity - C Wellsite Calibration
Electronics Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	MSFL Conductivity Zero MM/M	-1.000	1.000	3.000	1.052
Before	MSFL Bucking Current Zero MM/M	-4.800	0.2000	5.200	0.3214
Before	MSFL Conductivity Plus MM/M	450.0	500.0	550.0	498.9
Before	MSFL Bucking Current Plus MM/M	50.00	100.0	150.0	96.45

Before: 16-MAR-2000 20:59

Spherical Resistivity - C Wellsite Calibration
Caliper Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	CALIPER Small Ring MM	101.6	203.2	228.6	220.0
Before	CALIPER Large Ring MM	243.8	304.8	381.0	318.4

Before: 16-MAR-2000 17:31

Spherical Resistivity - C Wellsite Calibration
Caliper Downhole Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	CALIPER Downhole MM (NOT DONE)	372.8	414.2	455.6	N/A

Before: Calibration not done

Powered Caliper Device - B / Equipment Identification

Primary Equipment:

Powered Caliper Mechanical (sonde)	PCM - A	
Powered Caliper Cartridge	PCC - H	

Auxiliary Equipment:

Powered Caliper Housing	PCH - A	1371

Powered Caliper Device - B Wellsite Calibration
Micro Inverse Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Micro Inverse Zero OHMM (EXCEEDS LIMIT)	-1.000	0	1.000	5.937
Before	Micro Inverse Plus OHMM (EXCEEDS LIMIT)	4.250	5.000	5.750	5.937

Before: 16-MAR-2000 17:27

Powered Caliper Device - B Wellsite Calibration
Micro Normal Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Micro Normal Zero OHMM (EXCEEDS LIMIT)	-1.000	0	1.000	5.937
Before	Micro Normal Plus OHMM (EXCEEDS LIMIT)	4.250	5.000	5.750	5.937

Before: 16-MAR-2000 17:27

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:

Scintillation Gamma Cartridge	SGC - SA	1048
Scintillation Gamma Detector	SGD - TAA	

Auxiliary Equipment:

Scintillation Gamma Housing	SGH - K	530
Gamma Source Radioactive	GSR - U/Y	

Scintillation Gamma-Ray - L Wellsite Calibration
Detector Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Gamma Ray Background GAPI	0	30.00	120.0	31.29
Before	Gamma Ray (Jig - Bkg) GAPI	146.8	161.4	176.1	161.4
Before	Gamma Ray (Calibrated) GAPI	150.0	165.0	180.0	165.0

Before: 16-MAR-2000 17:23

COMPANY	AEC OIL & GAS	BOTTOM LOG INTERVAL	855.7 m
WELL	AEC WEST RENAISSANCE CARCAJOU D-07	SCHLUMBERGER DEPTH	860.3 m
FIELD	EXPLORATORY	DEPTH DRILLER	860 m
PROVINCE	NWT	KELLY BUSHING	87.5 m
		DRILL FLOOR	
		GROUND LEVEL	83.2 m

Schlumberger

DUAL LATEROLOG MSFL

LEGIBILITY
OF LOG
COULD VARY
DUE TO
COLOR
CONTENT

SONIC

COMPANY: AEC OIL & GAS LTD.

WELL: AEC WEST RENAISSANCE CARCAJOU D-07

FIELD: EXPLORATORY

PROVINCE: NWT

Schlumberger

BOREHOLE COMPENSATED SONIC LOG

PROVINCE: NWT
Field: EXPLORATORY
Location: UWI: 300D07654012830
Well: AEC WEST RENAISSANCE CARCAJOU D-07
Company: AEC OIL & GAS LTD.

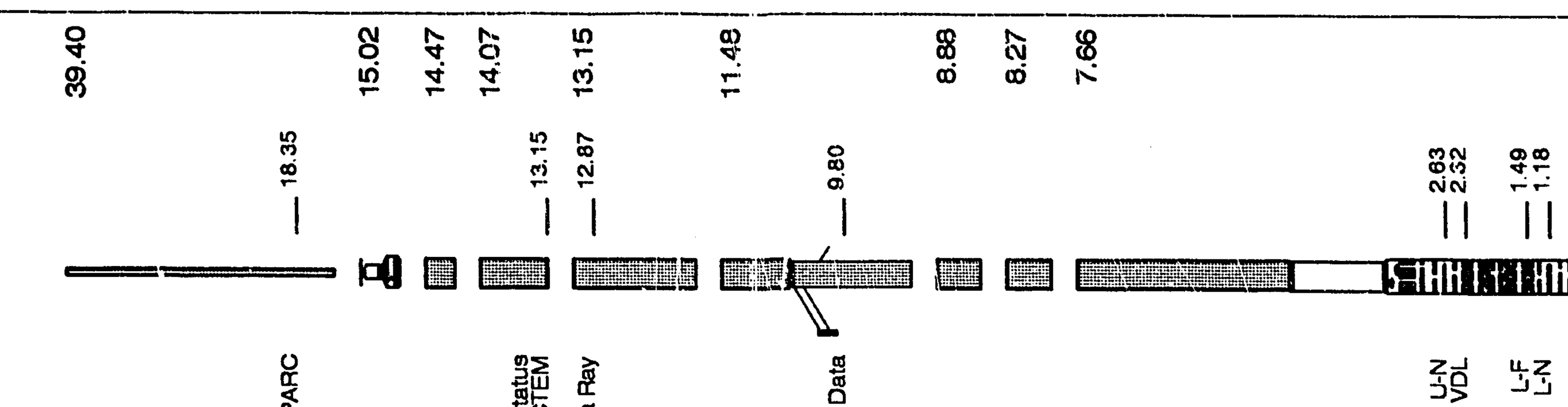
LOCATION
UWI: 300D07654012830
N 7275722.848
E 521548.995

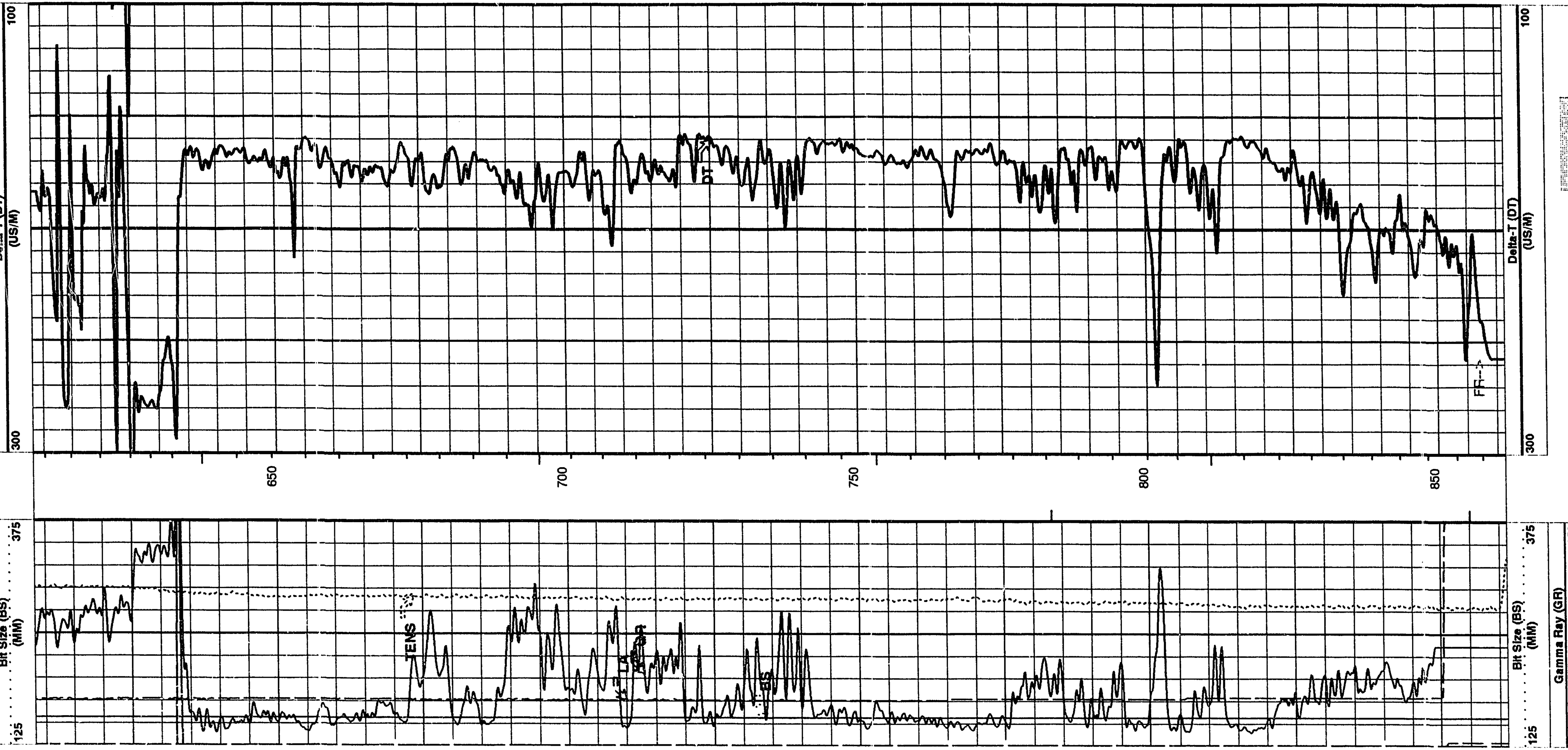
Elev.: K.B. 87.5 m; G.L. 83.2 m; D.F.

Permanent Datum: GROUND LEVEL — Elev.: 83.2 m
Log Measured From: KELLY BUSHING — 4.3 m above Perm. Datum
Drilling Measured From: KELLY BUSHING

API Serial No.	LATITUDE	LONGITUDE	RANGE
WID 1890	65 36 10.22905	128 31 56.88471	

Logging Date	18-MAR-2000	
Run Number	1	
Depth Driller	860 m	
Schlumberger Depth	860.3 m	
Bottom Log Interval	858.7 m	
Top Log Interval	626 m	
Casing Driller Size @ Depth	177.800 mm @ 626 m	@
Casing Schlumberger	626 m	
Bit Size	156.000 mm	
Type Fluid In Hole	GEL CHEM	
MUD Density / Viscosity	1100 kg/m3 / 59 s	
MUD Fluid Loss / PH	10 cm3 / 9	
MUD Source Of Sample	RIG	
RM @ Measured Temperature	1.890 ohm.m @ 21 degC	@
RMF @ Measured Temperature	1.690 ohm.m @ 22 degC	@
RMC @ Measured Temperature	1.010 ohm.m @ 20 degC	@
Source RMF / RMC	RIG / RIG	
RM @ MRT / RMF @ MRT	1.350 @ 38 / 1.236 @ 38	@ / @
Maximum Recorded Temperatures	38 degC	
Circulation Stopped / Time	18-MAR-2000 / 16:15	
Logger On Bottom / Time	18-MAR-2000 / 0:30	
Unit Number / Location	8416 / 6864	
Recorded By	SEAN MCCONKEY	
Witnessed By	GLEN MACINTOSH	





BS	Bit Size	156.000	MM
DORL	Depth Offset Repeat Analysis	-0.3	M
DTCM	Delta-T Computation Mode	FULL	
MODE	Picking Mode	REPEAT	

Format: SCRI_600 Vertical Scale: 1:600 Graphics File Created: 19-Mar-2000 00:35

OP System Version: 9C0-413

MCM

SDT-C	9C0-413	PCD-B	9C0-413
SDT-L	9C0-413	TCC-B	9C0-413
BSP	9C0-413		

Output DLIS Files

DEFAULT SDTC .012 FN:11 PRODUCER 19-Mar-2000 00:35

Output DLIS Files

DEFAULT SDTC .012 FN:11 PRODUCER 19-Mar-2000 00:35 881.4 M 608.1 M

Integrated Hole/Cement Volume Summary

Hole Volume = 2.20 M3
Computed from 880.3 M to 628.1 M using data channel(s) HDIA

OP System Version: 9C0-413

MCM

SDT-C	9C0-413	PCD-B	9C0-413
SDT-L	9C0-413	TCC-B	9C0-413
BSP	9C0-413		

PIP SUMMARY
- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
  - Integrated Transit Time Minor Pip Every 1 MS
  - Integrated Transit Time Major Pip Every 10 MS

Time Mark Every 60 S

Tension (TENS) (N) 20000 0
Long Arm Caliper (LA) (MM) 125 375
Gamma Ray (GR) (GAPI) 0 150
Bit Size (BS) (MM) 125 375

MAIN PASS

Delta-T (DT) (US/M) 300 100

625
650
675
700
725
750
775
800
825
850

TENS
LA
GR
BS
DT

131.9 M

FR-3

Bit Size (BS) (MM) 125 375
Gamma Ray (GR) (GAPI) 0 150
Long Arm Caliper (LA) (MM) 125 375
Tension (TENS) (N) 20000 0

MAIN PASS

Delta-T (DT) (US/M) 300 100

PIP SUMMARY
- Integrated Hole Volume Minor Pip Every 0.1 M3
- Integrated Hole Volume Major Pip Every 1 M3
  - Integrated Transit Time Minor Pip Every 1 MS
  - Integrated Transit Time Major Pip Every 10 MS

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BS	Bit Size	156.000	MM
DORL	Depth Offset Repeat Analysis	-0.3	M
DTCM	Delta-T Computation Mode	FULL	
MODE	Picking Mode	REPEAT	

Format: SCRI-240-300 Vertical Scale: 1:240 Graphics File Created: 19-Mar-2000 00:35

OP System Version: 9C0-413

MCM

SDT-C	9C0-413	PCD-B	9C0-413
SDT-L	9C0-413	TCC-B	9C0-413
BSP	9C0-413		

Output DLIS Files

DEFAULT SDTC .012 FN:11 PRODUCER 19-Mar-2000 00:35

Input DLIS Files

DEFAULT SDTC .011 FN:10 PRODUCER 19-Mar-2000 00:21 861.7 M 776.0 M

Output DLIS Files

DEFAULT SDTC .012 FN:11 PRODUCER 19-Mar-2000 00:35

OP System Version: 9C0-413

MCM

SDT-C	9C0-413	PCD-B	9C0-413
SDT-L	9C0-413	TCC-B	9C0-413
BSP	9C0-413		

PIP SUMMARY

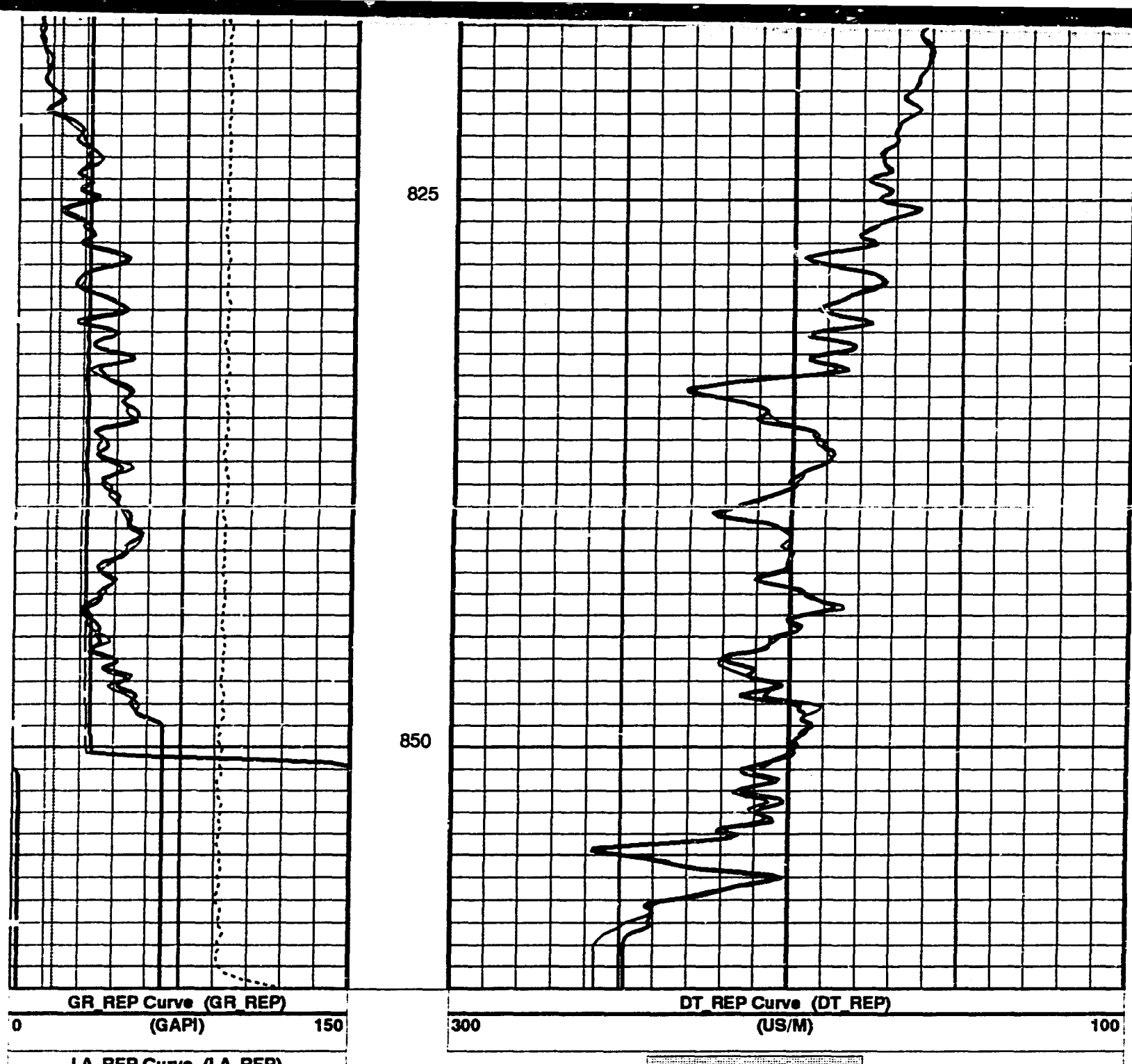
Time Mark Every 60 S

LA_REP Curve (LA_REP) (MM) 125 375
GR_REP Curve (GR_REP) (GAPI) 0 150

REPEAT ANALYSIS

DT_REP Curve (DT_REP) (US/M) 300 100

600



PIP SUMMARY

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BS	Bit Size	156.000	MM
DORL	Depth Offset Repeat Analysis	-0.3	M
DTCM	Delta-T Computation Mode	FULL	
MODE	Firing Mode	BHC	

Format: SONI-240-300_REP Vertical Scale: 1:240 Graphics File Created: 19-Mar-2000 00:35

OP System Version: 9C0-413

MCM

SDT-C	9C0-413	PCD-B	9C0-413
SGT-L	9C0-413	TCC-B	9C0-413
BSP	9C0-413		

Input DLIS Files

DEFAULT	SDTC .011	FN:10	PRODUCER	19-Mar-2000 00:21	861.7 M	776.0 M

Output DLIS Files

DEFAULT	SDTC .012	FN:11	PRODUCER	19-Mar-2000 00:35

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
Powered Caliper Device - B Wellsite Calibration - Large Arm Calibration							
Before: 16-MAR-2000 17:22							
Large Arm Small Ring	203.2	N/A	169.5	N/A	N/A	N/A	MM
Large Arm Large Ring	304.8	N/A	306.6	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Small Arm Calibration							
Before: 16-MAR-2000 17:25							
Small Arm Small Gauge	25.40	N/A	172.7	N/A	N/A	N/A	MM
Small Arm Large Gauge	127.0	N/A	234.7	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Micro Inverse Calibration							
Before: 16-MAR-2000 17:27							
Micro Inverse Zero	0	N/A	5.937	N/A	N/A	0.1000	OHMM
Micro Inverse Plus	5.000	N/A	5.937	N/A	N/A	0.2000	OHMM
Powered Caliper Device - B Wellsite Calibration - Micro Normal Calibration							
Before: 16-MAR-2000 17:27							
Micro Normal Zero	0	N/A	5.937	N/A	N/A	0.1000	OHMM
Micro Normal Plus	5.000	N/A	5.937	N/A	N/A	0.2000	OHMM
Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration							
Before: 16-MAR-2000 17:23							
Gamma Ray Background	30.00	N/A	31.29	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	161.4	N/A	161.4	N/A	N/A	14.68	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

Powered Caliper Device - B / Equipment Identification

Primary Equipment:		
Powered Caliper Mechanical (sonde) - A	PCM - A	
Powered Caliper Cartridge - H	PCC - H	
Auxiliary Equipment:		
Powered Caliper Housing - A	PCH - A	1371

Powered Caliper Device - B Wellsite Calibration
Micro Inverse Calibration

Phase	Micro Inverse Zero OHMM	Value	Phase	Micro Inverse Plus OHMM	Value
Before	EXCEEDS LIMIT	5.937	Before	EXCEEDS LIMIT	5.937
-1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			4.250 (Minimum) 5.000 (Nominal) 5.750 (Maximum)		

Before: 16-MAR-2000 17:27

Powered Caliper Device - B Wellsite Calibration
Micro Normal Calibration

Phase	Micro Normal Zero OHMM	Value	Phase	Micro Normal Plus OHMM	Value
Before	EXCEEDS LIMIT	5.937	Before	EXCEEDS LIMIT	5.937
-1.000 (Minimum) 0 (Nominal) 1.000 (Maximum)			4.250 (Minimum) 5.000 (Nominal) 5.750 (Maximum)		

Before: 16-MAR-2000 17:27

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:		
Scintillation Gamma Cartridge	SGC - SA	1048
Scintillation Gamma Detector	SGD - TAA	
Auxillary Equipment:		
Scintillation Gamma Housing	SGH - K	530
Gamma Source Radioactive	GSR - U/Y	

Scintillation Gamma-Ray - L Wellsite Calibration
Detector Calibration

Phase	Gamma Ray Background GAPI	Value	Phase	Gamma Ray (Jig - Bkg) GAPI	Value	Phase	Gamma Ray (Calibrated) GAPI	Value
Before		31.29	Before		161.4	Before		165.0
0 (Minimum) 30.00 (Nominal) 120.0 (Maximum)			146.8 (Minimum) 161.4 (Nominal) 176.1 (Maximum)			150.0 (Minimum) 165.0 (Nominal) 180.0 (Maximum)		

Before: 16-MAR-2000 17:23

COMPANY	AEC OIL & GAS LTD	BOTTOM LOG INTERVAL	858.7 m
		SCHLUMBERGER DEPTH	860.3 m
WELL	AEC WEST RENAISSANCE CARCAJOU D-07	DEPTH DRILLER	860 m
FIELD	EXPLORATORY	KELLY BUSHING	87.5 m
PROVINCE	NWT	DRILL FLOOR	
		GROUND LEVEL	83.2 m

Schlumberger

BOREHOLE COMPENSATED SONIC LOG

DENSITY

COMPANY ARC OIL & GAS
WELL ARC WEST RENAISSANCE CARCLAOU
FIELD EXPLORATORY
PROVINCE NWT

N.E.A. COPY

PROVINCE NWT
Location: SDN JONATHAN
Location: UWI: 300D094N139B0
Well: ARC WEST RENAISSANCE CARCLAOU
Company: ARC OIL & GAS

Schlumberger

COMPENSATED NEUTRON
LITHO-DENSITY

Date	16-Mar-2005		
Run No.	ONE		
Depth Driller	1000.0 m		
Depth Logger	1000.0 m		
Bottom Log Interval	1000.0 m		
Top Log Interval	10.0 m		
Casing Driller	114.30 MM @ 0.0 m		
Casing Logger	114.30 MM @ 0.0 m		
Bit Size	216.0 MM		
Type Fluid in Hole	WATER BASED MUD		
Density	1.0 G/C3		
Viscosity	0.0 S		
Fluid Loss	0.0 C3		
Source of Sample	FLOWLINE		
Rm @ Meas. Temp.	0.000 @ 0.0 C		
Rmf @ Meas. Temp.	0.000 @ 0.0 C		
Rmc @ Meas. Temp.	0.000 @ 0.0 C		
Rm @ BHT	0.000 @ 0.0 C		
Max Rec. Temp.	0.0 C		
Equipment Number	1		
Location	1		
Recorded By	D. MCKAY		
Witnessed By	J. MCLEAN		

Run 1			
Run 2			
Run 3			

ALL INTERPRETATIONS ARE OPINIONS BASED ON INFERENCES FROM ELECTRICAL OR OTHER MEASUREMENTS AND WE CANNOT, AND DO NOT, GUARANTEE THE ACCURACY OR CORRECTNESS OF ANY INTERPRETATION, AND WE SHALL NOT BE LIABLE FOR ANY LOSS, DAMAGE OR EXPENSE INCURRED OR SUSTAINED BY ANYONE RESULTING FROM ANY INTERPRETATION MADE BY ANY OF OUR OFFICERS, AGENTS OR EMPLOYEES. THESE INTERPRETATIONS ARE ALSO SUBJECT TO OUR CLAUSE 4 OF OUR GENERAL TERMS AND CONDITIONS AS SET OUT IN OUR CURRENT PRICE SCHEDULE

OTHER SERVICES:	OTHER SERVICES2:
CBL	CBL
CNL CATROLOG	CNL
DBS SONIC	DBS
DIL	DIL
DSN	DSN
GR	GR
HRD SHALLOW DIPMETER	HRD SHALLOW DIPMETER2
HRD DEEP DIPMETER	
SPECTRAL GAMMA RAY	REMARKS: RUN NUMBER 2
SONIC WAVEFORM DIPOLE SONIC	
SURFACE CHEMICAL TRACER	
SURFACE CHEMICAL TRACER2	
TOOLS RAN WITH: RAN SBR, SBHT ON TO ND	
TOOLS RAN WITH2: RAN SBR, SBHT ON TO ND	
DIFFICULT TO DETERMINE SURFACE CASING FROM CALIPER	

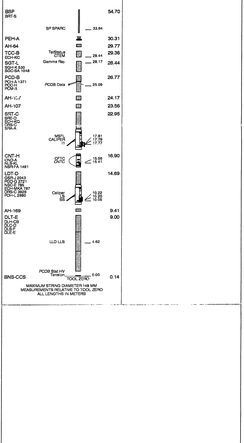
RUN 1				RUN 2			
SERVICE ORDER #		BIT SIZE		SERVICE ORDER #		BIT SIZE	
PROGRAM VERSION				PROGRAM VERSION			
FLUID TYPE				FLUID TYPE			
CASING INTERVAL	START	STOP		CASING INTERVAL	START	STOP	

EQUIPMENT DESCRIPTION

RUN 1 | RUN 2

SURFACE EQUIPMENT
CDM-A
CDB-B
CDS-B
NDS-B

DOWNHOLE EQUIPMENT



Input DLIS Files

DEFAULT	DLTE .005	PR.6	PRODUCER	16-Mar-2005 23:13	

Output DLIS Files

DEFAULT	DLTE .004	PR.3	PRODUCER	16-Mar-2005 23:14	995.3 M	598.5 M

Integrated Hole/Cement Volume Summary

Hole Volume = 5.83 M3
Cement Volume = 3.25 M3 (assuming 114.30 MM casing O.D.)
Computed from 995.0 M to 595.0 M using data channel(s) CALI LA

OP System Version: 9C0-513

NCR

DLTE	9C0-513	LDT-D	9C0-513
CNT-H	QPA-671	SDT-C	9C0-513
CNT-D	9C0-513	SDT-D	9C0-513
TCC-B	9C0-513	SRT	9C0-513

OP 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 10 S

Tension (TENS)	10000	0
Bit Size (BIS)	300	216
Long Arm Caliper (LA)	300	216
Gamma Ray (GR)	0	150
Caliper (CALI)	100	400
Delta Caliper (DCALI)	100	400
Gamma Ray (GR)	0	150
Bit Size (BIS)	300	216
Tension (TENS)	10000	0

MAIN PASS, MDEN=-2710 KG/M3, LIMESTONE

Bulk Density (BRDN) 2000 (K/M3) 3000
Pseudo Gamma Factor (PSG) 0 (1) 10.000
Bulk Density Correction (DRHO) 250 (K/M3) -250
Neutron Porosity (NPHI) 1000 (PU) -250
Density Porosity (DPHI) 1000 (PU) -250
Bulk Density (BRDN) 2000 (K/M3) 3000

MAIN PASS, MDEN=-2710 KG/M3, LIMESTONE

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

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BIS	Bypass Field Medium	LOCKED
BIS	Bit Size	216.0 MM
DRHO	Density Hole Correction	250 K/M3
GRCH	Gamma Ray Offset	0 GAPI
HTEN	Density Porosity Processing Mode	1000
HTEN	Field Density	2710 K/M3
MRES	Mud Resistivity	0.000 OHMM
NPHI	Neutron Processing	1000
TENS	Tension Offset	0 LBF

Format: POND_200 Vertical Scale: 1:200 Graphics File Created: 16-Mar-2005 23:14

OP System Version: 9C0-513

NCR

DLTE	9C0-513	LDT-D	9C0-513
CNT-H	QPA-671	SDT-C	9C0-513
CNT-D	9C0-513	SDT-D	9C0-513
TCC-B	9C0-513	SRT	9C0-513

Input DLIS Files

DEFAULT	DLTE .005	PR.6	PRODUCER	16-Mar-2005 21:53	

Output DLIS Files

DEFAULT	DLTE .004	PR.3	PRODUCER	16-Mar-2005 23:14	995.3 M	598.5 M

Integrated Hole/Cement Volume Summary

Hole Volume = 5.83 M3
Cement Volume = 3.25 M3 (assuming 114.30 MM casing O.D.)
Computed from 995.0 M to 595.0 M using data channel(s) CALI LA

OP System Version: 9C0-513

NCR

DLTE	9C0-513	LDT-D	9C0-513
CNT-H	QPA-671	SDT-C	9C0-513
CNT-D	9C0-513	SDT-D	9C0-513
TCC-B	9C0-513	SRT	9C0-513

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

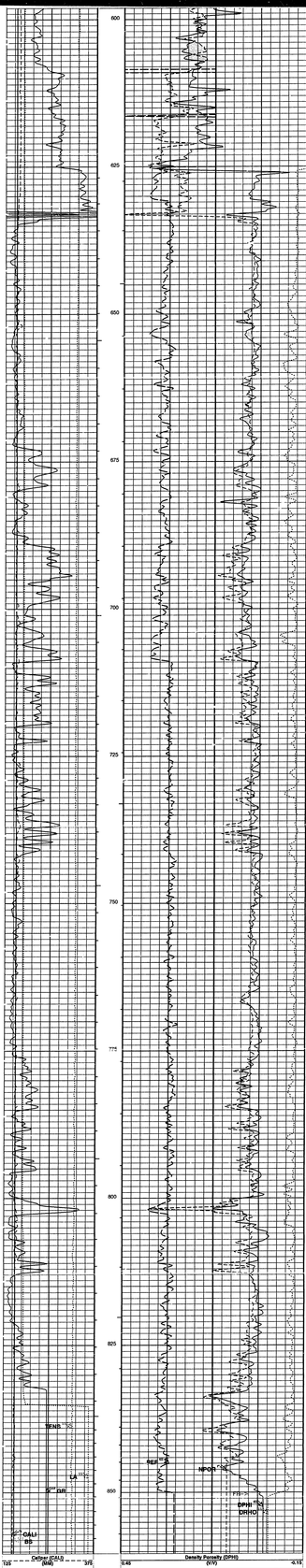
Time Mark Every 60 S

Tension (TENS)	10000	0
Bit Size (BIS)	300	216
Long Arm Caliper (LA)	300	216
Gamma Ray (GR)	0	150
Caliper (CALI)	100	400
Delta Caliper (DCALI)	100	400
Gamma Ray (GR)	0	150
Bit Size (BIS)	300	216
Tension (TENS)	10000	0

MAIN PASS, MDEN=-2710 KG/M3, LIMEST LIND

Gas Crossover
From DPHI to NPHI

Pseudo Gamma Factor (PSG) 0 (1) 10.000
Bulk Density Correction (DRHO) 250 (K/M3) -250
Alpha Exponent Neutron Porosity (NPCR) 0.45 (F/V) 0.15
Density Porosity (DPHI) 0.45 (PU) -0.15



Caliper (CALI) 125 (MM) 375	Density Porosity (DPHI) 0.45 (V/V) -0.15
Gamma Ray (GR) 0 (GAPI) 150	Alpha Processed Neutron Porosity (NPOR) 0.45 (V/V) -0.15
Long Arm Caliper (LA) 125 (MM) 375	Photoelectric Factor (PEF) 0 (---) 10.462 / Bulk Density Correction (DRHO) 0.5 (K/M3) -0.5
Bit Size (BIT) 125 (MM) 375	Gas Crossover From DPHI to NPOR
Tension (TENS) 25000 (N) 0	MAIN PASS, MDEN=2710KG/M3, LIMESTONE

PIP SUMMARY

- ▷ Integrated Hole Volume Minor Plip Every 0.1 M3
- ▷ Integrated Hole Volume Major Plip Every 1 M3
- ◁ Integrated Cement Volume Minor Plip Every 0.1 M3
- ◁ Integrated Cement Volume Major Plip Every 1 M3

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value
BFNI	Borehole Fluid Medium	LIQUID
BHCS	Bore Hole Status	OPEN
BHS	Bore Hole Status	OPEN
BS	Bit Size	156.500 MM
BSAL	Borehole Salinity	200000 PPM
BSCO	Borehole Salinity Correction Option	NO
CCCO	Casing & Cement Thickness Correction Option	NO
CHS	Current Casing Size	177.800 MM
DFD	Drilling Fluid Density	94.00 KG/M
DFD	Drilling Fluid Density	1100.00 K/M3
DHC	Density Hole Correction	BS
DOFF	Depth Offset	0 M
DPPM	Density Porosity Processing Mode	STAN
FD	Fluid Density	1100 K/M3
FSAL	Formation Salinity	-00000 PPM
GCCO	Generalized Caliper Correction Option	NO
GCSO	Generalized Caliper Selection	BS
GDEV	Average Angular Deviation of Borehole from Normal	0 DEG
GMDN	Grain Matrix Density	0.016037 DCM
HCCO	Hole Size Correction Option	YES
MATR	Rock Matrix Type	LIMESTONE
MCCO	Mud Cake Correction Option	NO
MCUT	Mud Cake Cutter	MATU
MDEN	Matrix Density	2710 K/M3
MBT	Mud Sample Temperature	21.00 DEGC
MWCO	Mud Weight Correction Option	NO
MWT	Mud Weight Type	NORMAL
PTCO	Pressure Temperature Correction Option	NO
RMFS	Resistivity of Mud Filtrate Sample	0.6600 OHMM
SBHS	Side Bore Hole Status	PASS
SCCO	Standoff Distance	12.7 MM
SCCO	Standoff Correction Option	NO
SDIS	Sample Depth - Logger	889.000 M
VISLU	Mud Viscosity	004.038 K/M3

Format: PCRO_240 Vertical Scale: 1:240 Graphics File Created: 18-Mar-2000 22:14

OP System Version: 9C0-413

MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	CPH-KPH	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSF	9C0-413

Output DLIS Files

DEFAULT	DLTE .003	FN:6	PRODUCER	18-Mar-2000 21:53		

Input DLIS Files

DEFAULT	DLTE .004	FN:3	PRODUCER	18-Mar-2000 22:14		

Input DLIS Files

				18-Mar-2000 20:53	865.3 M	30.5 M

Output DLIS Files

DEFAULT	DLTE .007	FN:6	PRODUCER	18-Mar-2000 22:45	820.0 M	30.5 M

Integrated Hole/Cement Volume Summary

Hole Volume = 0.10 M3

Cement Volume = 0.06 M3 (assuming 114.30 MM casing O.D.)

Computed from 820.0 M to 825.6 M using data channel(s) CALI LA

OP System Version: 9C0-413

MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	CPH-KPH	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSF	9C0-413

PIP SUMMARY

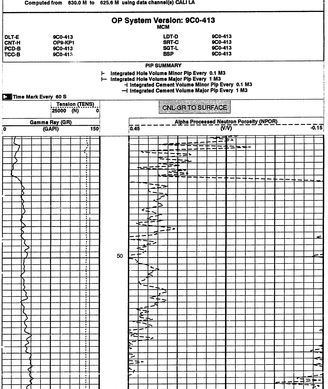
- ▷ Integrated Hole Volume Minor Plip Every 0.1 M3
- ▷ Integrated Hole Volume Major Plip Every 1 M3
- ◁ Integrated Cement Volume Minor Plip Every 0.1 M3
- ◁ Integrated Cement Volume Major Plip Every 1 M3

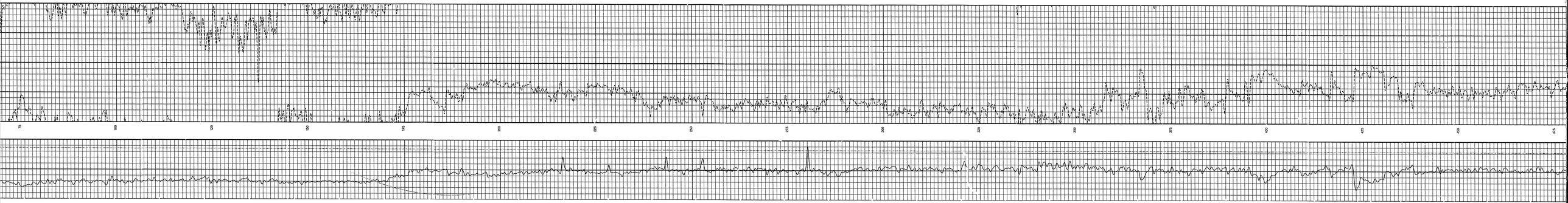
Time Mark Every 60 S

Tension (TENS) 25000 (N) 0

ONLOR TO SURFACE

Gamma Ray (GR) 0 (GAPI) 150	Alpha Processed Neutron Porosity (NPOR) 0.45 (V/V) -0.15

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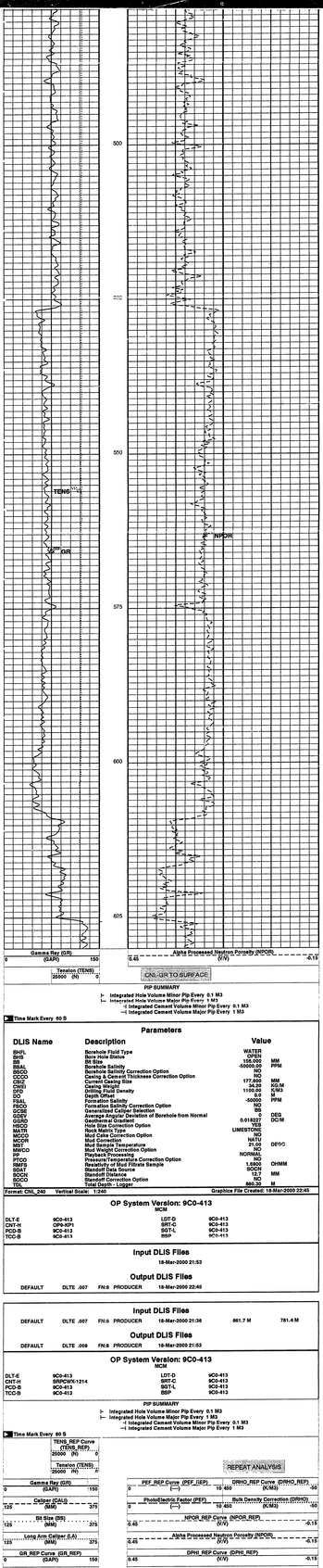


PIP SUMMARY

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

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BHFL	Borehole Fluid Type	WATER	
BHS	Borehole Status	OPEN	
BS	Bit Size	155.000	MM
BSAL	Borehole Salinity	-50000.00	PPM
BSCO	Borehole Salinity Correction Option	NO	
BSCO	Borehole Salinity Thickness Correction Option	NO	
CBZ	Casing Casing Size	177.800	MM
CWG	Casing Weight	34.20	KG/M
DFD	Drilling Fluid Density	1100.00	K/M3
FD	Fluid Density	0.9	G/C3
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCBS	Generalized Caliper Selection	BS	
GGRD	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix Type	LIMESTONE	
MCOR	Mud Cake Correction Option	NO	
MCOR	Mud Correction	NATU	
MST	Mud Sample Temperature	21.00	DEG C
MWCO	Mud Weight Correction Option	NO	
PHFL	Physical Hole Fluid	NORMAL	
PTCO	Pressure/Temperature Correction Option	NO	
RMFS	Resistivity of Mud Filtrate Sample	1.6800	OHMM
SDAT	Standoff Data Source	SOCN	
SDIS	Standoff Distance	10.00	MM
SOCO	Standoff Correction Option	NO	
TDL	Total Depth - Logger	880.30	M

Format: CNL_240 Vertical Scale: 1:240 Graphics File Created: 18-Mar-2000 22:45

OP System Version: 9C0-413

MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	9RPCWX1214	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

Input DLIS Files

18-Mar-2000 21:53

Output DLIS Files

DEFAULT	DLTE .007	FN:6	PRODUCER	18-Mar-2000 22:45

Input DLIS Files

DEFAULT	DLTE .007	FN:6	PRODUCER	18-Mar-2000 21:36	861.7 M	791.4 M

Output DLIS Files

DEFAULT	DLTE .009	FN:8	PRODUCER	18-Mar-2000 21:53

OP System Version: 9C0-413

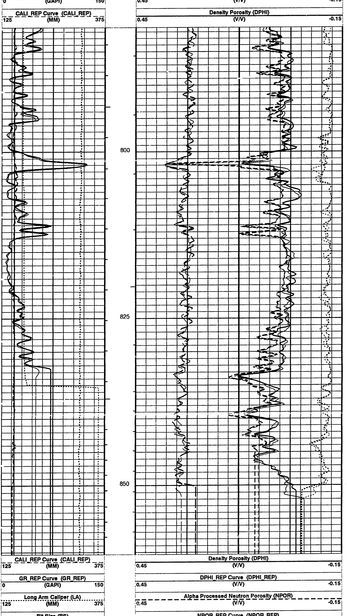
MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	9RPCWX1214	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

PIP SUMMARY

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

Time Mark Every 60 S



PIP SUMMARY

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

Time Mark Every 60 S

Parameters

DLIS Name	Description	Value	
BFM	Borehole Fluid Medium	LIQUID	
BHFL	Borehole Fluid Type	WATER	
BHS	Bore Hole Status	OPEN	
BS	Bit Size	155.000	MM
BSAL	Borehole Salinity	-50000.00	PPM
BSCO	Borehole Salinity Correction Option	NO	
BSCO	Borehole Salinity Thickness Correction Option	NO	
CBZ	Casing Casing Size	177.800	MM
CWG	Casing Weight	34.20	KG/M
DFD	Drilling Fluid Density	1100.00	K/M3
FD	Density Fluid Density	0.9	G/C3
DPRM	Density Processing Mode	STAN	
FD	Fluid Density	1000	K/M3
FSAL	Formation Salinity	-50000	PPM
FSCO	Formation Salinity Correction Option	NO	
GCBS	Generalized Caliper Selection	BS	
GGRD	Average Angular Deviation of Borehole from Normal	0	DEG
GGRD	Geothermal Gradient	0.018227	DC/M
HSCO	Hole Size Correction Option	YES	
MATR	Rock Matrix Type	LIMESTONE	

MATR	Rock Matrix Type	LIMESTONE
MCCO	Mud Cake Correction Option	NO
MCOR	Mud Correction	NATU
MDEN	Matrix Density	2710 K/M3
MST	Mud Sample Temperature	21.00 DEGC
MWCO	Mud Weight Correction Option	NO
PTCO	Pressure/Temperature Correction Option	NO
RMFS	Resistivity of Mud Filtrate Sample	1.6900 OHMM
SDAT	Standoff Data Source	SOCN
SOCN	Standoff Distance	12.7 MM
SOCO	Standoff Correction Option	NO
TDL	Total Depth - Logger	860.30 M
WMUD	Mud Weight	994.556 K/M3

Format: PORO_REP Vertical Scale: 1:240 Graphics File Created: 18-Mar-2000 21:53

OP System Version: 9C0-413
MCM

DLT-E	9C0-413	LDT-D	9C0-413
CNT-H	SRPCWX-1214	SRT-C	9C0-413
PCD-B	9C0-413	SGT-L	9C0-413
TCC-B	9C0-413	BSP	9C0-413

Input DLIS Files

DEFAULT DLTE .007 FN:6 PRODUCER 18-Mar-2000 21:36 861.7 M 781.4 M

Output DLIS Files

DEFAULT DLTE .009 FN:8 PRODUCER 18-Mar-2000 21:53

Calibration and Check Summary

Measurement	Nominal	Master	Before	After	Change	Limit	Units
DUAL LATEROLOG - E Wellsite Calibration - DLT ELECTRONICS CALIBRATION Laterolog Measurement							
Before: 18-MAR-2000 21:11							
MEASURED LLD	31.62	N/A	32.18	N/A	N/A	0.3000	OHMM
MEASURED LLS	31.62	N/A	32.21	N/A	N/A	0.3000	OHMM
Litho Density - D Wellsite Calibration - Background Measurement							
Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24							
LL Background	20.00	19.17	19.09	N/A	N/A	1.000	CPS
LU Background	76.00	73.25	73.13	N/A	N/A	1.000	CPS
LS Background	57.00	55.80	55.65	N/A	N/A	1.000	CPS
LITH Background	5.500	5.316	5.318	N/A	N/A	0.3000	CPS
SS1 Background	16.00	12.29	12.35	N/A	N/A	0.5000	CPS
SS2 Background	11.00	8.480	8.491	N/A	N/A	0.5000	CPS
Litho Density - D Wellsite Calibration - Tool Quality Control Information HV							
Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24							
LSHV Background	1500	1339	1344	N/A	N/A	N/A	V
SSHV Background	1500	1339	1351	N/A	N/A	N/A	V
Litho Density - D Wellsite Calibration - Detectors Resolution From BKG Measurements							
Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24							
LS Resolution Background	8.000	8.449	8.475	N/A	N/A	N/A	
SS Resolution Background	8.000	8.531	8.667	N/A	N/A	N/A	
Litho Density - D Wellsite Calibration - Caliper Calibration							
Before: 16-MAR-2000 17:27							
Caliper Small Ring	203.2	N/A	178.4	N/A	N/A	N/A	MM
Caliper Large Ring	304.8	N/A	288.5	N/A	N/A	N/A	MM
Litho Density - D Master Calibration - Aluminum Measurement							
Master: 27-FEB-2000 16:43							
LL Aluminum	90.00	91.00	--	--	--	--	CPS
LU Aluminum	135.0	136.7	--	--	--	--	CPS
LS Aluminum	155.0	159.4	--	--	--	--	CPS
LITH Aluminum	50.00	55.57	--	--	--	--	CPS
SS1 Aluminum	175.0	178.3	--	--	--	--	CPS
SS2 Aluminum	260.0	260.3	--	--	--	--	CPS
Litho Density - D Master Calibration - Litholog Measurement							
Master: 27-FEB-2000 16:38							
LL Iron	80.00	86.87	--	--	--	--	CPS
LU Iron	120.0	130.5	--	--	--	--	CPS
LS Iron	135.0	152.1	--	--	--	--	CPS
LITH Iron	30.00	37.73	--	--	--	--	CPS
SS1 Iron	155.0	172.6	--	--	--	--	CPS
SS2 Iron	245.0	250.0	--	--	--	--	CPS
Litho Density - D Master Calibration - Spectrum Quality Ratios							
Master: 27-FEB-2000 16:43							
QRLS Calculated	0.6500	0.6656	--	--	--	--	
QRSS Calculated	0.7200	0.6848	--	--	--	--	
QRLI Calculated	0.3900	0.3487	--	--	--	--	
QLIR Calculated	1.390	1.406	--	--	--	--	
QR Calculated	1.000	1.014	--	--	--	--	
Compensated Neutron - H Wellsite Calibration - Zero Measurement							
Master: 27-FEB-2000 14:21 Before: 16-MAR-2000 17:40							
CNTC Background	27.85	27.85	28.66	N/A	N/A	4.178	CPS
CFTC Background	34.74	34.74	37.80	N/A	N/A	5.211	CPS
Compensated Neutron - H Master Calibration - Tank Measurement							
Master: 27-FEB-2000 14:32							
Thermal Near Corr. (Tank)	6031	5839	--	--	--	--	CPS
Thermal Far Corr. (Tank)	2793	2542	--	--	--	--	CPS
CNTC/CFTC (Tank)	2.159	2.297	--	--	--	--	
Spherical Resistivity - C Wellsite Calibration - Electronics Calibration							
Before: 18-MAR-2000 20:59							
MSFL Conductivity Zero	1.000	N/A	1.052	N/A	N/A	2.000	MM/M
MSFL Bucking Current Zero	0.2000	N/A	0.3214	N/A	N/A	2.000	MM/M
MSFL Conductivity Plus	500.0	N/A	498.9	N/A	N/A	20.00	MM/M
MSFL Bucking Current Plus	100.0	N/A	96.45	N/A	N/A	20.00	MM/M
Spherical Resistivity - C Wellsite Calibration - Caliper Downhole Calibration							
Before: Calibration not done							
CALIPER Downhole	414.2	N/A	N/A	N/A	N/A	8.283	MM
Powered Caliper Device - B Wellsite Calibration - Large Arm Calibration							
Before: 16-MAR-2000 17:22							
Large Arm Small Ring	203.2	N/A	169.5	N/A	N/A	N/A	MM
Large Arm Large Ring	304.8	N/A	308.6	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Small Arm Calibration							
Before: 16-MAR-2000 17:25							
Small Arm Small Gauge	25.40	N/A	172.7	N/A	N/A	N/A	MM
Small Arm Large Gauge	127.0	N/A	234.7	N/A	N/A	N/A	MM
Powered Caliper Device - B Wellsite Calibration - Micro Inverse Calibration							
Before: 16-MAR-2000 17:27							
Micro Inverse Zero	0	N/A	5.937	N/A	N/A	0.1000	OHMM
Micro Inverse Plus	5.000	N/A	5.937	N/A	N/A	0.2000	OHMM
Powered Caliper Device - B Wellsite Calibration - Micro Normal Calibration							
Before: 16-MAR-2000 17:27							
Micro Normal Zero	0	N/A	5.937	N/A	N/A	0.1000	OHMM
Micro Normal Plus	5.000	N/A	5.937	N/A	N/A	0.2000	OHMM
Scintillation Gamma-Ray - L Wellsite Calibration - Detector Calibration							
Before: 16-MAR-2000 17:23							
Gamma Ray Background	30.00	N/A	31.29	N/A	N/A	N/A	GAPI
Gamma Ray (Jig - Bkg)	161.4	N/A	161.4	N/A	N/A	14.68	GAPI
Gamma Ray (Calibrated)	165.0	N/A	165.0	N/A	N/A	15.00	GAPI

The CNT Master Calibration Was Done With The Following Parameters :

NCT-B Water Temperature 10.0 DEGC.
Thermal Housing Size 85.725 MM.

DUAL LATEROLOG - E / Equipment Identification

Primary Equipment:

Auxiliary Equipment:
Dual Laterolog Electrode DLE - E
Dual Laterolog Sonde DLS - F
Dual Laterolog Housing DLH - CB
Dual Laterolog Cartridge DLC - D
Laterolog Control Module LCM - AA

DUAL LATEROLOG - E Wellsite Calibration
DLT ELECTRONICS CALIBRATION Laterolog Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	MEASURED LLD OHMM	29.00	31.62	40.00	32.18
Before	MEASURED LLS OHMM	29.00	31.62	40.00	32.21

Before: 18-MAR-2000 21:11

DUAL LATEROLOG - E Wellsite Calibration
DLT Electronics Calibration Plus Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Deep Current Plus UA	317.5	342.5	367.5	340.5
Before	Deep Voltage Plus MV	9.830	10.83	11.83	10.96
Before	Groningen Voltage Plus MV	9.830	10.83	11.83	10.92
Before	Shallow Current Plus UA	317.5	342.5	367.5	340.4
Before	Shallow Voltage Plus MV	9.830	10.83	11.83	10.97

Before: 18-MAR-2000 21:11

DUAL LATEROLOG - E Wellsite Calibration
DLT Electronics Calibration Zero Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Deep Current Zero UA	-1.000	0	1.000	0
Before	Deep Voltage Zero MV	-0.1000	0	0.1000	0.003849
Before	Groningen Voltage Zero MV	-0.1000	0	0.1000	2.566E-00
Before	Shallow Current Zero UA	-1.000	0	1.000	-0.09301
Before	Shallow Voltage Zero MV	-0.1000	0	0.1000	-0.007697

Before: 18-MAR-2000 21:10

Litho Density - D / Equipment Identification

Primary Equipment:
Nuclear Services Cartridge NSC - E 785
Powered Gamma Detector PGD - G 2721
Gamma Source Radioactive GSR - J 2043

Auxiliary Equipment:
Density Resistivity Sonde DRS - C 3926
Electronics Cartridge Housing ECH - MKA 787
Powered Detector Housing PDH - L 2980

Litho Density - D Wellsite Calibration
Background Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Master	Before
	LL Background CPS	15.00	20.00	25.00	19.17	19.09
	LU Background CPS	58.00	76.00	94.00	73.25	73.13
	LS Background CPS	43.00	57.00	72.00	55.80	55.65
	LITH Background CPS	4.000	5.500	7.000	5.316	5.318
	SS1 Background CPS	12.00	16.00	19.50	12.29	12.35
	SS2 Background CPS	8.000	11.00	13.50	8.480	8.491

Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24

Litho Density - D Wellsite Calibration
Detectors Resolution From BKG Measurements

Measurement	Minimum	Nominal	Maximum	Master	Before
LS Resolution Background	5.000	8.000	11.50	8.449	8.475
SS Resolution Background	5.000	8.000	11.50	8.531	8.667

Master: 27-FEB-2000 16:31 Before: 16-MAR-2000 17:24

Litho Density - D Master Calibration
Aluminum Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	LL Aluminum CPS	70.00	90.00	125.0	91.00
Master	LU Aluminum CPS	100.0	135.0	194.0	136.7
Master	LS Aluminum CPS	120.0	155.0	217.0	159.4
Master	LITH Aluminum CPS	35.00	50.00	74.00	55.57
Master	SS1 Aluminum CPS	125.0	175.0	256.0	178.3
Master	SS2 Aluminum CPS	210.0	260.0	353.0	260.3

Master: 27-FEB-2000 16:43

Litho Density - D Master Calibration
Litholog Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	LL Iron CPS	60.00	80.00	114.0	86.87
Master	LU Iron CPS	85.00	120.0	177.0	130.5
Master	LS Iron CPS	100.0	135.0	193.0	152.1
Master	LITH Iron CPS	15.00	30.00	51.00	37.73
Master	SS1 Iron CPS	105.0	155.0	234.0	172.6
Master	SS2 Iron CPS	190.0	245.0	325.0	250.0

Master: 27-FEB-2000 16:38

Litho Density - D Master Calibration
Spectrum Quality Ratios

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	QRLS Calculated	0.6000	0.6500	0.7000	0.6656
Master	QRSS Calculated	0.5200	0.7200	0.8200	0.6848
Master	QRLI Calculated	0.2900	0.3900	0.4500	0.3487
Master	QLIR Calculated	1.290	1.390	1.450	1.406
Master	QR Calculated	0.9800	1.000	1.020	1.014

Master: 27-FEB-2000 16:43

Compensated Neutron - H / Equipment Identification

Primary Equipment:
Compensated Neutron Cartridge CNC - HA 1247
Neutron Logging Source NLS - KL
Neutron Source Radioactive NSR - FA 1491
Neutron Detector with Alpha Source CND - A
Compensated Neutron Box CNB - AB

Auxiliary Equipment:
Compensated Neutron Housing CNH - A 4465
Neutron Calibration Tank NCT - B

Compensated Neutron - H Wellsite Calibration
Zero Measurement

Measurement	Minimum	Nominal	Maximum	Master	Before
CNTC Background CPS	5.000	27.85	40.00	27.85	28.66
CFTC Background CPS	5.000	34.74	40.00	34.74	37.80

Master: 27-FEB-2000 14:21 Before: 16-MAR-2000 17:40

Compensated Neutron - H Master Calibration
Tank Measurement

Phase	Measurement	Minimum	Nominal	Maximum	Value
Master	Thermal Near Corr. (Tank) CPS	5000	6031	7200	5839
Master	Thermal Far Corr. (Tank) CPS	2075	2793	3125	2542
Master	CNTC/CFTC (Tank)	2.120	2.159	2.540	2.297

Master: 27-FEB-2000 14:32

Spherical Resistivity - C / Equipment Identification

Primary Equipment:
Density Resistivity Sonde DRS - C
Spherical Resistivity Electronics SRE - D

Auxiliary Equipment:
Spherical Resistivity Adapter SRA - A
Electronics Cartridge Housing ECH - KQ

Spherical Resistivity - C Wellsite Calibration
Electronics Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	MSFL Conductivity Zero MM/M	-1.000	1.000	3.000	1.052
Before	MSFL Bucking Current Zero MM/M	-4.800	0.2000	5.200	0.3214
Before	MSFL Conductivity Plus MM/M	450.0	500.0	550.0	498.9
Before	MSFL Bucking Current Plus MM/M	50.00	100.0	150.0	96.45

Before: 18-MAR-2000 20:59

Spherical Resistivity - C Wellsite Calibration
Caliper Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	CALIPER Small Ring MM	101.6	203.2	228.6	220.0
Before	CALIPER Large Ring MM	243.8	304.8	381.0	318.4

Before: 16-MAR-2000 17:31

Spherical Resistivity - C Wellsite Calibration
Caliper Downhole Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	CALIPER Downhole MM (NOT DONE)	372.8	414.2	455.6	N/A

Before: Calibration not done

Powered Caliper Device - B / Equipment Identification

Primary Equipment:
Powered Caliper Mechanical (sonde) - A PCM - A
Powered Caliper Cartridge - H PCC - H

Auxiliary Equipment:
Powered Caliper Housing - A PCH - A 1371

Powered Caliper Device - B Wellsite Calibration
Micro Inverse Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Micro Inverse Zero OHMM (EXCEEDS LIMIT)	-1.000	0	1.000	5.937
Before	Micro Inverse Plus OHMM (EXCEEDS LIMIT)	4.250	5.000	5.750	5.937

Before: 16-MAR-2000 17:27

Powered Caliper Device - B Wellsite Calibration
Micro Normal Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Micro Normal Zero OHMM (EXCEEDS LIMIT)	-1.000	0	1.000	5.937
Before	Micro Normal Plus OHMM (EXCEEDS LIMIT)	4.250	5.000	5.750	5.937

Before: 16-MAR-2000 17:27

Scintillation Gamma-Ray - L / Equipment Identification

Primary Equipment:
Scintillation Gamma Cartridge SGC - SA 1048
Scintillation Gamma Detector SGD - TAA

Auxiliary Equipment:
Scintillation Gamma Housing SGH - K 530
Gamma Source Radioactive GSR - U/Y

Scintillation Gamma-Ray - L Wellsite Calibration
Detector Calibration

Phase	Measurement	Minimum	Nominal	Maximum	Value
Before	Gamma Ray Background GAPI	0	30.00	120.0	31.29
Before	Gamma Ray (Jig - Bkg) GAPI	146.8	161.4	178.1	161.4
Before	Gamma Ray (Calibrated) GAPI	150.0	165.0	180.0	165.0

Before: 16-MAR-2000 17:23

COMPANY	AEC OIL & GAS	BOTTOM LOG INTERVAL	850.5 m
WELL	AEC WEST RENAISSANCE CARCAJOU D-07	SCHLUMBERGER DEPTH	860.3 m
FIELD	EXPLORATORY	DEPTH DRILLER	860 m
PROVINCE	NWT	KELLY BUSHING	87.5 m
		DRILL FLOOR	
Schlumberger		GROUND LEVEL	83.2 m

COMPENSATED NEUTRON LITHO-DENSITY

ADDITIONAL INFORMATION

compu-max
71 Martinview Road, N.E.
CALGARY, Alberta
T3J 2W2 (403) 280-5857

COMPOSITE WELL HISTORY
DRILLING TIME
LITHOLOGY LOG

N.E.B. COPY

COMPANY: AEC OIL & GAS LTD
WELL: AEC (WEST) RENAISSANCE CARCAJOU D-07
FIELD: EXPLORATORY
PROVINCE: NWT
LOCATION: LSD SEC TWP RGE W MERIDIAN

COORDINATES:
ELEVATIONS: GD 83.2 m
KB 87.5 m
LOG MEASURED FROM KB
4.3 m ABOVE GROUND
WELL TYPE: EXPLORATORY
TOTAL DEPTH:
SPUD DATE: 2000-03-14
T.D. DATE:
LICENCE No.: 1890
AFE No.: 5000047

CONTRACTOR: AKITA #14
MUD TYPE: GEL CHEM
MUD UP @:
SAMPLES: 5 & 2.5 METER INTERVALS
AEC/REN: 172m TO T.D.m
GOV'T: 172m TO T.D.m
DSTs:

CORES: NONE

OPEN HOLE LOGS: SCHLUMBERGER

SUPERVISION
GEOLOGICAL: Glen MacIntosh
DRILLING: LYN SANDQUIST

CASING DEPTH
SURFACE: 172 m
INTERMEDIATE: m
MAIN: m

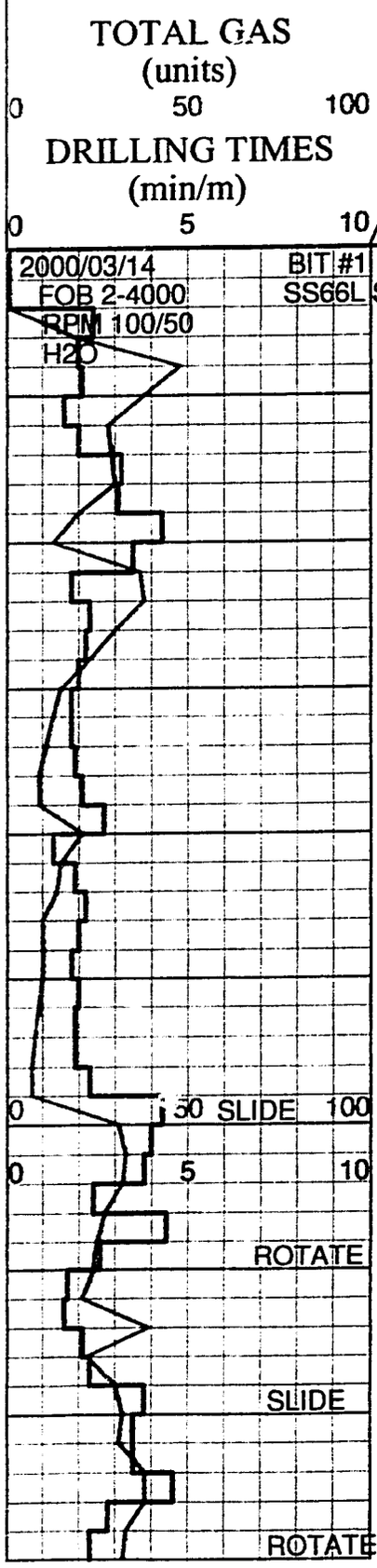
CASING SIZE
SURFACE: 244.5 mm
INTERMEDIATE: 177.8 mm
MAIN: 114 mm

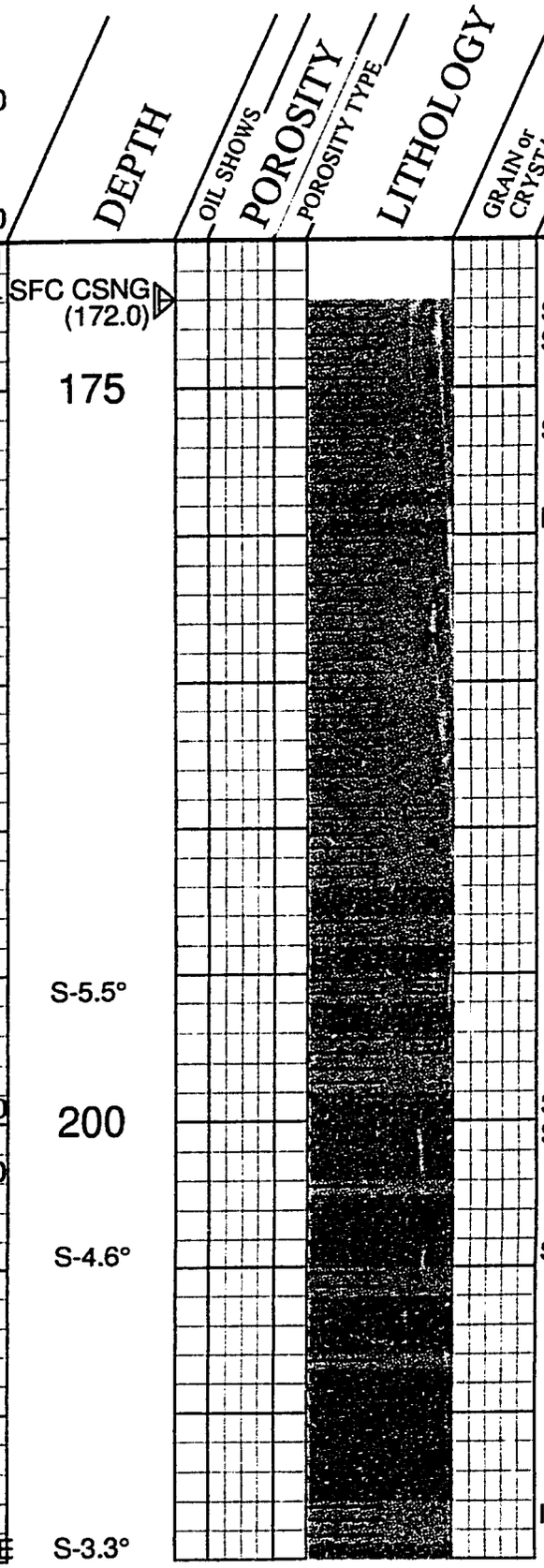
HOLE SIZE
SURFACE: 311 mm
INTERMEDIATE: 222 mm
MAIN: 156 mm

REMARKS:

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240



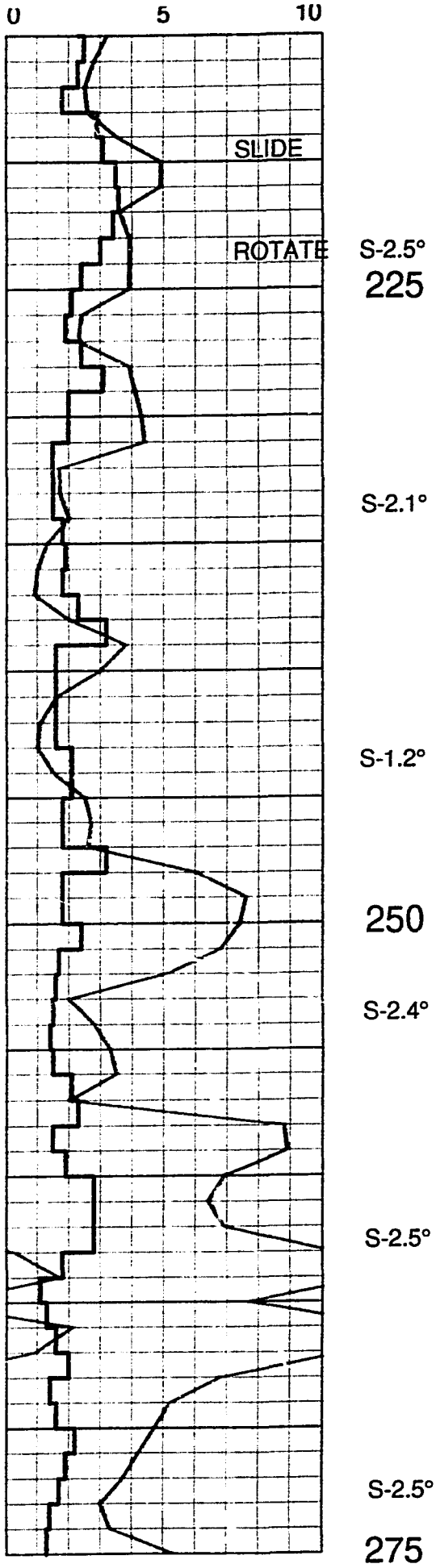


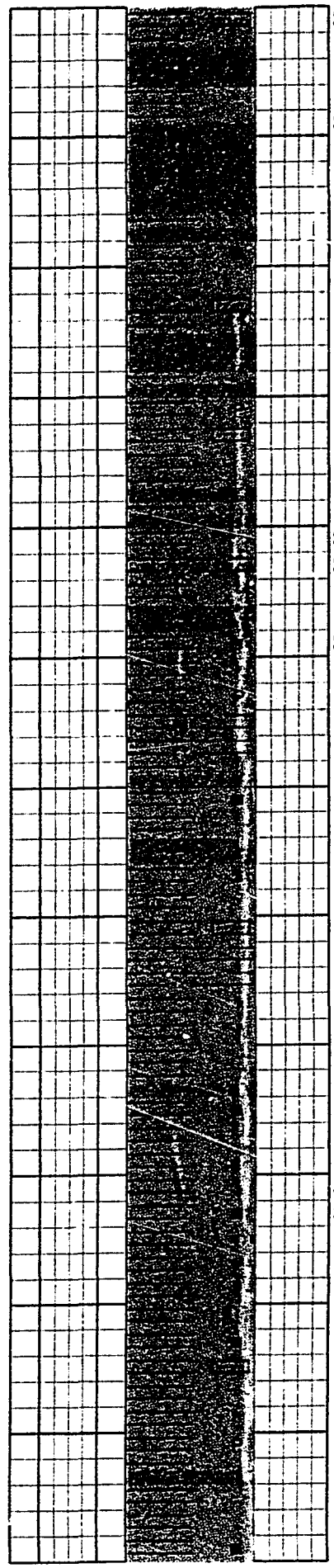
DESCRIPTIONS

Shale with minor Siltstone interbeds:
SHALE - dark grey, subfissile to fissile, silty, carbonaceous flakes, pyritic in part, micromicaceous;
SILTSTONE - dark grey brown, blocky, argillaceous to highly argillaceous, sandy, trace glauconite, micromicaceous;
Minor Siderite stringers.

Siltstone with Shale interbeds:
SILTSTONE - medium to dark grey to grey brown, blocky, very slightly calcareous, argillaceous to highly argillaceous, trace glauconite, micromicaceous;
SHALE - dark grey to black, subfissile to subblocky, silty to sandy, micromicaceous;

Interbedded & interlaminaed Shale & Siltstone:

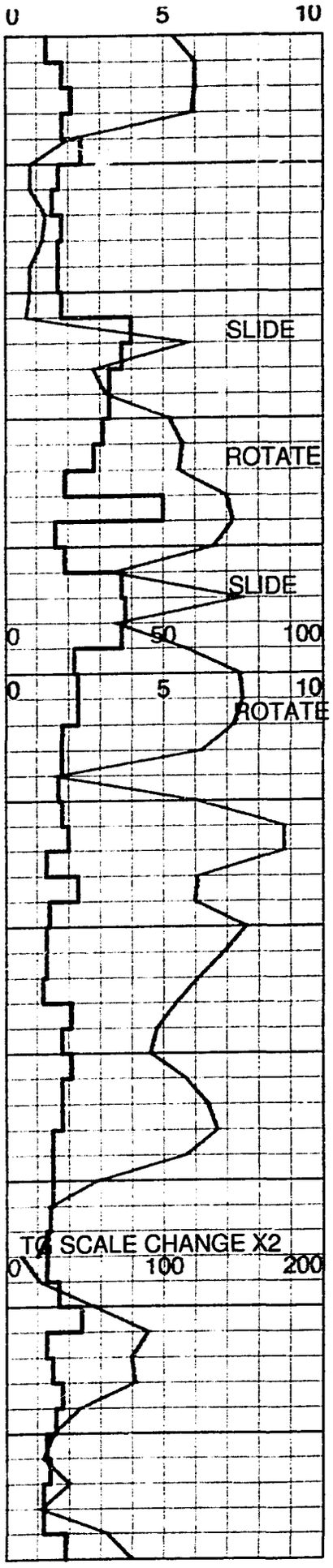




SHALE - dark grey, subfissile to fissile, silty to highly silty grading to Siltstone, carbonaceous, micromicaceous, pyritic in part;
SILTSTONE - dark grey to grey brown, well cemented, calcareous to sideritic cement, argillaceous to highly argillaceous grading to Shale, becoming sandy in part;

Shale with Siltstone interbeds:
SHALE - dark grey to black, fissile to subfissile, platy, silty, carbonaceous, minor disseminated pyrite;
SILTSTONE - dark grey to grey brown, well cemented, calcareous, carbonaceous, argillaceous to highly argillaceous, sandy in part;

Shale with minor Siltstone interbeds:
SHALE - dark grey, fissile to subfissile, silty to highly silty grading to Siltstone in part, trace carbonaceous, micromicaceous, disseminated pyrite;



S-2.7°

S-2.3°

300

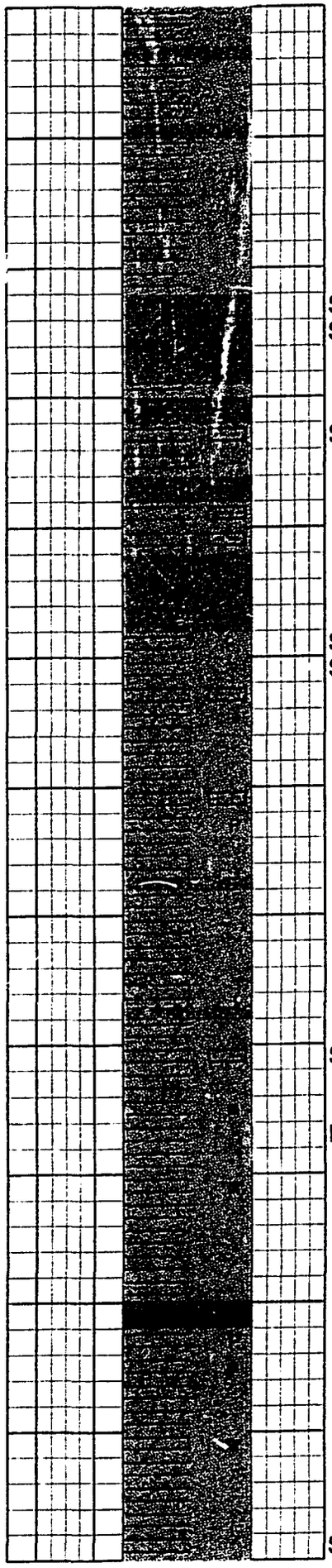
S-1.5°

S-1.4°

S-1.6°

325

S-1.5°

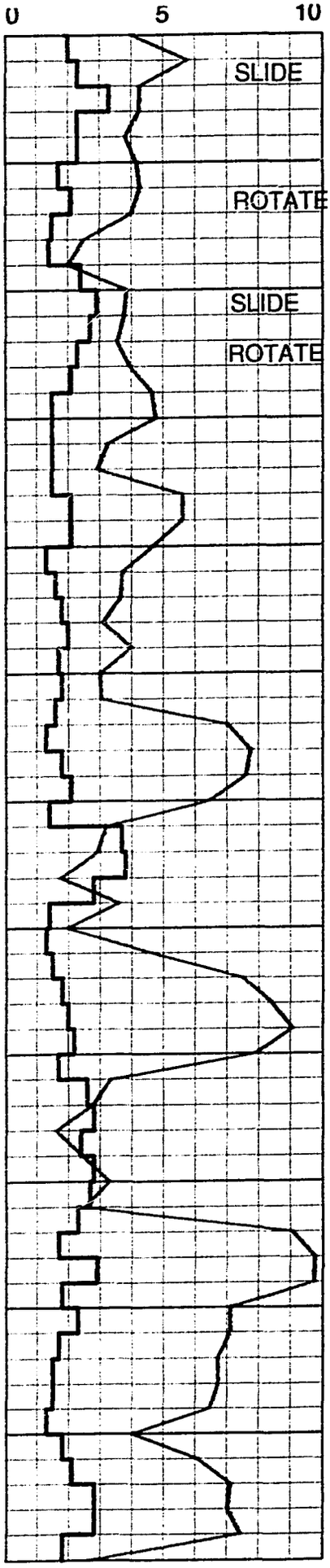


Siltstone with Shale interbeds:
SILTSTONE - medium to dark grey to grey brown, argillaceous to highly argillaceous, slightly carbonaceous, very slightly calcareous;
SHALE - dark grey, fissile to subfissile, silty to highly silty grading to Siltstone in part, trace carbonaceous, micromicaceous, disseminated pyrite;

Shale with Siltstone & Siderite stringers:
SHALE - dark grey, fissile to subfissile, silty grading to Siltstone in part, micromicaceous, trace pyrite.

SHALE - dark grey to black, fissile to subfissile, carbonaceous, silty, micromicaceous;
Minor Siderite interbeds.

SHALE - dark grey to black, fissile to



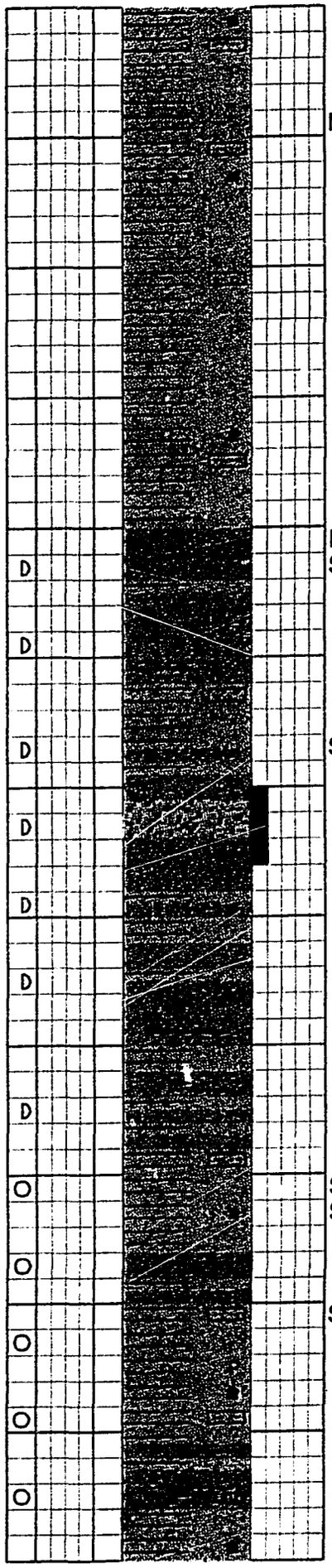
S-1.1°

350

S-1.1°

375

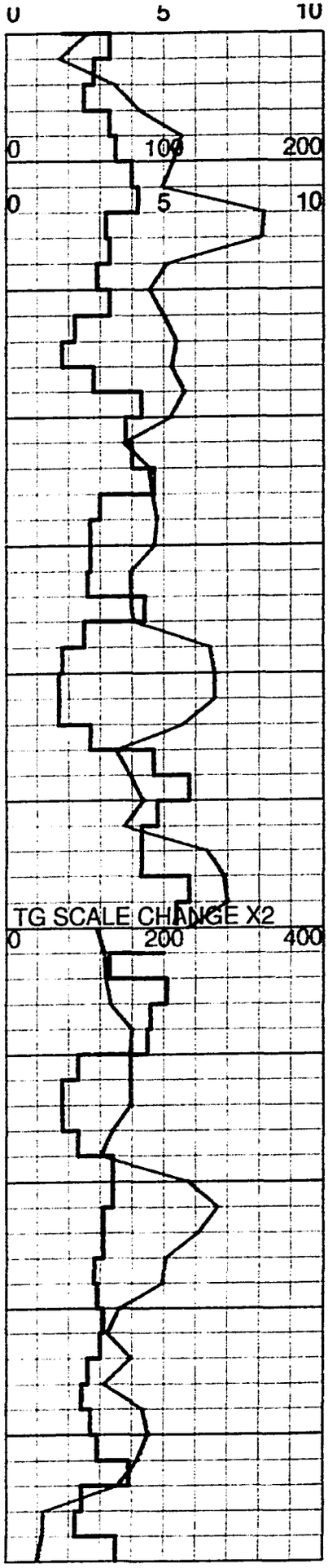
S-1.1°

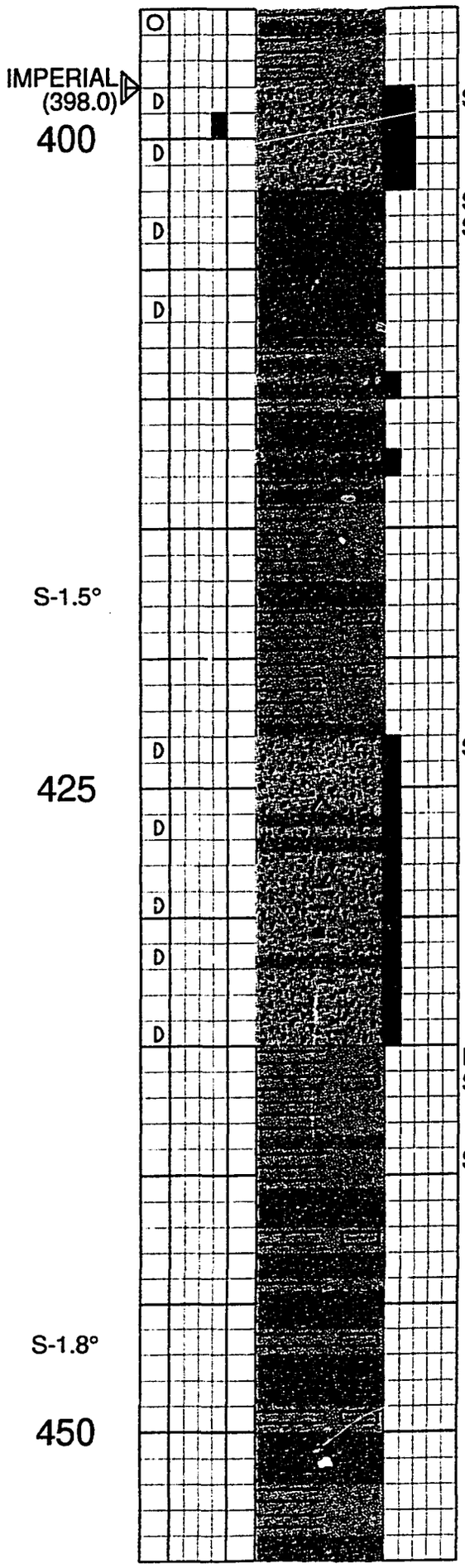


subfissile, platy to splintery in part, carbonaceous, silty to sandy, trace glauconite, micromicaceous, disseminated pyrite;
Minor Siderite interbeds.

Interbedded Siltstone & Shale:
SILTSTONE - medium to dark brown to grey brown, well cemented, argillaceous, slightly calcareous in part, sandy grading to very fine Sandstone in part, trace glauconitic, trace carbonaceous, micromicaceous, disseminated pyrite, tight, fast white cut;
SHALE - dark grey, fissile to subfissile, platy, carbonaceous, silty to sandy, micromicaceous.

Shale with Siltstone interbeds & laminae:
SHALE - dark grey to brown grey, fissile to subfissile, silty grading to Siltstone, carbonaceous, micromicaceous, disseminated pyrite;
SILTSTONE - dark grey brown, well cemented, argillaceous, calcareous in part, slightly sandy, micromicaceous, ? cut.

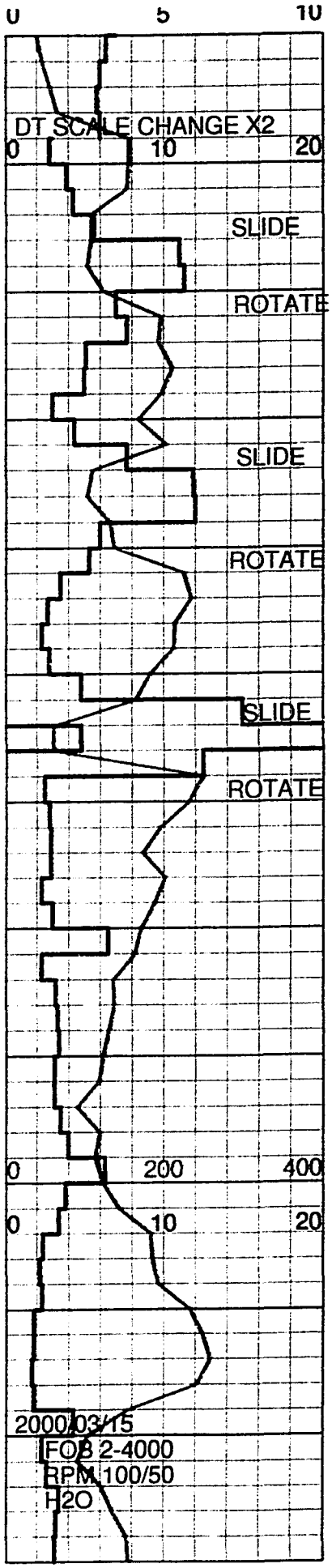




SANDSTONE - lt grey to off white, vf to f grained, angular to subangular, well sorted, mod to well cemented, dol & sil cement, trace poor porosity to tight, fast white cut.
Siltstone with Shale interbeds:
SILTSTONE - grey to grey brown, siliceous, slightly calcareous in part, sandy grading to very fine Sandstone in part, argillaceous, ? to no shows SHALE - dark grey, fissile to subfissile, silty grading to Siltstone, micromicaceous, trace carbonaceous.

SANDSTONE - grey brown, very fine, subangular, well sorted, well cemented, silica cement, slightly dolomitic, silty, slightly carbonaceous, tight, fast white cut.

Interbedded Siltstone & Shale:
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous;
SHALE - dark grey, fissile , silty, micromicaceous, trace carbonaceous.



S-2.0°

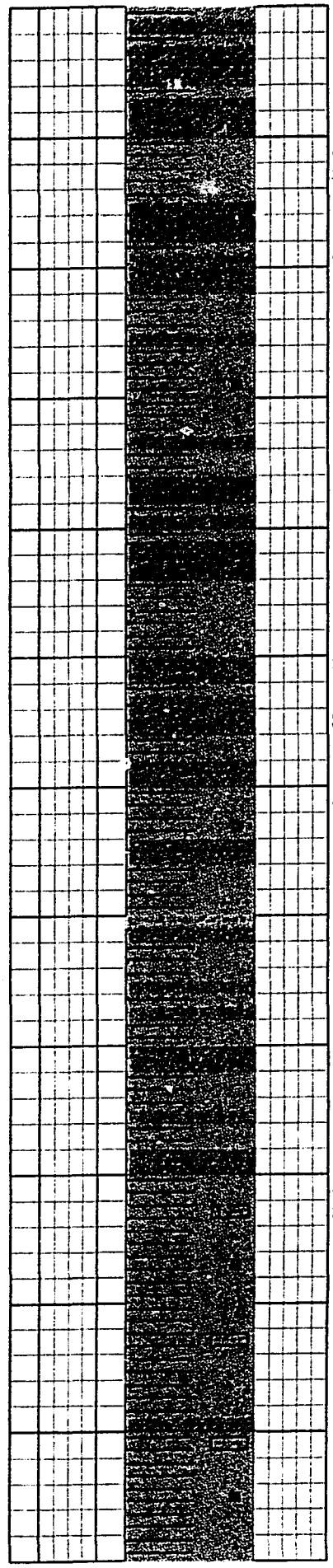
S-1.7°

475

S-1.4°

500

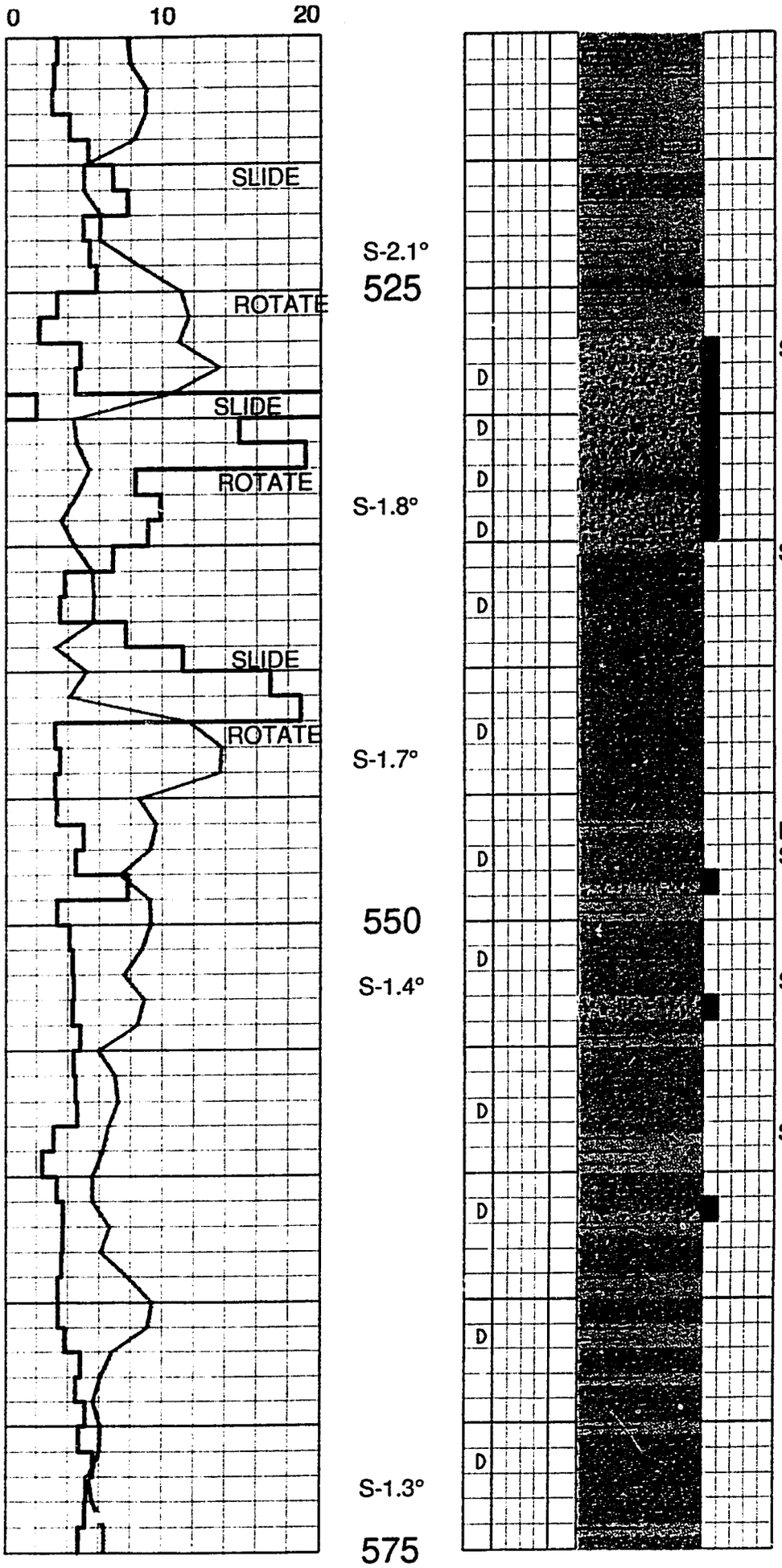
S-2.2°



Shale with Siltstone interbeds:
SHALE - dark grey, fissile to subfissile, blocky , silty, micromicaceous, trace carbonaceous;
SILTSTONE - grey to grey brown, siliceous, sandy grading to very fine Sandstone in part, argillaceous.

Interbedded & interlaminated Shale & Siltstone:
SHALE - dark grey, fissile to subfissile, blocky , silty, micromicaceous, trace carbonaceous;
SILTSTONE - grey to grey brown, siliceous, vey slightly dolomitic, sandy grading to very fine Sandstone in part, trace carbonaceous, argillaceous.

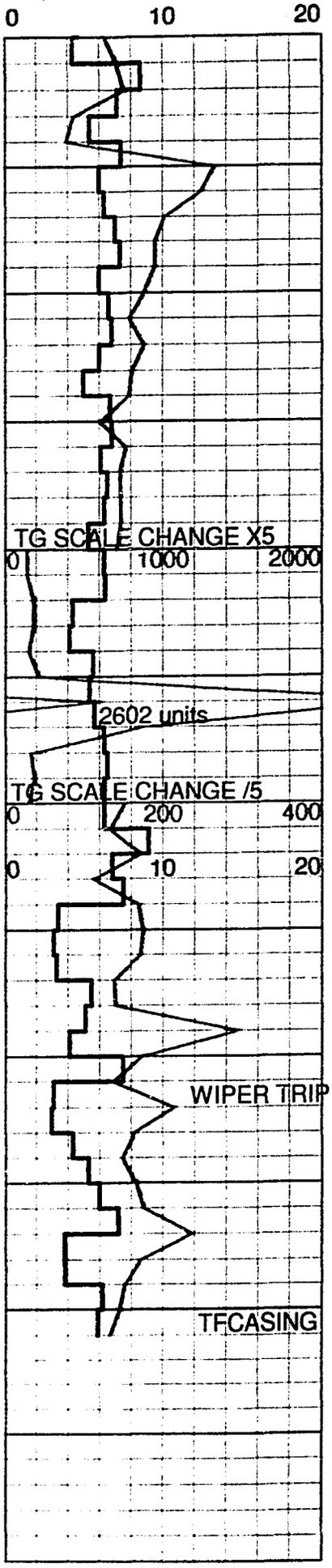
Shale wih Siltstone stringers:
SHALE - dark grey, fissile, silty grading to Siltstone in part, micromicaceous, trace carbonaceous.



SANDSTONE - light grey, silt to very fine Sandstone, subangular, well sorted, well cemented, dolomitic cement, siliceous, trace carbonaceous, tight to trace por porosity, fast white cut.

SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut.

Interbedded Siltstone, Sandstone & Shale:
SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut;
SANDSTONE - light to medium grey, very fine grained, subangular, well sorted, moderately cemented, silica cement, silty to highly silty, argillaceous, trace carbonaceous, tight to rare poor porosity, no florescence, fast white cut;
SHALE - dark grey, subfissile to subblocky, silty to highly silty, micromicaceous.

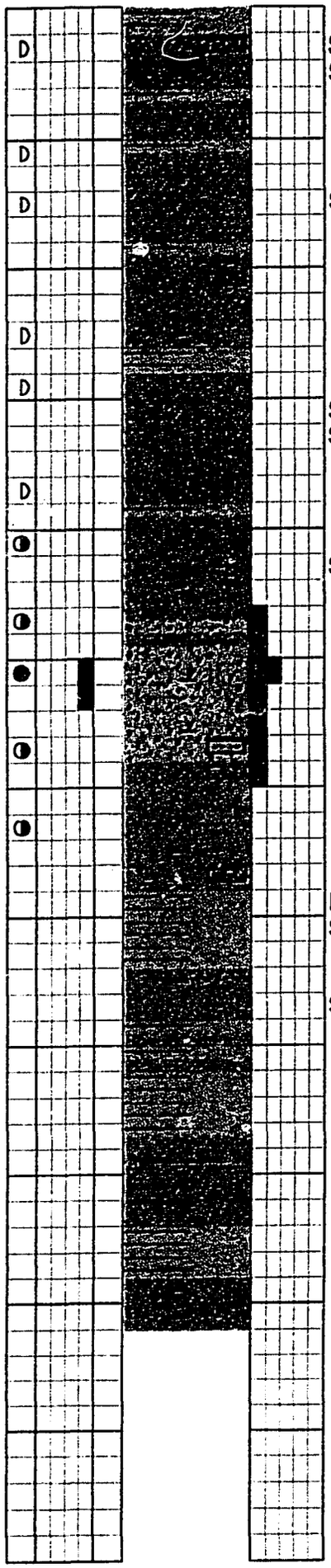


S-1.1°

600

S-1.1°

625



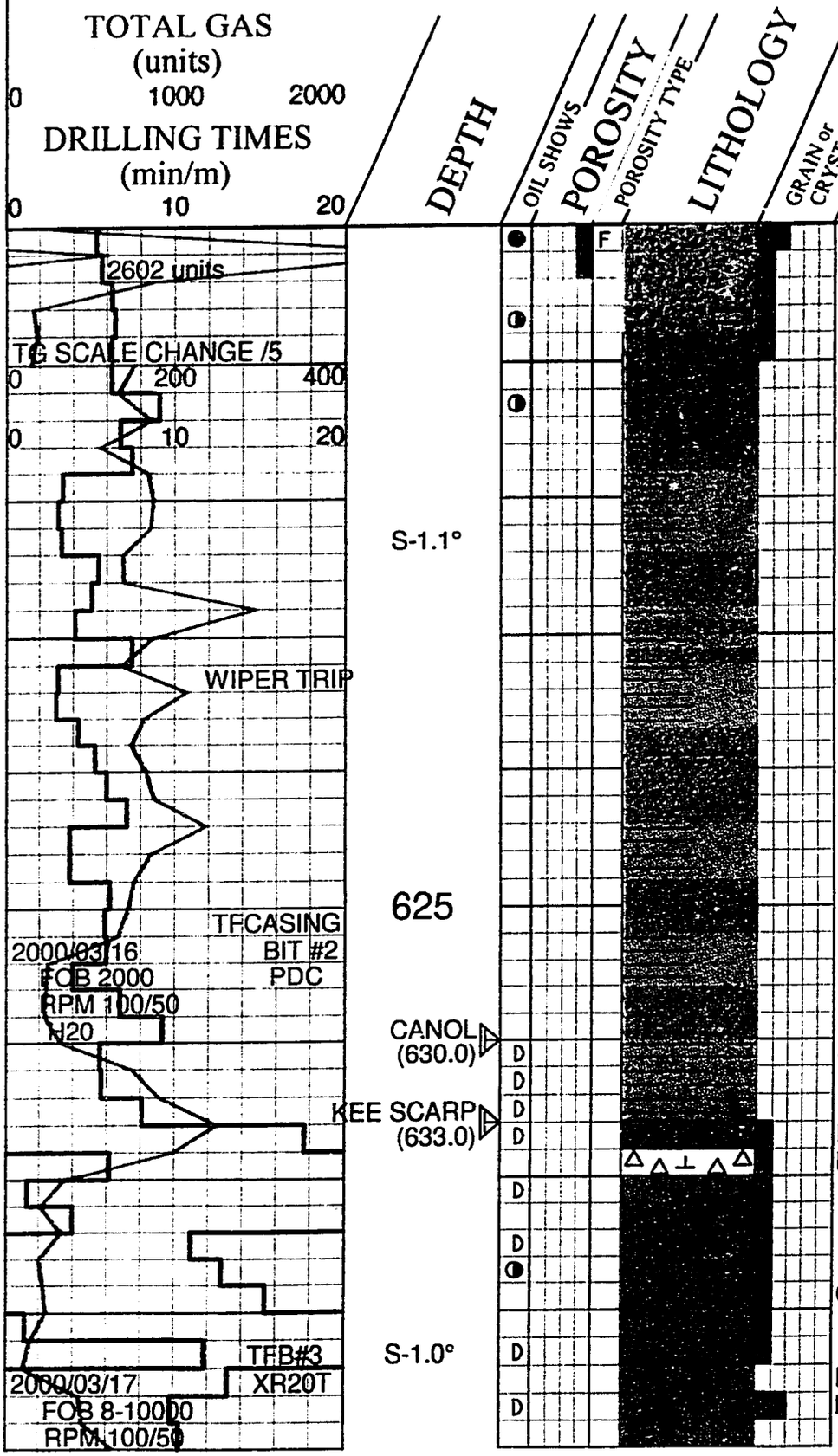
Siltstone with minor Shale interbeds:
SILTSTONE - light to medium brownish grey, moderately to well cemented, silica cement, sandy grading to Sandstone in part, argillaceous, slightly carbonaceous, tight, fast white cut;
SHALE - dark grey, subfissile to subblocky, silty to highly silty, micromicaceous.

Siltstone grading to Sandstone:
SILTSTONE - light to medium grey, moderately to well cemented, silica cement, trace dolomitic, sandy to highly sandy, argillaceous, moderate to fast white cut;
SANDSTONE - light grey, very fine to trace fine grained, subangular, well sorted, moderately to well cemented, dolomitic cement, argillaceous, slightly carbonaceous, poor fracture porosity to tight, weak white florescence, fast white cut.

Interbedded Shale & Siltstone:
SHALE - dark grey to black, fissile to subfiissile, silty to very silty, micromicaceous;
SILTSTONE - light to medium grey, moderately to well cemented, silica cement, trace dolomitic, sandy to highly sandy, argillaceous;

CANSTRAT SYMBOLS USED FOR LITHOLOGY AND SHOWS

SCALE 1:240



DESCRIPTIONS

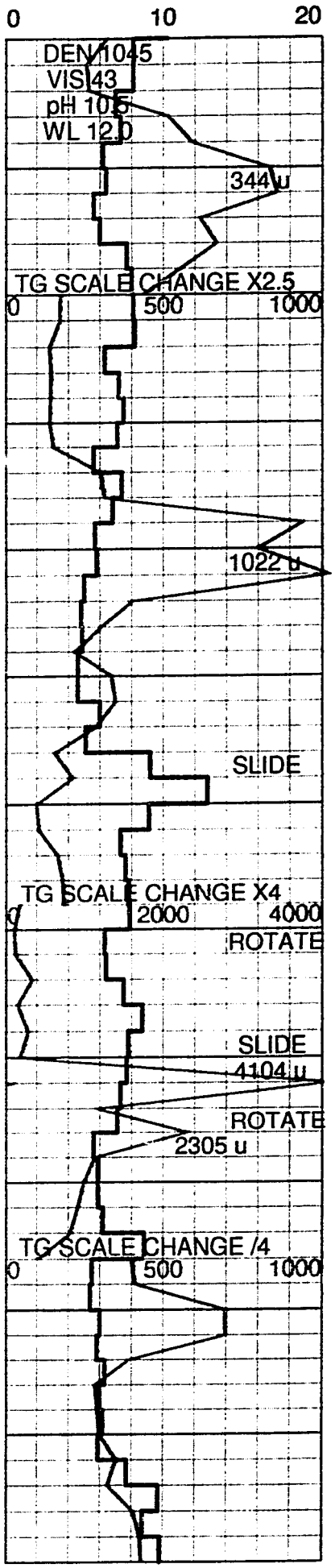
carbonaceous, poor fracture porosity to tight, weak white florescence, fast white cut.

Interbedded Shale & Siltstone:
SHALE - dark grey to black, fissile to subfiissile, silty to very silty, micromicaceous;
SILTSTONE - light to medium grey, moderately to well cemented, silica cement, trace dolomitic, sandy to highly sandy, argillaceous.

SHALE - black, fissile, silty, minor pyrite, bituminous, fast white streaming cut.

Limestone with minor Chert interbed:
LIMESTONE - light brown tan to dark brown, very fine calcarenite, biopelmicrite to biopelsparite, fossil debris, crinoids, argillaceous in part, siliceous grading to Chert in part, tight, dead to spotty shows;
CHERT - dark brown, opalline, calcareous, bedded, hard.

Interbedded Limestone & Chert:
LIMESTONE - dark brown to black, light brown, micrite to biomicrite, mudstone to



650

S-1.2°

S-1.7°

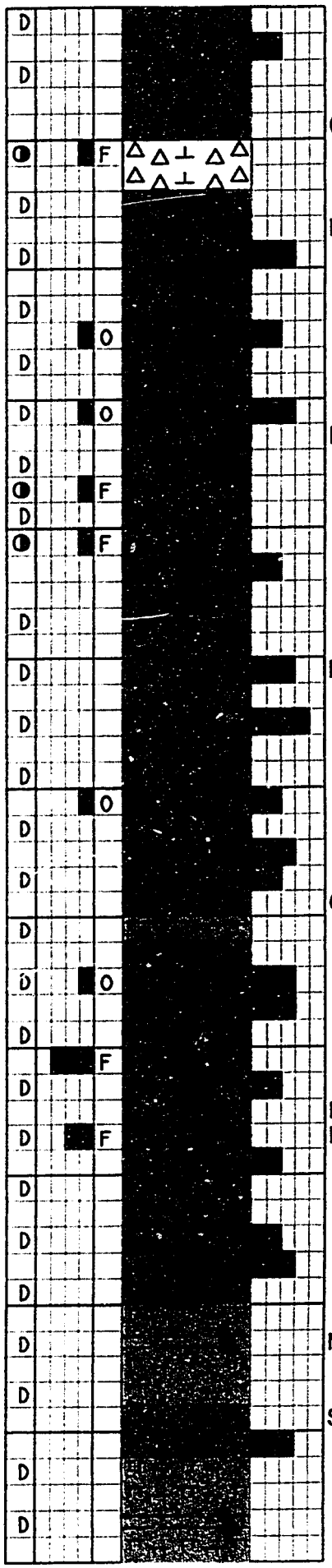
S-2.1°

675

S-1.3°

S-1.1°

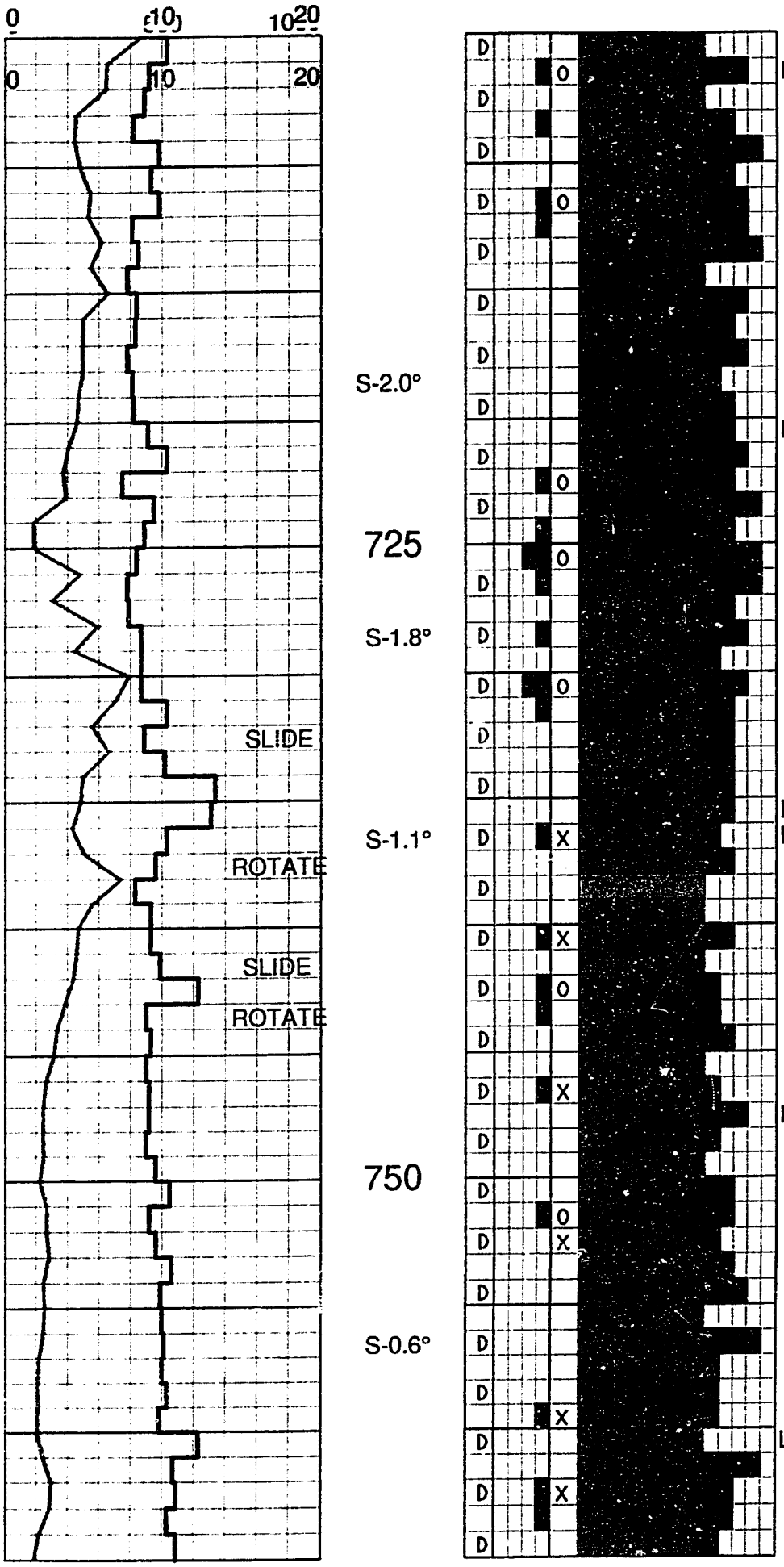
700



wackestone, argillaceous, resinous in part, dense, siliceous grading to Chert in part, trace pyrite, tight to trace fracture porosity, trace pyrobitumen, fast white cut;
CHERT - dark brown to black, opalline in part, calcareous, bedded, hard, fractured with euhedral calcite on rare faces, minor pyrobitumen on calcite crystals.
LIMESTONE - dark brown to black, light brown (allochems?) , micrite to biomicrite, mudstone to wackestone to rudstone? , argillaceous to highly argillaceous, dense, minor pyrobitumen, bituminous, tight to minor fracture porosity, trace poor (3%) chalky porosity, spotty florescence on fracture faces, fast white cut;
Fine to medium euhedral calcite crystals on occasional chips.

LIMESTONE - dark brown to black, light brown (allochems?), micrite to biomicrite, mudstone to wackestone to rudstone?, argillaceous to highly argillaceous grading to Shale in part, dense, minor pyrobitumen, bituminous, tight to fair to good fracture porosity, trace poor (3%) chalky porosity, spotty florescence on fracture faces, fast white cut;
Common loose fine to very coarse euhedral calcite crystals.

Limestone grading to Marlstone to Shale:
LIMESTONE - dark brown to black, light brown (allochems?), micrite to biomicrite, mudstone to wackestone to rudstone?, argillaceous to highly argillaceous grading to Shale in part, dense, minor pyrobitumen, bituminous, tight to minor fracture porosity, spotty florescence on fracture faces, fast white cut;
MARLSTONE - black, highly argillaceous, highly calcareous, well indurated, bituminous;
SHALE - black to dark brown, fissile to subblocky, calcareous, bituminous, firm.



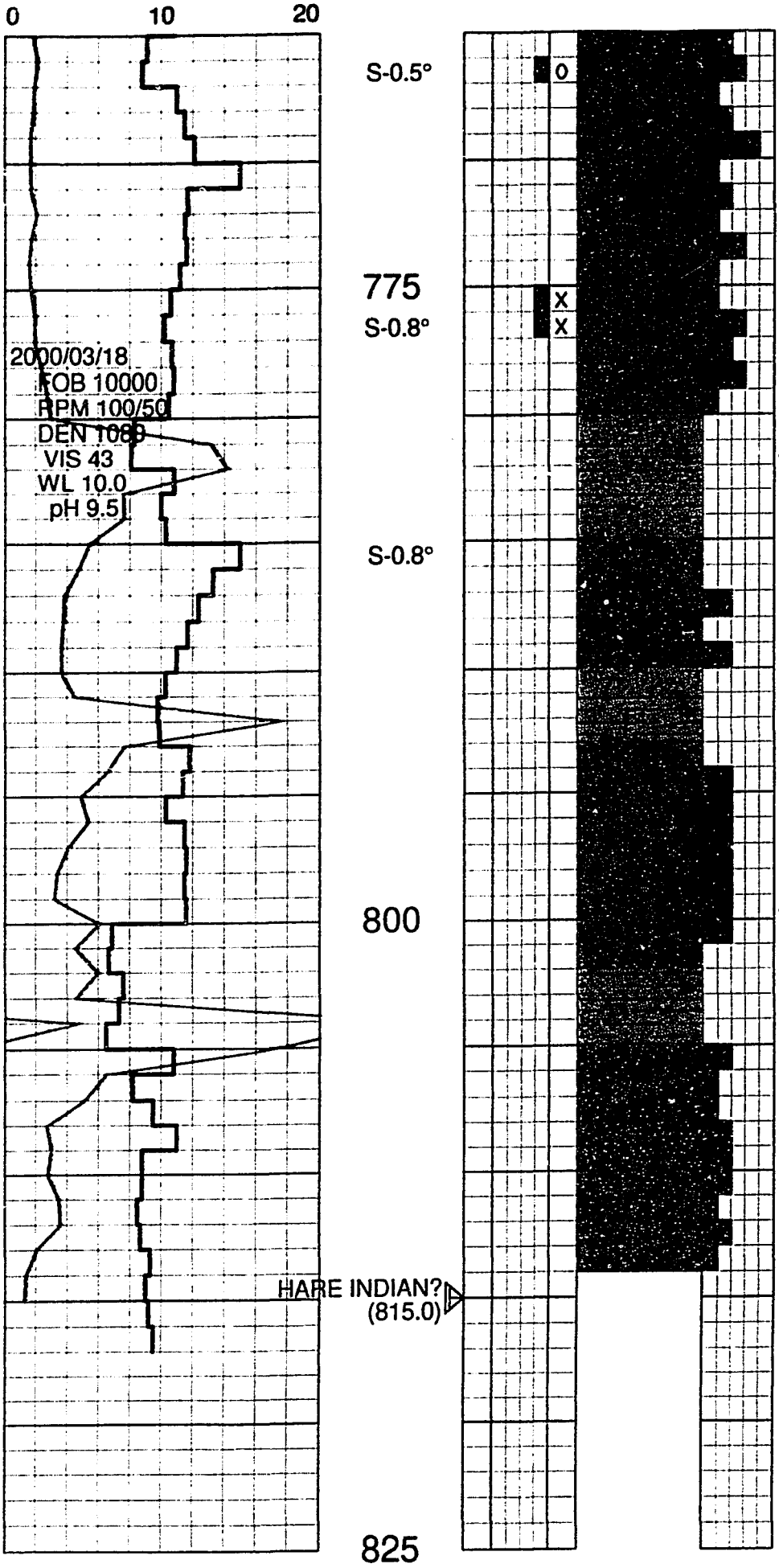
LIMESTONE - light to dark brown, micrite to biomicrite, wackestone to rudstone, stromatoporoids, fossil debris, argillaceous, bituminous, tight to poor (3%) chalky porosity, no florescence, fast white streaming cut.

LIMESTONE - light to dark grey brown, micrite to biomicrite, wackestone to rudstone, stromatoporoids, crinoids, fossil debris, argillaceous, bituminous, tight to poor to fair (3-6%) chalky porosity, no florescence, fast white streaming cut.

Limestone with minor Marlstone:
LIMESTONE - medium grey brown to dark brown, micrite to biomicrite, rudstone, stromatoporoids, fossil debris, argillaceous to highly argillaceous in part, bituminous, tight to minor poor 3% chalky porosity, poor to fast streaming white cut.

LIMESTONE - light to medium brown to dark brown, calcilutite to medium calcarenite, micrite to biopelmicrite, mudstone to wackestone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, slightly argillaceous, slightly bituminous, tight to minor poor porosity, poor to fast streaming white cut.

LIMESTONE - light to medium brown to dark brown, calcilutite to medium calcarenite, micrite to biopelmicrite, mudstone to wackestone to rudstone, stromatoporoids, fossil debris, slightly dolomitic, slightly



argillaceous, slightly bituminous, tight to minor poor porosity, poor to fast streaming white cut.

Interbedded Shale & Limestone:
SHALE - dark grey to black, blocky to subfissile, highly calcareous to Marlstone, firm, bituminous;
LIMESTONE - medium to dark brown, calcilutite to fine calcarenite, micrite to biomicrite, mudstone to wackestone, minor fossil debris, slightly bituminous, tight, fast white cut.

Limestone with Shale interbeds:
LIMESTONE - light to medium brown, calcarenite, biopelmicrite, wackestone to packstone, fossil debris, slightly dolomitic, silty in part, slightly argillaceous, tight, white cut;
SHALE - dark grey to black, blocky, silty, highly calcareous, bituminous.

ROCK TYPE

- CONGLOMERATE
- SANDSTONE
- SILTSTONE
- SHALE, grey
- SHALE, black
- SHALE, coloured
- CHERT
- LIMESTONE
- DOLOMITE
- ANHYDRITE
- COAL
- CLAYSTONE, grey
- CLAYSTONE, col
- MARLSTONE, calc
- MARLSTONE, dol
- SALT
- SIDERITE, LIMONITE
- BRECCIA
- IGNEOUS, basic
- IGNEOUS, acidic
- CANNOT INTERPRET
- NO SAMPLE
- CEMENT
- TUFF
- ULTRABASIC

ACCESSORIES

- SANDY
- SILTY
- FELDSPAR
- SILICEOUS
- CHERTY, light
- CHERTY, dark
- ARGILLACEOUS
- CARBONACEOUS
- BITUMENOUS
- CALCAREOUS
- LIMESTONE strg
- DOLOMITIC
- DOLOMITE strg
- ANHYDRITIC
- ANHYDRITE strg
- PHOSPHATE pel
- FERRUGINOUS
- GLAUCONITIC
- BENTONITIC
- PYRITIC
- KAOLINITIC
- BIOCLASTIC
- OOLITES
- PELLETS
- INTRACLASTS
- FOSSILS
- CRINOID
- PELECYPOD
- BRACHIOPOD
- OSTRACOD
- CORAL
- STROMATOPOROID
- AMPHIPORA
- FISH REMAINS
- PLANT REMAINS
- BRECCIA frag
- SANDSTONE strg
- SILTSTONE strg
- SHALE lam
- TUFFACEOUS
- Heavy, dark Minerals
- FORAMINIFERA/Rad
- ANTIGORITE
- BRUCITE
- BRONZITE
- CHROMITE
- CHRYSOTILE
- DUNITE
- TALC
- SERPENTINE

OIL SHOWS

- ● EVEN STAINING, FLUORESCES
- ◑ SPOTTY STAIN, FLUORESCES
- O QUESTIONABLE, NO FLUORESCENCE,
- D DEAD, ASPHALTIC

POROSITY TYPES

- X INTERCRYSTALLINE, INTERGRANULAR
- INTEROOLITIC, INTEPELLETOID,
- V VUGGY,
- P PINPOINT,
- MOLDIC
- O ORGANIC
- F FRACTURE
- EARTHY
- FENESTRAL

DUNHAM CLASSES

- PK PACKSTONE
- WK WACKESTONE
- MD MUDSTONE
- BD BOUNDSTONE
- GR GRAINSTONE